KYOCERA

ECOSYS M6030cdn
ECOSYS M6530cdn
ECOSYS M6035cidn
ECOSYS M6535cidn
PF-5100

SERVICE
MANUAL

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Rev.2

CAUTION

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

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

ATTENTION

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

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

Notation of products in the manual

For the purpose of this service manual, products are identified to the following type.

ECOSYS M6030cdn	(30 ppm / without FAX)	: Basic 3in1 model
ECOSYS M6530cdn	(35 ppm / with FAX)	: Basic 4in1 model
ECOSYS M6035cidn	(30 ppm / HyPAS / without FAX)	: HyPAS 3in1 model
ECOSYS M6535cidn	(35 ppm / HyPAS / with FAX)	: HyPAS 4in1 model

Revision history

Revision	Date	Pages	Revised contents
1	6 July 2015	Contents	Added: 9. Appendixes (3) System Error (Fxxxx) Outline
		1-1	Correction: Warm-up Time Power on 29→26 seconds or less (30 ppm model) 29→25 seconds or less (35 ppm model)
		1-2	Correction: Weight: 30ppm model <-> 35ppm model
			Correction: Operating Environment Humidity 15%→10%
			Correction: Option Paper Feeder PF-5100
		1-3	Correction: 30ppm model First Copy Time Black and White 9→9.5 Color 11→11.5
		1-4	Correction: 35ppm model First Copy Time Black and White 9.5→9 Color 11.5→11
		1-15, 1-16	Correction: (7)SD Memory card→SD card SDHC Memory card→SDHC card Added: (11) USB Keyboard
		2-1	Correction: Humidity: 15 to 80% → 10 to 80%
		2-7	Correction: Cassette 250 sheets → Cassette1 250 sheets Cassette 1:60 - 160g/m2 → 60 - 163g/m2
		2-12, 2-14	Correction: Description of setting Standard→ Normal
		3-10	Added: 30ppm model (No.3)
		3-14	Correction: Changed position of No.25
		3-16	Correction: No.25: 302NR9415→302M29413
		3-20,3-21	Added: Speaker
		3-35	Correction: 5. MP paper feed roller→MP conveying roller 6. MP paper feed pulley→MP conveying pulley
		3-45	Correction: Changed the signal name YC12-1 to 4
		3-62,3-64	Correction: Changed the design (block diagram)
		4-3	Added: Quantity
		4-4	Added: Quantity (2) Maintenance kit (DP): Name used in service manual
		4-18	Added: IMPORTANT
		4-30	Correction: Changed the design
		4-32	Added: Execute the laser scanner cleaning (30 ppm model)
		4-33 to 4-41	Correction: Separated the 30 ppm and 35 ppm model
		4-74	Added: Caution
		4-74 to 4-83	Correction: Style of section (2)
		4-97	Correction: Correction of an explanatory note and design

Revision	Date	Pages	Revised contents
1		4-104 to 4-106	Added: (6) Detaching and reattaching the operation panel PWB 30 ppm model
		4-112	Added: Caution
		4-231	Correction: e. Eject fan motor : exhaust→ in-take f. Transfer fan motor : exhaustexhaust→ in-take
		4-233	Added: IMPORTANT
		4-246	Correction: 9. the hook (b)→the hook (a) Correction: Figure
		5-3, 5-7	Added: Error code list (N001, N002)
		5-4, 5-8	Correction: e.g. Changed the file name
		6-12	Correction: Service status page (number)
		6-13	Correction: (7), (8) Item
		6-14	Correction: (50) Paper feeder 1 →Paper feeder 4
		6-15	Correction: (51) Paper feeder 1 →Paper feeder 4 (53) Life counter (cassette 1)→(The first line) Life counter (cassette 2)→(The second line) Cassette →Paper feeder 4
		6-17	Correction: (95)Toner low detection level 0 to 100 (%)→5 to 100 (%)
		7-17	Deleted: C0120 No.3
		7-22	Deleted: C0970
		7-35 to 7-38	Correction: Contents C4101, C4102, C4103, C4202, C4203, C4204
		7-110, 7-111	Correction: No.1 of "Check description" and "Corrective Action"
		7-132	Correction: (9) Deleted the engine relay PWB.
		7-142 to 7-149	Correction: Error codes
		8-24	Added: YC2, YC4
		9-2 to 9-4 9-6 to 9-8	Correction: FRPO parameters
		9-9 to 9-12	Added: (3) System Error (Fxxxx) Outline
		9-21	Correction: (5) Wiring diagram: No.5 (30 ppm model)
		9-23	Correction: Paper Feeder (Option)

Revision	Date	Pages	Revised contents
2	19 September 2015	Cover	Added: PF-5100
		Contents	Correction: 7-3 Image formation problems
		4-74	Added: Notes when replacing the main PWB
		6-3	Correction: U201 Content of maintenance item
		7-19	Correction: C0360
		7-51 to 7-55	Correction: C7101 to C7104
		7-59 to 7-61	Added: C7611 to C7614, C7620
		7-71 to 7-126	Correction: Image formation problems

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Safety precautions

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

Safety warnings and precautions

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

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

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

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

Symbols

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

General warning.

Warning of risk of electric shock.

Warning of high temperature.

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

General prohibited action.

Disassembly prohibited.

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

General action required.

Remove the power plug from the wall outlet.

Always ground the copier.

1. Installation Precautions

⚠ WARNING

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

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

⚠ CAUTION:

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

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

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

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

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

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

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

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

2. Precautions for Maintenance

⚠ WARNING

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

⚠ CAUTION

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

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

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

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

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

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

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

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

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

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

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

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

3. Miscellaneous

⚠ WARNING

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

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

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Installation Guide

PF-5100 (Paper Feeder)

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1 Specifications
1-1 Specifications

(1) Common function

Item		Description
Type		Desktop
Printing Method		Electrophotography by semiconductor laser
Paper Weight	**Cassette**	60 to 163 g/m2
	Multi Purpose Tray	60 to 220 g/m2, 230 g/m2 (Cardstock)
Paper Type	**Cassette**	Plain, Rough, Recycled, Vellum, Preprinted, Bond, Color (Colour), Prepunched, Letterhead, Thick, High Quality, Custom 1 to 8 (Duplex: Same as Simplex)
	Multi Purpose Tray	Plain, Transparency (OHP film), Rough, Vellum, Labels, Recycled, Preprinted, Bond, Cardstock, Coated, Color (Colour), Prepunched, Letterhead, Envelope, Thick, High Quality, Custom 1 to 8
Paper Size	**Cassette**	A4, A5, A6, B5, B6, Letter, Legal, Statement, Executive,Oficio II, Folio, 216 × 340 mm, 16K, B5 (ISO), Custom (105 × 148 mm to 216 × 356 mm)
	Multi Purpose Tray	A4, A5, A6, B5, B6, Folio, 216 × 340 mm, Letter, Legal, Statement, Executive, Oficio II, 16K, B5 (ISO), Envelope #10, Envelope #9, Envelope #6 3/4, Envelope Monarch, Envelope DL, Envelope C5, Hagaki (Cardstock), Oufuku Hagaki (Return postcard), Youkei 4, Youkei 2, Custom (70 × 148 mm to 216 × 356 mm)
Warm-up Time (22°C/ 71.6°F, 60%)	**Power on**	26 seconds or less (30 ppm model) 25 seconds or less (35 ppm model)
	Sleep	17 seconds or less (30 ppm model) 19 seconds or less (35 ppm model)
Paper Capacity	**Cassette**	250 sheets (80 g/m2)
	Multi Purpose Tray	100 sheets (80 g/m2)
Output Tray Capacity	**Inner tray**	250 sheets (80 g/m2)
Photoconductor		OPC drum (diameter 30 mm)
Image Write System		Semiconductor laser and electrophotography
Charging system		Contact charger roller method
Developer system		Touch down developing system Developer: 2-component Toner replenishing: Automatic from the toner container
Transfer system		Primary: Transfer belt method Secondary: Transfer roller method

Item		Description
Separation system		Small diameter separation, separation needle
Cleaning system		Drum: Counter blade, Cleaning roller Transfer belt: Fur brush
Charge erasing system		Exposure by cleaning lamp (LED)
Fusing system		Heat and pressure fusing with the heat roller and the press roller Heat source: halogen heater Abnormally high temperature protection devices: thermostat
Memory		1024 MB
Interface	**Standard**	USB Interface Connector: 1 (Hi-Speed USB) Network interface: 1 (10 BASE-T/100 BASE-TX/1000 BASE-T) USB Port: 2 (Hi-Speed USB) Fax: 1 (4 in 1 model only)
	Option	eKUIO: 1
Operating Environ-ment	**Temperature**	10 to 32.5°C/50 to 90.5°F
	Humidity	10 to 80 %
	Altitude	3,500 m/11,482 ft maximum
	Brightness	1,500 lux maximum
Dimension (W × D × H)		18 45/64 × 21 31/32 × 24 17/64 475 × 558 × 616 mm
Weight (without toner container)		30 ppm model: Without FAX: Approx. 76.3 lb/Approx. 34.6kg With FAX: Approx. 76.5 lb/Approx. 34.7 kg 35 ppm model: Without FAX: Approx. 77.8 lb/Approx. 35.3 kg With FAX: Approx. 78.2 lb/Approx. 35.4 kg
Space Required (W × D) (Using multi purpose tray)		18 45/64 × 29 39/64 475 × 751.8 mm
Power source		30 ppm model: 120 V Specification Model: 120 V 60 Hz 9.0 A 230 V Specification Model: 220 to 240 V 50/60 Hz 5.0 A 35 ppm model: 120 V Specification Model: 120 V 60 Hz 10.3 A 230 V Specification Model: 220 to 240 V 50/60 Hz 5.6 A
Option		Paper Feeder PF-5100 Expansion Memory SD/SDHC memory card Expansion HDD HD-6/7 Network Interface Kit IB-50 Wireless LAN Interface Kit IB-51 IC Card Authentication kit (B) IC Card Reader USB Keyboad Thin Print UG-33

(2) Copy function

30 ppm model

Item		Description
Copy Speed (from Cassette) (with DP)	**Black and White Copying**	A4 30 sheets/min Letter 32 sheets/min Legal 26 sheets/min B5 27 sheets/min A5 27 sheets/min A6 27 sheets/min
	Full Color Copying	A4 30 sheets/min Letter 32 sheets/min Legal 26 sheets/min B5 27 sheets/min A5 27 sheets/min A6 27 sheets/min
First Copy Time (A4, place on the platen, feed from Cassette)	**Black and White**	9.5 seconds or less
	Color	11.5 seconds or less
Zoom Level		Manual mode: 25 to 400%, 1% increments Auto mode: Preset Zoom
Continuous Copying		1 to 999 sheets
Resolution		600 × 600 dpi
Supported Original Types		Sheet, Book, 3-dimensional objects (maximum original size: Legal/Folio)
Original Feed System		Fixed

35 ppm model

Item		Description
Copy Speed (from Cassette) (with DP)	**Black and White Copying**	A4 35 sheets/min Letter 37 sheets/min Legal 30 sheets/min B5 35 sheets/min A5 35 sheets/min A6 35 sheets/min
	Full Color Copying	A4 35 sheets/min Letter 37 sheets/min Legal 30 sheets/min B5 35 sheets/min A5 35 sheets/min A6 35 sheets/min

Item		Description
First Copy Time (A4, place on the platen, feed from Cassette)	**Black and White**	9.0 seconds or less
	Color	11.0 seconds or less
Zoom Level		Manual mode: 25 to 400%, 1% increments Auto mode: Preset Zoom
Continuous Copying		1 to 999 sheets
Resolution		600 × 600 dpi
Supported Original Types		Sheet, Book, 3-dimensional objects (maximum original size: Legal/Folio)
Original Feed System		Fixed

(3) Printer function

Item		Description
Printing Speed		Same as Copying Speed.
First Print Time (A4, feed from Cassette)	**Black and White**	7.0 seconds or less
	Color	8.5 seconds or less
Resolution		600 × 600 dpi, 9600 dpi equivalent × 600 dpi
Operating System		Windows XP, Windows Server 2003, Windows Vista, Windows 7, Windows 8, Windows 8.1, Windows Server 2008/R2, Windows Server 2012/R2, Mac OS 10.5 or later
Interface		USB Interface Connector: 1 (Hi-Speed USB) Network interface: 1 (10 BASE-T/100 BASE-TX/1000 BASE-T) Optional Interface (Option): 1 (For IB-50/IB-51/HD-6/HD-7 mounting)
Page Description Language		PRESCRIBE
Emulations		PCL6 (PCL-XL, PCL5c), KPDL3, XPS

(4) Scanner function

30 ppm model

Item	Description
Resolution	600 dpi, 400 dpi, 300 dpi, 200×400 dpi, 200 dpi, 200×100 dpi
File Format	TIFF (MMR/JPEG compression), JPEG, PDF (MMR/JPEG compression), XPS, PDF/A, High compressive PDF, Encrypted PDF, OPEN XPS
Scanning Speed[a]	A4 landscape, 300 dpi, Image quality: Text/Photo original
	1-sided B/W 40 Images/min Color 30 Images/min 2-sided B/W 17 Images/min Color 13 Images/min
Interface	Ethernet (10 BASE-T/100 BASE-TX/1000 BASE-T), USB[b]
Transmis-sion System	SMB, SMTP, FTP, FTP over SSL, USB, WSD[c], WIA[d], WSD

a.When using the document processor (except TWAIN and WIA scanning)
b. TWAIN and WIA scanning only
c. Available Operating System: Windows XP/Windows Vista/Windows Server 2003/Windows Server 2008/Windows Server 2008 R2/Windows 7/Windows 8/Windows 8.1/Windows Server 2012/ Windows Server 2012 R2
d. Available Operating System: Windows Vista/Windows Server 2008/Windows Server 2008 R2/ Windows 7/Windows 8/Windows 8.1/Windows Server 2012/Windows Server 2012 R2

35 ppm model

Item	Description
Resolution	600 dpi, 400 dpi, 300 dpi, 200×400 dpi, 200 dpi, 200×100 dpi
File Format	TIFF (MMR/JPEG compression), JPEG, PDF (MMR/JPEG compression), XPS, PDF/A, High compressive PDF, Encrypted PDF, OPEN XPS
Scanning Speed[a]	A4 landscape, 300 dpi, Image quality: Text/Photo original
	1-sided B/W 60 Images/min Color 40 Images/min 2-sided B/W 26 Images/min Color 17 Images/min
Interface	Ethernet (10 BASE-T/100 BASE-TX/1000 BASE-T), USB[b]
Transmis-sion System	SMB, SMTP, FTP, FTP over SSL, USB, WSD[c], WIA[d], WSD

a.When using the document processor (except TWAIN and WIA scanning)
b. TWAIN and WIA scanning only
c. Available Operating System: Windows XP/Windows Vista/Windows Server 2003/Windows Server 2008/Windows Server 2008 R2/Windows 7/Windows 8/Windows 8.1/Windows Server 2012/ Windows Server 2012 R2
d. Available Operating System: Windows Vista/Windows Server 2008/Windows Server 2008 R2/ Windows 7/Windows 8/Windows 8.1/Windows Server 2012/Windows Server 2012 R2

(5) Document processor

Item	Description
Supported Original Types	Sheet originals
Paper Size	Maximum: Legal/Folio
	Minimum: Statement-R/A6-R
Paper Weight	1-sided: 50 to 120 g/m² 2-sided: 50 to 120 g/m²
Loading Capacity	75 sheets (50 to 80 g/m²) maximum*1

*1: Up to upper limit height line in the document processor

(6) Paper Feeder(500-sheet)(Option)

Item	Description
Paper Supply Method	Friction roller feeder (No. Sheets: 500, 80 g/m²)
Paper Size	A4, A5, B5, B6, Folio, 216 × 340 mm, Letter, Legal, Statement, Executive, Oficio II, 16K, B5 (ISO), Envelope #10, Envelope #9, Envelope #6 3/4, Envelope Monarch, Envelope DL, Envelope C5, Youkei 4, Youkei 2, Custom (92 × 162 to 216 × 356 mm)
Supported Paper	Paper weight: 60 to 220 g/m² Media types: Plain, Rough, Recycled, Preprinted, Labels, Bond, Vellum, Color (Colour), Prepunched, Letterhead, Envelope, Coated, Thick, High Quality, Custom 1 to 8
Dimensions (W) × (D) × (H)	15 23/64 × 20 61/64 × 4 37/64 390 × 532 × 116 mm
Weight	9.0 lbs. or less/ 4.1 kg or less

(7) Manual Stapler

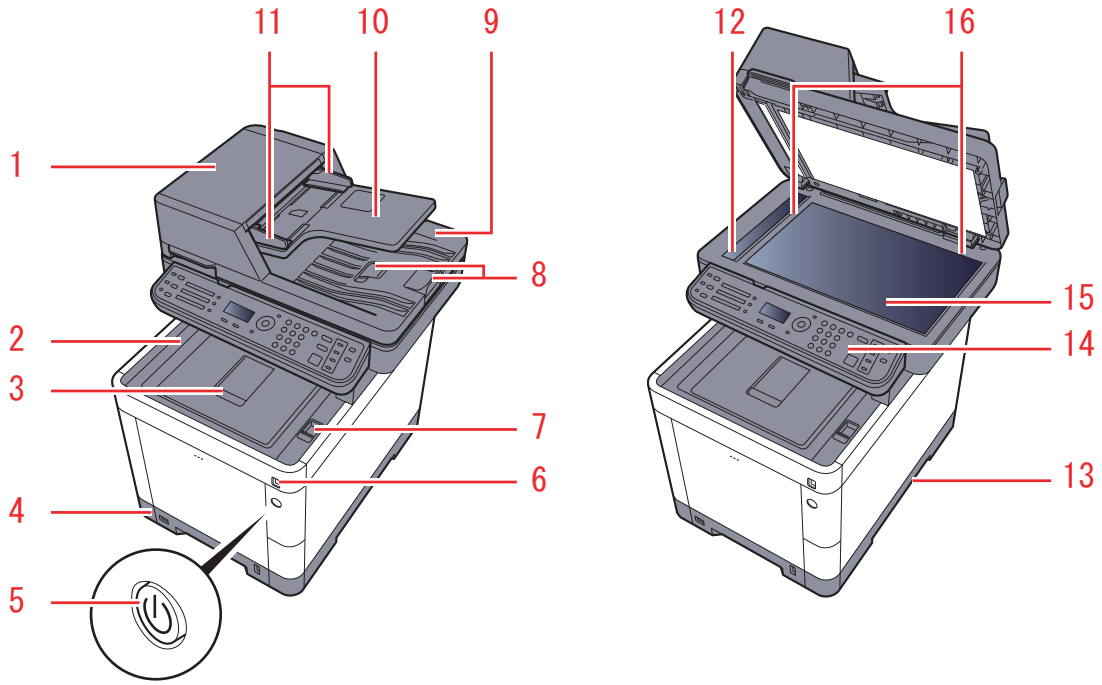
Item	Description
Paper Weight	90 g/m² or less
Number of stapled sheets*1	20 sheets (80 g/m²) maximum, 15 sheets (80 g/m² or less) maximum
Dimensions (W) × (D) × (H)	2 41/64 × 6 1/2 × 5 21/64 67 × 165 × 135 mm
Weight	1.3 lbs. or less/ 0.6 kg or less

*1: Paper stack up to 2mm thick.

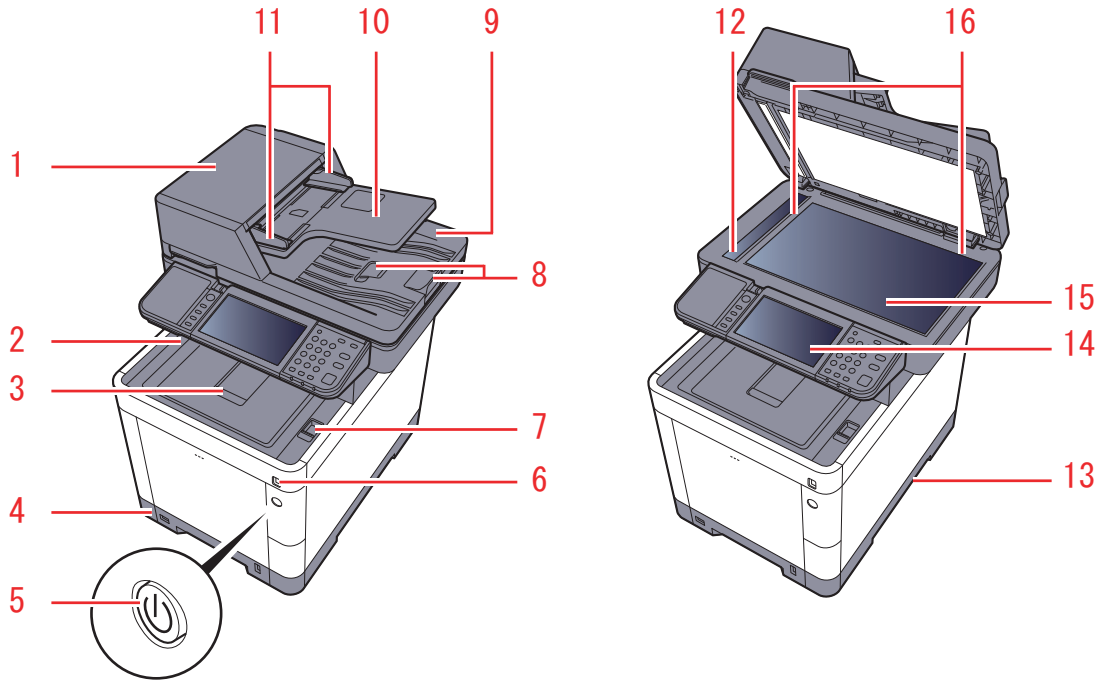
1-2 Parts names

(1) Machine Exterior

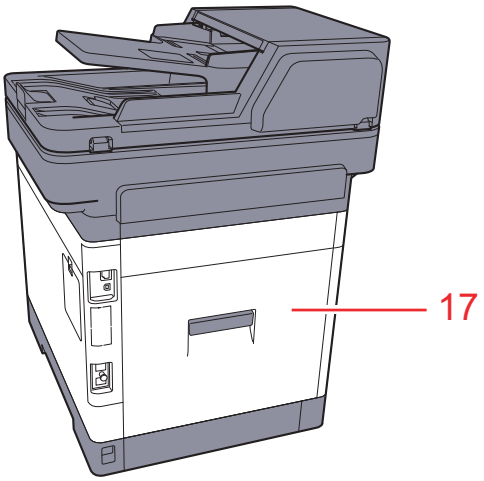
30 ppm model



35 ppm model

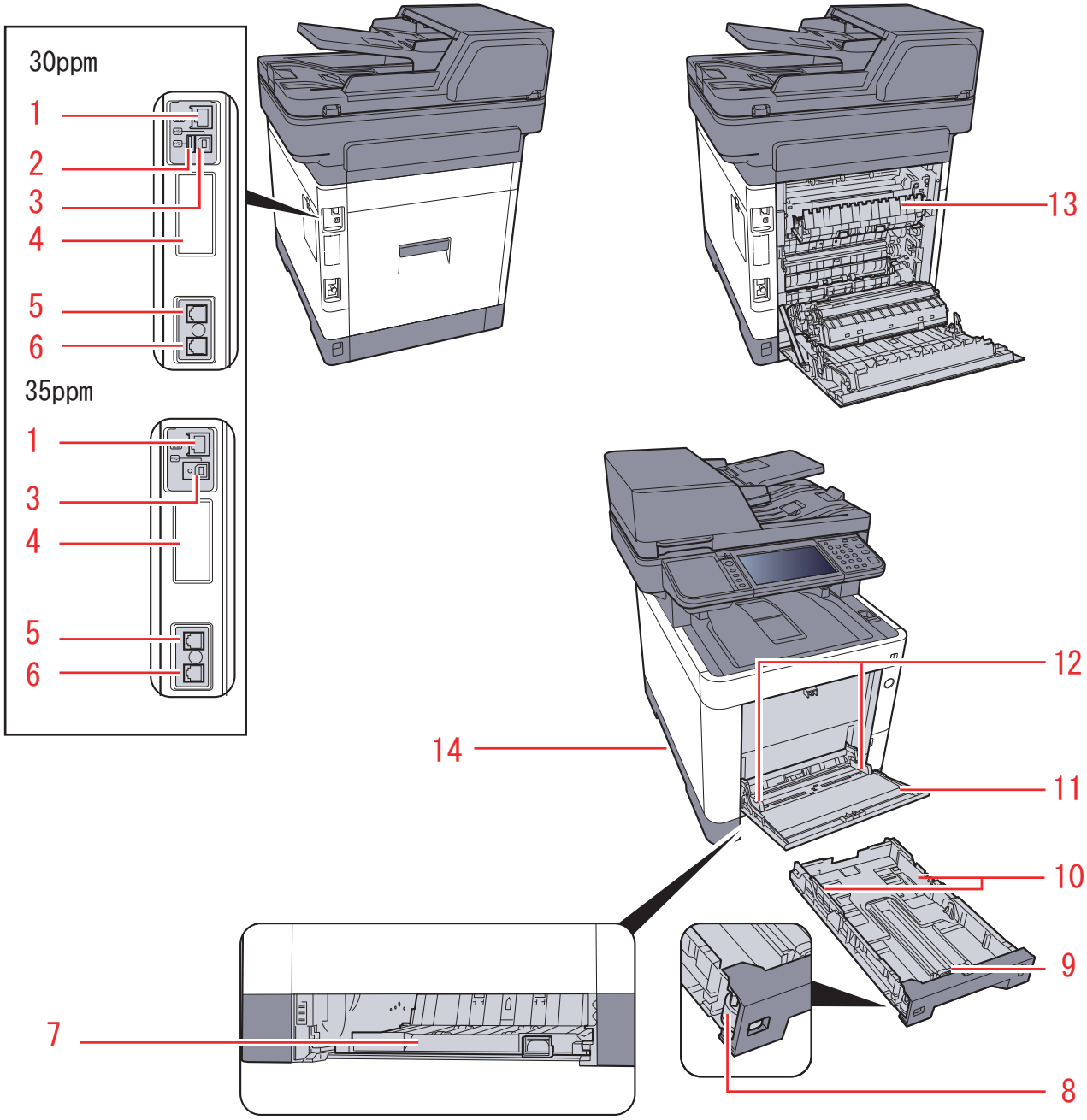


1. Document Processor
2. Inner Tray
3. Paper Stopper
4. Cassette 1
5. Power Switch
6. USB Memory Slot
7. Scanner Unit Open Lever
8. Original Stopper
9. Original Eject Table
10. Original Table
11. Original Width Guides
12. Slit Glass
13. Handles
14. Operation Panel
15. Platen
16. Original Size Indicator Plates



17. Rear Cover 1

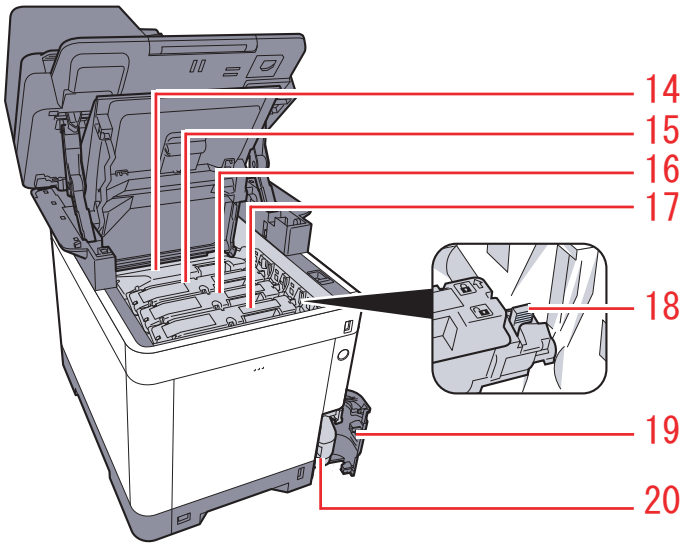
(2) Connectors/ Interior



1. Network Interface Connector
2. USB Port*1
3. USB Interface Connector
4. Option Interface
5. LINE Connector
6. TEL Connector
7. Feed Cover

*1: 30 ppm model

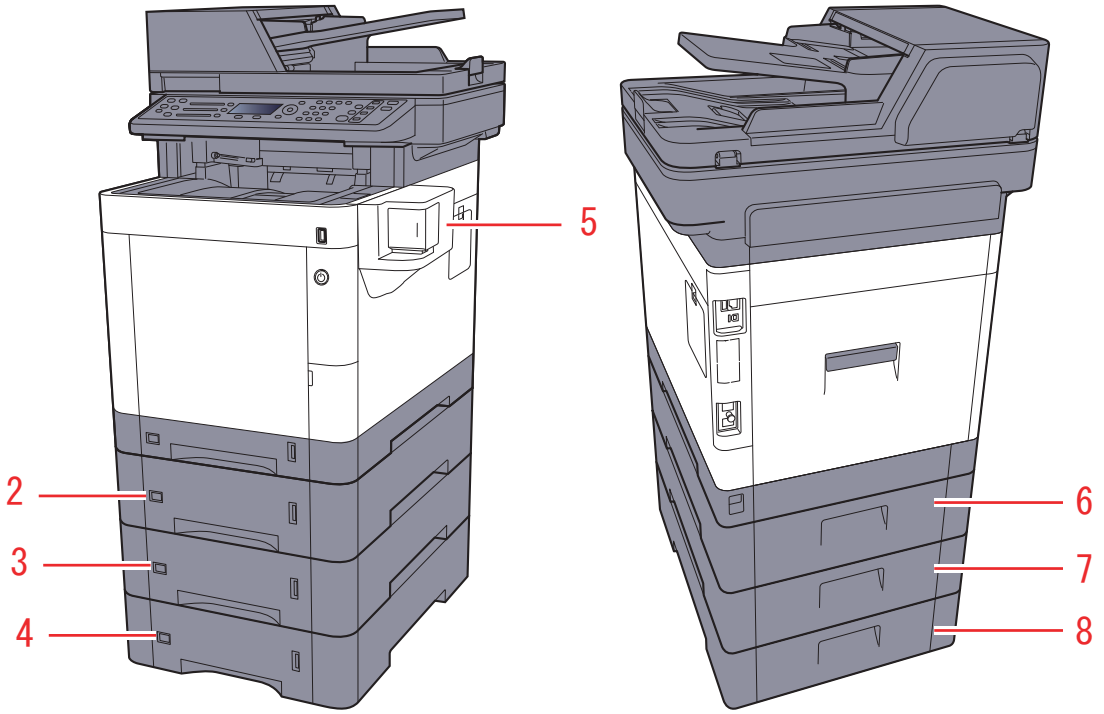
8. Size Dial
9. Paper Length Guide
10. Paper Width Guides
11. Multi Purpose Tray
12. Paper Width Guides
13. Fuser Cover
14. Handles



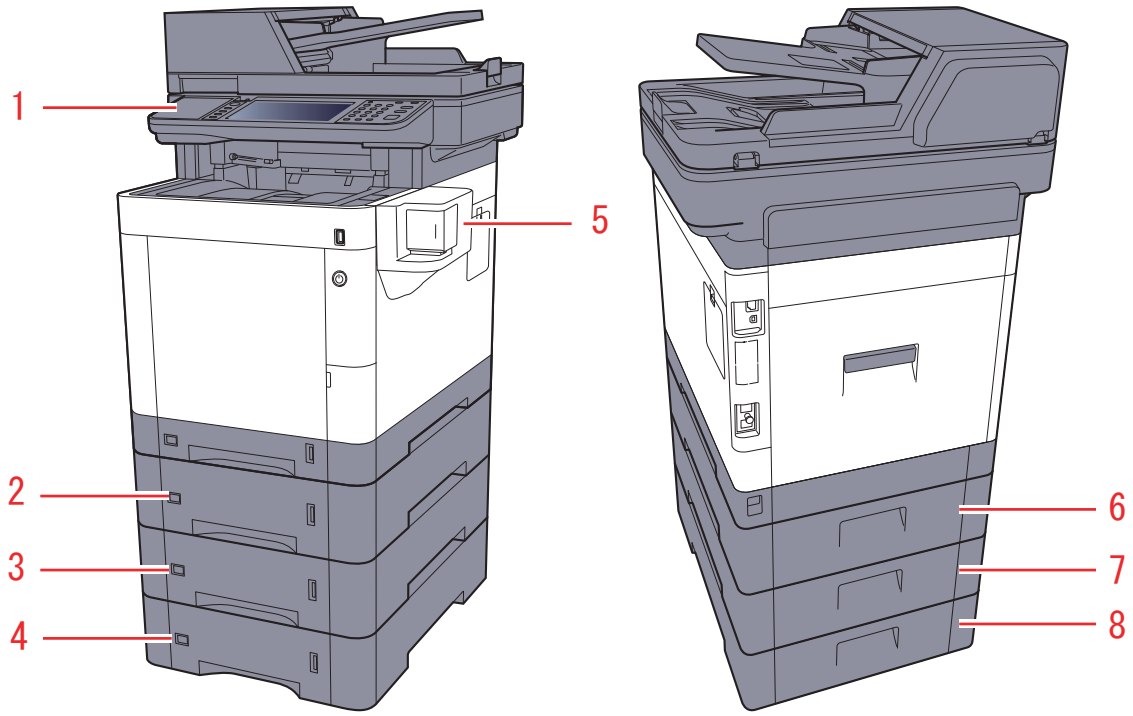
14. Toner Container (Black)
15. Toner Container (Magenta)
16. Toner Container (Cyan)
17. Toner Container (Yellow)
18. Toner Container Lock Lever
19. Waste Toner Cover
20. Waste Toner Boxt

(3) With Optional Equipments Attached

30 ppm model



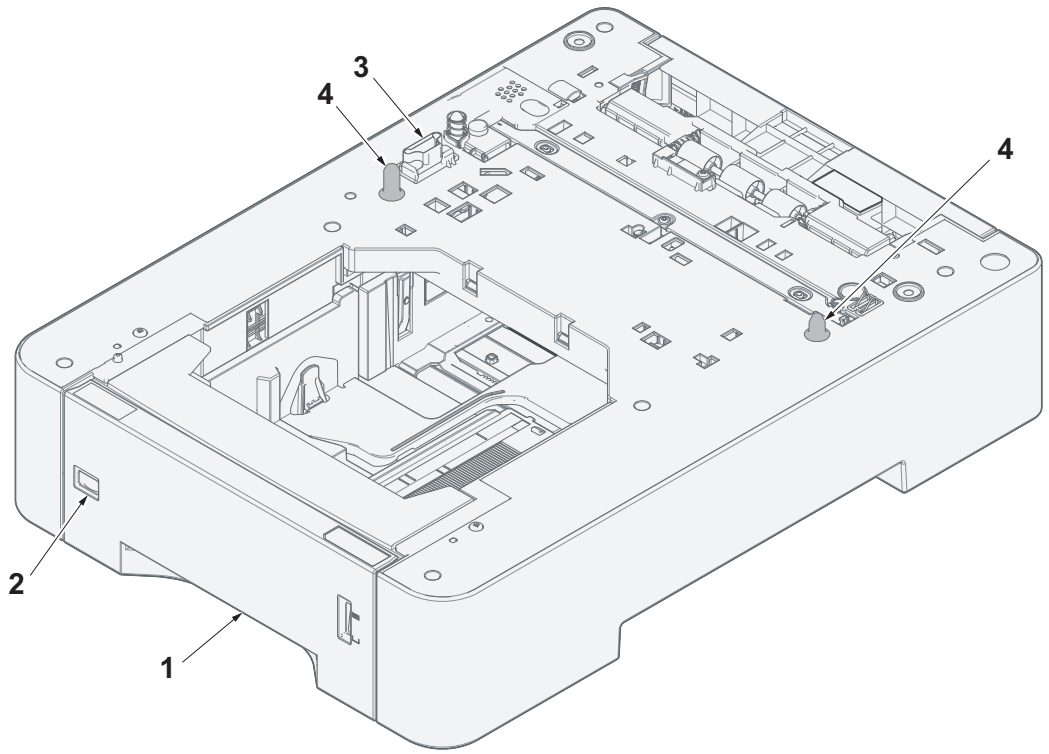
35 ppm model



1. Card Reader*1
2. Cassette 2
3. Cassette 3
4. Cassette 4
5. Manual stapler
6. Rear Cover 2
7. Rear Cover 3
8. Rear Cover 4

*1: 35 ppm model

Part Names of Paper Feeder



1. Cassette
2. Papersize window
3. Interface connector
4. Pins

(4) Operation Panel Keys

(4-1) 30 ppm model

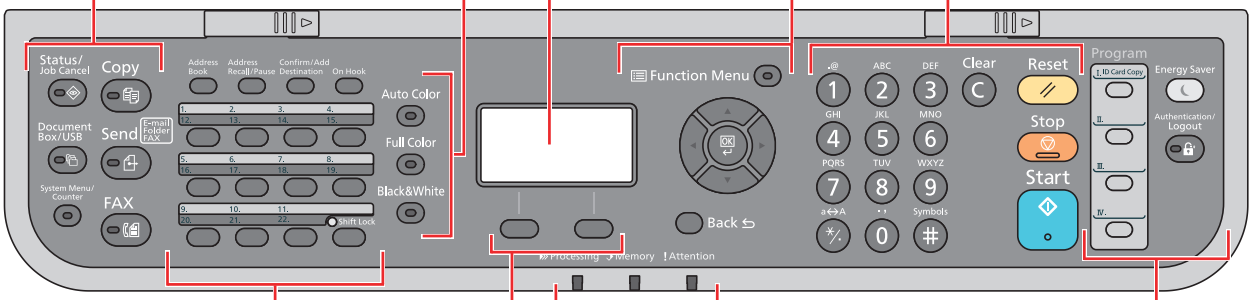
Status/ Job Cancel	Displays the Status/Job Cancel screen.
Document Box/USB	Displays the Document Box/USB screen.
System Menu/ Counter	Displays the System Menu/Counter screen.
Copy	Displays the Copy screen.
Send (E-mail / Folder / FAX)	Displays the screen for sending. You can change it to display the Address Book screen.
FAX	Displays the FAX screen.

Function Menu	
Displays the function menu screen.	
	Increments or decrements numbers, or selects menu in the message display. In addition, moves the cursor when entering the characters.
OK	Finalizes a function or menu, and numbers that have been entered.
Back	Returns to the previous display.

Auto Color	Selects auto color mode.
Full Color	Selects full color mode.
Black&White	Selects black and white mode.

Numeric keys.	Enter numbers and symbols.
Clear	Clears entered numbers and characters.
Reset	Returns settings to their default states.
Stop	Cancels or pauses the job in progress.
Start	Starts copying and scanning operations and processing for setting operations.

Message display :
Displays the setting menu, machine status, and error messages.



Address Book	Displays the Address Book screen.
Address Recall/Pause	Calls the previous destination. Also used to enter a pause when entering a FAX number.
Confirm/Add Destination	Confirms the destination or adds a destination.
On Hook	Switches between on-hook and off-hook when manually sending a FAX.
	Recalls the destination registered for One Touch Keys.

Select Key : Selects the menu displayed at the bottom of the message display.

Processing : Blinks while printing or sending/ receiving.

Memory : Blinks while the machine is accessing the machine memory, fax memory or USB memory (general purpose item).

Attention : Lights or blinks when an error occurs and a job is stopped.

Program	Used to register or recall programs.	Energy Saver	Puts the machine into Sleep Mode. Recovers from Sleep if in Sleep Mode.
		Authentication/ Logout	Authenticates user switching, and exits the operation for the current user (i.e. log out).

(4-2) 35 ppm model

Home	Displays the Home screen.	Status/ Job Cancel	Displays the Status/Job Cancel screen.	Send	Displays the screen for sending. You can change it to display the Address Book screen.
		Copy	Displays the Copy screen.	FAX	Displays the FAX screen.

Touch panel. Displays buttons for configuring machine settings.

Blinks while printing or sending/receiving.

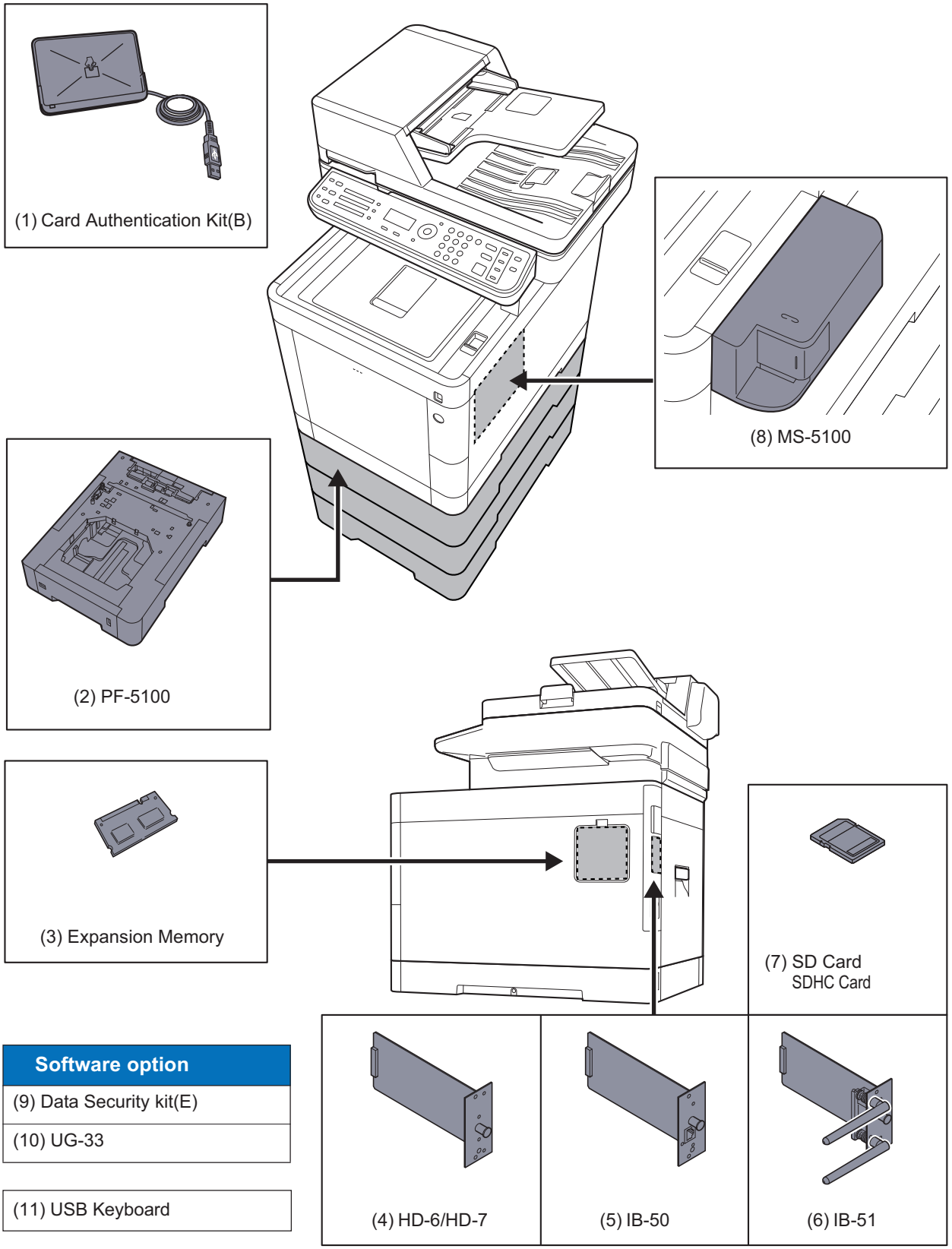
Blinks while the machine is accessing the machine memory, fax memory or USB memory (general purpose item).

Lights or blinks when an error occurs and a job is stopped.

System Menu / Counter	Displays the System Menu Counter screen.	Authentication/ Logout	Authenticates user switching, and exits the operation for the current user (i.e. log out).	Energy Saver	Puts the machine into Sleep Mode. Recovers from Sleep if in Sleep Mode.
1 2 3 4 5 6 7 8 9 * 0 #	Numeric keys. Enter numbers and symbols.	Clear	Clears entered numbers and characters.	Reset	Returns settings to their default states.
		Quick No. Search	Specifies registered information such as address numbers and user IDs by number.	Stop	Cancels or pauses the job in progress.
		Enter	Finalizes numeric key entry and finalizes details during setting of functions. Operates linked with the on-screen [OK].	Start	Starts copying and scanning operations and processing for setting operations.

1-3 Overview of Optional Equipment

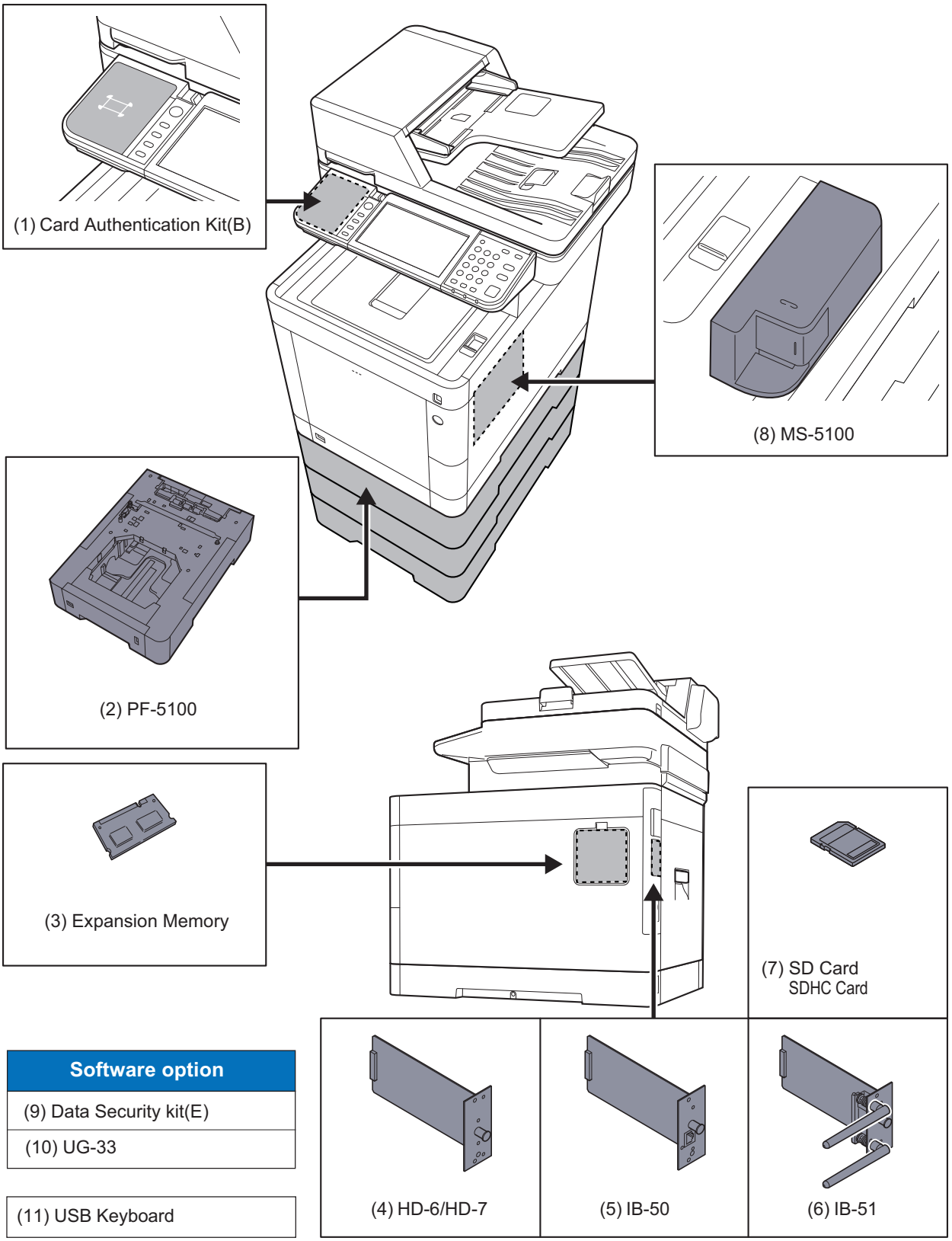
The following optional equipment is available for the machine.
30 ppm model



Software option
(9) Data Security kit(E)
(10) UG-33

(11) USB Keyboard

35 ppm model



Software option
(9) Data Security kit(E)
(10) UG-33

(11) USB Keyboard

2 Installation
2-1 Environment

Installation environment

1. Temperature: 50 to 90.5°F (10 to 32.5°C)
   (But humidity should be 70% or less when the temperature is 90.5°F (32.5°C).)
2. Humidity: 10 to 80%
   (But the temperature should be 86°F (30°C) or less when humidity is 80%.)
3. Power requirements:
   30 ppm models
   AC100V: 11.1A or more, AC120V: 9.0A or more, AC220V - 240V: 5.0A or more
   35 ppm models
   AC100V: 11.4A or more, AC120V: 10.3.0A or more, AC220V - 240V: 5.6A or more
4. Frequency fluctuation: 50Hz+/-2% or 60Hz+/-2%

Installation location

The operative environmental conditions are as follows:

Adverse environmental conditions may affect the image quality. It is recommended to use the machine as follows: Humidity: 36 to 65% Temperature: 60.8 to 80.6°F or less (16 to 27°C)
Avoid the following locations when selecting a site for the machine.

Avoid locations near a window or with exposure to direct sunlight.
Avoid locations with vibrations.
Avoid locations with rapid temperature fluctuations.
Avoid locations with direct exposure to hot or cold air.
Avoid poorly ventilated locations.

If the floor is delicate against casters, when this machine is moved after installation, the floor material may be damaged.
During operation, some ozone is released, but the amount does not cause any ill effect to one's health.
If, however, the machine is used over a long period of time in a poorly ventilated room or when making an extremely large number of copies, the smell may become unpleasant. To maintain the appropriate environment for copy work, it is suggested that the room be properly ventilated.

Installation space

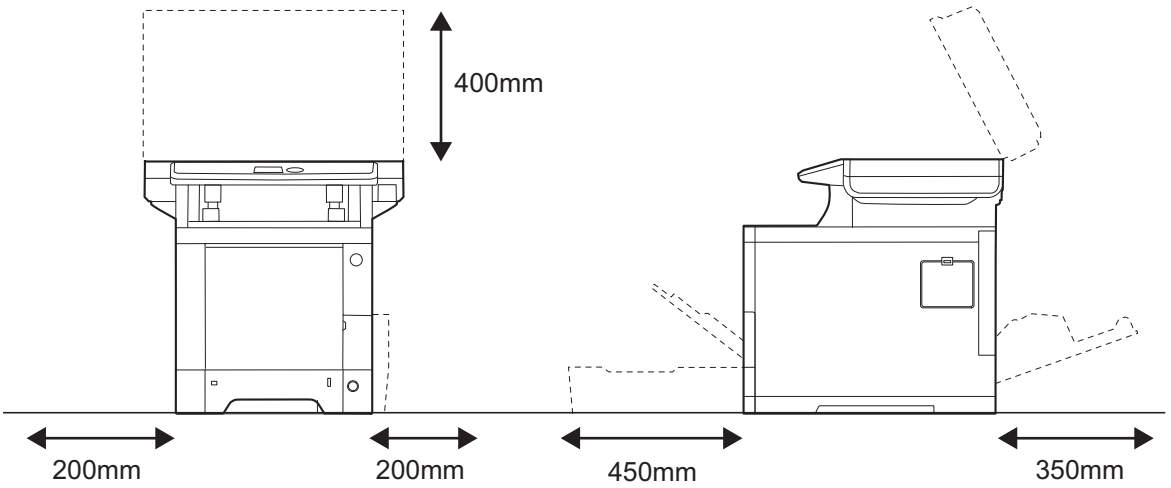
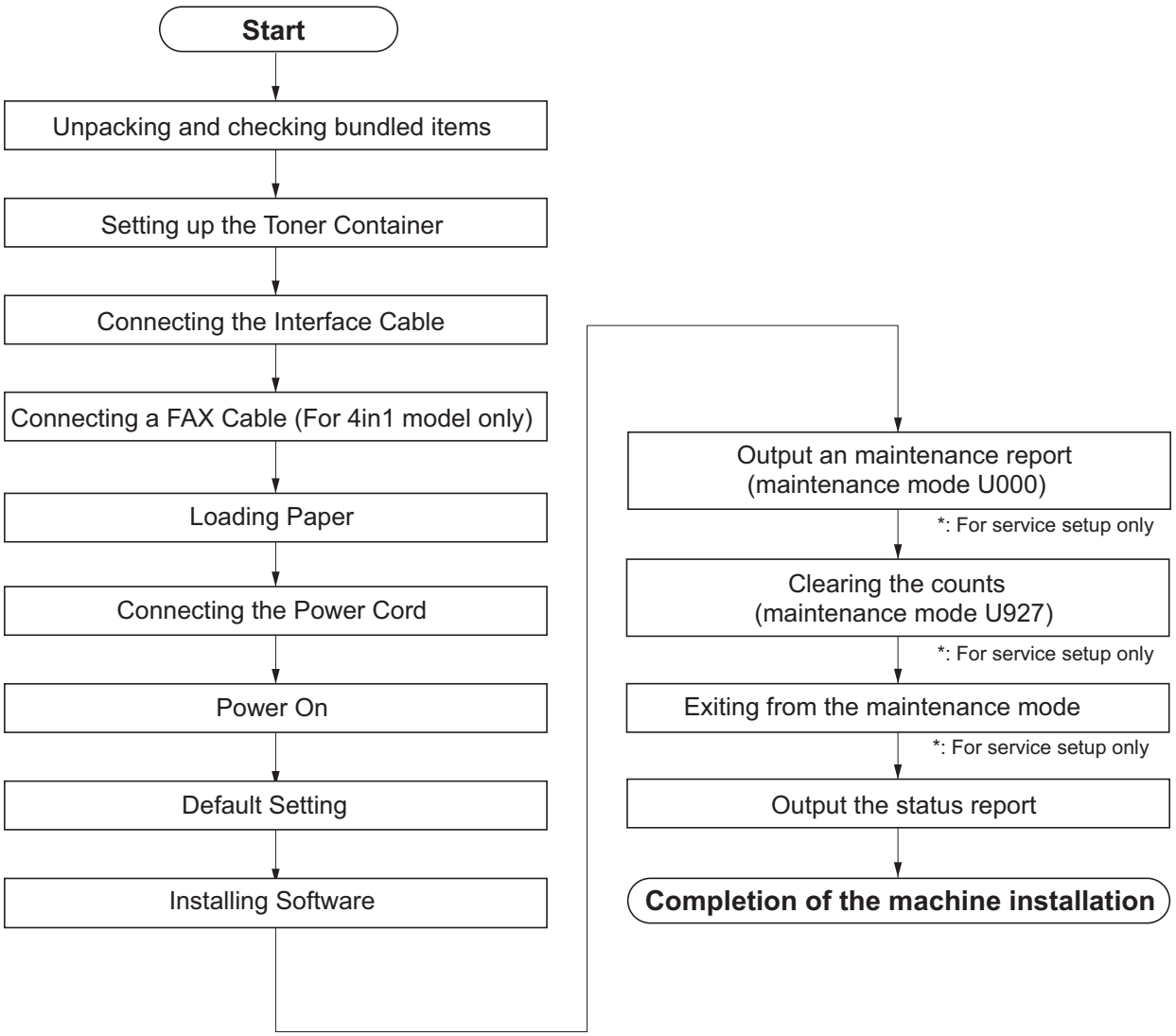


Figure 2-1

2-2 Installing the machine

Installation procedures



(1) Unpacking and checking bundled items

Take out the machine and accessories from the packing case.
Remove the tape and cushioning materials for packing from the main unit.

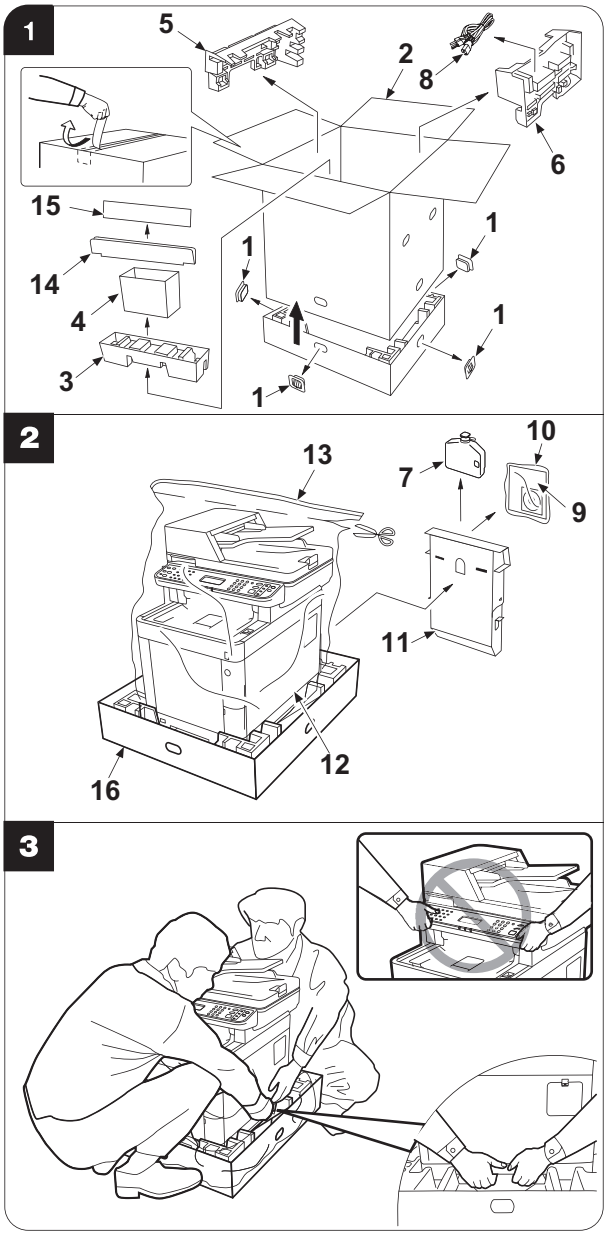


Figure 2-2

1. Hinge joints
2. Outer case
3. Front bottom pad
4. Front pad
5. Left upper pad
6. Right upper pad
7. Waste toner box *1
8. Power cord
9. Operation guide, etc.
10. Plastic bag
11. Document tray
12. Main unit
13. Vaccum plastic bag for main unit
14. Front upper pad *2
15. Operation panel sheets *2
16. Bottom case

*1: for 35 ppm model only
*2: for 30 ppm model only

Note: Make sure to install the main unit on a level surface.

* :Notes on main unit transportation
When transporting the main unit, lift the left and right handles of the main unit base with two people as shown in the figure.
Do not hold the operation unit because it will cause damage.

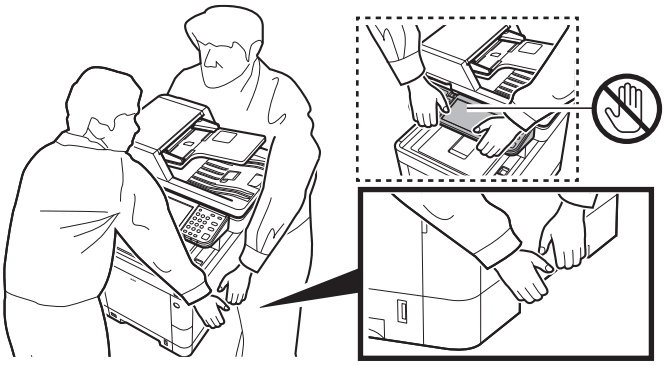


Figure 2-3

(2) Setting up the Toner Container

Set up the toner container of Y, C, Mand K. The procedures are same for all colors.

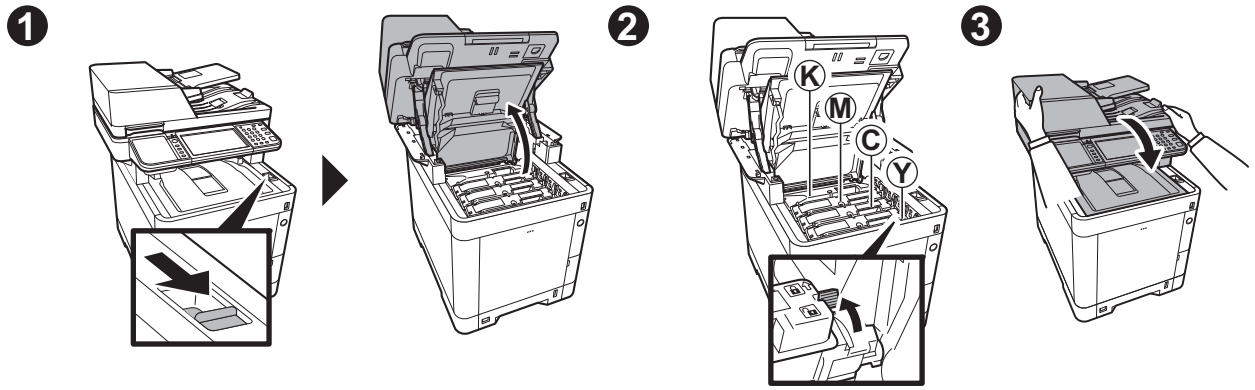


Figure 2-4

(3) Connecting the Interface Cable

Connection environment	Functions	Necessary Cable
Connect a LAN cable to the main unit.	Printer Scanner Network FAX	LAN cable (10Base-T, 100Base-TX or1000Base-T)
Connect a USB cable to the main unit.	Printer Scanner (TWAIN/ WIA)	USB2.0 compatible cable (Hi-Speed USB compliant, Max. 5.0m long)

In the case of the LAN connection

1. Connect the LAN cable to the network interface connector.
2. Connect the other end of the cable to the hub.

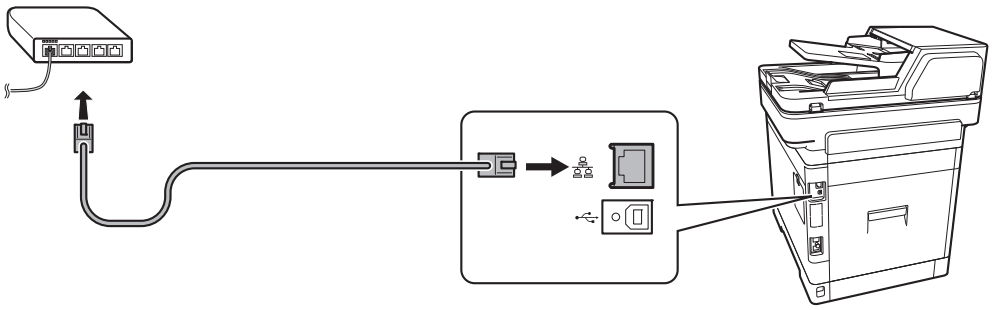


Figure 2-5

In the case of the USB connection

1. Connect the USB cable to the USB interface connector located on the left side of the main unit.
2. Connect the other end of the cable to the PC.

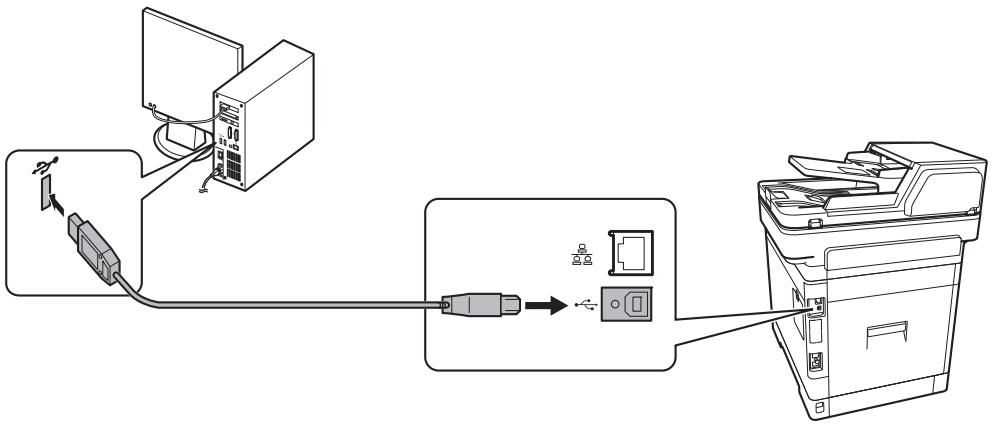


Figure 2-6

(4) Connecting a FAX Cable (For 4in1 model only)

General FAX connection example

In the case of the general telephone line

a. Modular jack

Figure 2-7

ADSL

Connect a cord between the LINE connector of the main unit and the PHONE port of the splitter.

a. Modular jack
b. ADSL modem
c. Splitter (PHONE port)
d. PC

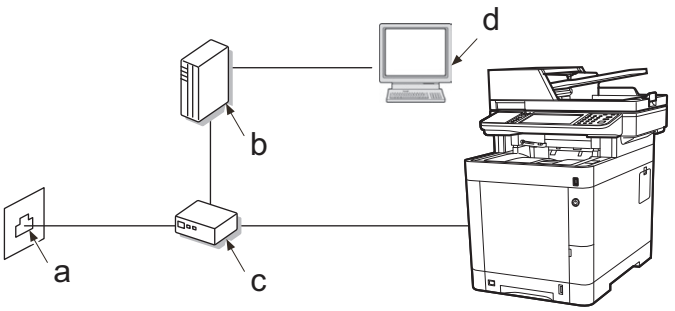


Figure 2-8

ISDN

Connect a cord between the LINE connector of the main unit and the analog port of the terminal adapter.

a. Modular jack
b. Terminal adapter (Analog port)
c. PC

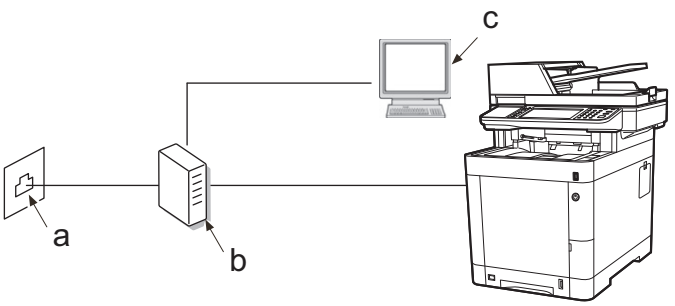


Figure 2-9

Modular cord connection

Connect a modular cord to the LINE connector of the main unit.
When using a commercially available telephone set, connect a modular cord to the TEL connector of the main unit.

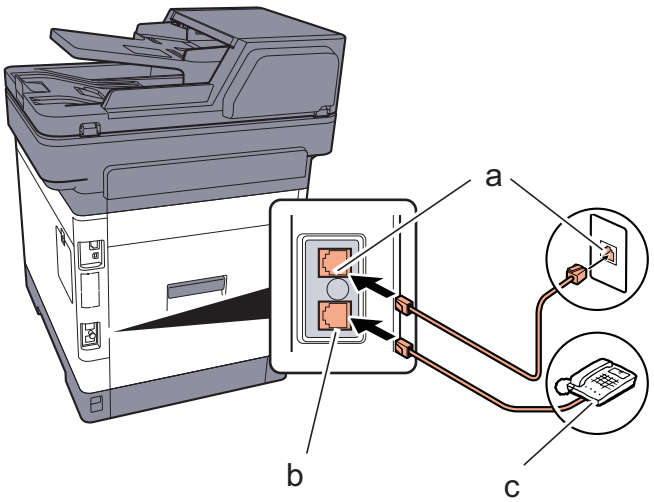


Figure 2-10

(5) Loading Paper

The cassettes can hold plain paper, recycled paper or color paper.
The number of sheets that can be loaded in each cassette is as shown below.
Cassette1 250 sheets (Plain paper: 80g/m2)
Cassette 2 to 4 500 sheets (Plain paper: 80g/m2)

Cassette 1 can hold paper with the weight between 60 - 163g/m2.
Cassettes 2 to 4 can hold paper with the weight between 60 - 220g/m2.

1. Pull the cassette completely out of the main unit.

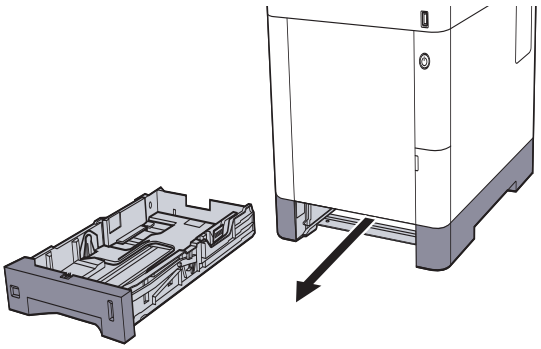


Figure 2-11

Note

When pulling the cassette out of the main unit, make sure it is supported and does not fall out.

2. Adjust the paper size of the cassette.
1.Adjust the position of the paper width guides located on the left and right sides of the cassette. Press the tab and slide the guides to the paper size to use.
Paper sizes are marked on the cassette.

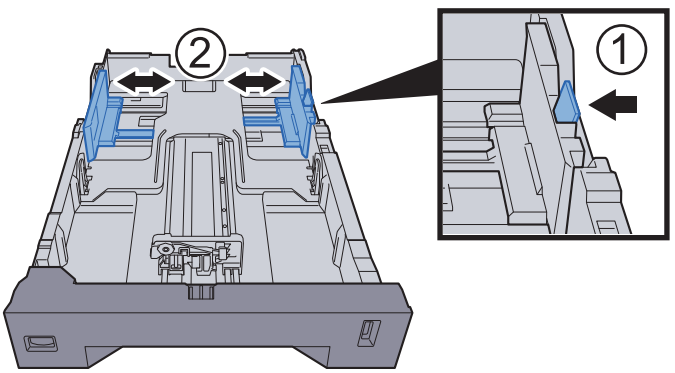


Figure 2-12

2.Adjust the position of the paper length guide. Press the paper length adjusting tab and slide the guides to the paper size to use.

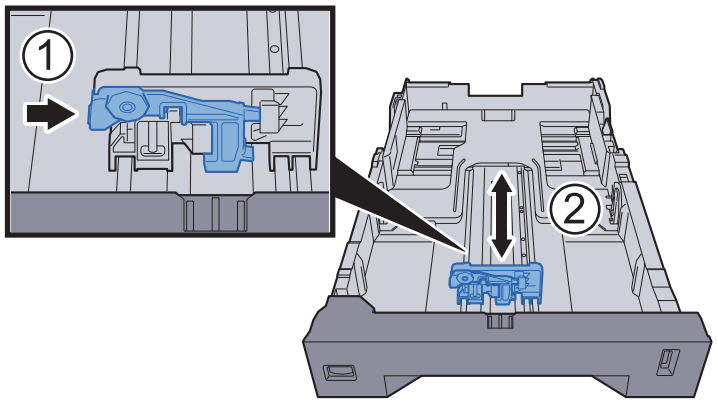


Figure 2-13

3.Turn the size dial so that the paper size to use appears in the paper size window.

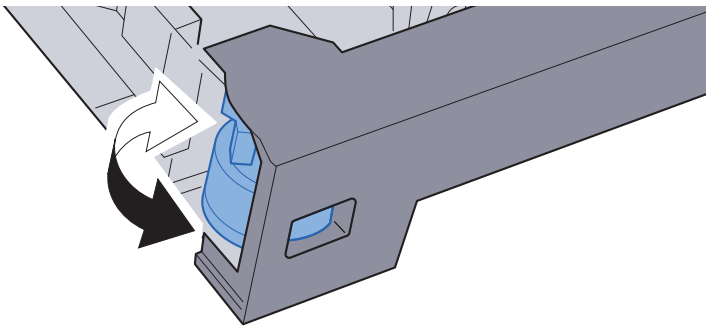


Figure 2-14

3. Load paper.
1.Fan the paper, then tap it on a level surface to align the edges.
2.Load the paper in the cassette after aligning its edges.

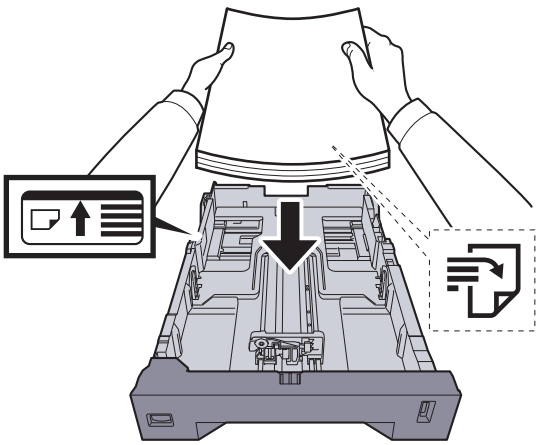


Figure 2-15

Note

Load the paper with the print side facing up.
Before loading paper in the cassette, fan the paper taken from a new package to separate it.
(See page 2-9)

Before loading the paper, be sure that it is not curled or folded. Such paper may cause paper jams.
Make sure that the loaded paper does not exceed the level indicator (see the illustration above).
If paper is loaded without adjusting the paper length guide and paper width guides to the paper size to use, the paper may skew or become jammed.

4. Gently insert the cassette all the way into the main unit.

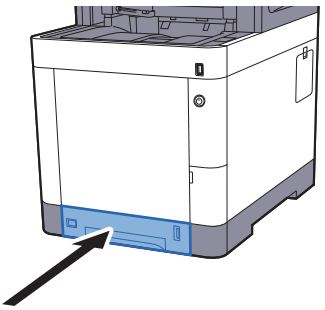


Figure 2-16

Precaution for Loading Paper

Before loading paper in the cassette or MP tray, treat the paper taken from a new package to separate it in the following steps.

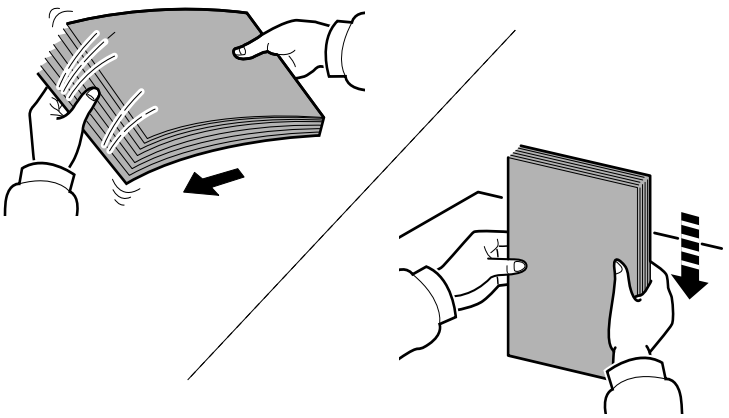


Figure 2-17

Fan the paper, then tap it on a level surface to align the edges.
In addition, note the following points.
If the paper is curled or folded, straighten it before loading. Such paper may cause a jam.
Avoid exposing paper taken from a package to high temperatures and high humidity as dampness can be a cause of problems. Seal any remaining paper after loading in the MP tray or cassettes back in the paper storage bag. Seal any remaining paper after loading in the MP tray or cassettes back in the paper storage bag.
If the machine will not be used for a prolonged period, protect all paper from humidity by removing it from the cassettes and sealing it in the paper storage bag.

Note

If you print onto paper already used for printing, do not use it with a staple or clip. This may cause poor image quality or malfunctions.

(6) Connecting the Power Cord

1. Connect one end of the supplied power cord to the main unit and the other end to a power outlet.

*: Only use the power cord that comes with the main unit.

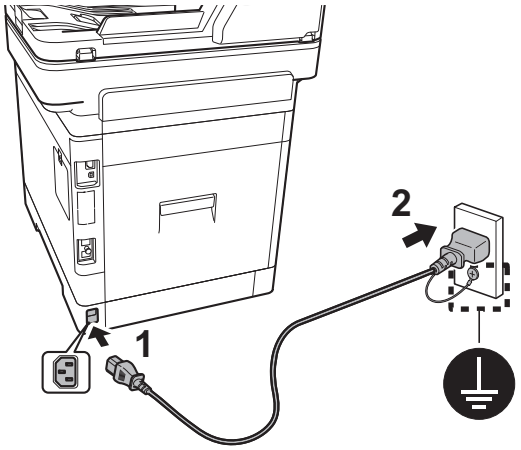


Figure 2-18

(7) Turn the power on.

1. Turn the power switch on.

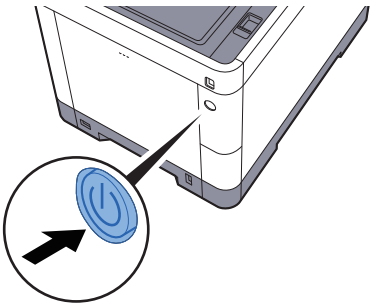


Figure 2-19

Note

After turning off the power switch, do not turn on the power switch again immediately. Wait 5 seconds or more, and then turn on the power switch.

(8) Default Setting (for 30 ppm model)

(8-1) Setting Date and Time

Follow the steps below to set the local date and time at the place of installation.

1. Display the screen.
   [System Menu/Counter] key > [▲] [▼] key > [Common Settings] > [OK] key > [▲] [▼] key > [Date Setting] > [OK] key

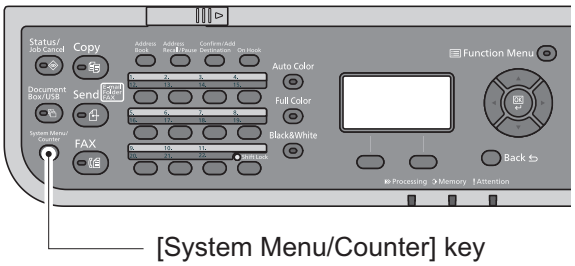


Figure 2-20

2. Configure the settings.
   [▲] [▼] key > [Time Zone] > [OK] key > Select the time zone > [OK] key > [▲] [▼] key >[Date/Time] > [OK] key > Set the date/time > [OK] key > [▲] [▼] key > [Date Format] > [OK] key > Select the Date Format > [OK] key

*: Select the [▲] or [▼] key to enter a number.
Select the [◄] or [►] key to move the position being entered, which is shown highlighted.

(8-2) Network Setup (LAN Cable Connection)

TCP/IP Settings
IPv4 setting
Set up TCP/IP (IPv4) to connect to the Windows network.
The default settings are "TCP/IP: [On], DHCP: [On], Auto-IP: [On]".

1. Display the screen.
   [System Menu/Counter] key > [▲] [▼] key > [System/Network] > [OK] key > [▲] [▼] key > [Network Setting] > [OK] key > [▲] [▼] key > [TCP/IP Settings] > [OK] key > [▲] [▼] key > [IPv4 Setting] > [OK] key

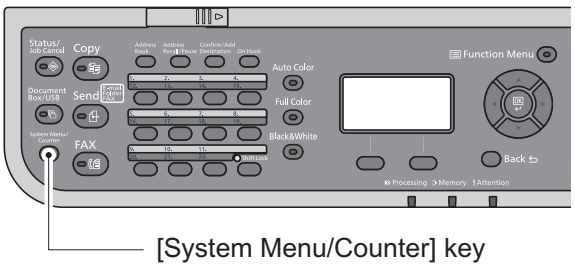


Figure 2-21

2. Configure the settings.
   When setting the static IP address
   1. [▲] [▼] key > [DHCP] > [OK] key > [▲] [▼] key > [Off] > [OK] key
   2. [▲] [▼] key > [IP Address] > [OK] key
   3. Set the IP address.
      * :You can set any value between 000 and 255.
        Use the numeric keys or select the [▲] or [▼] key to enter a number.
        Select the [◄] or [►] key to move the position being entered, which is shown highlighted.
   4.Select the [OK] key.
   5.[▲] [▼] key > [Subnet Mask] > [OK] key
   6.Set the subnet mask.
      * :You can set any value between 000 and 255.
   7.Select the [OK] key.
   8.[▲] [▼] key > [Default Gateway] > [OK] key
   9.Set the default gateway.
      * :You can set any value between 000 and 255.
   10.Select the [OK] key.

IMPORTANT

After changing the setting, restart the network from the System Menu, or turn the power off and then on.

(8-3) Altitude Adjustment Setting

Execute [Altitude Adjustment] from the System Menu when setting up at a high altitude place.
When the printing quality declines in the environment of an altitude higher than 1001m sea level, the setting of [Altitude Adjustment] mode can recover the printing quality.

1. Press the [System Menu/Counter] key.

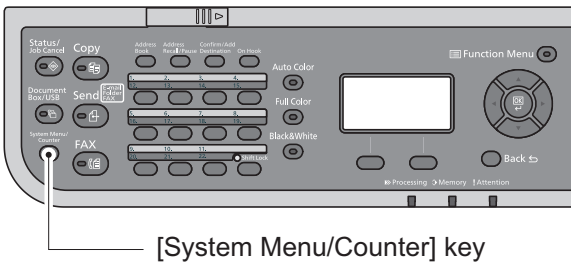


Figure 2-22

2. Select [Adjustment/Maintenance] using the [▲] [▼] key, then press the [OK] key.
3. Select [Service Setting] using the [▲] [▼] key, then press the [OK] key.
4. Select [Altitude Adjustment] using the [▲] [▼] key, then press the [OK] key.
5. Select [Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m] using the [▲] [▼] key, then press the [OK] key.

*: Description of setting
Normal: Altitude from 0 to 1000m

(9) Default Setting (for 35 ppm model)

The Machine Setup Wizard is launched when the equipment is turned on for the first time after being installed.

Figure 2-23

Set the following items according to the screen.

Language	Japanese
	English
Date/Time	Time Zone
	Date (year/month/day)
	Time (hour/minute/second)
Network	DHCP
	IP Address
	Subnet Mask
	Default Gateway

Setting also can be done from System Menu as below.

(9-1) Setting Date and Time

1. Display the screen.
   [System Menu/Counter] key > [Date/Timer/Energy Saver]
2. Configure the settings.
   [Time Zone] > [Date/Time] > [Date Format]

(9-2) Network

TCP/IP Settings
IPv4 setting
Set up TCP/IP (IPv4) to connect to the Windows network.
The default settings are "TCP/IP: [On], DHCP: [On], Auto-IP: [On]".

1. Display the screen.
   [System Menu/Counter] key > [System/Network] > [Network] > [TCP/IP Setting]

Figure 2-24

2. Configure the settings.
   IPv4 setting
   Set the following.
   When using DHCP server
   [DHCP]: Set to [On].
   When setting the static IP address
   [DHCP]: Set to [Off].
   [IP Address]: Enter the address.
   [Subnet Mask]: Enter the address.
   [Default Gateway]: Enter the address.

(9-3) Altitude Adjustment Setting

Execute [Altitude Adjustment] from the System Menu when setting up at a high altitude place.
When the printing quality declines in the environment of an altitude higher than 1001m sea level, the setting of [Altitude Adjustment] mode can recover the printing quality.

1. [System Menu/Counter] key > [Adjustment/Maintenance] > [Service Setting] > [Altitude Adjustment]
2. Select [Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m] then press the [OK] key.

*: Normal: Altitude from 0 to 1000m

(10)Installing Software

1. Install appropriate software in your PC from the bundled DVD (Product Library) if you want to use the printer function of this machine or perform TWAIN / WIA transmission or Network FAX transmission from your PC. See the Operation Guide supplied with the main unit.

(11)Output an maintenance report (maintenance mode U000)(for service)

1. Input "10871087" using the numeric keys to enter the maintenance mode.
2. Input "000" using the numeric keys and press the [Start] key.
3. Select [Maintenance] and press the [Start] key to output the status report.
4. Press the [Stop] key.

(12)Clearing the counts (maintenance mode U927)(for service)

1. Input "927" using the numeric keys and press the [Start] key.
2. Select [Execute].
3. Press the [Start] key to clear the counter value.
4. Press the [Stop] key.

(13)Exiting from the maintenance mode (for service)

1. Input "001" using the numeric keys and press the [Start] key.

*: The maintenance mode is exited.

(14)Output of Status Page

30 ppm model

1. Select the [System Menu/Counter] key.

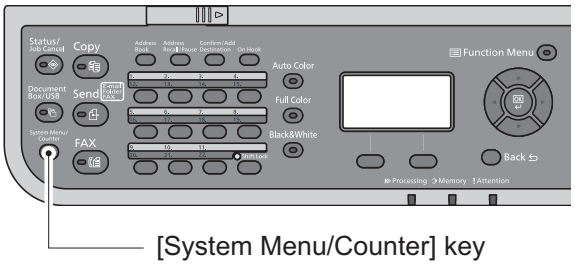


Figure 2-25

2. Select [Report], then press the [OK] key.

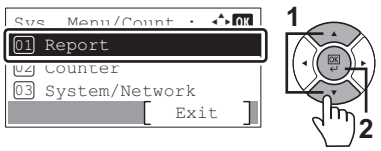


Figure 2-26

3. Select [Report Print], then press the [OK] key.

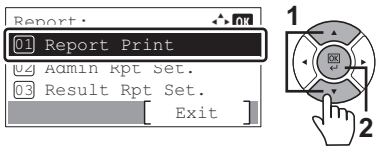


Figure 2-27

4. Select [Status Page], then press the [OK] key.

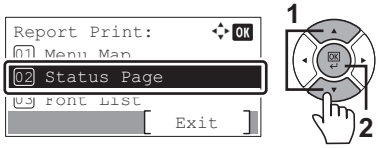


Figure 2-28

5. After the message "This will be printed. Are you sure?" appears, press [Yes].

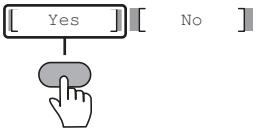


Figure 2-29

35 ppm models

1. Press the [System Menu/Counter] key.
2. Select [Report].

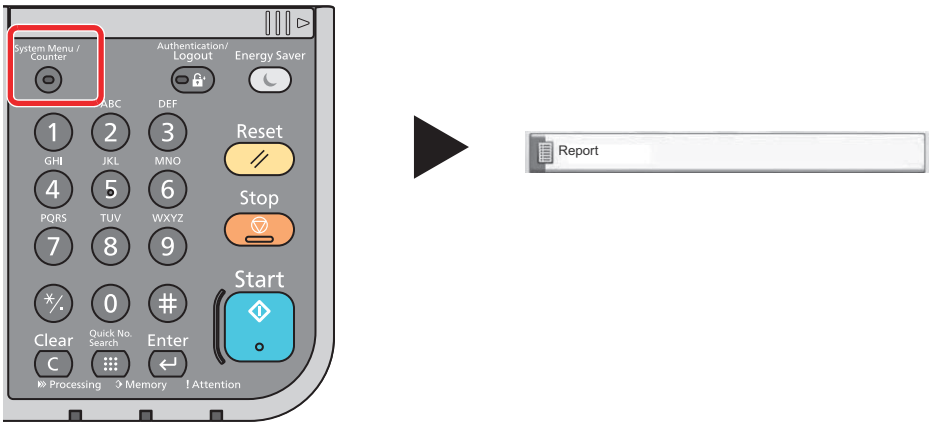


Figure 2-30

3. Select [Report Print].
4. Select [Status Page].

Figure 2-31

5. After the message "This will be printed. Are you sure?" appears, press [Yes].

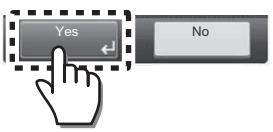


Figure 2-32

(15)Completion of installing the main unit (Turning the power off)

1. Make sure that each indicator is not flashing, and then turn the power switch off.

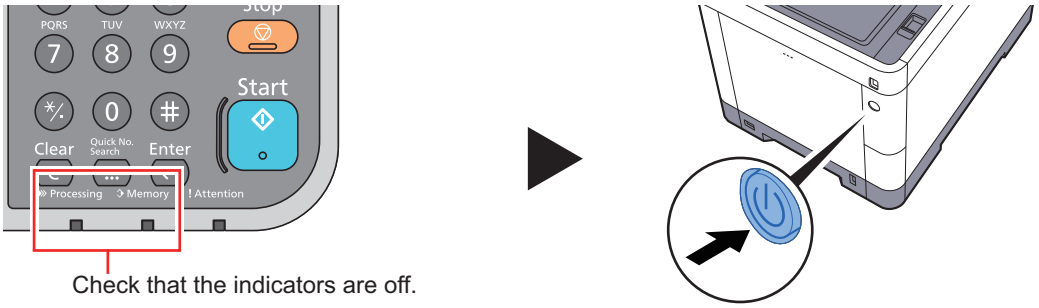


Figure 2-33

IMPORTANT

When the "Processing" indicator or "Memory" indicator is lit up or blinking, the main unit is operating. Turning the power switch off while the main unit is operating may cause malfunctions.

2-3 Installing the optional equipment

(1) Card Authentication Kit(B)

User login administration is available using ID cards. To do so, it is necessary to register ID card information on the previously registered local user list.

Installing the ID card reader (for 35 ppm model only)

ID card reader holder installation requires the following parts:

IC card reader holder 10 (1702P60UN1).....1pc

Supplied parts of IC card reader holder 10 (1702P60UN1) ID card reader holder	1pc
Label	1pc
Screw (M3x8 screw with the binding head)	1pc

Procedures

1. Mount the ID card reader (a) to the ID card reader holder (b).

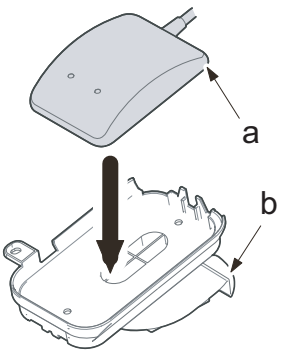


Figure 2-34

2. Route the USB cable (a) from the ID card reader through the ribs (c) of the ID card reader holder (b), wind around its back and route through another rib (d).

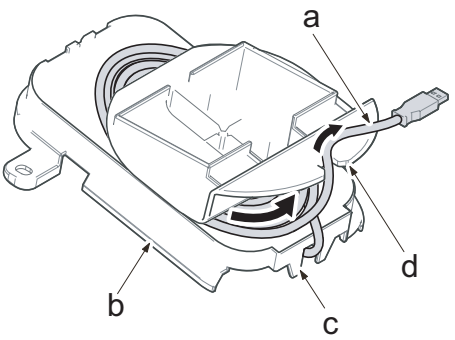


Figure 2-35

3. Slide the left panel plates (a) and remove it.
4. Remove the left operation panel cover (b) and the left operation panel sheet (c).
5. Remove the ID card reader cover (d).

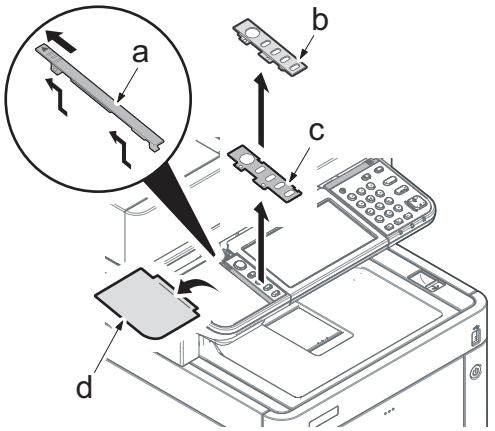


Figure 2-36

6. Connect the USB connector (a) to the USB interface slot (b).
7. Attach the ID card reader holder (c) with the screw (d).
8. Reattach the parts in the original position.

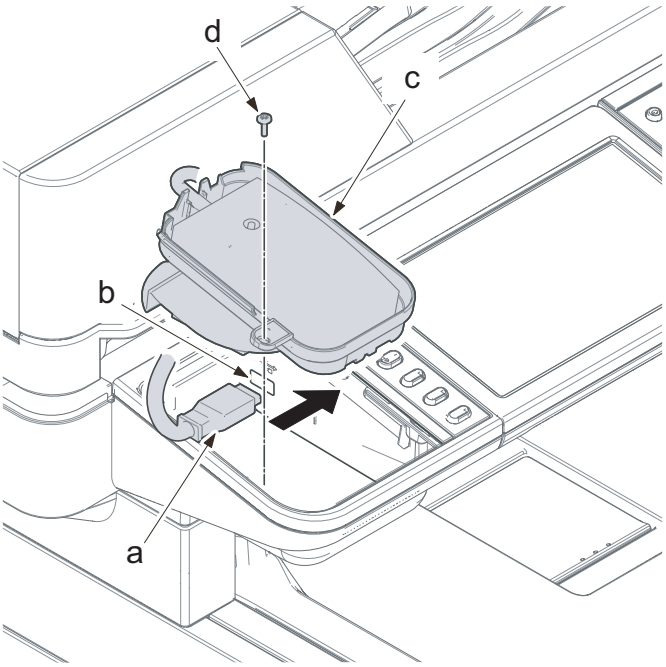


Figure 2-37

9. Affix the label (c) on the ID card reader cover (b) aligning it with the reference position (a).

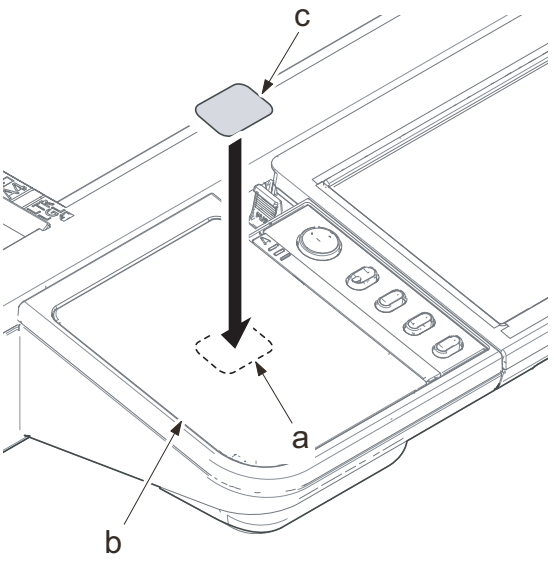


Figure 2-38

(2) Paper Feeder (500-sheet x1)

Three cassettes the same as the one for the main unit can be installed. Installation is the same as the standard cassette.

Installing the Paper Feeder

1. Take out the paper feeder (a) from the packing case, and place it at the installation location.
2. Lift the main unit straight up, and then fit it on the paper feeder while inserting the positioning pins (b) into the positioning holes at the main unit bottom.

Maximum number to install: three

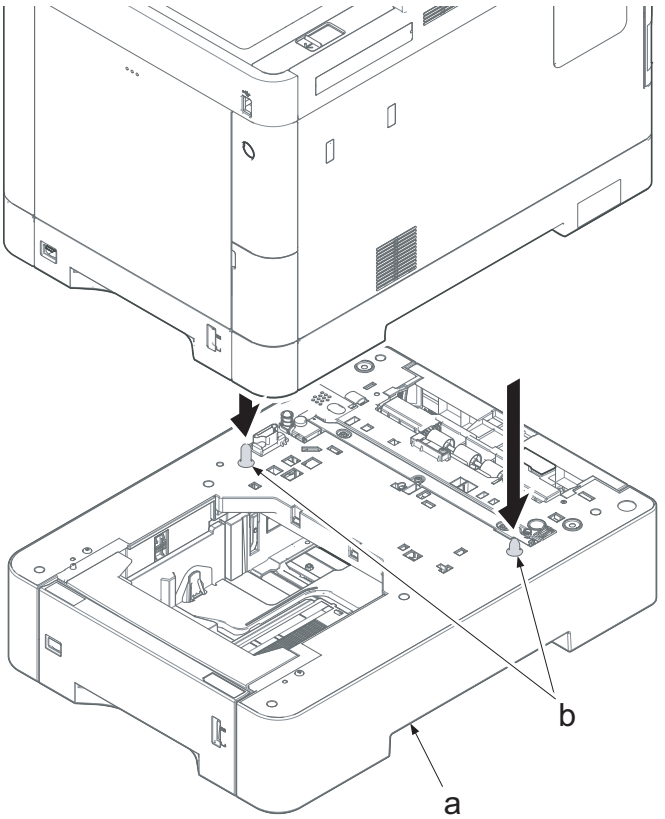


Figure 2-39

3. Pull out the cassette (b) from the paper feeder (a).

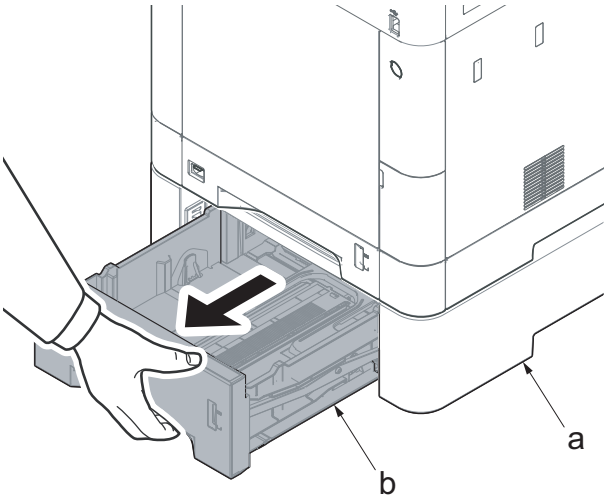


Figure 2-40

4. Adjust the position of the paper width guides located on the left and right sides of the cassette. Press the tab and slide the guides to the paper size to use.

*: Paper sizes are marked on the cassette.

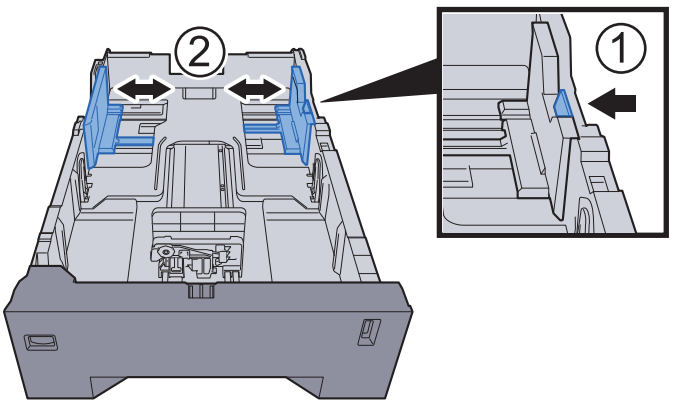


Figure 2-41

5. Adjust the paper length guide to the paper size required. Press the paper length adjusting tab and slide the guides to the paper size to use.

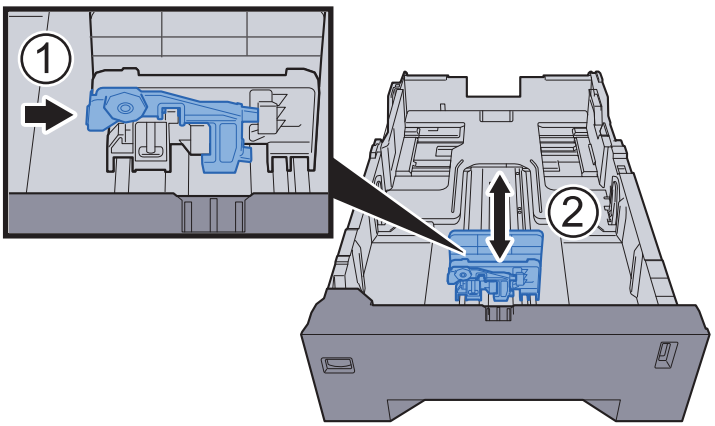


Figure 2-42

6. Turn the size dial so that the paper size to use appears in the paper size window.

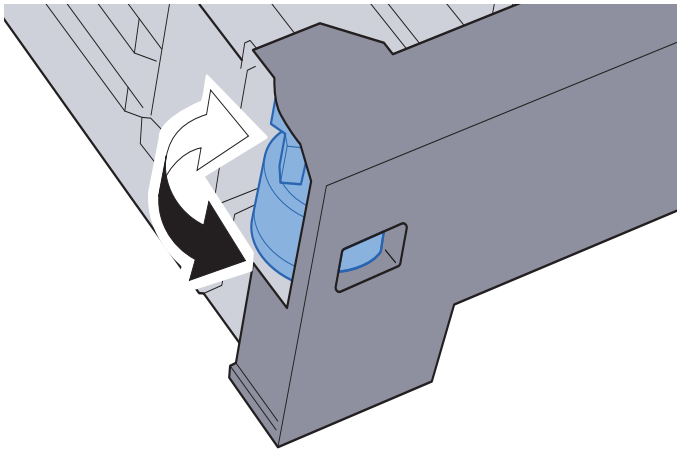


Figure 2-43

7. Fan the paper taken from a package to separate it, and then tap it on a level surface to align the edges.

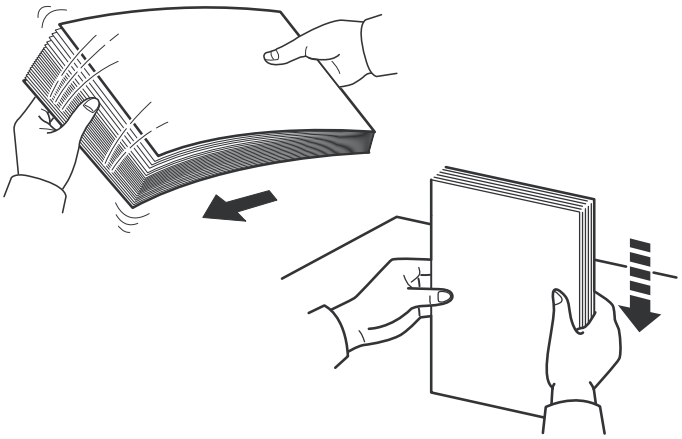


Figure 2-44

8. Load the paper in the cassette after aligning its edges.
*: Load the paper with the print side facing up.
*: Make sure that the loaded paper does not exceed the level indicator (see the illustration above).

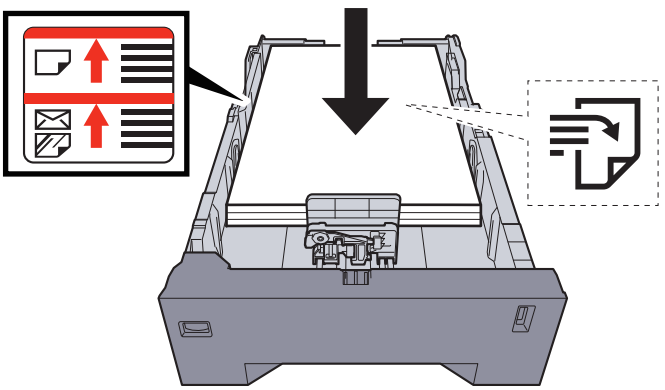


Figure 2-45

9. Push the cassette (b) back in the paper feeder (a).

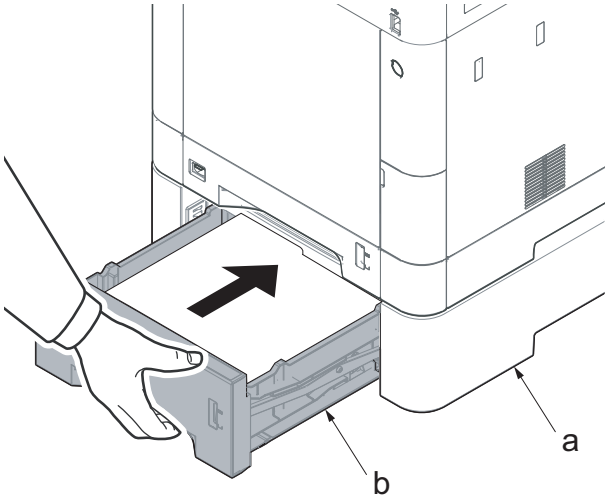


Figure 2-46

(3) Memory Module

The machine can perform more multiple jobs simultaneously by adding more memory. You can increase the machine's memory up to 2,048 MB by plugging in the optional memory modules (2,048 MB).

Precautions for Handling the Memory Modules

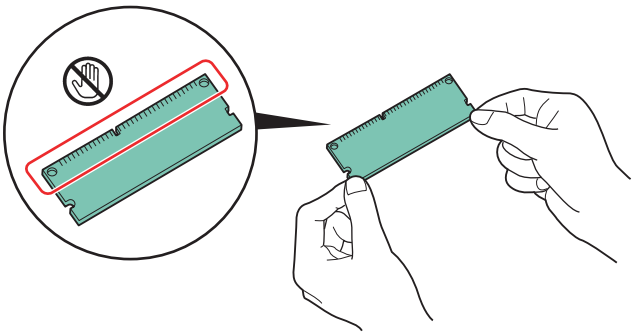


Figure 2-47

To protect electronic parts, discharge static electricity from your body by touching a water pipe (faucet) or other large metal object before handling the memory modules. Or, wear an antistatic wrist strap, if possible, when you install the memory modules.

Installing the Memory Modules

1. Turn off the main unit and disconnect the power cord and all interface cables.

2. Remove the cover.

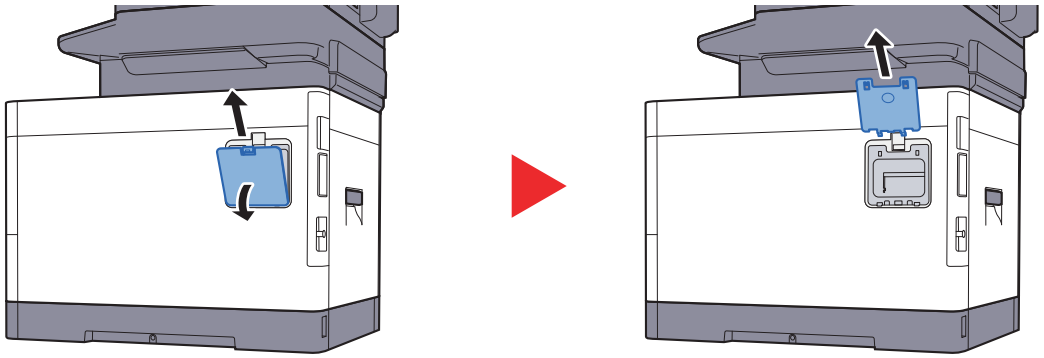


Figure 2-48

3. Remove the memory module from its package.
4. With the memory connection terminal pointing toward the socket, align the cut-out part with the socket terminal and insert it straight in on an angle.

*: Before inserting the memory module, make sure that the power switch is turned off.

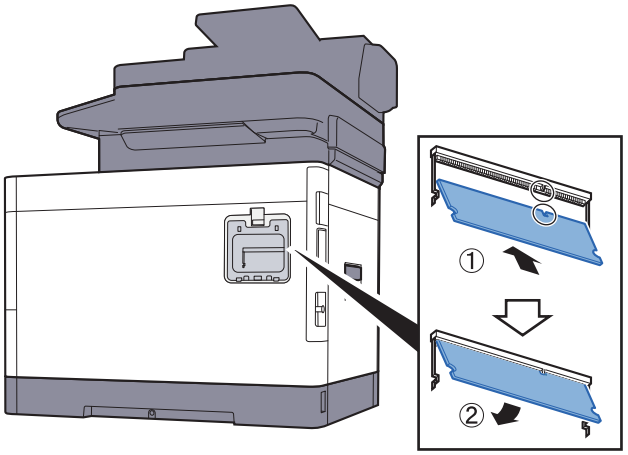


Figure 2-49

5. Carefully press the inserted memory module toward the main unit.
6. Reattach the covers.

Removing the Memory Module

To remove the memory module, remove the right cover and the memory slot cover from the main unit. Then, carefully push the two stoppers so that the memory module pops up from the socket.

Verifying the Memory Module

To verify that the memory module is working properly, print out a status page and check its content.

(4) HD-6/HD-7 (SSD)

With an SSD installed in the main unit, received print data can be rasterized and stored in the SSD. This enables high-speed printing of multiple copies using the electronic sort function. Also, you can use the Document Box functions. See "Document Box" in the Operation Guide supplied with the main unit for details.

(5) IB-50 (Network Interface Kit)

The Network Interface Kit provides a high-speed connection for the Gigabit-per-second interface. Network printing is available with the network protocols such as TCP/IP and NetBUEI for a variety of OS of Windows, Macintosh and UNIX . See the Operation Guide supplied with the IB-50 for details.
The installation procedures are same as for an SSD.

(6) IB-51 (Wireless Network Interface Kit)

This is a wireless LAN interface card which supports the wireless LAN specifications IEEE802.11n (Max 300 Mbps) and 11 g/b.
With the utilities supplied, settings are possible for a variety of OS and network protocols. See the Operation Guide supplied with the IB-51 for details.
The installation procedures are same as for an SSD.

Installing the SSD/IB-50/IB-51

1. Turn the power switch off and unplug the power cord from the outlet.

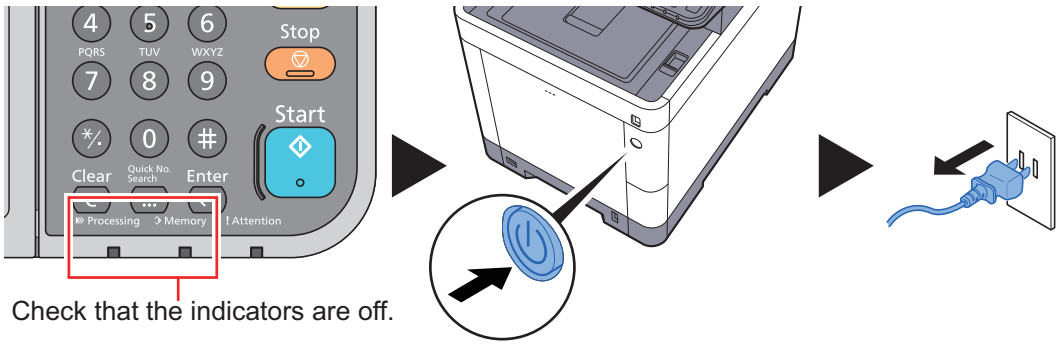


Figure 2-50

2. Remove the interface cover.

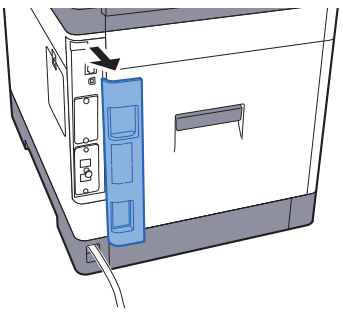


Figure 2-51

3. Remove two screws (M3x8) and remove the cover.

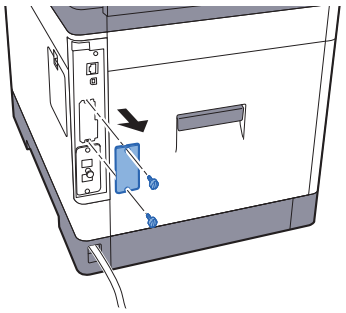


Figure 2-52

4. Insert it straight into the optional interaface slot.

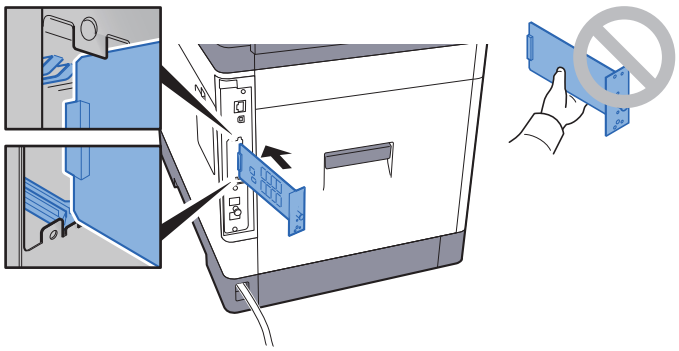


Figure 2-53

5. Remove the breakaway cover from the interface cover. Reattach the interface cover to its original position.

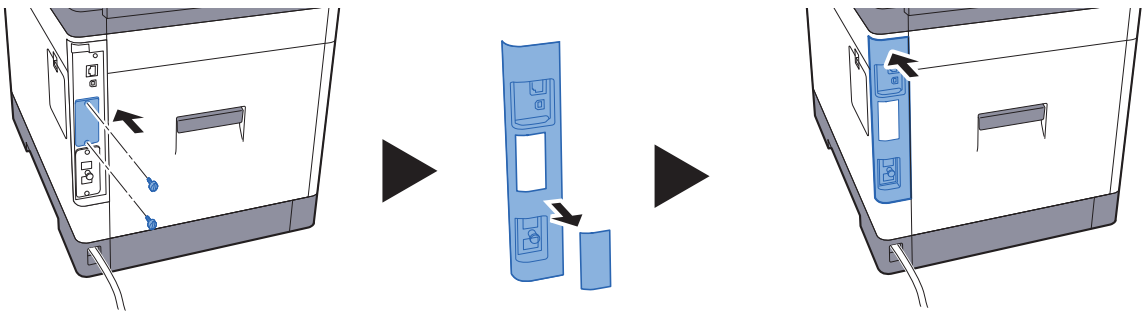


Figure 2-54

6. Insert the power cord into the outlet and turn the power switch on.

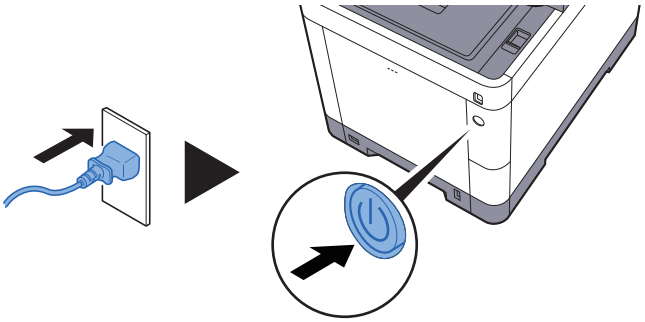


Figure 2-55

Formatting an SSD

1. [System Menu/Counter] key > [Common Settings] > [Format SSD]
2. Format an optional SSD.

*: When an optional SSD is inserted into the main unit for the first time, it must be formatted before use.

IMPORTANT

Formatting will delete all existing data on an SSD.

(7) SD/SDHC Card

An SD/SDHC card is useful for storing fonts, macros, and overlays. The main unit is equipped with a slot for an SDHC card with a maximum size of 32GB, and an SD card with a maximum size of 2GB.

Reading the SD/SDHC Card

The contents of the SD/SDHC card are read into the main unit after turning the power on.

Formatting an SD/SDHC Card

To use an unused SD/SDHC card, you must first format it with the main unit.

1. Turn the power switch off and unplug the power cord from the outlet.

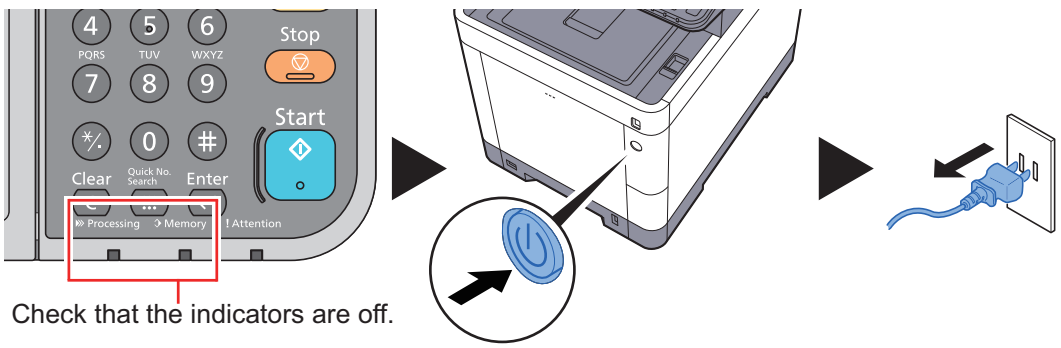


Figure 2-56

2. Remove the interface cover.

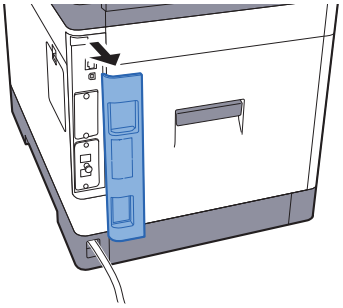


Figure 2-57

3. Remove two screws (M3x8) and remove the cover.

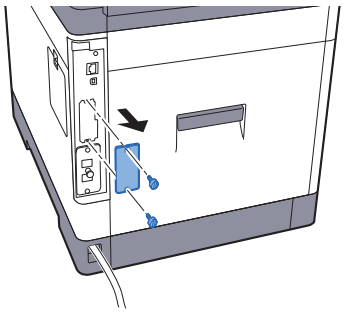


Figure 2-58

4. Insert the SD/SDHC card into the SD/SDHC card slot.

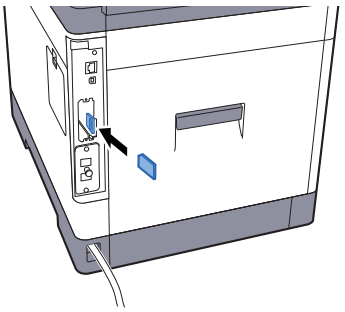


Figure 2-59

5. Remove the breakaway cover from the interface cover. Reattach the interface cover to its original position.

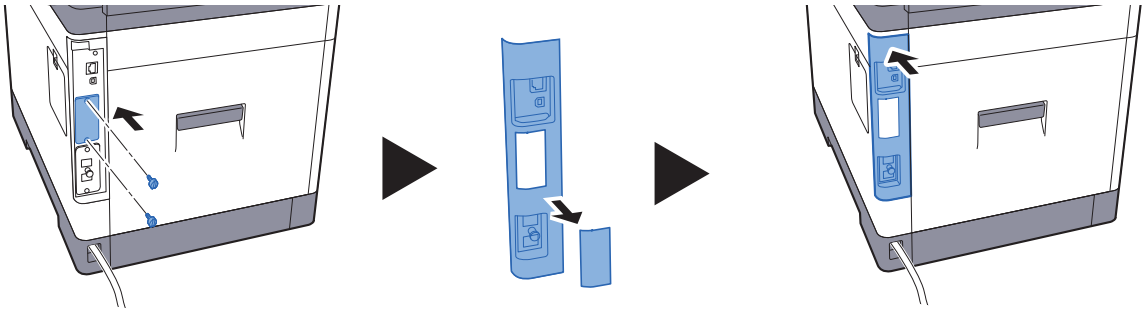


Figure 2-60

6. Insert the power cord into the outlet and turn the power switch on.

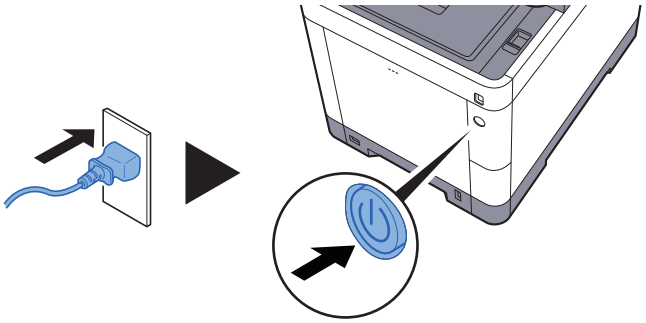


Figure 2-61

7. Format the SD/SDHC card from the operation panel.

Formatting an SD Card

1. [System Menu/Counter] key > [Common Settings] > [Format SD Card]
2. Format an optional SD card.

*: A new SD card must be formatted with the main unit before use.

IMPORTANT

Formatting will delete all existing data on the SD card.
If you have installed an application, do not format the SD card to avoid the removal of the application in the SD card.

(8) MS-5100 (Manual stapler)

It can staple the originals or the printouts.

Manual stapler installation requires the following parts:

Manual stapler (1903R90UN0)..... 1pc

Supplied parts of Manual stapler (1903R90UN0)

Manual stapler	1pc
Relay wire	1pc
Stapler cover	1pc
Screw (M3x8 screw with the binding head)	3pc
Screw (M3x10 screw with the binding head)	2pc

Procedures

1. Insert a flat-blade screwdriver (c) into the hole (b) at the machine rear side of the upper right cover lid (a), and detach it while lifting it up and sliding it toward the machine rear side.

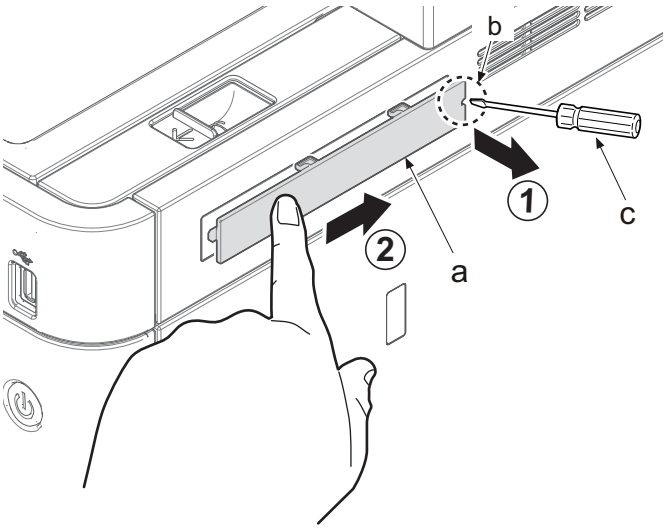


Figure 2-62

2. Insert a flat-blade screwdriver (b) into the cut-out portion of two seals (a) and remove them from the middle right cover (c).

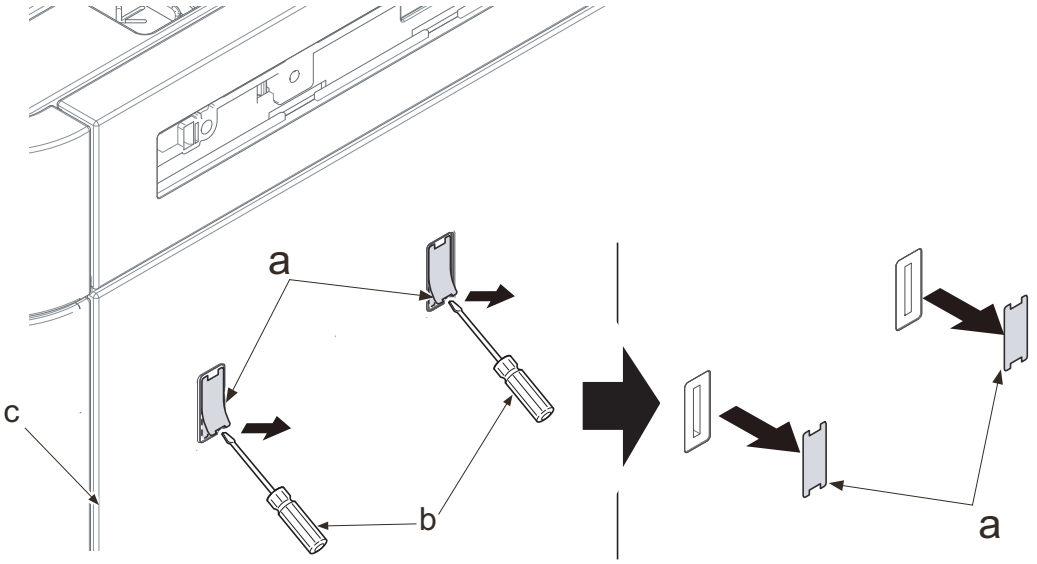


Figure 2-63

3. Connect the connector (b) of the relay wire (a) to the connector (c) of the main unit.

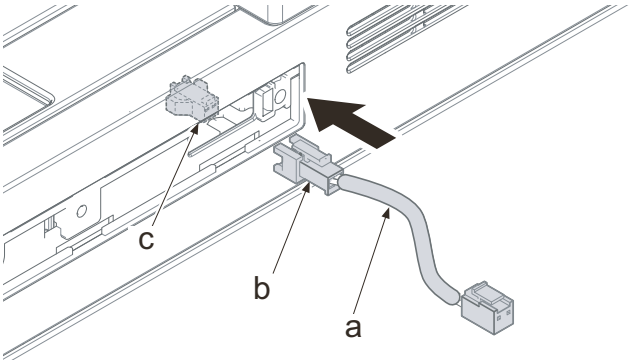


Figure 2-64

4. Connect the other connector (a) to the connector (d) of the PWB while passing it through the opening (c) of the stapler (b).

*: After connecting the connector, push the excess wire in the opening.

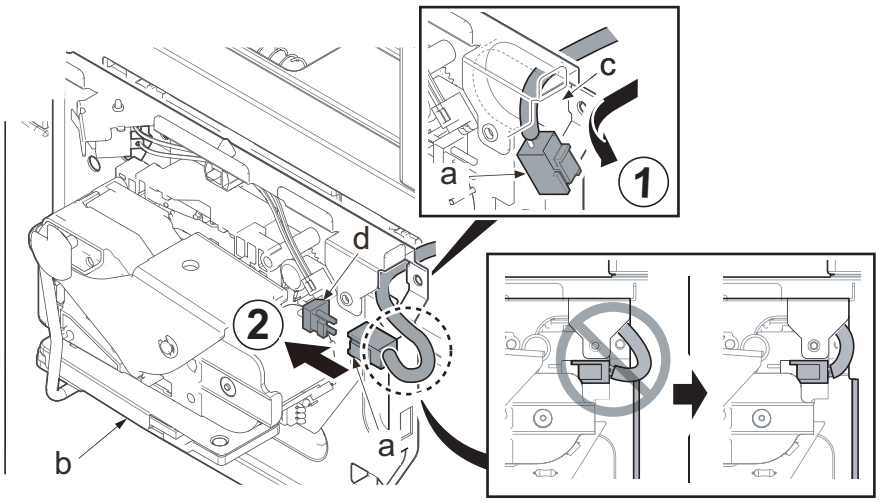


Figure 2-65

5. Insert two hooks (b) of the manual stapler (a) into each of the square holes (c), and then lift it to insert three hooks (d) into the square hole (e).

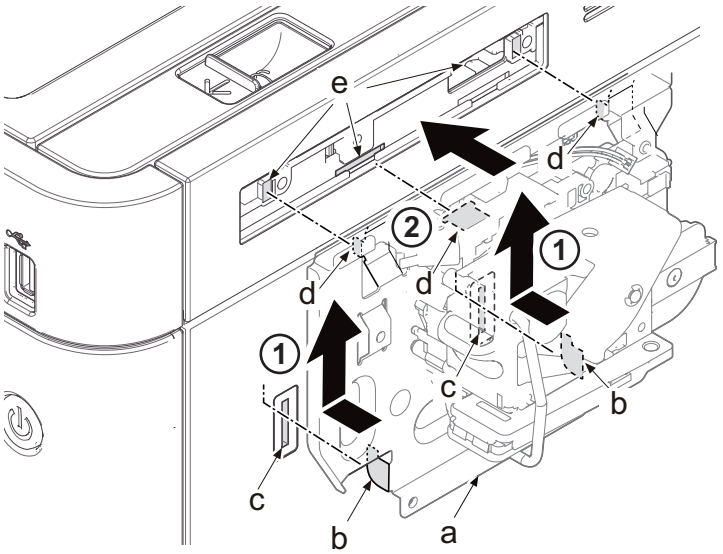


Figure 2-66

6. Secure the stapler (b) with two screws (a)(M3x10).

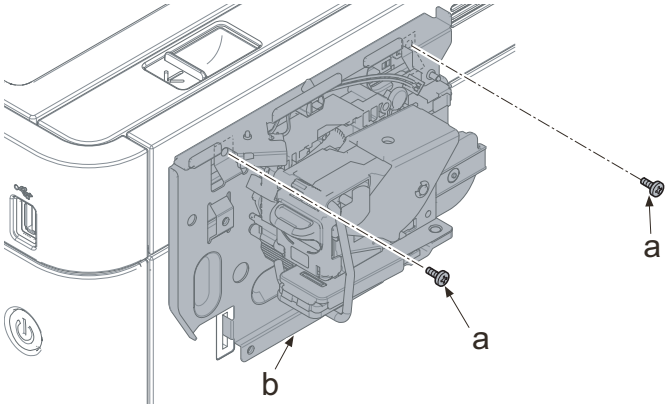


Figure 2-67

7. Open the stapler lid (a).
8. Attach the stapler cover (b) by sliding it to the machine rear side to fasten the hook (c).

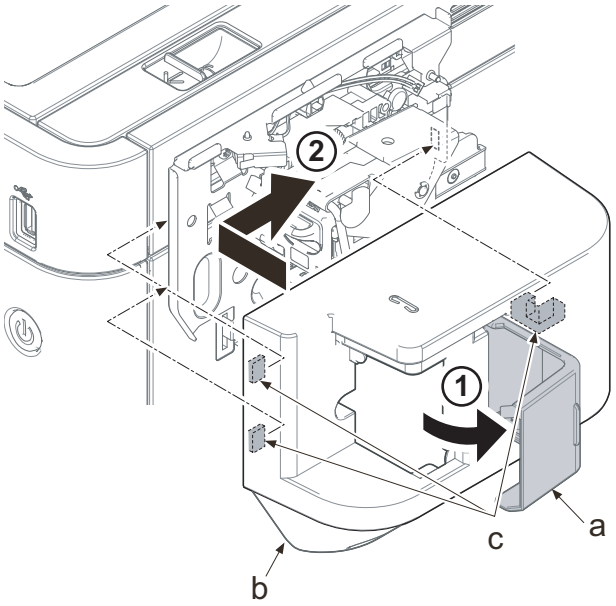


Figure 2-68

9. Secure the stapler cover (b) with three screws (a)(M3x8).

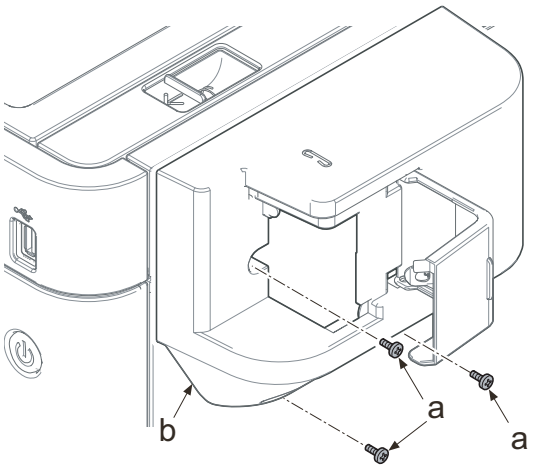


Figure 2-69

10. Close the stapler lid (a).

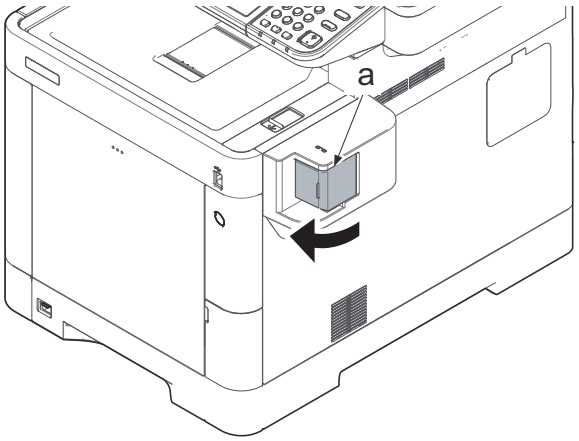


Figure 2-70

2-4 Optional Applications

The applications listed below are installed in this machine.

Application
Data Security Kit
Card Authentication Kit
ThinPrint Option *1

*1: This can be used on a trial basis for a limited time.

*: Restrictions such as the number of times the application can be used during the trial period differ depending on the application.
*: If you change the date/time while using the trial version of an application, you will no longer be able to use the application.

Starting Use of an Application

Use the procedure below to start using an application.

1. [System Menu/Counter] key > [System/Network] > [Optional Function]

If the login user name entry screen appears during operations, enter a login user name and password, and select [Login]. For this, you need to login with administrator privileges.
The factory default login user name and login password are set as shown below.

Model name	Login User Name	Login Password
30 ppm models	3000	3000
35 ppm models	3500	3500

2. Select the desired application and select [Activate].
3. You can view detailed information on the selected application by selecting [ ].
4. Select [Official] and enter a license key.
   Some applications do not require you to enter a license key. If the license key entry screen does not appear, go to Step 5.
   To use the application as a trial, select [Trial] without entering the license key.
5. Select [Yes] in the confirmation screen.
   Icons of activated application are displayed in the Home screen.

Checking Details of an Application

Use the procedure below to check the details of an application.

1. System Menu/Counter] key > [System/Network] > [Optional Function]

If the login user name entry screen appears during operations, enter a login user name and password, and select [Login]. For this, you need to login with administrator privileges.
The factory default login user name and login password are set as shown below.

Model name	Login User Name	Login Password
30 ppm models	3000	3000
35 ppm models	3500	3500

2. Select the desired application and select [ ].
*: You can view detailed information on the selected application.

(1) Data Security Kit(E) (Data Security Kit)

The Data Security Kit overwrites all unnecessary data in the storage area so that it cannot be retrieved. The Data Security Kit encrypts data before storing it in the SSD. It guarantees higher security because no data can be decrypted by ordinary output or operations.

(2) Card Authentication Kit(B)

User login administration is available using ID cards. To do so, it is necessary to register ID card information on the previously registered local user list. Refer to the Card Authentication Kit Operation Guide for more information about registration.

Activating Card Authentication Kit

Note:
To install the optional function, you need the License Key. Please access the designated website of your dealer or service representative, and register the "Machine No." indicated on your machine and the "Product ID" indicated on the License Certificate supplied with the product to issue the License Key.

1. Turn the power switch on.
Press the [System Menu/Counter] key, then press [System/Network].
If the login user name entry screen appears during operations, enter a login user name and password, and select [Login]. For this, you need to login with administrator privileges.
The factory default login user name and login password are set as shown below.

Model name	Login User Name	Login Password
30 ppm models	3000	3000
35 ppm models	3500	3500

2. Press [Next>] in "Optional Function".
3. Select [CARD AUTHENTICATION KIT(B)], and press [Start].
4. The license key entry screen appears.
Input the license key using the numeric keys and press [Official].
5. Check the product name "CARD AUTHENTICATION KIT (B)" and then press [Yes].
6. When using the SSFC card, execute maintenance mode U222 and set [SSFC].

*: When the machine enters Energy Saver sleep mode, the ID card cannot be recognized. If you want to use the card reader during the sleep mode, set [Off] in "Sleep Rules" of [Sleep Level] by referring to the operation guide.
*: When the optional network interface kit is equipped, the setting is unnecessary.

(3) UG-33 (ThinPrint Option)

This application enables print data to print directly without a printer driver.

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3 Machine Design
3-1 Mechanical Configration

(1) Cross-section view (Main unit)

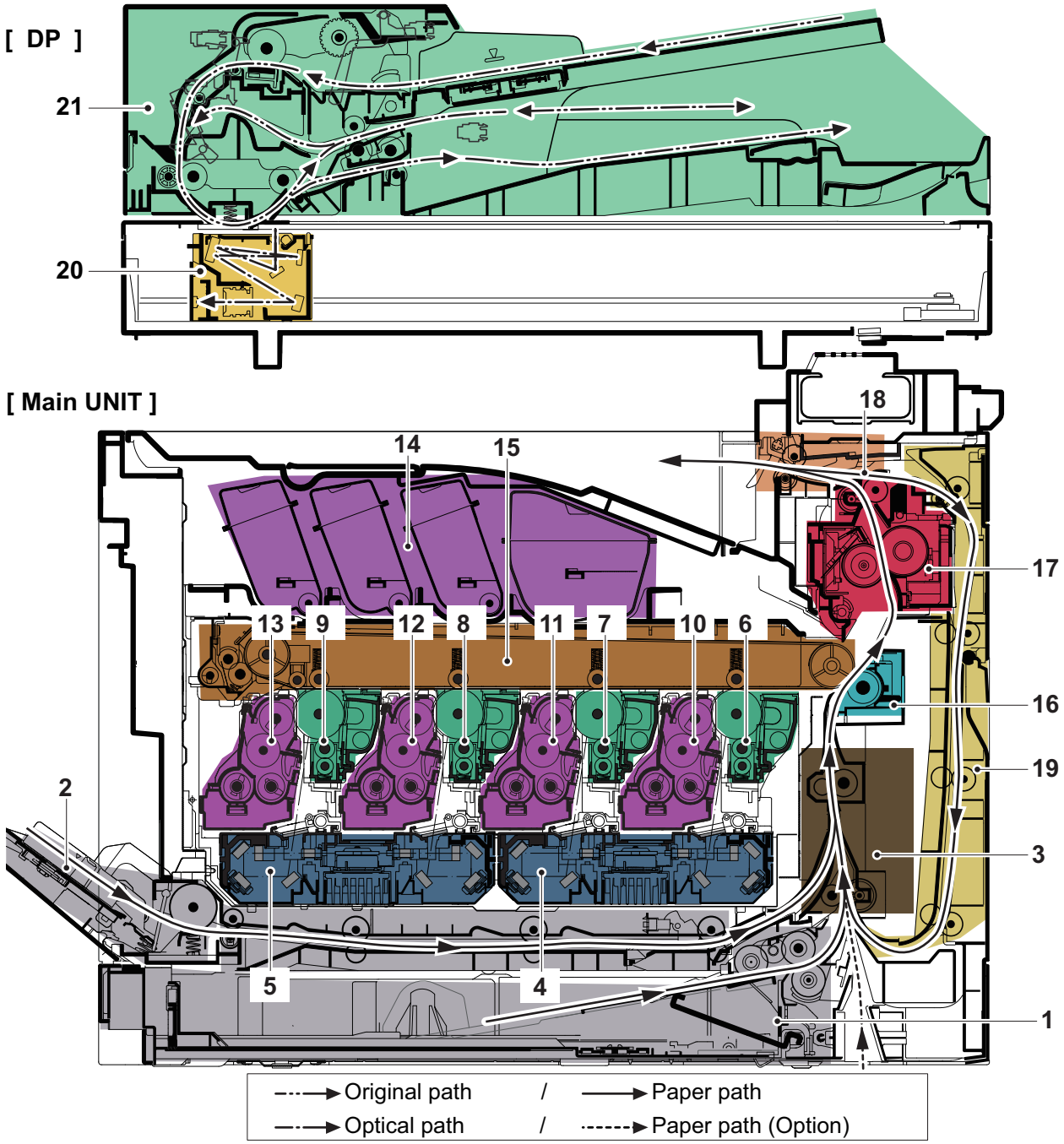


Figure 3-1

1. Cassette paper feed section
2. MP paper feed section
3. Paper conveying section
4. Laser scanner unit KM
5. Laser scanner unit CY
6. Drum unit K
7. Drum unit M
8. Drum unit C
9. Drum unit Y
10. Developer unit K
11. Developer unit M
12. Developer unit C
13. Developer unit Y
14. Toner container section
15. Primary transfer section
16. Secondary transfer and separation section
17. Fuser section
18. Feedshift and eject section
19. Duplex conveying section
20. Image scanner unit
21. Document processor

(2) Cross-section view (Optional paper feeder)

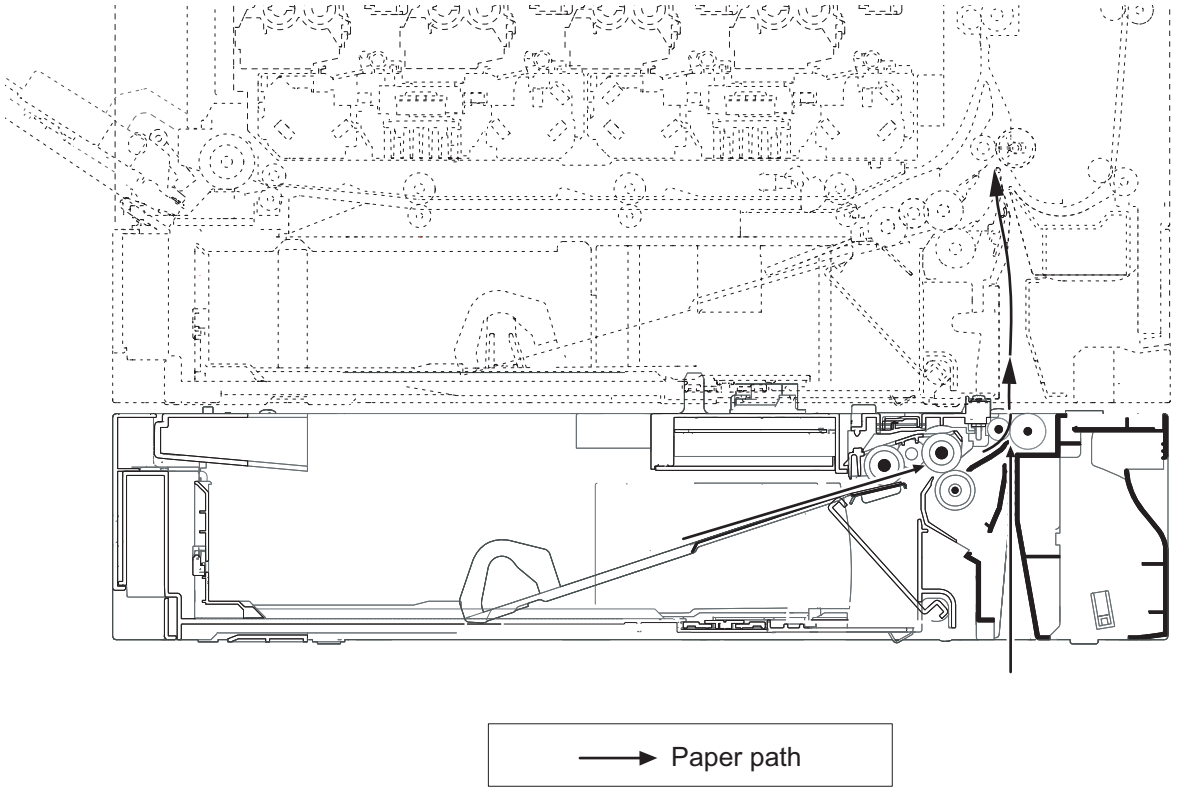


Figure 3-2

(3) Paper conveying and Paper detection

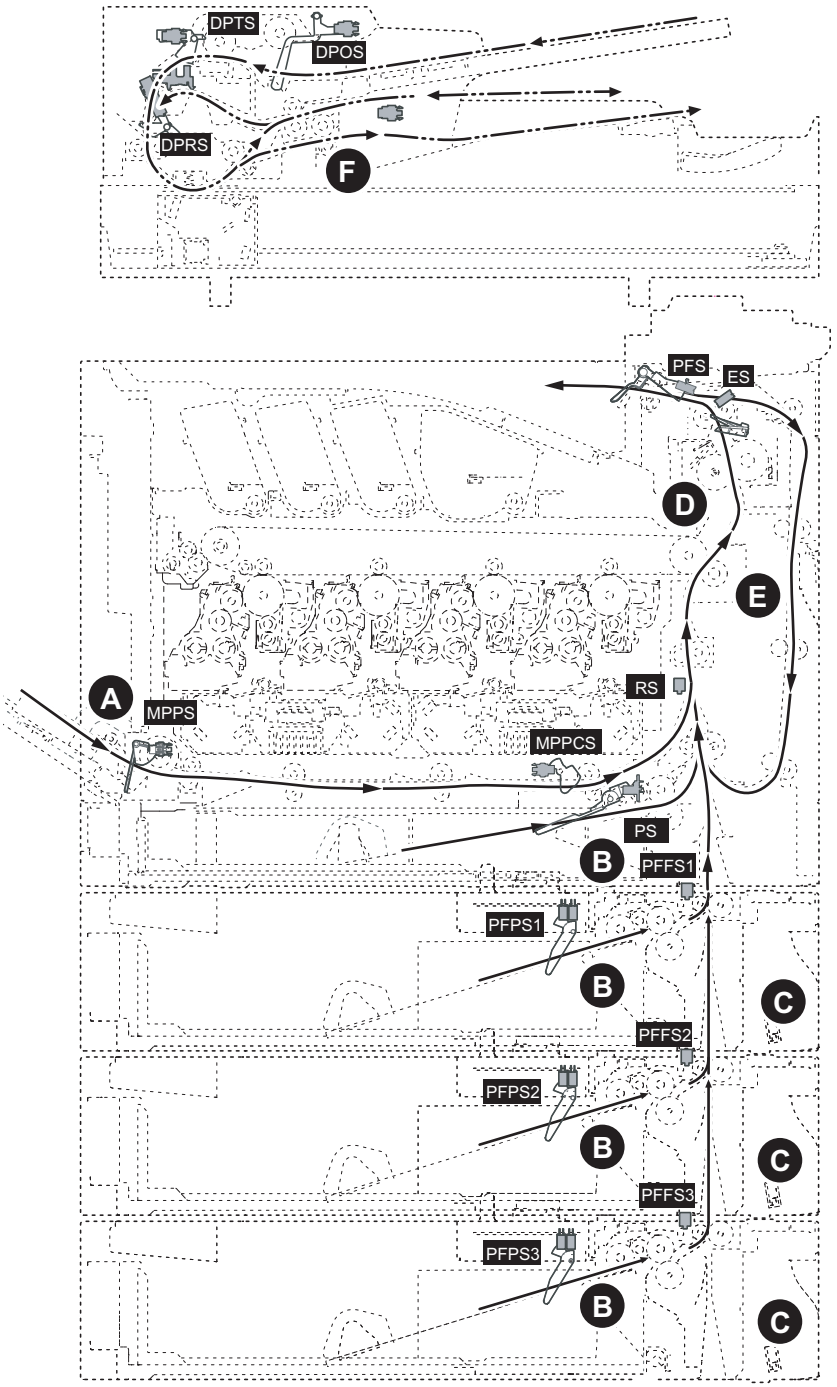


Figure 3-3

[Paper jam]

A. Paper jam at the MP tray
B. Paper jam at cassette 1-4
C. Paper jam at rear cover 2-4
D. Paper jam at rear cover 1
E. Paper jam at the duplex unit
F. Paper jam at the document processor

[Sensor (Paper conveying)]

PFFS1-3: PF paper feed sensor
RS: Registration sensor
ES: Eject sensor
PFS: Paper full sensor
MPPS: MP paper sensor
MPPCS: MP conveying sensor
DPTS: DP timing sensor
DPRS: DP registration sensor

3-2 Electric parts

(1) Wire connection diagram (Machine right side)

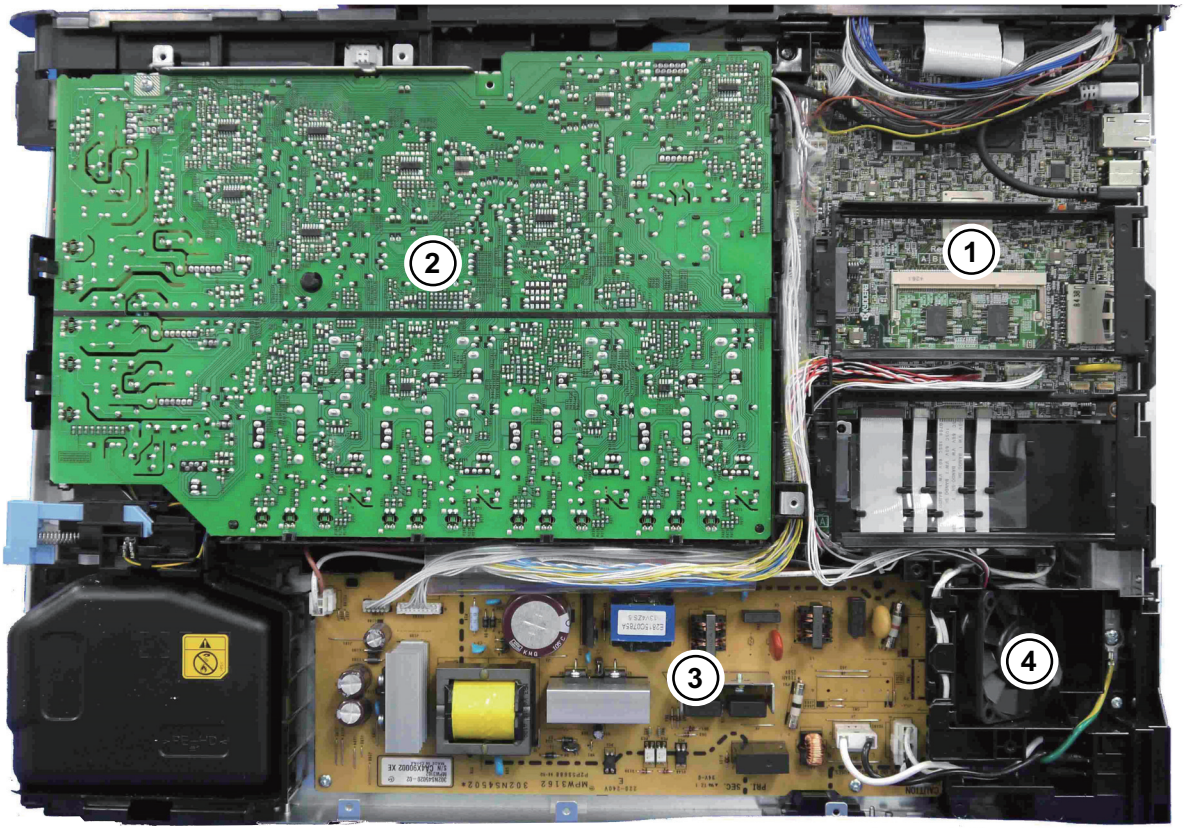


Figure 3-4

1. Main/Engine PWB
2. High-voltage PWB
3. Power source PWB
4. Power source fan motor

(2) Wire connection diagram (Machine left side)

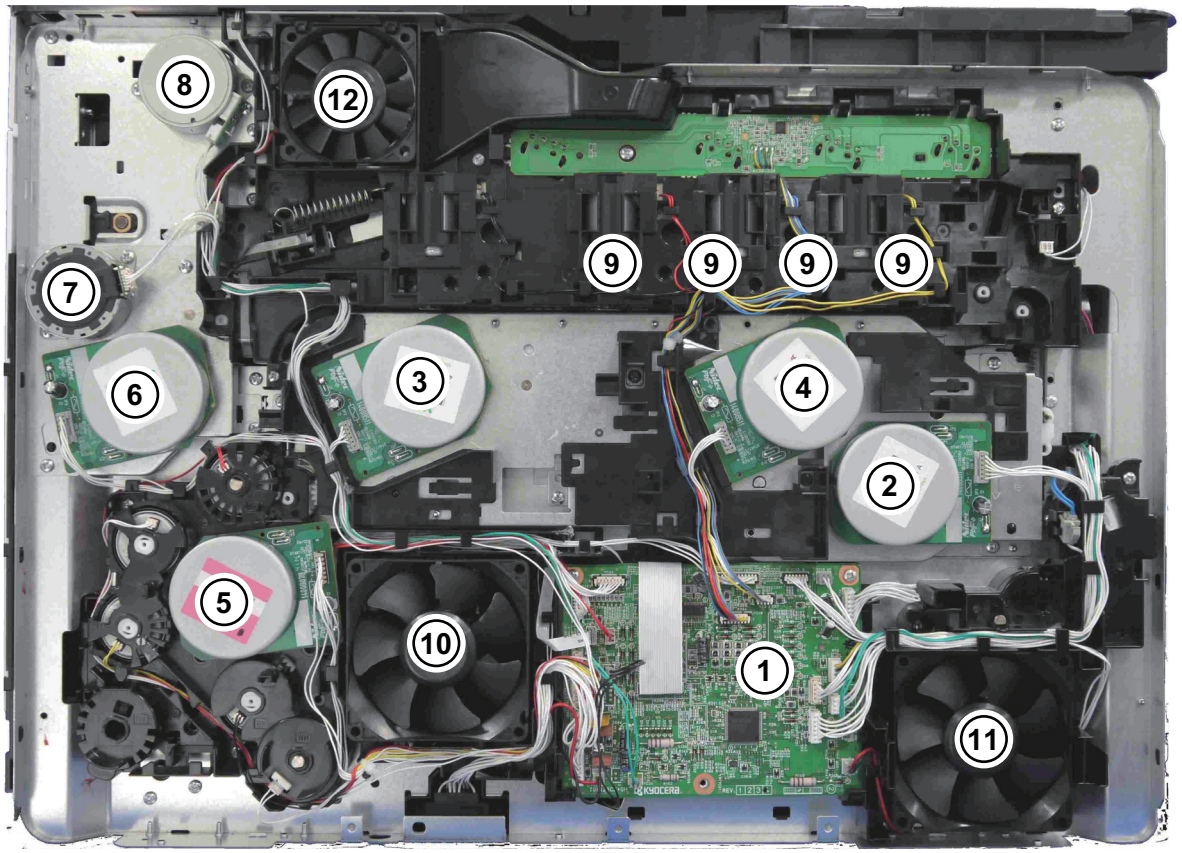


Figure 3-5

1. Engine relay PWB
2. Developer motor
3. Drum motor 1
4. Drum motor 2
5. Conveying developer motor
6. Primary transfer motor
7. Fuser motor
8. Duplex eject motor
9. Toner motor
10. LSU fan motor 1
11. LSU fan motor 2
12. Container fan motor

(3) Descriptions about the major PWBs

(3-1) Main/Engine PWB

It controls the software for the interface and the image date processing, and the hardware for the generation of the high-voltage and the bias, and the paper conveying system.

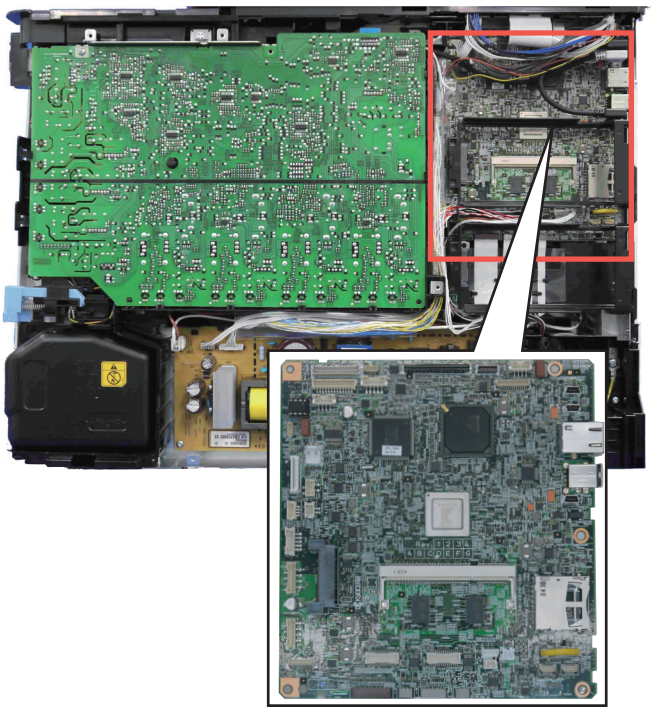


Figure 3-6

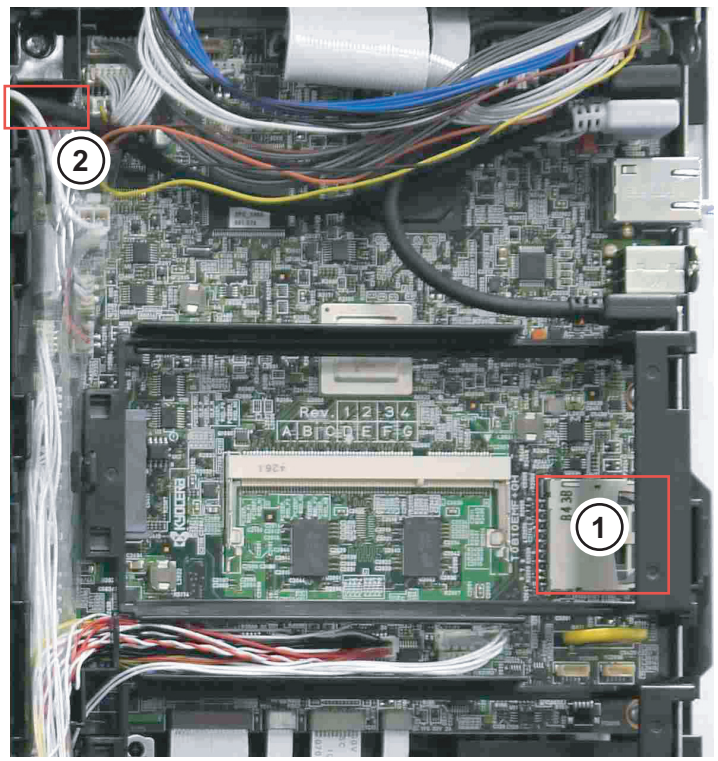


Figure 3-7

1. SD card socket
2. EEPROM

(3-2) Engine relay PWB

It consists of the control to drive each electric part and the wiring relay circuit to the main/engine PWB.

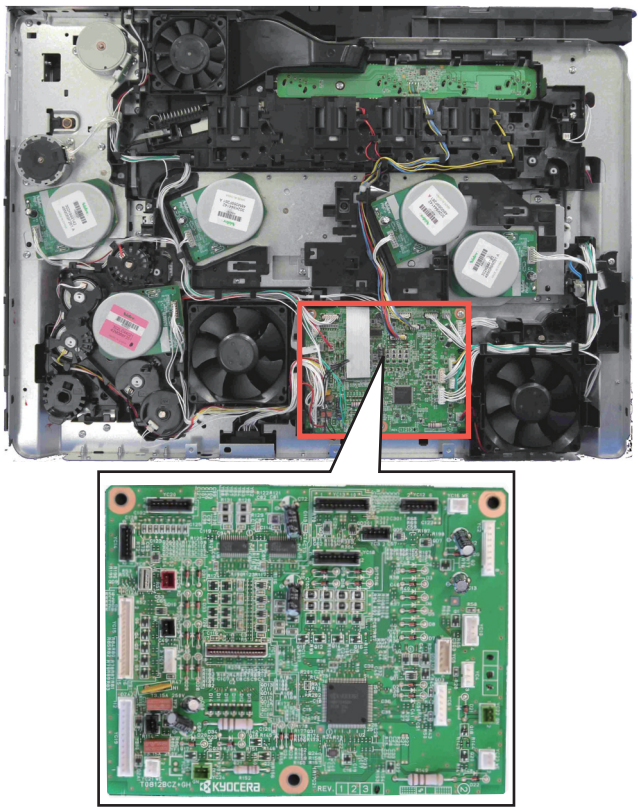


Figure 3-8

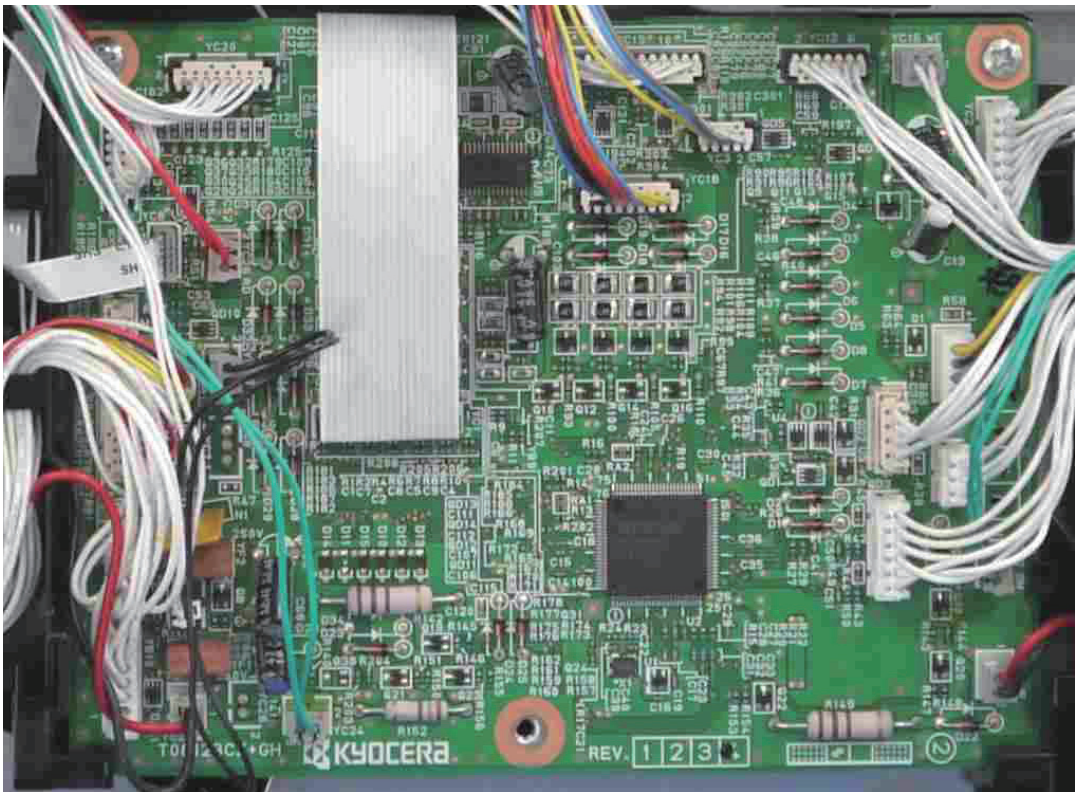


Figure 3-9

(3-3) High-voltage PWB

Generating the main charger high-voltage and the developer bias, the transfer bias and the transfer cleaning bias.

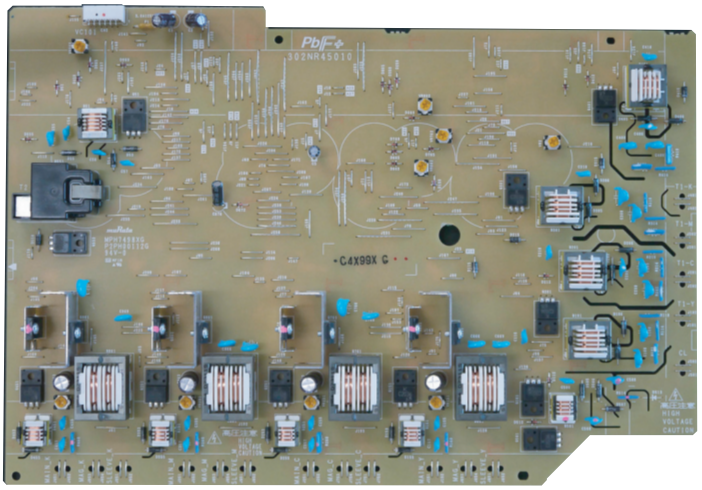


Figure 3-10

(3-4) Power source PWB

The input voltage (AC) from the AC power supply is changed to DC such as DC24V, and it controls the fuser heater.

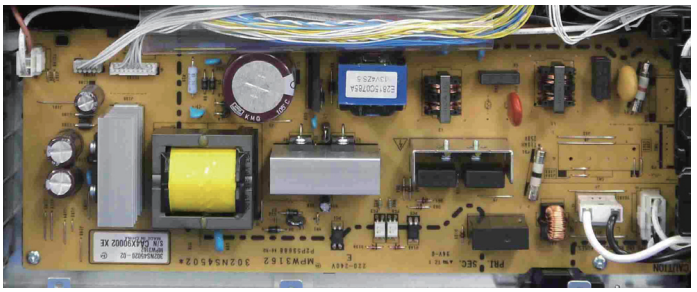


Figure 3-11

(3-5) Operation panel PWB (for 30 ppm models)

It consists of the LCD, the LED indicator and the key switches.

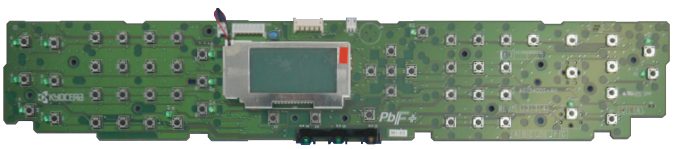


Figure 3-12

(3-6) Operation panel PWB (for 35 ppm models)

It consists of the wiring relay circuit for the main/engine PWB, the panel-L PWB, the panel-R PWB and the LCD.

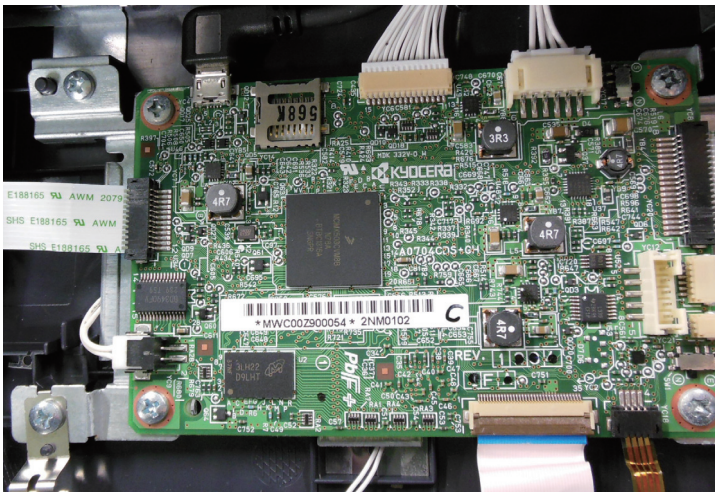


Figure 3-13

(3-7) PF main PWB (Optional paper feeder)

It controls the interface to the main unit and the entire paper feeder.

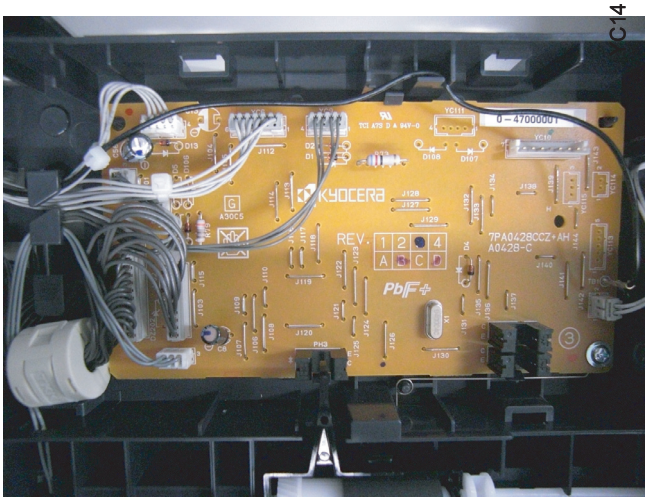


Figure 3-14

(4) Electric parts layout

(4-1) PWBs

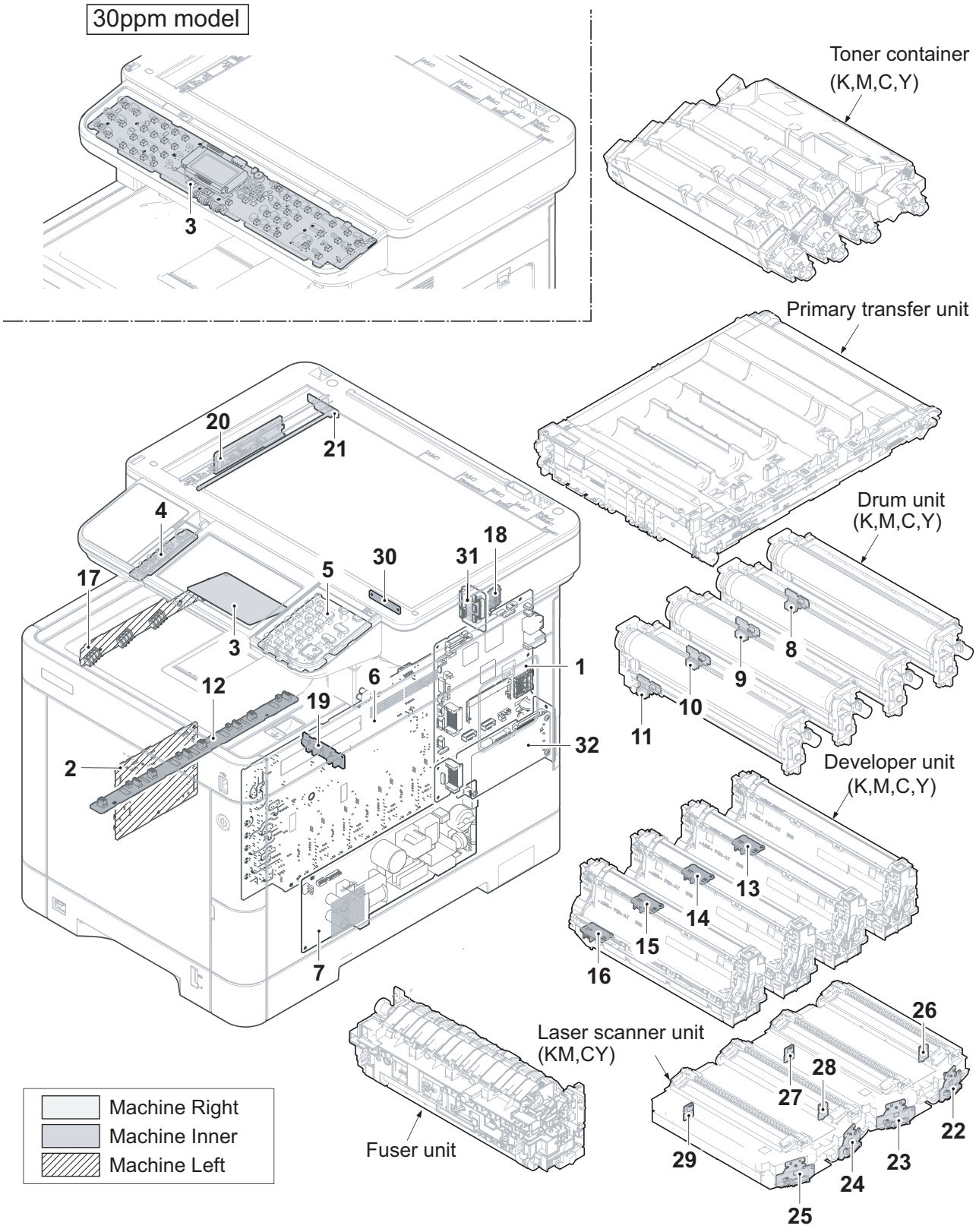


Figure 3-15

1. Main/Engine PWB (MEPWB)..... Controlling the entire software to control the interface to the PC and the network and the image data process, etc.. Controlling the entire hardware to control the high-voltag
2. Engine relay PWB (ECPWB) ..... Consisiting of the drive control circuit for each electric part and the wiring relay circuit to the main/engine PWB
3. Operation panel PWB (OPPWB) ..... Consisting of the LCD, the LED indicator and the key switches (30 ppm models)
   Consisting of the wiring relay circuit for the main/engine PWB, the panel-L PWB, the panel-R PWB and the LCD (35 ppm models)
4. Panel-L PWB (P-LPWB)*1..... Consisting of the LED indicator and the key switches
5. Panel-R PWB (P-RPWB)*1..... Consisting of the LED indicator and the key switches
6. High-voltage PWB (HVPWB) ..... Generating the main charger high-voltage, the developer bias, the transfer bias and the transfer cleaning bias
7. Power source PWB (PSPWB) ..... Changing the input voltage (AC) from the AC power supply to DC such as DC24V and controlling the fuser heater
8. Drum PWB K (DRPWB-K) ..... Wiring relay to the electric parts inside drum unit K and storing the individual drum information in the EEPROM
9. Drum PWB M (DRPWB-M)..... Wiring relay to the electric parts inside drum unit M and storing the individual drum information in the EEPROM
10. Drum PWB C (DRPWB-C)..... Wiring relay to the electric parts inside drum unit C and storing the individual drum information in the EEPROM
11. Drum PWB Y (DRPWB-Y) ..... Wiring relay to the electric parts inside drum unit Y and storing the individual drum information in the EEPROM
12. Drum relay PWB (DRCPWB)..... Consisting of the wiring relay circuit to the main/engine PWB, the drum units and the developer units
13. Developer PWB K (DLPPWB-K)..... Wiring relay to the electric parts inside developer unit K
14. Developer PWB M(DLPPWB-M)..... Wiring relay to the electric parts inside developer unit M
15. Developer PWB C(DLPPWB-C) ..... Wiring relay to the electric parts inside developer unit C
16. Developer PWB Y(DLPPWB-Y)..... Wiring relay to the electric parts inside developer unit Y
17. Toner container relay PWB (TCONCPWB)..... Consisting of the wiring relay circuit between the main/engine PWB and the toner containers
18. Eject PWB (EJPWB)..... Consisting of the wiring relay circuit to the main/engine PWB and each electric part in the eject section
19. Cassette PWB (CPWB) ..... Consisting of the wiring relay circuit between the engine relay PWB and each electric part in the cassette
20. CCD PWB (CCDPWB)..... Scanning the original image
21. LED PWB (LEDPWB) ..... Controlling the LED
22. APC PWB K(APCPWB-K) ..... Emitting and controlling the laser beam (Black)
23. APC PWB M(APCPWB-M) ..... Emitting and controlling the laser beam (Magenta)
24. APC PWB C(APCPWB-C)..... Emitting and controlling the laser beam (Cyan)
25. APC PWB Y(APCPWB-Y) ..... Emitting and controlling the laser beam (Yellow)
26. PD PWB K(PDPWB-K) ..... Controlling the synchronous lateral laser beam (Black)
27. PD PWB M(PDPWB-M)..... Controlling the synchronous lateral laser beam (Magenta)
28. PD PWB C(PDPWB-C)..... Controlling the synchronous lateral laser beam (Cyan)
29. PD PWB Y(PDPWB-Y) ..... Controlling the synchronous lateral laser beam (Yellow)
30. Zener PWB (FZEPWB)..... Controlling the fuser erasing voltage
31. DP relay PWB (DPCPWB)..... Consisting of the wiring relay circuit between the main/engine PWB and the document processor
32. FAX PWB (FCPWB)*2 ..... Modulating or demodulating, compressing or decompressing the image data, changing the resolution, and smoothing the image

*1: 35 ppm models only
*2: 4in1 models (FAX standard models) only

Part name table for the PWBs

No.	Name used in service manual	Name used in parts list	Part.No.
1	Main/Engine PWB (MEPWB)	PARTS PWB ASSY MAIN EU SP (Except for EU)	302NV9404_(30 ppm models) 302NW9403_(30 ppm models)4in1 302PB9401_(35 ppm models) 302PC9403_(35 ppm models)4in1
		PARTS PWB ASSY MAIN EU SP (EU)	302NV9405_(30 ppm models) 302NW9404_(30 ppm models)4in1 302PB9402_(35 ppm models) 302PC9404_(35 ppm models)4in1
2	Engine relay PWB (ECPWB)	PWB ASSY ENGINE CONNECT SP	302NR9411_
3	Operation panel PWB (OPPWB)	PARTS PWB ASSY B PANEL MAIN SP (30 ppm models)	302NV9403_(30 ppm models) 302NW9401_(30 ppm models)4in1
		PARTS PWB ASSY H PANEL MAIN SP (35 ppm models)	302PC9401_(35 ppm models)
4	Panel-L PWB (P-LPWB)*1	PWB ASSY H PANEL KEY-L SP	302NM9410_
5	Panel-R PWB (P-RPWB)*1	PARTS PWB ASSY H PANEL KEY-R SP	302PC9402_
6	High-voltage PWB (HVPWB)	PARTS HIGH VOLTAGE UNIT SP	302NR9403_
7	Power source PWB (PSPWB)	PARTS SWITCHING REGULATOR 100V SP (100/120V)	302NR9404_(30 ppm models) 302NS9401_(35 ppm models)
		PARTS SWITCHING REGULATOR 230V SP(230V)	302NR9405_(30 ppm models) 302NS9402_(35 ppm models)
8	Drum PWB K (DRPWB-K)	DK-5140	302NR9301_
9	Drum PWB M (DRPWB-M)		
10	Drum PWB C (DRPWB-C)		
11	Drum PWB Y (DRPWB-Y)		
12	Drum relay PWB (DRCPWB)	PARTS PWB ASSY DRUM CONNECT SP	302NR9412_

No.	Name used in service manual	Name used in parts list	Part.No.
13	Developer PWB K(DLPPWB-K)	DV-5140(K) DV-5150(K)	302NR9302_(30 ppm models) 302NS9301_(35 ppm models)
14	Developer PWB M(DLPPWB-M)	DV-5140(M) DV-5150(M)	302NR9304_(30 ppm models) 302NS9303_(35 ppm models)
15	Developer PWB C(DLPPWB-C)	DV-5140(C) DV-5150(C)	302NR9305_(30 ppm models) 302NS9304_(35 ppm models)
16	Developer PWB Y(DLPPWB-Y)	DV-5140(Y) DV-5150(Y)	302NR9303_(30 ppm models) 302NS9302_(35 ppm models)
17	Toner container relay PWB (TCONCPWB)	PARTS PWB ASSY CONTAINER CONN SP	302NR9410_
18	Eject PWB (EJPWB)	PARTS PWB ASSY EXIT SP	302NR9413_(30 ppm models) 302NS9405_(35 ppm models)
19	Cassette PWB (CPWB)	P.W.BOARD ASSY CASSETTE	302KT9407_
20	CCD PWB (CCDPWB)	PARTS ISU ASSY SP	302NV9302_
21	LED PWB (LEDPWB)		
22	APC PWB K(APCPWB-K)	LK-5140A	302NR9307_
23	APC PWB M(APCPWB-M)		
24	APC PWB C(APCPWB-C)	LK-5140B	302NR9308_
25	APC PWB Y(APCPWB-Y)		
26	PD PWB K(PDPWB-K)	LK-5140A	302NR9307_
27	PD PWB M(PDPWB-M)		
28	PD PWB C(PDPWB-C)	LK-5140B	302NR9308_
29	PD PWB Y(PDPWB-Y)		
30	Zener PWB (FZEPWB)	P.W.BOARD ASSY FUSER ZENER	302HN0124_
31	DP relay PWB (DPCPWB)	PARTS PWB ASSY DP-DRIVE SP	302NV9402_
32	FAX PWB (FCPWB)*2	PARTS FAX UNIT E SP PARTS FAX UNIT U SP PARTS FAX UNIT J SP	302PL9402_ 302PL9404_ 302PL9403_

*1: 35 ppm models

*2: 4in1 models (FAX standard models)

(4-2) Sensors and Switches

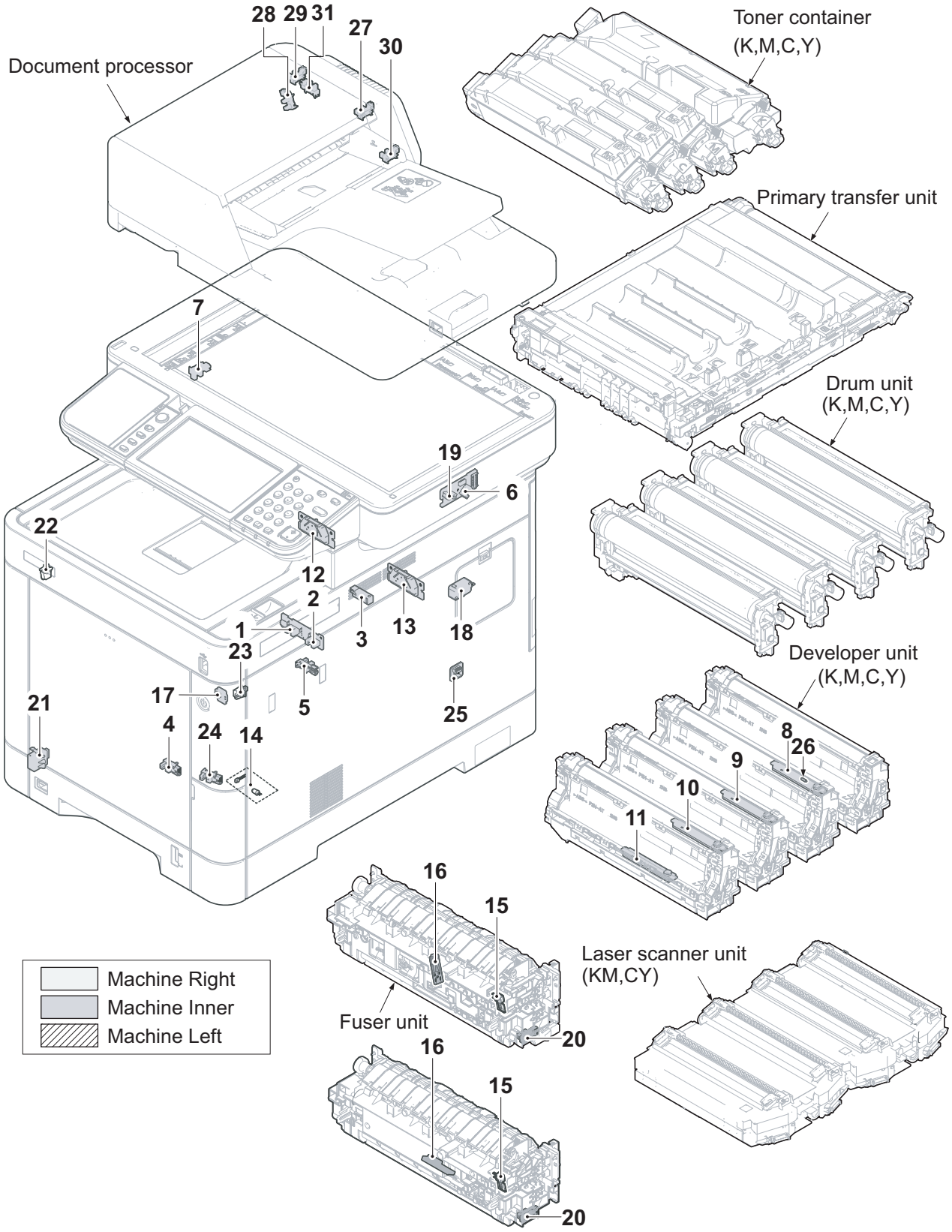


Figure 3-16

1. Paper sensor (PS) ..... Detecting the presense of paper in the cassette
2. Lift sensor (LS)..... Detecting the upper limit when lifting the bottom plate inside the cassette
3. Registration sensor (RS)..... Controlling the timing to start the secondary paper feeding
4. MP paper sensor (MPPS) ..... Detecting the presense of the paper on the MP tray
5. MP conveying sensor (MPPCS) ..... Detecting the paper jam at the MP conveying section
6. Eject sensor (ES) ..... Detecting the paper jam at the fuser section
7. Home position sensor (HPS) ..... Detecting the position of the image scanner unit
8. Toner sensor K (TS-K) ..... Detecting the toner amount inside developer unit K
9. Toner sensor M (TS-M) ..... Detecting the toner amount inside developer unit M
10. Toner sensor C (TS-C)..... Detecting the toner amount inside developer unit C
11. Toner sensor Y (TS-Y) ..... Detecting the toner amount inside developer unit Y
12. ID sensor 1 (IDS1) ..... Measuring the toner density at the calibration
13. ID sensor 2 (IDS2) ..... Measuring the toner density at the calibration
14. Waste toner sensor (WTS)..... Detecting the waste toner amount inside the waste toner box
15. Fuser thermistor 1 (FTH1) ..... Detecting the temperature at the heat roller (edge)
16. Fuser thermistor 2 (FTH2) ..... Detecting the temperature at the heat roller (center)
17. Power switch (PSSW)..... Turning on and off the main/engine PWB, the engine relay PWB and the operation panel PWB, etc.
18. Interlock switch (ILSW) ..... Shutting off the 24V power supply line and resetting when the inner tray or the rear cover is opened
19. Paper full sensor (PFS)..... Detecting the paper-full on the inner tray
20. Press-release sensor (PRS) ..... Detecting the mode of the fuser pressure
21. Cassette size switch (CSSW) ..... Detecting the paper size setting by the size dial and detecting the presence of cassette
22. Tray switch (ITSW)..... Detecting the opening and closing of the inner tray
23. Toner container switch (TCSW) ..... Detecting the presence of the toner container
24. Waste toner cover sensor (WTCS) ..... Detecting the opening and closing of the waste toner cover
25. Outer temperature sensor (OTEMS)..... Detecting the temperature and humidity outside the main unit
26. Internal temperature sensor (ITEMS) ... Detecting the internal temperature
27. DP original sensor (DPOS)..... Detecting the presence of the original in the document processor
28. DP registration sensor (DPRS)..... Detecting the timing to convey the original in the document processor
29. DP timing sensor (DPTS)..... Detecting the timing to scan the original in the document processor
30. DP switchback sensor (DPSBS) ..... Detecting the position of the feedshift guide in the document processor
31. DP sensor (DPOCS) ..... Detecting the opening and closing of the document processor

Part name table for the switches and the sensors

No.	Name used in service manual	Name used in parts list	Part.No.
1	Paper sensor (PS)	P.W.BOARD ASSY CASSETTE	302KT9407_
2	Lift sensor (LS)		
3	Registration sensor (RS)	PARTS SENSOR OPT. SP	303NW9404_
4	MP paper sensor (MPPS)	PARTS SENSOR OPT. SP	302P79401_
5	MP conveying sensor (MPPCS)	PARTS SENSOR OPT. SP	302P79401_
6	Eject sensor (ES)	PARTS PWB ASSY EXIT SP	302NR9413_(30 ppm models) 302NS9405_(35 ppm models)
7	Home position sensor (HPS)	PARTS ISU ASSY SP	302NV9302_

No.	Name used in service manual	Name used in parts list	Part.No.
8	Toner sensor K(TS-K)	DV-5140(K) DV-5150(K)	302NR9302_(30 ppm models) 302NS9301_(35 ppm models)
9	Toner sensor M(TS-M)	DV-5140(M) DV-5150(M)	302NR9304_(30 ppm models) 302NS9303_(35 ppm models)
10	Toner sensor C(TS-C)	DV-5140(C) DV-5150(C)	302NR9305_(30 ppm models) 302NS9304_(35 ppm models)
11	Toner sensor Y(TS-Y)	DV-5140(Y) DV-5150(Y)	302NR9303_(30 ppm models) 302NS9302_(35 ppm models)
12	ID sensor 1 (IDS1)	PARTS ID SENSOR SP	302NR9402_
13	ID sensor 2 (IDS2)	PARTS ID SENSOR SP	302NR9402_
14	Waste toner sensor (WTS)	PARTS TONER FULL DETECT ASSY SP	302NR9407_
15	Fuser thermistor 1 (FTH1)	100V: FK-5141 100V: FK-5151 120V: FK-5142 120V: FK-5152 230V: FK-5140 230V: FK-5150	302NR9310_(30 ppm models) 302PB9302_(35 ppm models) 302NR9311_(30 ppm models) 302PB9303_(35 ppm models) 302NR9309_(30 ppm models) 302PB9301_(35 ppm models)
16	Fuser thermistor 2 (FTH2)		
17	Power switch (PSSW)	PARTS PWB ASSY EXIT SP	302NR9416_
18	Interlock switch (ILSW)	SW.MICRO	7SM010104+++H01
19	Paper full sensor (PFS)	PARTS PWB ASSY EXIT SP	302NR9413_(30 ppm models) 302NS9405_(35 ppm models)
20	Press-release sensor (PRS)	100V: FK-5141 100V: FK-5151 120V: FK-5142 120V: FK-5152 230V: FK-5140 230V: FK-5150	302NR9310_(30 ppm models) 302PB9302_(35 ppm models) 302NR9311_(30 ppm models) 302PB9303_(35 ppm models) 302NR9309_(30 ppm models) 302PB9301_(35 ppm models)
21	Cassette size switch (CSSW)	SWITCH SIZE	302HN4418_
22	Tray switch (ITSW)	SW.PUSH	7SP01000004+H01
23	Toner container switch (TCSW)	SW.PUSH	7SP01000004+H01
24	Waste toner cover sensor (WTCS)	PARTS SENSOR OPT. SP	302P79401_
25	Outer temperature sensor (OTEMS)	PARTS PWB ASSY THERMIS-TOR SP	302M29413_
26	Internal temperature sensor (ITEMS)	LK-5140A	302NR9307_
27	DP original sensor (DPOS)	PARTS DP ASSY SP	302NV9303_
28	DP registration sensor (DPRS)		
29	DP timing sensor (DPTS)		
30	DP switchback sensor (DPSBS)		
31	DP sensor (DPOCS)		

(4-3) Motors

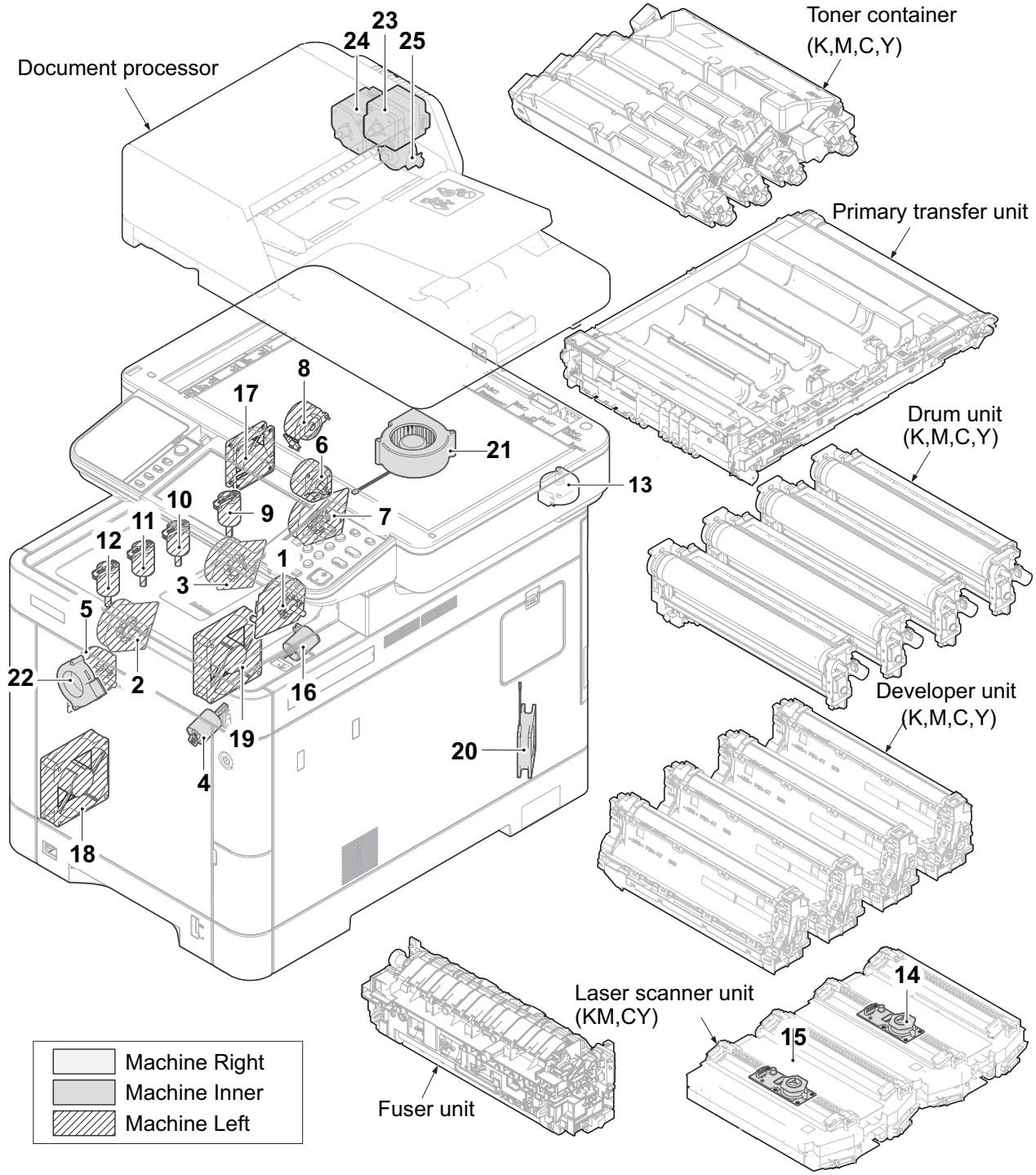


Figure 3-17

1. Paper conveying and developer motor (PCDVM) ..... Driving the paper feeding and conveying systems and developer unit K
2. Drum motor 1 (DRM1) ..... Driving drum unit K and M
3. Drum motor 2 (DRM2) ..... Driving drum unit C and Y
4. Lift motor (LM)..... Operating the bottom plate inside the cassette
5. Developer motor (DEVM)..... Driving developer unit Y, M and C
6. Fuser motor (FUM) ..... Driving the transfer and fuser sections

7. Primary transfer motor (TRM)..... Driving the primary transfer unit
8. Duplex eject motor (DUEM)..... Driving the duplex conveying and eject section
9. Toner motor K (TM-K)..... Supplying the toner to developer unit K
10. Toner motor M (TM-M)..... Supplying the toner to developer unit M
11. Toner motor C (TM-C)..... Supplying the toner to developer unit C
12. Toner motor Y (TM-K)..... Supplying the toner to developer unit Y
13. Image scanner motor (ISUM)..... Driving the image scanner unit
14. Polygon motor KM (PM-KM)..... Driving polygon mirror KM
15. Polygon motor CY (PM-CY)..... Driving polygon mirror CY
16. LSU cleaning motor (LSUCM)..... Driving the LSU glass cleaning system
17. Container fan motor (CFM)..... Cooling the developer unit
18. LSU fan motor 1 (LSUFM1)..... Cooling LSU-KM
19. LSU fan motor 2 (LSUFM2)..... Cooling LSU-CY
20. Power source fan motor (PSFM)..... Cooling the power source unit
21. Eject fan motor (EJFM)..... Diffusing the steam
22. Transfer fan motor (TRFM)..... Cooling the primary transfer unit
23. DP feed motor (DPPFM)..... Driving the original feed section in the document processor
24. DP conveying motor (DPCM)..... Driving the original conveying section in the document processor
25. DP switchback motor (DPSBM)..... Driving the original switchback section in the document processor

Part name table for the motors

No.	Name used in service manual	Name used in parts list	Part.No.
1	Paper conveying and developer motor (PCDVM)	PARTS MOTOR-BL W10 SP	302LC9429_
2	Drum motor 1 (DRM1)	DR-5140: 30 ppm models DR-5150: 35 ppm models	302NR9313_(30 ppm models) 302NT9312_(35 ppm models)
3	Drum motor 2 (DRM2)		
4	Lift motor (LM)	PARTS DC MOTOR ASSY SP	302NV9401_
5	Developer motor (DEVM)	DR-5140: 30 ppm models DR-5150: 35 ppm models	302NR9313_(30 ppm models) 302NT9312_(35 ppm models)
6	Fuser motor (FUM)	PARTS MOTOR-PM MOVING SP	303NB9404_
7	Primary transfer motor (TRM)	PARTS MOTOR-BL W20 SP	302K99432_
8	Duplex eject motor (DUEM)	PARTS MOTOR EJECT SP	302P79406_
9	Toner motor K (TM-K)	PARTS DC MOTOR ASSY SP	302NR9408_
10	Toner motor M (TM-M)	PARTS DC MOTOR ASSY SP	302NR9408_
11	Toner motor C (TM-C)	PARTS DC MOTOR ASSY SP	302NR9408_
12	Toner motor Y (TM-Y)	PARTS DC MOTOR ASSY SP	302NR9408_
13	Image scanner motor (ISUM)	PARTS MOTOR ISU SP	302LW9406_
14	Polygon motor KM (PM-KM)	LK-5140A	302NR9307_
15	Polygon motor CY (PM-CY)	LK-5140B	302NR9308_
16	LSU cleaning motor (LSUCM)	PARTS DC MOTOR ASSY SP	302NG9405_
17	Container fan motor (CFM)	PARTS,FAN COOLING CONVEYING SP	302FZ9442_
18	LSU fan motor 1 (LSUFM1)	PARTS FAN MOTOR SP	302NG9422_

No.	Name used in service manual	Name used in parts list	Part.No.
19	LSU fan motor 2 (LSUFM2)	PARTS FAN MOTOR SP	302NG9422_
20	Power source fan motor (PSFM)	PARTS,FAN COOLING CONVEYING SP	302FZ9442_
21	Eject fan motor (EJFM)	PARTS,FAN COOLING DLP 70 SP	302FZ9438_
22	Transfer fan motor (TRFM)	PARTS FAN MOTOR SP	302NG94220
23	DP feed motor (DPPFM)	PARTS DP ASSY SP	302NV9303_
24	DP conveying motor (DPCM)		
25	DP switchback motor (DPSBM)		

(4-4) Clutches and Solenoids and other parts

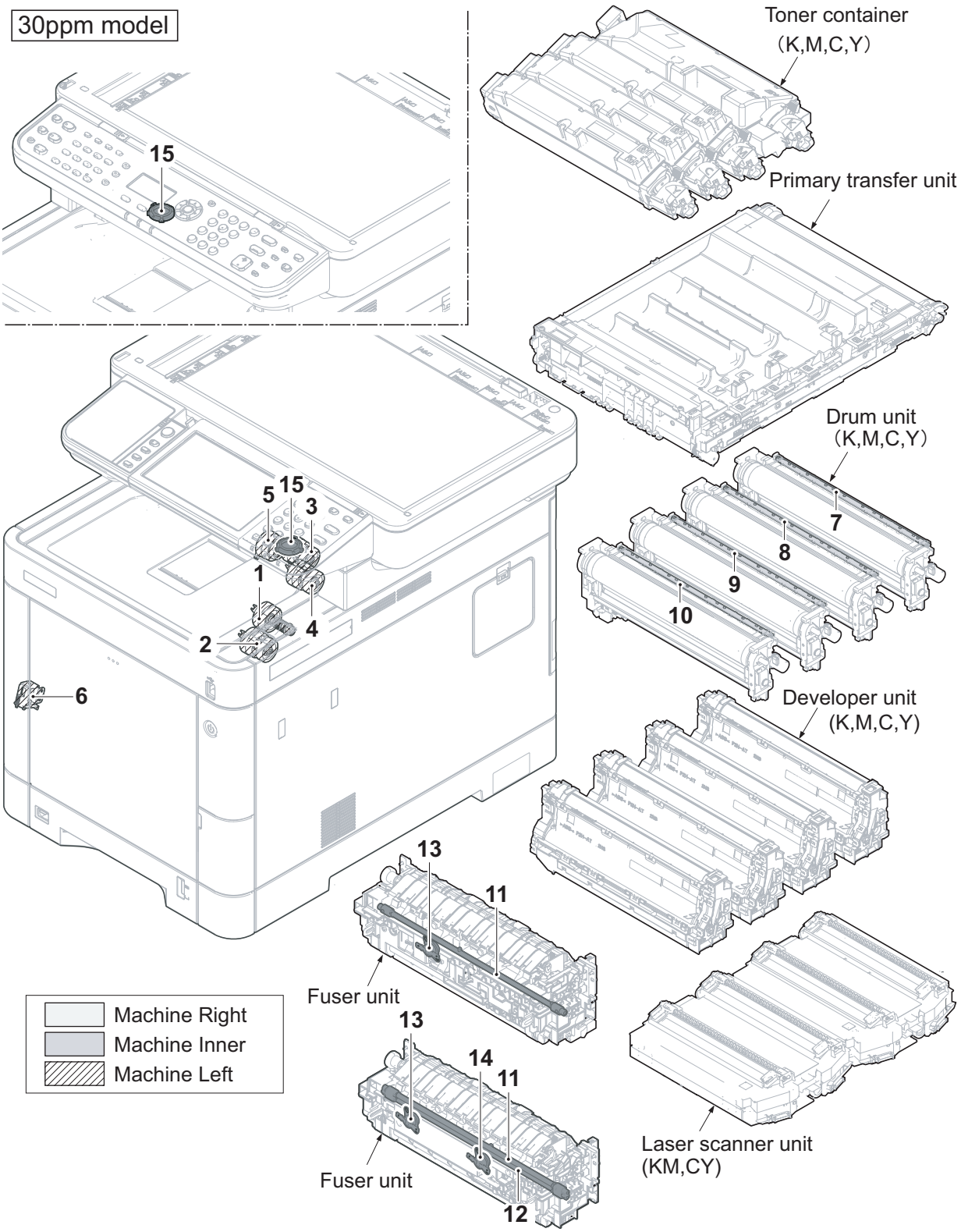


Figure 3-18

1. Paper feed clutch (PFCL) ..... Controlling the primary paper feeding from the cassette
2. MP conveying clutch (MPFCL) ..... Controlling the drive for the MP conveying section
3. Registration clutch (RCL)..... Controlling the drive for the secondary paper feeding
4. Middle clutch (MIDCL) ..... Controlling the drive for the paper conveying section

5. Developer clutch (DEVCL)..... Controlling the drive to developer unit K
6. MP solenoid (MPSOL) ..... Controlling the MP bottom plate
7. Cleaning lamp K (CL-K)..... Removing the remaining electric charge on the drum (Black)
8. Cleaning lamp M (CL-M)..... Removing the remaining electric charge on the drum (Magenta)
9. Cleaning lamp C (CL-C)..... Removing the remaining electric charge on the drum (Cyan)
10. Cleaning lamp Y (CL-Y)..... Removing the remaining electric charge on the drum (Yellow)
11. Fuser heater 1 (FUH1)..... Heating the heat roller
12. Fuser heater 2 (FUH2)*1 ..... Heating the heat roller
13. Fuser thermostat 1 (FUTS1)..... Shutting off the power supply to the fuser heater when the abnormal high temperature on the heat roller is detected
14. Fuser thermostat 2 (FUTS2)*1..... Shutting off the power supply to the fuser heater when the abnormal high temperature on the heat roller is detected
15. Speaker (SPK)*2..... Generates an error sound

Part name table for the clutches, the solenoids and the others

No.	Name used in service manual	Name used in parts list	Part.No.
1	Paper feed clutch (PFCL)	PARTS CLUTCH 35 Z35R SP	302NR9401_
2	MP conveying clutch (MPFCL)	CLUTCH 50 Z35R	302KV4404_
3	Registration clutch (RCL)	PARTS CLUTCH 35 Z35R SP	302NR9401_
4	Middle clutch (MIDCL)	PARTS CLUTCH 35 Z35R SP	302NR9401_
5	Developer clutch (DEVCL)	PARTS CLUTCH 35 Z35R SP	302NR9401_
6	MP solenoid (MPSOL)	SOLENOID TONER	302GR4415_
7	Cleaning lamp K (CL-K)	DK-5140	302NR9301_
8	Cleaning lamp M(CL-M)		
9	Cleaning lamp C(CL-C)		
10	Cleaning lamp Y(CL-Y)		
11	Fuser heater 1 (FH1)	100V: FK-5141 100V: FK-5151 120V: FK-5142 120V: FK-5152 230V: FK-5140 230V: FK-5150	302NR9310_(30 ppm models) 302PB9302_(35 ppm models) 302NR9311_(30 ppm models) 302PB9303_(35 ppm models) 302NR9309_(30 ppm models) 302PB9301_(35 ppm models)
12	Fuser heater 2 (FH2) *1	100V: FK-5151 120V: FK-5152 230V: FK-5150	302PB9302_(35 ppm models) 302PB9303_(35 ppm models) 302PB9301_(35 ppm models)
13	Fuser thermostat 1 (FUTS1)	100V: FK-5141 100V: FK-5151 120V: FK-5142 120V: FK-5152 230V: FK-5140 230V: FK-5150	302NR9310_(30 ppm models) 302PB9302_(35 ppm models) 302NR9311_(30 ppm models) 302PB9303_(35 ppm models) 302NR9309_(30 ppm models) 302PB9301_(35 ppm models)
14	Fuser thermostat 2 (FUTS2) *1	100V: FK-5151 120V: FK-5152 230V: FK-5150	302PB9302_(35 ppm models) 302PB9303_(35 ppm models) 302PB9301_(35 ppm models)
15	Speaker (SPK)*2	-	-

*1: 35 ppm models
*2: 4 in 1 models

(4-5) Paper feeder (Optinal unit)

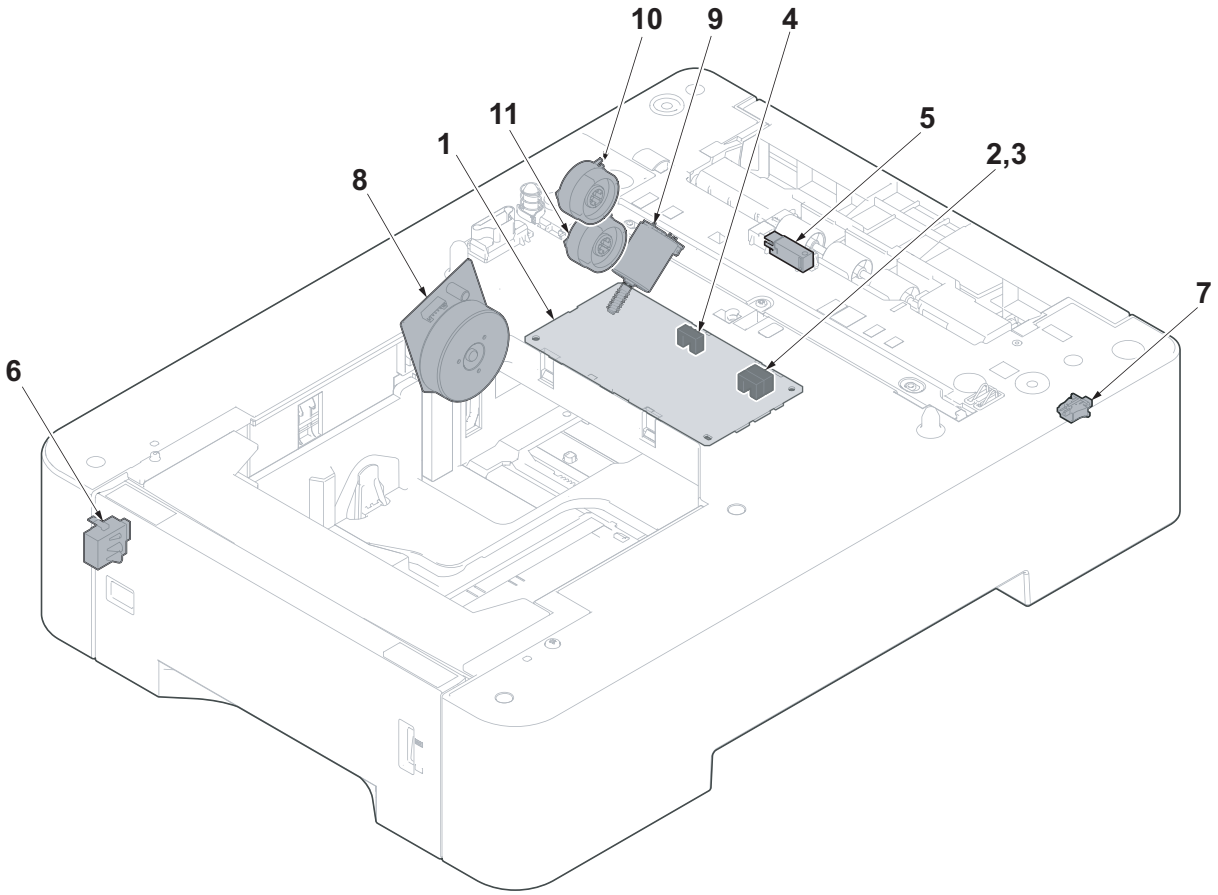


Figure 3-19

1. PF main PWB (PFMPWB) ..... Interfacing to the main unit and controlling the entire paper feeder
2. PF paper sensor 1(PFPS1)..... Detecting the level of the remaining paper inside the cassette
3. PF paper sensor 2(PFPS2)..... Detecting the level of the remaining paper inside the cassette
4. PF lift sensor (PFLS)..... Detecting the upper limit when lifting the bottom plate inside the cassette
5. PF paper feed sensor (PFFS)..... Detecting the paper jam at the paper feeder
6. PF cassette size switch (PFCSSW)..... Detecting the paper size setting by the size dial
7. PF rear cover switch (PFRCSW) ..... Consisting of the safety circuit when opening and closing the PF rear cover
8. PF paper feed motor (PFPFM) ..... Driving the paper feeding system
9. PF lift motor (PFLM)..... Operating the bottom plate inside the cassette
10. PF paper feed clutch(PFPFCL)..... Controlling the timing for the paper feeding
11. PF conveying clutch(PFFCL)..... Controlling the paper conveying

Part name table

No.	Name used in service manual	Name used in parts list	Part.No.
1	PF main PWB (PFMPWB)	PARTS PWB ASSY PF MAIN SP	303PK9401_
2	PF paper sensor 1 (PFPS1)	PARTS PWB ASSY PF MAIN SP	303PK9401_
3	PF paper sensor 2 (PFPS2)		
4	PF lift sensor (PFLS)		
5	PF paper feed sensor (PFPFS)	PARTS SENSOR OPT. SP	303NW9406_
6	PF cassette size switch (PFC-SSW)	SWITCH SIZE	302HN4418_
7	PF rear cover switch (PFRCSW)	SW.PUSH	7SP01000001+H01
8	PF paper feed motor (PFPFM)	PARTS DRIVE UNIT SP	303PK9402_
9	PF lift motor (PFLM)		
10	PF paper feed clutch(PFPFCL)		
11	PF conveying clutch (PFFCL)		

(5) Drive unit

(5-1) Wire connection

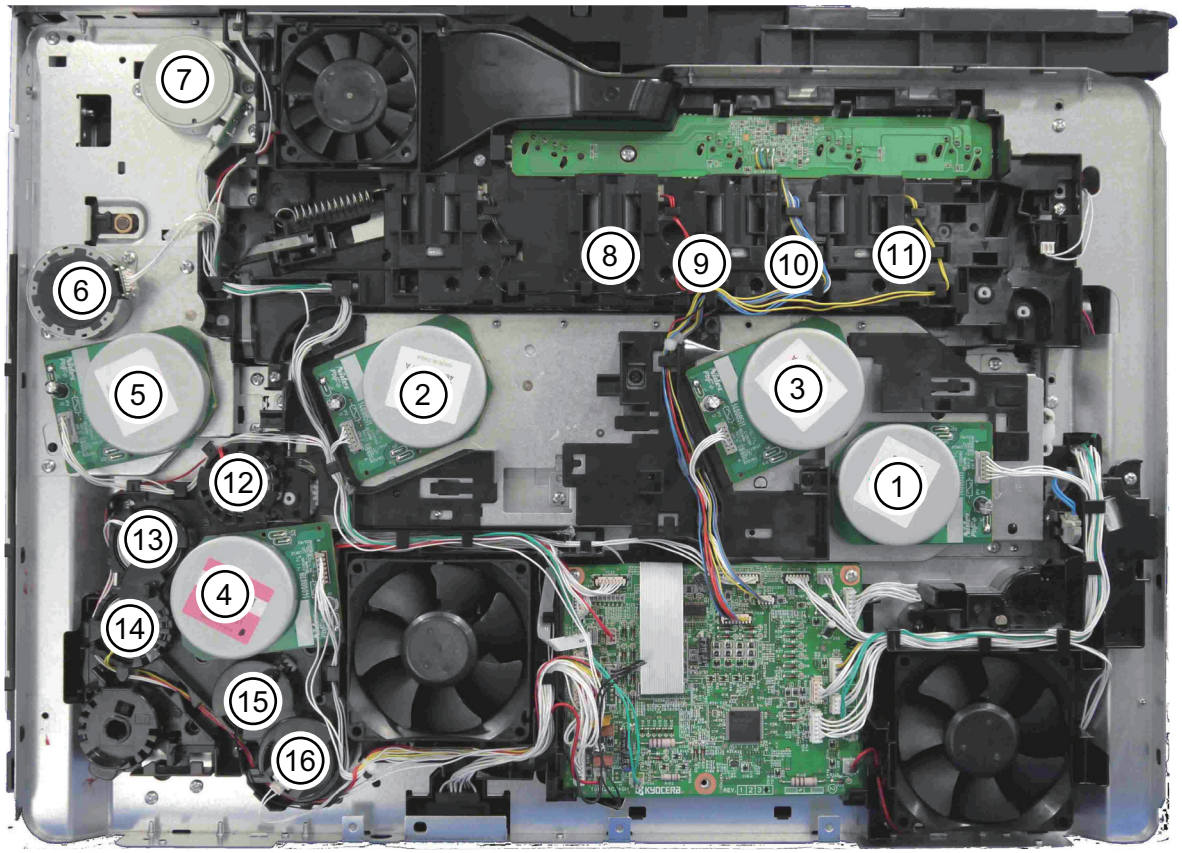


Figure 3-20

1. Developer motor
2. Drum motor 1
3. Drum motor 2
4. Conveying developer motor
5. Primary transfer motor
6. Fuser motor
7. Duplex eject motor
8. Toner motor (K)
9. Toner motor (M)
10. Toner motor (C)
11. Toner motor (Y)
12. Developer clutch
13. Registration clutch
14. Middle clutch
15. Paper feed clutch
16. MP conveying clutch

(5-2) Drive system for the paper conveying

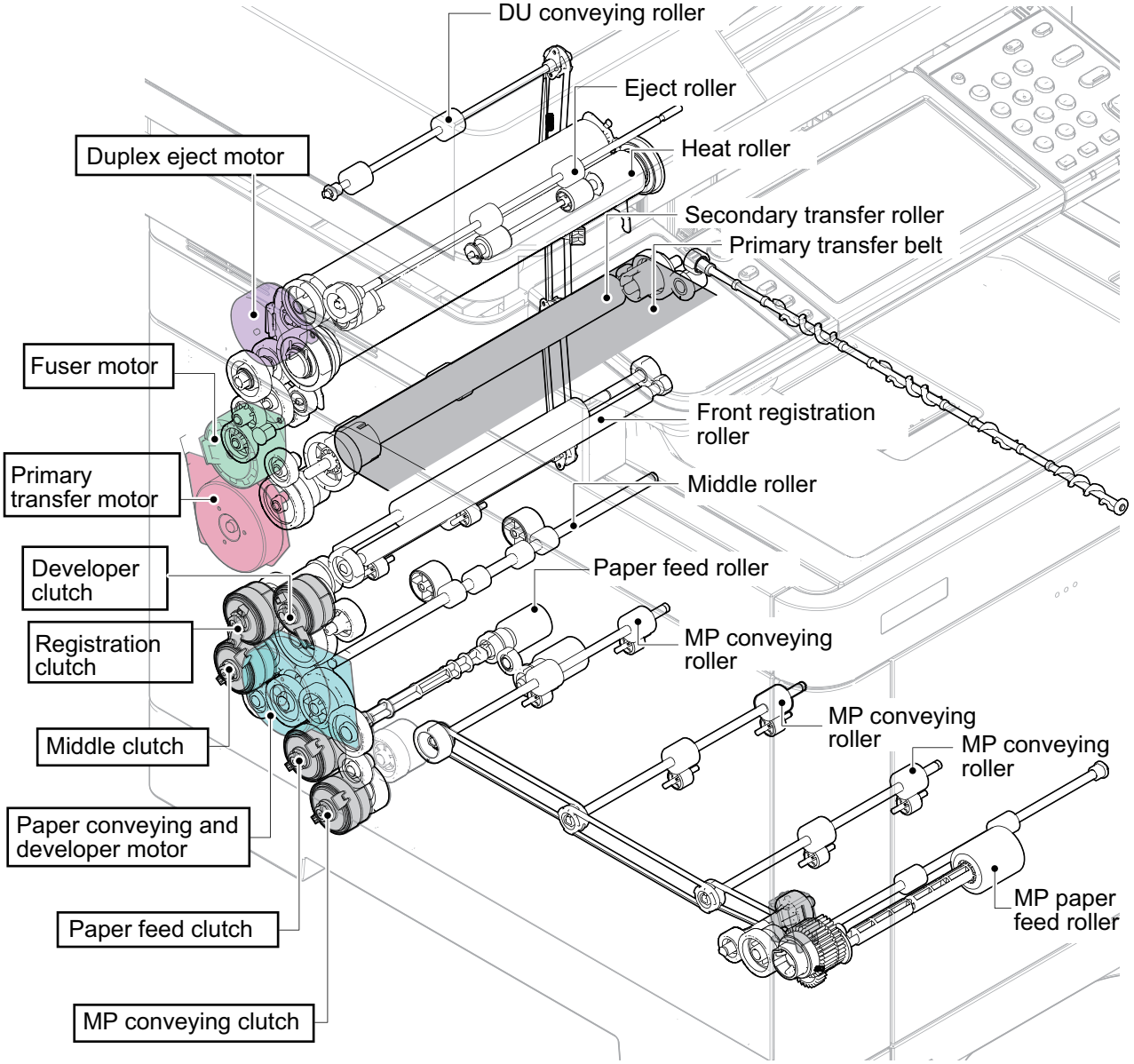


Figure 3-21

(5-3) Unit Design

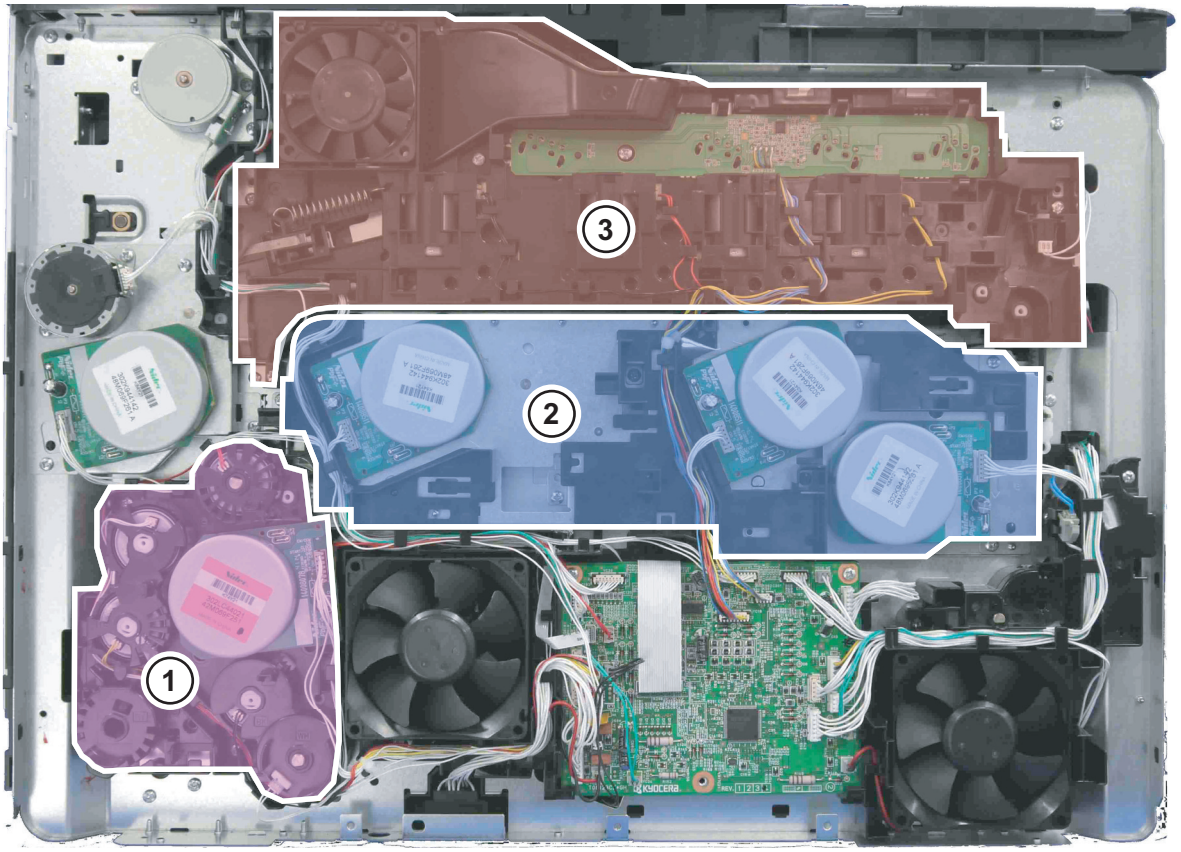


Figure 3-22

1. Paper conveying and Developer K drive section
2. Main drive motor section
3. Toner motor section

1. Paper conveying and Developer K drive section

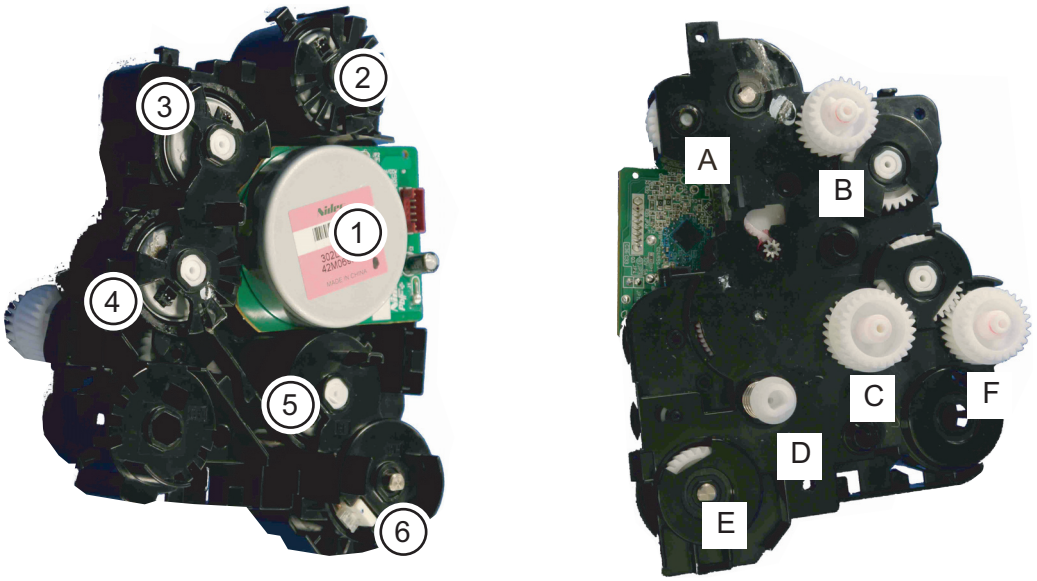


Figure 3-23 Paper conveying drive unit

1. Paper conveying and developer motor
2. Developer clutch
3. Registration clutch
4. Middle clutch
5. Paper feed clutch
6. MP conveying clutch

A. Joint gear (Developer unit K: Clutch 2)
B. Joint gear (Registration roller: Clutch 3)
C. Joint gear (Middle roller: Clutch 4)
D. Joint coupling (Paper feed roller: Clutch 5)
E. Joint gear (MP conveying roller: Clutch 6)
F. Joint gear (DU conveying roller: Clutch 4)

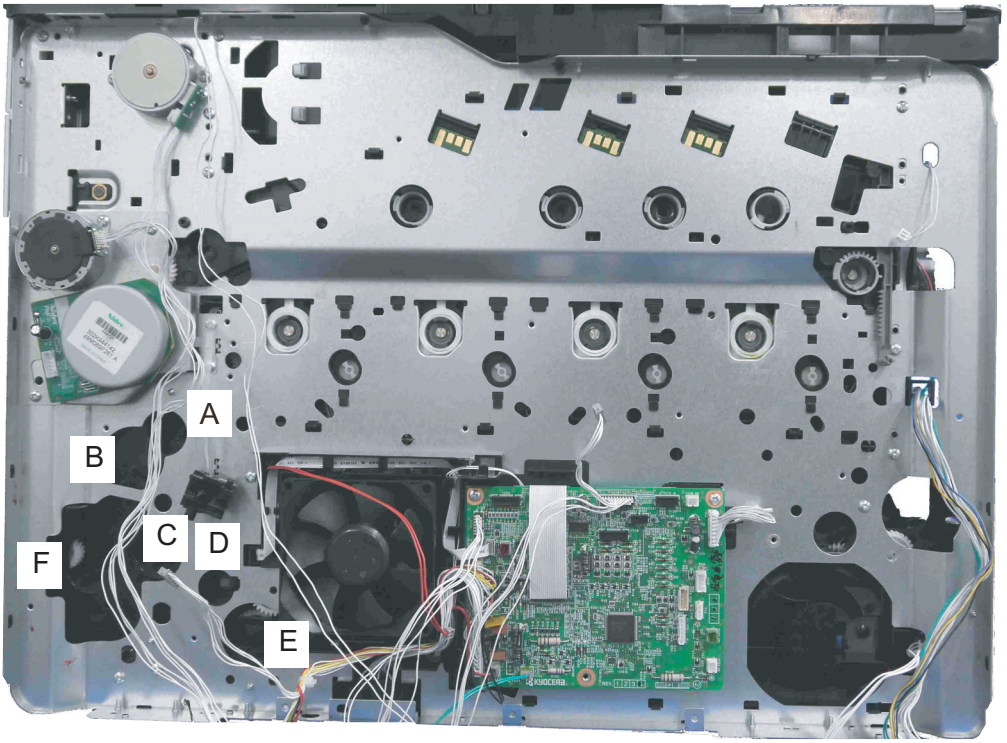


Figure 3-24

Name used in service manual	Name used in parts list	Part.No.
Paper conveying drive unit	PARTS FEED DRIVE ASSY SP	302NR9426_

2. Main drive motor section

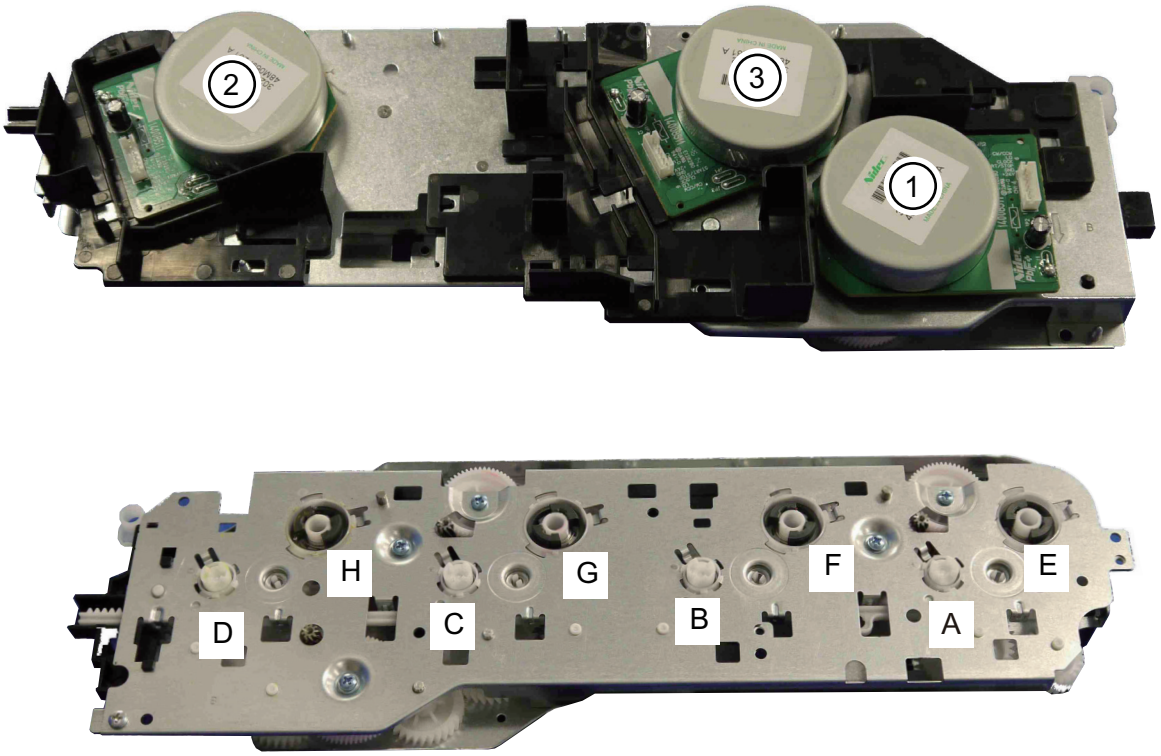


Figure 3-25 Main drive motor unit

1. Developer motor (Driving developer unit C, M and Y)
2. Drum motor 1 (Driving drum unit K and M)
3. Drum motor 2 (Driving drum unit C and Y)

A. Developer drive coupling K (Driving developer unit K)
B. Developer drive coupling M (Driving developer unit M)
C. Developer drive coupling C (Driving developer unit C)
D. Developer drive coupling Y (Driving developer unit Y)
E. Drum drive coupling K (Driving drum unit K)
F. Drum drive coupling M (Driving drum unit M)
G. Drum drive coupling C (Driving drum unit C)
H. Drum drive coupling Y (Driving drum unit Y)

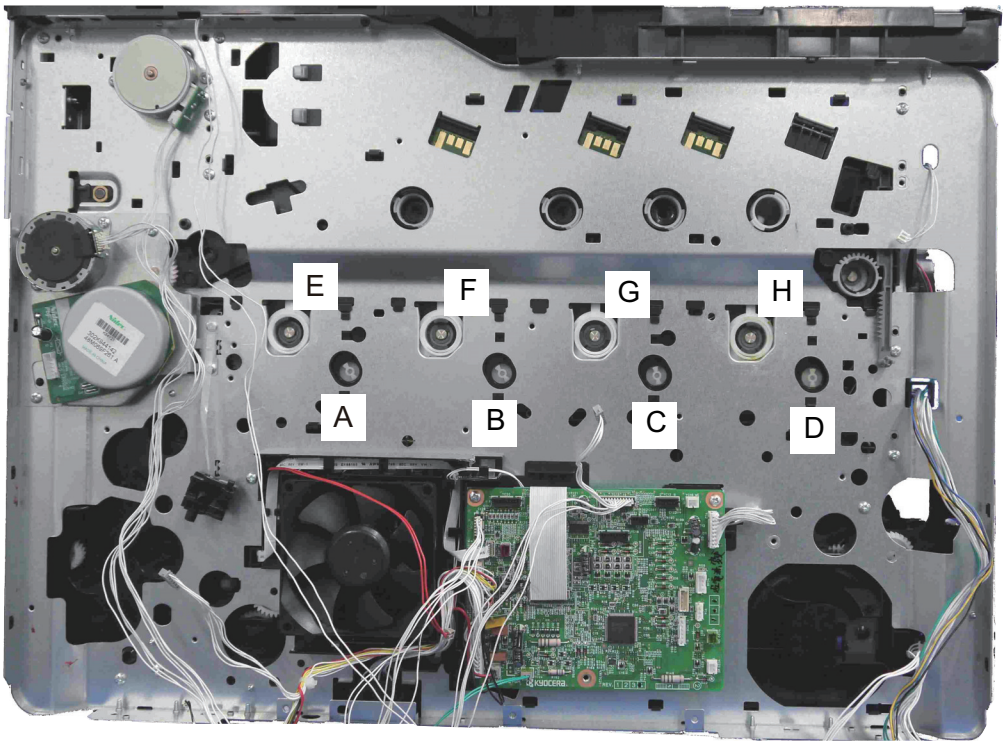


Figure 3-26

Name used in service manual	Name used in parts list	Part.No.
Main drive motor unit	DR-5140	302NR9313_(30 ppm models)
	DR-5150	302NT9312_(35 ppm models)

3. Toner motor section

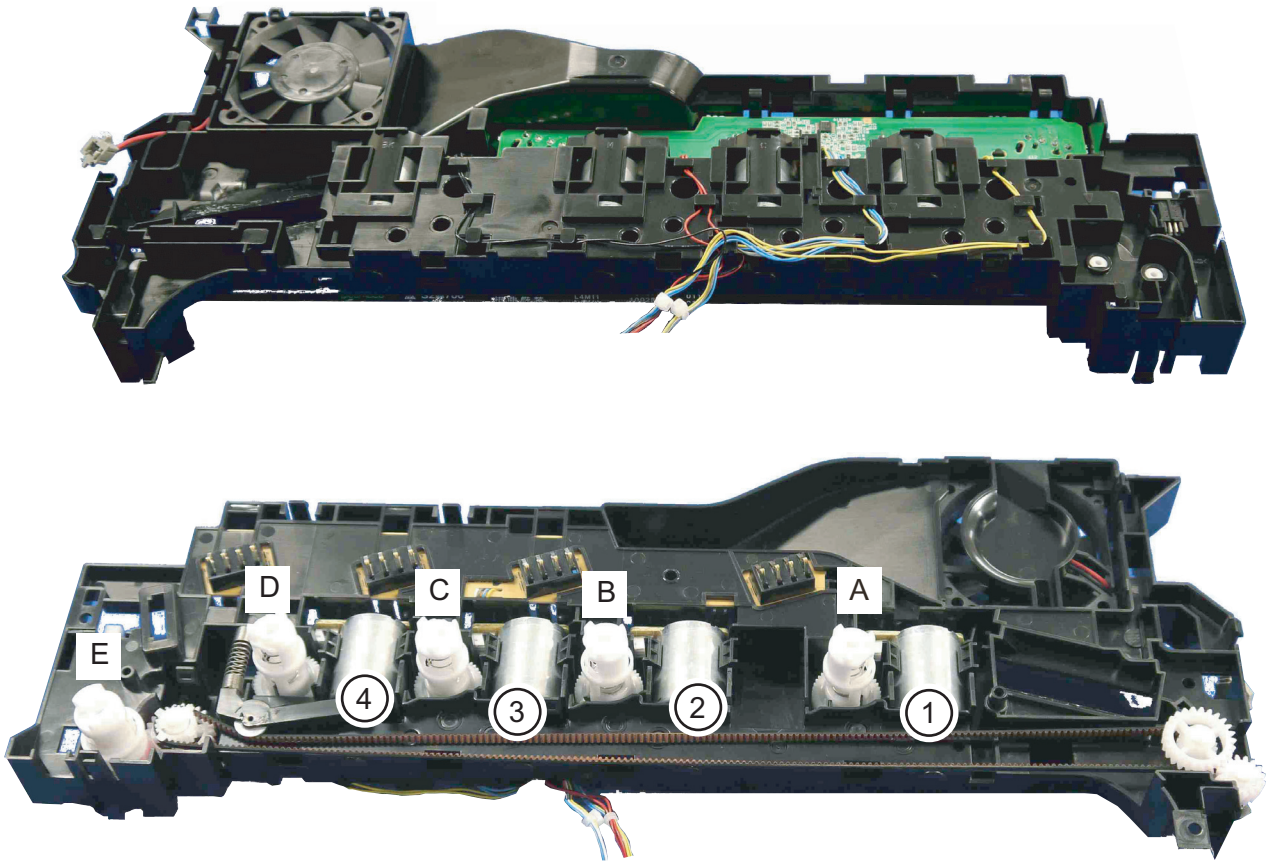


Figure 3-27

1. Toner motor K (Driving toner container K)
2. Toner motor M (Driving toner container M)
3. Toner motor C (Driving toner container C)
4. Toner motor Y (Driving toner container Y)

A. Container drive coupling K (Driving toner container K)
B. Container drive coupling M (Driving toner container M)
C. Container drive coupling C (Driving toner container C)
D. Container drive coupling Y (Driving toner container Y)
E. Transfer cleaning drive coupling (Primary transfer cleaning drive)

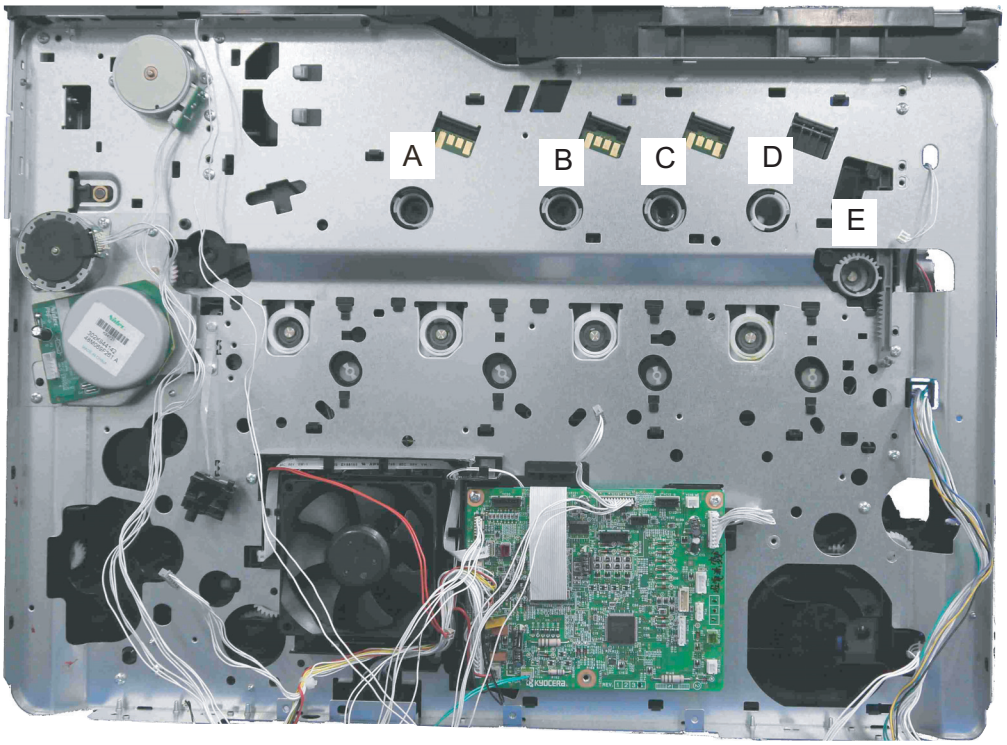


Figure 3-28

3-3 Paper feed and conveying section

The paper feed and conveying section consists of the cassette paper feed section and the MP tray paper feed section, and the paper conveying section conveying the fed paper to the transfer and separat

(1) Cassette paper feed section

The cassette can load 250 sheets of plain paper (80g/m2), and forwards the paper by rotating the pickup roller and conveys the paper to the paper conveying section by rotating the paper feed roller.

[Components parts]

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

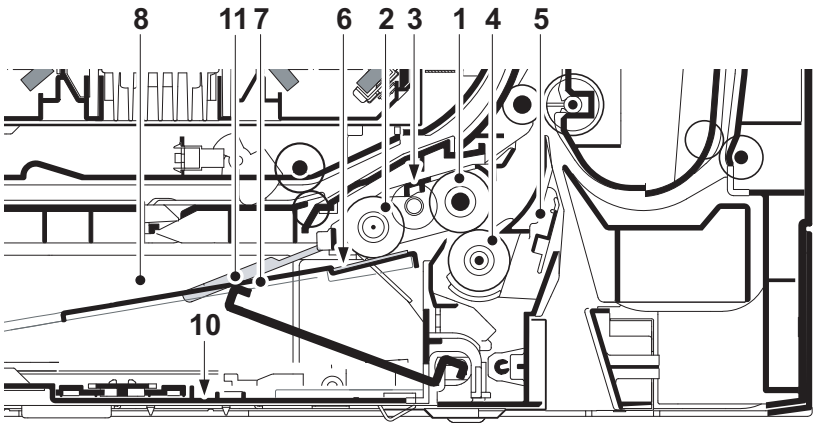


Figure 3-29

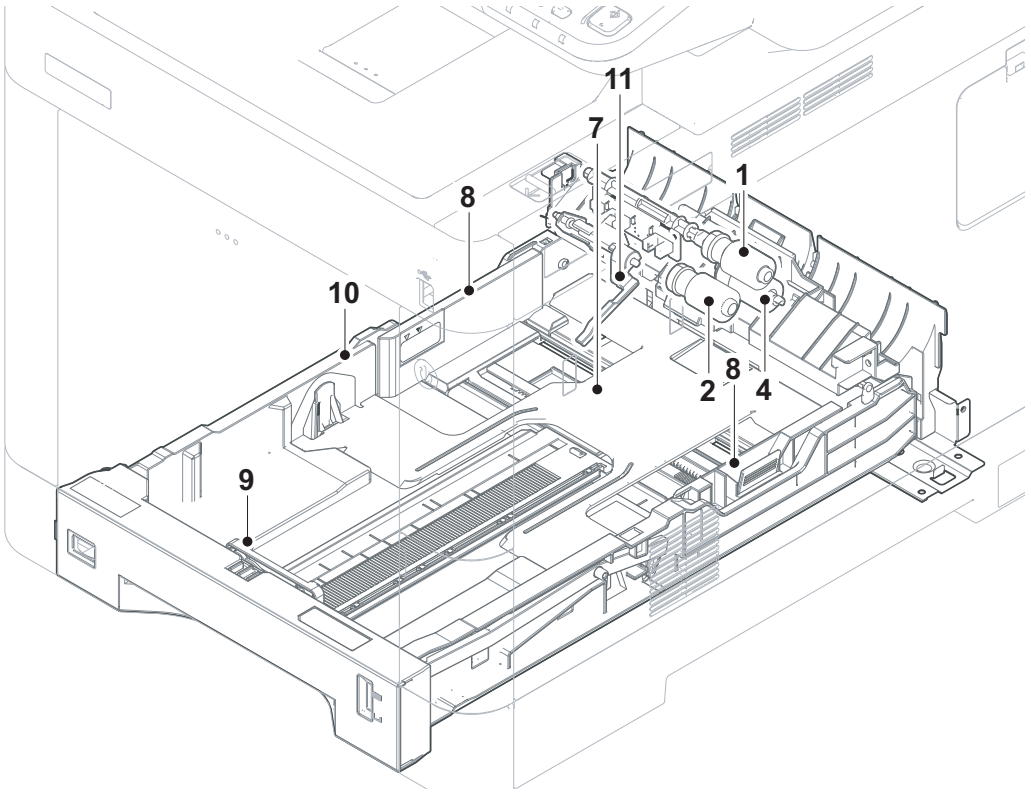


Figure 3-30

[Control block diagram]

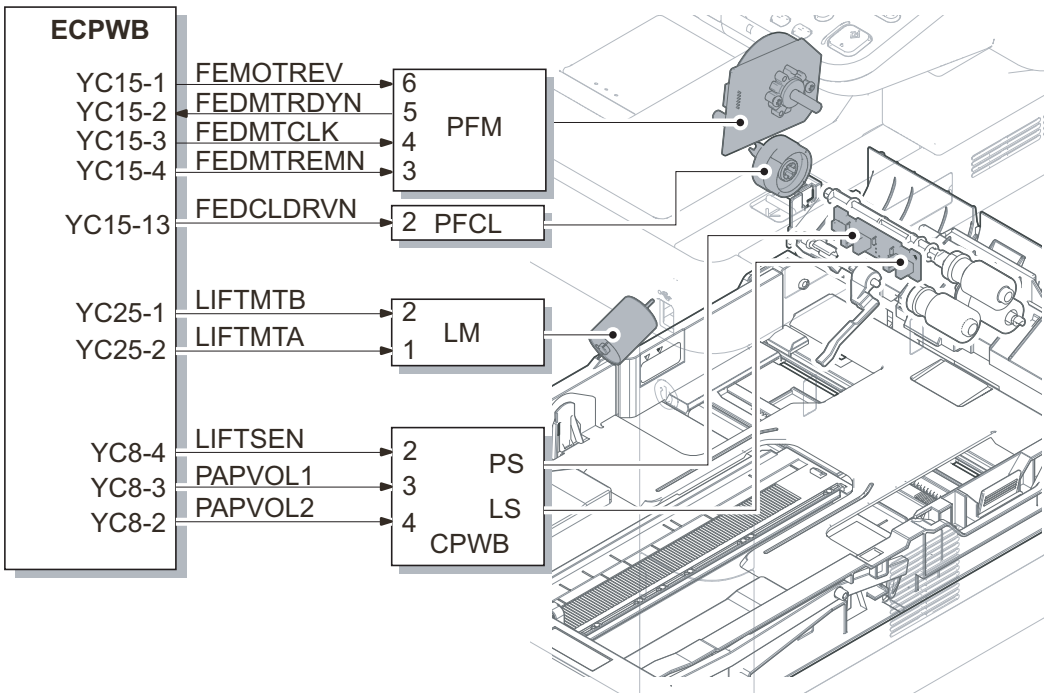


Figure 3-31

(2) MP tray paper feed section

The MP tray can load 100 sheets of plain paper (80g/m2). The paper on the MP tray is fed by rotating the MP paper feed roller and operating the MP bottom plate according to the MP solenoid. Multi-feeding is prevented by the effect of the MP separation pad.

[Components parts]

1. MP paper feed roller
2. MP separation pad
3. MP bottom plate
4. MP separation pad
5. MP conveying roller
6. MP conveying pulley
7. MP paper width guides
8. MP base
9. MP cover
10. MP tray
11. Actuator
    (MP paper sensor)

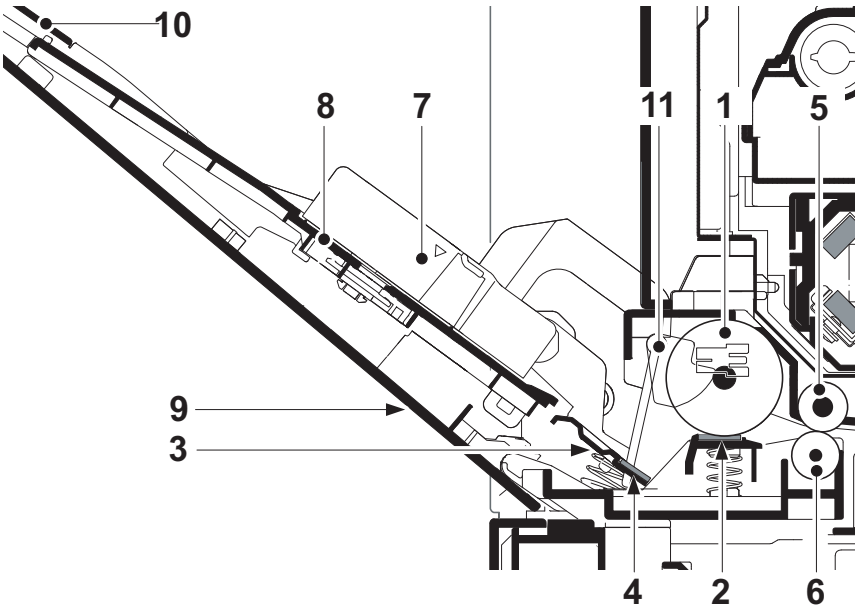


Figure 3-32

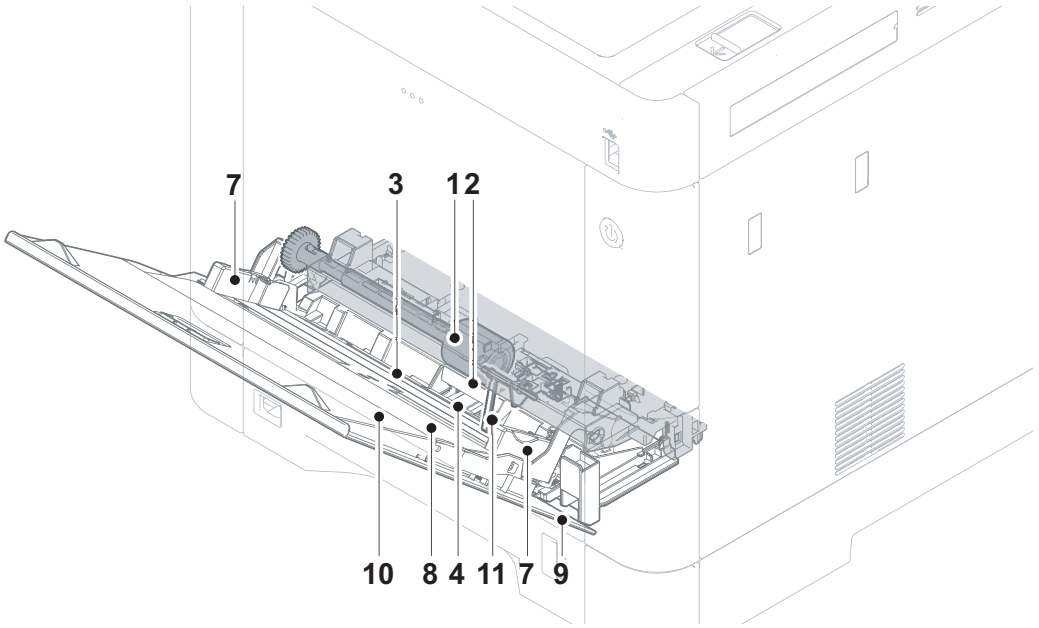


Figure 3-33

[Control block diagram]

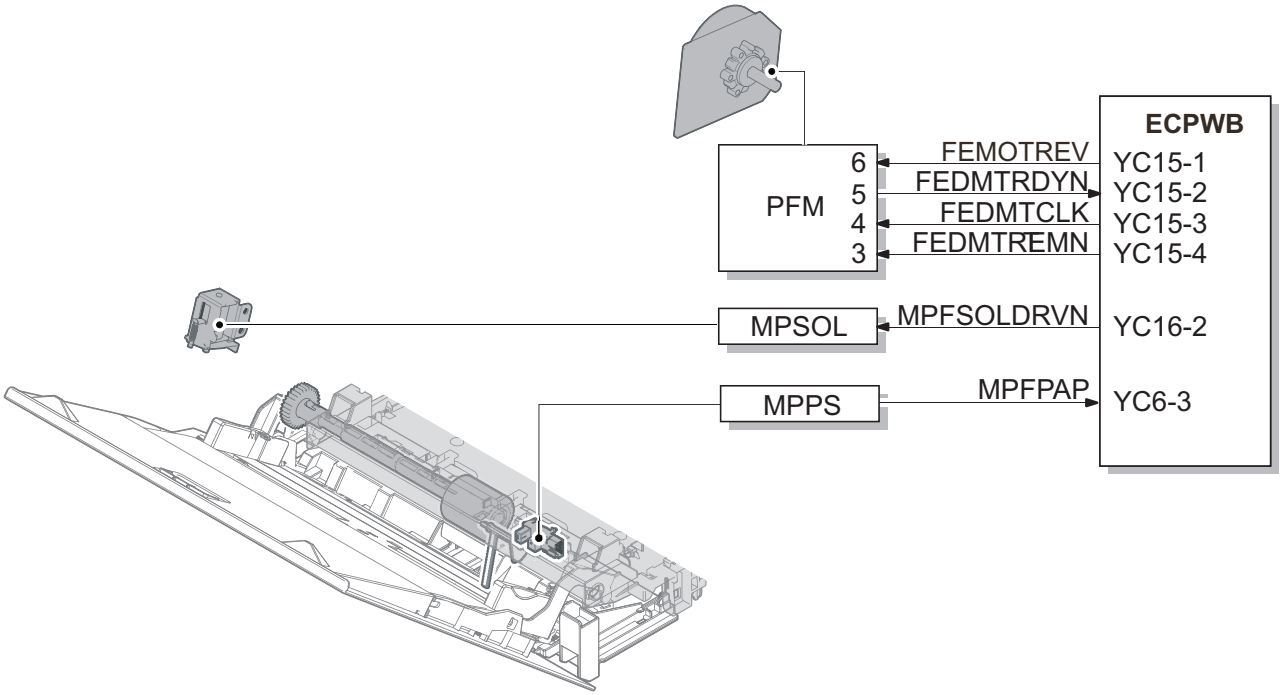


Figure 3-34

(3) MP conveying section

The paper conveying section conveys paper to the transfer and separation section when the paper is fed from the cassette or the MP tray, or re-fed in the duplex print. The fed paper is conveyed to where it turns the registration sensor on by the middle roller or the MP conveying roller, and then, conveyed to the transfer and separation section by the registration front and rear rollers.

[Components parts]

1. MP conveying roller
2. MP conveying pulley
3. Upper MP conveying guide
4. Lower MP conveying guide
5. Middle roller
6. Middle pulley
7. Front registration roller
8. Rear registration roller
9. MP conveying sensor
10. Actuator (MP conveying sensor)
11. Registration sensor

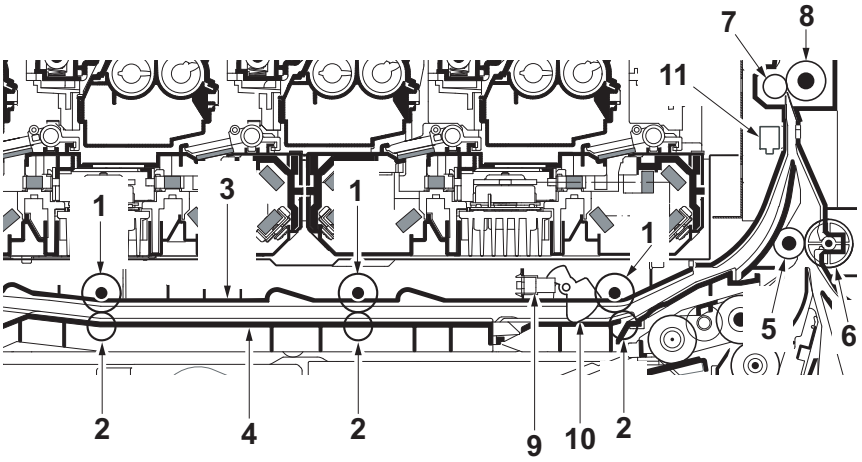


Figure 3-35

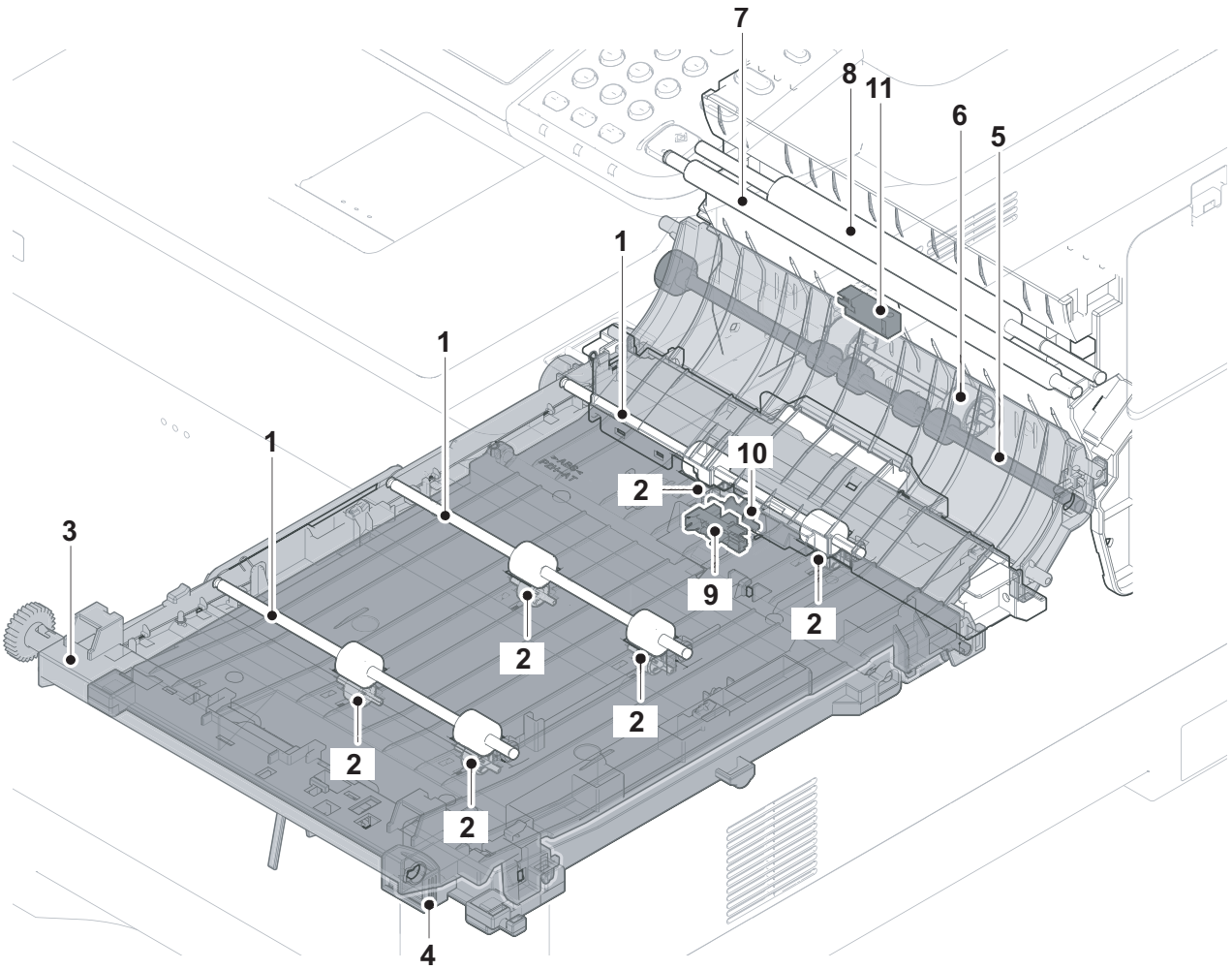


Figure 3-36

[Control block diagram]

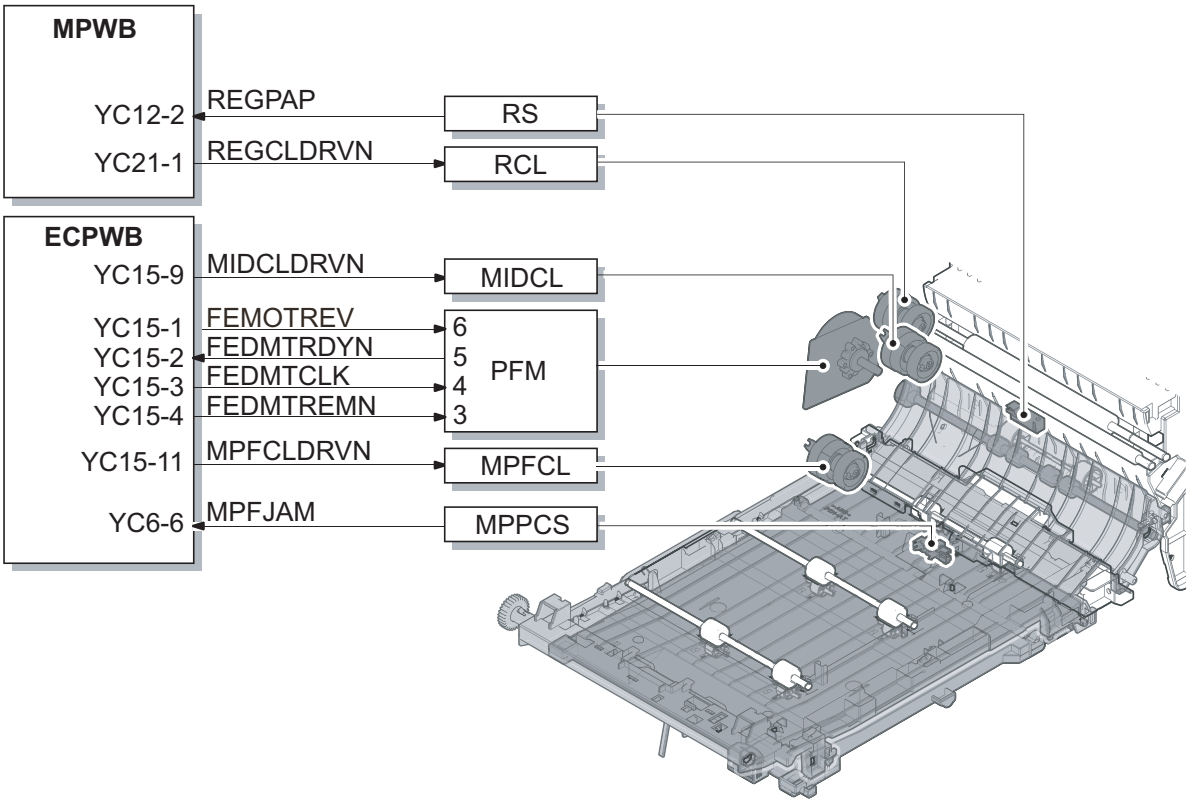


Figure 3-37

3-4 Optical section

The optical section consists of the image scanner section for scanning the original and the laser scanner section to write the image.

(1) Image scanner section

The image on the original is exposed by the exposure lamp and that reflection light is scanned by the CCD image sensor on the CCD PWB via three mirrors and the ISU lens to change the electric signal.
When using the document processor, the image scanner unit stops at the original scanning position (DP slit glass) and scans the image from the original conveyed in the document processor.

[Components parts]

1. CCD
2. Scanner carriage
3. ISU frame
4. Contact glass
5. Original size indicator
6. Slit glass
7. Lens
8. Mirror

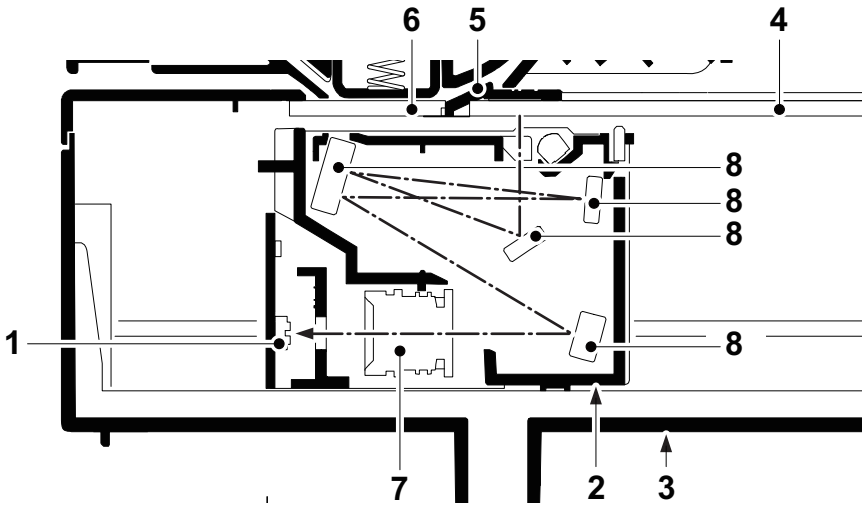


Figure 3-38

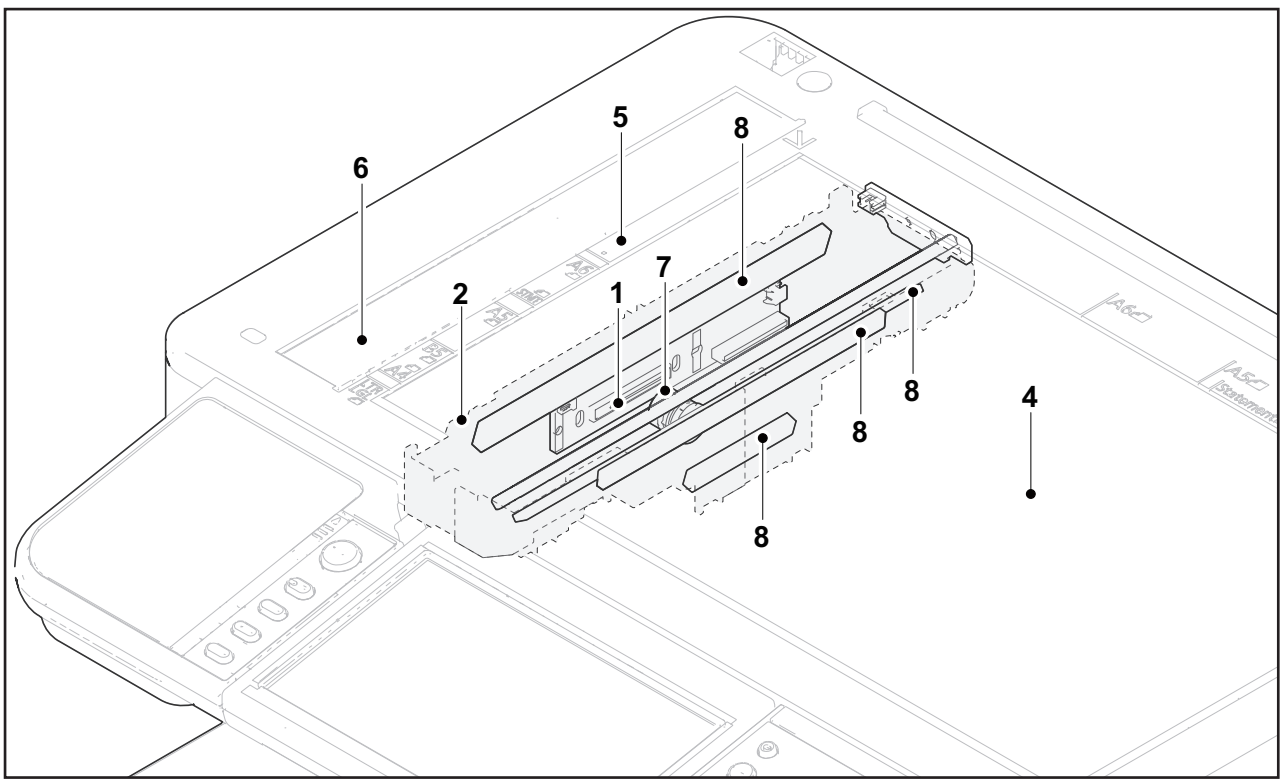


Figure 3-39

[Control block diagram]

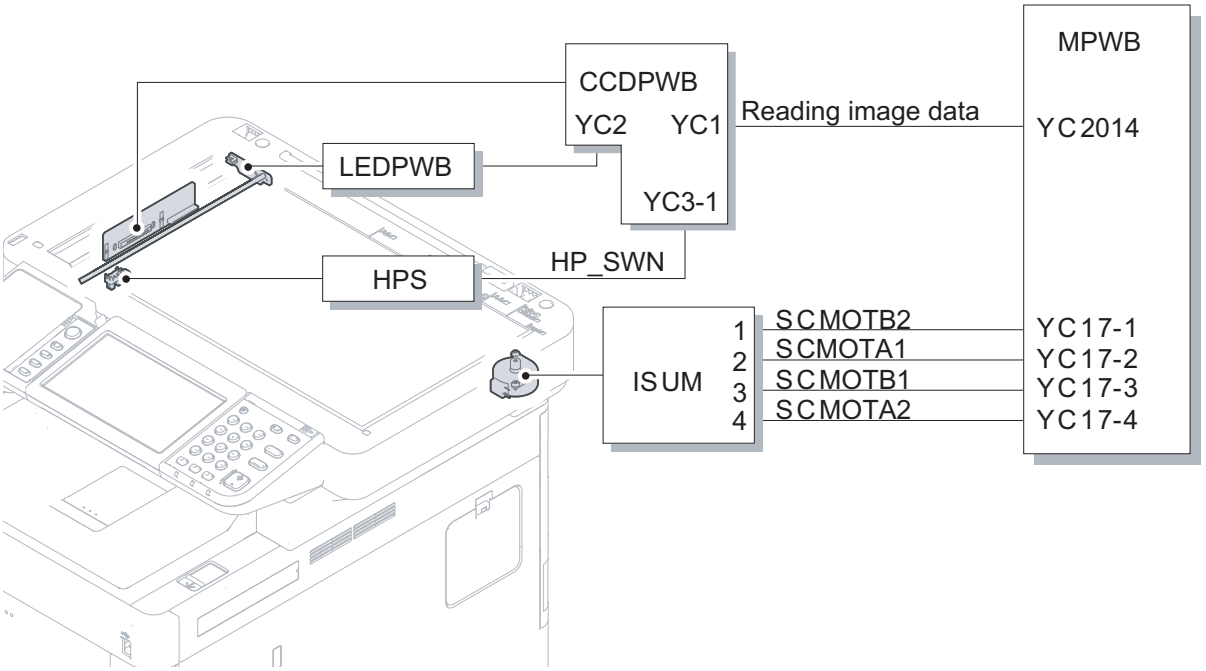


Figure 3-40

(2) Laser scanner unit

The charged drum surface is scanned by the laser emitted from the laser scanner units. The laser reflects to the polygon mirrors by rotating the polygon motor so that the laser scans horizontally to the image. The laser scanner unit has some lenses and mirrors, that adjust the diameter of the laser to focus the laser to the drum surface. Also, the LSU cleaning motor operates to automatically clean the LSU glass.

[Components parts]

1. Polygon motor
2. Polygon mirror
3. fθ lens A
4. fθ lens B
5. Mirror A
6. Mirror B
7. Mirror C
8. LSU glass
9. Spiral

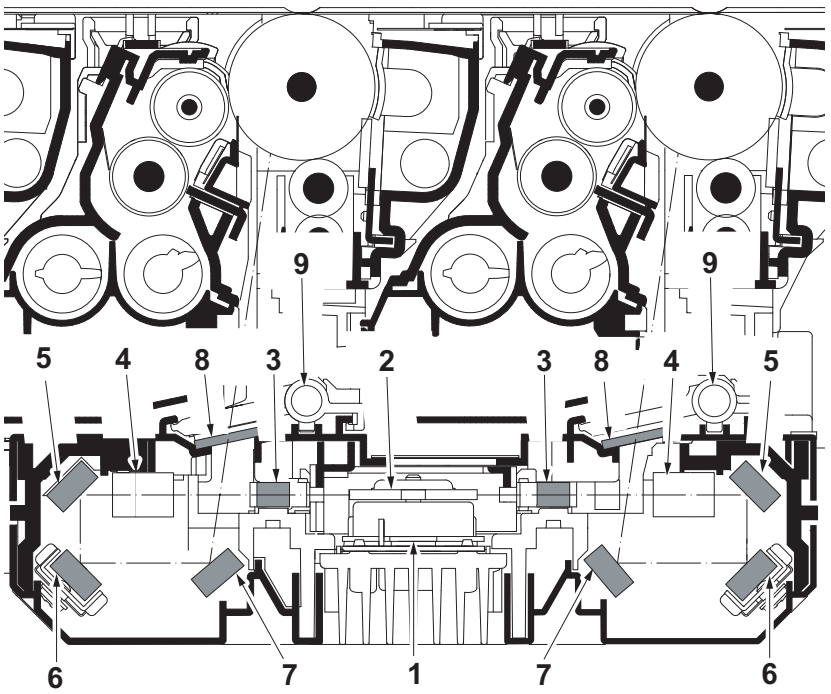


Figure 3-41

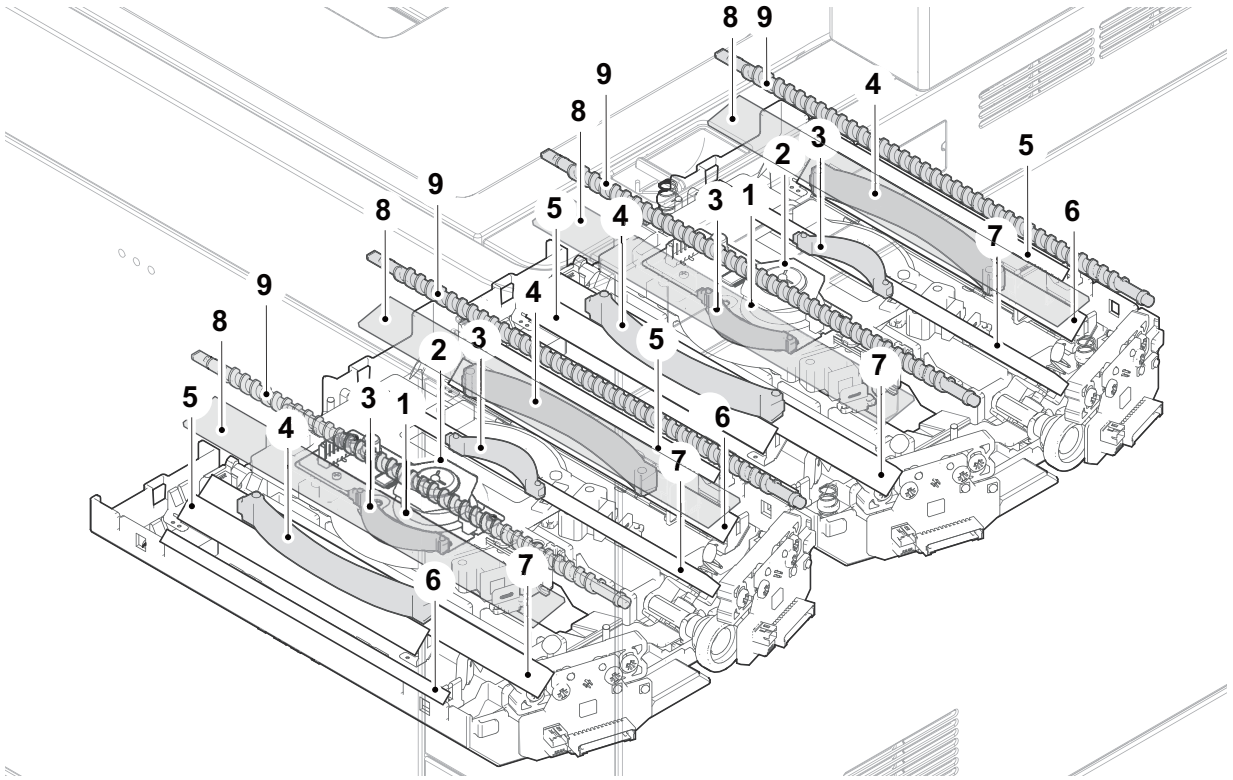


Figure 3-42

[Control block diagram]

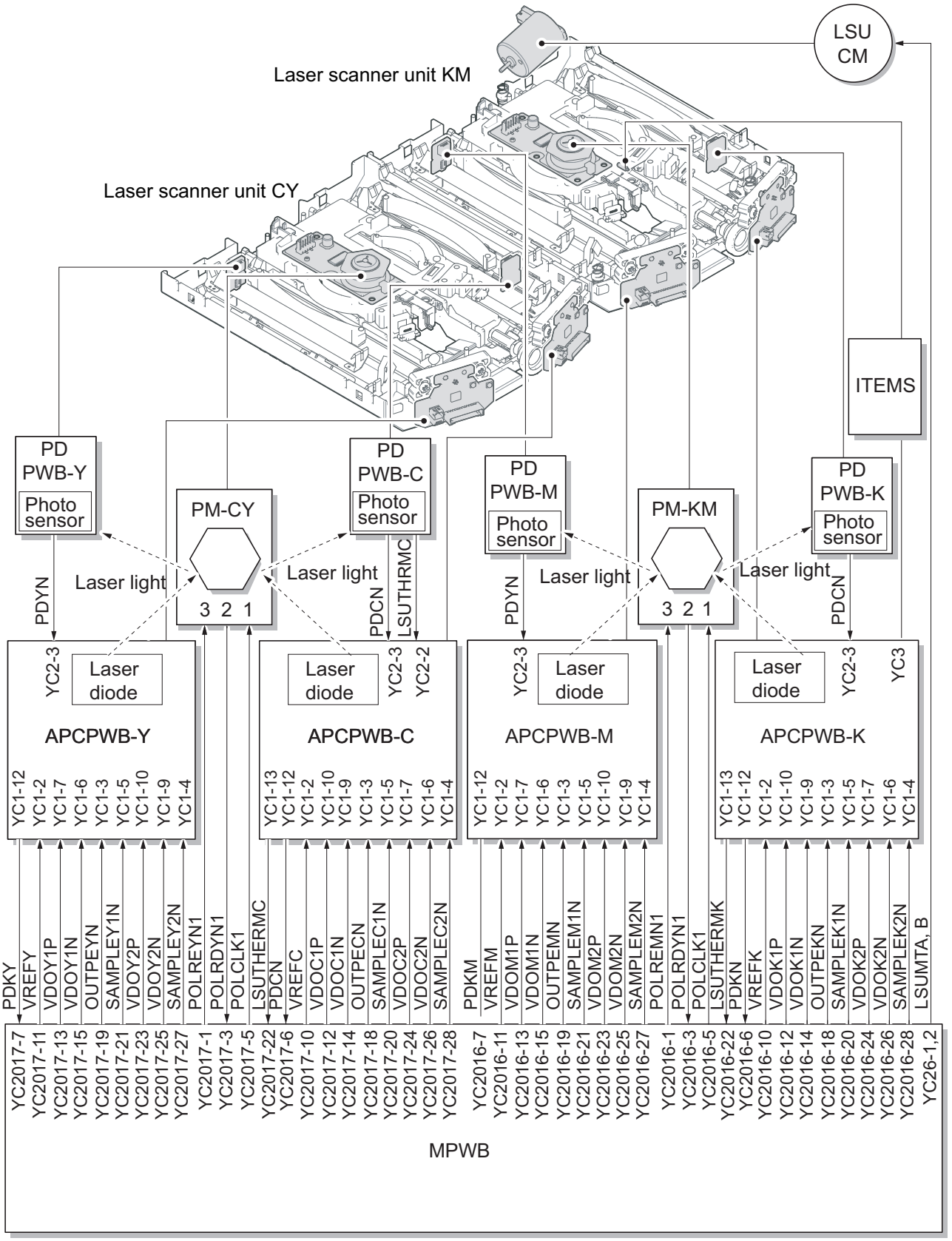


Figure 3-43

3-5 Developer section

(1) Developer unit

The developer section consists of the magnet roller forming the magnetic brush, the sleeve roller forming the thin layer by replacing the toner, the developer blade, and the developer screw mixing up the toner. The toner density is adjusted by impressing the bias to the magnet roller and the sleeve roller. The toner amount inside the developer unit is detected by the toner sensor.

[Components parts]

1. Sleeve roller
2. Magnet roller
3. Developer screw A
4. Developer screw B
5. Developer blade
6. Developer case
7. Developer top cover
8. Developer base
9. Toner sensor

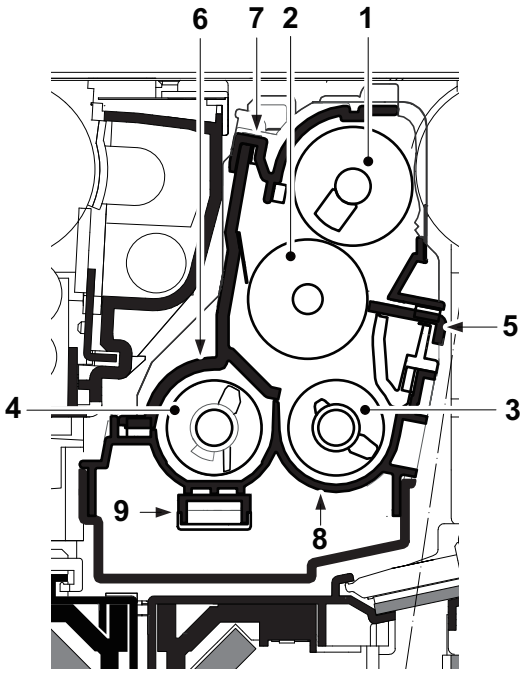


Figure 3-44

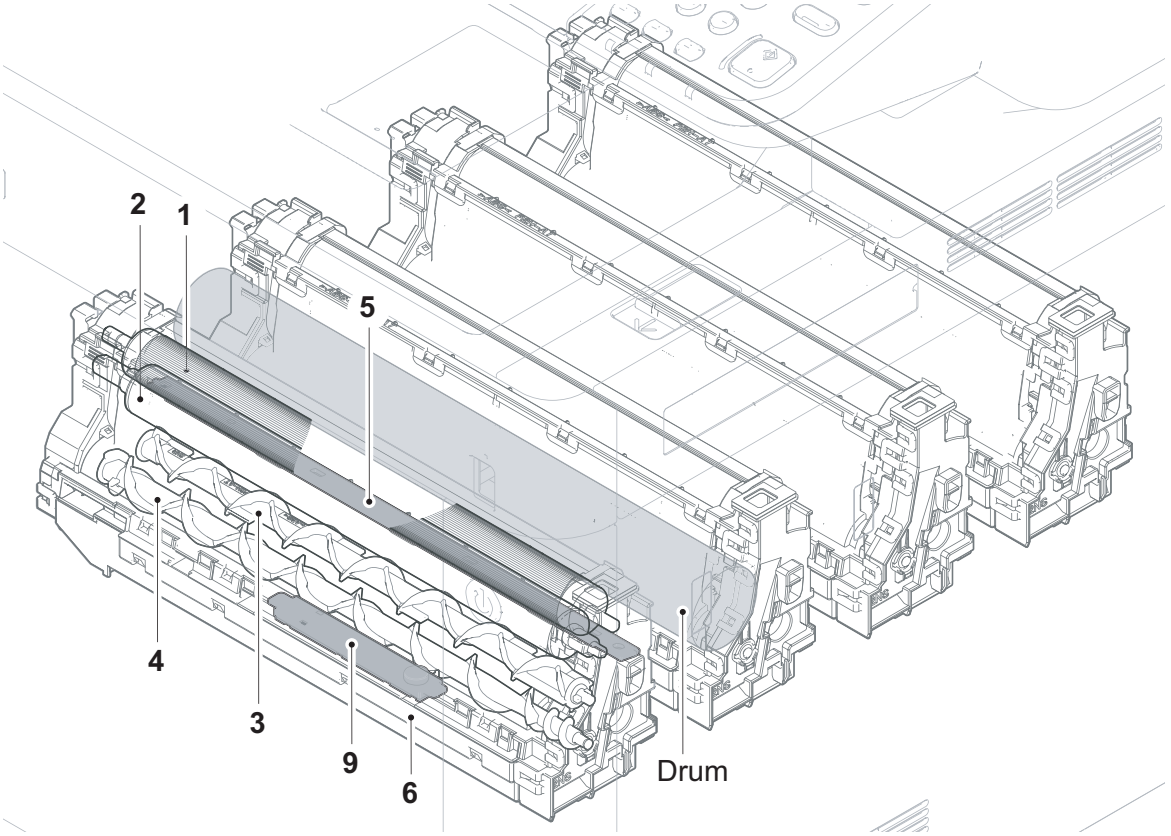


Figure 3-45

[Control block diagram]

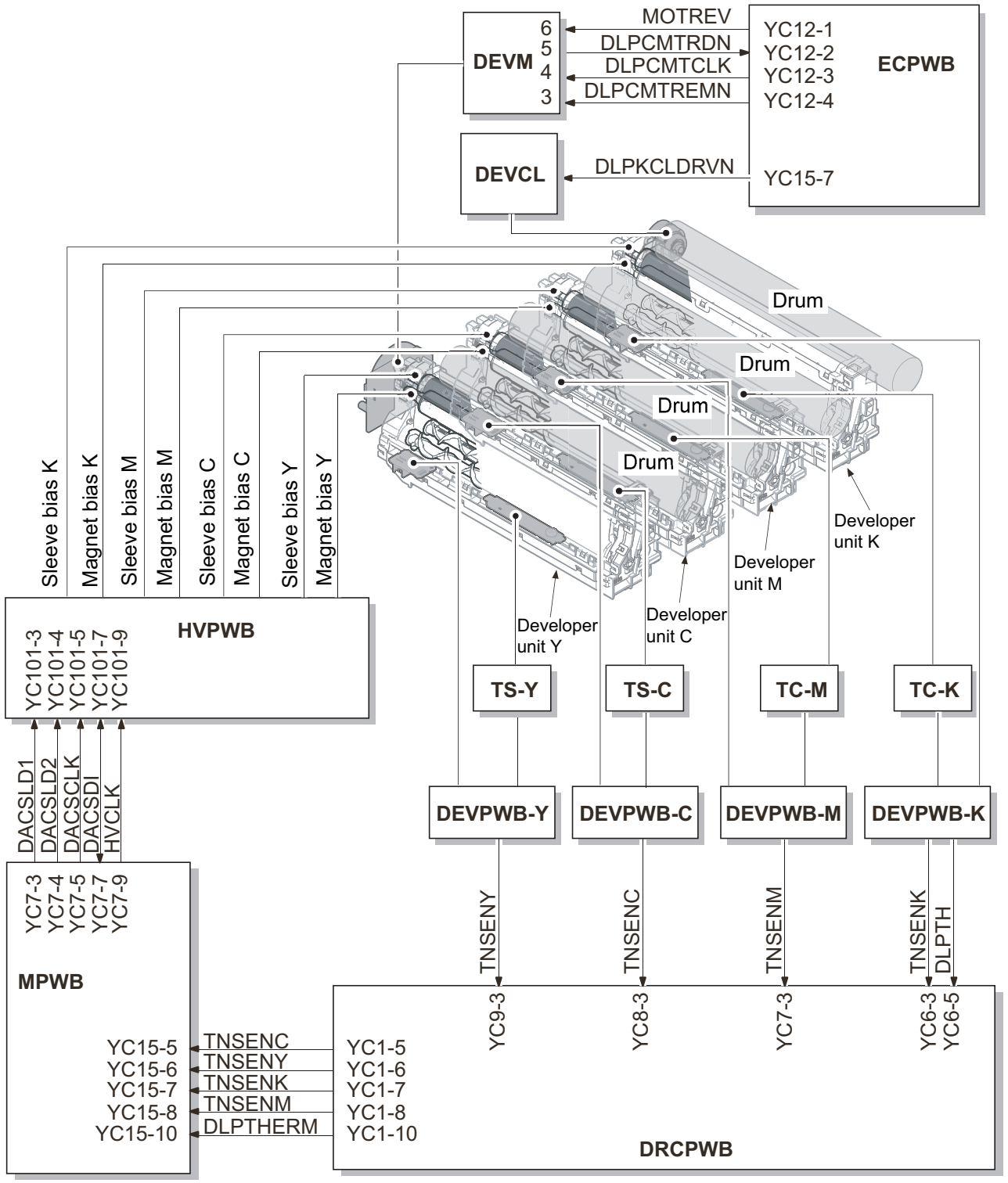


Figure 3-46

3-6 Drum section

The drum section consists of the drum, the charger roller unit, and the cleaning unit. The drum surface is evenly charged to prepare forming the electrical latent image by emitting the laser.

(1) Charger roller unit

The charged roller with the electric charge contacts the drum surface and rotates to charge the drum evenly.

[Components parts]

1. Drum
2. Charger roller
3. Charger cleaning roller
4. Charger case

(2) Cleaning unit

The remaining toner on the drum surface after transferring is removed by the cleaning blade, and collected to the waste toner box by the drum screw. The cleaning lamp consists of the LED lamp, and it removes the remaining electric charge on the drum before the main charge.

[Components parts]

5. Drum frame
6. Cleaning blade
7. Drum screw
8. Cleaning lamp

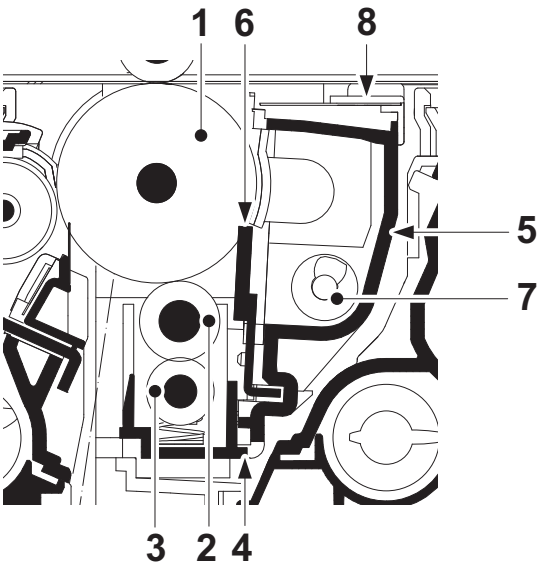


Figure 3-47

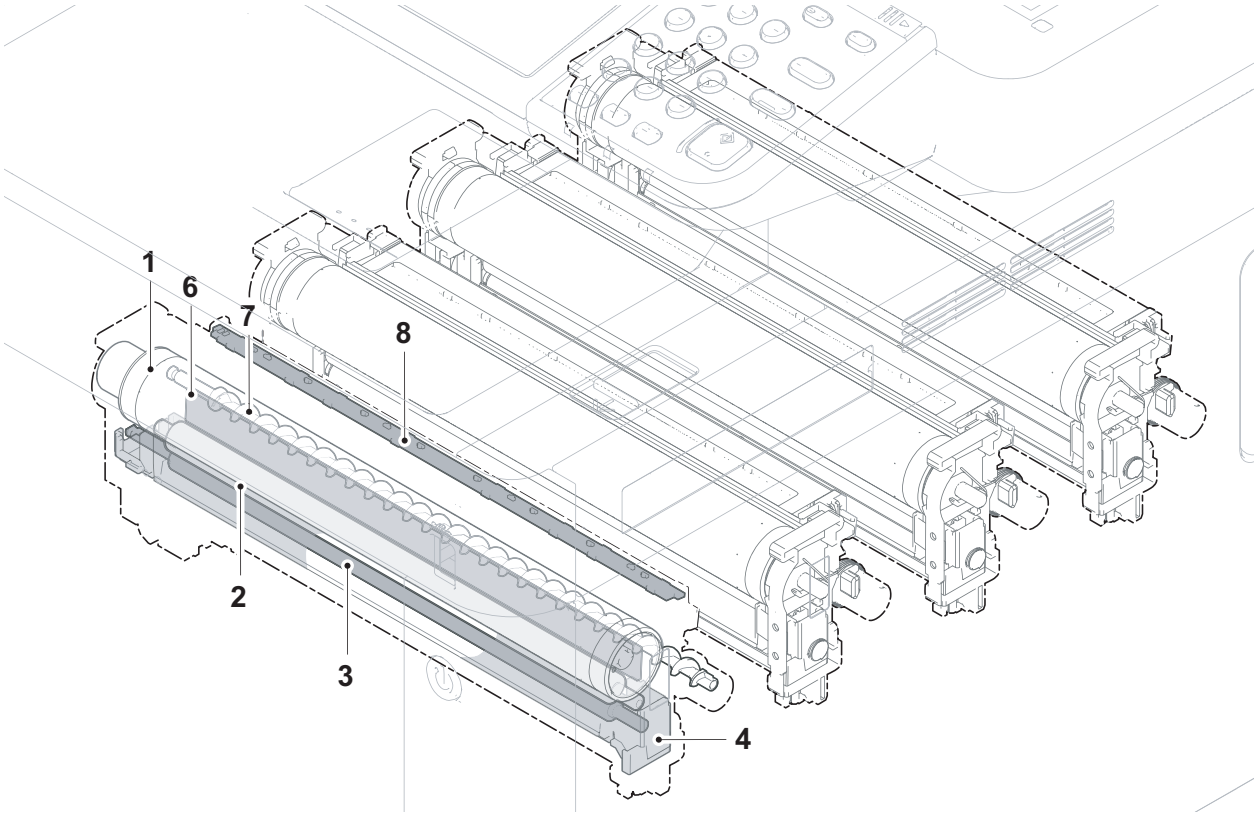


Figure 3-48

[Control block diagram]

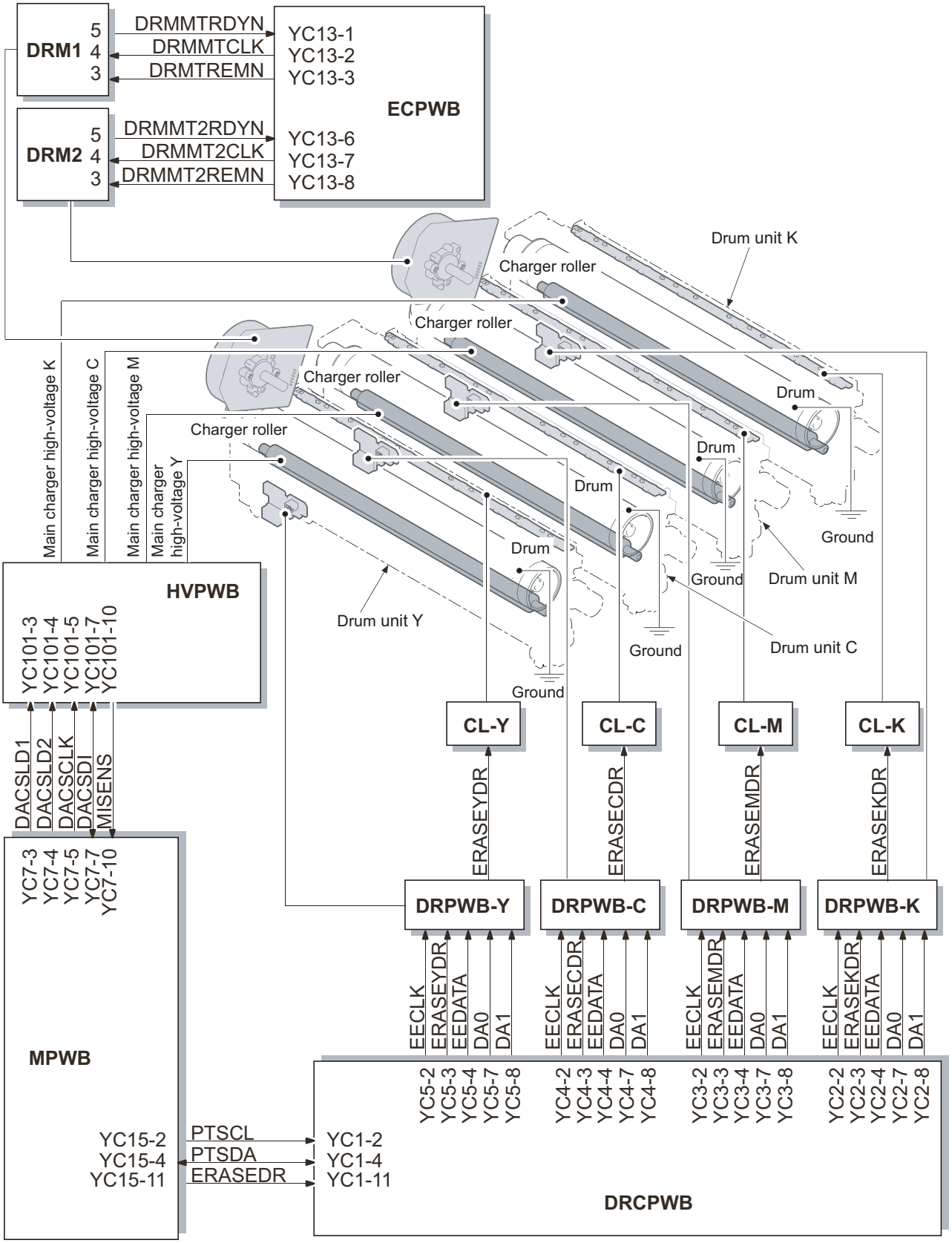


Figure 3-49

3-7 Transfer and separation section

(1) Primary transfer section

The primary transfer section consists of the transfer cleaning unit, the transfer belt and four primary transfer rollers facing each drum. When printing the color image, the toner image with a single color formed on each drum is repeatedly transferred on the transfer belt by impressing the bias to the primary transfer rollers facing each drum, and then the full color toner image is formed. Also, the ID sensor attached to the main unit measures the toner density on the transfer belt.

The trasfer cleaning unit collects the remaining toner on the transfer belt after the secondary transferring, and forwards it to the waste toner box as waste toner.

[Components parts]

1. Tension roller
2. Drive roller
3. Primary transfer roller K
4. Primary transfer roller M
5. Primary transfer roller C
6. Primary transfer roller Y
7. Transfer belt
8. Cleaning fur brush
9. Cleaning roller
10. Cleaning blade
11. Cleaning screw
12. ID sensor 1
13. ID sensor 2

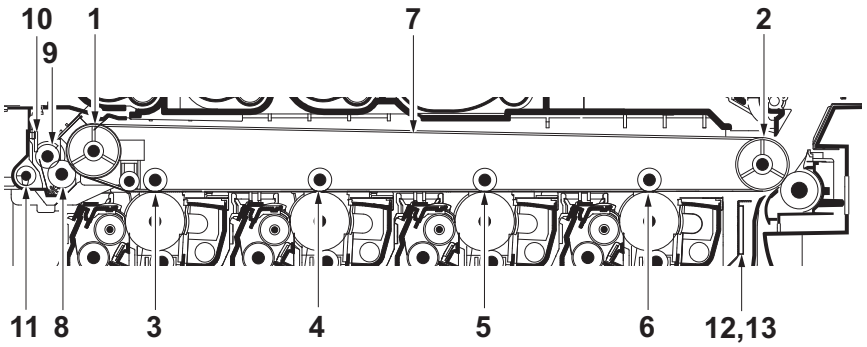


Figure 3-50

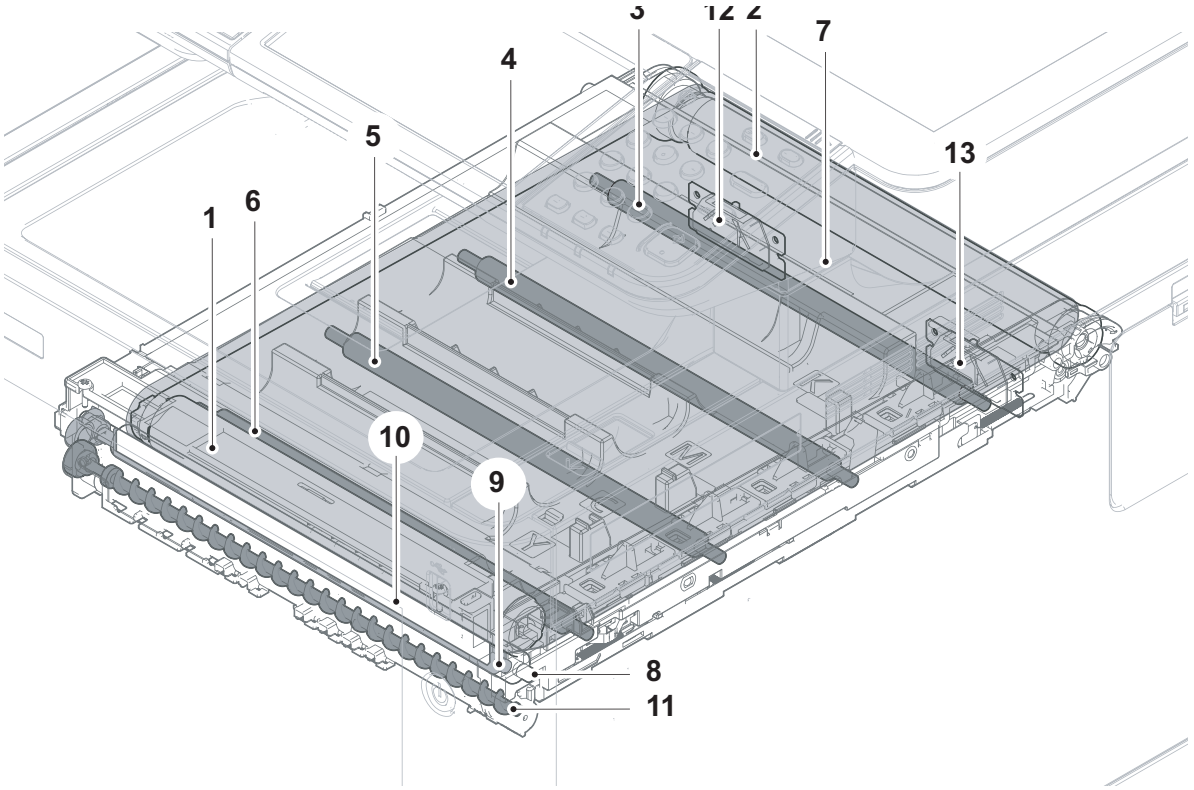


Figure 3-51

[Control block diagram]

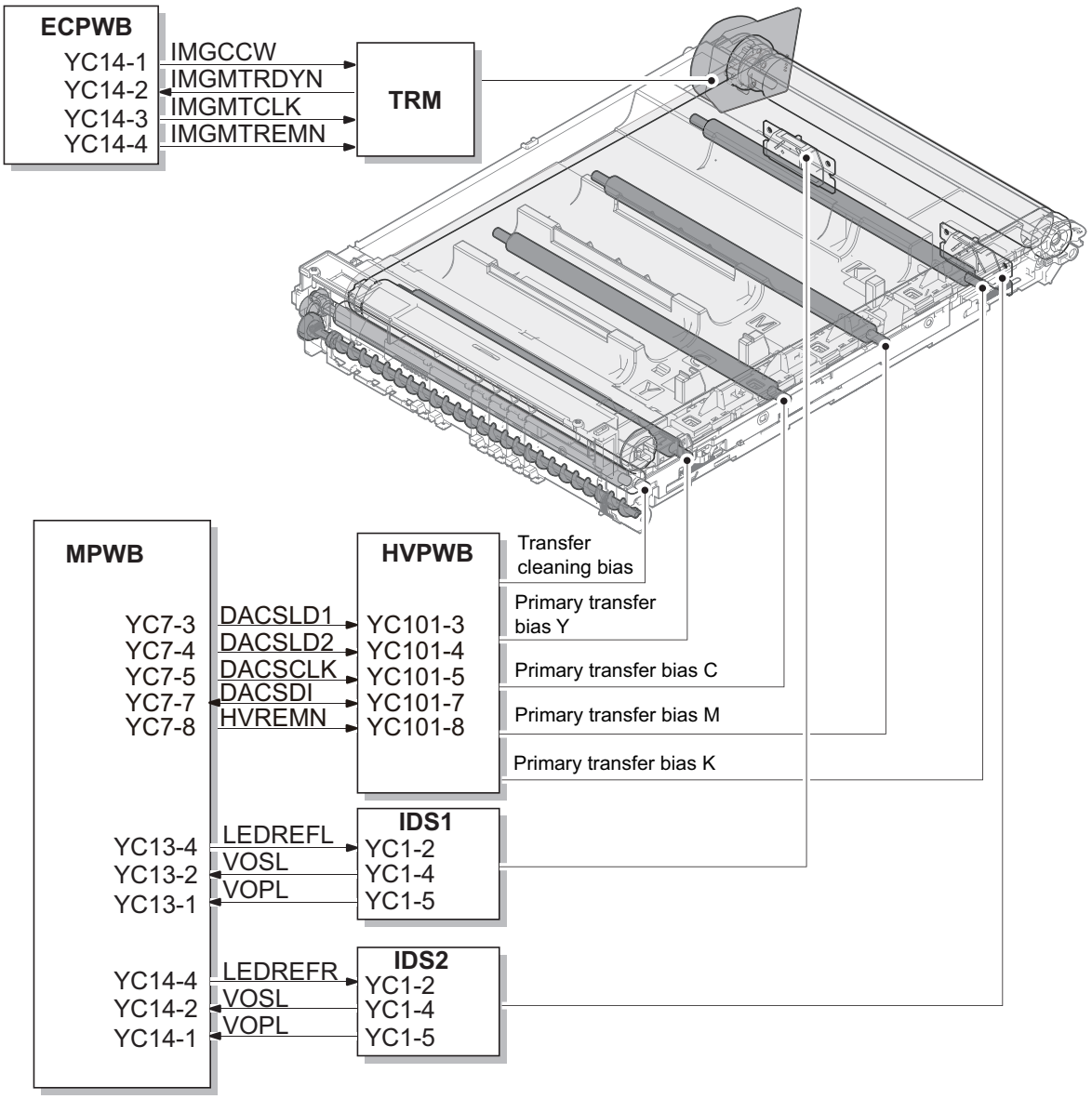


Figure 3-52

(2) Secondary transfer roller section

The secondary transfer roller section consists of the secondary transfer roller attached to the paper conveying unit, and the separation brush. The DC bias from the high-voltage PWB is impressed to the secondary transfer roller, and the toner image formed on the transfer belt is transfered to the paper by the potential gap. After transferring, the paper is separated by self stripping and the electric charge on the paper is removed by the separation brush contacting the ground.

[Components parts]

1. Secondary transfer roller
2. Primary transfer belt
3. Transfer front guide
4. Separation brush

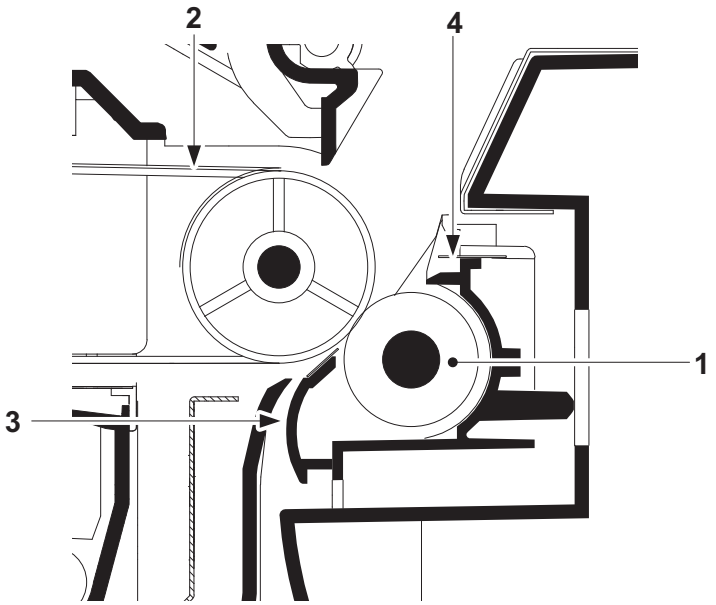


Figure 3-53

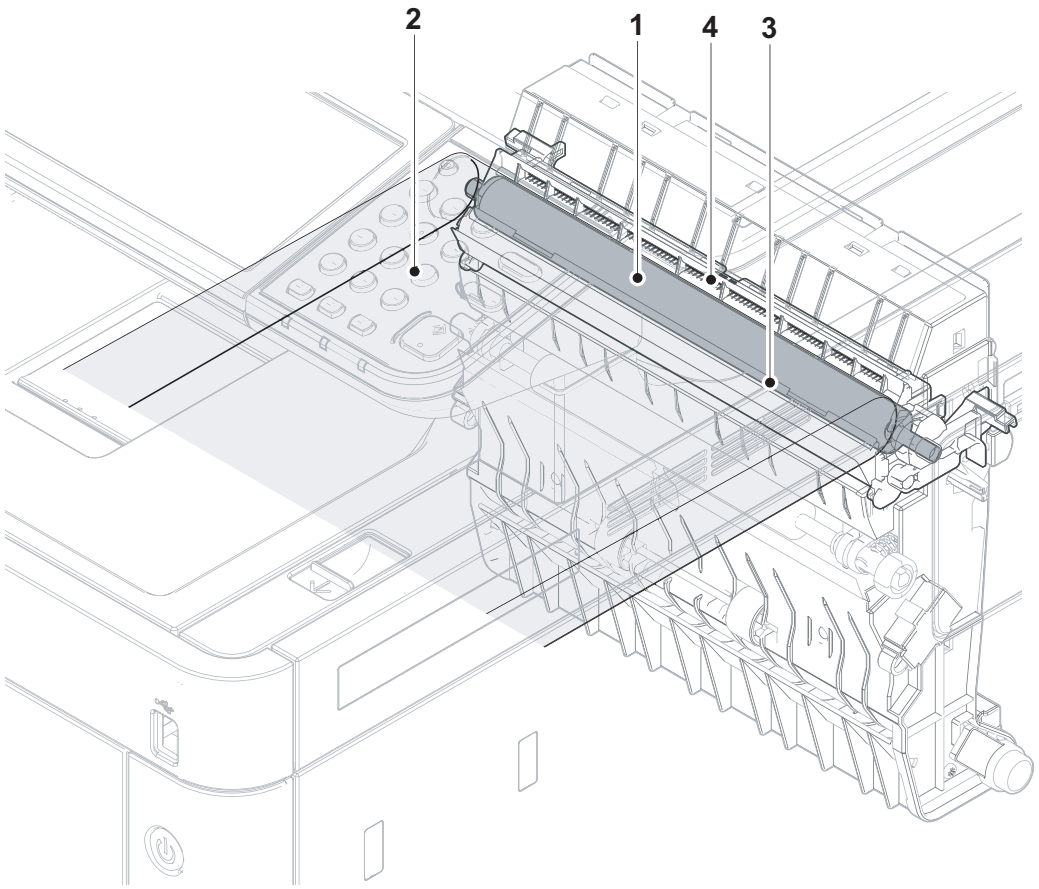


Figure 3-54

[Control block diagram]

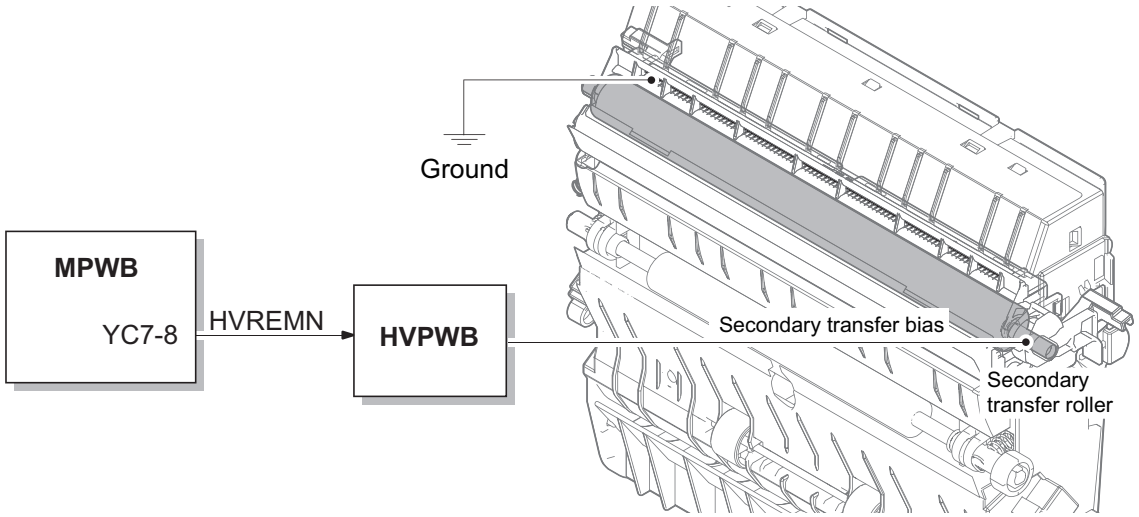


Figure 3-55

3-8 Fuser section

The paper from the transfer and separation section is pinched between the heat roller and the press roller. The heat roller is heated by the fuser heater, and the paper is pressed by the press roller with the pressure added by the pressure spring toward the heat roller, so toner is fused on the paper by that heat and pressure.

The surface temperature of the heat roller is detected by the fuser thermistor and controlled by the main/engine PWB. If the fuser section has abnormal temperature, the power supply line is shut off by switching the fuser thermostat and the fuser heater is turned off forcedly.

(1) Fuser unit

[Components parts]

1. Heat roller
2. Fuser heater 1
3. Fuser heater 2 *2
4. Fuser thermostat 1 (FUTS1)
5. Fuser thermostat 2 (FUTS2)*2
6. user thermistor 1
7. Fuser thermistor 2 *1
8. Fuser thermistor 2 *2
9. Separation plate
10. Press roller
11. Actuator (Eject sensor)
12. Fuser eject roller
13. Fuser eject pulley
14. Fuser front guide

*1: 30 ppm models
*2: 35 ppm models

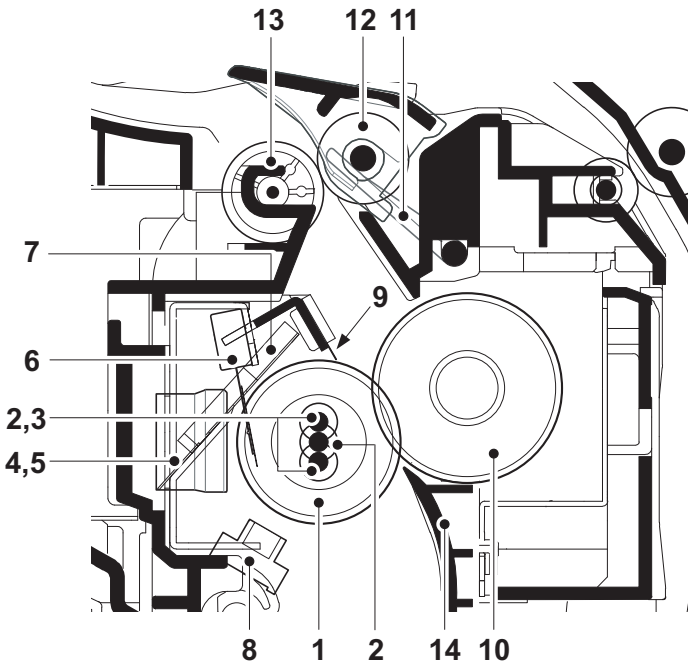
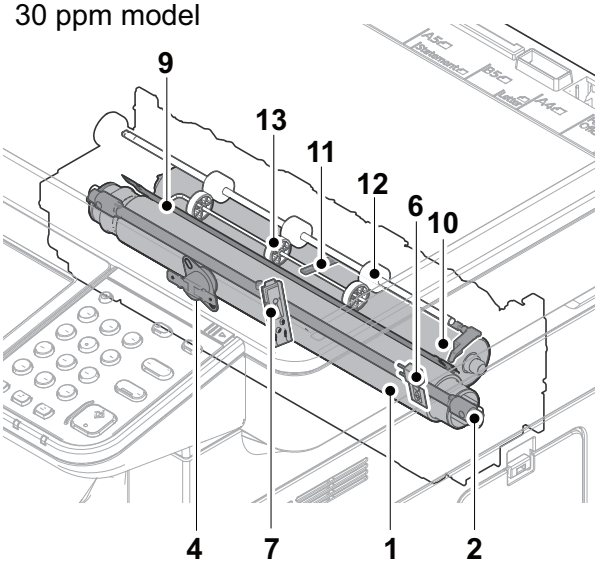


Figure 3-56

30 ppm model



35 ppm model

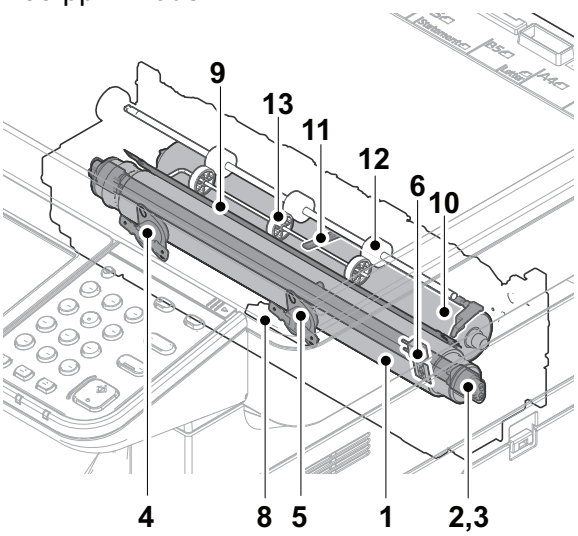


Figure 3-57

[Control block diagram]
30 ppm model

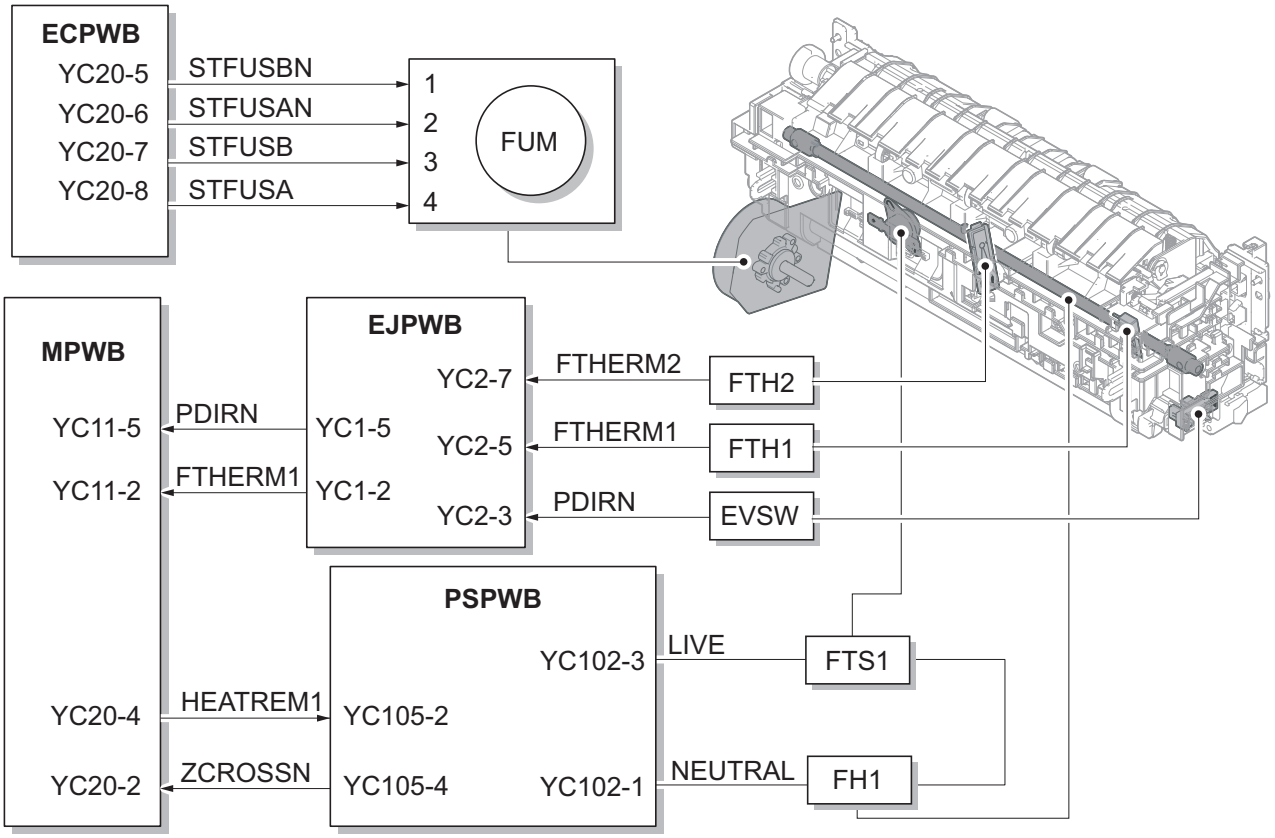


Figure 3-58

35 ppm model

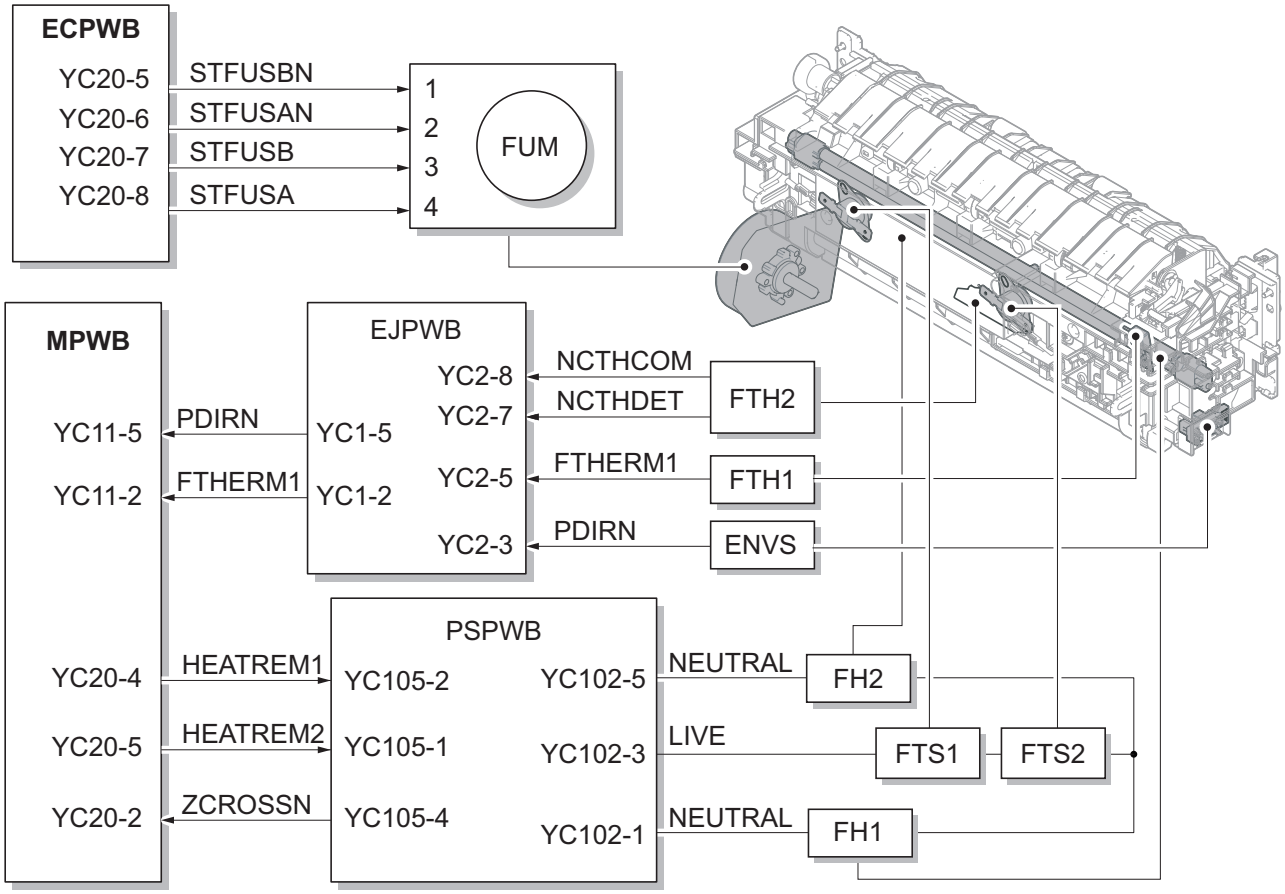


Figure 3-59

3-9 Eject and feedshift section

The eject and feedshift section consists of the paper path from the fuser section to the inner tray or the duplex conveying section.

(1) Eject unit

[Components parts]

1. Eject roller
2. Eject pulley
3. Lower eject roller
4. Lower eject pulley
5. Feedshift guide
6. Actuator (Eject sensor)
7. Actuator (Eject full sensor)

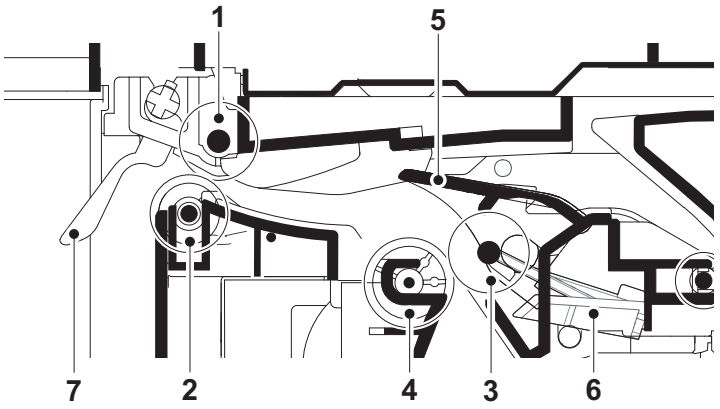


Figure 3-60

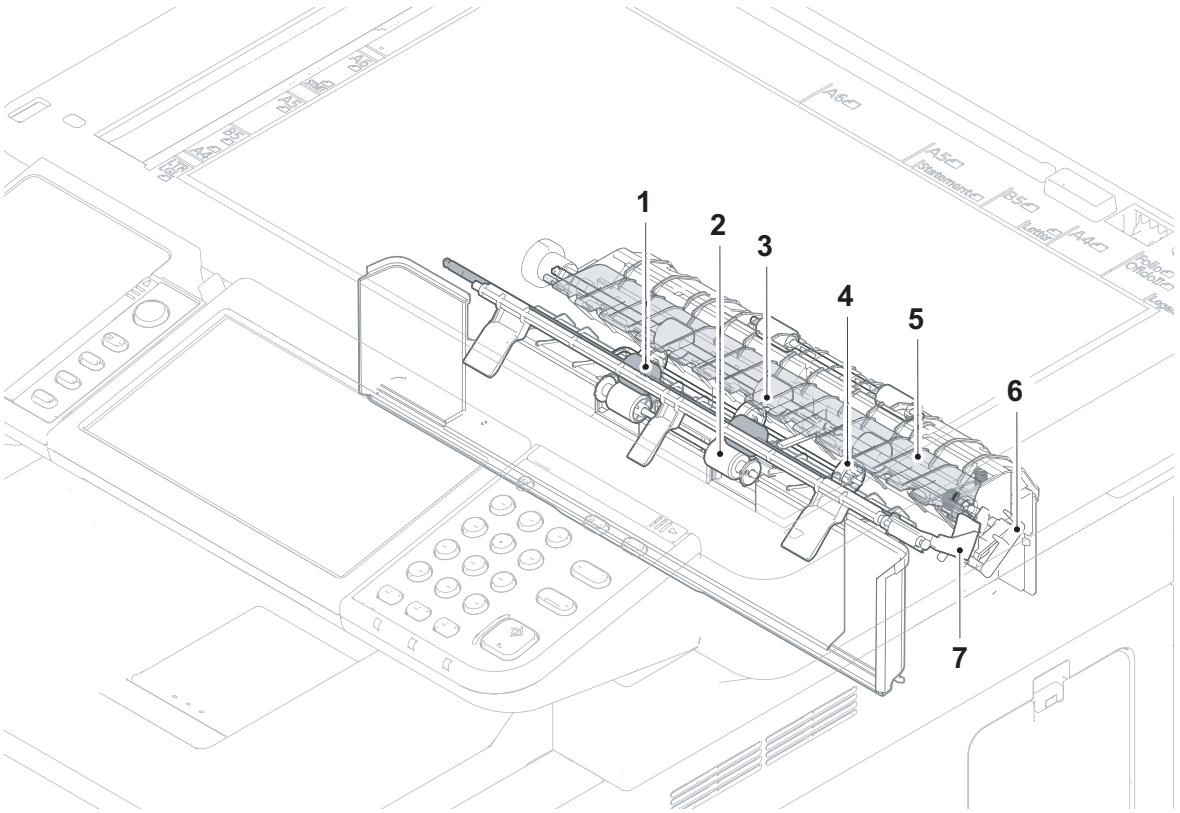


Figure 3-61

[Control block diagram]

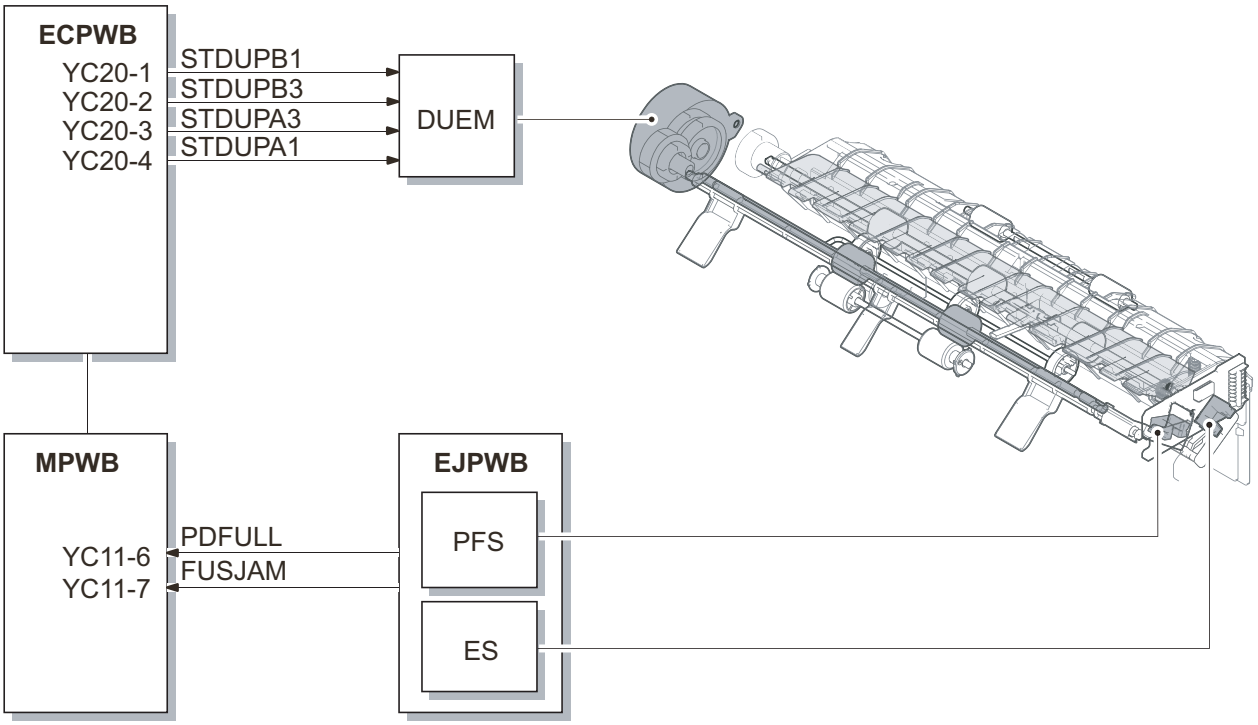


Figure 3-62

3-10 Duplex conveying section

(1) Duplex conveying unit

The duplex conveying section consists of the paper conveying path to forward the paper from the eject and feedshift section in the duplex print to the paper conveying section.

[Components parts]

1. DU conveying roller L
2. DU conveying pulley L
3. DU conveying roller S
4. DU conveying pulley S
5. DU base
6. DU conveying guide

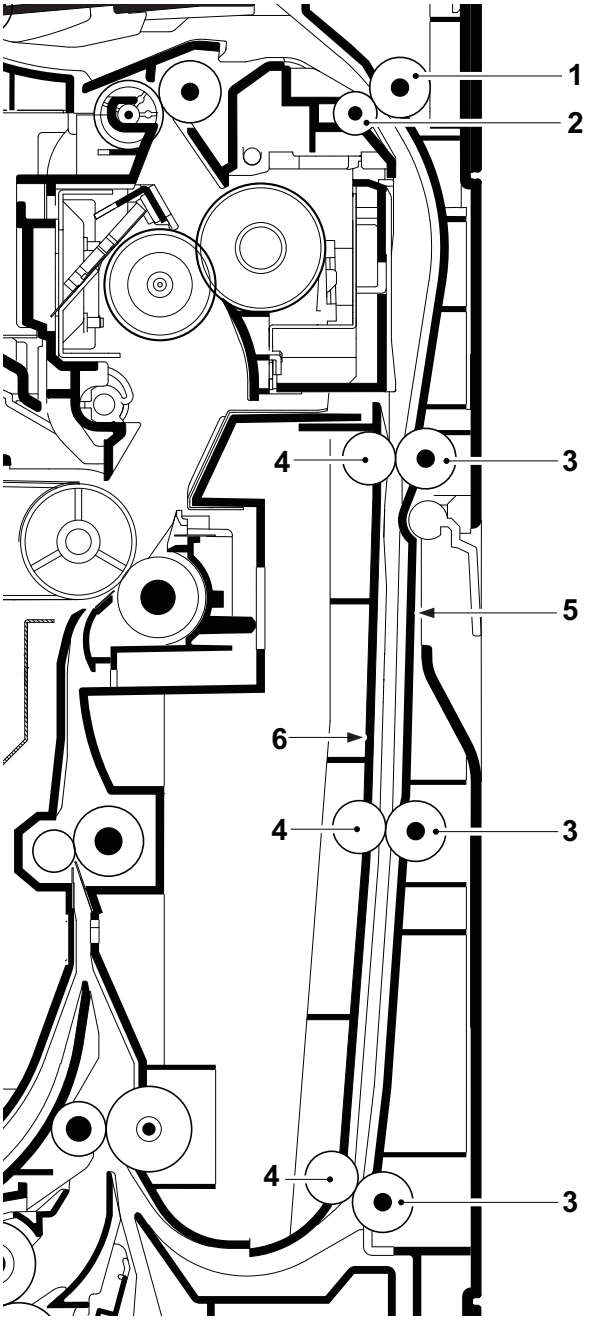


Figure 3-63

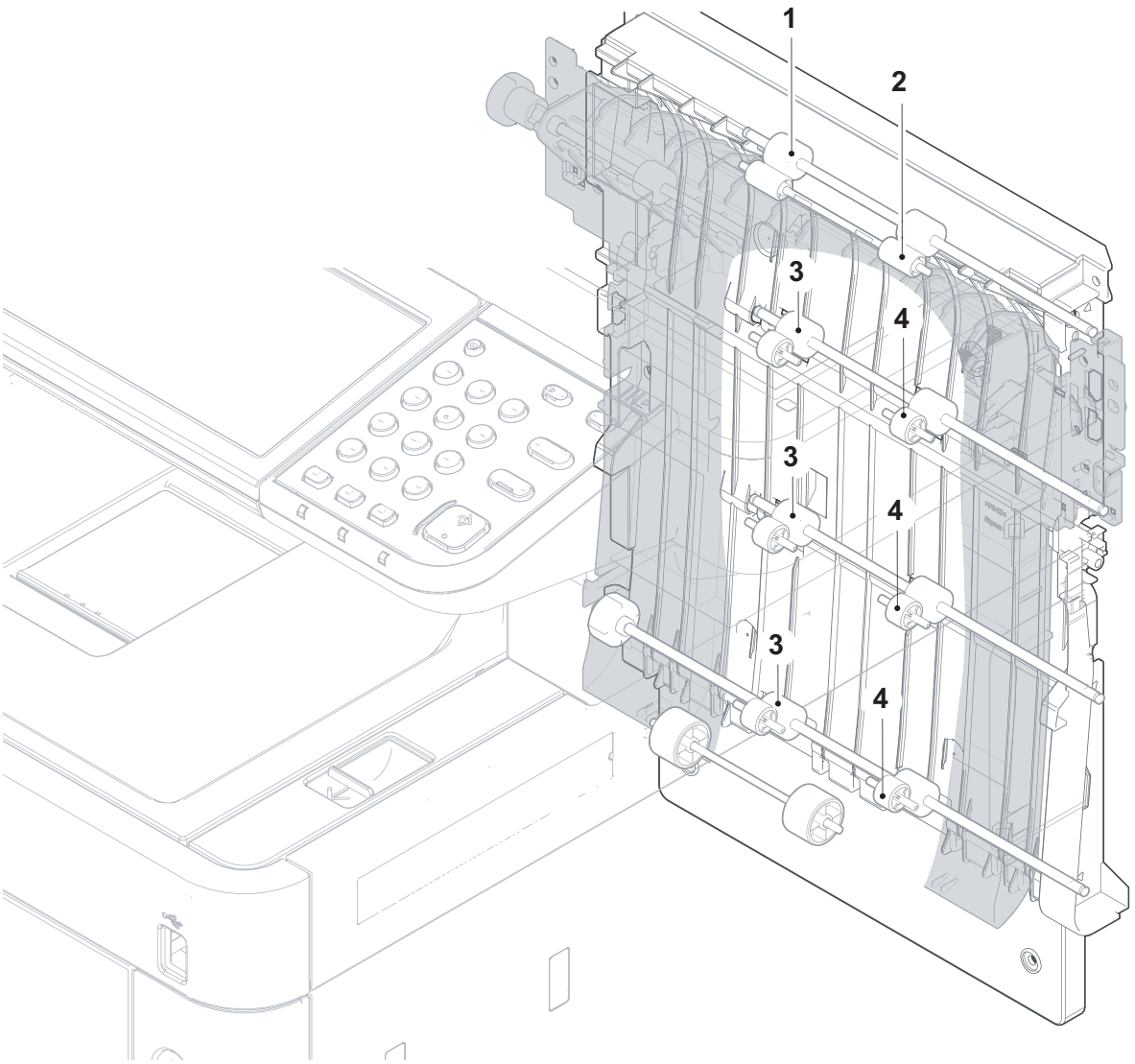


Figure 3-64

[Control block diagram]

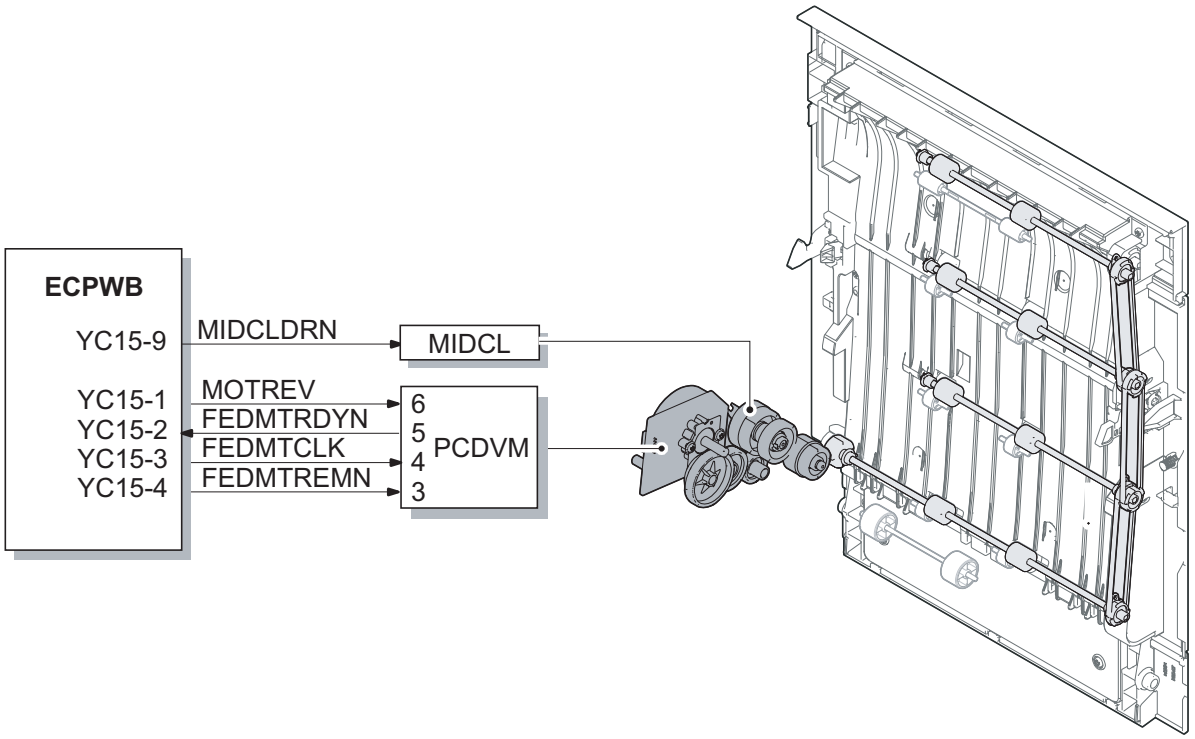


Figure 3-65

3-11 Document processor

(1) Original paper feed section

The original feed section consists of the parts in the figure, and conveys the original on the original tray to the original conveying section. The original is fed by rotating the DP forwarding pulley and the DP feed roller.

[Components parts]

1. DP forwarding pulley
2. DP feed roller
3. DP feed holder
4. DP separation pad
5. Front separation pad
6. Actuator
   (DP original sensor)
7. Original tray
8. Actuator
   (DP timing sensor)

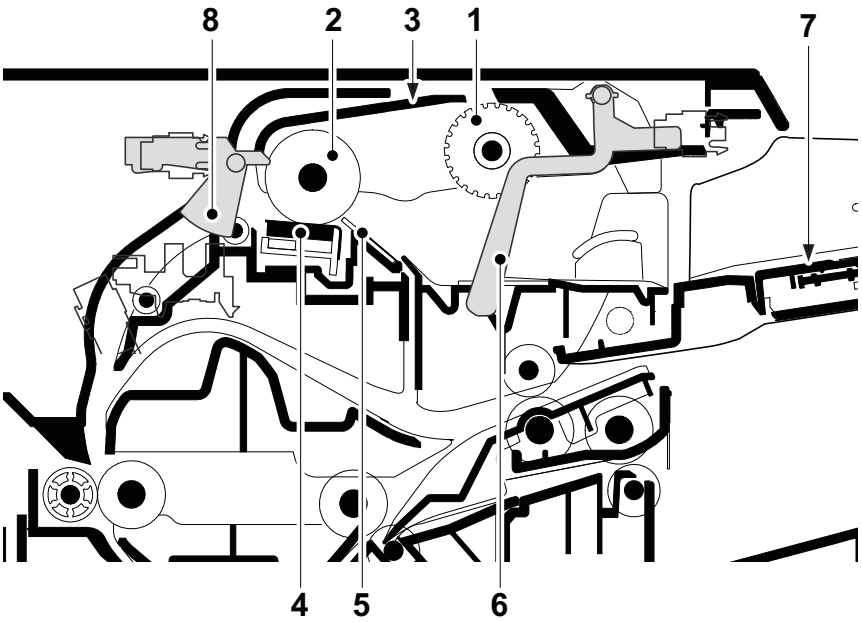


Figure 3-66

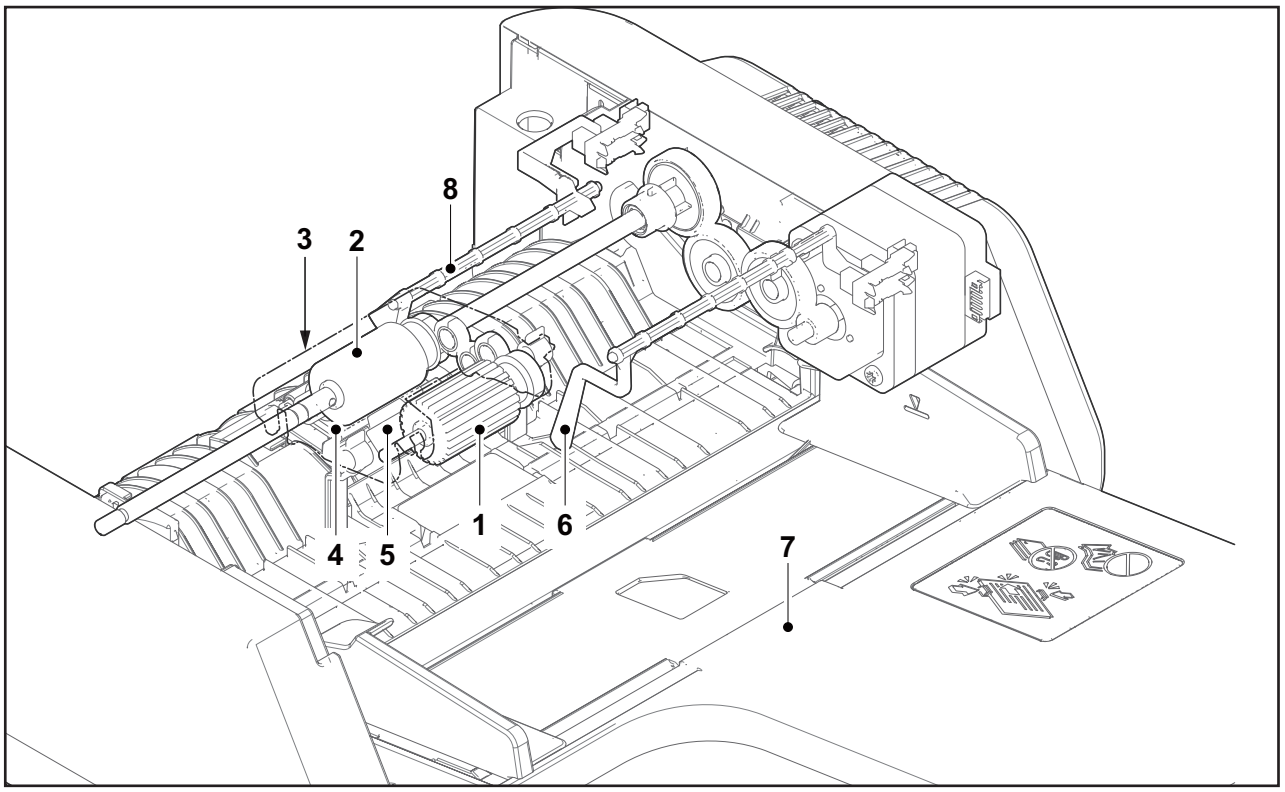


Figure 3-67

[Control block diagram]

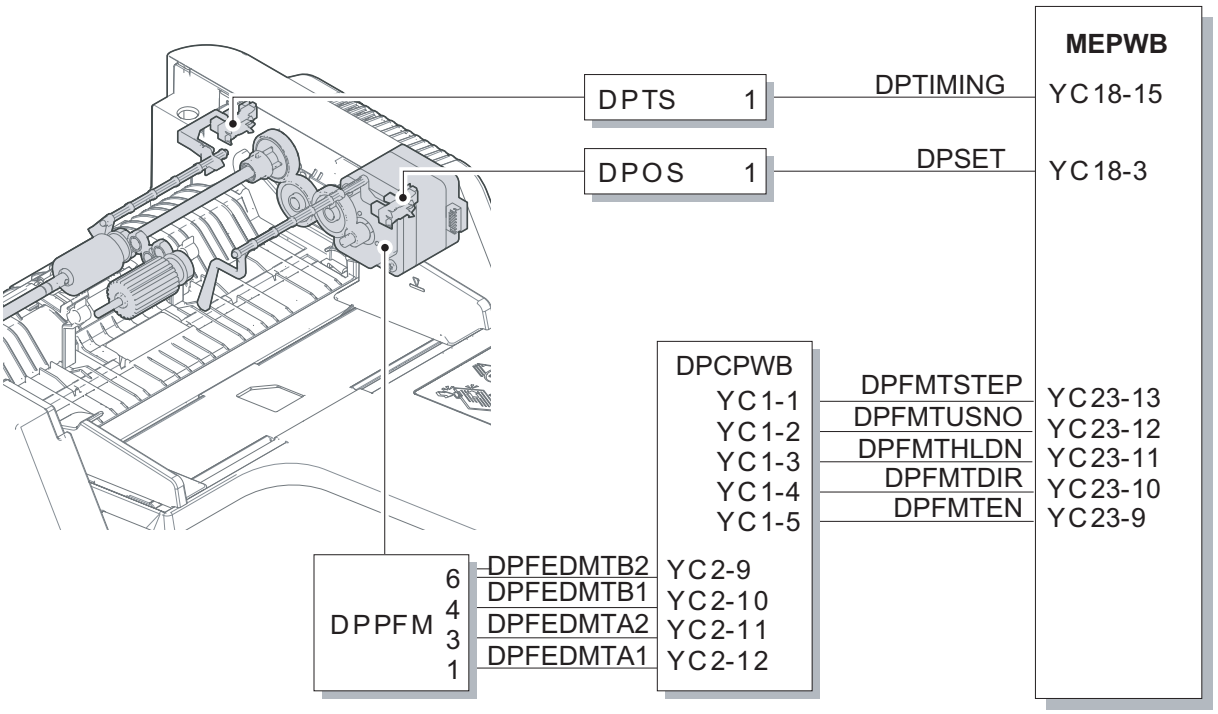


Figure 3-68

(2) Original conveying section and Original switchback and eject section

The original conveying section consists of the parts in the figure. The conveyed original is scanned at the optical section in the main unit when passing the DP slit glass.

The original switchback and eject section consists of the parts in the figure. The original already scanned is ejected to the original eject table by the eject roller. When scanning the original in the duplex switchback mode, the original is conveyed to the switchback tray once and then re-conveyed to the original conveying section by the switchback roller.

[Components parts]

1. Actuator (DP registration sensor)
2. DP registration roller
3. DP registration pulley
4. Scanner guide
5. DP slit glass
6. DP conveying roller
7. DP conveying pulley
8. Feedshift guide
9. Switchback roller
10. Retard pulley
11. DP eject roller
12. DP eject pulley
13. Switchback guide
14. Eject tray

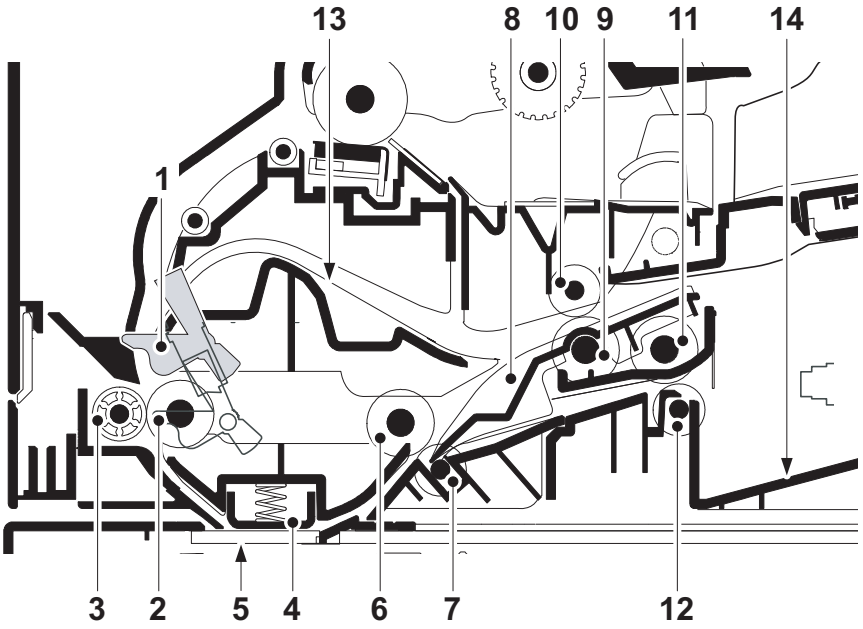


Figure 3-69

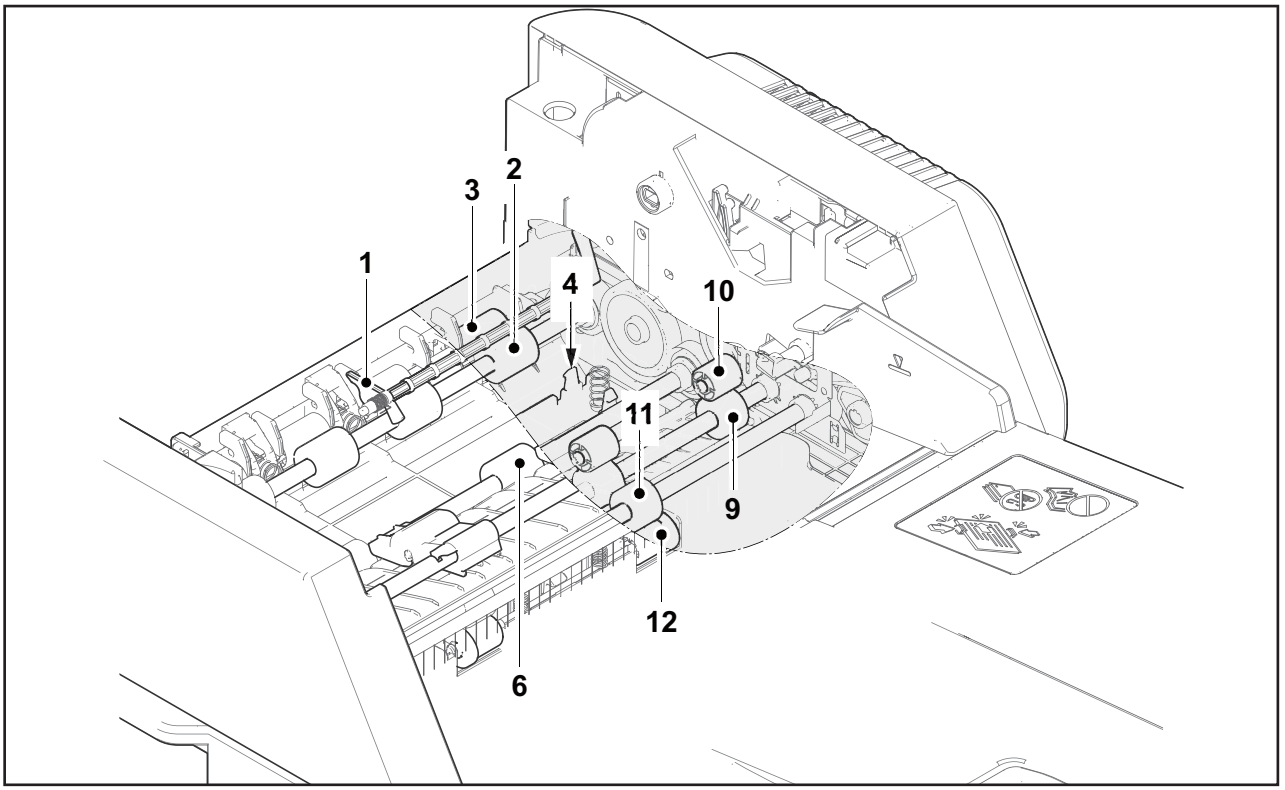


Figure 3-70

[Control block diagram]

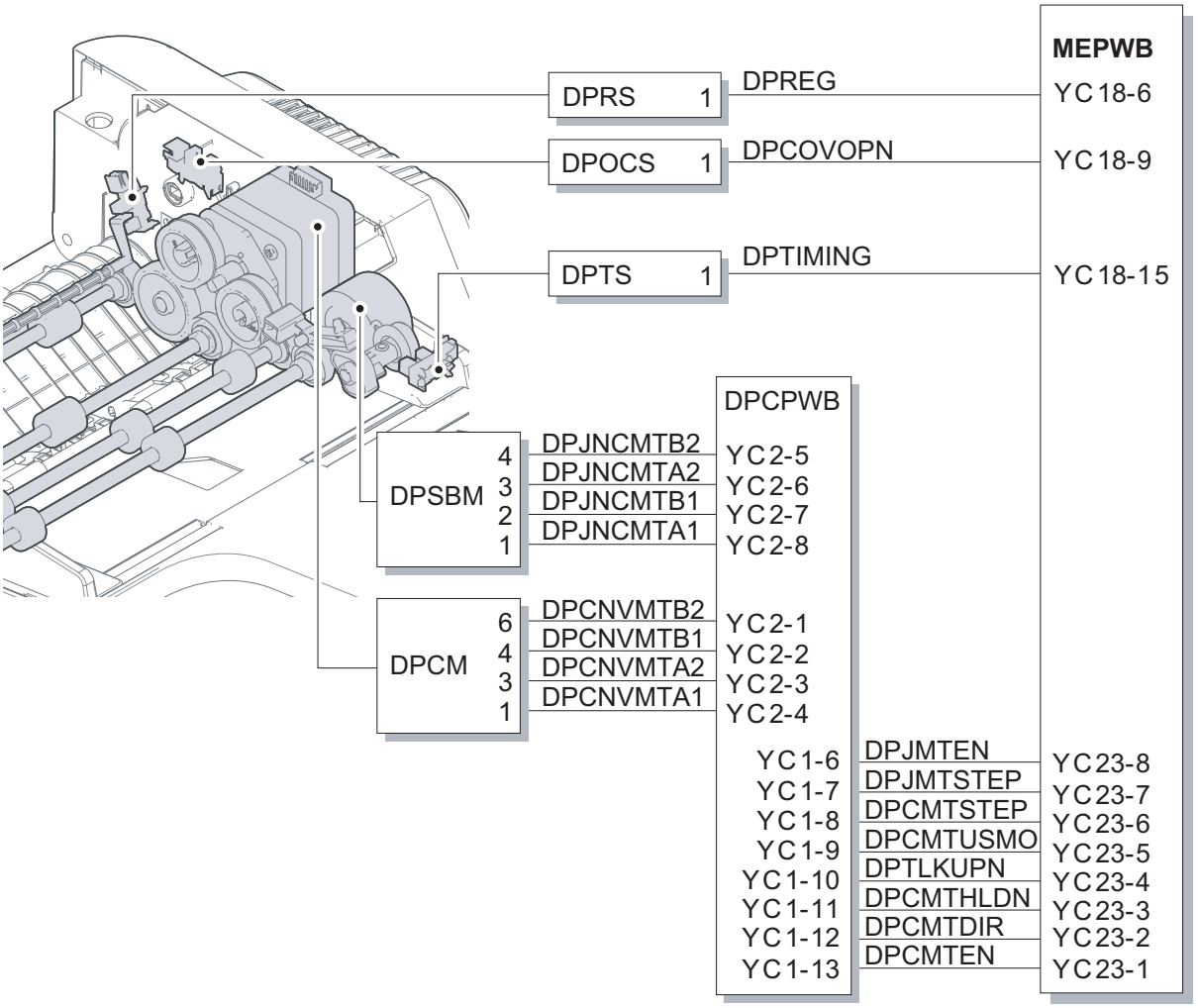


Figure 3-71

3-12 Optional paper feeder

(1) Paper feed section

The paper feeder is a mechanism that feeds paper from its cassette to the main unit. The cassette can load 500 sheets of plain paper (80g/m2), and the paper is fed by the rotation of the pickup roller and paper feed roller. The retard roller prevents the paper from multi-feeding by the effect of the torque limiter.

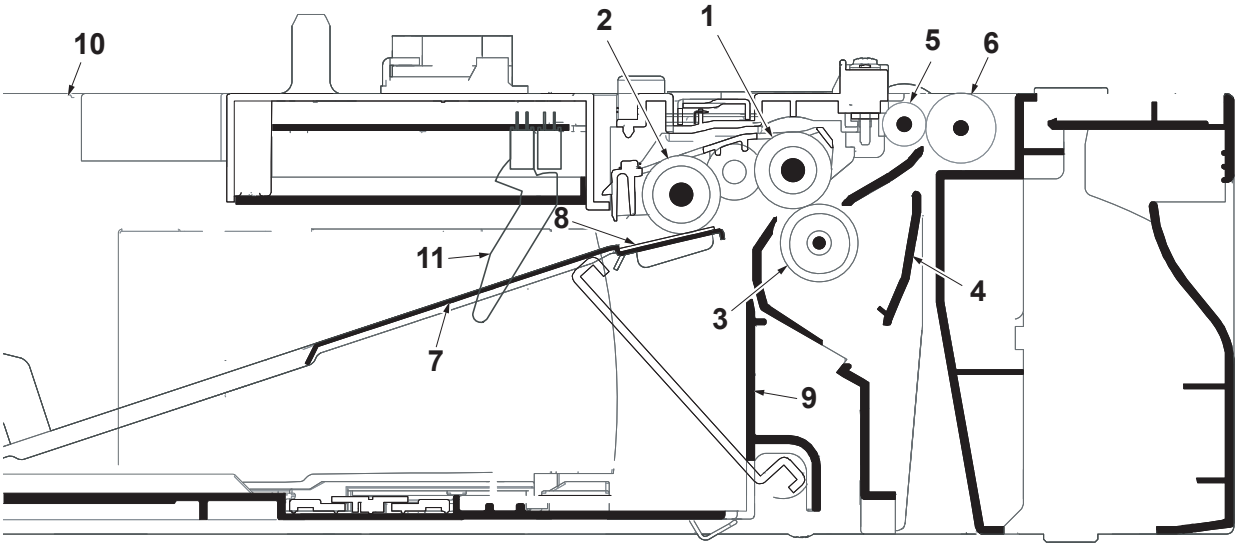


Figure 3-72

1. Paper feed roller
2. Pickup roller
3. Retard roller
4. Retard guide
5. Conveying roller
6. Conveying pulley
7. Bottom plate
8. Bottom pad
9. Cassette base
10. Upper cover
11. Actuator
    (PF paper sensor 1, 2)

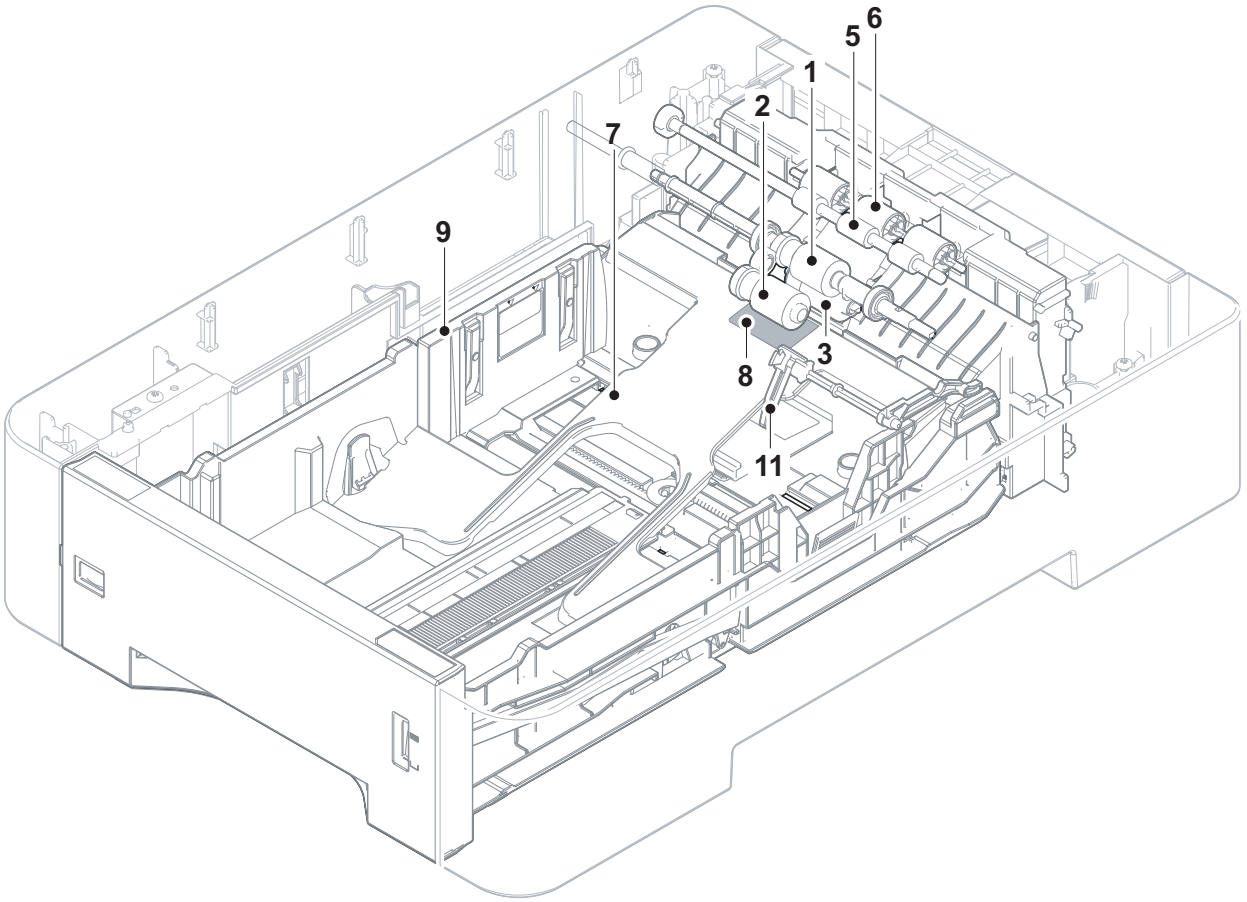


Figure 3-73

[Control block diagram]

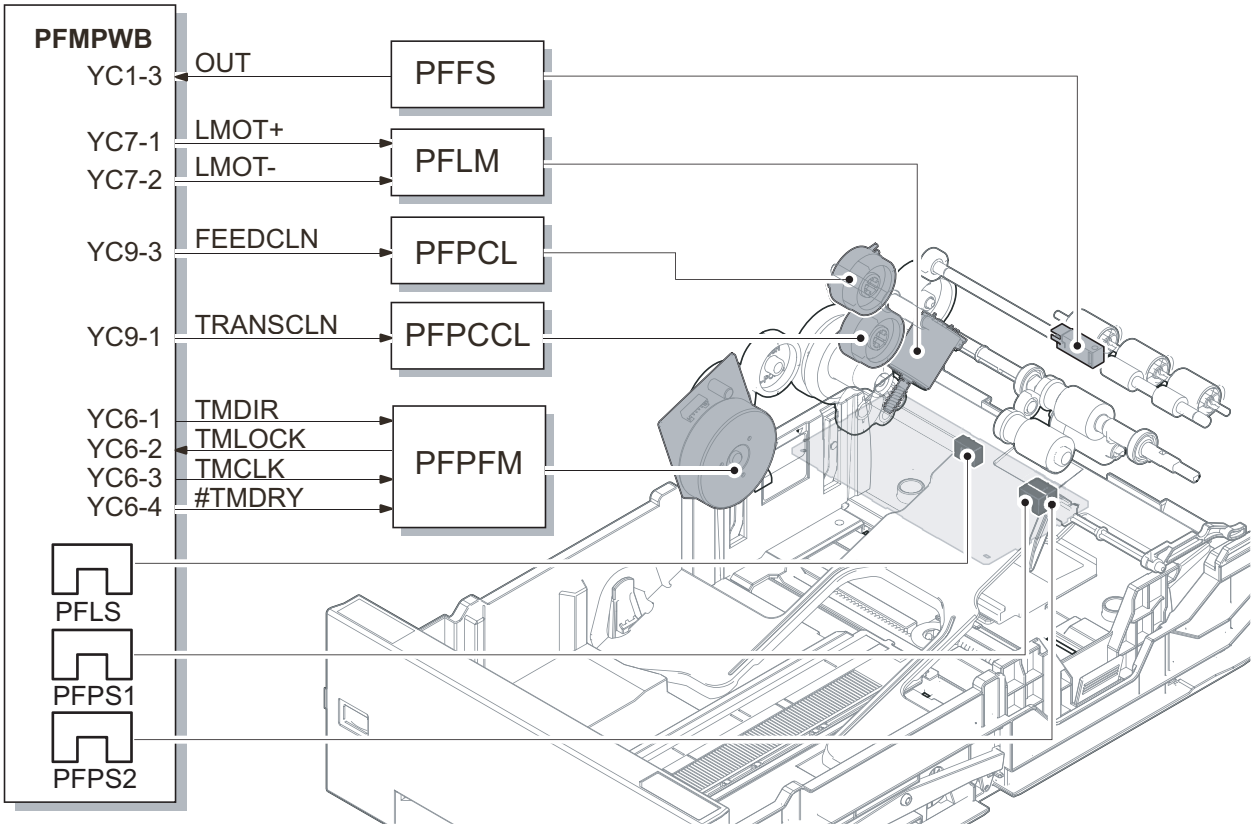


Figure 3-74

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4 Maintenance

4-1 Precautions for maintenance

(1) NOTE

Before disassembling the main unit, press the power switch to turn the power off. Before work, unplug the power plug after confirming the operation panel is turned off.
Do not touch the PWB with finger directly. Take care not damage the PWB.
If ICs are mounted on the PWB, do not touch them by hand or something charged with electrostatic.
Make sure to release the hook before disconnecting the connector with the hook.
Take care not to pinch wires at work.
Use the original screws when reassembling the parts once disassembled.
Refer to the parts list if the kind and size f the screw is uncertain.

(2) Drum

Take care of the following when handling and storing the drum.
When taking out the drum unit from the main unit, take care the drum surface is not exposed to bright lighting like direct sunlight.
Store in the range of ambient temperature of -20 to 40 degree C and ambient humidity of 85% RH or less.
Avoid storing the drum unit where temperature and humidity rapidly change though within the specified range.
Avoid the place where materials deteriorate the drum is floating.
Do not hit the drum surface with something else.
Do not touch the drum surface by finger or via gloves.
Clean the drum surface if touched by hand or oil adheres.

(3) Storage of the toner containers

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

(4) Screening of the toner container

Look at the screening film on the brand protection seal affixed to the toner container through the windows of the validation viewer.
Look at the screening film through two windows to check the genuineness.

A black-colored band when seen through the the anti-counterfeit film portion left side window (● mark).
A shiny or gold-colored band when seen through the anti-counterfeit film portion right side window (☼ mark).

When seen as the above, it is genuine. Otherwise (e.g. both seen in gold), it is a counterfeit.

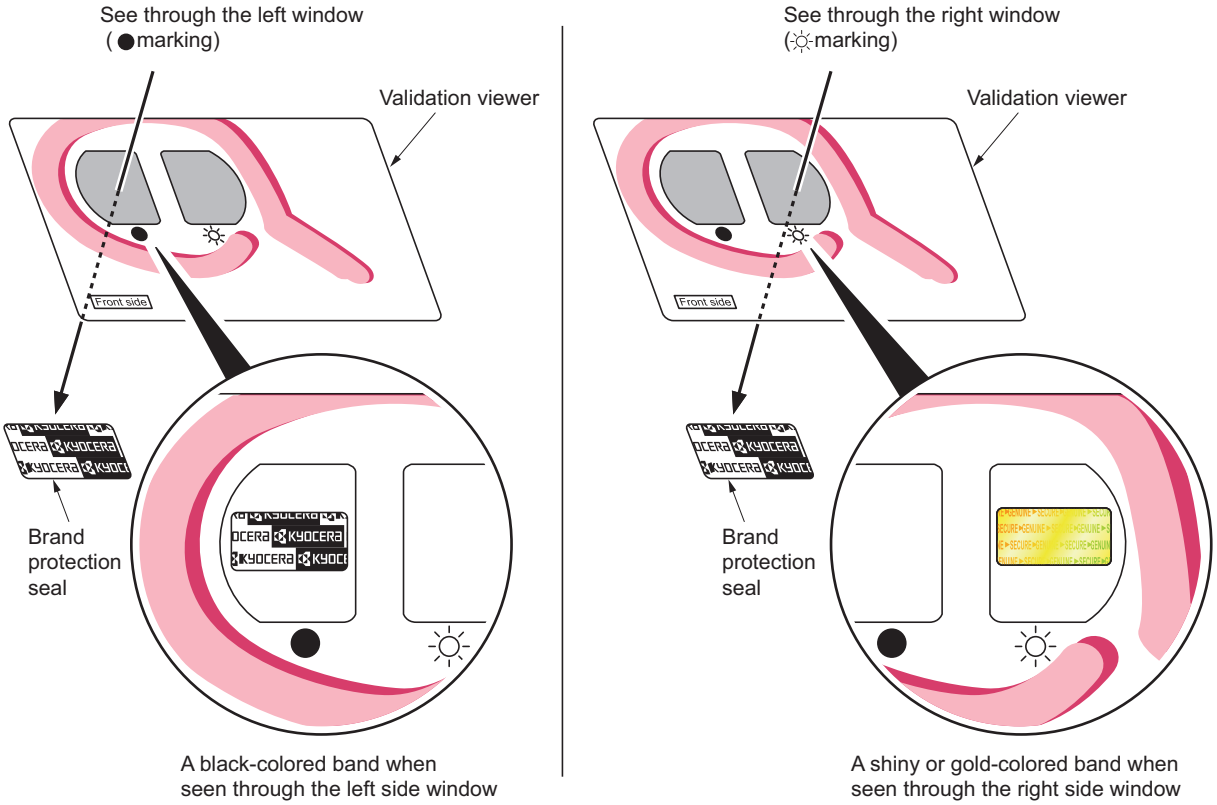


Figure 4-1

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

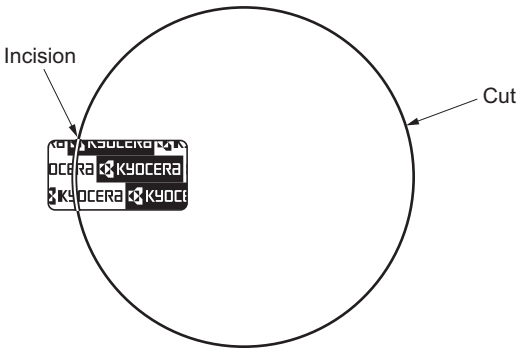


Figure 4-2

4-2 Maintenance parts

(1) Maintenance Kits

30 ppm model
120V

Maintenance		Quantity	Part No.	Alternate part number
Name used in service manual	**Name used in parts list**			
MK-5142	MK-5142/MAINTENANCE KIT	1	1702NR7US0	072NR7US
(200.000 images)				
Drum unit	DK-5140	4		
Developer unit (K)	DV-5140 (K)	1		
Developer unit (Y)	DV-5140 (Y)	1		
Developer unit (M)	DV-5140 (M)	1		
Developer unit (C)	DV-5140 (C)	1		
Primary transfer unit	TR-5140	1		
Secondary transfer roller unit	PARTS ROLLER TRANSFER SP	1		
Fuser unit	FK-5142	1		
Paper feed roller unit	PARTS HOLDER FEED ASSY SP	1		
Retard roller	PARTS RETARD ASSY SP	1		

230/ 240V

Maintenance		Quantity	Part No.	Alternate part number
Name used in service manual	**Name used in parts list**			
MK-5140	MK-5140/MAINTENANCE KIT	1	1702NS8NL0	072NS8NL
MK-5144	MK-5144/MAINTENANCE KIT		1702NR8AS0	072NR8AS
(200.000 images)				
Drum unit	DK-5140	4		
Developer unit (K)	DV-5140 (K)	1		
Developer unit (Y)	DV-5140 (Y)	1		
Developer unit (M)	DV-5140 (M)	1		
Developer unit (C)	DV-5140 (C)	1		
Primary transfer unit	TR-5140	1		
Secondary transfer roller unit	PARTS ROLLER TRANSFER SP	1		
Fuser unit	FK-5140	1		
Paper feed roller unit	PARTS HOLDER FEED ASSY SP	1		
Retard roller	PARTS RETARD ASSY SP	1		

35 ppm model
120V

Maintenance		Quantity	Part No.	Alternate part number
Name used in service manual	**Name used in parts list**			
MK-5157 (200.000 images)	MK-5157/MAINTENANCE KIT	1	1702NS7US1	072NS7U1
Drum unit	DK-5140	4		
Developer unit (K)	DV-5150 (K)	1		
Developer unit (Y)	DV-5150 (Y)	1		
Developer unit (M)	DV-5150 (M)	1		
Developer unit (C)	DV-5150 (C)	1		
Primary transfer unit	TR-5140	1		
Secondary transfer roller unit	PARTS ROLLER TRANSFER SP	1		
Fuser unit	FK-5152	1		
Paper feed roller unit	PARTS HOLDER FEED ASSY SP	1		
Retard roller	PARTS RETARD ASSY SP	1		

230/ 240V

Maintenance		Quantity	Part No.	Alternate part number
Name used in service manual	**Name used in parts list**			
MK-5155	MK-5155/MAINTENANCE KIT	1	1702NS8NL1	072NS8N1
MK-5159	MK-5159/MAINTENANCE KIT		1702NR8AS1	072NR8A1
(200.000 images)				
Drum unit	DK-5140	4		
Developer unit (K)	DV-5150 (K)	1		
Developer unit (Y)	DV-5150 (Y)	1		
Developer unit (M)	DV-5150 (M)	1		
Developer unit (C)	DV-5150 (C)	1		
Primary transfer unit	TR-5140	1		
Secondary transfer roller unit	PARTS ROLLER TRANSFER SP	1		
Fuser unit	FK-5150	1		
Paper feed roller unit	PARTS HOLDER FEED ASSY SP	1		
Retard roller	PARTS RETARD ASSY SP	1		

(2) Maintenance kit (DP)

Maintenance		Quantity	Part No.	Alternate part number
Name used in service manual	**Name used in parts list**			
MK-3140 (200.000 images)	MK-3140/MAINTENANCE KIT	1	1702P60UN0	072P60UN
DP separation pad	PAD SEPARATION	1		
DP feed roller	PULLEY PAPER FEED ASSY	1		
DP forwarding pulley	PULLEY PICKUP ASSY	1		

(3) Clearing the maintenance kit message

Replace the maintenance kit at every 200,000 images.
The message "Replace MK." appears at the replacement timing.
Reset the counter by executing maintenance mode U251 after replacing the maitenance kit in the procedures below.

4-3 Periodic maintenance procedures

(1) Detaching and reattaching the Primary transfer unit

<Procedure>

1. Pull the lever (a).
2. Lift up the scanner unit (b) and open the inner tray (c).

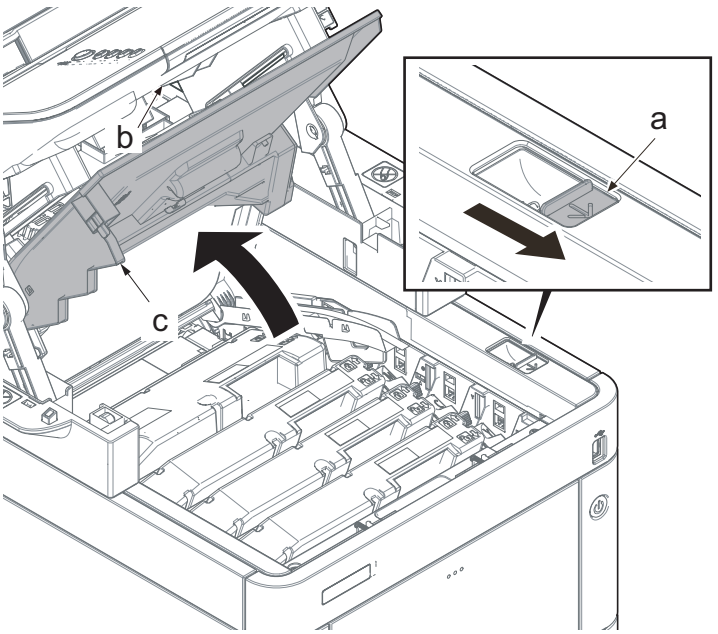


Figure 4-3

3. Rotate the lock lever (a).

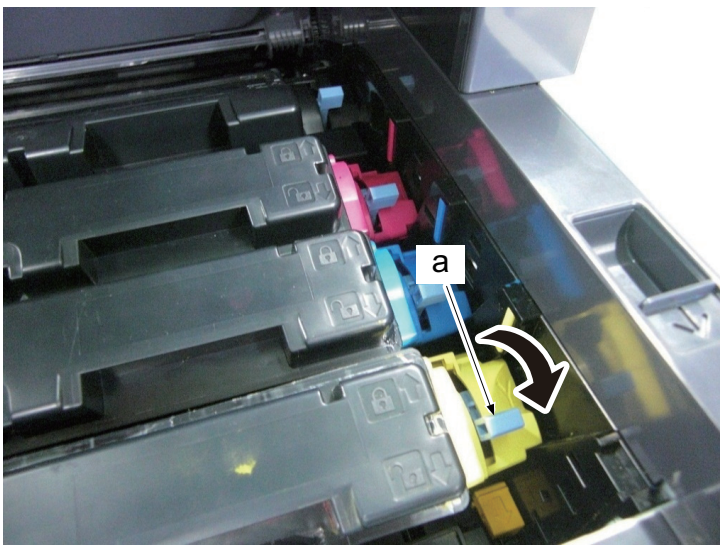


Figure 4-4

4. Detach the toner containers (K, M, C and Y)(a).

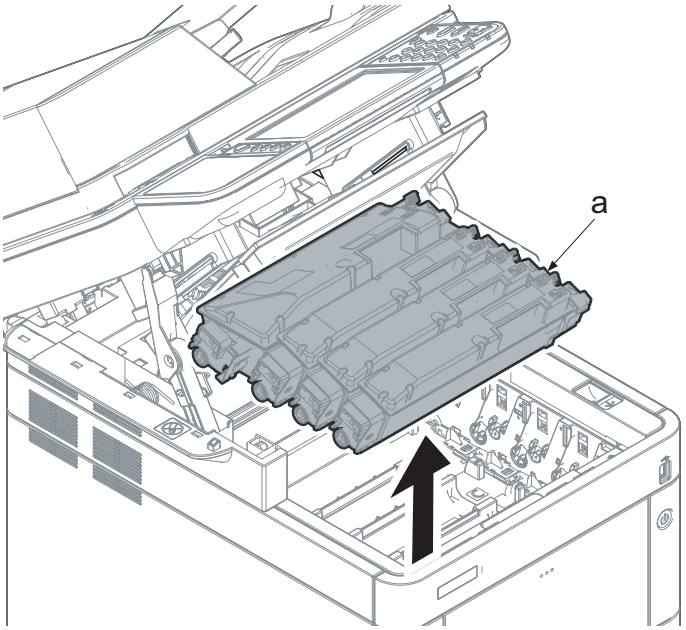


Figure 4-5

*: When detaching the toner container (a), first lift its handle (b) and then pull it out upward.

IMPORTANT

Without releasing the lock lever, do not lift up the toner container forcefully.

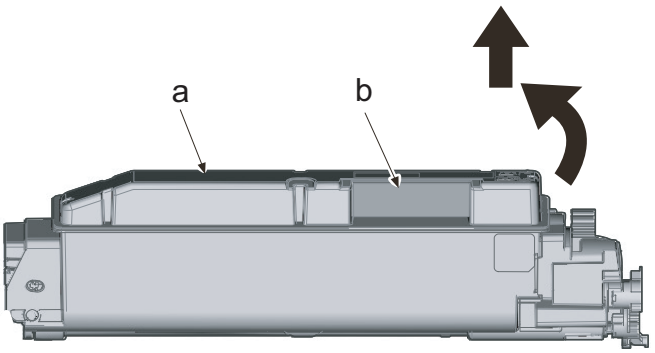


Figure 4-6

5. Pull the right shutter lever (a) in the direction of the arrow.

*: Close the toner feed inlet by pulling this lever.

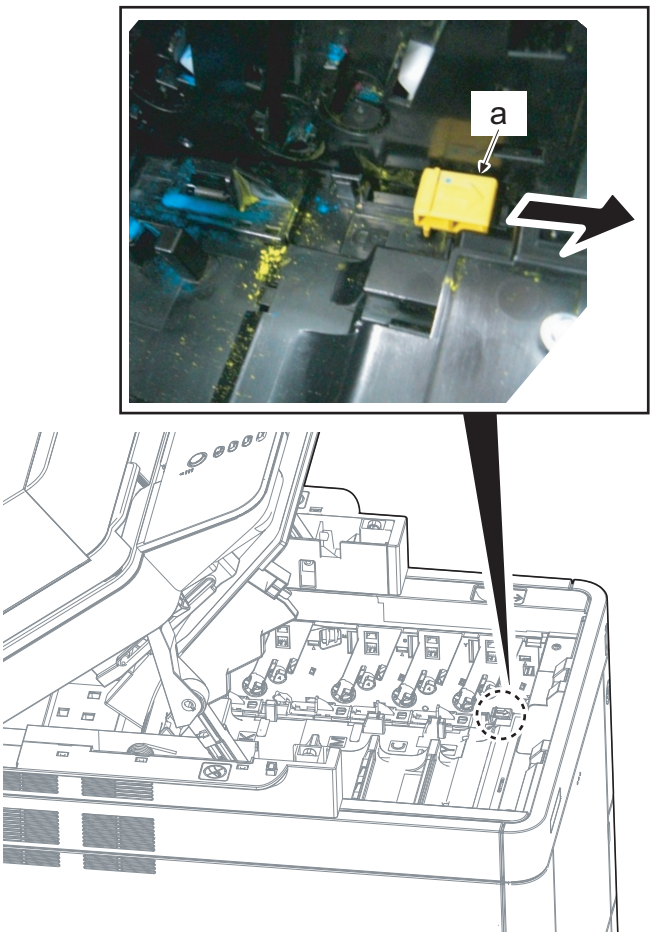


Figure 4-7

6. Remove the screw (a)(M3x12)

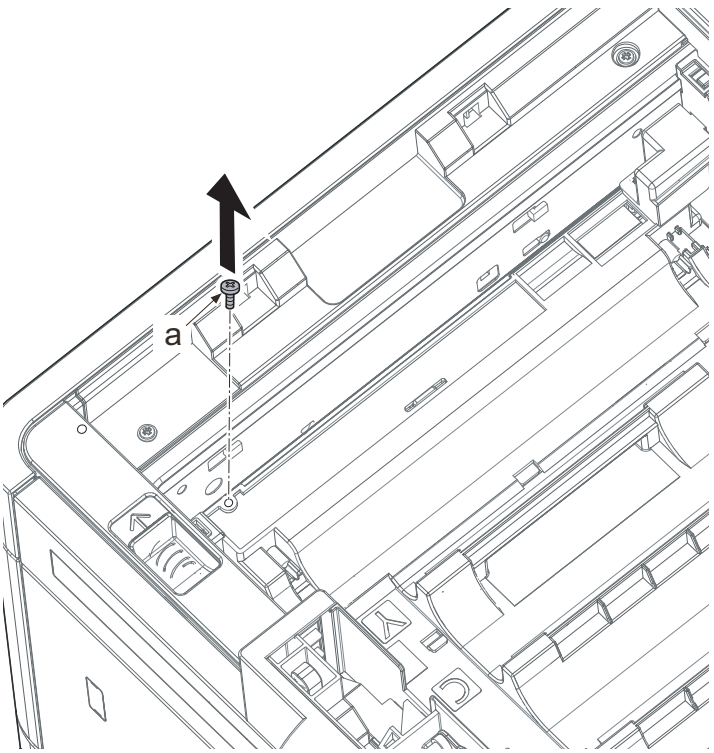


Figure 4-8

7. Remove the screw (a)(M3x12)
8. Remove the lever cover (b).
9. Lift up the drive release lever (c).

*: When raising the lever, the joint of the drive coupling is released.

IMPORTANT
If omitting to attach the lever cover, "Cover open" message is displayed while the tray swithc is not turned on.

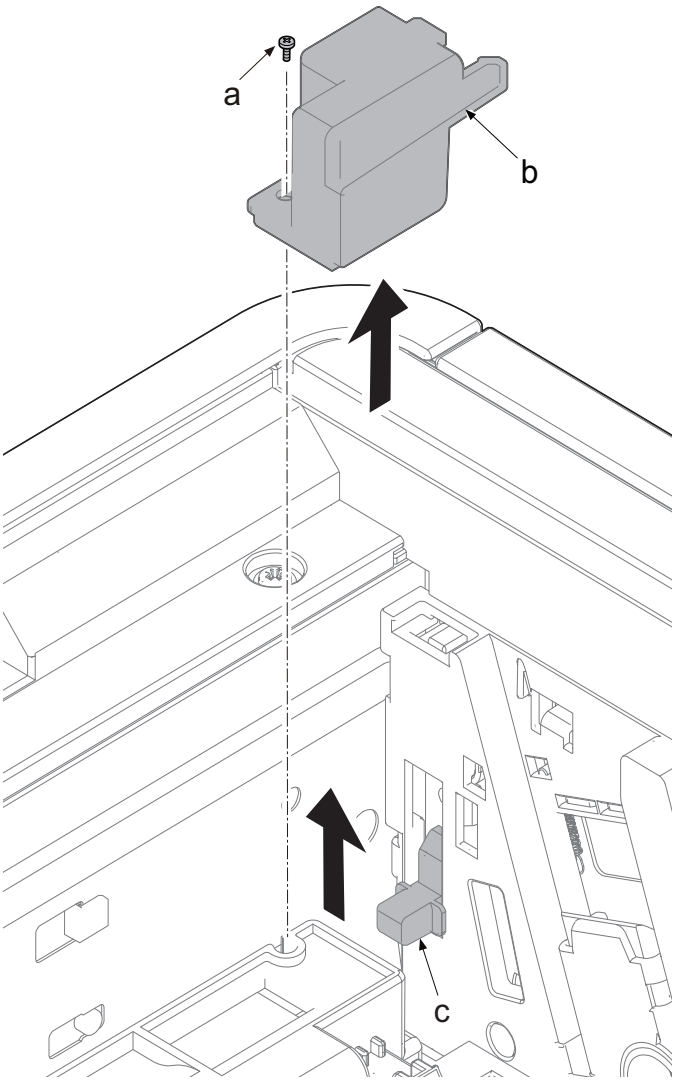


Figure 4-9

10. Hold the handle (a) and detach the primary transfer unit (b).

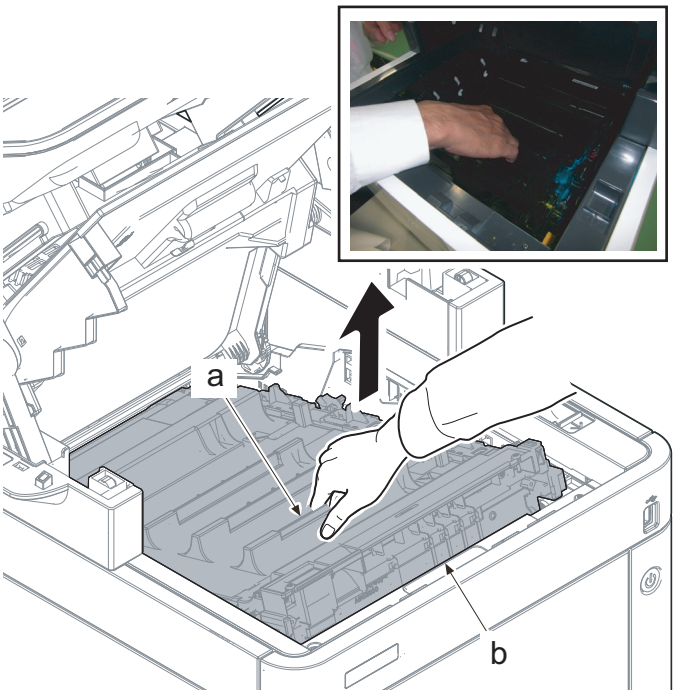


Figure 4-10

*: Hold the handle (b) at the machine front side and lift up the primary transfer unit (a). Then, further lift it up and pull it toward the machine front side to detach.

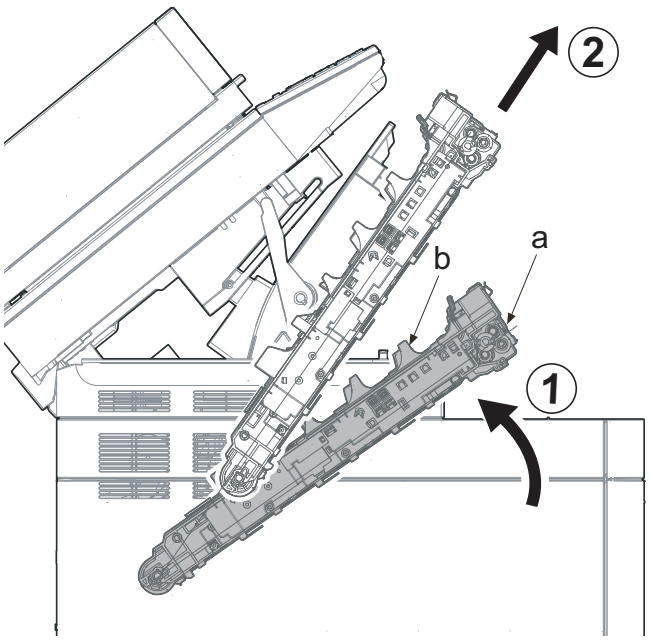


Figure 4-11

*: When removing the primary transfer unit (a) or it is unstable to install it, hold the handle (b) at the machine rear side by the other hand

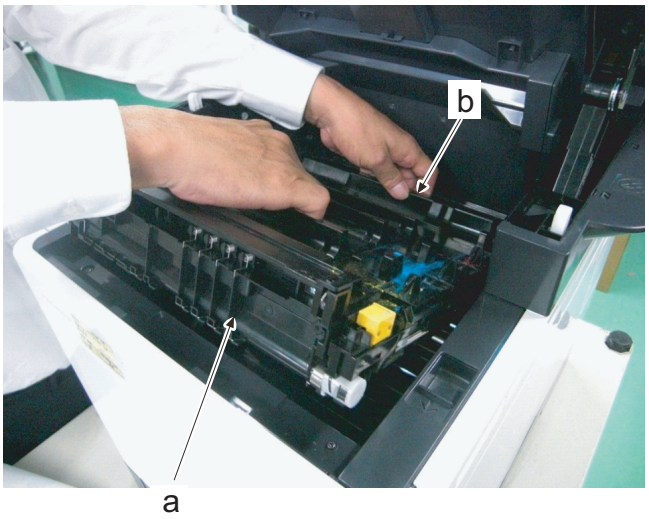


Figure 4-12

IMPORTANT

Do not touch the release lever (b) after detaching the primary transfer unit (a).
This lever (b) is connected with the shutter lever (c) and so they are released together by installing the toner container into the main unit. The operation mistakenly open the toner feed inlet (d).

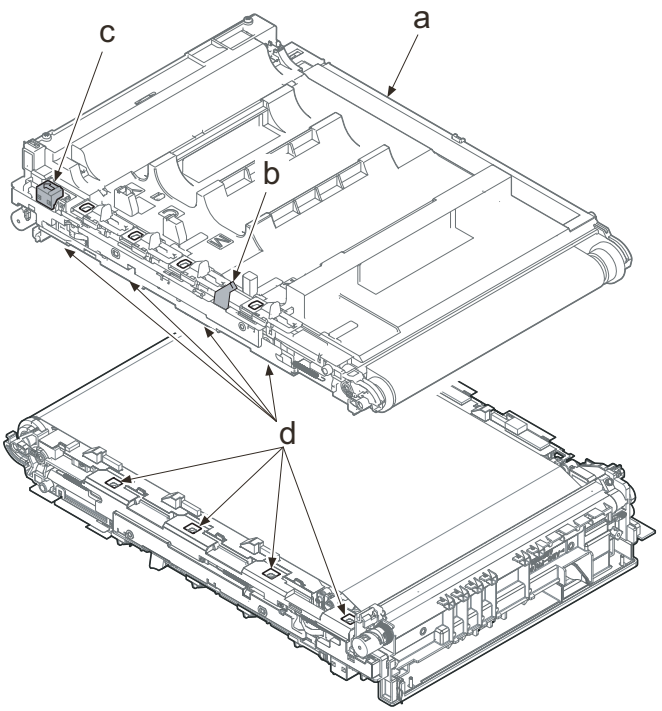


Figure 4-13

(2) Drum section

(2-1) Detaching and reattaching the drum unit

<Procedure>

1. Detach the drum unit (a)(M,C and Y) by pulling it up.
   Lift up the drum unit (K)(b) and pull it toward the machine front side to detach it.

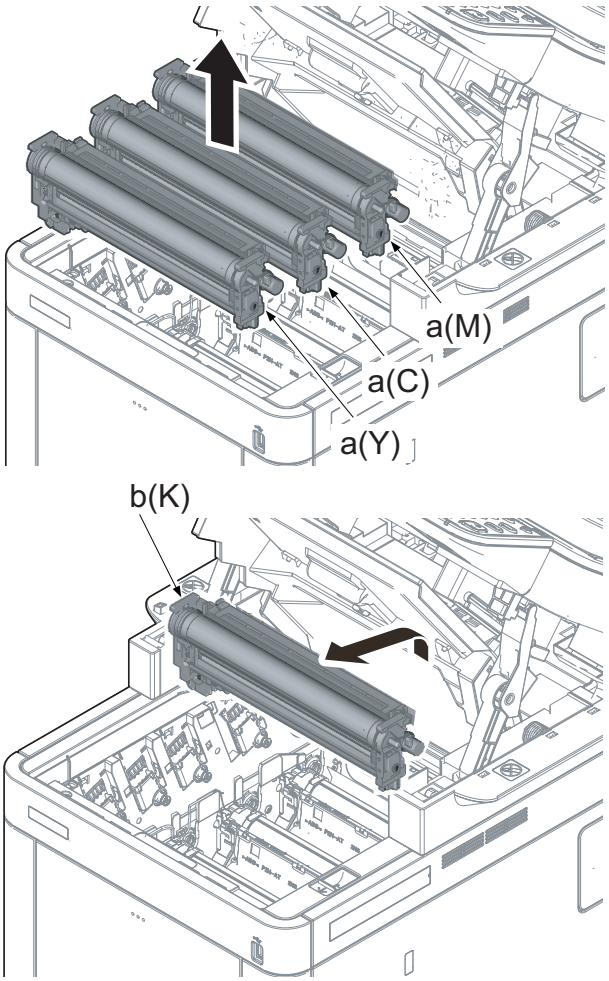


Figure 4-14

*: Hold the handles (b) on both sides when detaching the drum unit (a).

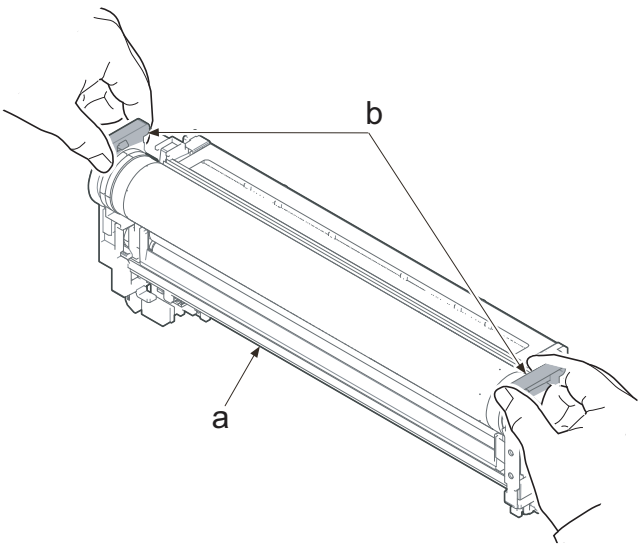


Figure 4-15

*: When attaching the drum unit (K)(a), tilt it toward you to insert the drum shafts (b) along the rails (c) all the way. Then, make it vertical and push into the main unit.

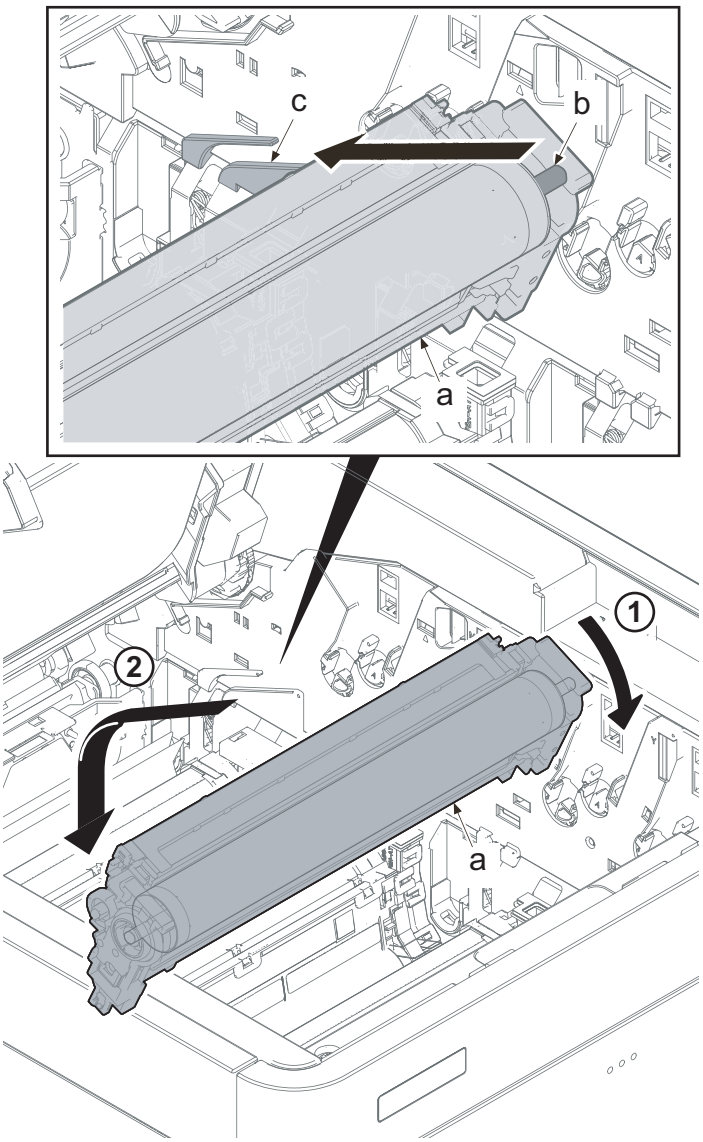


Figure 4-16

(3) Developer section

(3-1) Detaching and reattaching the developer unit

<Procedure>

1. Detach the developer unit (K, M, C and Y)(a).

*: connection portion (b)

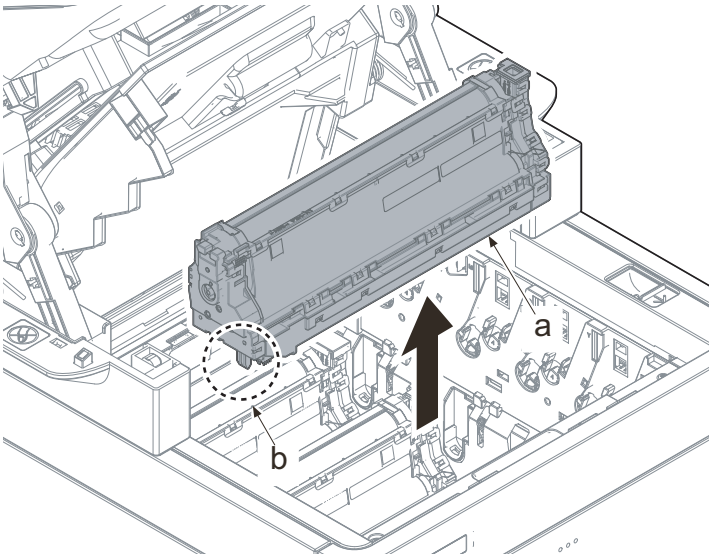


Figure 4-17

*: When detaching the developer unit (a), hold both the left and right handles (b).

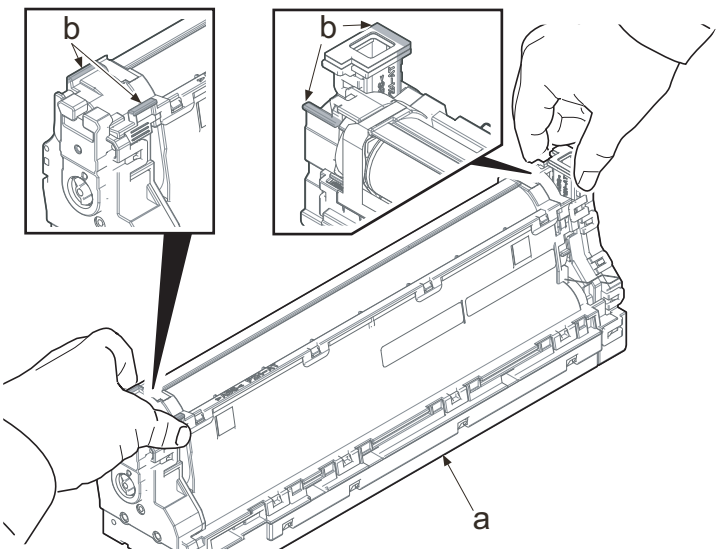


Figure 4-18

*: Make sure not to touch the gears (a) in the drive section where there is grease.

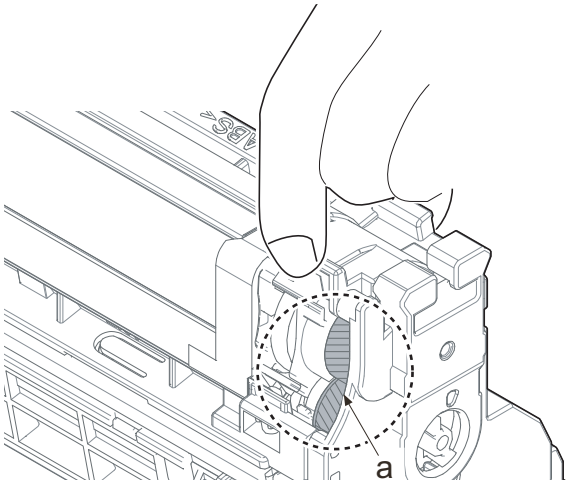


Figure 4-19

2. Detach the developer unit (a)(K, M, C and Y).
3. Reattach the parts once removed.

IMPORTANT

When attaching the developer unit (a), match the colors between the back side (b) of the developer unit and the right side (c) of the main unit.

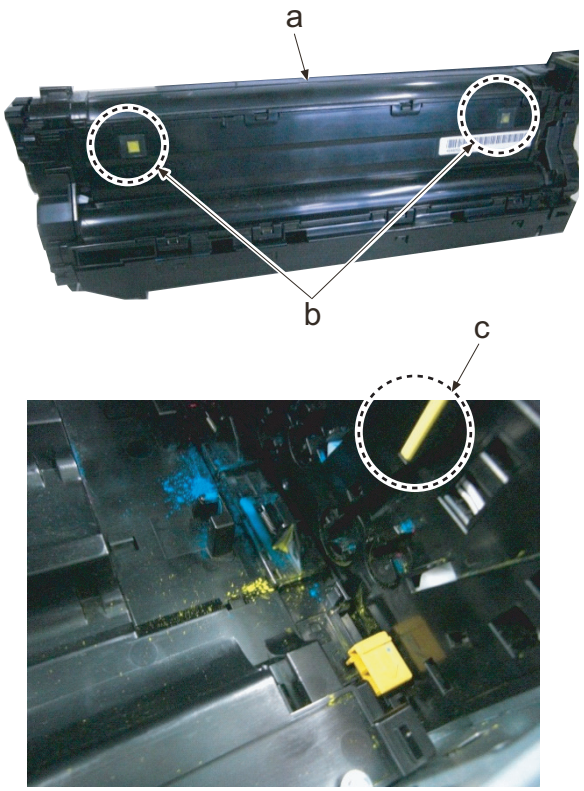


Figure 4-20

*: Remove the cap (b) when attaching the new developer unit (a).

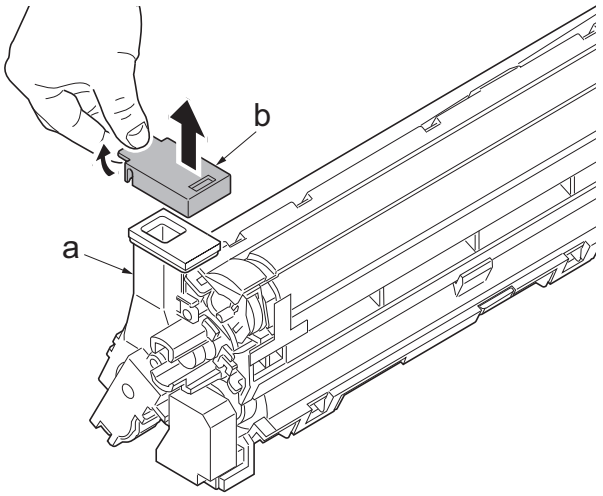


Figure 4-21

4. Attach the new drum unit (K,M,C,Y).
5. Reattach the parts once removed.
6. Attach the new primary transfer unit.
7. Reattach the parts once removed.
8. Detach the toner containers (K, M, C and Y).
9. Close the inner tray.

(4) Fuser section

(4-1) Detaching and reattaching the fuser unit

<Procedure>

1. Open the rear cover (a).

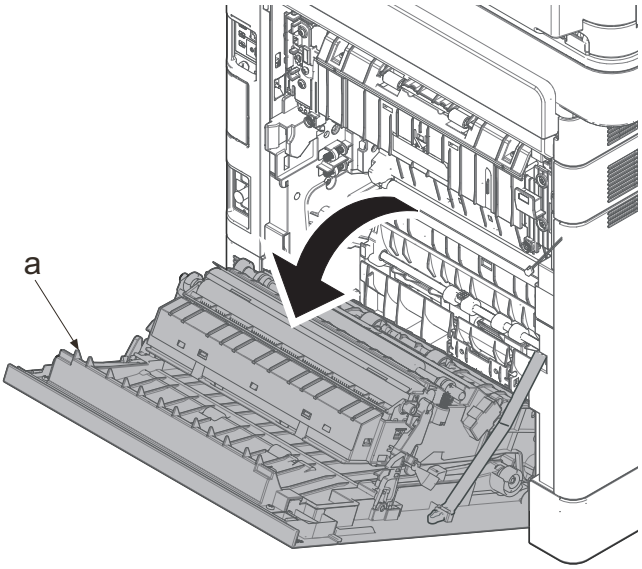


Figure 4-22

2. Pull the lower part of the opening toward the machine rear side and release the hook (a).
3. Remove the interface cover (b).

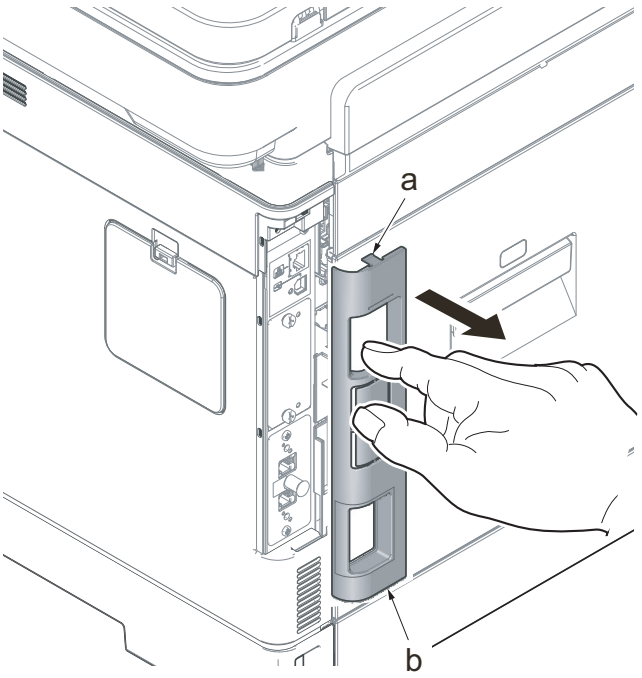


Figure 4-23

4. Remove the screw (a)(M3x8).
5. Remove the fuser wire cover (b).

*: First insert the hook (c) into the opening (d) and secure the screw.

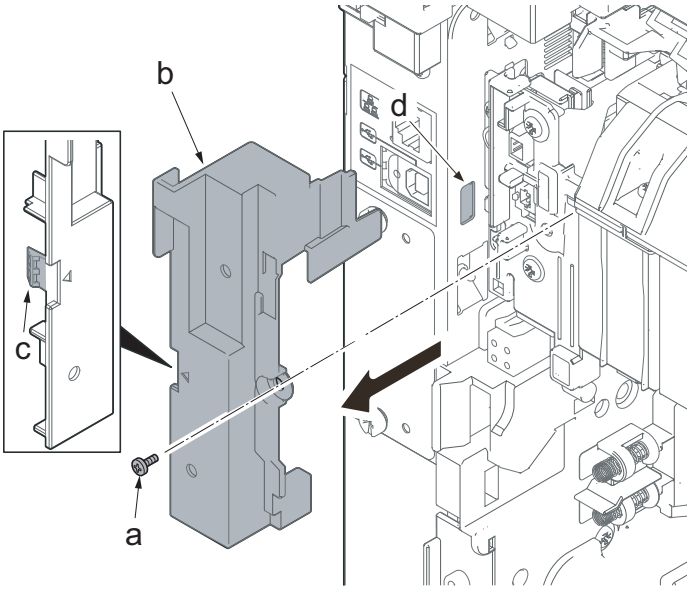


Figure 4-24

6. Disconnect two connectors.

*: Disconnect each connector of the exit PWB (a) and the fuser heater (b). Do not disconnect two connectors (c) of the fuser unit.

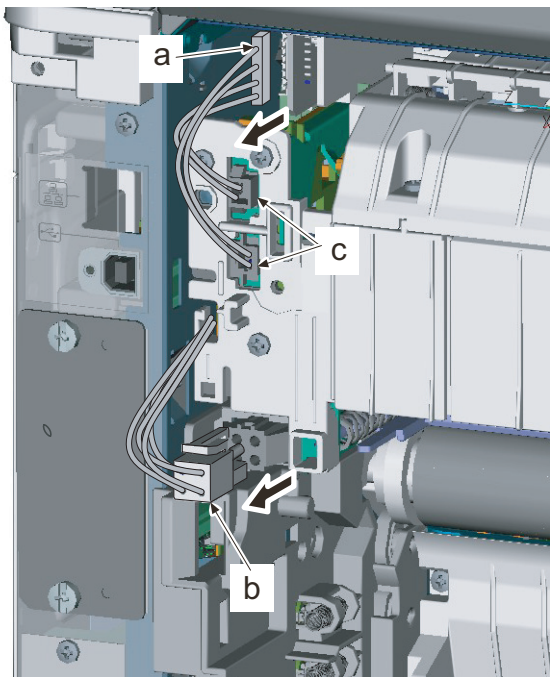


Figure 4-25

7. Remove two screws (a) (M3x8: silver) screws that are secured at the position with the triangle engraving.
8. Detach the fuser unit (b).

9. Attach the new fuser unit.
10. Reattach the parts once removed.

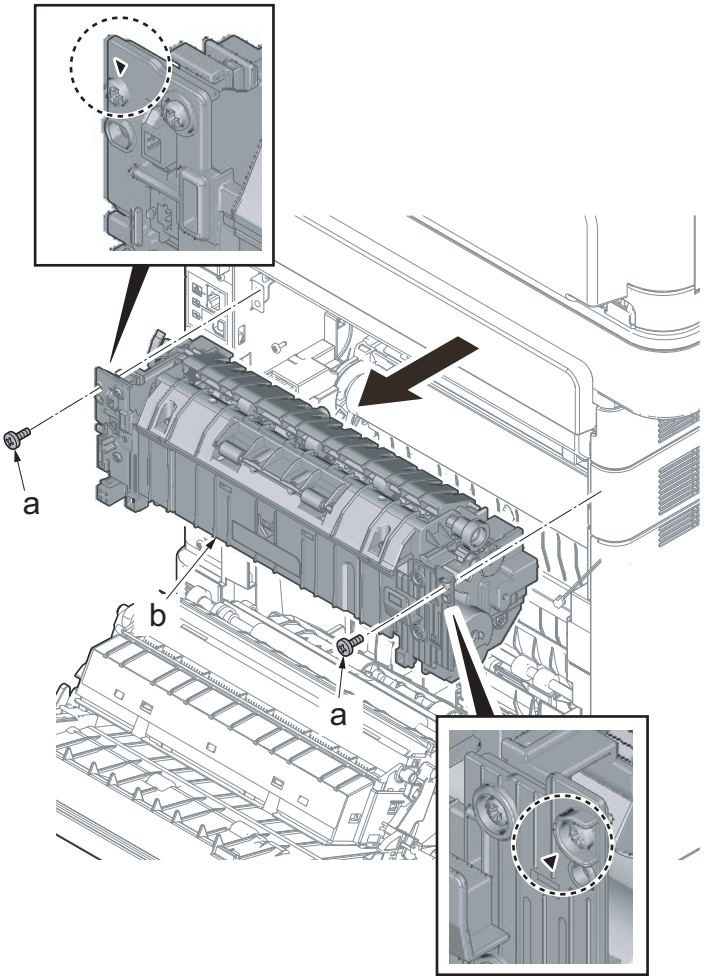


Figure 4-26

IMPORTANT
Take care not to touch the connector of the pressure release sensor (b) when fitting the fuser unit (a).
A service call error may appear if the sensor is disconnected.

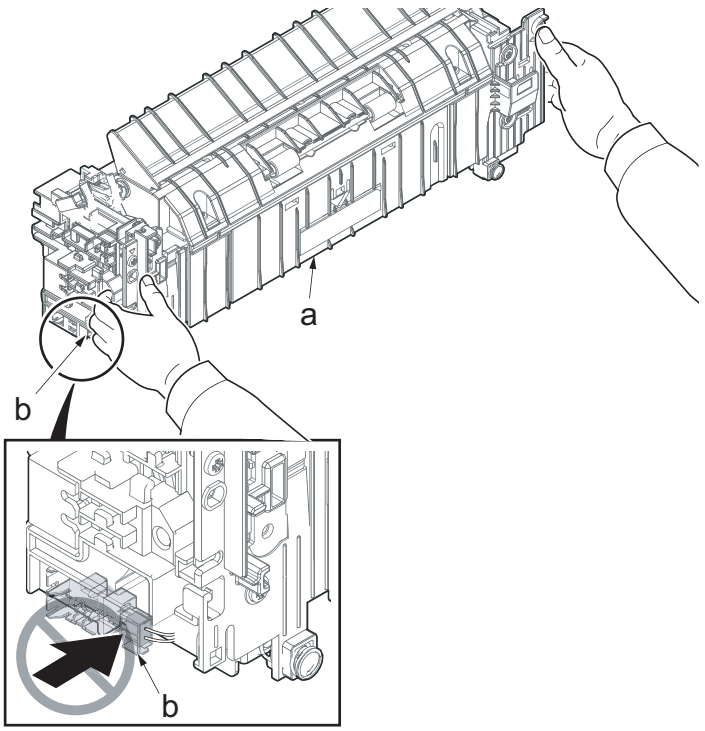


Figure 4-27

When attaching the fuser unit, first secure the screws and connect the connectors. For prevention of damage from static-electricity

Before reattaching the fuser wire cover, put the wire (a) in between the ribs (b) so that it is not caught by the fuser wire cover.

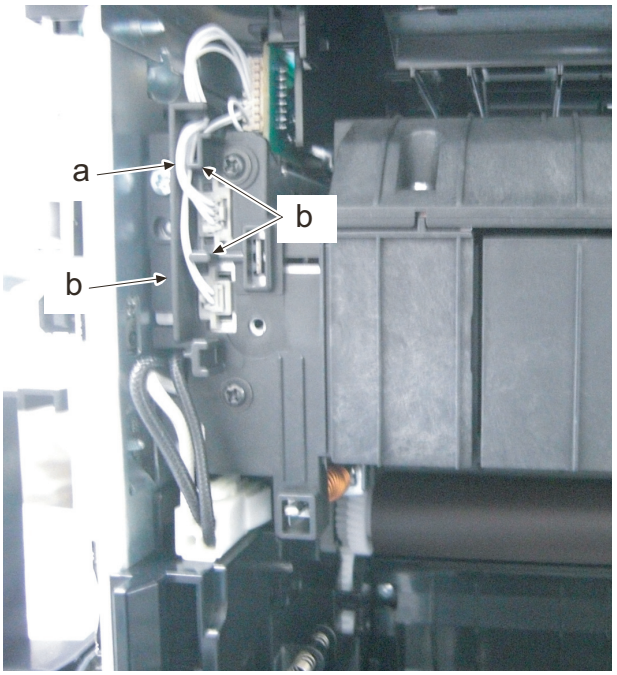


Figure 4-28

(5) Detaching and reattaching the Retard roller

<Procedure>

1. Pull out the cassette (a).

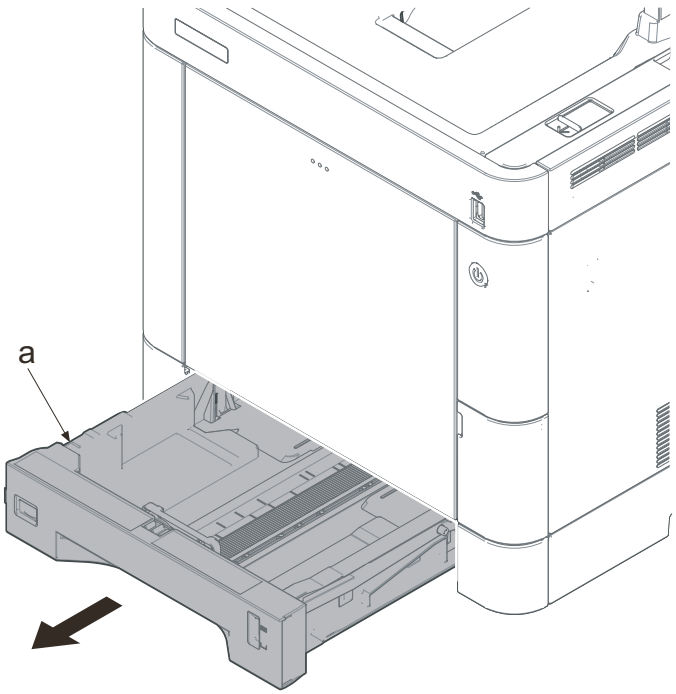


Figure 4-29

2. Pull the conveying stopper (a) toward the machine right side and rotate it by using a flat-blade screwdriver (b).
3. Release the hook (c) of the conveying stopper (a) from the rib (d) and pull the conveying stopper (a) out.

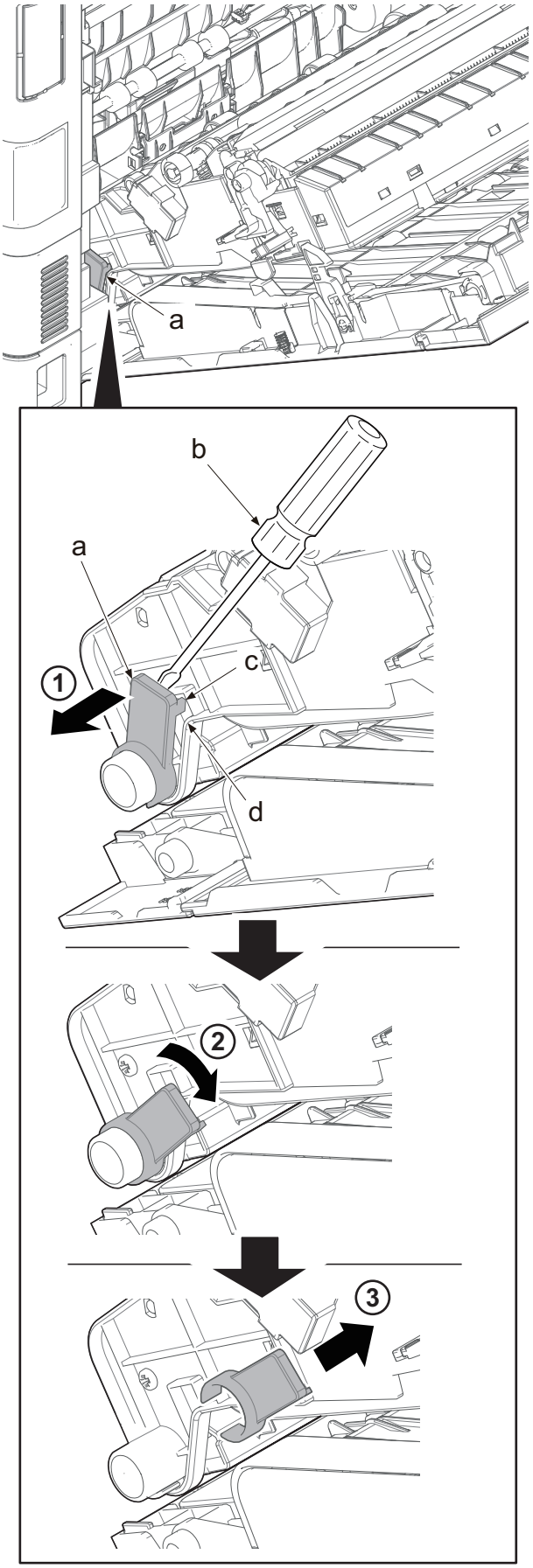


Figure 4-30

4. Slide the duplex paper conveying unit (a) toward the machine right side.
5. Release the fulcrum part of the duplex paper conveying unit (a) at the machine left side, and pull the unit out toward the machine rear side.

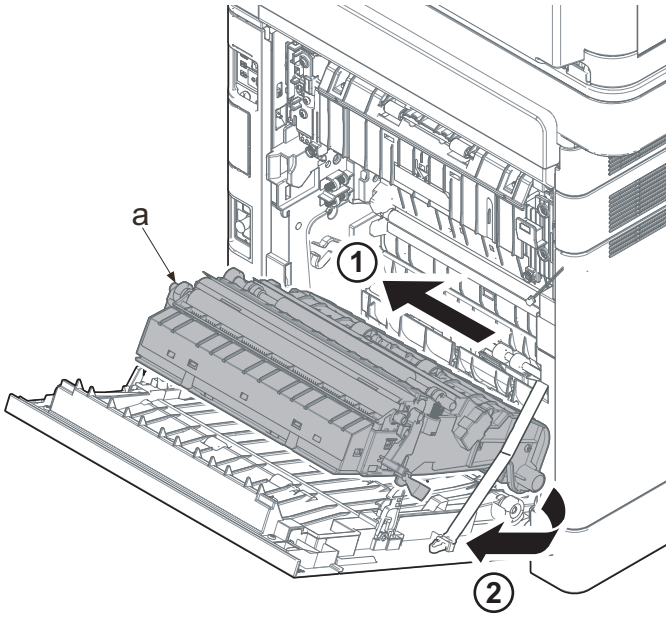


Figure 4-31

6. Release two hooks (a).
7. Remove the retard cover (b) toward you.
*: Place the flat-blade screwdriver (c) into the center and remove it by bending it towards the machine rear side.
8. Remove the retard roller unit (d).

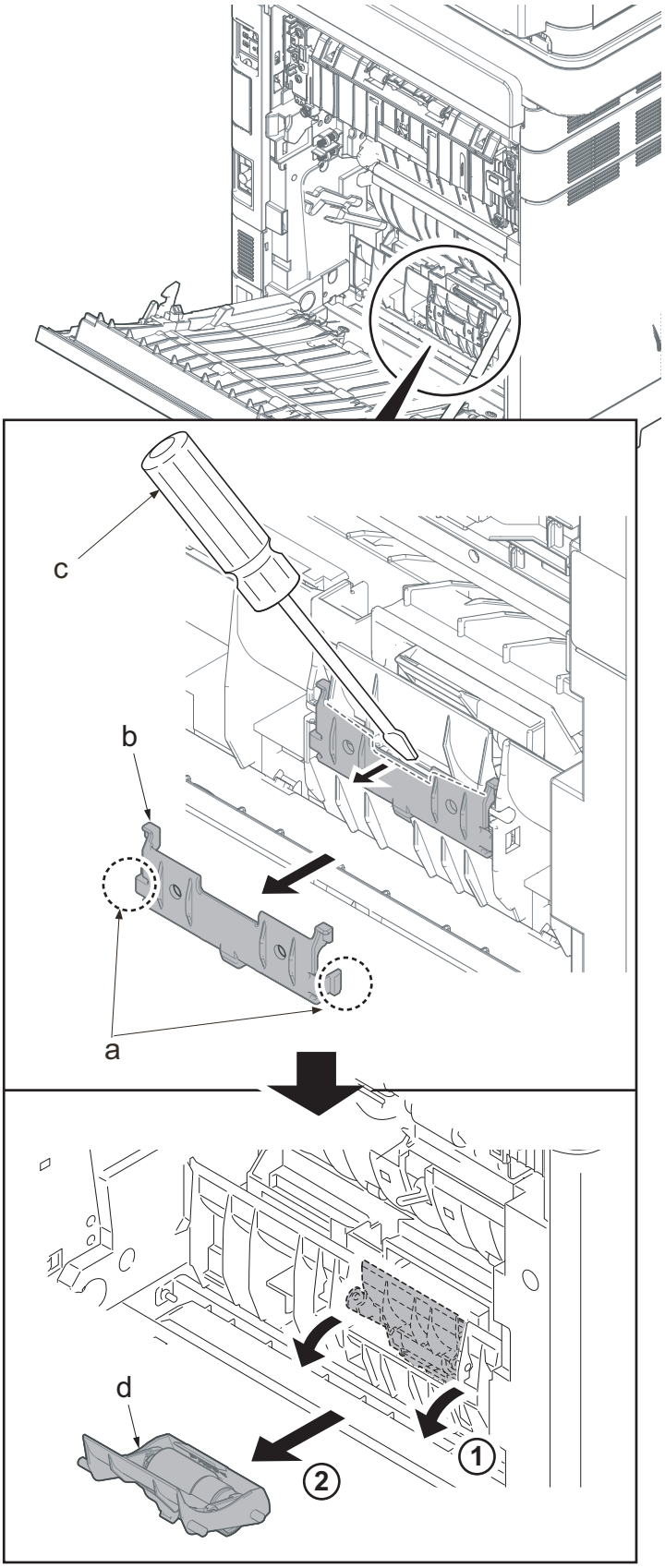


Figure 4-32

IMPORTANT
Install the cassette first when attaching the retard roller unit. The retard pressure release lever must be located at the machine front side from the retard roller unit to apply appropriate pressure.

When reattaching the retard cover (a), fasten two upper hooks (b) and then push the retard cover to fasten two lower hooks (c).
Check if four hooks (b and c) are surely fastened after reattaching it.

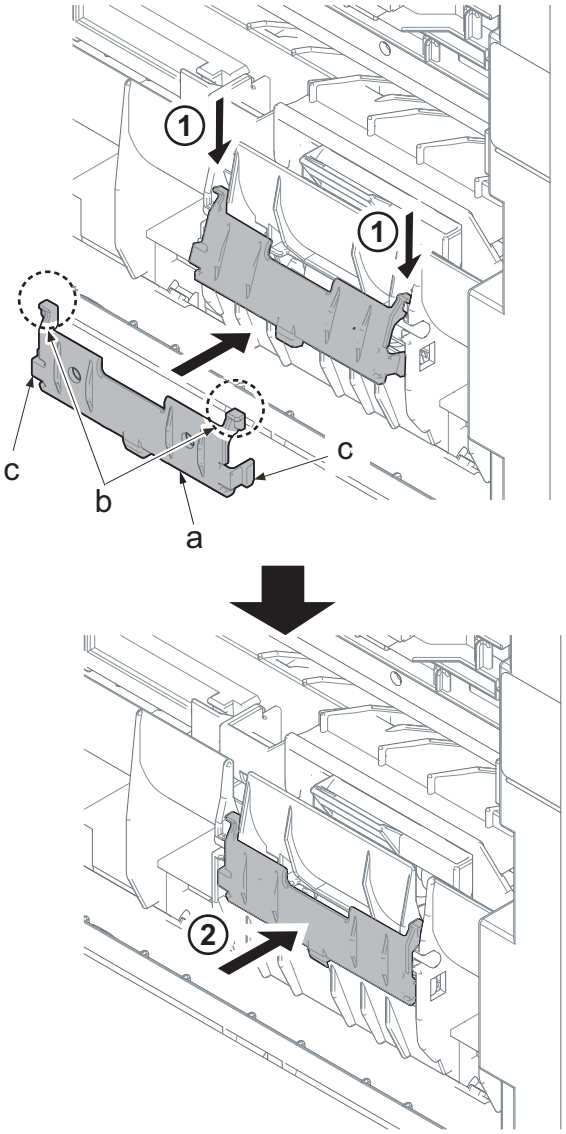


Figure 4-33

(6) Detaching and reattaching the paper feed roller unit

<Procedure>

1. Push the machine right side hook (a) outward using a flat-blade screwdriver (b).

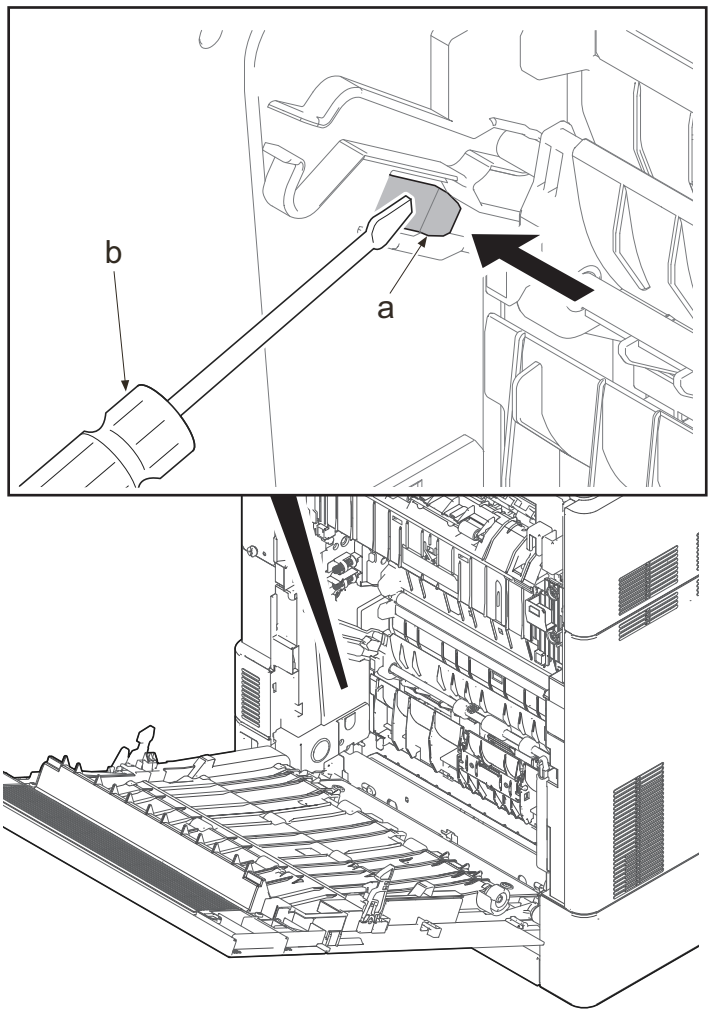


Figure 4-34

2. Pull the middle roller unit (b) out by holding handle A2 (a).

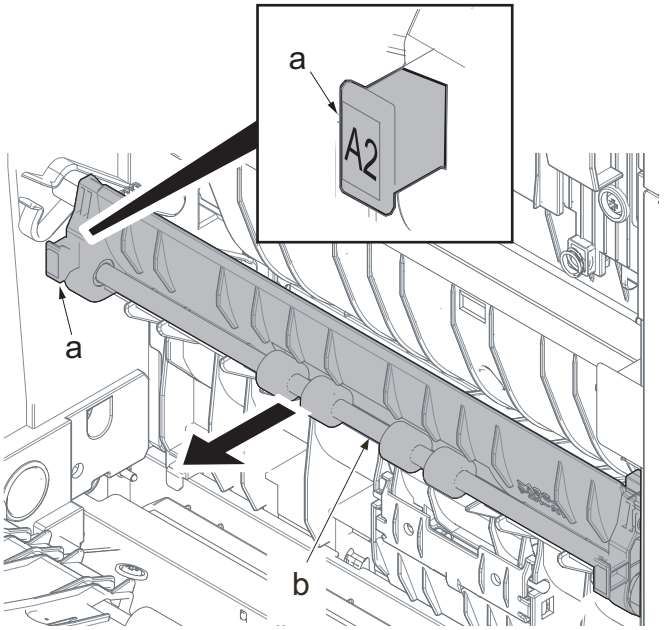


Figure 4-35

3. Remove the machine right side shaft (b) of the middle roller unit (a) from the rail (c).
4. Detach the middle roller unit (a).

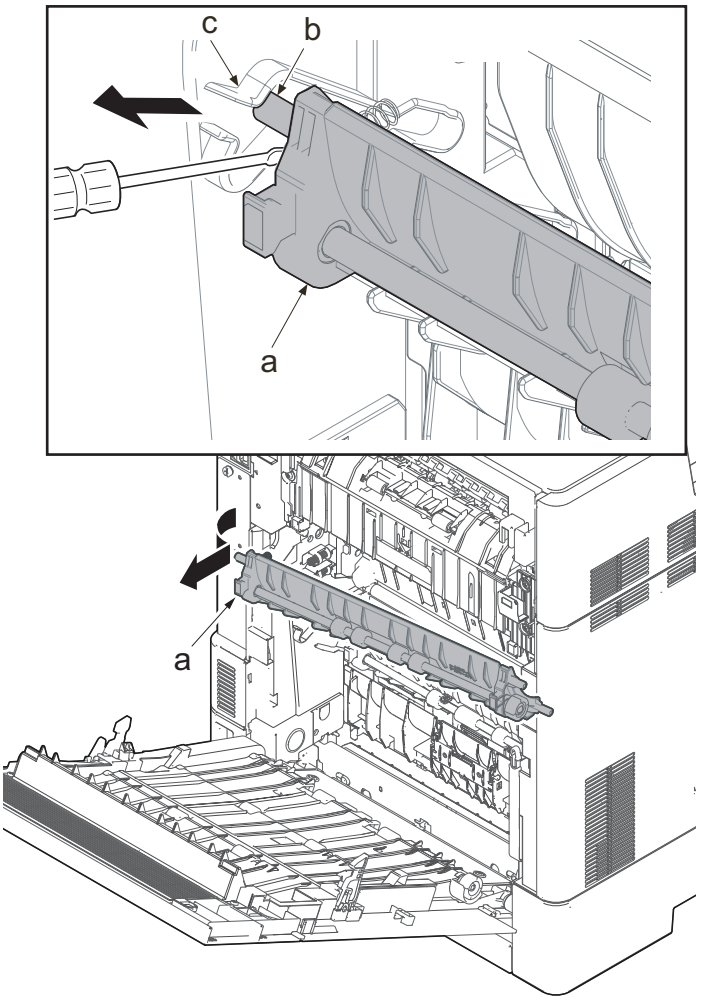


Figure 4-36

5. Rotate the lever (b) of the paper feed roller pin (a) toward the machine rear side.
6. Slide the paper feed roller pin (a) toward the machine front side.

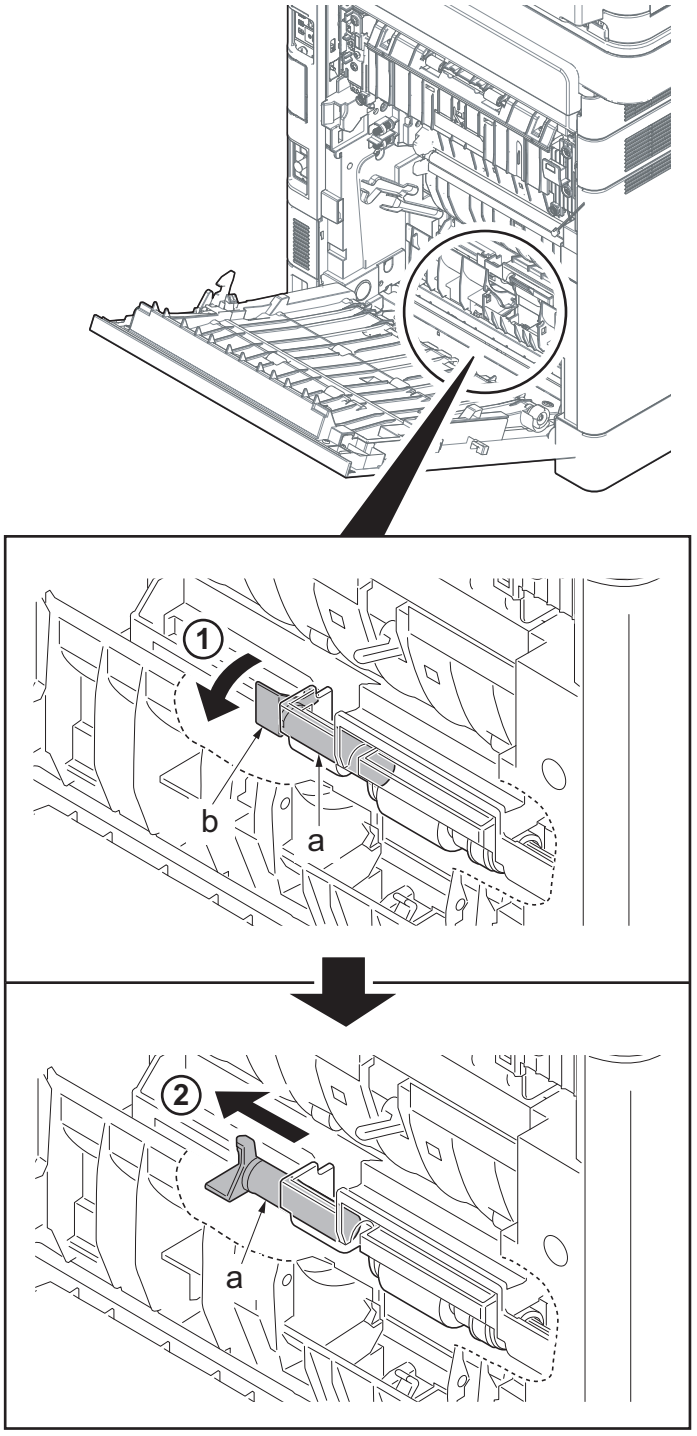


Figure 4-37

7. Detach the paper feed roller unit (a).
8. Attach the new feed roller unit.
9. Reattach the parts once removed.
10. Attach the new retard roller unit.
11. Reattach the parts once removed.

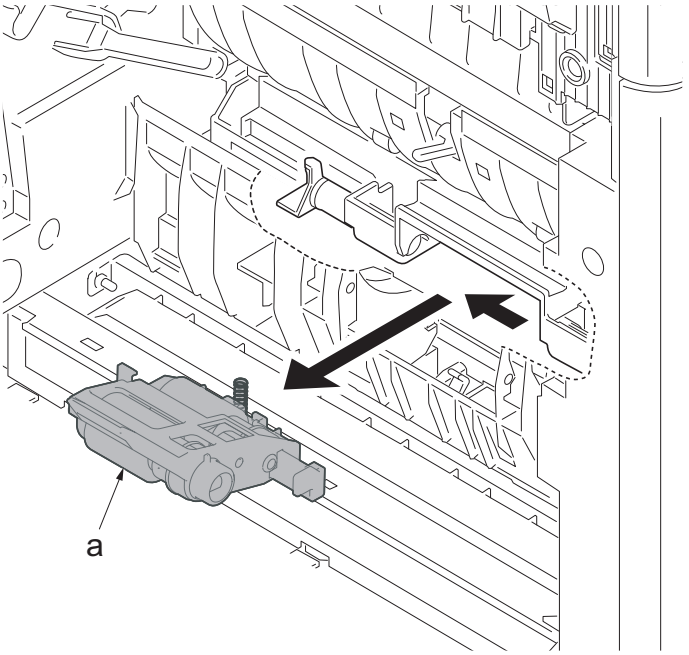


Figure 4-38

(7) Detach the secondary transfer roller unit

<Procedure>

1. Release two hooks (b) of the duplex paper conveying unit (a).
2. Detach the secondary transfer roller unit (c).
3. Attach the new secondary transfer roller unit (c).
4. Reattach the parts once removed.
5. Reattach the duplex conveying unit in the reverse order of removal.
6. Close the rear cover.

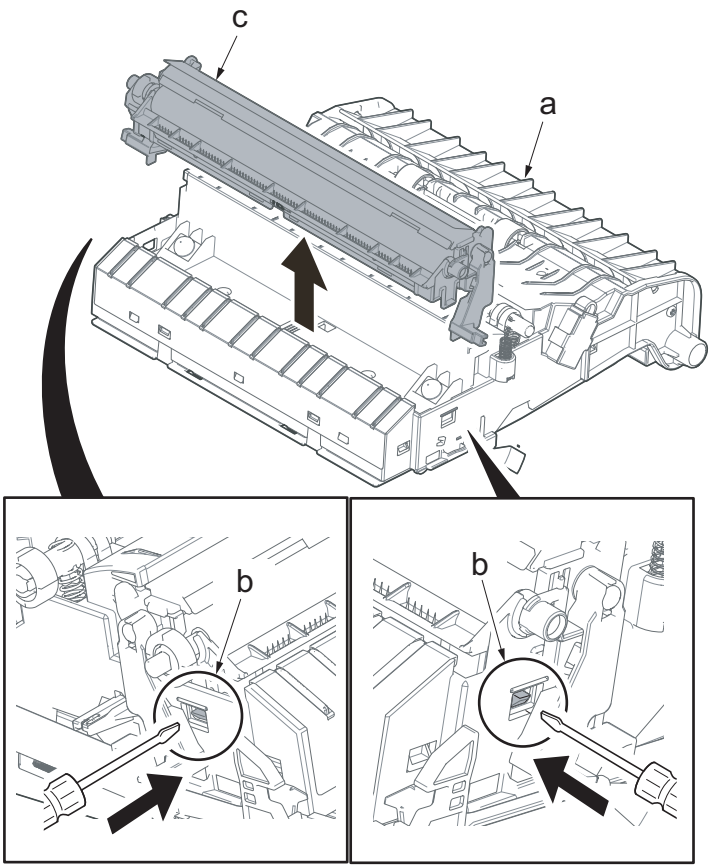


Figure 4-39

IMPORTANT

When reattaching the secondary transfer roller unit (a), first fit the upper part and then insert the hook (b) into the square hole.
Then, insert each hook (c) of both transfer release levers into the inside ribs (d).

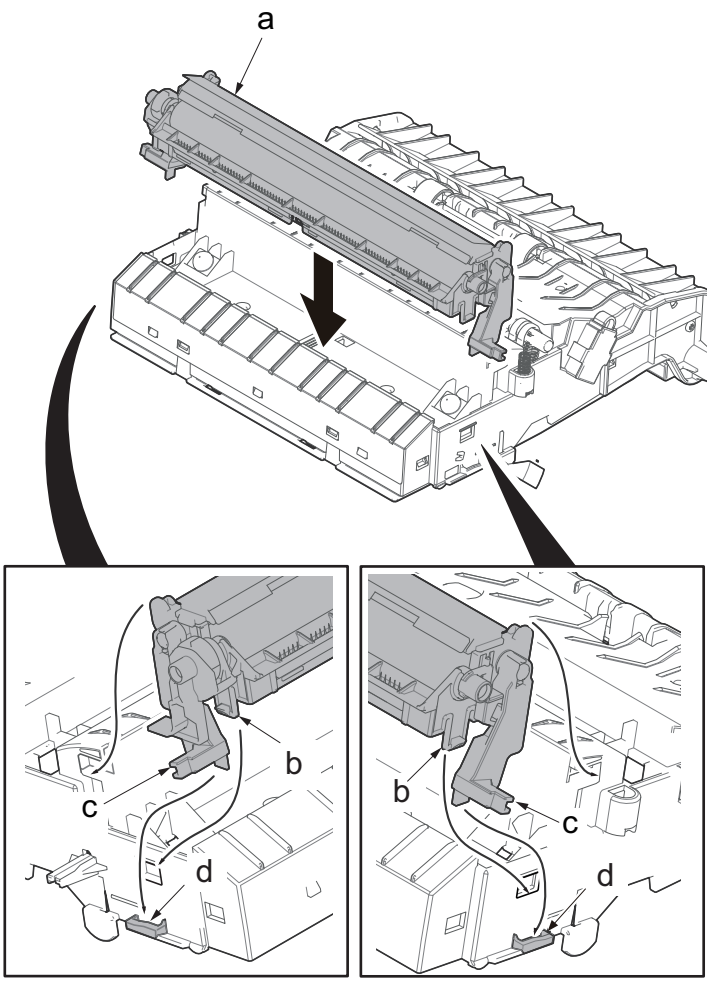


Figure 4-40

(8) Detaching and reattaching the document processor

(8-1) Detaching and reattaching the DP paper feed roller unit

<Procedure>

1. Open the DP upper cover (a).

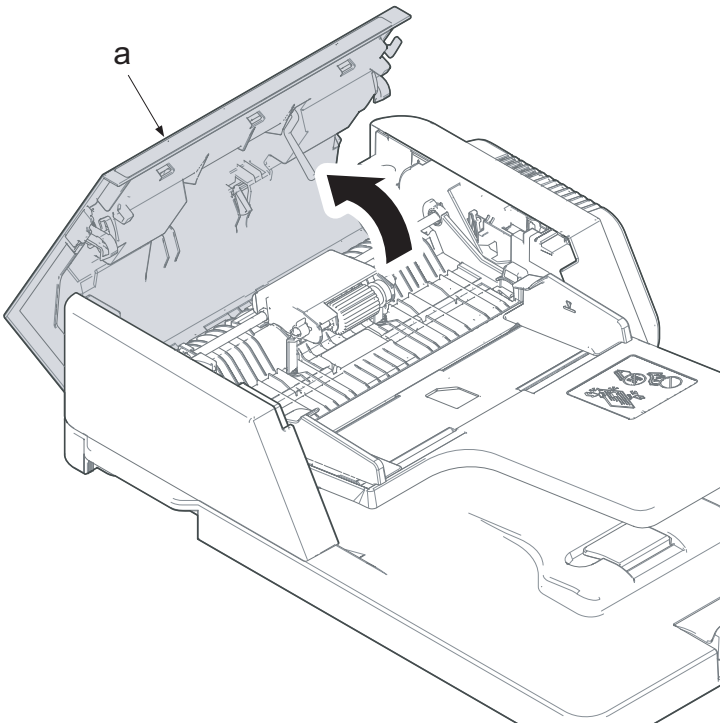


Figure 4-41

2. Push the lock lever (a) toward the machine rear side.
3. Release the hook (b).
4. Rotate the lock lever (a) to the release position (c).
5. Shift the machine front side of the DP feed roller shaft (d) toward the machine left side to remove it from the holding part (e).
6. Then, lift the shaft and pull the DP paper feed roller unit (f) out toward the machine front side.

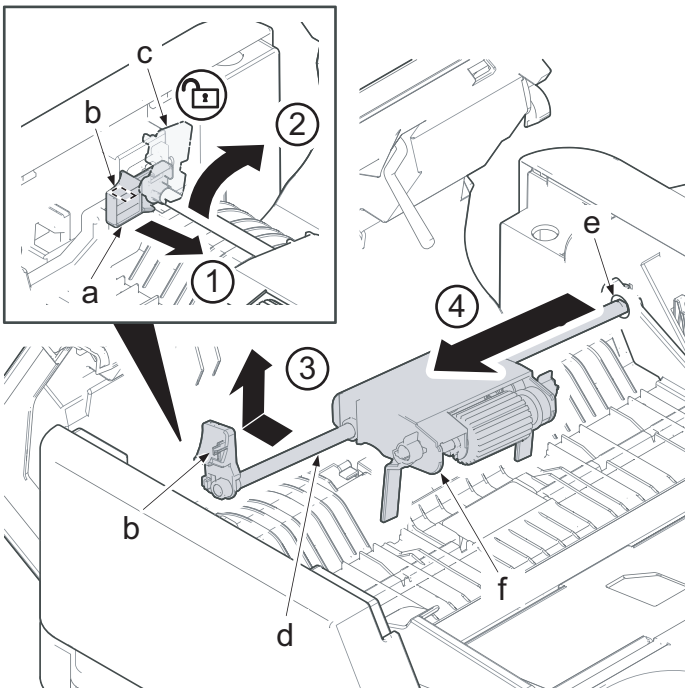


Figure 4-42

(8-2) Detaching and reattaching the DP separation pad

<Procedure>

1. Push both hooks (b) inward and remove the DP separation pad assembly (a).

2. Attach the new DP separation pad assembly.
3. Reattach the parts once removed.

*: Check if the pressure spring (c) is surely in the protrusion when reattaching it.

4. Attach the new DP feed roller unit.
5. Reattach the parts once removed.

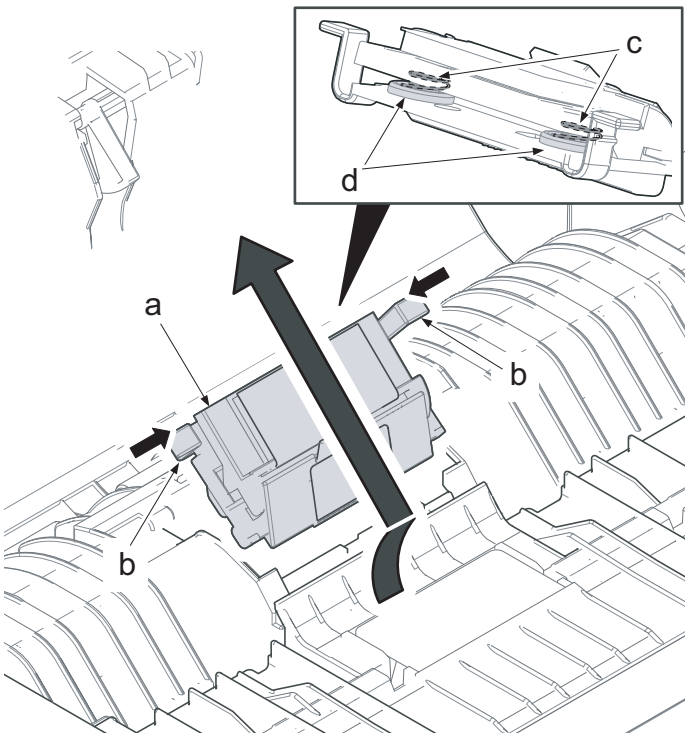
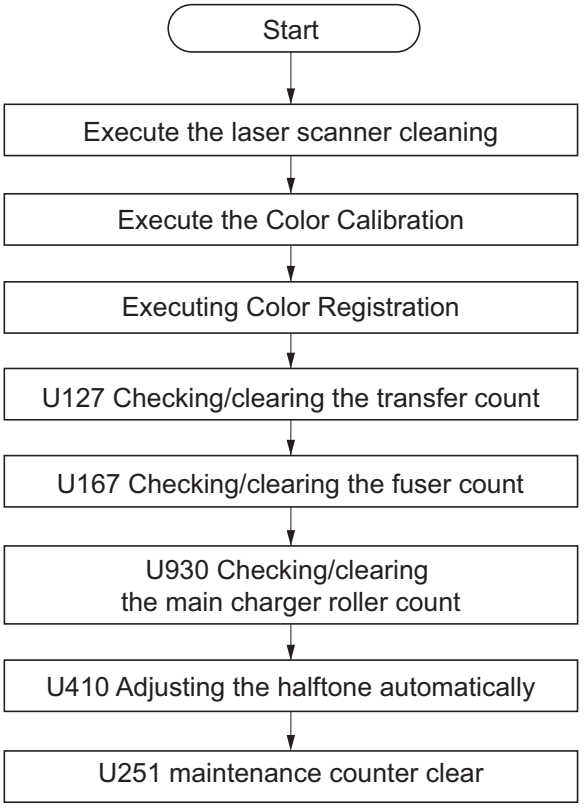


Figure 4-43

(9) Adjustment procedures after replacing the maintenance kit

Execute the following after replacing the maintenance kit.



<Procedure>

Execute the laser scanner cleaning

30 ppm model

1. Display the screen.
   [System Menu/Counter] key > [▲][▼] key > [Adjustment/Maintenance] >
   [OK] key > [▲][▼] key > [Service Setting] > [OK] key> [▲][▼] key > [Laser scanner cln] >
   [OK] key >
2. Adjust
   Select [Yes} to execute the laser scanner cleaning.
   [Laser scanner cln] is executed .

35 ppm model

1. Display the screen.
   [System Menu/Counter] key > [Adjustment/Maintenance] >
   [Laser Scanner Cleaning]
2. Adjust
   Select [Execute]. The laser scanner cleaning is started.

Execute the Color Calibration

30 ppm model

1. Display the screen.
   [System Menu/Counter] key > [▲][▼] key > [Adjustment/Maintenance] >
   [OK] key > [▲][▼] key > [Color Calibration] > [OK] key
2. Adjust
   Select [Yes} to execute the color calibration.
   [Color Calibration] is executed and [Adjustment/Maintenance] is displayed when completing it.

35 ppm model

1. Display the screen.
   [System Menu/Counter] key> [Adjustment/Maintenance] > [Color Calibration].

2. Adjust
   Select [Execute]. Start [Color Calibration]

Execute the Color Registration

Normal correction

30 ppm model

1. Display one screen
   [System Menu/Counter] key > [▲][▼] key > [Adjustment/Maintenance] >
   [OK] key > [▲][▼] key > [Color Registration] > [OK] key > [▲][▼] key >
   [Normal] > [OK] key

2. Print chart
   [▲][▼] key > [Print chart] > [OK] key > [Yes]
   The charts are printed. The chart indicating H-L (left), V (center) and H-R (right) per each color M (Magenta), C (Cyan) and Y (Yellow) is printed. After printing, the color registration correction (Normal) is displayed.

Chart sample (normal)

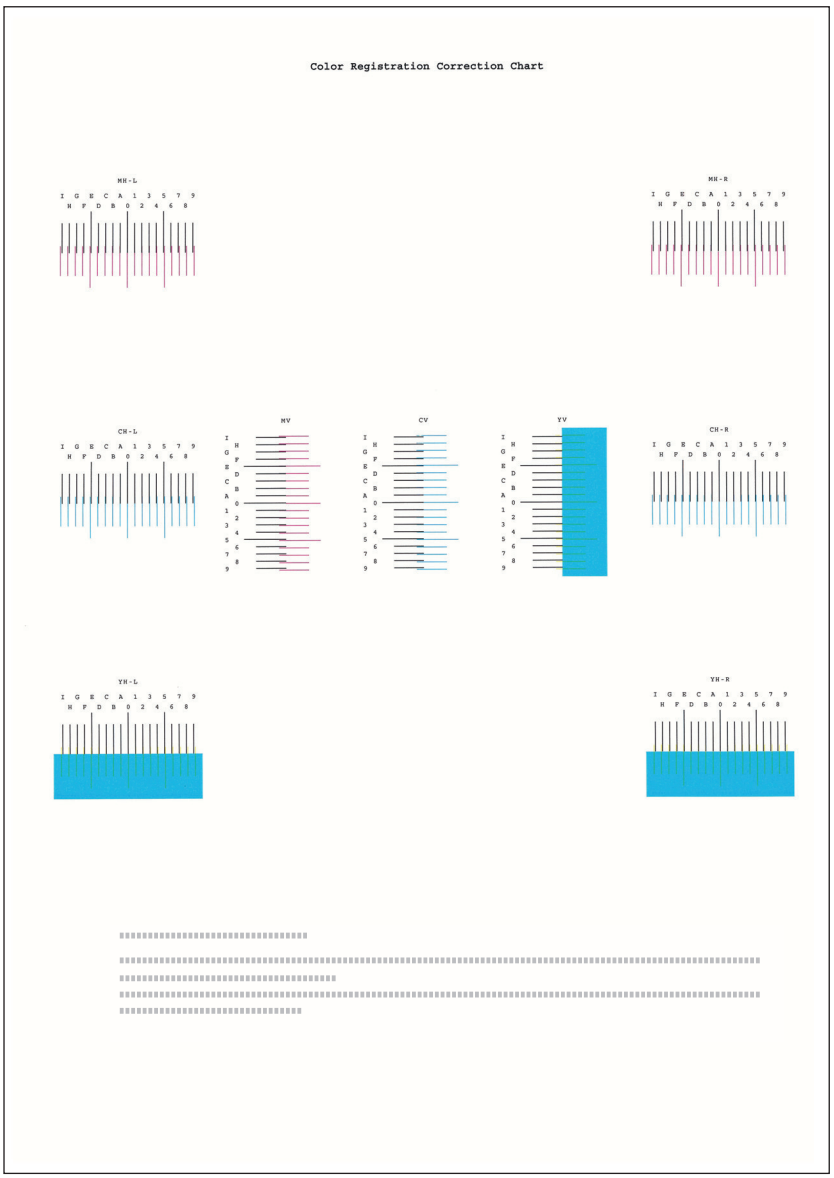


Figure 4-44

3. Indicate the correction menu.
   [▲][▼] key > [Magenta] > [OK] key
   The correctikon menu for Magenta is displayed.

4. Input values.
   (1)Find the point where two lines are most aligned from each chart. If it is at "0", the correction is unnecessary. In case of the illustration below, "B" is the value that should be set.

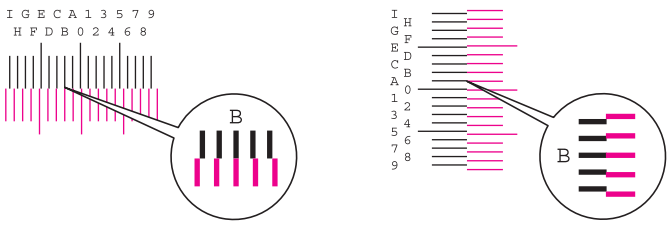


Figure 4-45

(2)Select [◄] or [►] key to change the values of H to L, V and H to R. Select [▲] or [▼] key to input the values read from the chart and press [OK] key.
After a while completing the Magenta correction, the color registration correction (Normal) is displayed.
Select [▲] key to shift the value 0 to 9. Select [▲] key when proceeding in the reverse direction.
Select [▼] key to shift the value from 0 to alphabets of A to I. Select [▲] key when proceeding in the reverse direction.
Numeric keys input is not available.

(3)Repeat step 3 and 4 to adjust Cyan and Magenta.

35 ppm model

1. Display the screen.
   [System Menu/Counter] key > [Adjustment/Maintenance > [Color Registration] > [Normal]

2. Print chart
   Select [Print Chart].
   The charts are printed. The chart indicating H-L (left), V (center) and H-R (right) per each color M (Magenta), C (Cyan) and Y (Yellow) is printed.

Chart sample (normal)

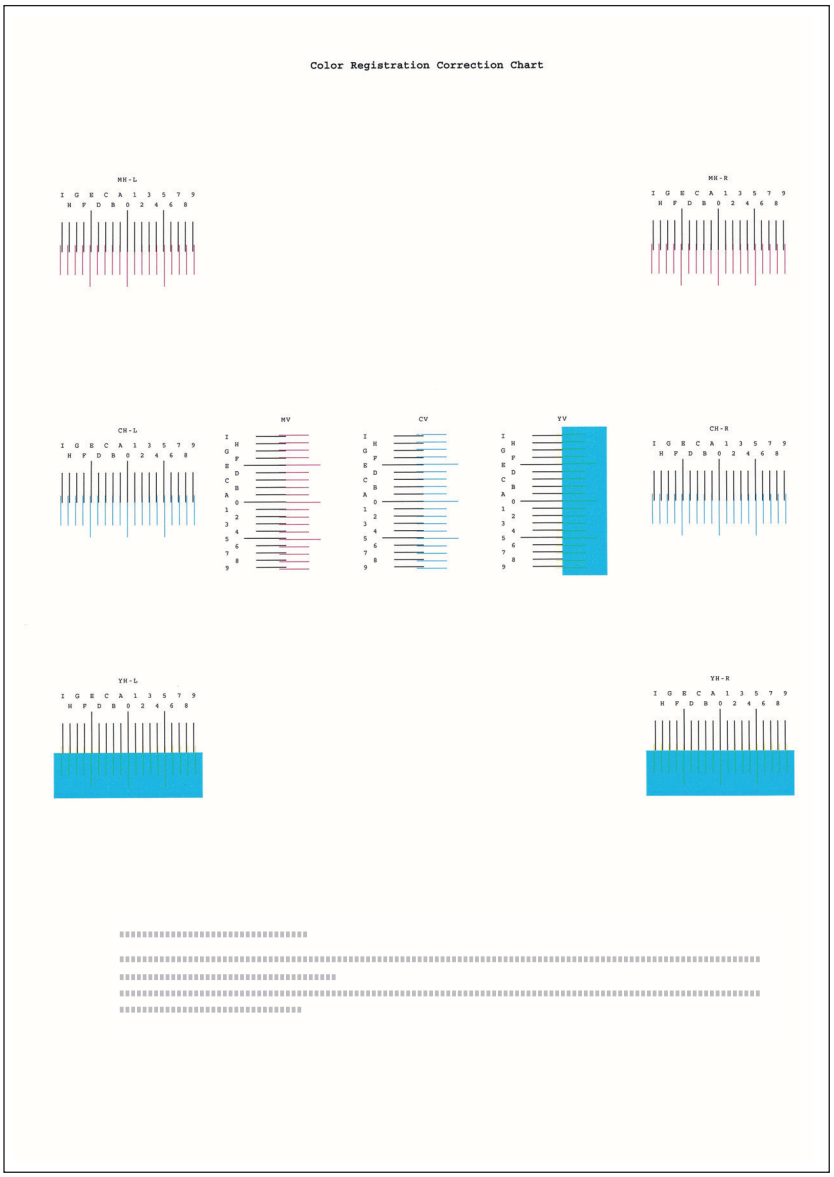


Figure 4-46

3. Input values.
   (1)Find the point where two lines are most aligned from each chart. If it is at "0", the correction is unnecessary. In case of the illustration below, "B" is the value that should be set.

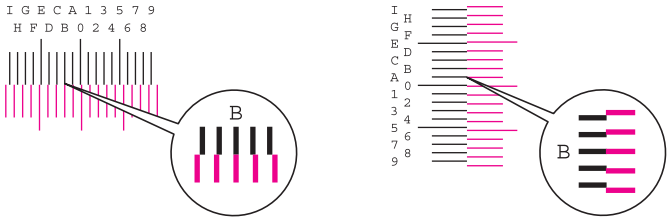


Figure 4-47

(2)Executing Color Registration
(3)Select [Print Chart].
(4)Select [+] or [-] to input the value read from the chart.
Select [+] to shift the values of 0 to 9. Press the [-] to go in reverse.
Select [-] to shift the value from 0 to alphabets of A to I. Press the [-] to go in reverse.
Numeric keys input is not available.
(5)Repeat step (3) and(4) to input the correction values for each chart.
(6)Select [Execute] after inputting all. Start [Color Registration]
(7)Select [OK] when completing the color registration adjustment.

Detailed settings

30 ppm model

1. Display the screen.
   [System Menu/Counter] key > [▲][▼] key > [Adjustment/Maintenance] > [OK] key > [▲][▼] key > [Color Registration] > [OK] key > [▲][▼] key > [Detail] > [OK] key

2. Print chart
   [▲][▼] key > [Print chart] > [OK] key > [Yes]
   The charts are printed. The chart indicating H1 to H5 (upper) and V1 to V5 (lower) per each color M (Magenta), C (Cyan) and Y (Yellow) is printed.
   After printing, the color registration correction (Detail) is displayed.

Chart sample (detail)

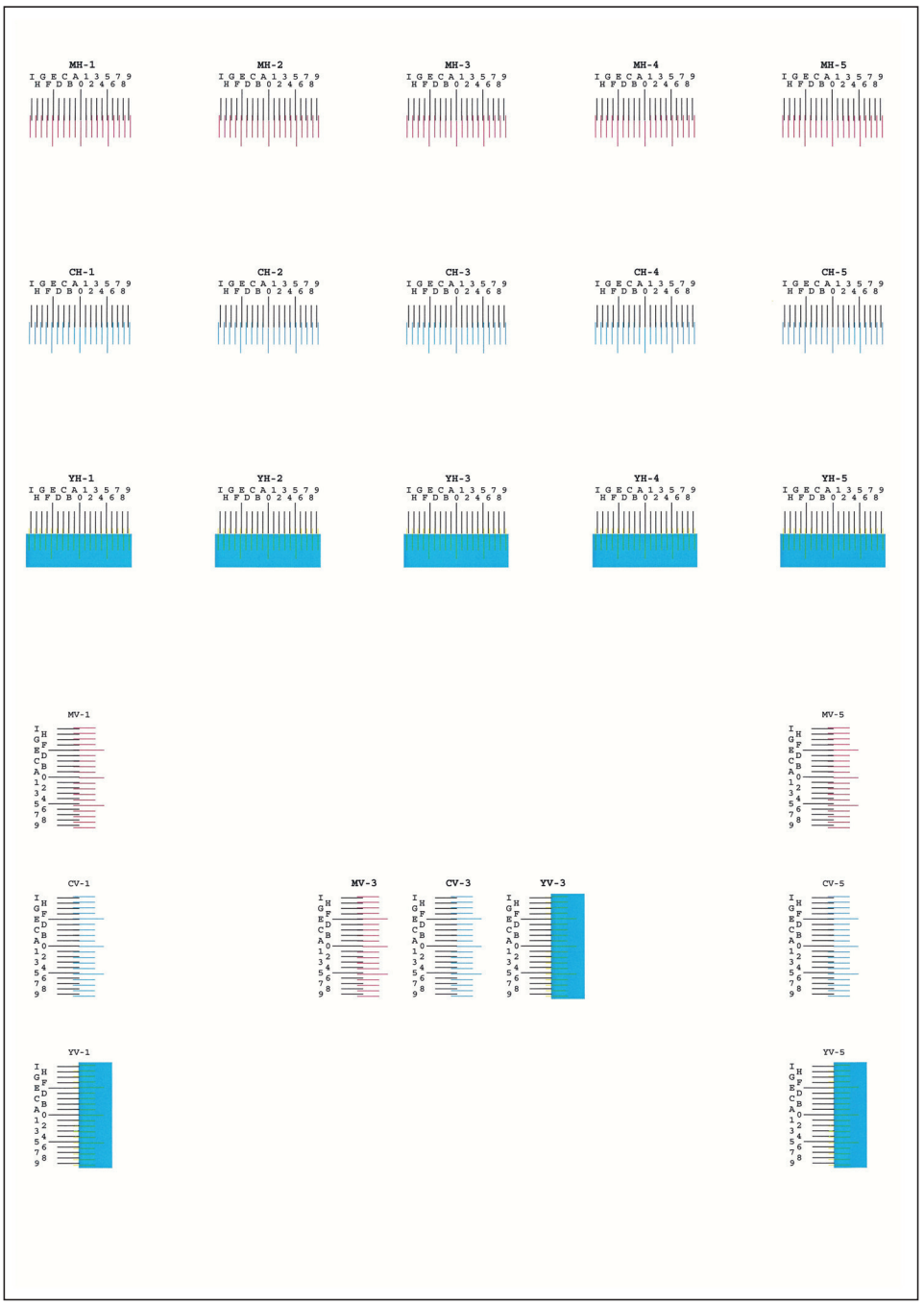


Figure 4-48

3. Indicate the correction menu.
   [▲][▼] key > [Magenta] > [OK] key
   The correctikon menu for Magenta is displayed.

4. Input values.
   (1)Find the point where two lines are most aligned from each chart. If it is at "0", the correction is unnecessary. In case of the illustration below, "B" is the value that should be set.

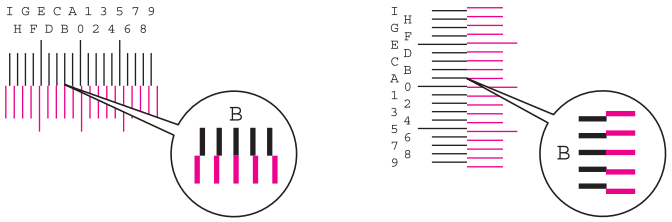


Figure 4-49

   (2)Read the values from H1 to H5 in the chart.
   Read the value of V-3 (center) only of V1 to V5 in the chart.

   (3)Select [◄] or [►] key to change the valuse of H-1to H-5 and V-3. Select [▲] or [▼] key to input the values read from the chart and press [OK] key.
   After a while completing the Magenta correction, the color registration correction (Detail) is displayed.
   Select [▲] key to shift the value 0 to 9. Select [▲] key when proceeding in the reverse direction.
   Select [▼] key to shift the value from 0 to alphabets of A to I. Select [▲] key when proceeding in the reverse direction.
   Numeric keys input is not available.
   (4)Repeat step 3 and 4 to adjust Cyan and Magenta.

35 ppm model

1. Display the screen.
   [System Menu/Counter] key > [Adjustment/Maintenance] > [Color Registration] > [Detail]
2. Print chart
   Select [Print Chart].
   The charts are printed. The chart indicating H1 to H5 (upper) and V1 to V5 (lower) per each color M (Magenta), C (Cyan) and Y (Yellow) is printed.

Chart sample (detail)

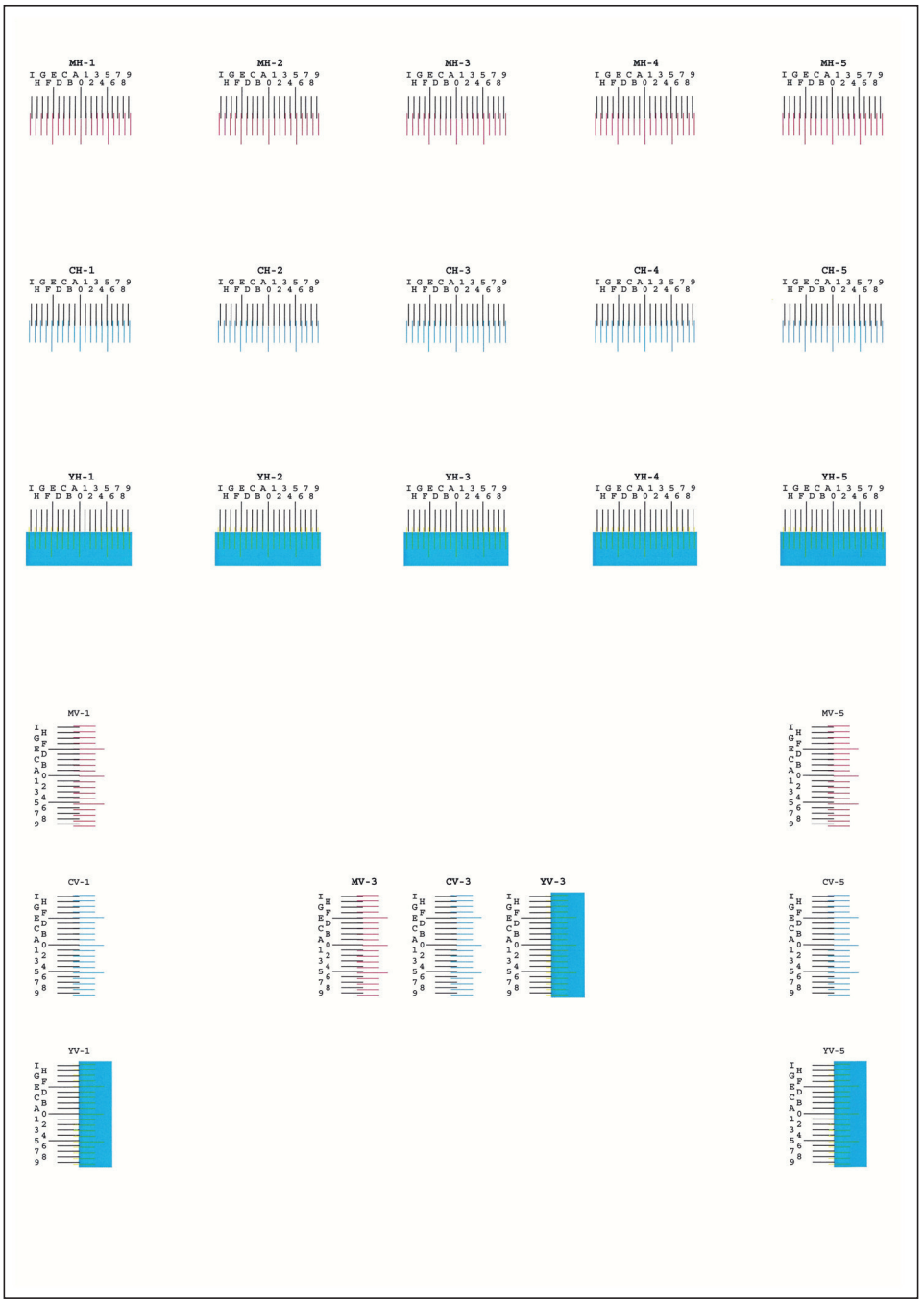


Figure 4-50

3. Input values.
   (1)Find the point where two lines are most aligned from each chart. If it is at "0", the correction is unnecessary. In case of the illustration below, "B" is the value that should be set.

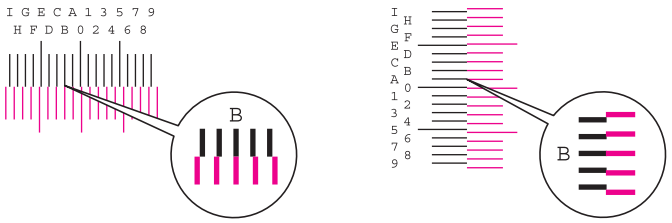


Figure 4-51

(2)Read the values from H1 to H5 in the chart.
Read the value of V-3 (center) only of V1 to V5 in the chart.

(3)[Detail] > [Color Registration]
(4)Select [Print Chart].
(5)Select [+] or [-] to input the value read from the chart.
Select [+] to shift the values of 0 to 9. Press the [-] to go in reverse.
Select [-] to shift the value from 0 to alphabets of A to I. Press the [-] to go in reverse.
Numeric keys input is not available.
(6)Repeat the step (4) and (5) to input the values in the chart
(7)Select [Execute] after completing all the inputs. Start [Color Registration]
(8)Select [OK] when completing the color registration adjustment.

Executing a maintenance item

1.Input "10871087" to enter the maintenance mode.
2.Input the number with the numeric keys.

U127 Checking/clearing the transfer count

<Execute>

1.Press the [Start] key.
* : The transfer counter value appears.

Indication	Content
Setting:Mid(Cnt)	Primary transfer counter
Setting:2nd(Cnt)	Secondary transfer counter

2.Select [Clear].
3.Press the [Start] key to clear all the stransfer counter values.

U167 Checking/clearing the fuser count

1.Press the [Start] key.
* : The fuser counter value appears.
2.Select [Clear].
3.Press the [Start] key to clear the setting value.

U930 Checking/clearing the main charger roller count

1.Press the [Start] key.
 * : The main charger roller counter value (K, M, C and Y) appears.
2.Select [Clear].
3.Press the [Start] key to clear the setting value.

U410 Adjusting the halftone automatically

1.Press the [Start] key.
2.Select [Normal Mode].
3.Press the [Start] key.
 * :Test pattern 1 and test pattern 2 are printed on A4 size paper.
4.Set the test pattern 1 as an original.
 * :Place 20 sheets of white paper on the test pattern 1.
5.Press the [Start] key.
 * :First auto adjustment is executed.
6.Set the test pattern 2 as an original.
7.Press the [Start] key.
 * :Second auto adjustment is executed.
8.[Finish] appears after normal completion.
 * :An error code is indicated when an error occurs.

U251 maintenance counter clear

1.Press the [Start] key.
2.Select [Clear].
3.Press the [Start] key to clear the setting value.

Exit maintenance mode

1.Input "001" using the numeric keys and press the [Start] key.

4-4 Disassembly & reassembly

(1) External covers

(1-1) Detaching and reattaching the lower left cover

<Procedure>

1. Pull the lever (a).
2. Lift up the scanner unit (b) and open the inner tray (c).

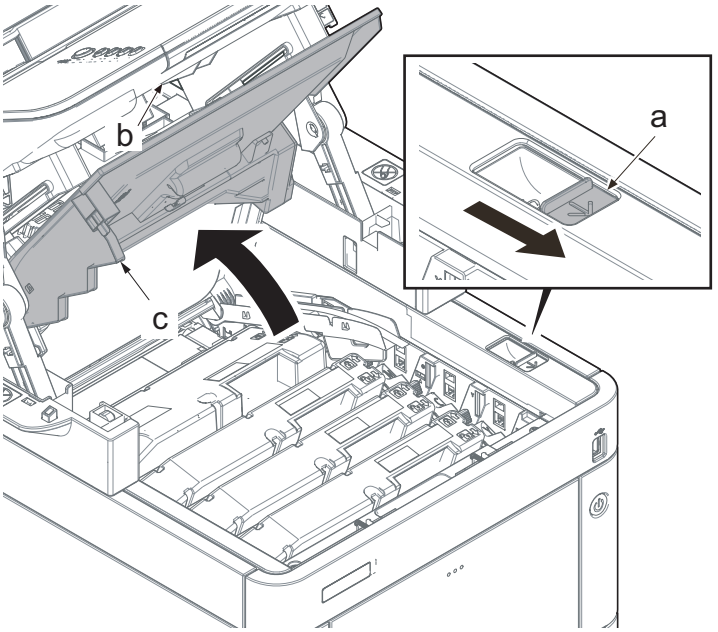


Figure 4-52

3. Open the MP tray (a).
4. Remove two screws (b)(M3x8).
5. Open the waste toner cover (c).

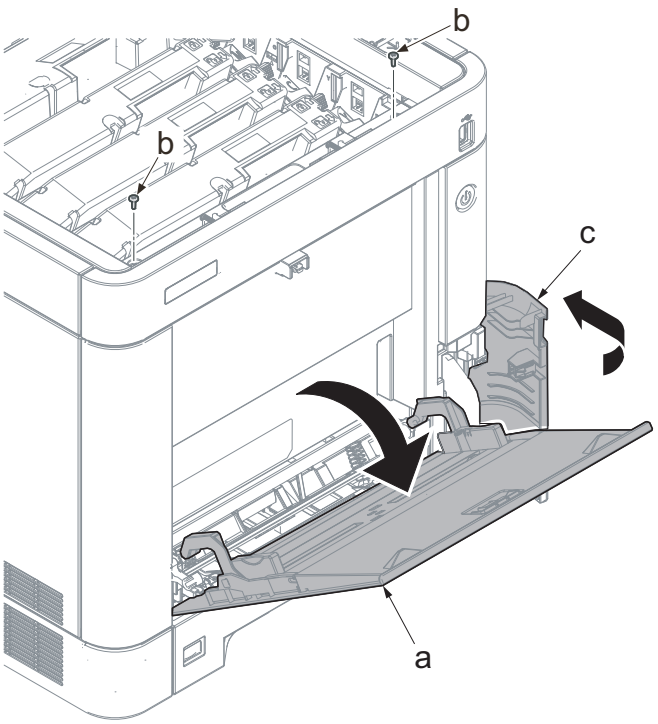


Figure 4-53

6. Slightly lift up the front cover (a) to release the boss (b).
7. Tilt the front cover (a) toward the machine front side.
8. Then, remove the front cover (a) by lifting it up.

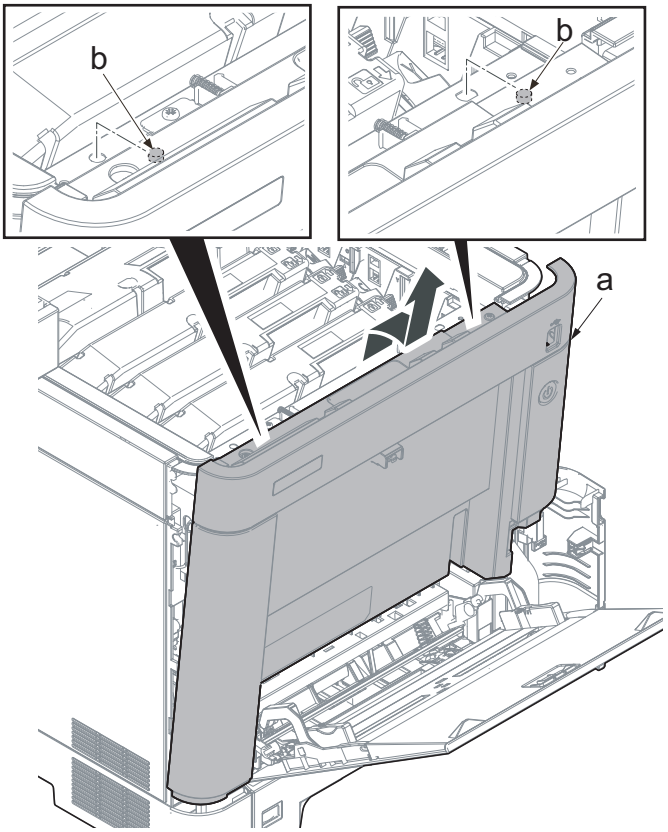


Figure 4-54

IMPORTANT
Make sure not to touch the waste toner cover sensor (b) when reattaching the front cover (a). If the waste toner cover sensor (b) comes off, even if you close the waste toner cover, "cover open" will be displayed.

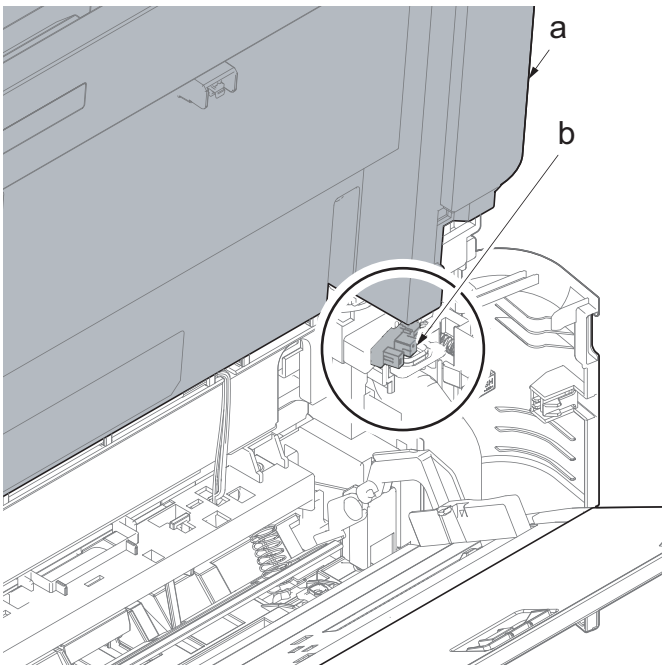


Figure 4-55

(1-2) Detaching and reattaching the interface cover.

<Procedure>

1. Pull the lower part of the opening toward the machine rear side and release the hook (a).
2. Remove the interface cover (b).

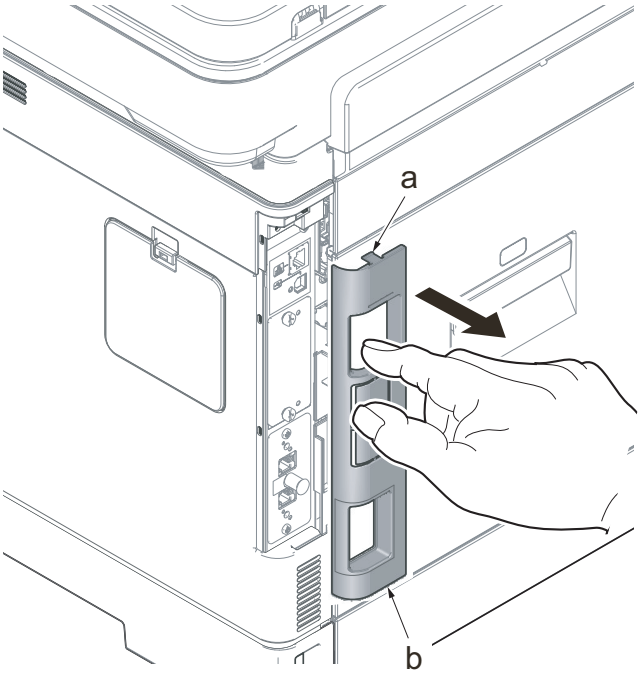


Figure 4-56

(1-3) Detaching and reattaching the upper left cover

<Procedure>

1. Pull the lower part of the opening toward the machine rear side and release the hook (a).
2. Remove the interface cover (b).

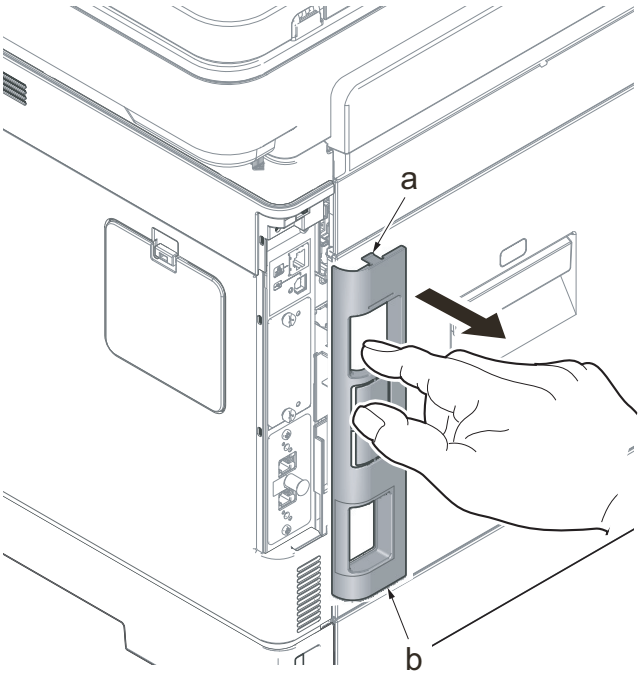


Figure 4-57

3. Remove the screw (a) (M3x8).
4. Slide the upper right cover (b) toward the machine rear side and detach it.

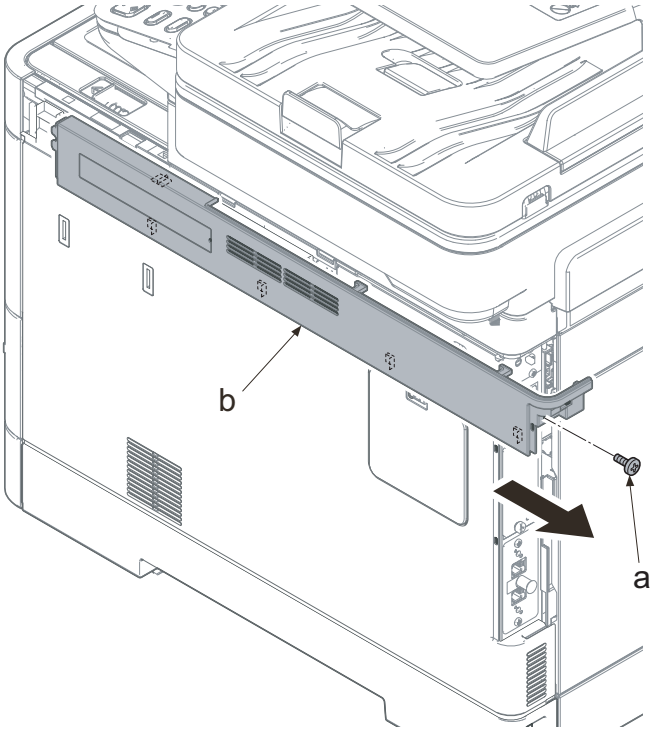


Figure 4-58

IMPORTANT
When reattaching the upper right cover (b), insert the hook (c) to the machine front side, and then fasten seven hooks (d) by sliding it toward the machine front side.

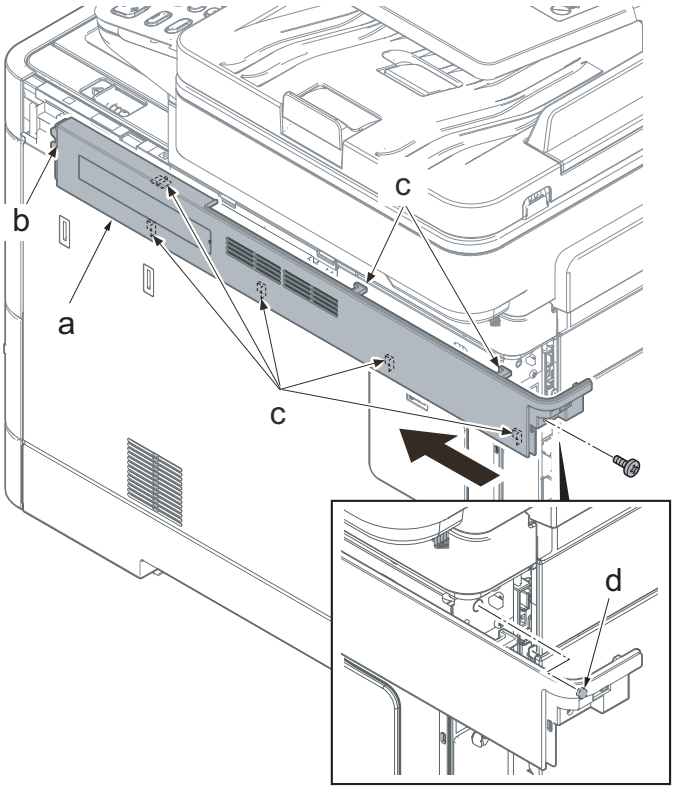


Figure 4-59

(1-4) Detaching and reattaching the middle right cover

<Procedure>

1. Pull the lower part of the opening toward the machine rear side and release the hook (a).
2. Remove the interface cover (b).

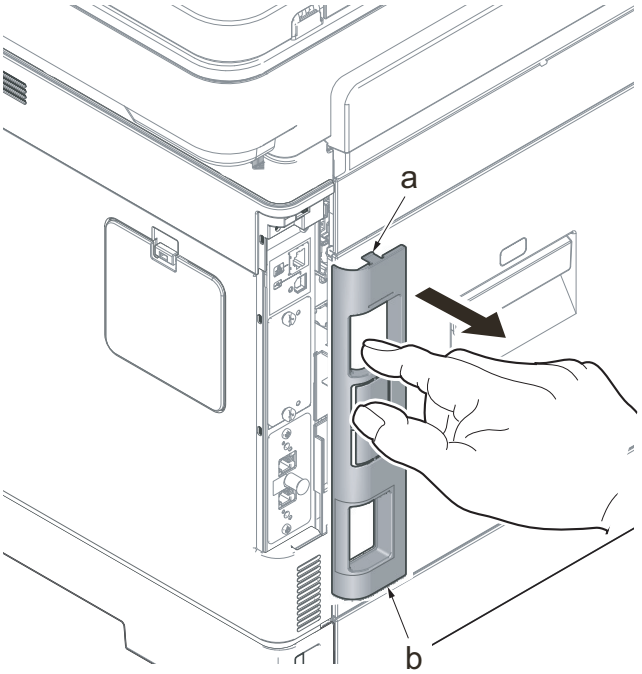


Figure 4-60

3. Remove the screw (a) (M3x8).
4. Slide the upper right cover (b) toward the machine rear side and detach it.

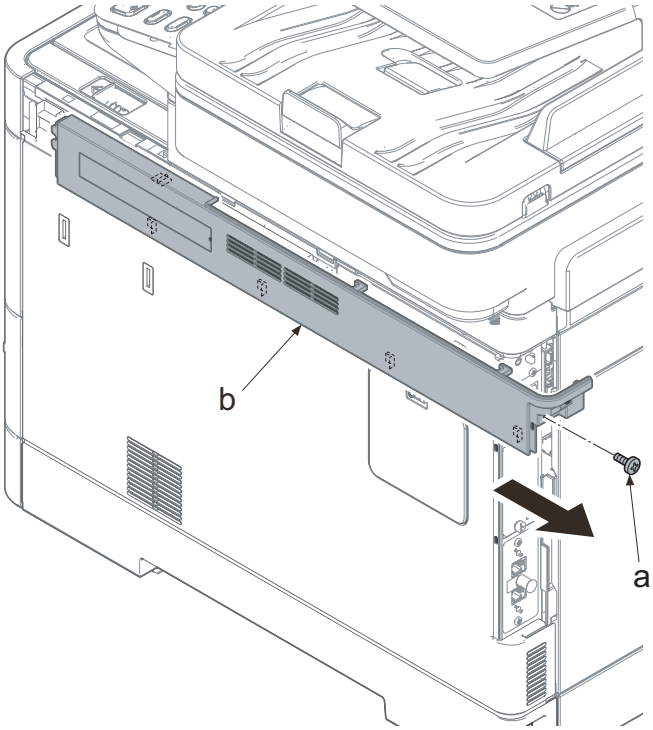


Figure 4-61

IMPORTANT
When reattaching the upper right cover (a), insert the hook (b) to the machine front side, and then fasten seven hooks (c) by sliding it toward the machine front side and insert the positioning projection (d) into the hole.

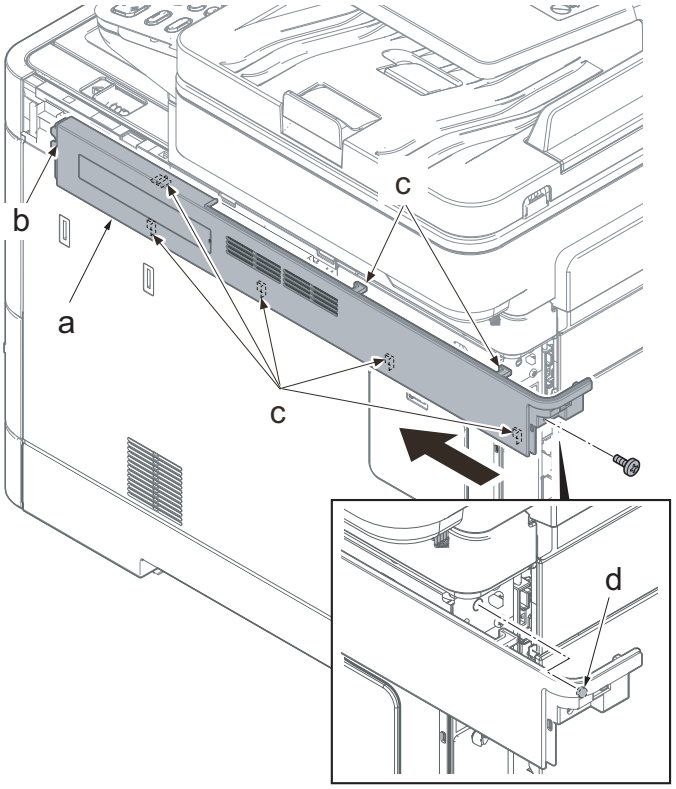


Figure 4-62

5. Open the waste toner cover (a).
6. Press the arm (b) down.
7. Remove the waste toner cover (a).

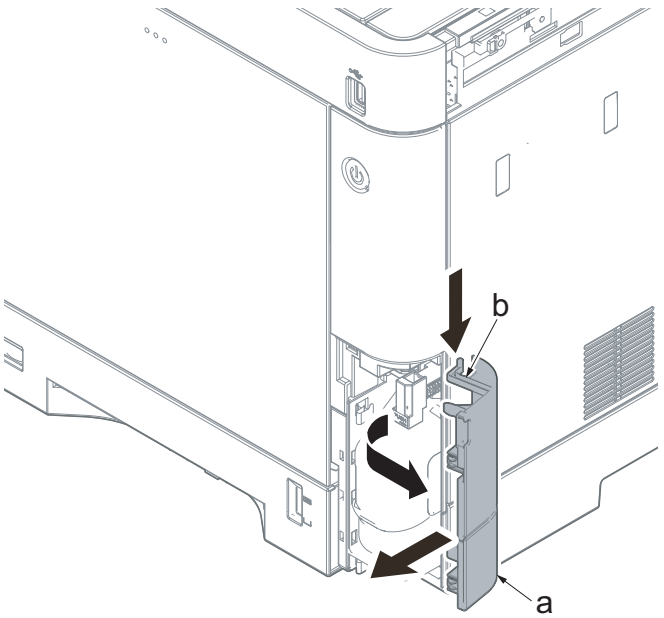


Figure 4-63

8. Push the lever (a) and open the memory cover (b).
9. Remove the memory cover (b).

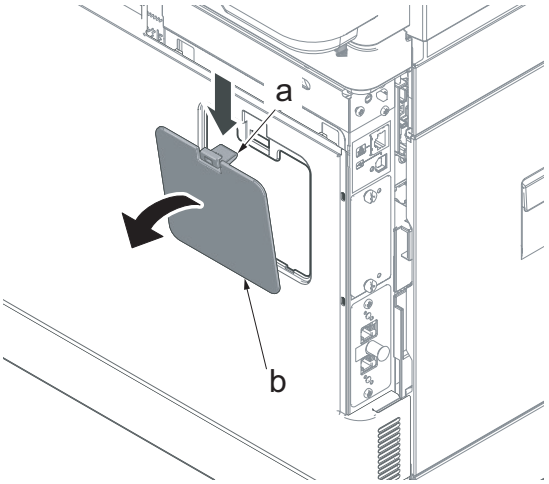


Figure 4-64

10. Pull up the shield lid (a) and pull it toward you to remove it.

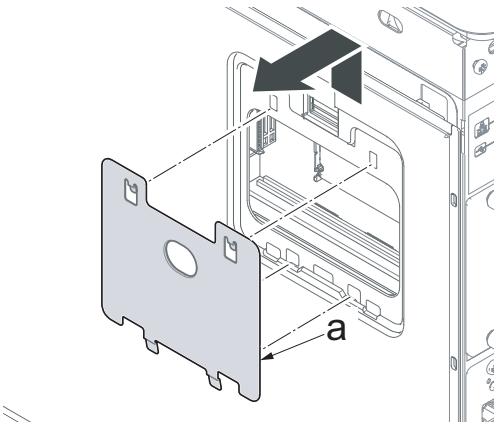


Figure 4-65

11. Open the rear cover (a).

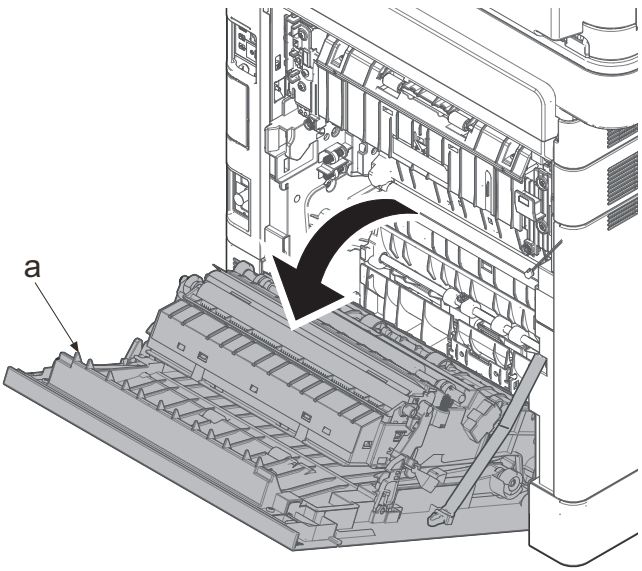


Figure 4-66

12. Push the machine front side of the middle rigth cover (a) toward the machine rear side and then lift up its machine rear side to detach it.

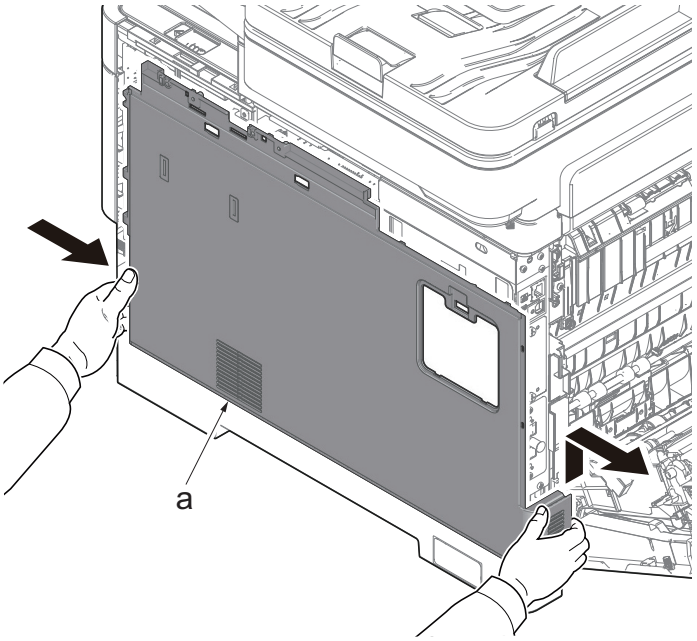


Figure 4-67

IMPORTANT
When reattaching the middle right cover (a), insert the lower rib into the the lower right cover. Slide it toward the machine front side to fasten three hooks (c) and then lower it to fasten three hooks (d), and fasten two hooks (e) at the machine rear side. Check if three hooks (d) at the machine rear side are surely fastened.

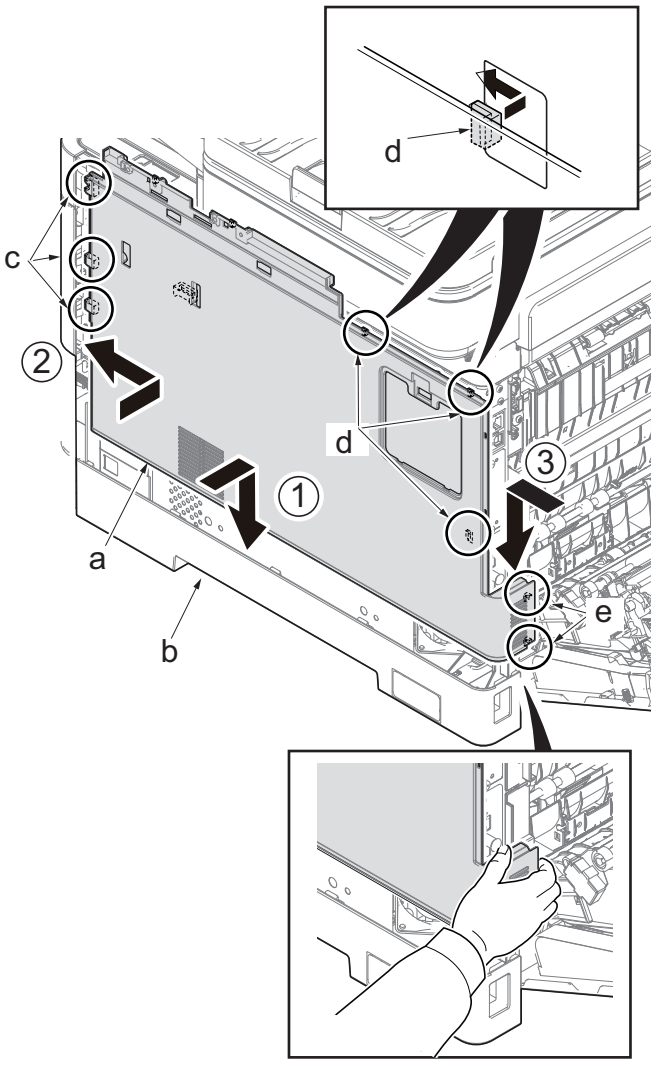


Figure 4-68

(1-5) Detaching and reattaching the lower left cover

<Procedure>

1. Pull the lower part of the opening toward the machine rear side and release the hook (a).
2. Remove the interface cover (b).

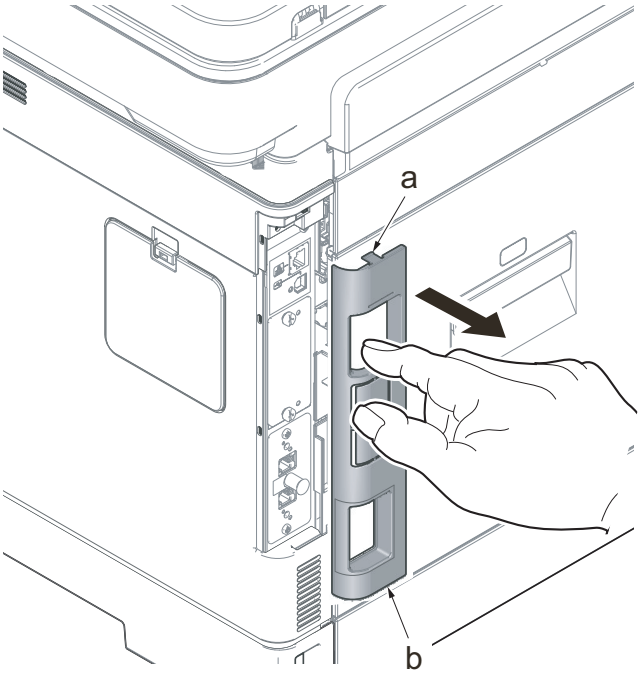


Figure 4-69

3. Remove the screw (a) (M3x8).
4. Slide the upper right cover (b) toward the machine rear side and detach it.

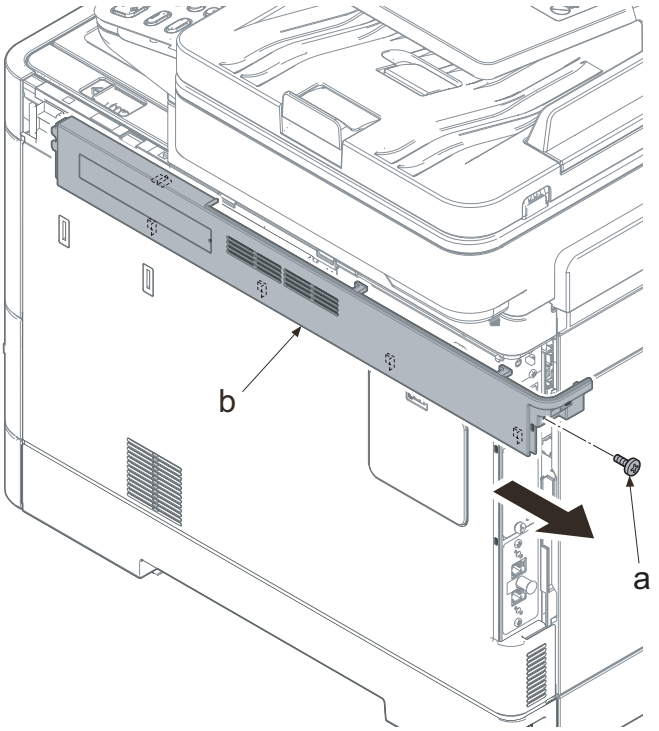


Figure 4-70

IMPORTANT
When reattaching the upper right cover (a), insert the hook (b) to the machine front side, and then fasten seven hooks (c) by sliding it toward the machine front side and insert the positioning projection (d) into the hole.

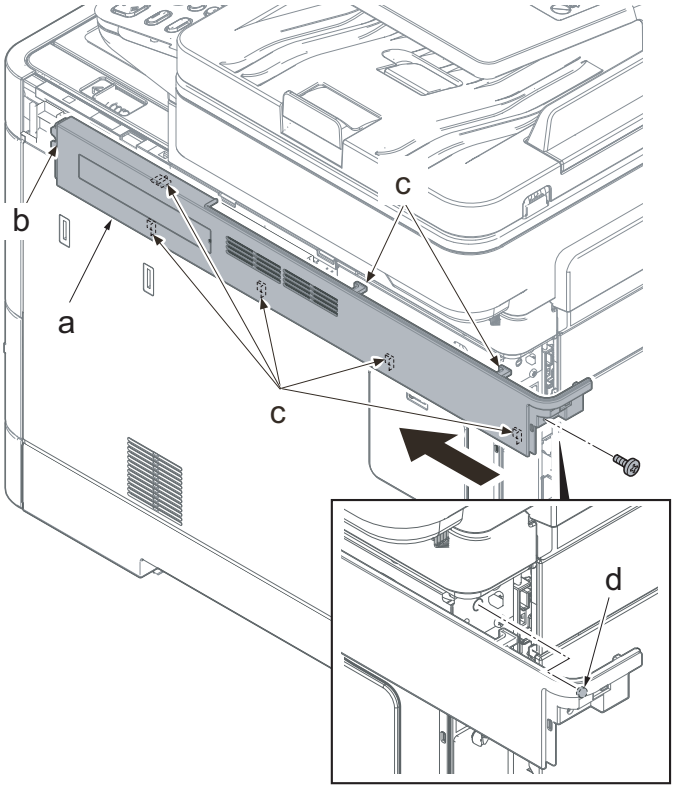


Figure 4-71

5. Open the waste toner cover (a).
6. Press the arm (b) down.
7. Remove the waste toner cover (a).

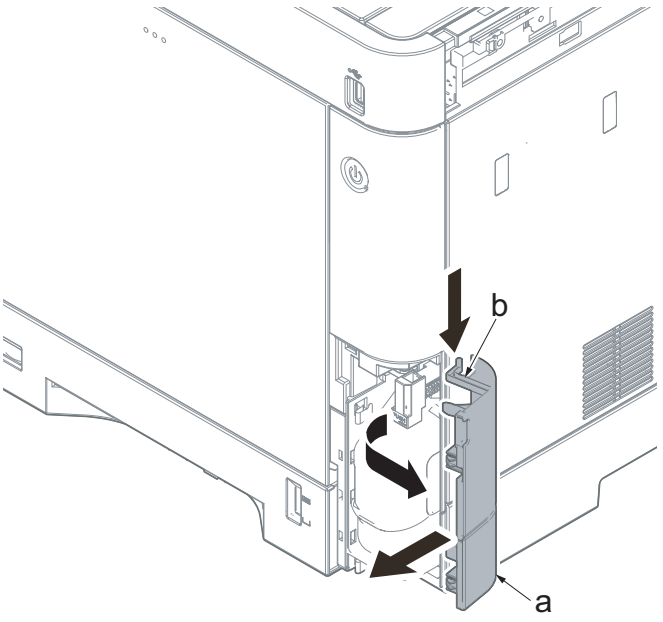


Figure 4-72

8. Push the lever (a) and open the memory cover (b).
9. Remove the memory cover (b).

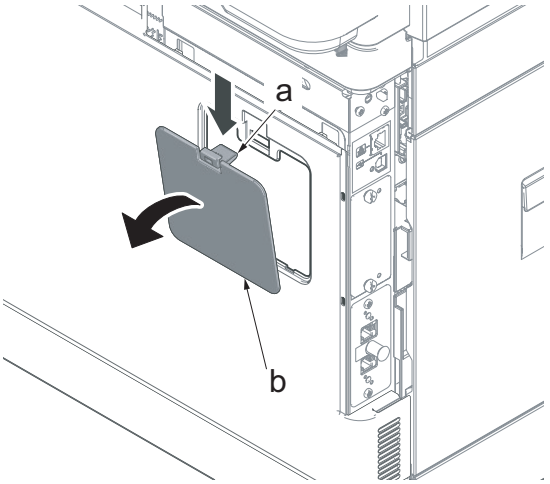


Figure 4-73

10. Pull up the shield lid (a) and pull it toward you to remove it.

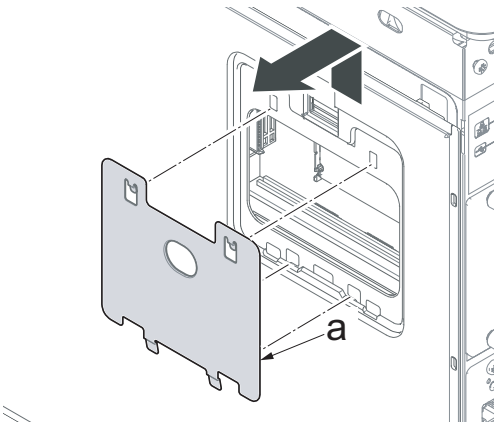


Figure 4-74

11. Open the rear cover (a).

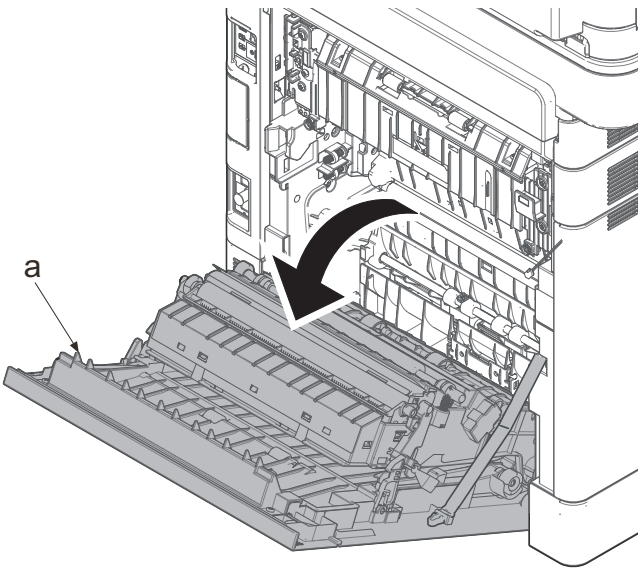


Figure 4-75

12. Push the machine front side of the middle rigth cover (a) toward the machine rear side and then lift up its machine rear side to detach it.

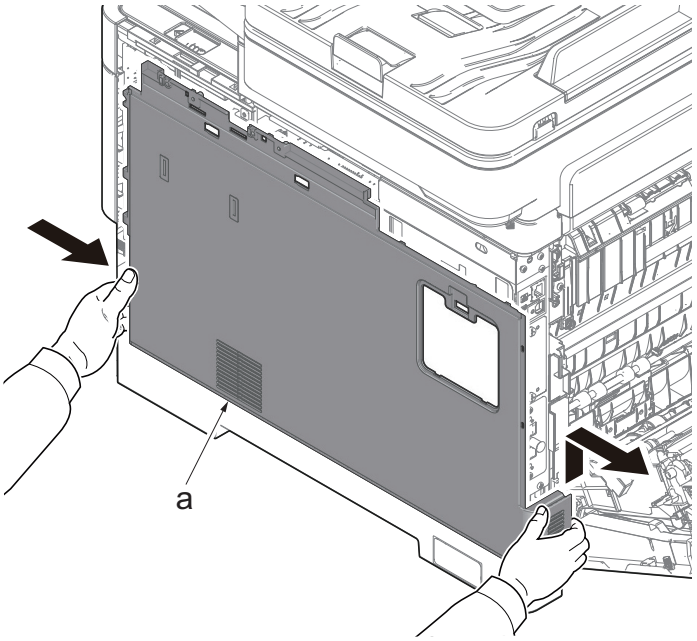


Figure 4-76

IMPORTANT
When reattaching the middle right cover (a), insert the lower rib into the the lower right cover. Slide it toward the machine front side to fasten three hooks (c) and then lower it to fasten three hooks (d), and fasten two hooks (e) at the machine rear side. Check if three hooks (d) at the machine rear side are surely fastened.

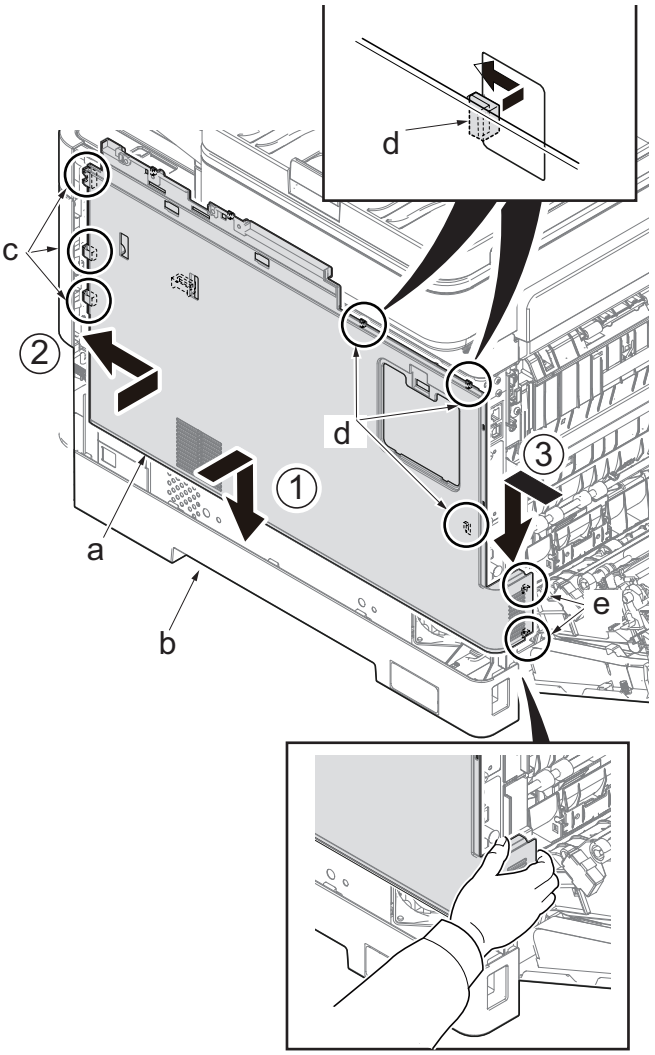


Figure 4-77

13. Remove the screw (a) (M3x8).
14. Release the hook (c) of the lower right cover (b) toward the machine right side and slide it toward the machine rear side to detach it.

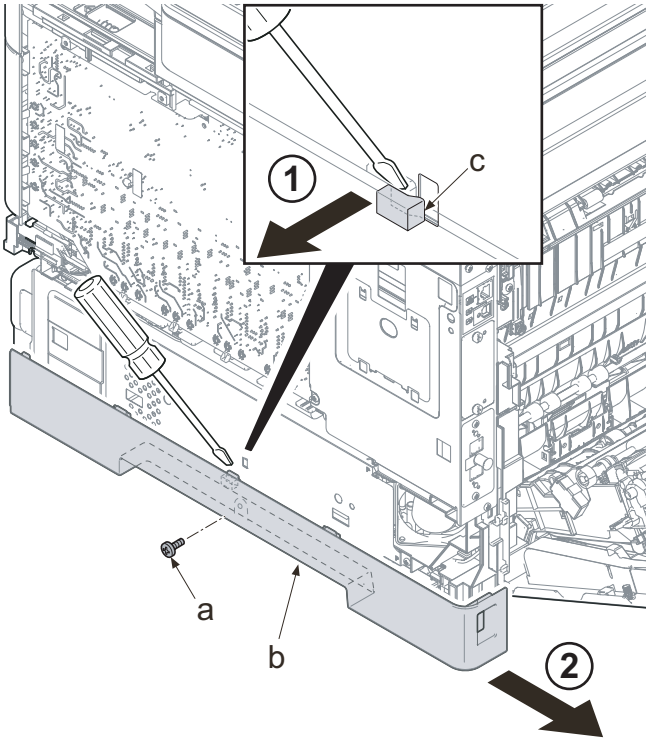


Figure 4-78

(1-6) Detaching and reattaching the upper left cover

<Procedure>

1. Open the rear cover (a).

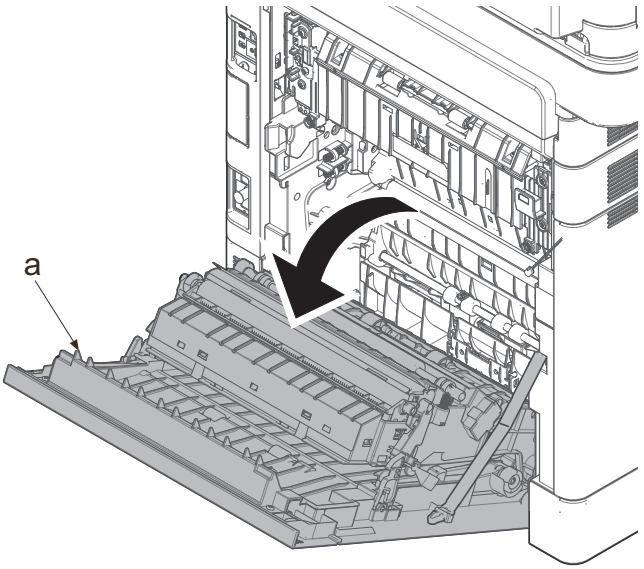


Figure 4-79

2. Remove the screw (a) (M3x8).
3. Slide the upper left cover (b) toward the machine rear side and detach it.

IMPORTANT
When reattaching the upper left cover (b), insert the hook (c) to the machine front side, and then fasten seven hooks (d) by sliding it toward the machine front side.

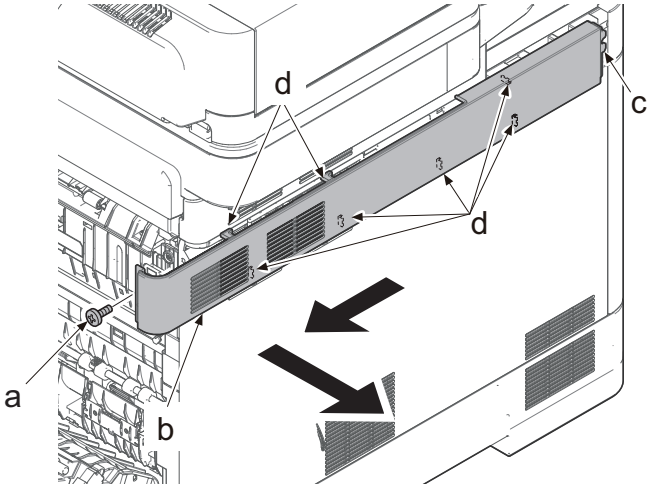


Figure 4-80

(1-7) Detaching and reattaching the middle left cover

<Procedure>

1. Open the rear cover (a).

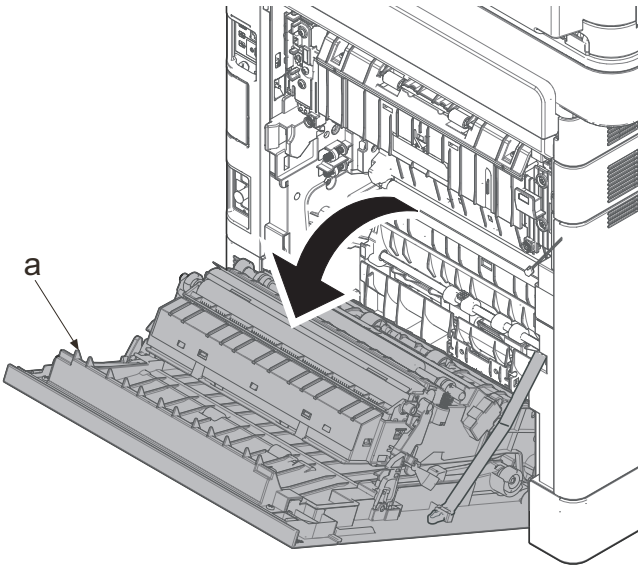


Figure 4-81

2. Remove the screw (a) (M3x8).
3. Slide the upper left cover (b) toward the machine rear side and detach it.

IMPORTANT

When reattaching the upper left cover (b), insert the hook (c) to the machine front side, and then fasten seven hooks (d) by sliding it toward the machine front side.

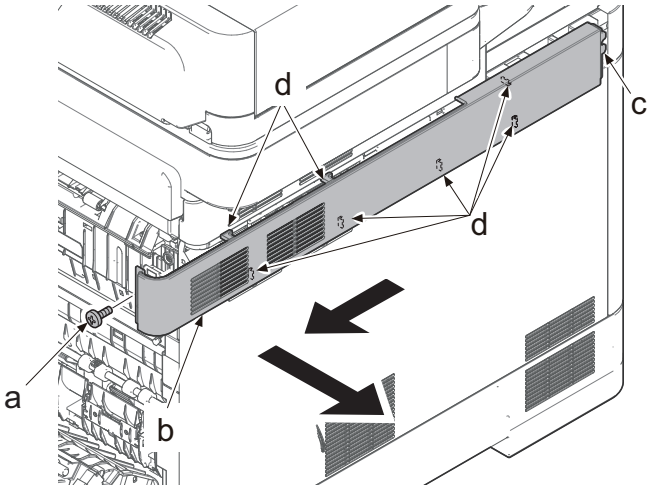


Figure 4-82

4. Lift up the machine rear side of the middle left cover (a) to release three hooks (b).
5. Slide the middle left cover (a) toward the machine rear side to release two hooks (c).
6. Detach the middle left cover (a).

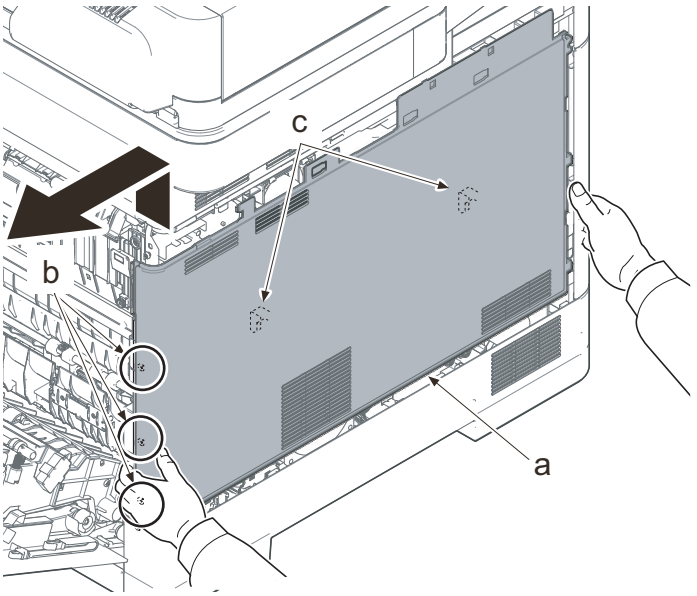


Figure 4-83

IMPORTANT

When reattaching the middle left cover (a), insert the lower rib into the lower left cover (b). And, slide it toward the machine front side to asten three hooks (c) and four hooks (d), then lower the machine rear side of it to fasten three hooks (e) at the machine rear side.

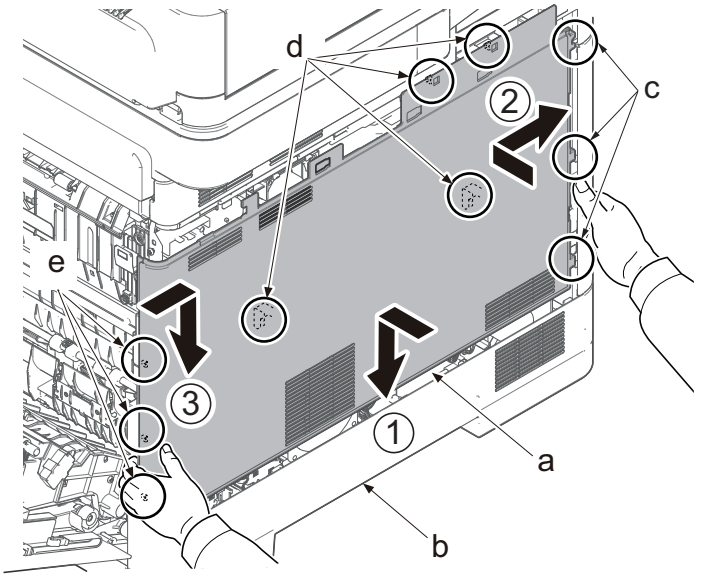


Figure 4-84

(1-8) Detaching and reattaching the lower left cover

<Procedure>

1. Open the rear cover (a).

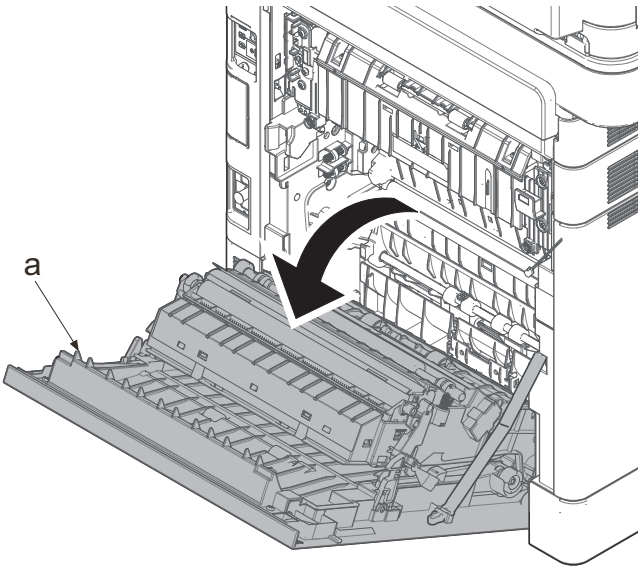


Figure 4-85

2. Remove the screw (a) (M3x8).
3. Slide the upper left cover (b) toward the machine rear side and detach it.

IMPORTANT

When reattaching the upper left cover (b), insert the hook (c) to the machine front side, and then fasten seven hooks (d) by sliding it toward the machine front side.

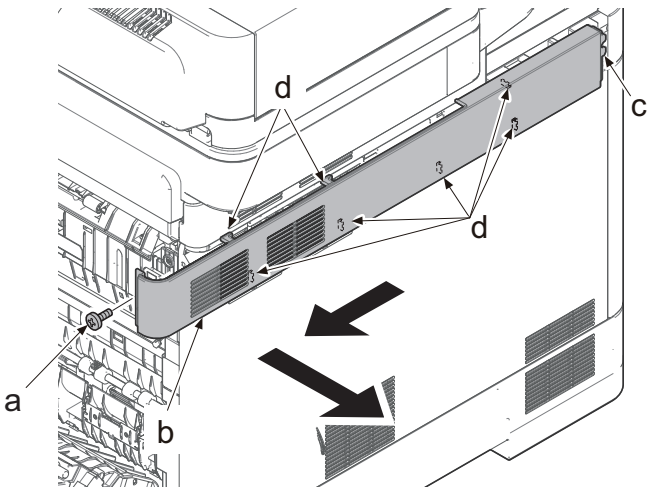


Figure 4-86

4. Lift up the machine rear side of the middle left cover (a) to release three hooks (b).
5. Slide the middle left cover (a) toward the machine rear side to release two hooks (c).
6. Detach the middle left cover (a).

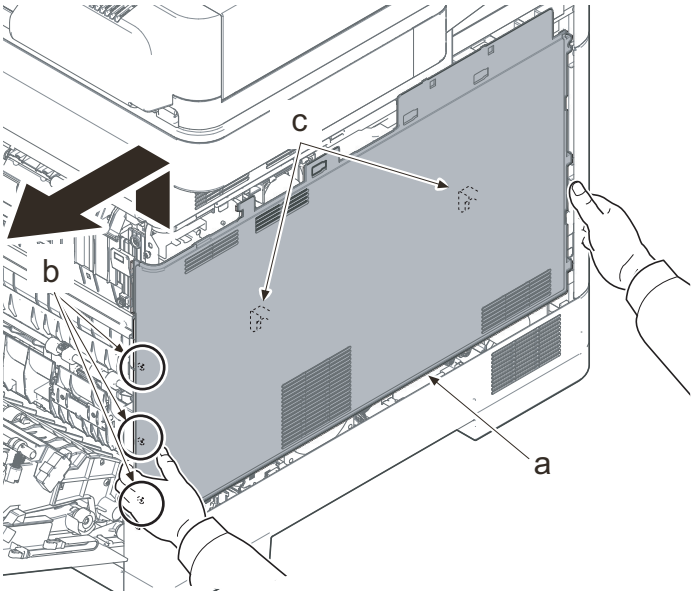


Figure 4-87

IMPORTANT
When reattaching the middle left cover (a), insert the lower rib into the lower left cover (b). And, slide it toward the machine front side to fasten three hooks (c) and four hooks (d), then lower the machine rear side of it to fasten three hooks (e) at the machine rear side.

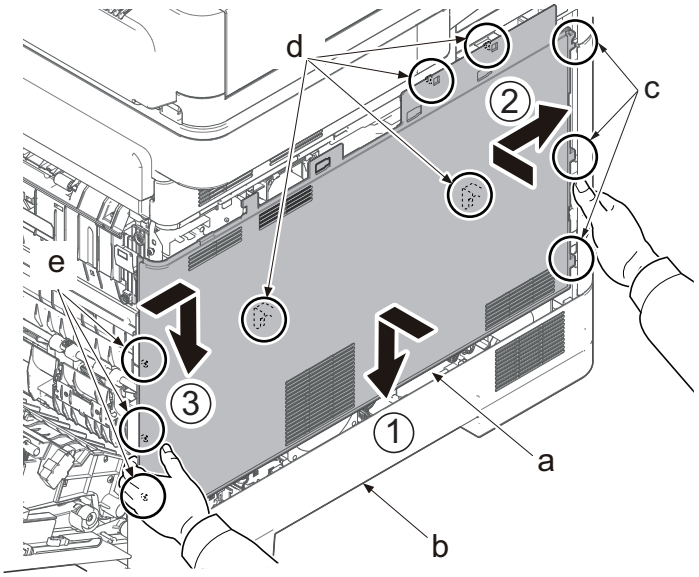


Figure 4-88

7. Remove the screw (a) (M3x8).
8. Pull the rib (b) toward you and release the center hook (c).
9. Detach the lower left cover (d).

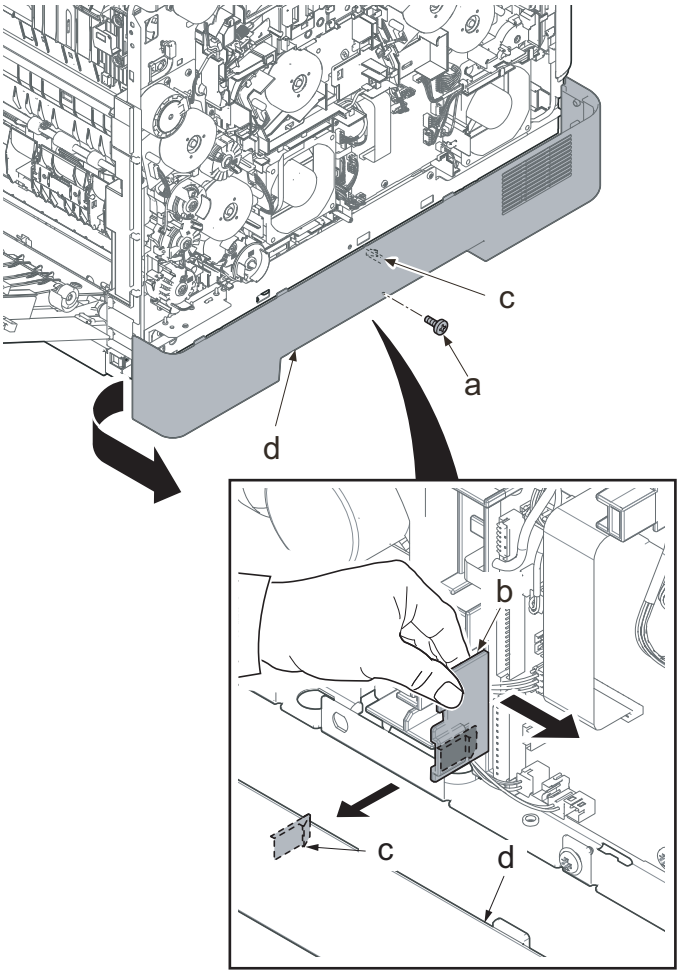


Figure 4-89

IMPORTANT
When attaching the lower left cover (a), insert two bosses (b) at the machine front side into the holes and apply the center hook (c). Then, push it toward the machine rear side.

Check if the hook (c) at the center is surely fastened.

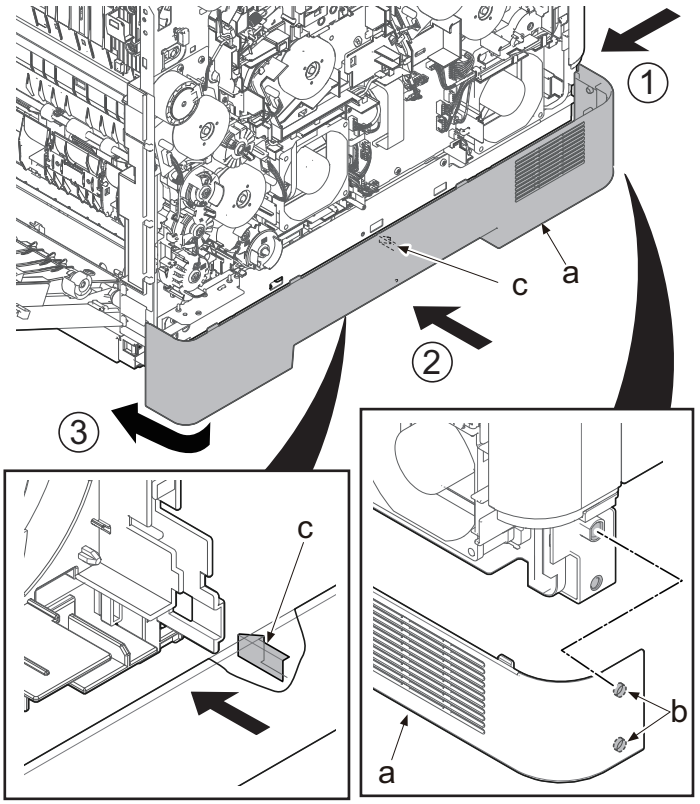


Figure 4-90

4-5 PWBs replacement

(1) Detaching and reattaching the main/engine PWB

<Procedure>

1. Pull the lower part of the opening toward the machine rear side and release the hook (a).
2. Remove the interface cover (b).

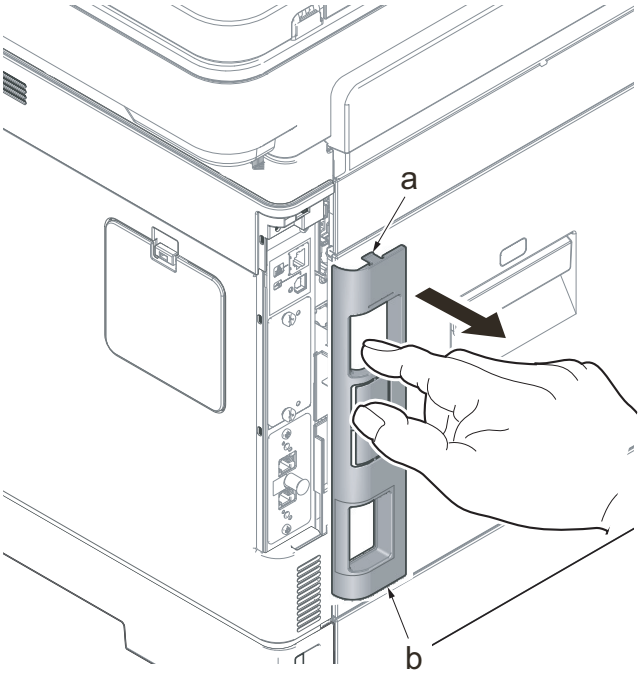


Figure 4-91

3. Remove the screw (a) (M3x8).
4. Slide the upper right cover (b) toward the machine rear side and detach it.

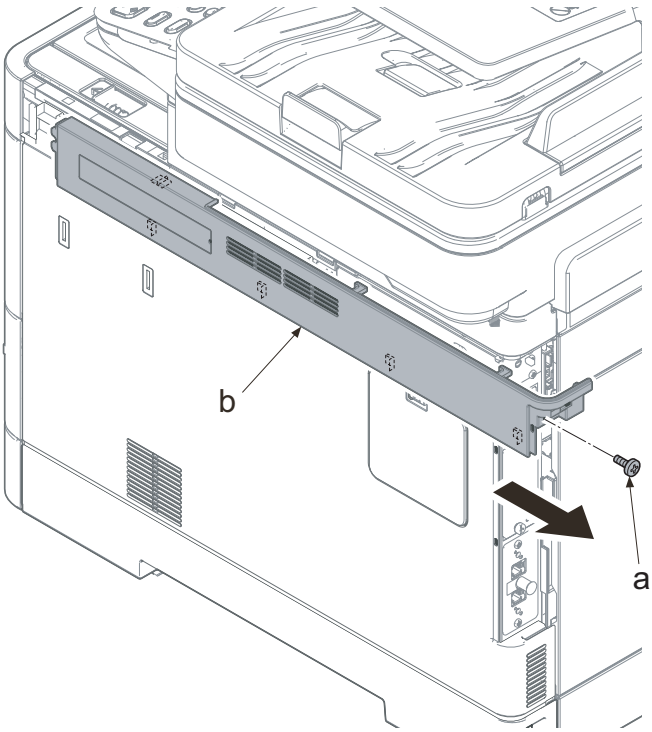


Figure 4-92

IMPORTANT
When reattaching the upper right cover (a), insert the hook (b) to the machine front side, and then fasten seven hooks (c) by sliding it toward the machine front side and insert the positioning projection (d) into the hole.

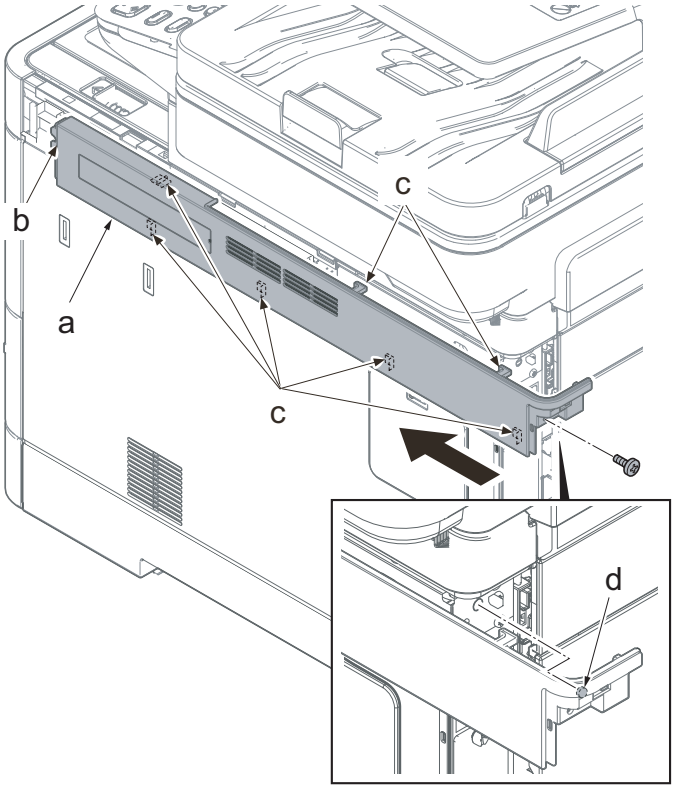


Figure 4-93

5. Open the waste toner cover (a).
6. Press the arm (b) down.
7. Remove the waste toner cover (a).

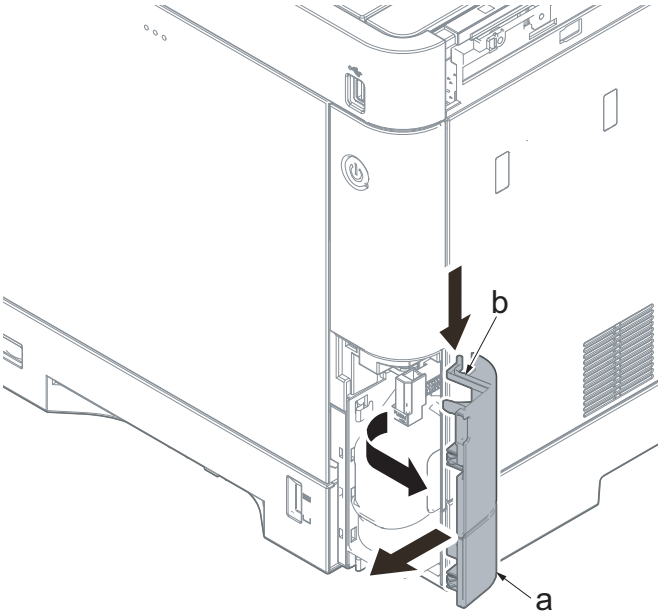


Figure 4-94

8. Push the lever (a) and open the memory cover (b).
9. Remove the memory cover (b).

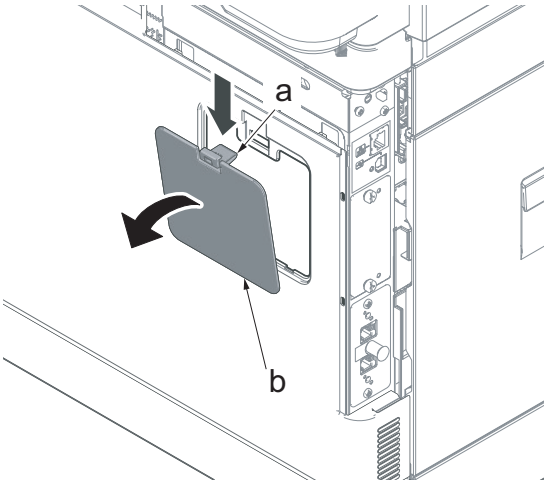


Figure 4-95

10. Pull up the shield lid (a) and pull it toward you to remove it.

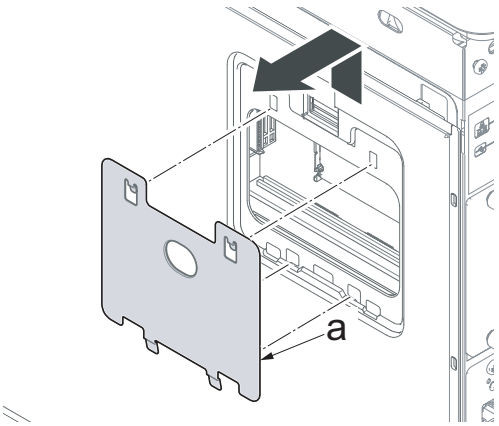


Figure 4-96

11. Open the rear cover (a).

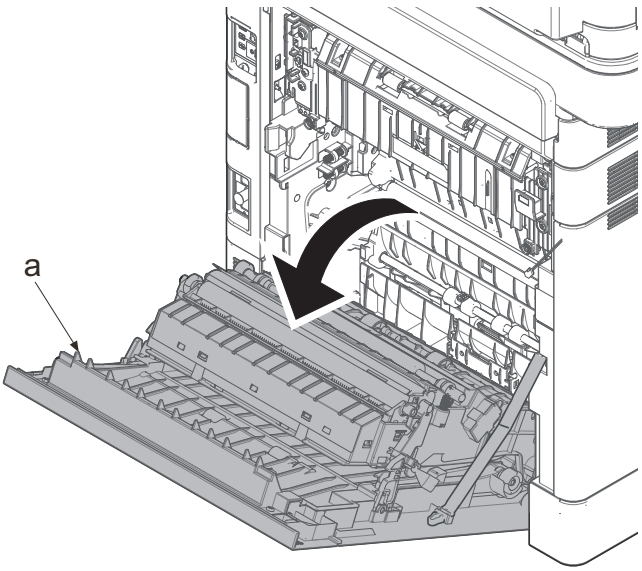


Figure 4-97

12. Push the machine front side of the middle rigth cover (a) toward the machine rear side and then lift up its machine rear side to detach it.

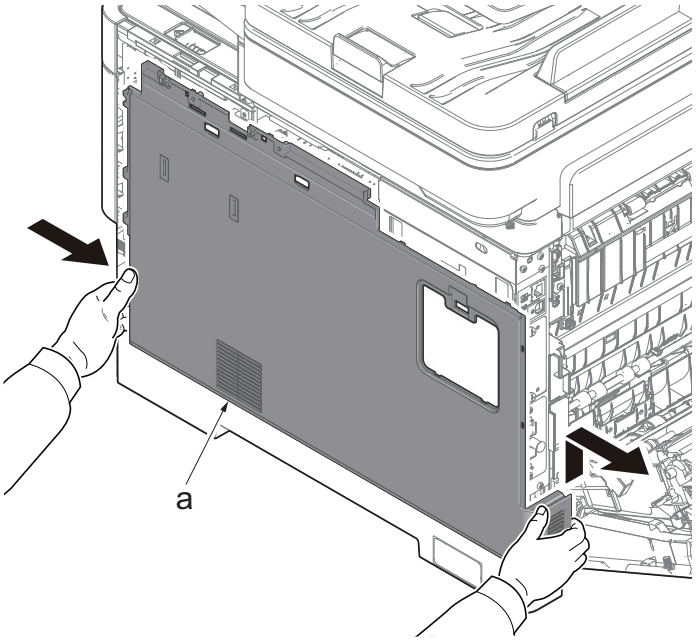


Figure 4-98

IMPORTANT
When reattaching the middle right cover (a), insert the lower rib into the the lower right cover. Slide it toward the machine front side to fasten three hooks (c) and then lower it to fasten three hooks (d), and fasten two hooks (e) at the machine rear side. Check if three hooks (d) at the machine rear side are surely fastened.

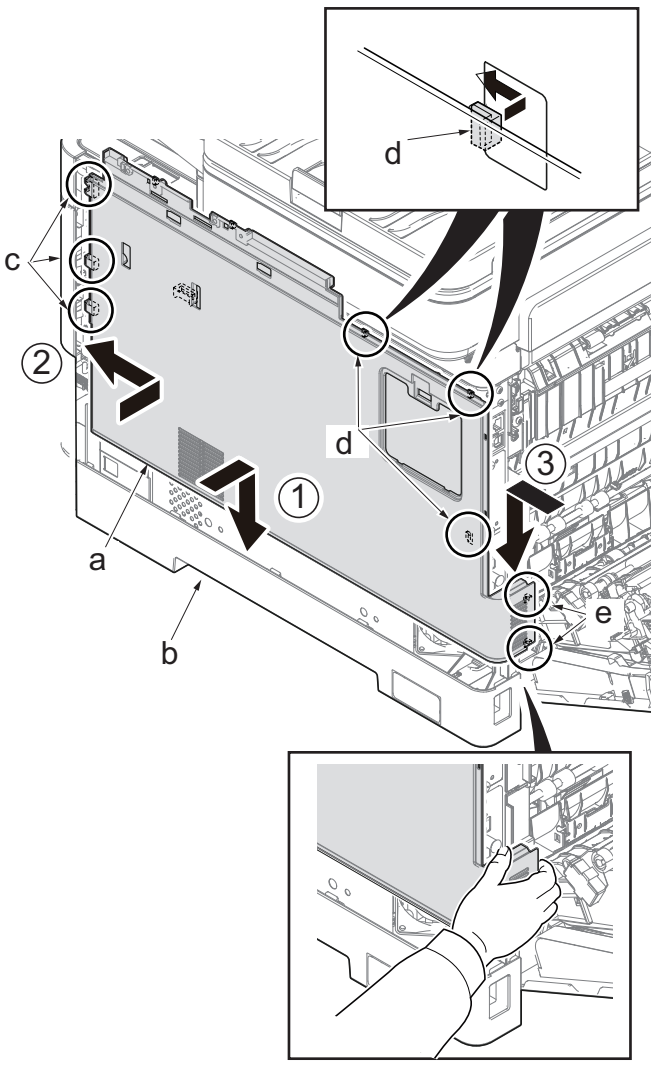


Figure 4-99

13. Remove the network connector cap (a).

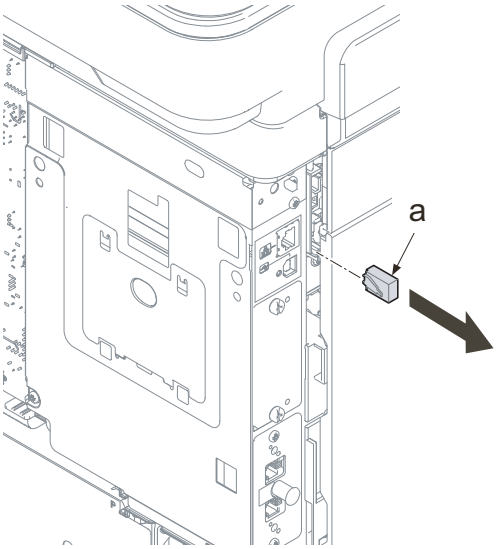


Figure 4-100

14. Remove two screws (a) (M3x8).
15. Detach the FAX unit (b). (For 4in1 model only)
    Remove the optional board, if installed.

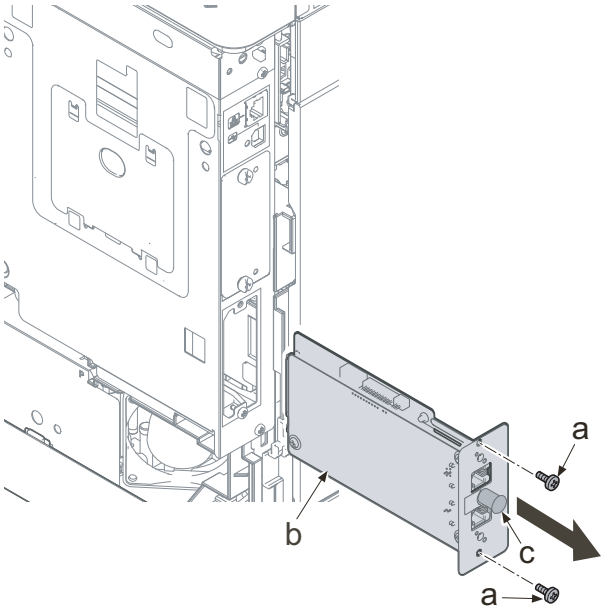


Figure 4-101

16. Remove five screws (a) (M3x8). Remove the ground terminal (c).
17. Remove the screw (b) (M3x6). (for 35 ppm model only)

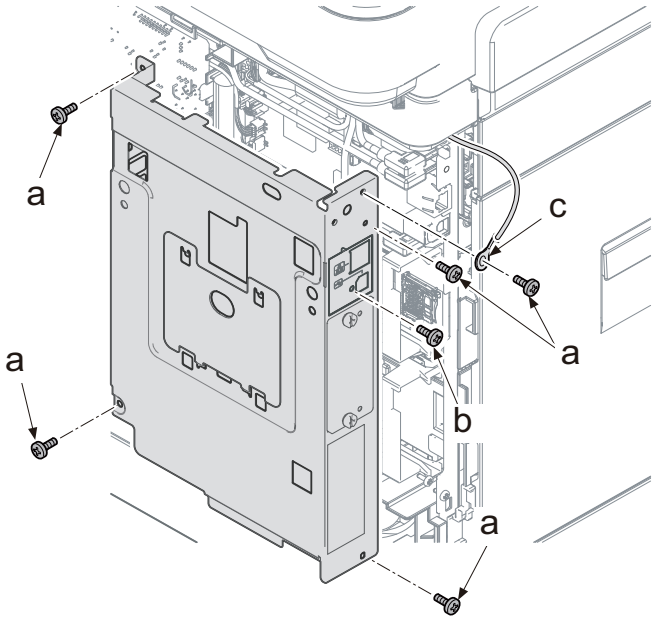


Figure 4-102

18. Remove the network connector (a) while sliding it toward the machine rear side and then remove the controller shield (b).

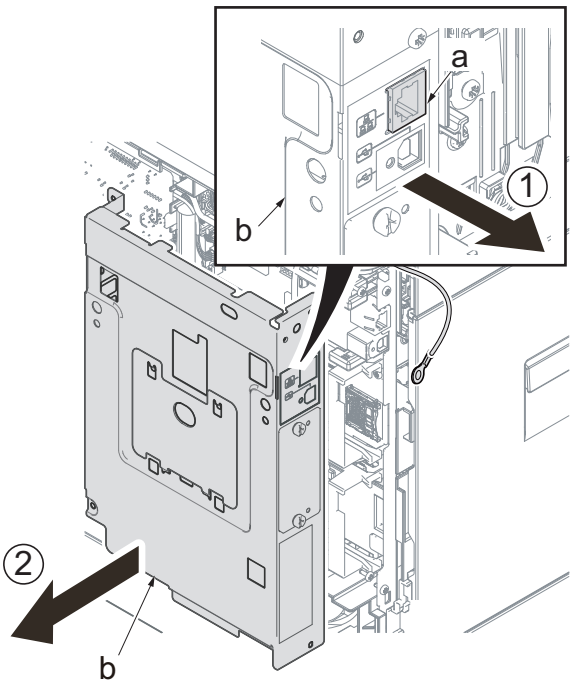


Figure 4-103

IMPORTANT
Pull out the ground wire (b) from the cut-out (c) of the controller shield (a) and secure it with the screw (d) when reattaching the controller shield (a).
The number of the ground wire (b) is one for 30 ppm model, and two for 35 ppm model.

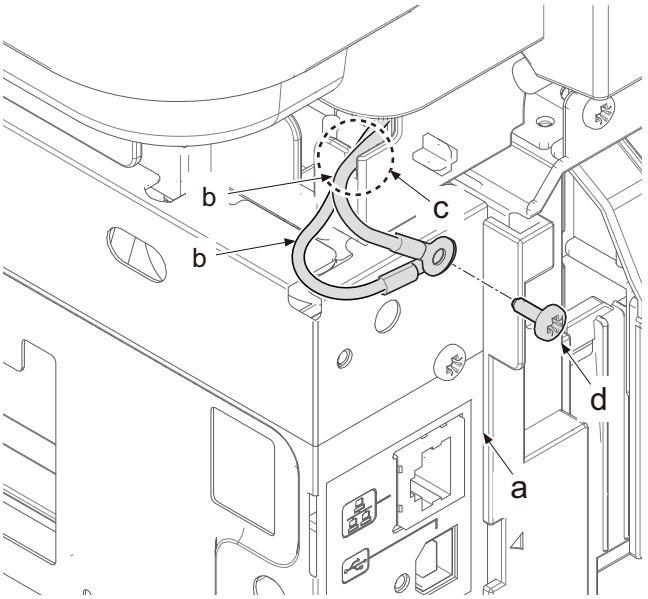


Figure 4-104

19. Open the wire alignment film (c) by releasing its square hole from the hook (b) of the upper PWB guide (a).

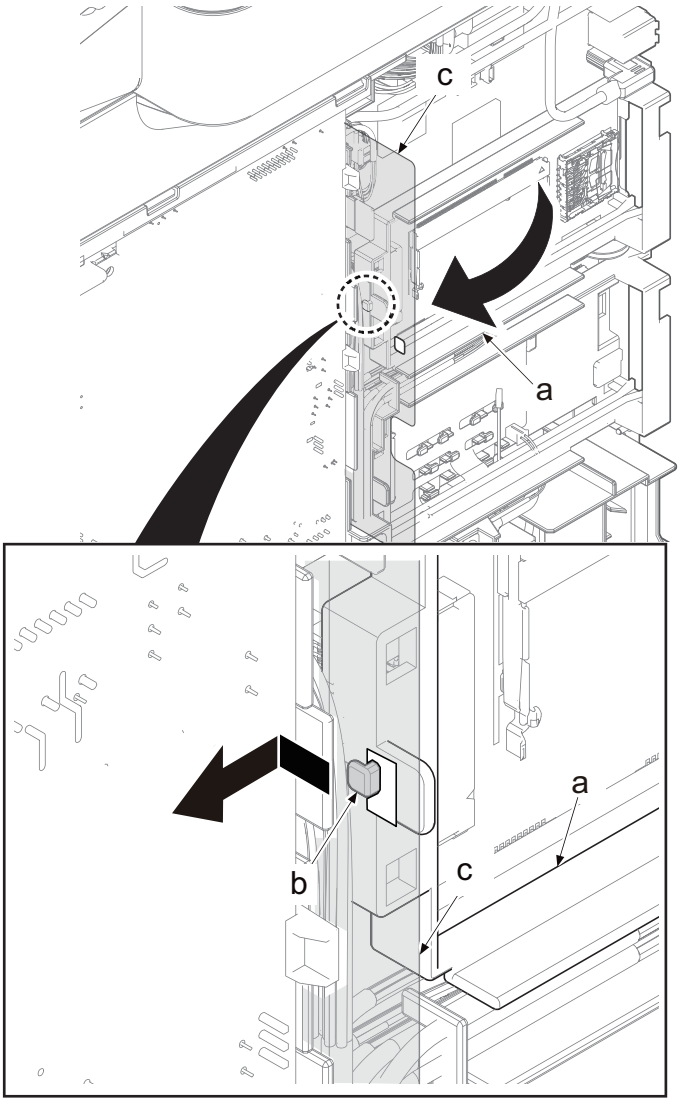


Figure 4-105

20. Release two hooks (b) of the upper and lower PWB guides (a).

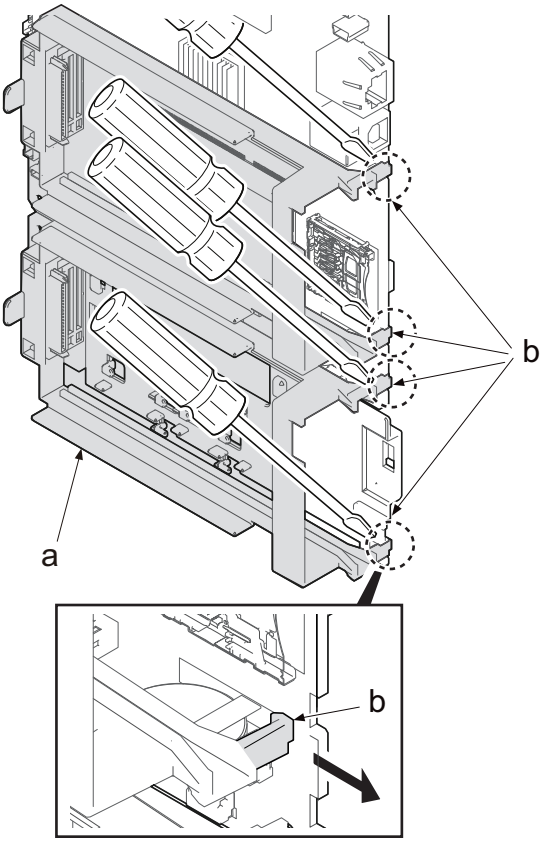


Figure 4-106

21. Slide the PWB guide (a) toward the machine rear side to release two hooks (b).
    *: Only the 4in1 model has the lower PWB guide (c).

IMPORTANT
Check if four hooks (b) are fastened after reattaching the PWB guide (c).
The PWB connector like FAX unit can not be connected without hooking.

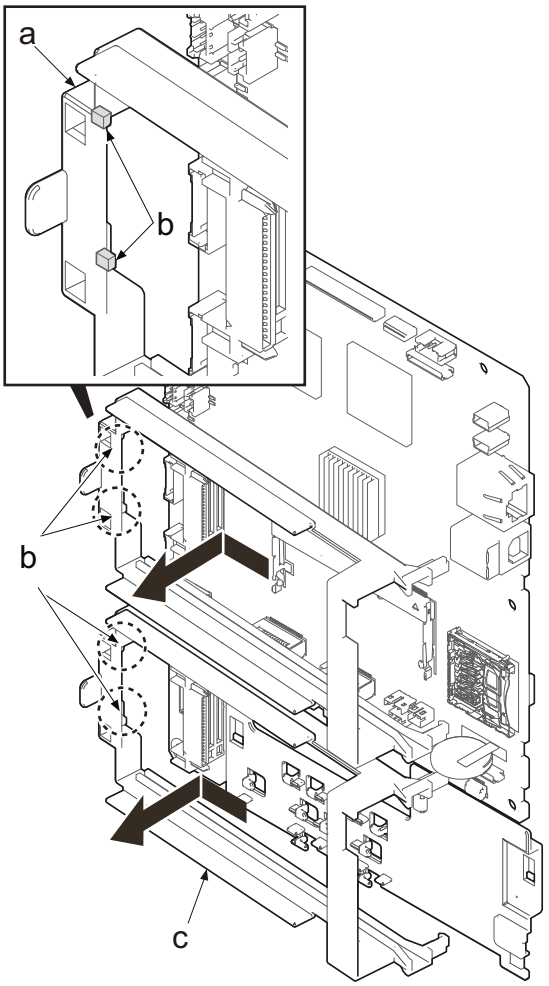
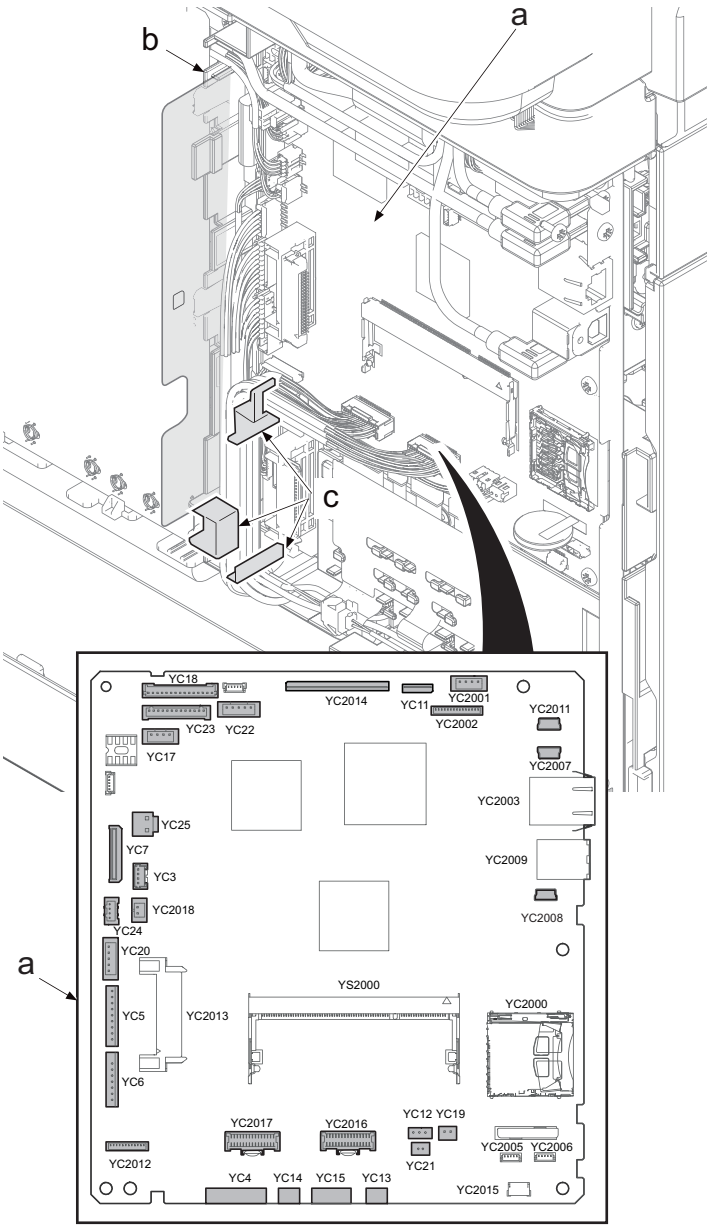


Figure 4-107

22. Disconnect all the connectors and the FFCs from the main/engine PWB (a).
    30 ppm model: 29 connectors
    35 ppm model: 30 connectors
    (YC2001: used in only 35 ppm model)
23. Release the wire from the hook (c) of the wire guide (b).



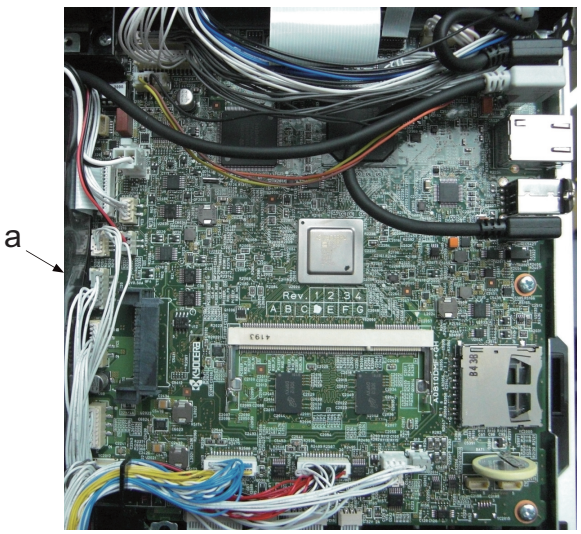


Figure 4-108

*: Remove the wire film (b) when disconnecting the lower FFC (a).

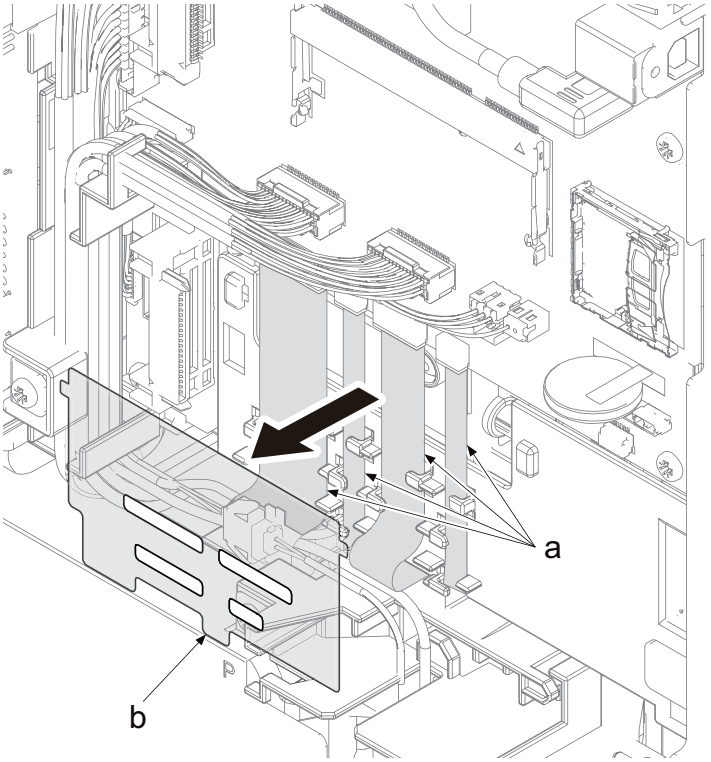


Figure 4-109

24. Remove five screws (a) (M3x8).
25. Remove the main/engine PWB (b).

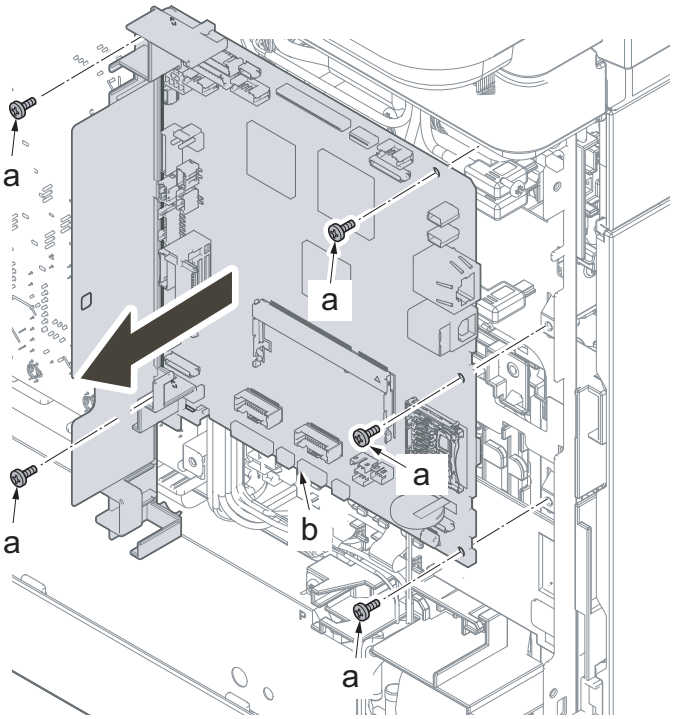


Figure 4-110

26. Release two hooks (a).
27. Remove the wire guide (b).

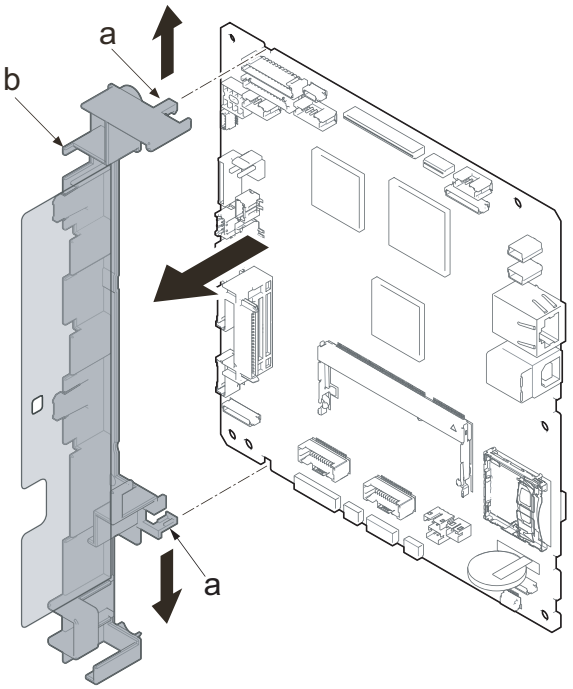


Figure 4-111

28. Replace the EEPROM(U19) (b) from the old PWB (a) to the new one.

29. Check the main/engien PWB and clean or replace it if necessary.
    *: Replace the optional memory from the old PWB to the new one, if installed.
30. Reattach the parts once removed.

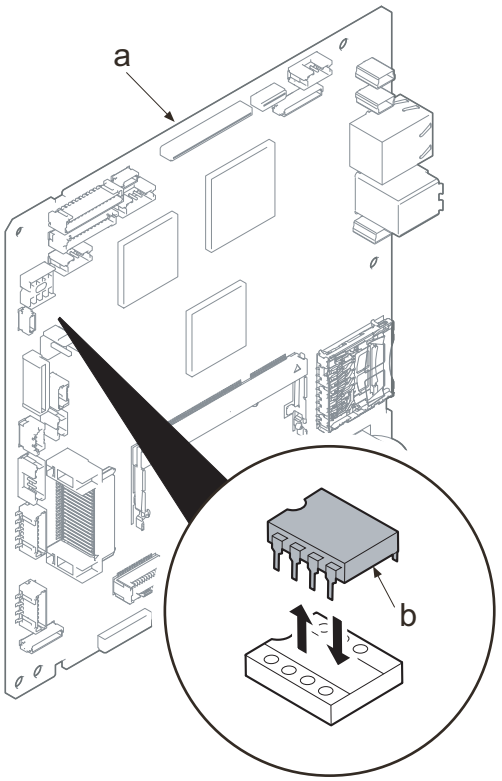


Figure 4-112

(2) Procedure to be followed after the main/engine PWB has been replaced

Notes when replacing the main PWB

1. The C0180 (Machine number mismatch) is displayed when the device is powered up after its main/engine PWB has been replaced. Store the serial number data for the main/engine PWB by using U004.
2. Since the MAC address changes, check the network settings.
   Example: If the printer name is registered with the IP address, reset the IP address.

Execute the following after replacing the main/engine PWB.

(2-1) Upgrade the software

Upgrade the main and the engine firmware to the latest version, and install the option language and color table (1,2). (See page P.5-6)

(2-2) Adjust the scanner image

Execute maintenance mode U411 with the auto scanner adjustment chart. (See page P.6-52)

(2-3) Adjust the image

Execute the Color Calibration

30 ppm model

1. Display the screen.
   [System Menu/Counter] key > [▲][▼] key > [Adjustment/Maintenance] >
   [OK] key > [▲][▼] key > [Color Calibration] > [OK] key
2. Adjust
   Select [Yes} to execute the color calibration.
   [Color Calibration] is executed and [Adjustment/Maintenance] is displayed when completing it.

35 ppm model

1. Display the screen.
   [System Menu/Counter] key> [Adjustment/Maintenance] > [Color Calibration].

2. Adjust
   Select [Execute]. Start [Color Calibration]

Execute the Color Registration

Normal correction

30 ppm model

1. Display one screen
   [System Menu/Counter] key > [▲][▼] key > [Adjustment/Maintenance] >
   [OK] key > [▲][▼] key > [Color Registration] > [OK] key > [▲][▼] key >
   [Normal] > [OK] key

2. Print chart
   [▲][▼] key > [Print chart] > [OK] key > [Yes]
   The charts are printed. The chart indicating H-L (left), V (center) and H-R (right) per each color M (Magenta), C (Cyan) and Y (Yellow) is printed. After printing, the color registration correction (Normal) is displayed.

Chart sample (normal)

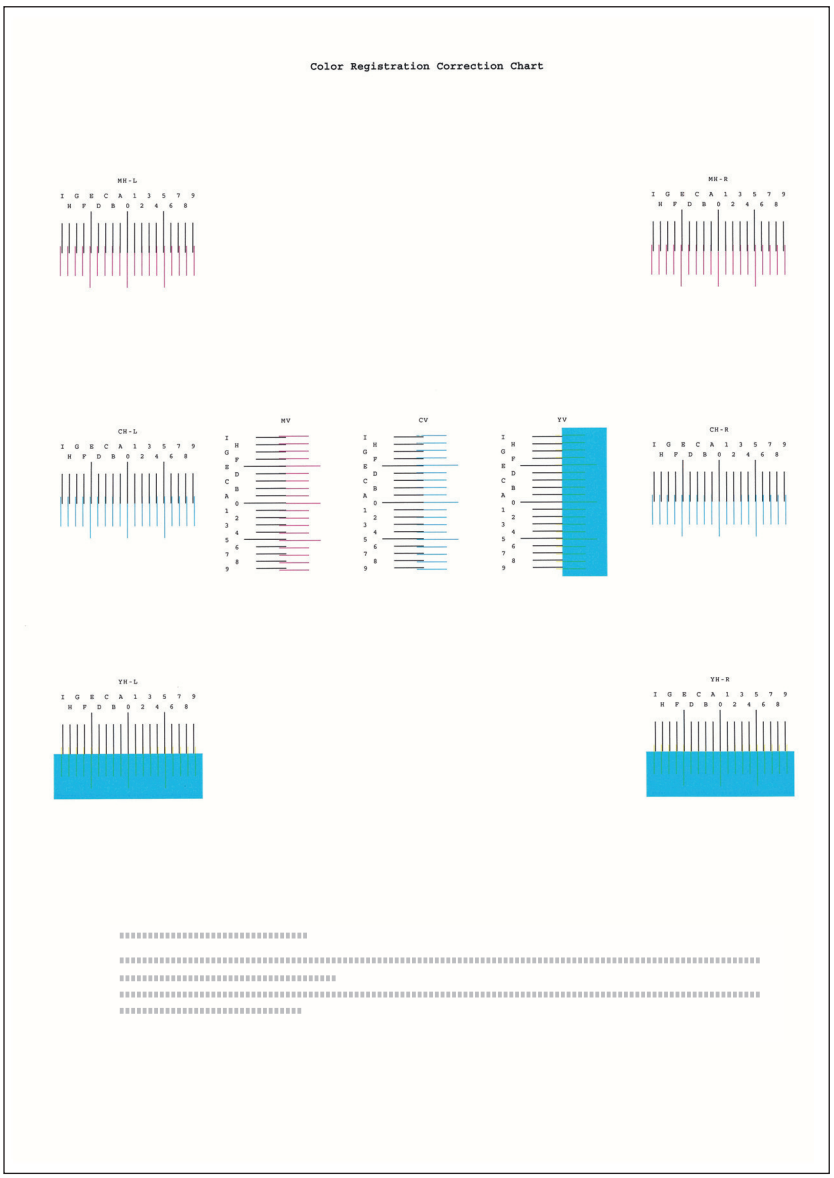


Figure 4-113

3. Indicate the correction menu.
   [▲][▼] key > [Magenta] > [OK] key
   The correctikon menu for Magenta is displayed.

4. Input values.
   (1)Find the point where two lines are most aligned from each chart. If it is at "0", the correction is unnecessary. In case of the illustration below, "B" is the value that should be set.

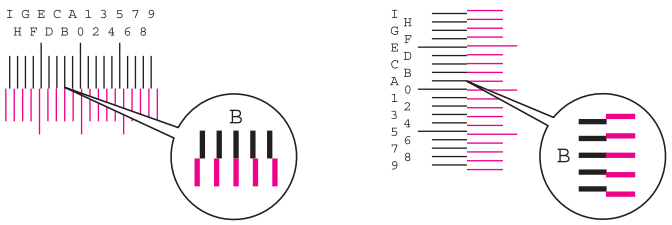


Figure 4-114

(2)Select [◄] or [►] key to change the values of H to L, V and H to R. Select [▲] or [▼] key to input the values read from the chart and press [OK] key.
After a while completing the Magenta correction, the color registration correction (Normal) is displayed.
Select [▲] key to shift the value 0 to 9. Select [▲] key when proceeding in the reverse direction.
Select [▼] key to shift the value from 0 to alphabets of A to I. Select [▲] key when proceeding in the reverse direction.
Numeric keys input is not available.

(3)Repeat step 3 and 4 to adjust Cyan and Magenta.

35 ppm model

1. Display the screen.
   [System Menu/Counter] key > [Adjustment/Maintenance > [Color Registration] > [Normal]

2. Print chart
   Select [Print Chart].
   The charts are printed. The chart indicating H-L (left), V (center) and H-R (right) per each color M (Magenta), C (Cyan) and Y (Yellow) is printed.

Chart sample (normal)

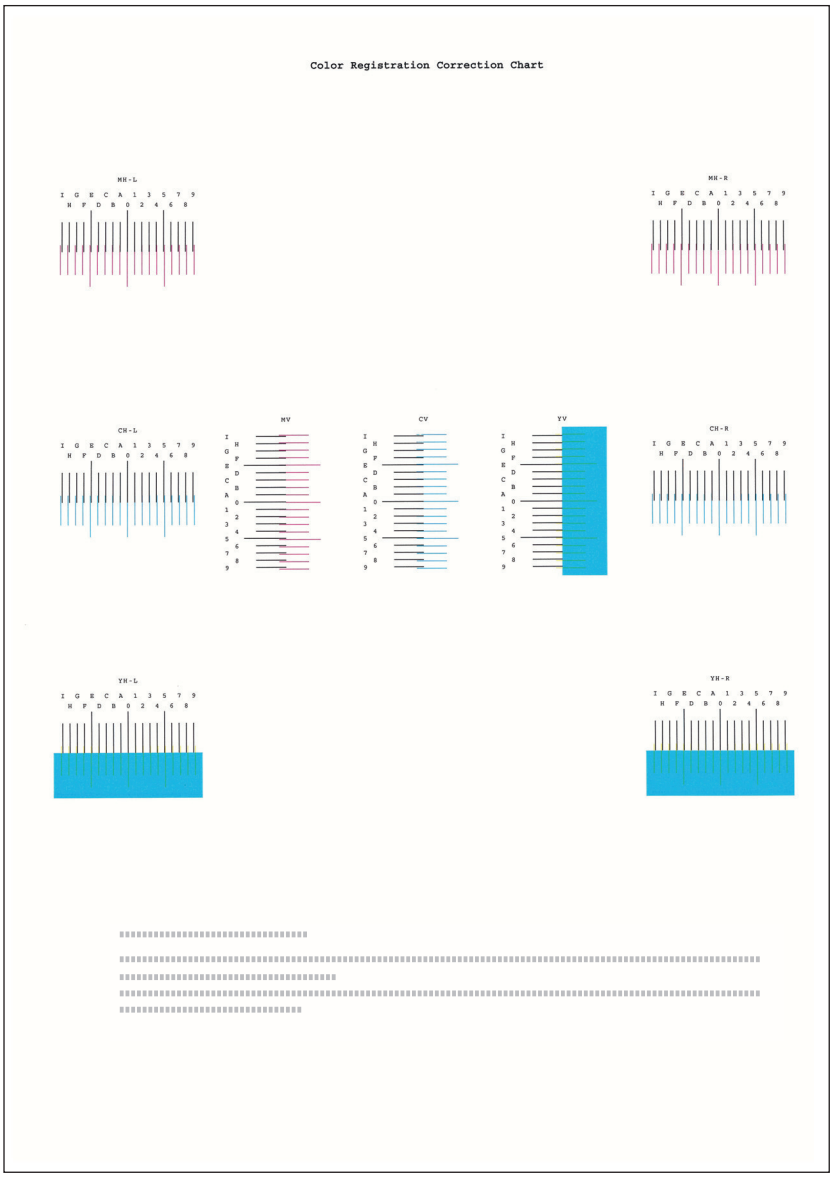


Figure 4-115

3. Input values.
   (1)Find the point where two lines are most aligned from each chart. If it is at "0", the correction is unnecessary. In case of the illustration below, "B" is the value that should be set.

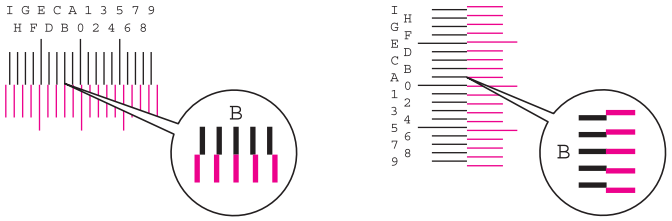


Figure 4-116

(2)Executing Color Registration
(3)Select [Print Chart].
(4)Select [+] or [-] to input the value read from the chart.
Select [+] to shift the values of 0 to 9. Press the [-] to go in reverse.
Select [-] to shift the value from 0 to alphabets of A to I. Press the [-] to go in reverse.
Numeric keys input is not available.
(5)Repeat step (3) and (4) to input the correction values for each chart.
(6)Select [Execute] after inputting all. Start [Color Registration]
(7)Select [OK] when completing the color registration adjustment.

Detailed settings

30 ppm model

1. Display the screen.
   [System Menu/Counter] key > [▲][▼] key > [Adjustment/Maintenance] > [OK] key > [▲][▼] key > [Color Registration] > [OK] key > [▲][▼] key > [Detail] > [OK] key

2. Print chart
   [▲][▼] key > [Print chart] > [OK] key > [Yes]
   The charts are printed. The chart indicating H1 to H5 (upper) and V1 to V5 (lower) per each color M (Magenta), C (Cyan) and Y (Yellow) is printed.
   After printing, the color registration correction (Detail) is displayed.

Chart sample (detail)

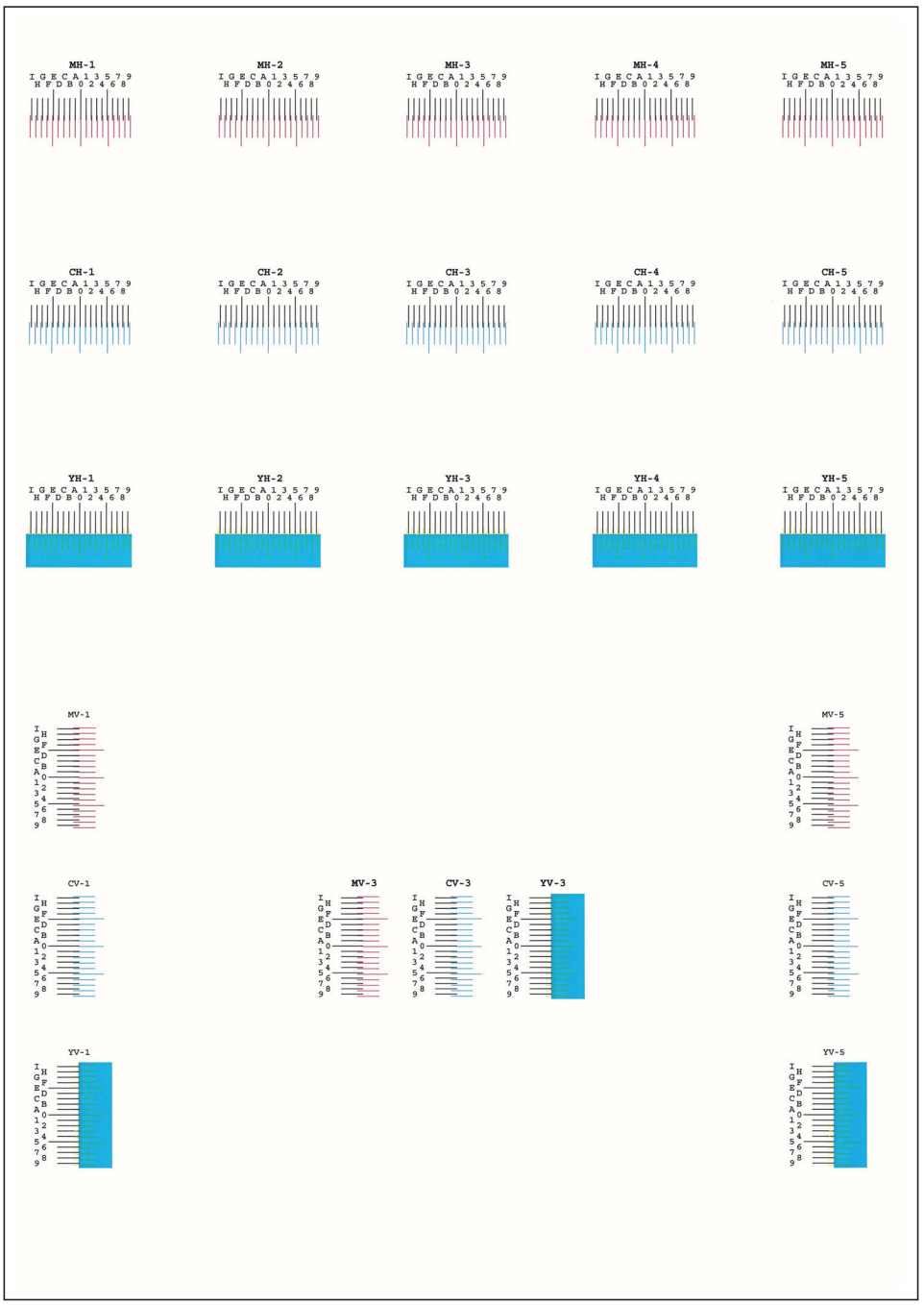


Figure 4-117

3. Indicate the correction menu.
   [▲][▼] key > [Magenta] > [OK] key
   The correctikon menu for Magenta is displayed.

4. Input values.
   (1)Find the point where two lines are most aligned from each chart. If it is at "0", the correction is unnecessary. In case of the illustration below, "B" is the value that should be set.

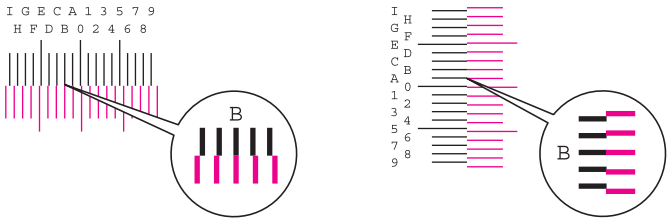


Figure 4-118

   (2)Read the values from H1 to H5 in the chart.
   Read the value of V-3 (center) only of V1 to V5 in the chart.

   (3)Select [◄] or [►] key to change the valuse of H-1to H-5 and V-3. Select [▲] or [▼] key to input the values read from the chart and press [OK] key.
   After a while completing the Magenta correction, the color registration correction (Detail) is displayed.
   Select [▲] key to shift the value 0 to 9. Select [▲] key when proceeding in the reverse direction.
   Select [▼] key to shift the value from 0 to alphabets of A to I. Select [▲] key when proceeding in the reverse direction.
   Numeric keys input is not available.
   (4)Repeat step 3 and 4 to adjust Cyan and Magenta.

35 ppm model

1. Display the screen.
   [System Menu/Counter] key > [Adjustment/Maintenance] > [Color Registration] > [Detail]
2. Print chart
   Select [Print Chart].
   The charts are printed. The chart indicating H1 to H5 (upper) and V1 to V5 (lower) per each color M (Magenta), C (Cyan) and Y (Yellow) is printed.

Chart sample (detail)

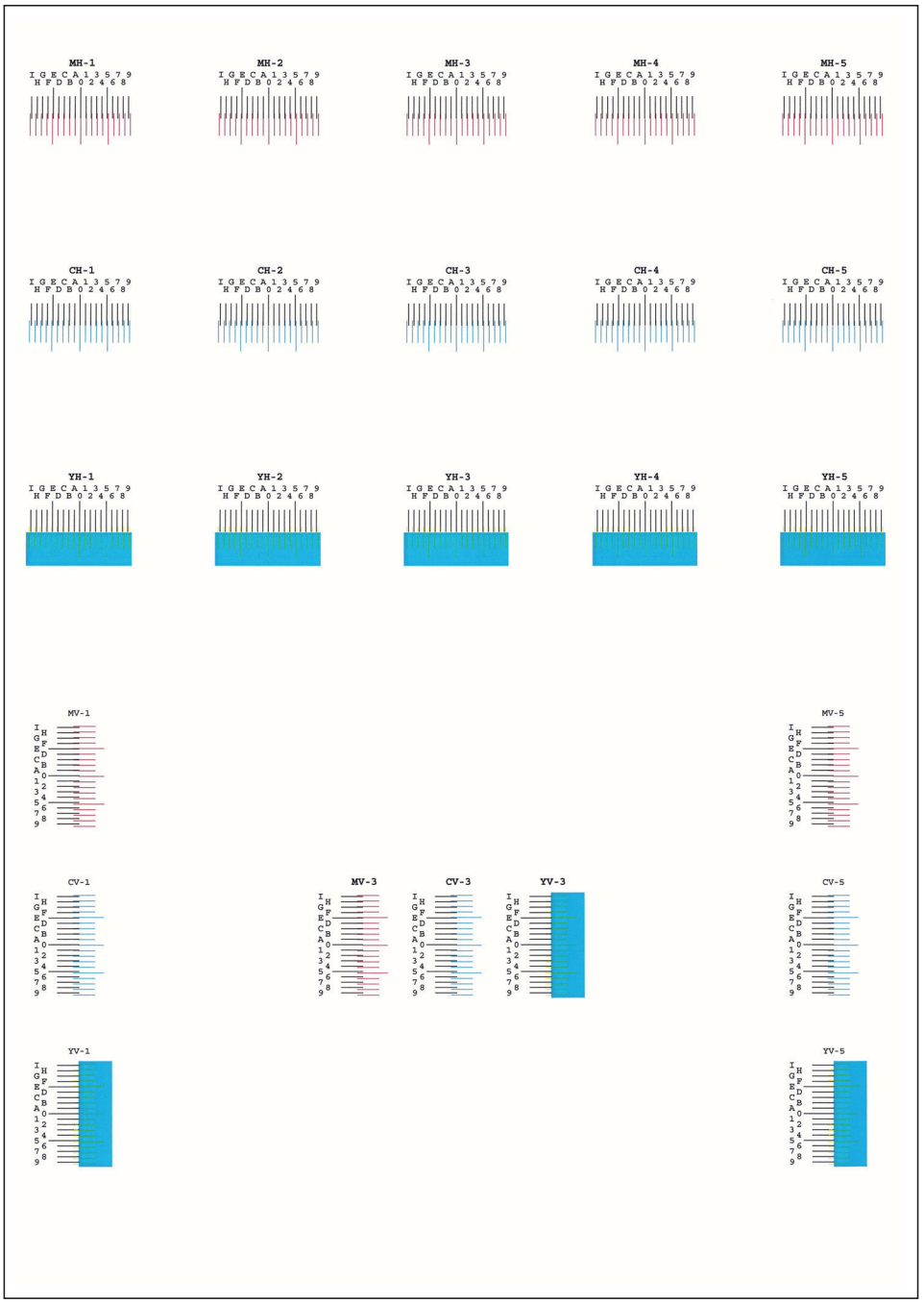


Figure 4-119

3. Input values.
   (1)Find the point where two lines are most aligned from each chart. If it is at "0", the correction is unnecessary. In case of the illustration below, "B" is the value that should be set.

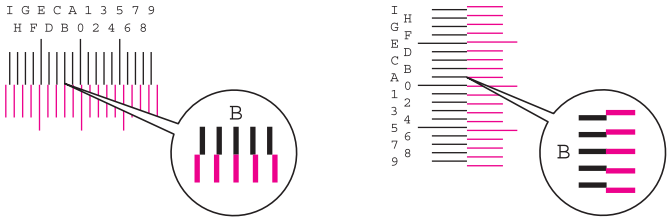


Figure 4-120

(2)Read the values from H1 to H5 in the chart.
Read the value of V-3 (center) only of V1 to V5 in the chart.

(3)[Detail] > [Color Registration]
(4)Select [Print Chart].
(5)Select [+] or [-] to input the value read from the chart.
Select [+] to shift the values of 0 to 9. Press the [-] to go in reverse.
Select [-] to shift the value from 0 to alphabets of A to I. Press the [-] to go in reverse.
Numeric keys input is not available.
(6)Repeat the step (4) and (5) to input the values in the chart
(7)Select [Execute] after completing all the inputs. Start [Color Registration]
(8)Select [OK] when completing the color registration adjustment.

U410 Adjusting the halftone automatically

1.Input "10871087" to enter the maintenance mode.
2.Input "410" using the numeric keys and press the [Start] key.
3.Select [Normal Mode].
4.Press the [Start] key.
5.Test pattern 1 and test pattern 2 are printed on A4 size paper.
6.Set the test pattern 1 as an original.
* :Place 20 sheets of white paper on the test pattern 1.
7.Press the [Start] key.
* :First auto adjustment is executed.
8.Set the test pattern 2 as an original.
9.Press the [Start] key.
* :Second auto adjustment is executed.
10.[Finish] appears after normal completion.
An error code is indicated when an error occurs.

(2-4) Import the backup data

If the data is exported with maintenance mode U917, import it before replacing the main/engine PWB.
(See page P.6-92)
(KYOCERA Net Viewer is also available.)

(2-5) Re-activate the license

Re-activate the license if optional licensed product is installed.
1.Card Authentication Kit (B)
*: When using the SSFC card, execute maintenance mode U222 and set [SSFC].
(See page P.6-39)
2.UG-33 (ThinPrint)
3.Data Security Kit (E)
*: Re-input four-digit encrypted code that was input at setup.

(2-6) Reset the initial values

Reset the Fax initial values such as user initial values and phone number from the System Menu and Command Center.

(2-7) Reset the maintenance items

Reset the maintenance items below if necessary.

No.	Maintenance
U250	Maintenance counter preset
U251	Maintenance
U253	Double/single count switch
U260	Feed/eject counter switch
U345	Maintenance timing pre-caution setting
U402	Print margin adjustment
U403	Scanning margin adjustment (table)
U404	Scanning margin adjustment (DP)
U425	Target adjustment

No.	Maintenance
U603	User data 1
U604	User data 2
U610	System 1
U611	System 2
U612	System 3
U625	Communication setting
U695	Fax function customization

Exit maintenance mode

Input "001" using the numeric keys and press the [Start] key.

(3) Detaching and reattaching the engine relay PWB

<Procedure>

1. Open the rear cover (a).

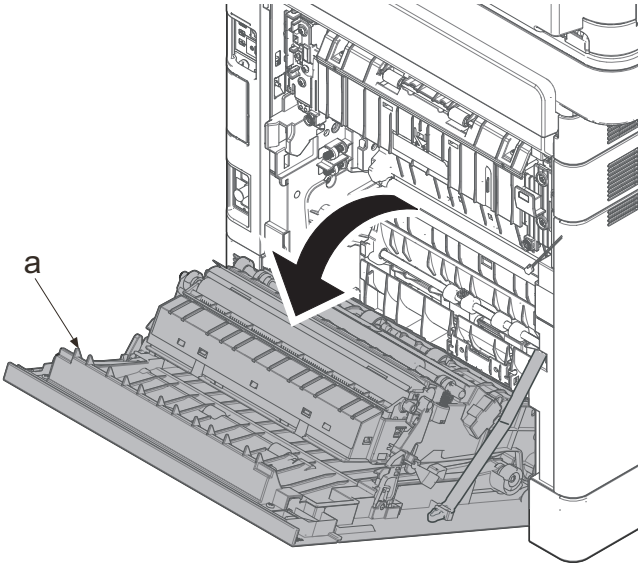


Figure 4-121

2. Remove the screw (a) (M3x8).
3. Slide the upper left cover (b) toward the machine rear side and detach it.

IMPORTANT
When reattaching the upper left cover (b), insert the hook (c) to the machine front side, and then fasten seven hooks (d) by sliding it toward the machine front side.

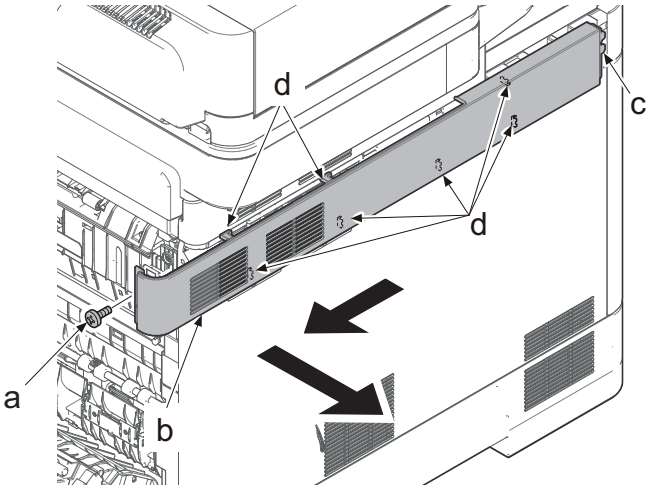


Figure 4-122

4. Lift up the machine rear side of the middle left cover (a) to release three hooks (b).
5. Slide the middle left cover (a) toward the machine rear side to release two hooks (c).
6. Detach the middle left cover (a).

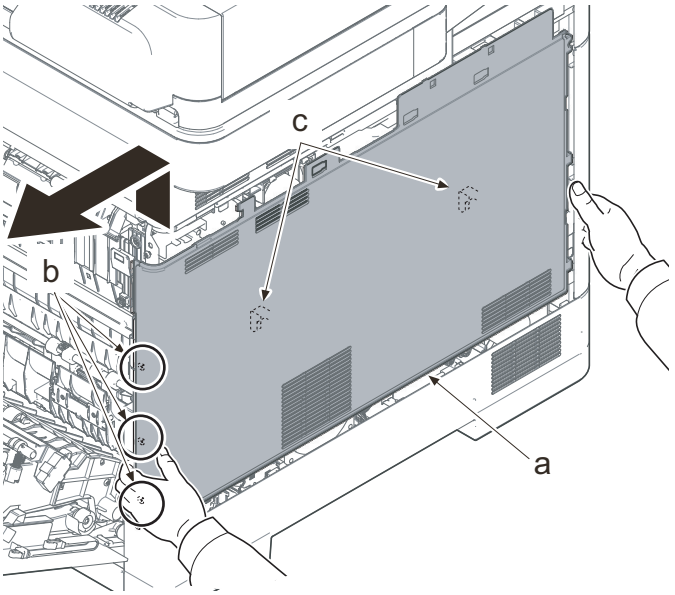


Figure 4-123

IMPORTANT

When reattaching the middle left cover (a), insert the lower rib into the lower left cover (b). And, slide it toward the machine front side to fasten three hooks (c) and four hooks (d), then lower the machine rear side of it to fasten three hooks (e) at the machine rear side.

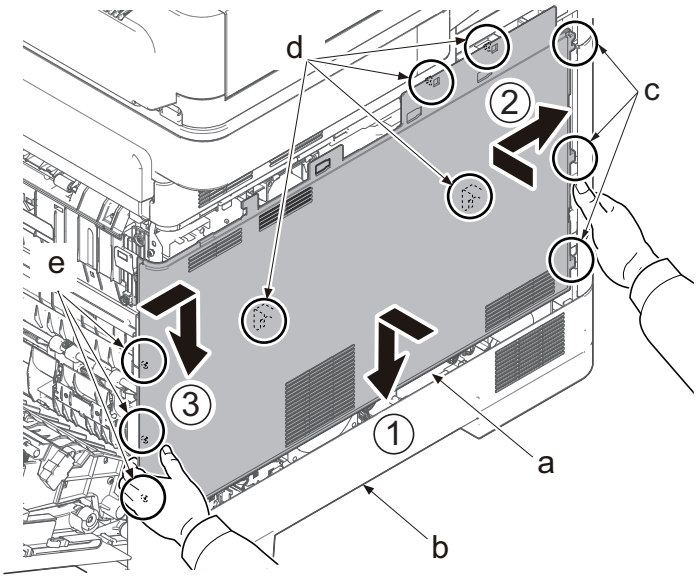


Figure 4-124

7. Remove the screw (a) (M3x8).
8. Pull the rib (b) toward you and release the center hook (c).
9. Detach the lower left cover (d).

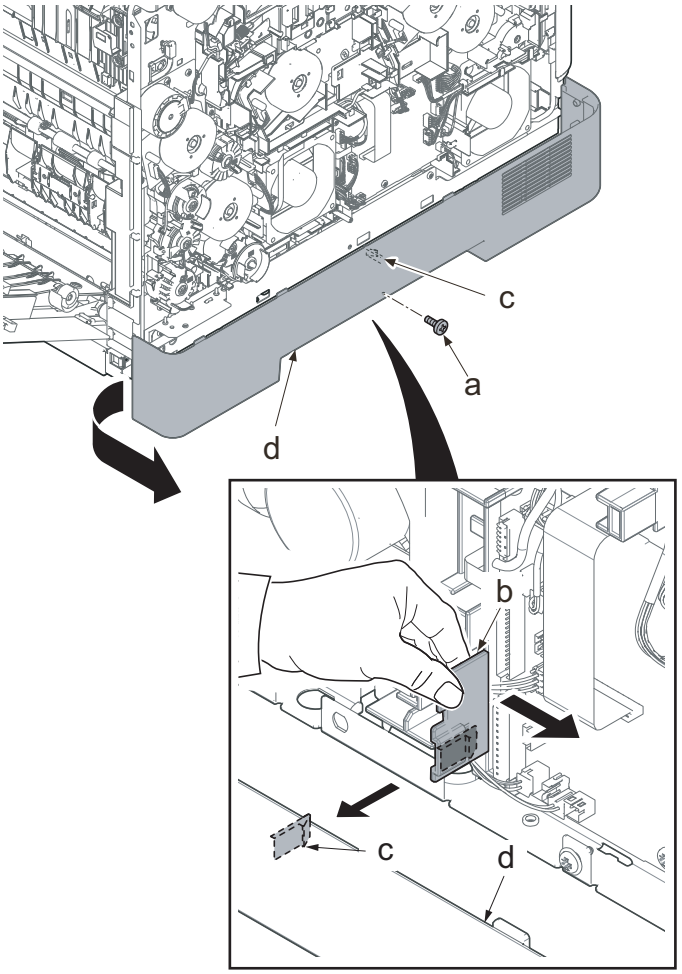


Figure 4-125

IMPORTANT
When attaching the lower left cover (a), insert two bosses (b) at the machine front side into the holes and apply the center hook (c). Then, push it toward the machine rear side.

Check if the hook (c) at the center is surely fastened.

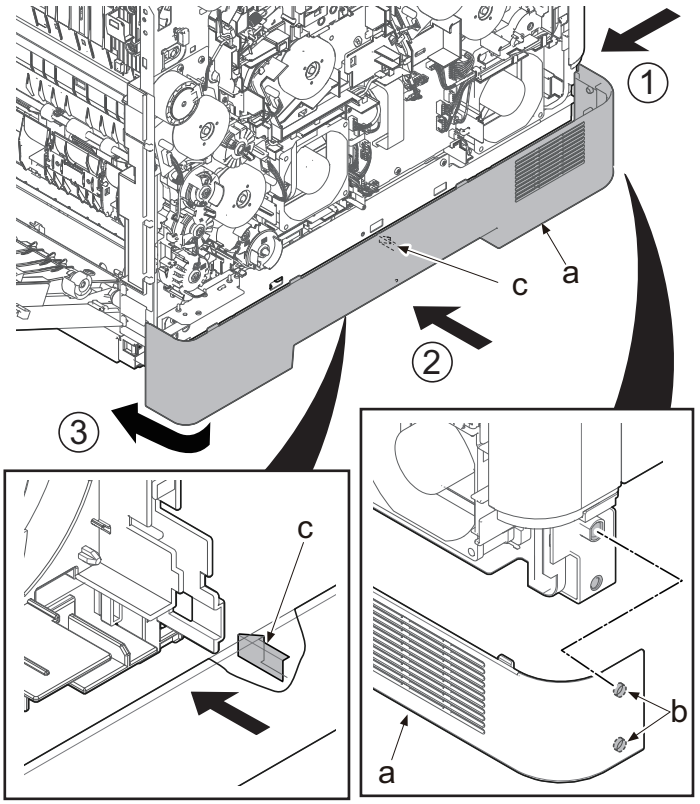


Figure 4-126

10. Disconnect all the connectors and FFCs from the engine relay PWB (a). (24 connectors)

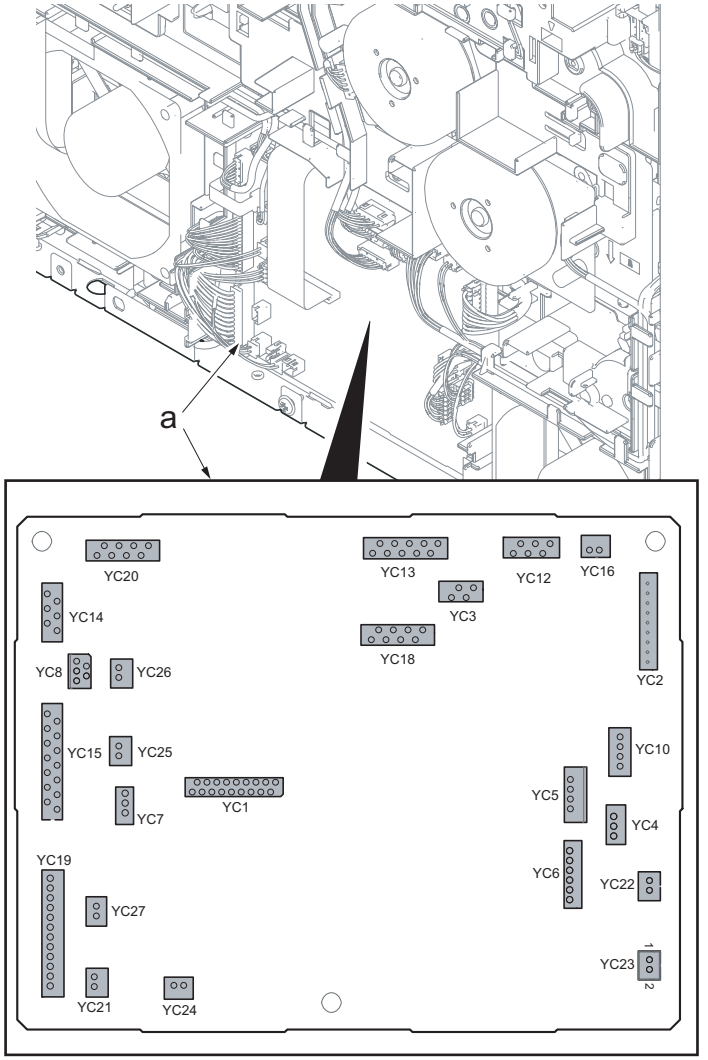


Figure 4-127

11. Remove three screws (a) (M3x8).
12. Detach the engine relay PWB (b).
13. Check the engien relay PWB and clean or replace it if necessary.
14. Reattach the parts once removed.

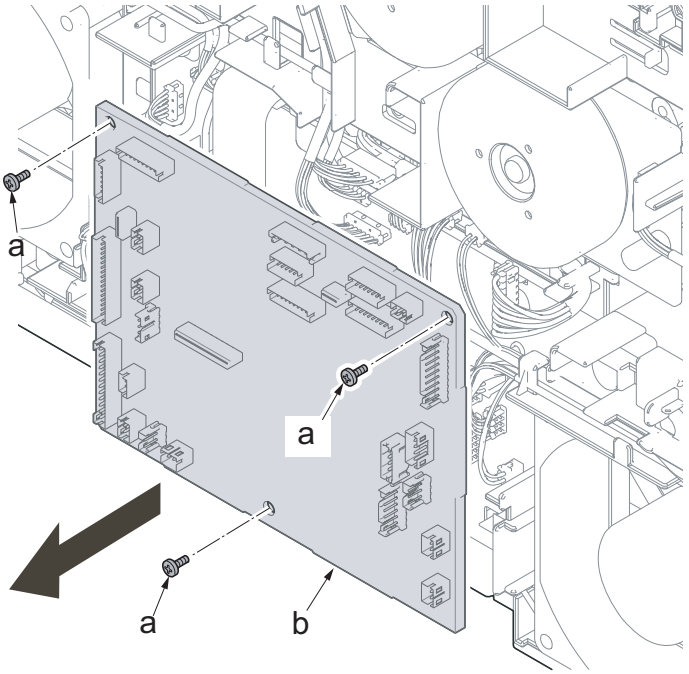


Figure 4-128

(4) Detaching and reattaching the high-voltage PWB

<Procedure>

1. Pull the lower part of the opening toward the machine rear side and release the hook (a).
2. Remove the interface cover (b).

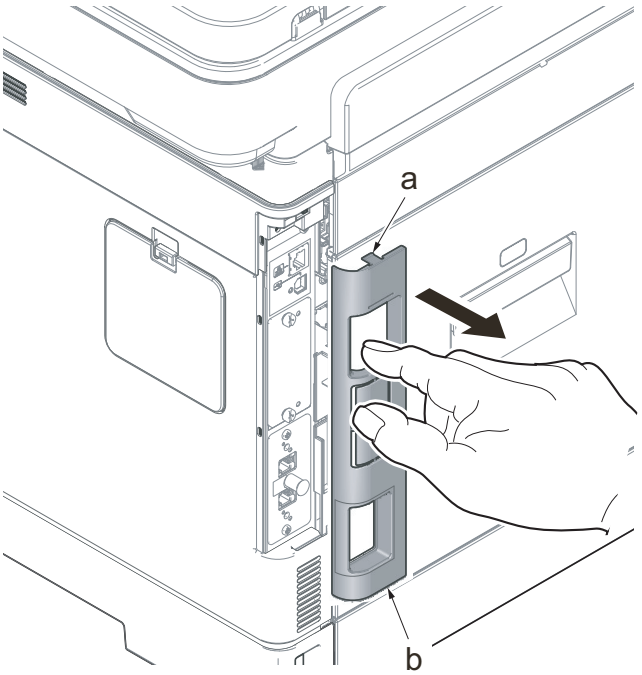


Figure 4-129

3. Remove the screw (a) (M3x8).
4. Slide the upper right cover (b) toward the machine rear side and detach it.

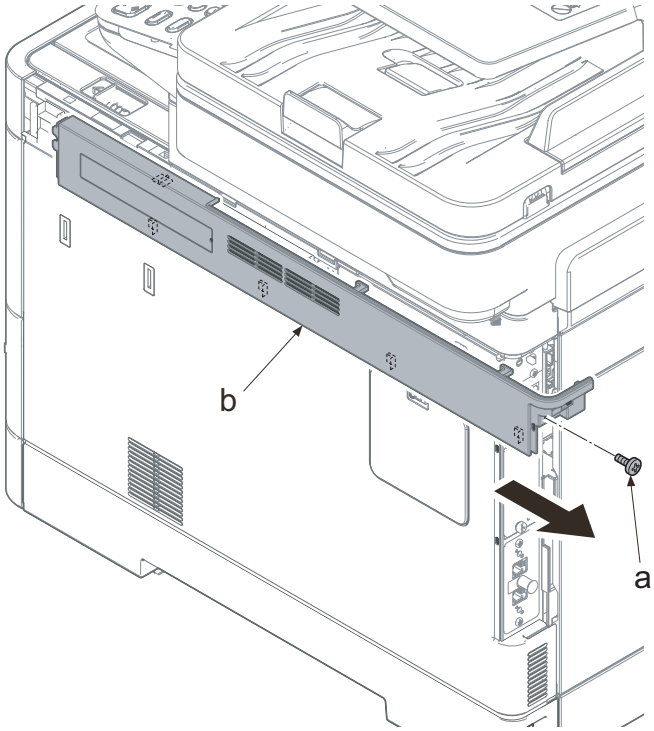


Figure 4-130

IMPORTANT
When reattaching the upper right cover (a), insert the hook (b) to the machine front side, and then fasten seven hooks (c) by sliding it toward the machine front side and insert the positioning projection (d) into the hole.

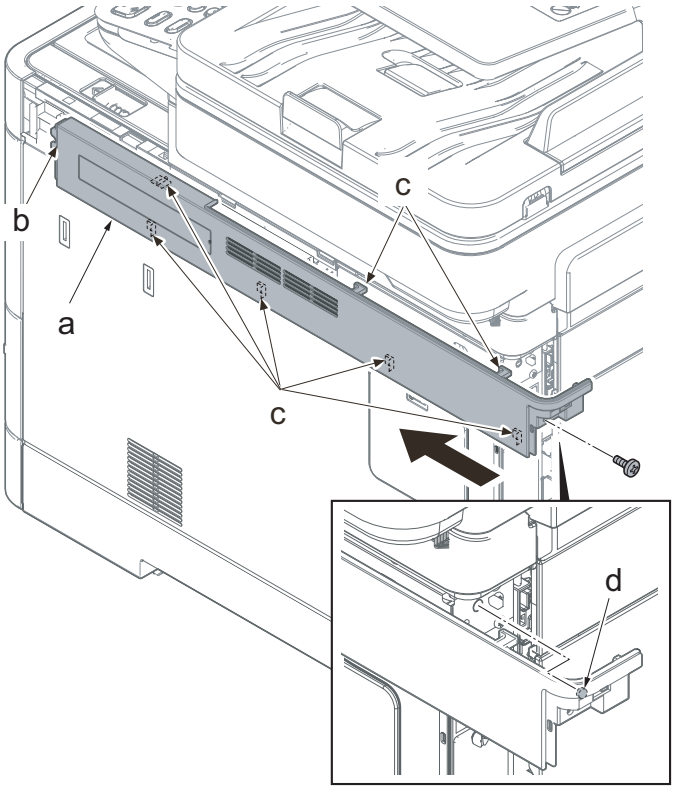


Figure 4-131

5. Open the waste toner cover (a).
6. Press the arm (b) down.
7. Remove the waste toner cover (a).

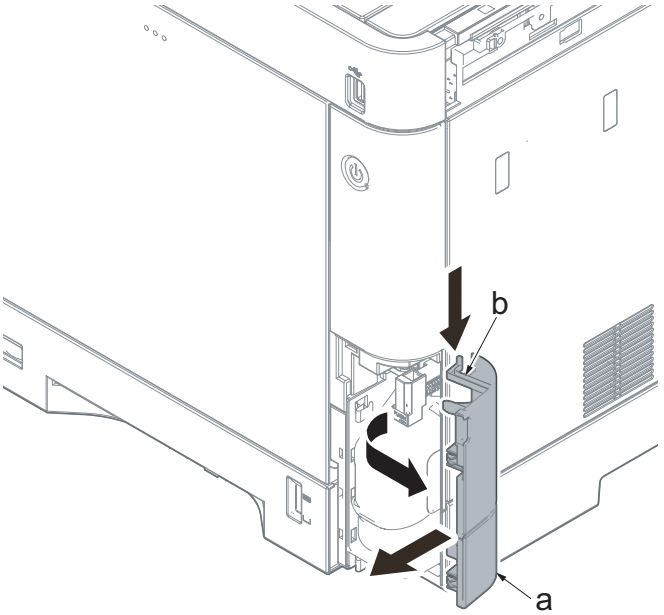


Figure 4-132

8. Push the lever (a) and open the memory cover (b).
9. Remove the memory cover (b).

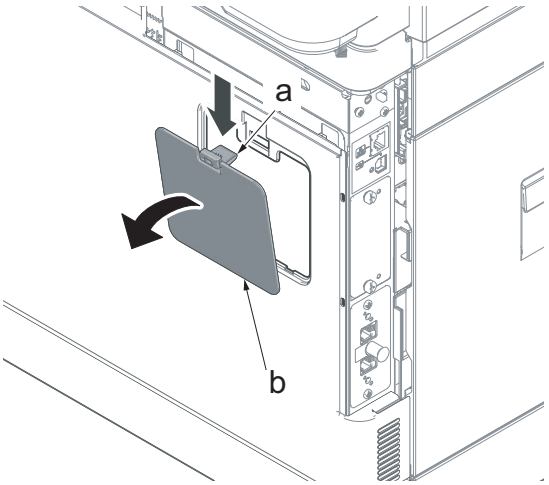


Figure 4-133

10. Pull up the shield lid (a) and pull it toward you to remove it.

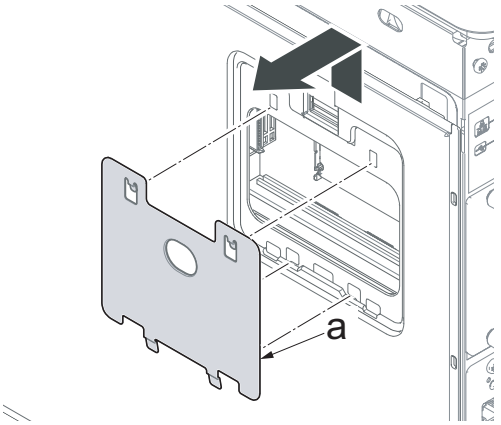


Figure 4-134

11. Open the rear cover (a).

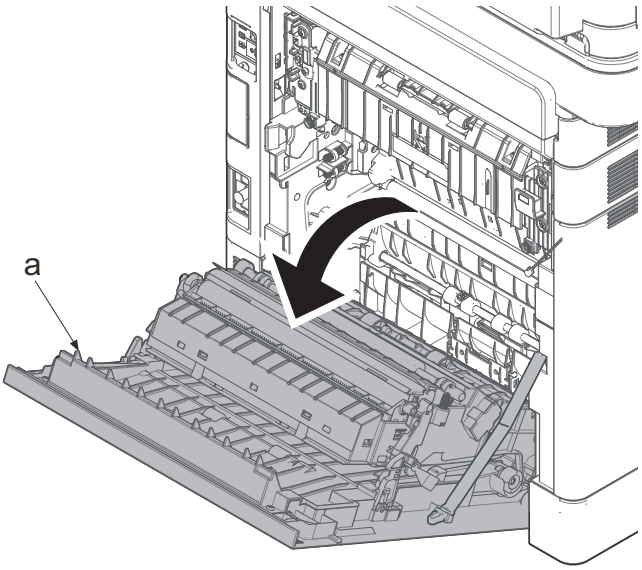


Figure 4-135

12. Push the machine front side of the middle right cover (a) toward the machine rear side and then lift up its machine rear side to detach it.

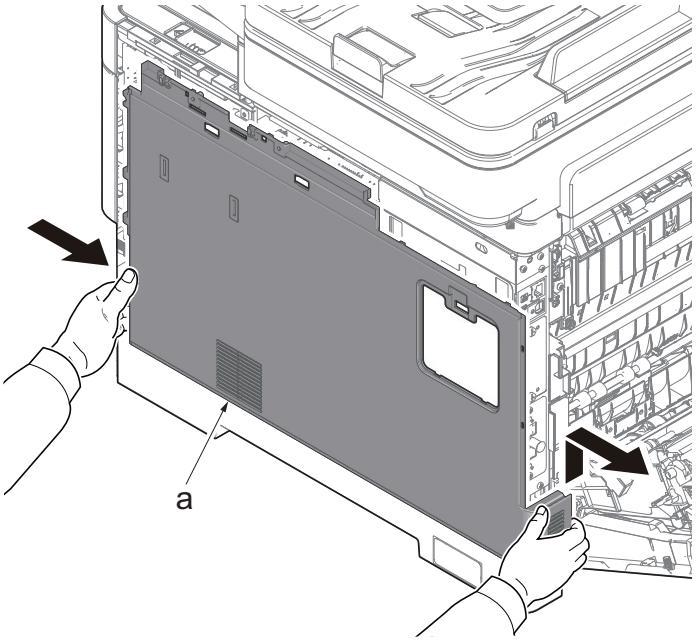


Figure 4-136

IMPORTANT
When reattaching the middle right cover (a), insert the lower rib into the the lower right cover. Slide it toward the machine front side to fasten three hooks (c) and then lower it to fasten three hooks (d), and fasten two hooks (e) at the machine rear side. Check if three hooks (d) at the machine rear side are surely fastened.

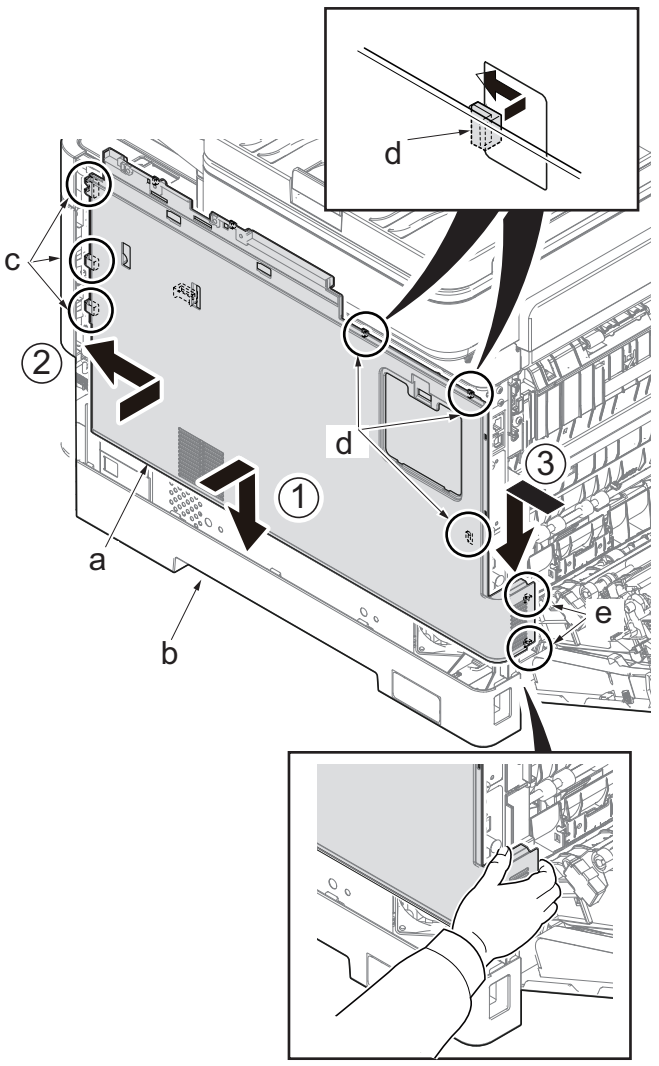


Figure 4-137

13. Pull the lever (a).
14. Lift up the scanner unit (b) and open the inner tray (c).

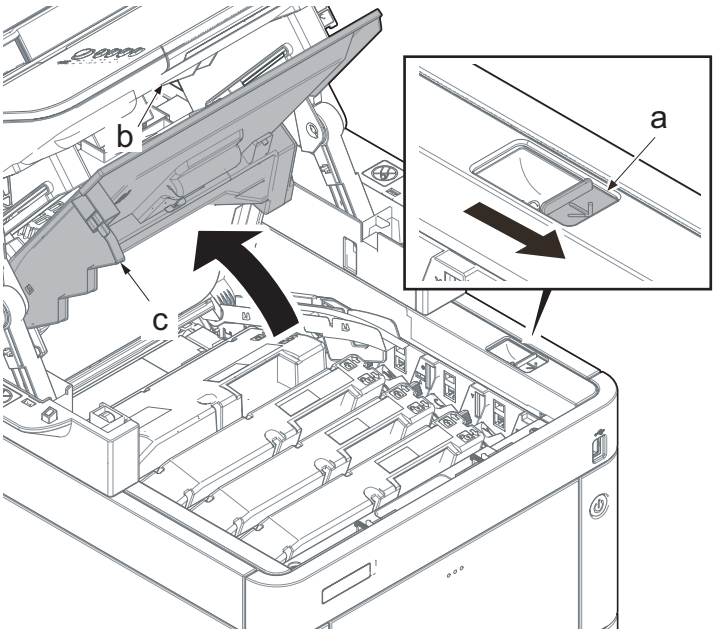


Figure 4-138

15. Open the MP tray (a).
16. Remove two screws (b)(M3x8).

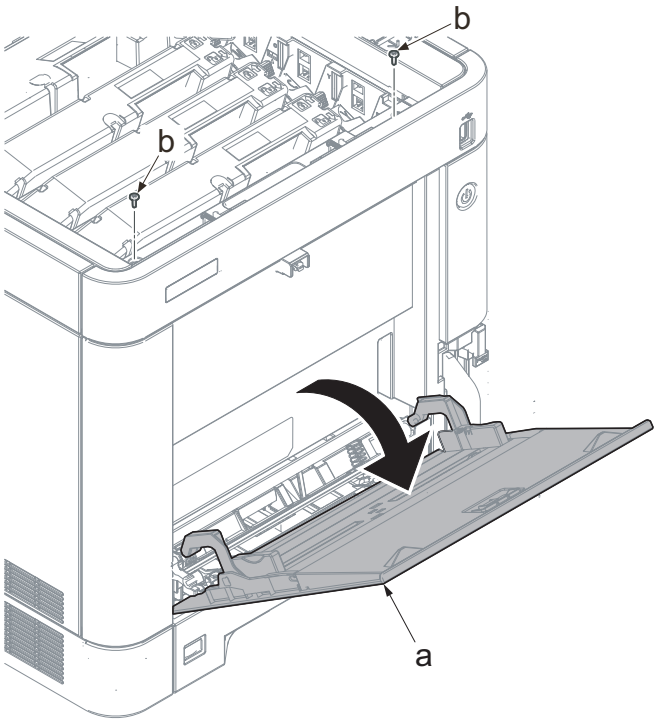


Figure 4-139

17. Slightly lift up the front cover (a) to release the boss (b).
18. Tilt the front cover (a) toward the machine front side.
19. Then, remove the front cover (a) by lifting it up.

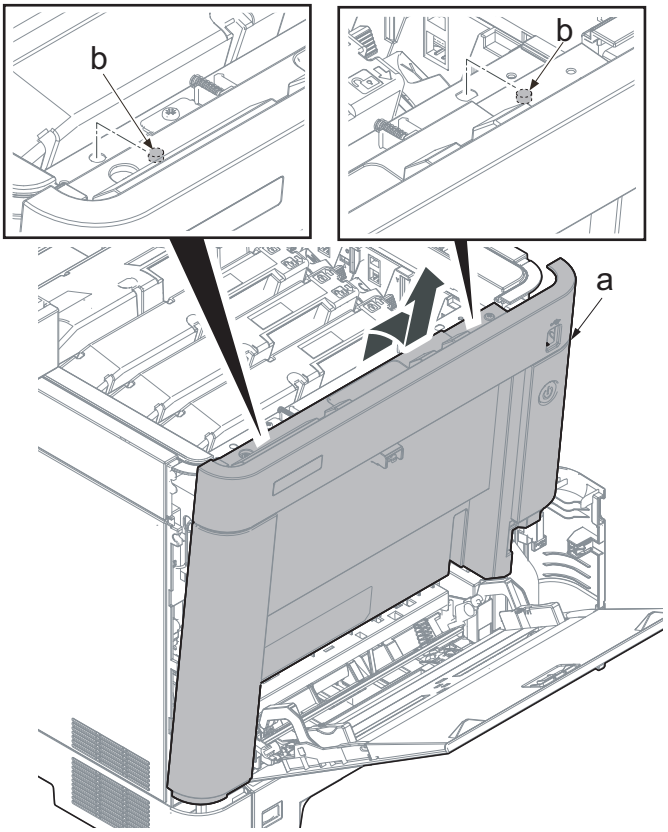


Figure 4-140

IMPORTANT
Make sure not to touch the waste toner cover sensor (b) when reattaching the front cover (a). If the waste toner cover sensor (b) comes off, even if you close the waste toner cover, "cover open" will be displayed.

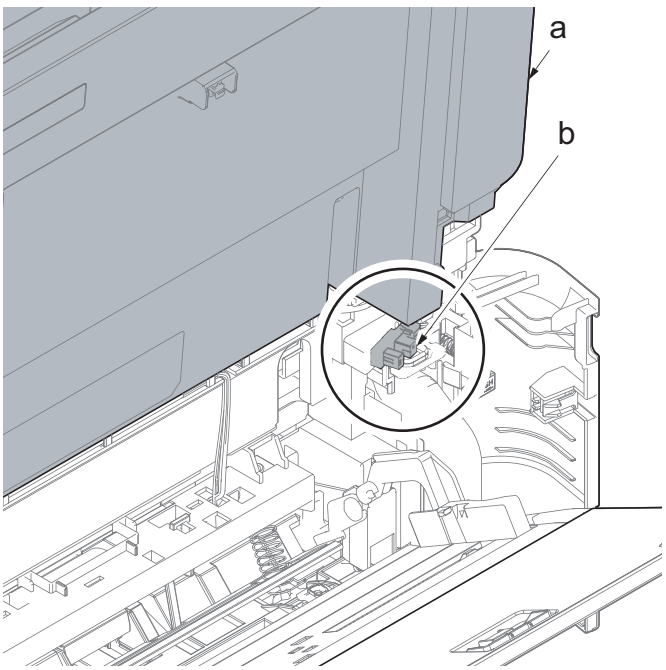


Figure 4-141

20. Remove the screw (a) (M3x8).

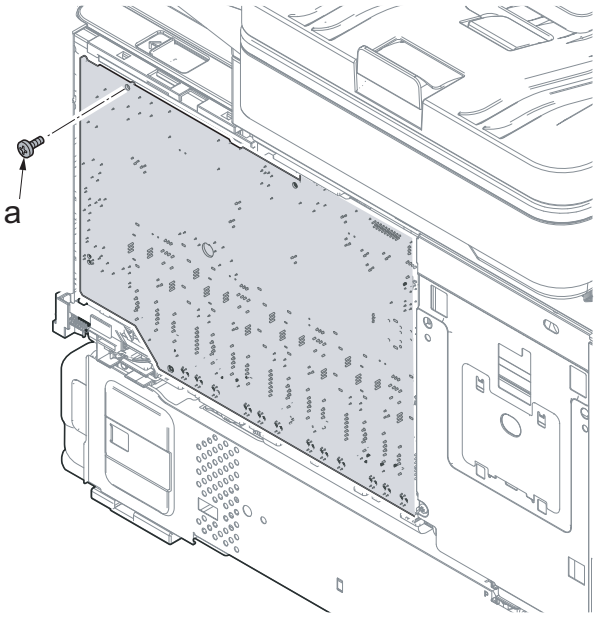


Figure 4-142

21. Release four hooks (a) at both sides of the high-voltage PWB (c).
22. Slightly tilt the PWB toward you and release the FFC (b).

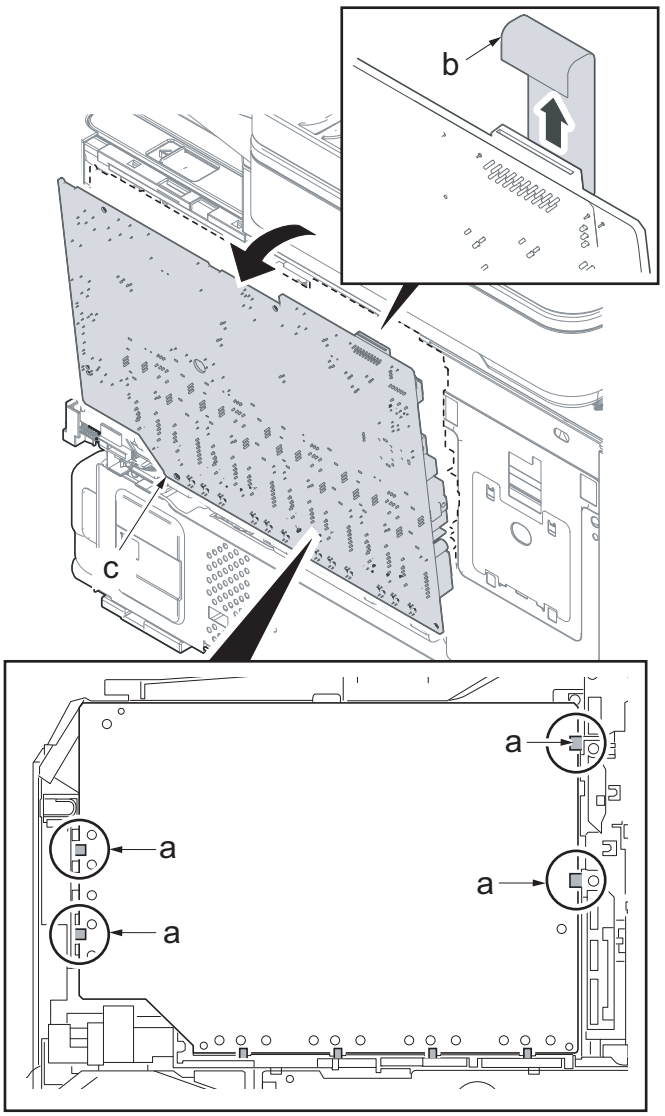


Figure 4-143

23. Tilt the high-voltage PWB (a) to 90 degrees and pull it out toward you.

    *: The lower hook (b) on the PWB might break if removing it without push it down.

24. Check the high-voltage PWB and clean or replace it if necessary.
25. Reattach the parts once removed.

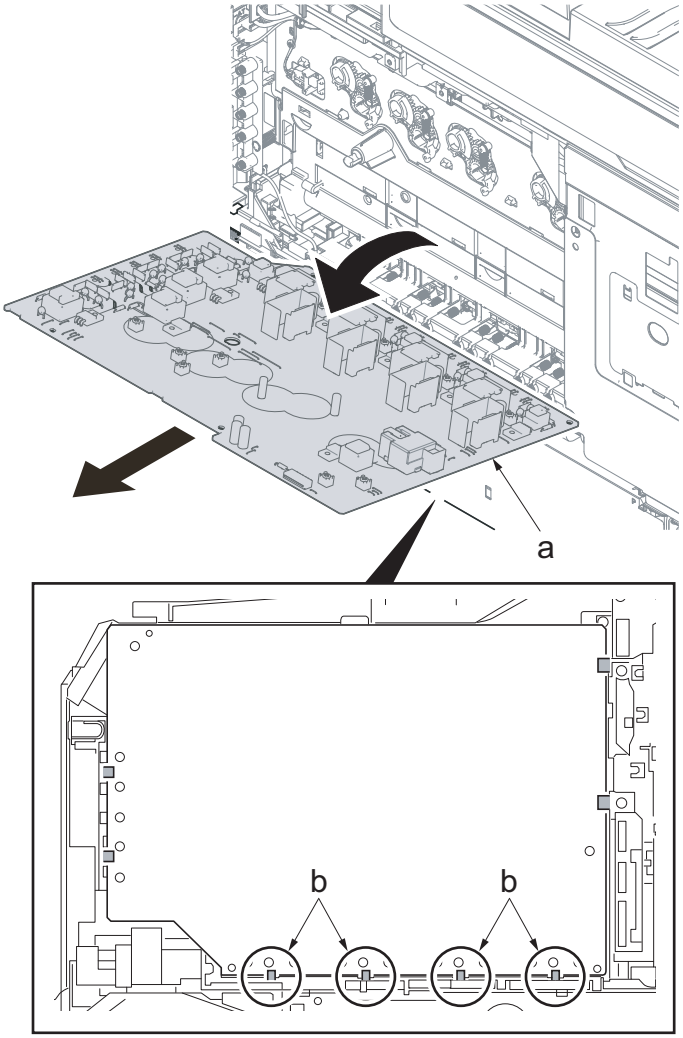


Figure 4-144

IMPORTANT
When reattaching the high-voltage PWB (d), insert the lower part of the PWB into four of the lower hooks (b) and insert the left and right positioning pins (c) into the holes. Then, raise the PWB and apply two hooks each at the left and right side.

After reattaching the high-voltage PWB (d), check that it is secured with two hooks at the each left and right side and four hooks (b). If the hook is not fastened, the image failure might appear.
Also, check the terminal spring (e) contacts the terminal (f).

Terminal :
Lower side: 12
Left side: 5

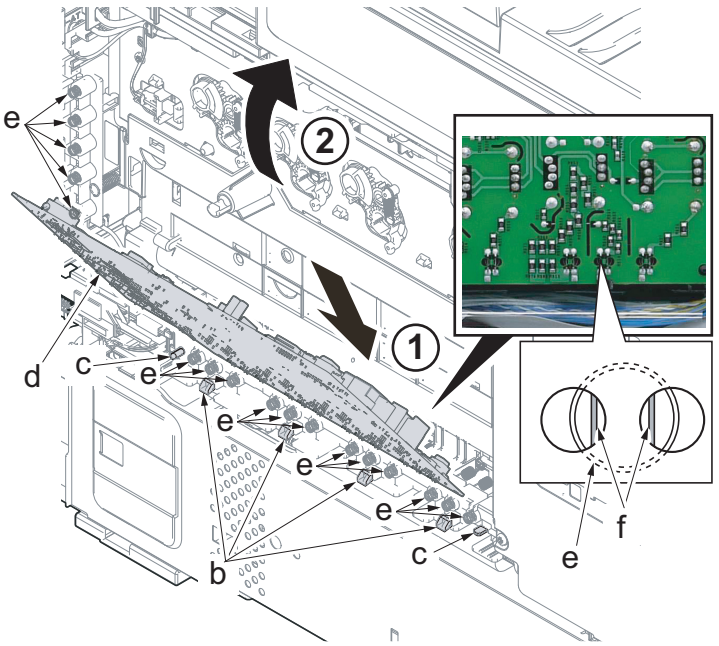


Figure 4-145

(5) Detaching and reattaching the power source PWB

<Procedure>

1. Pull the lower part of the opening toward the machine rear side and release the hook (a).
2. Remove the interface cover (b).

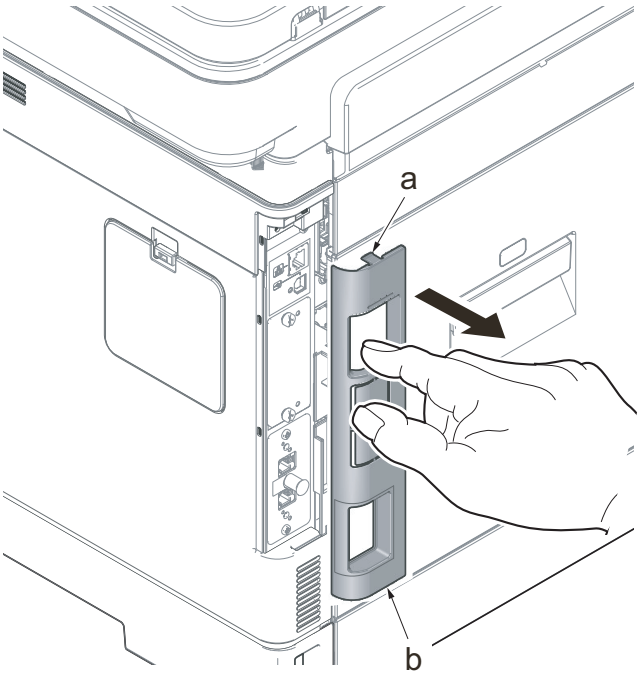


Figure 4-146

3. Remove the screw (a) (M3x8).
4. Slide the upper right cover (b) toward the machine rear side and detach it.

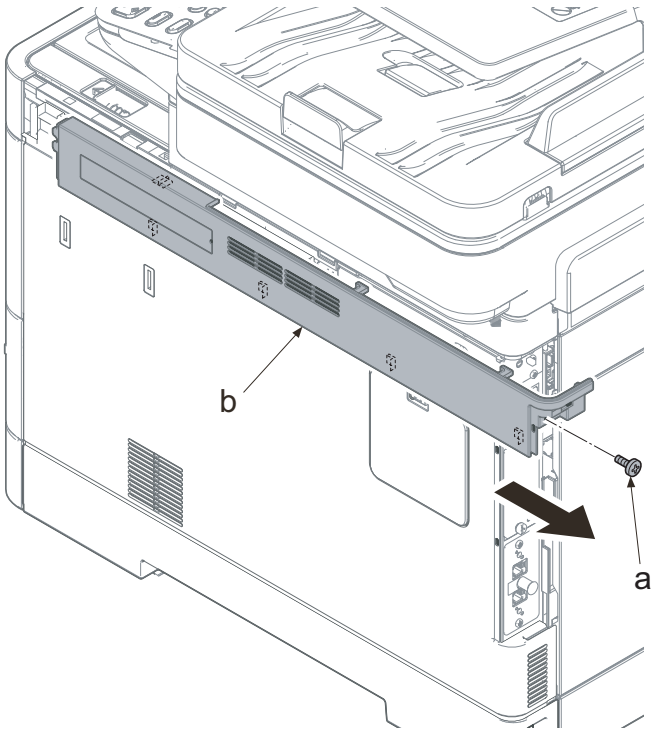


Figure 4-147

IMPORTANT
When reattaching the upper right cover (a), insert the hook (b) to the machine front side, and then fasten seven hooks (c) by sliding it toward the machine front side and insert the positioning projection (d) into the hole.

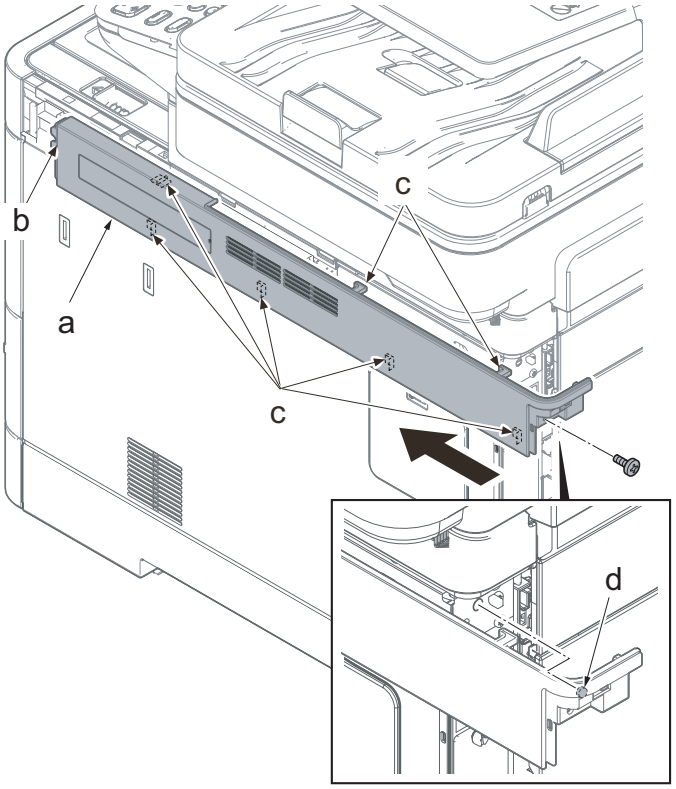


Figure 4-148

5. Open the waste toner cover (a).
6. Press the arm (b) down.
7. Remove the waste toner cover (a).

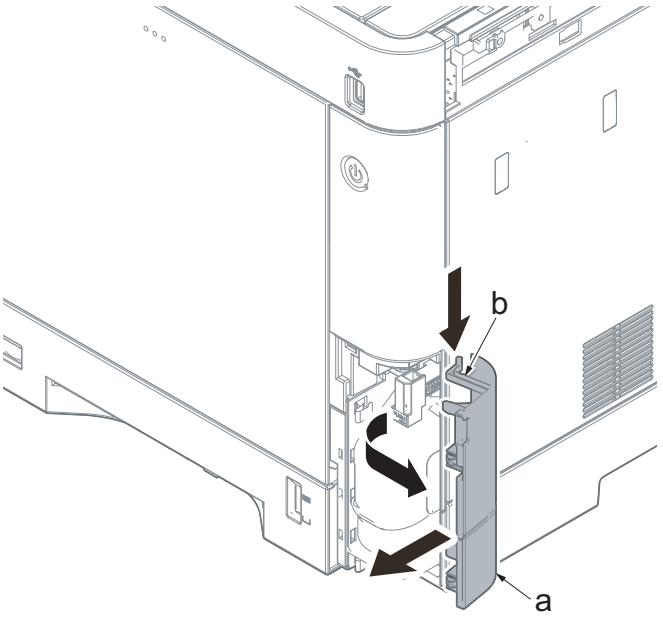


Figure 4-149

8. Push the lever (a) and open the memory cover (b).
9. Remove the memory cover (b).

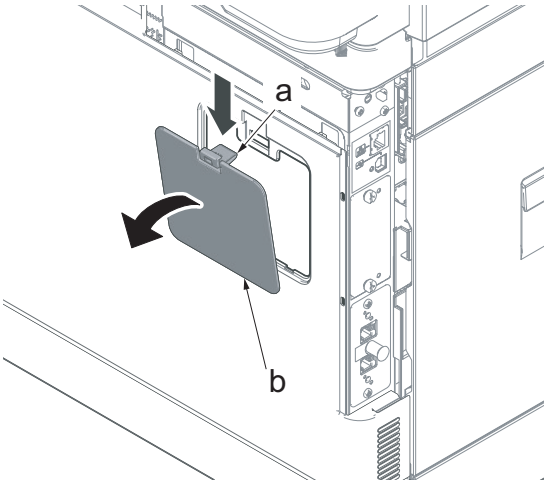


Figure 4-150

10. Pull up the shield lid (a) and pull it toward you to remove it.

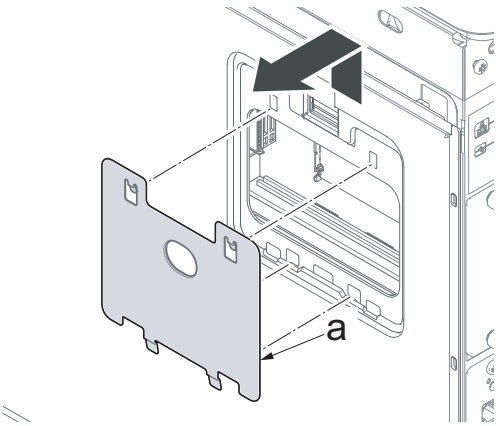


Figure 4-151

11. Open the rear cover (a).

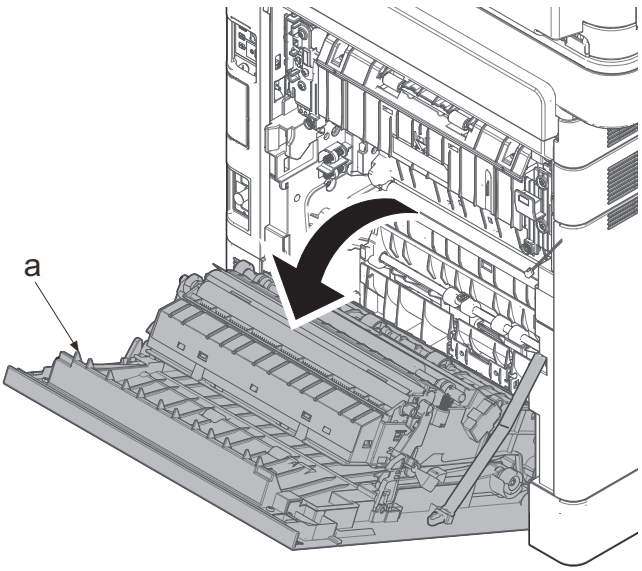


Figure 4-152

12. Push the machine front side of the middle right cover (a) toward the machine rear side and then lift up its machine rear side to detach it.

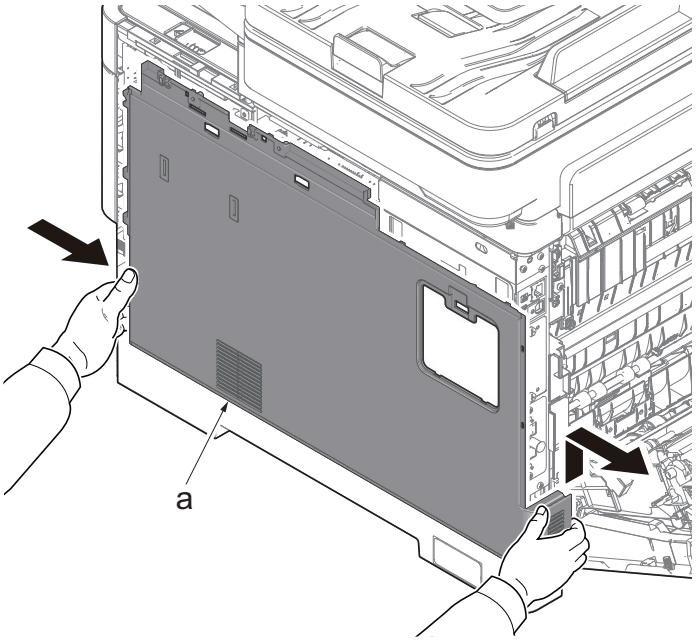


Figure 4-153

IMPORTANT
When reattaching the middle right cover (a), insert the lower rib into the the lower right cover. Slide it toward the machine front side to fasten three hooks (c) and then lower it to fasten three hooks (d), and fasten two hooks (e) at the machine rear side. Check if three hooks (d) at the machine rear side are surely fastened.

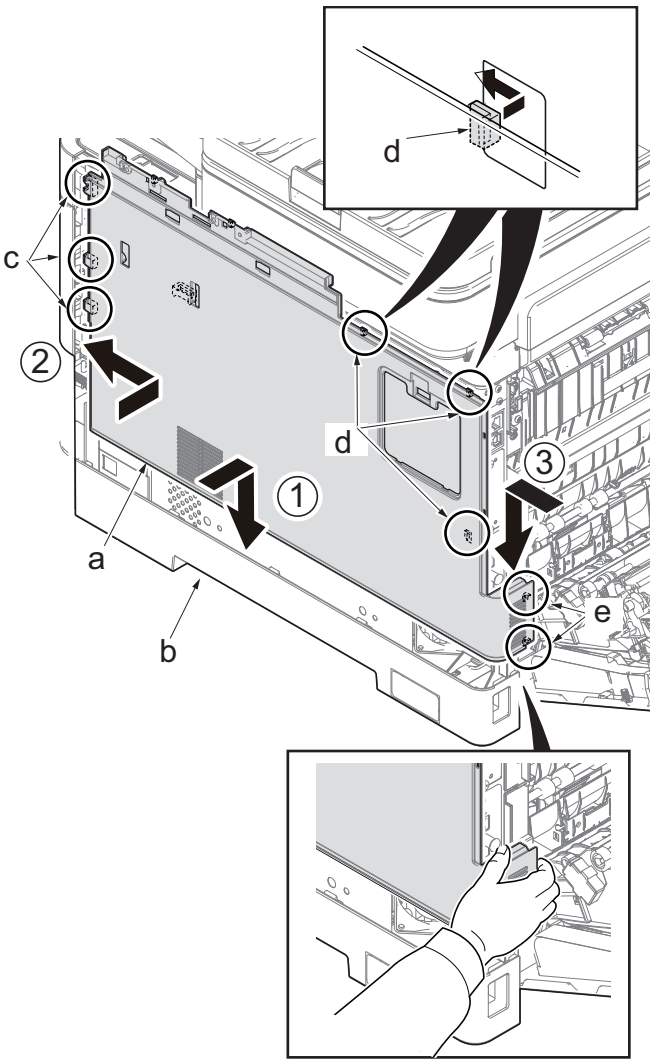


Figure 4-154

13. Remove the screw (a) (M3x8).
14. Release the hook (c) of the lower right cover (b) toward the machine right side and slide it toward the machine rear side to detach it.

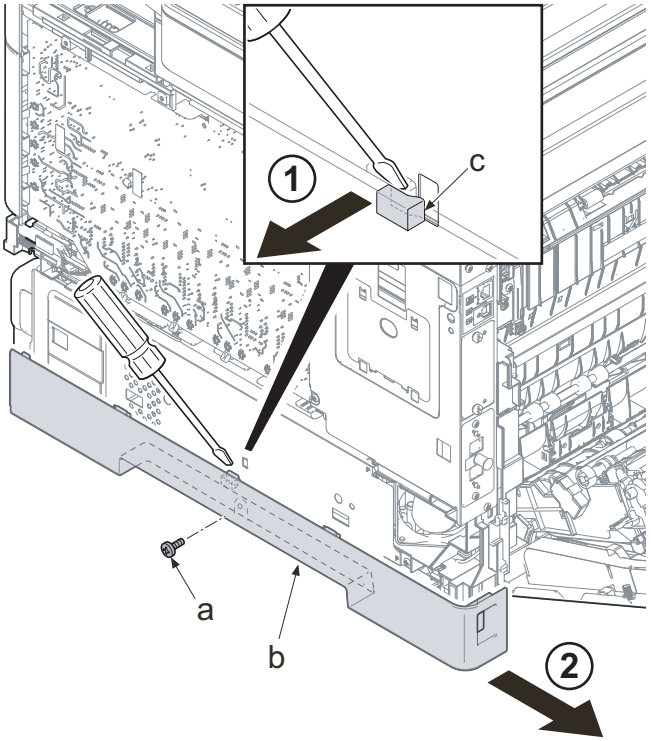


Figure 4-155

15. Remove two screws (a) (M3x8, P)
16. Remove the screw (b) (M3x8, S)
17. Release the hook (c).
18. Remove the power source shield (d).

*: The screw (a) and (b) are different and secure them at the original place.

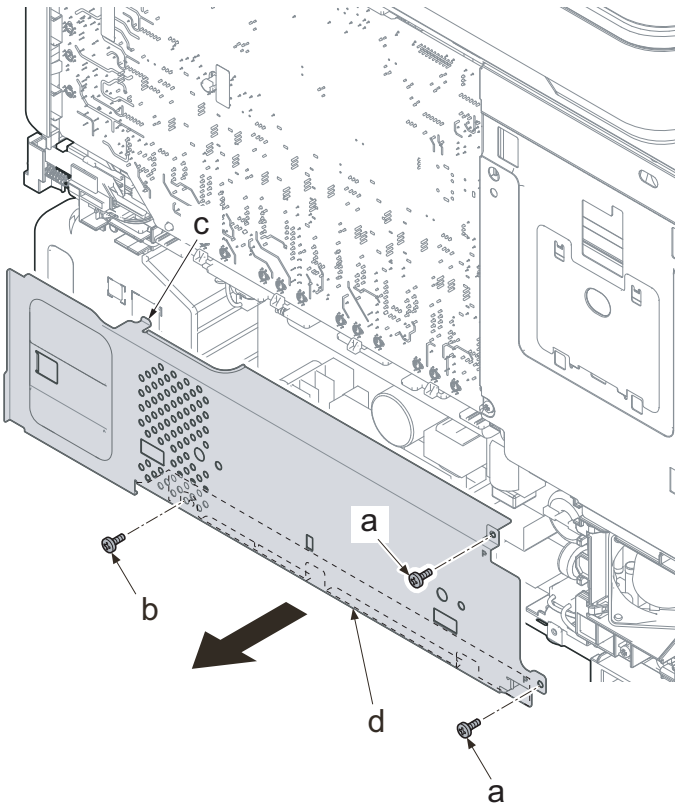


Figure 4-156

19. Disconnect all the connectors from the power source PWB (a). (five connectors)
20. Remove two screws (b)(M3x8).
21. Release two hooks (c).
22. Remove the power source PWB (a).
23. Check the operation panel PWB and clean or replace it if necessary.
24. Reattach the parts once removed.

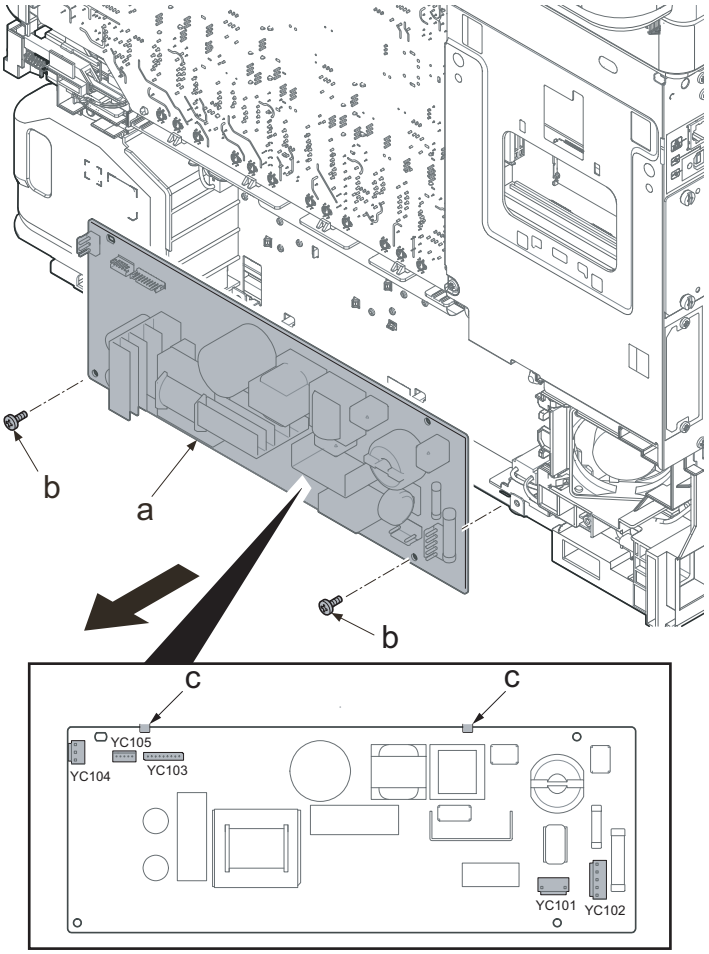


Figure 4-157

IMPORTANT
When reattaching the power source shield (a), insert the lower two hooks (b) into the square holes (c) of the main unit and fasten the upper hook (d). Then, secure it with the screws.

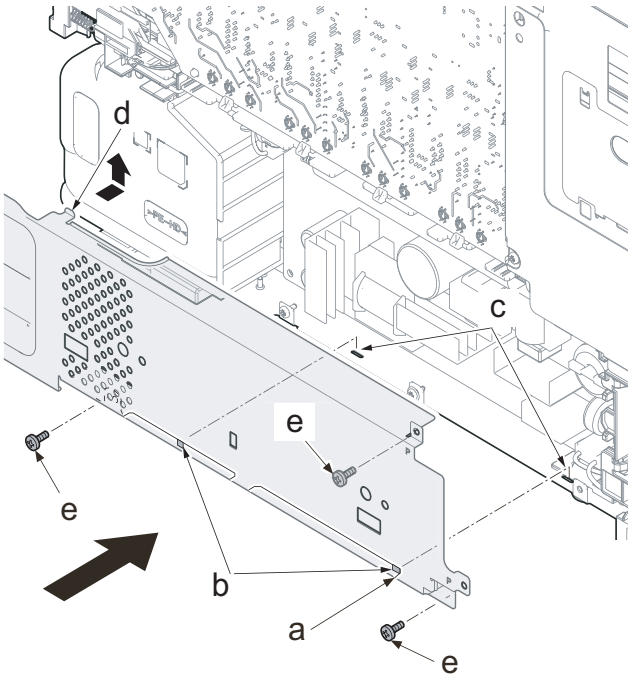


Figure 4-158

(6) Detaching and reattaching the operation panel PWB

30 ppm model

<Procedure>

1. Slide the left and right panel plates (a) and remove them.

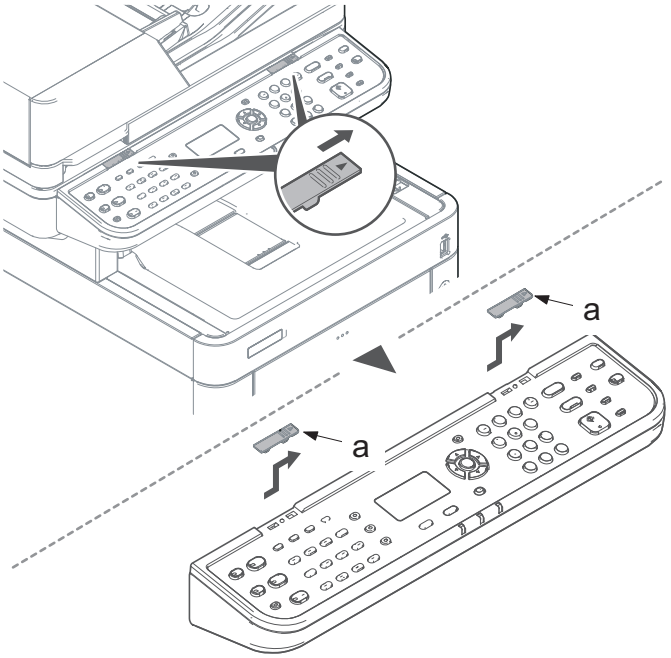


Figure 4-159

2. Remove the left and right operation panel cover (a) and sheet (b).

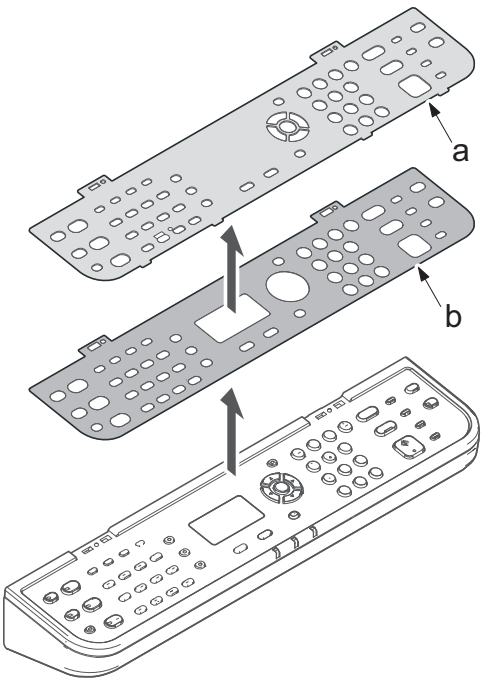


Figure 4-160

3. Insert a flat-blade screwdriver into two points of the cutouts (a) and release the hooks.

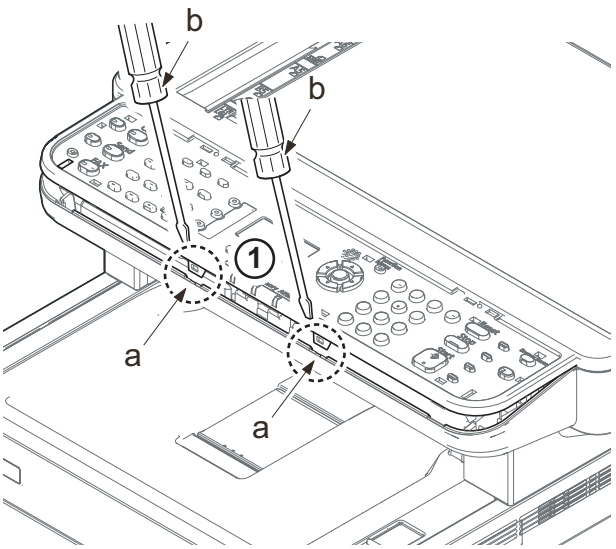


Figure 4-161

4. Release two hooks (c) using a flat-blade screwdriver (b).

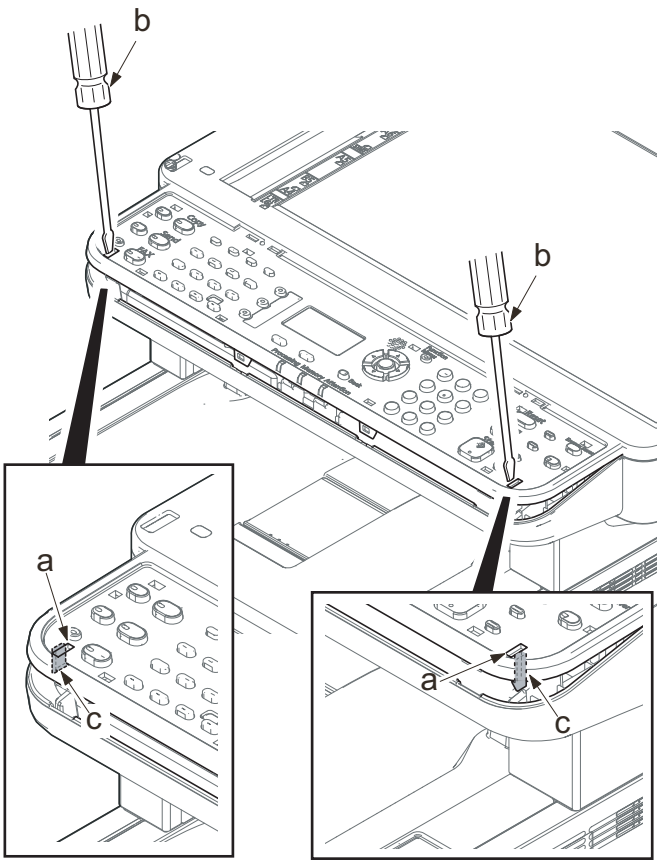


Figure 4-162

5. Disconnect the connectors (a) and (c).
 *: c: 4 in 1 model only
6. Remove the operation panel PWB (b).

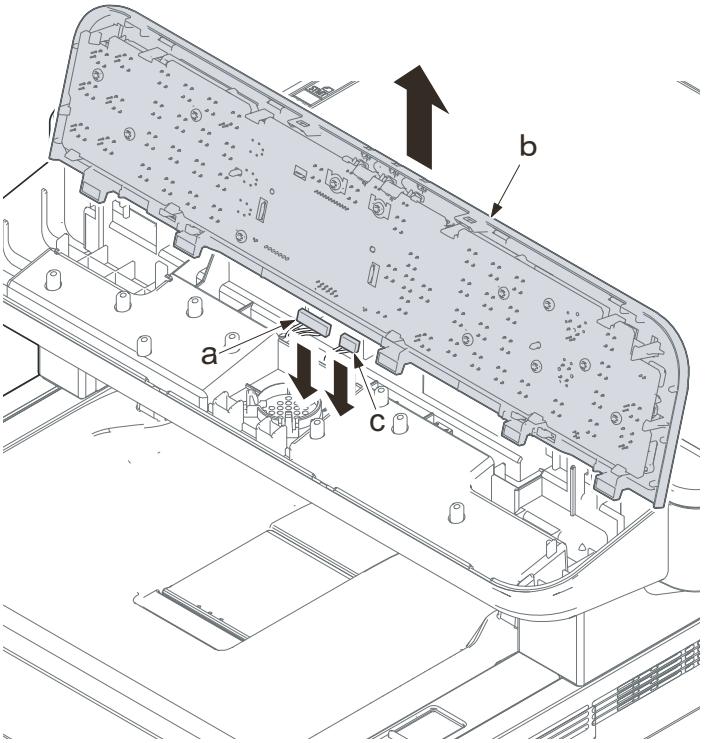


Figure 4-163

7. Remove twelve screws (a)(M3x8).
 Release eleven hooks (c).
8. Remove the operation panel PWB (b).
9. Check the operation panel PWB and clean or replace it if necessary.
10. Reattach the parts once removed.

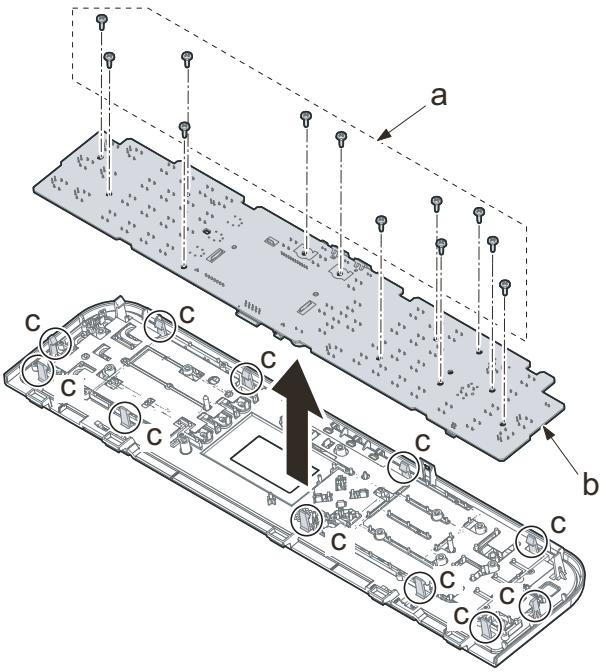


Figure 4-164

35 ppm model
<Procedure>

1. Remove the lower LCD cover (b) from the operation panel assembly (a).

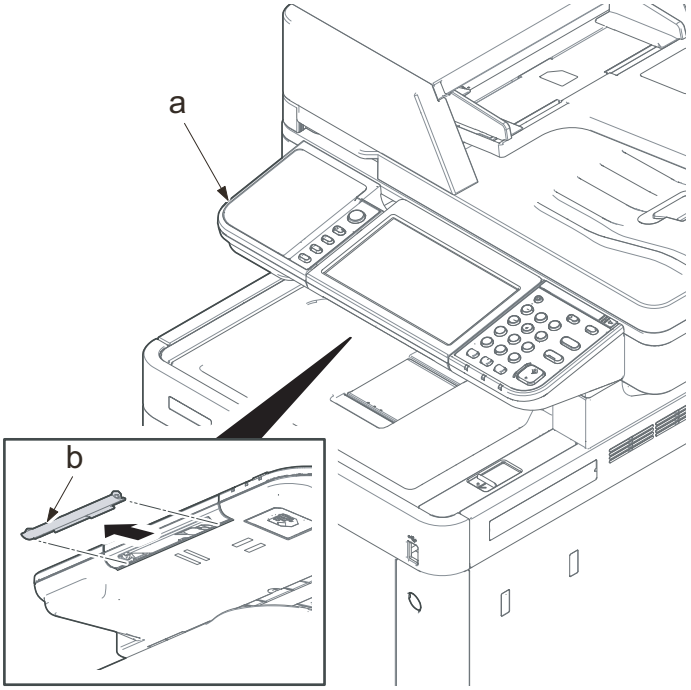


Figure 4-165

2. Push the lock lever (a).
3. Tilt the LCD cover (b) toward the machine front side while bending it.
4. Disconnect the USB connector (d) from the operation panel PWB (c).
5. Disconnect two FFCs (e) from the operation panel PWB (c).
6. Disconnect four connectors (f) from the operation panel PWB (c).

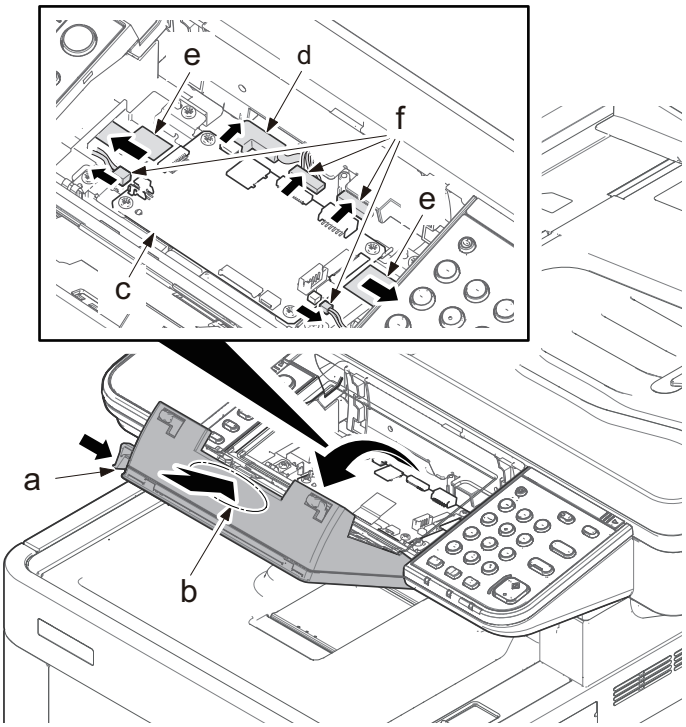


Figure 4-166

7. Remove four screws (a)(M3x8). Remove the ground terminal (c).
8. Remove the operation panel PWB (b).
9. Check the operation panel PWB and clean or replace it if necessary.
10. Reattach the parts once removed.

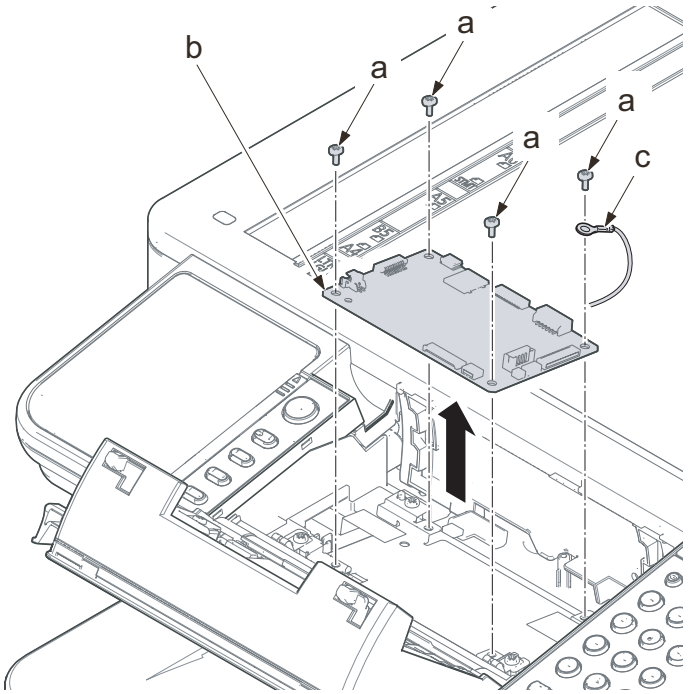


Figure 4-167

(7) Detaching and reattaching the FAX unit (for 4in1 (FAX standard) model only)

<Procedure>

1. Pull the lower part of the opening toward the machine rear side and release the hook (a).
2. Remove the interface cover (b).

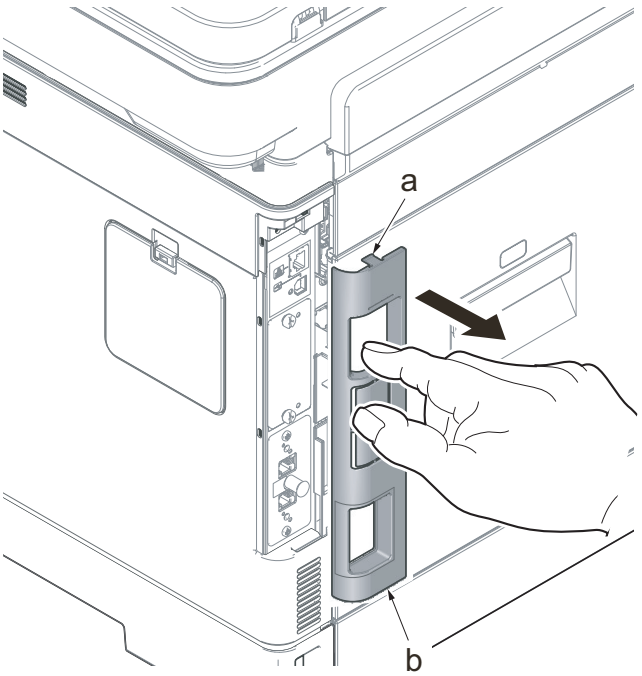


Figure 4-168

3. Remove two screws (a) (M3x8).
4. Detach the FAX unit (b). (For 4in1 model only)

*: Do not hold the board, but the handle (c) when holding the FAX unit (b).

5. Check the FAX unit and clean or replace it if necessary.
6. Reattach the parts once removed.

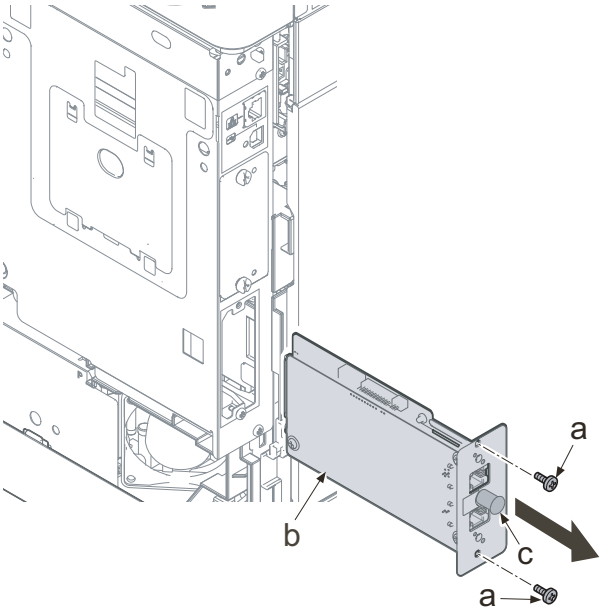


Figure 4-169

4-6 Other parts

(1) Optical section (image scanning)

(1-1) Detaching and reattaching the scanner carriage assembly

30 ppm model
<Procedure>

1. Slide the left and right panel plates (a) and remove them.

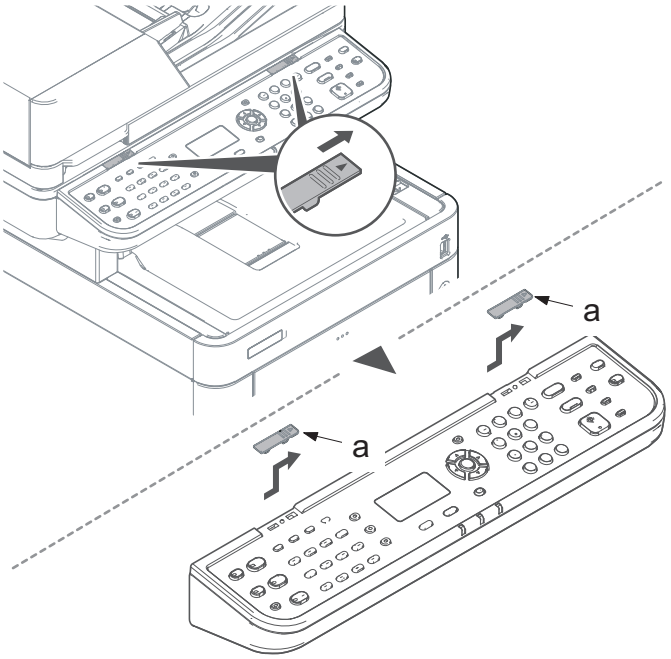


Figure 4-170

2. Remove the left and right operation panel cover (a) and sheet (b).

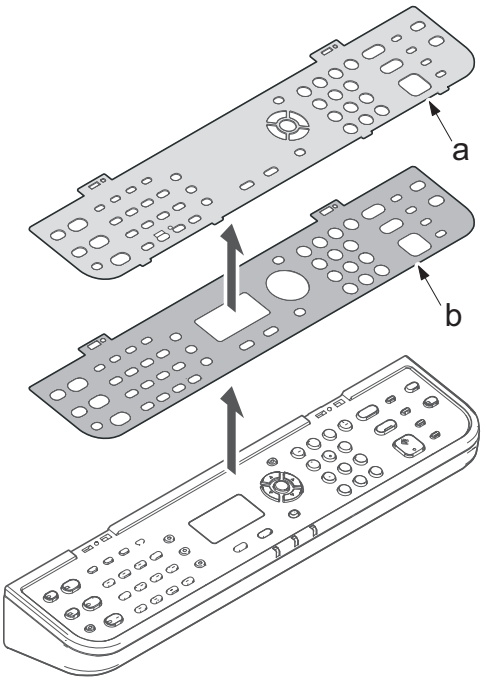


Figure 4-171

3. Insert a flat-blade screwdriver into two points of the cutouts (a) and release the hooks.

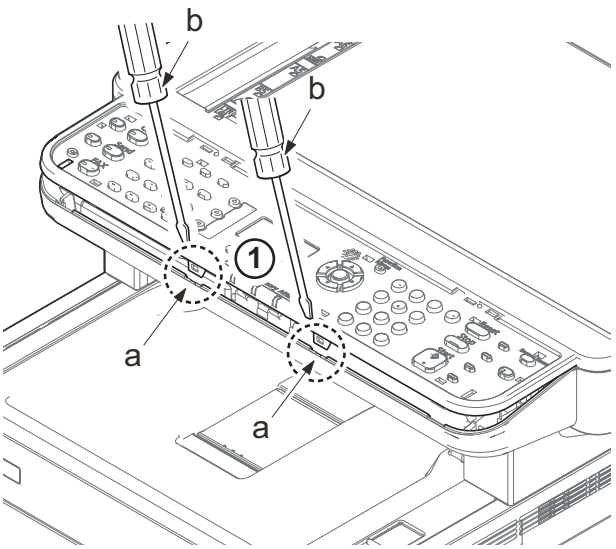


Figure 4-172

4. Release two hooks (c) using a flat-blade screwdriver (b).

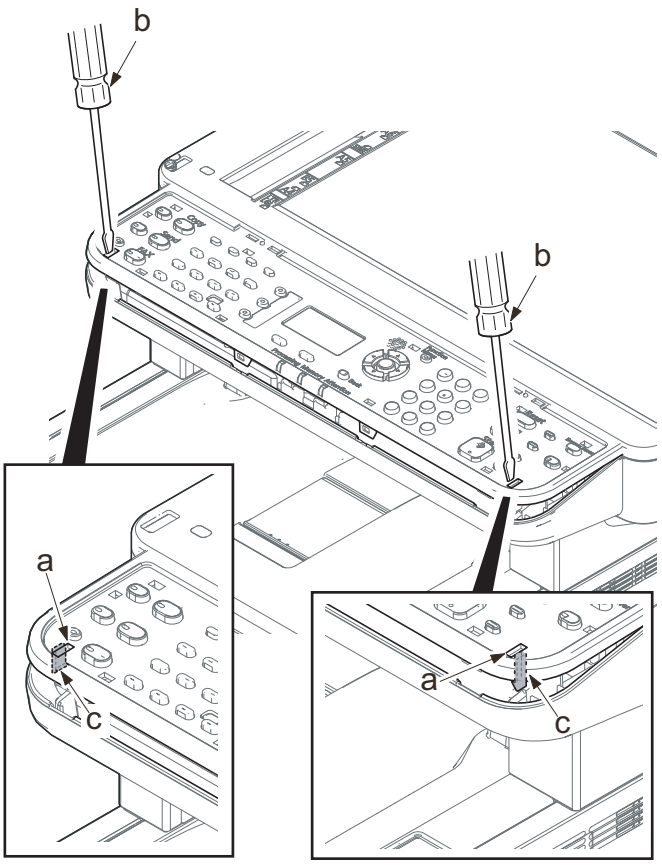


Figure 4-173

5. Disconnect the connectors (a) and (c).
 *: c: 4 in 1 model only
6. Remove the operation panel PWB (b).

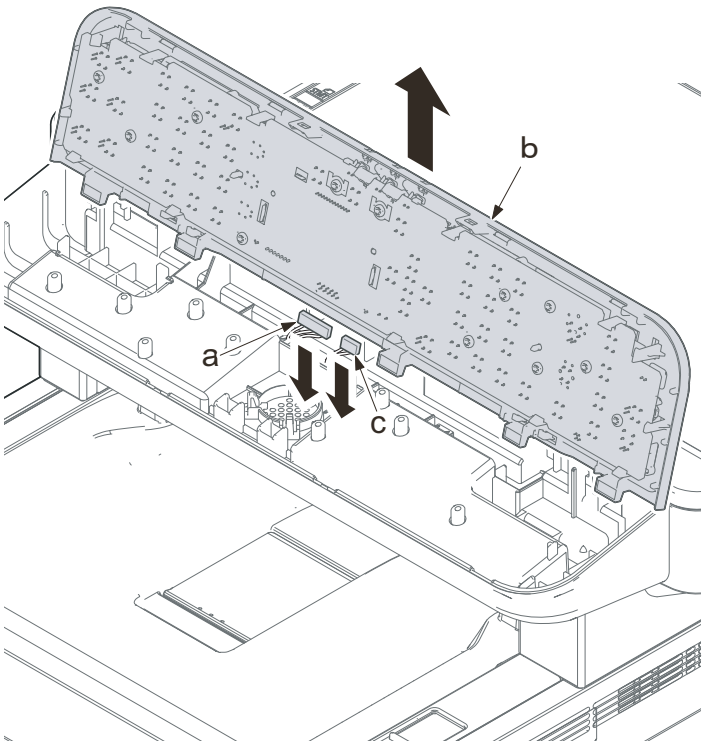


Figure 4-174

7. Remove two screws (a) (M3x8).
8. Release two hooks (b).
9. Detach the ISU upper frame assembly (d) from the ISU (c).

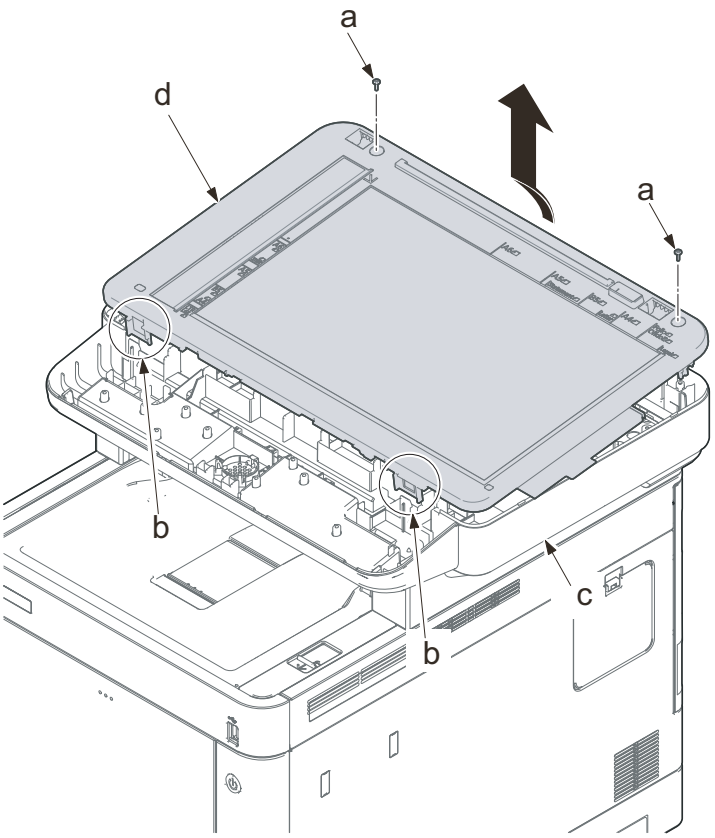


Figure 4-175

10. Remove the drive belt (b) from two pulleys (a).
11. Detach the scanner carriage assembly (d) and the ISU shaft (e) from the ISU lower frame (c).

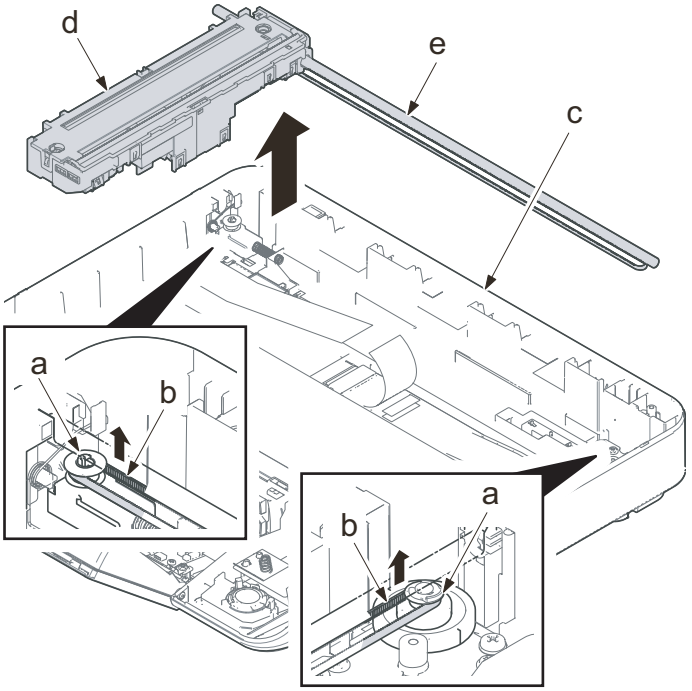


Figure 4-176

12. Pull out the ISU shaft (b) from the scanner carriage assembly (a).
13. Remove the drive belt (d) from the holding part (c) of the scanner carriage assembly (a).
14. Check the scanner carriage assembly and clean or replace it if necessary.
15. Reattach the parts once removed.

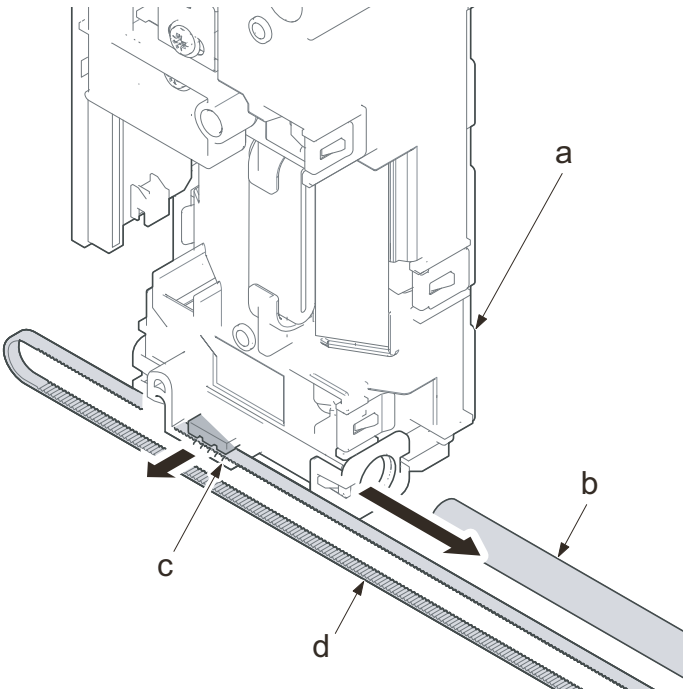


Figure 4-177

35 ppm model
<Procedure>

1. Slide the left and right panel plates (a) and remove them.

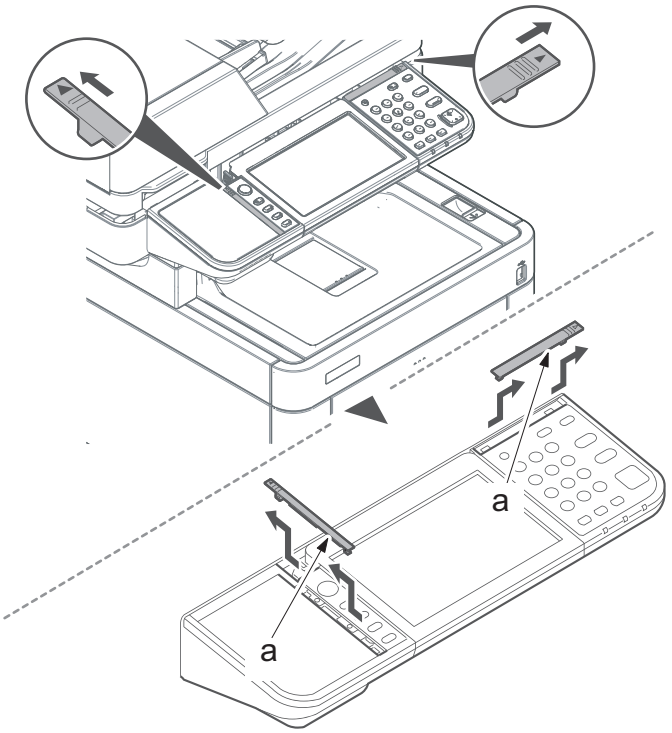


Figure 4-178

2. Remove the left and right operation panel covers (a).
3. Remove the left and right operation panel sheets (b).

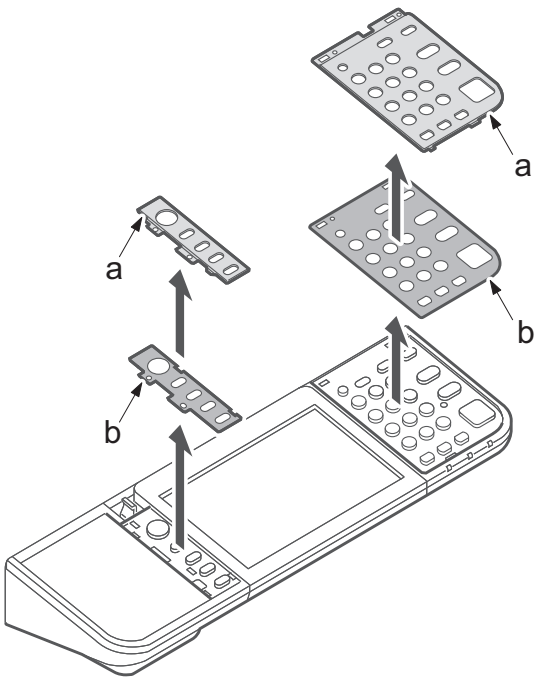


Figure 4-179

4. Remove the Card reader cover (a).
5. Remove the LCD lower cover (b).
6. Remove two screws (c) (M3x8).

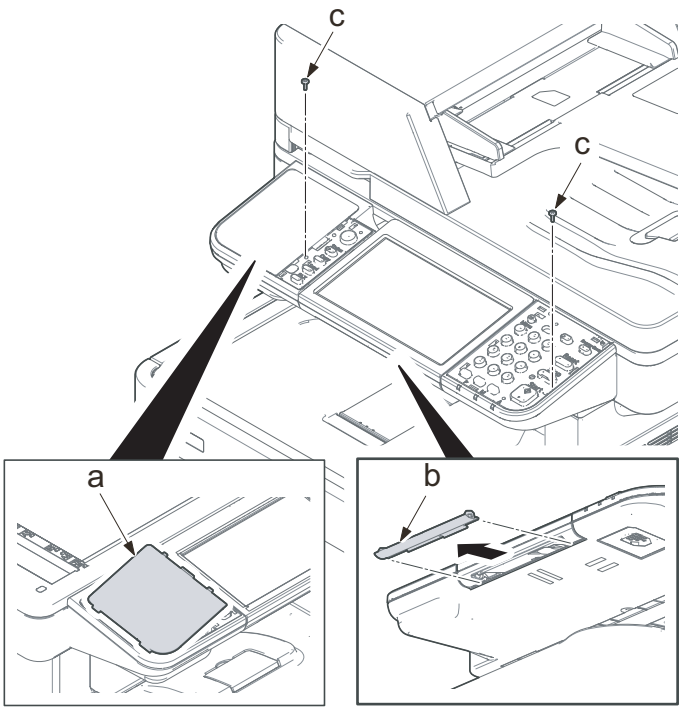


Figure 4-180

7. Push the lock lever (a).
8. Tilt the LCD cover (b) toward the machine front side while bending it.
9. Disconnect the FFC (d) from the operation panel PWB (c).

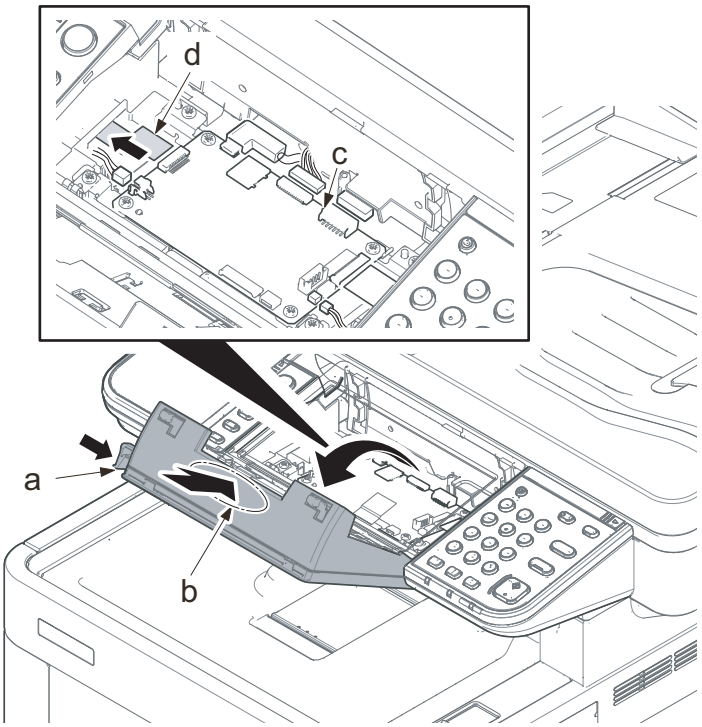


Figure 4-181

10. Release two hooks (a).
11. Remove the left key cover (b) toward the machine front side.
12. Disconnect two FFCs (d) from the panel-R PWB (c).
13. Release two hooks (e).
14. Remove the right key cover (f) toward the machine front side.

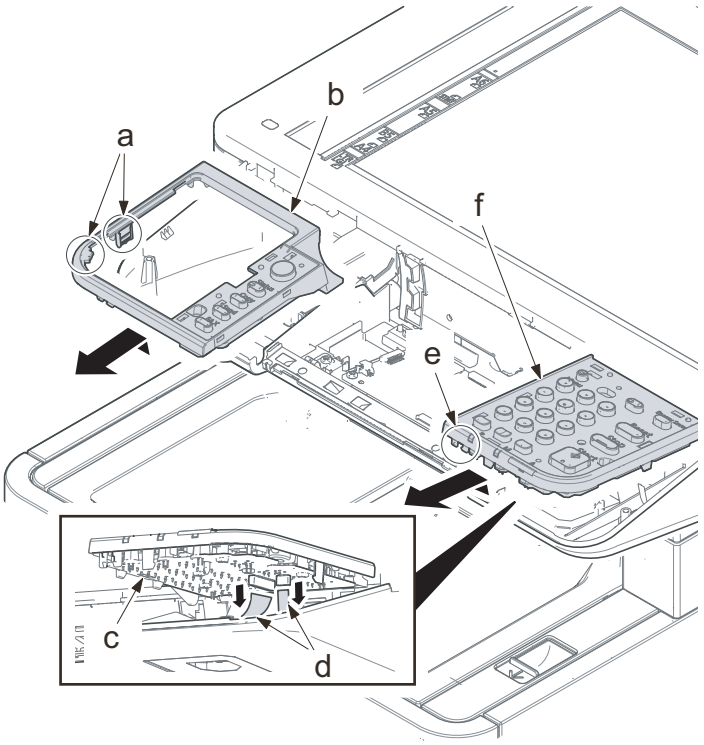


Figure 4-182

15. Remove two screws (a) (M3x8).
16. Release two hooks (b).
17. Detach the ISU upper frame assembly (d) from the ISU (c).

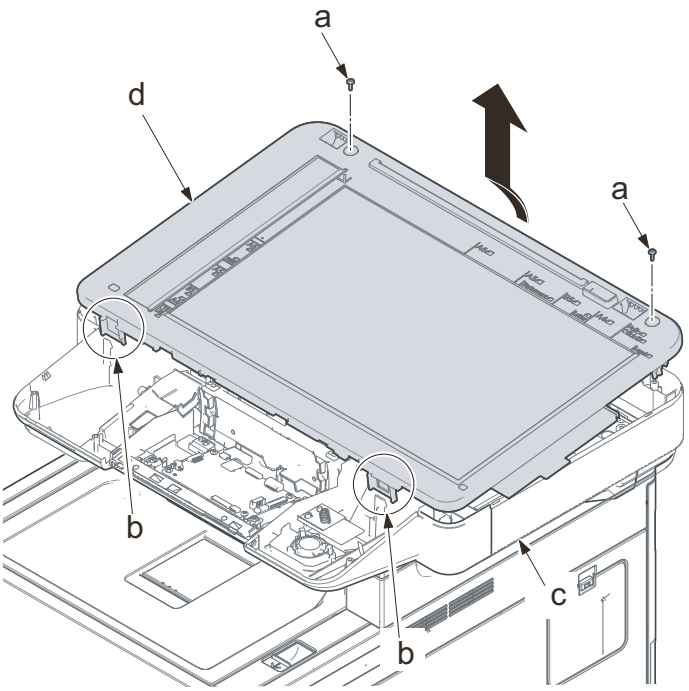


Figure 4-183

18. Remove the drive belt (b) from two pulleys (a).
19. Detach the scanner carriage assembly (d) and the ISU shaft (e) from the ISU lower frame (c).

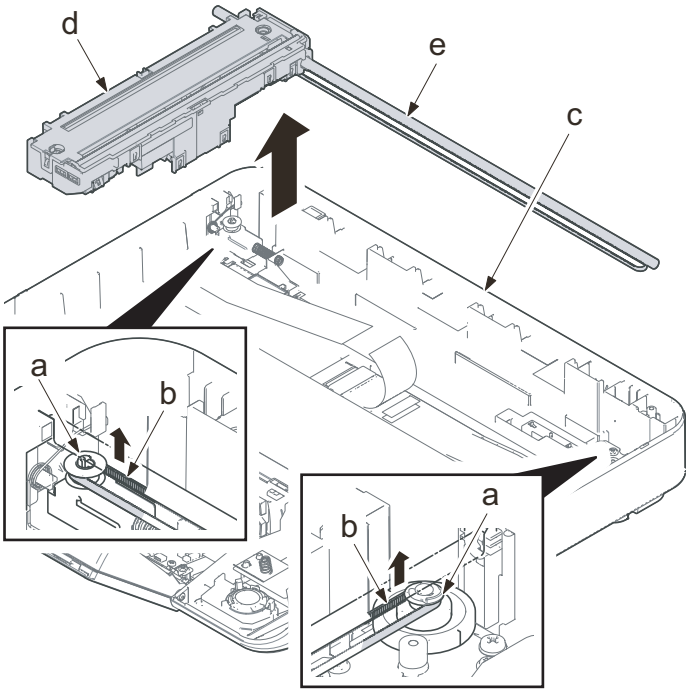


Figure 4-184

20. Pull out the ISU shaft (b) from the scanner carriage assembly (a).
21. Remove the drive belt (d) from the holding part (c) of the scanner carriage assembly (a).
22. Check the scanner carriage assembly and clean or replace it if necessary.
23. Reattach the parts once removed.

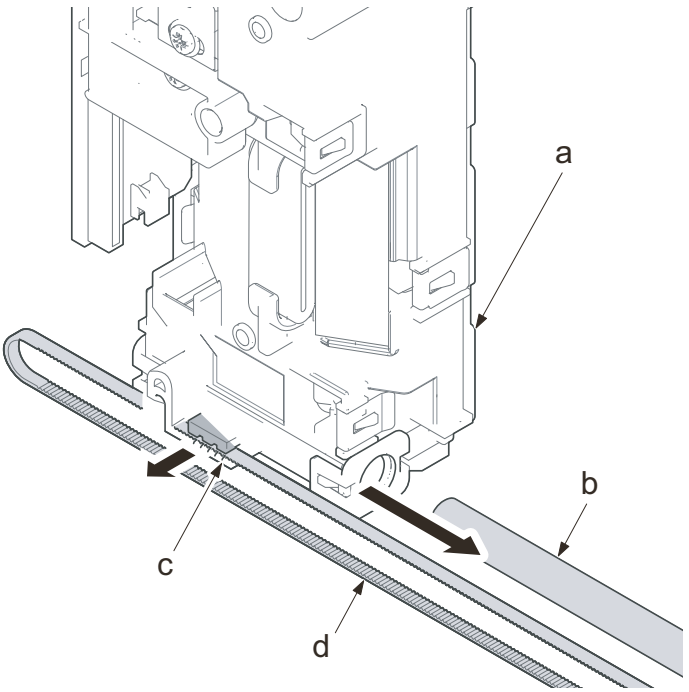


Figure 4-185

(1-2) Detaching and reattaching the ISU

<Procedure>

1. Pull the lower part of the opening toward the machine rear side and release the hook (a).
2. Remove the interface cover (b).

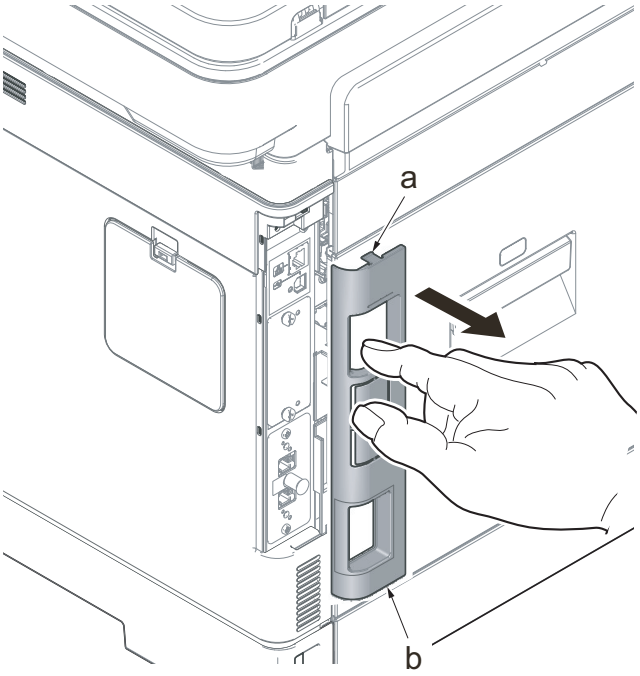


Figure 4-186

3. Remove the screw (a) (M3x8).
4. Slide the upper right cover (b) toward the machine rear side and detach it.

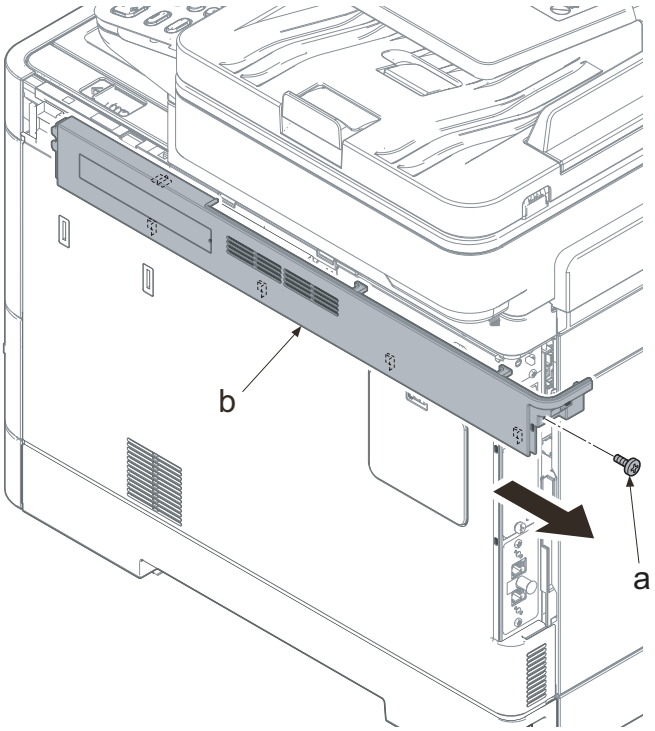


Figure 4-187

IMPORTANT
When reattaching the upper right cover (a), insert the hook (b) to the machine front side, and then fasten seven hooks (c) by sliding it toward the machine front side and insert the positioning projection (d) into the hole.

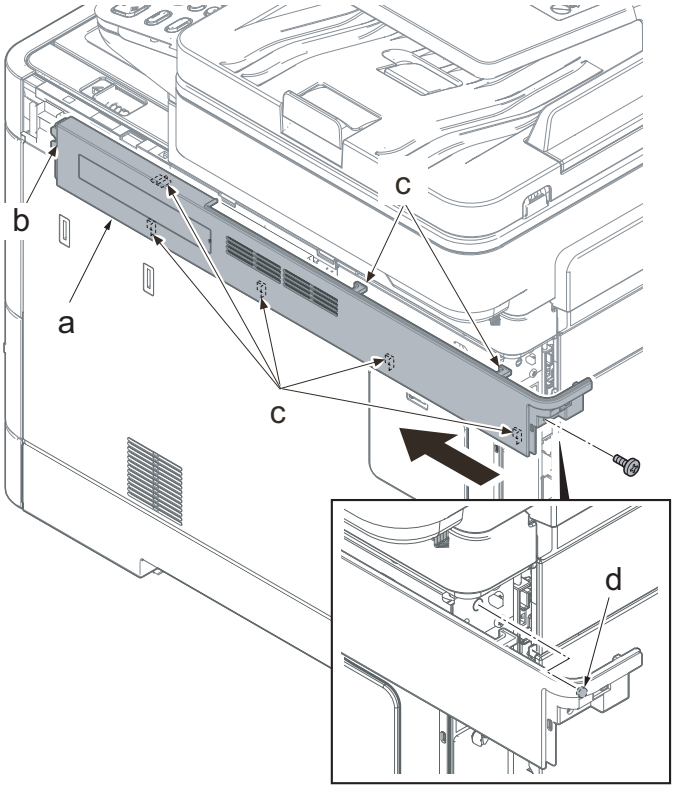


Figure 4-188

5. Open the waste toner cover (a).
6. Press the arm (b) down.
7. Remove the waste toner cover (a).

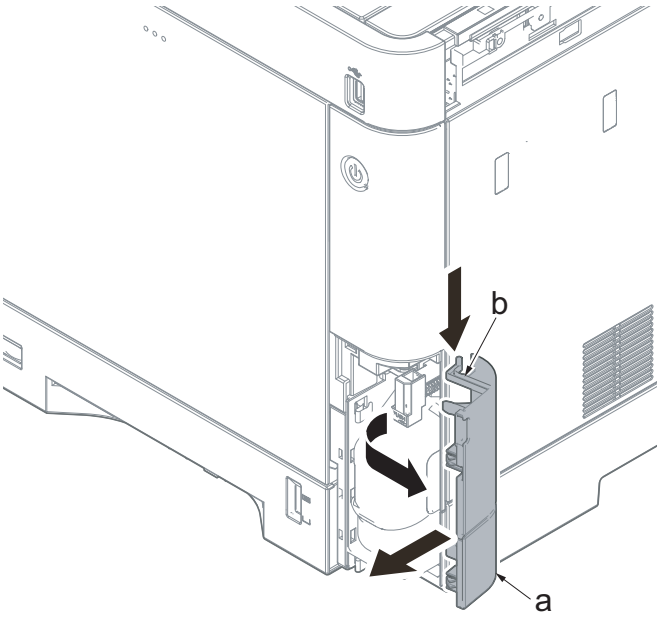


Figure 4-189

8. Push the lever (a) and open the memory cover (b).
9. Remove the memory cover (b).

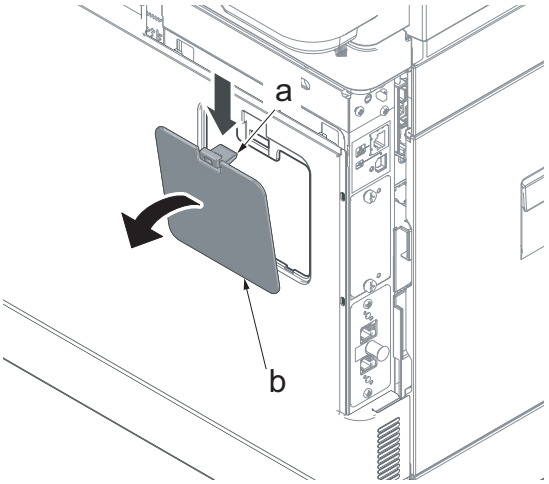


Figure 4-190

10. Pull up the shield lid (a) and pull it toward you to remove it.

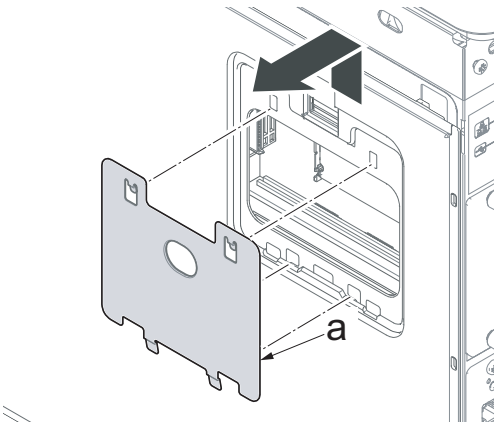


Figure 4-191

11. Open the rear cover (a).

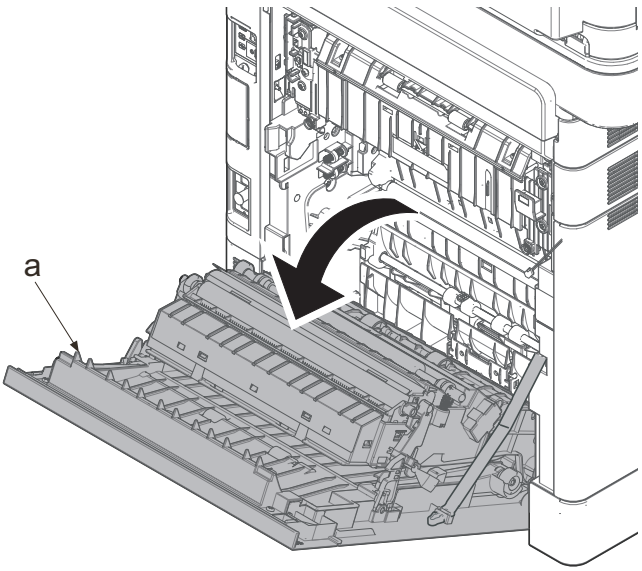


Figure 4-192

12. Push the machine front side of the middle rigth cover (a) toward the machine rear side and then lift up its machine rear side to detach it.

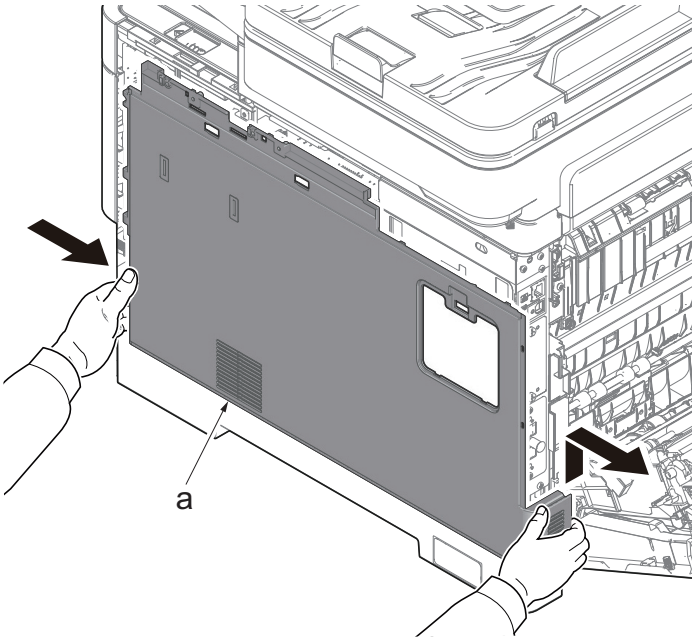


Figure 4-193

IMPORTANT
When reattaching the middle right cover (a), insert the lower rib into the the lower right cover. Slide it toward the machine front side to fasten three hooks (c) and then lower it to fasten three hooks (d), and fasten two hooks (e) at the machine rear side. Check if three hooks (d) at the machine rear side are surely fastened.

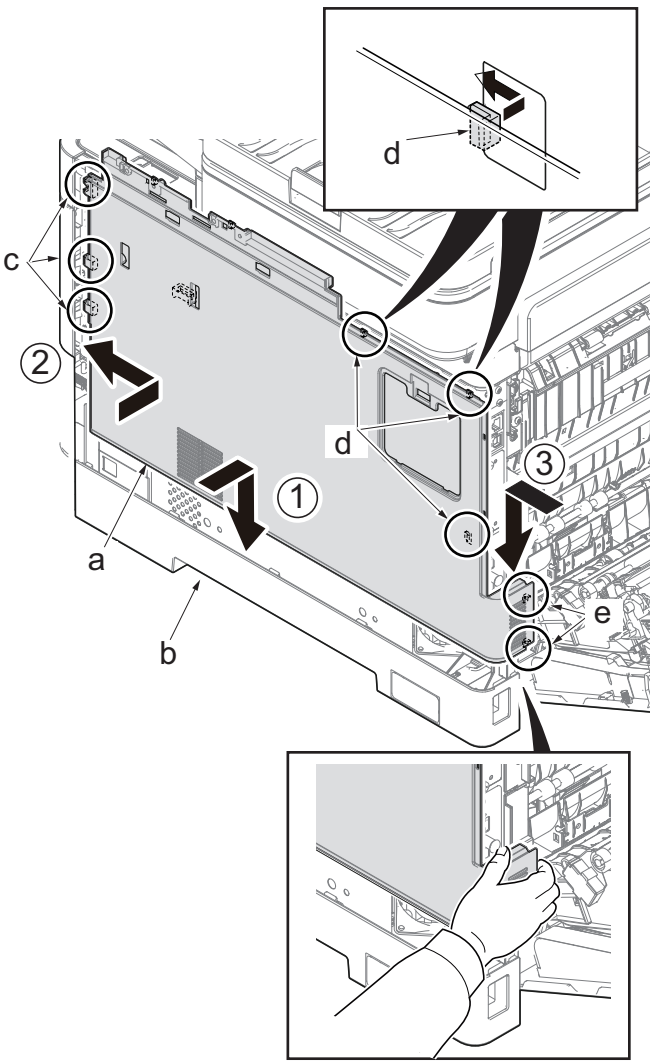


Figure 4-194

13. Remove the network connector cap (a).

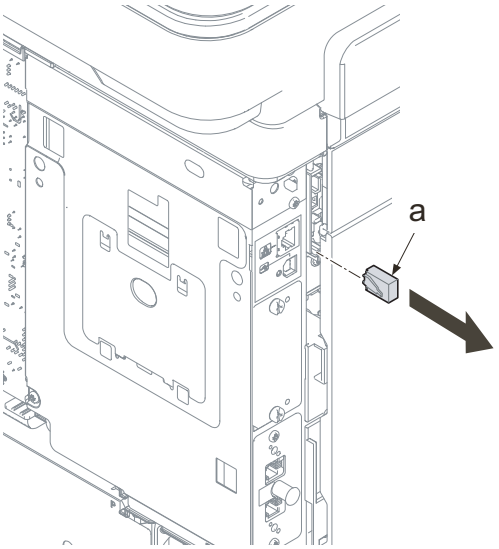


Figure 4-195

14. Remove two screws (a) (M3x8).
15. Detach the FAX unit (b). (For 4in1 model only)
    Remove the optional board, if installed.

    *: Do not hold the board, but the handle (c) when holding the FAX unit (b).

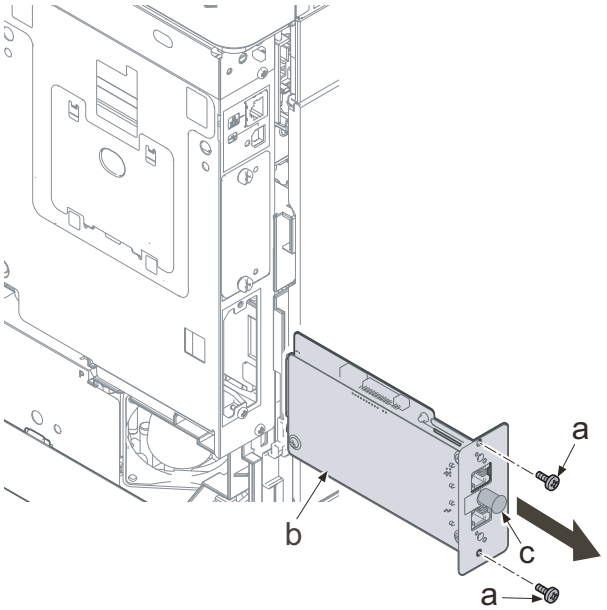


Figure 4-196

16. Remove five screws (a) (M3x8). Remove the ground terminal (c).
17. Remove the screw (b) (M3x6). (for 35 ppm model only)

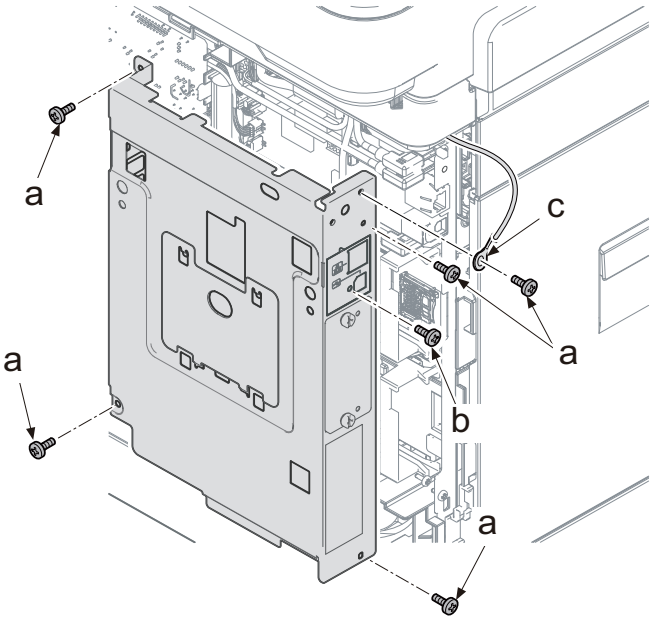


Figure 4-197

18. Remove the network connector (a) while sliding it toward the machine rear side and then remove the controller shield (b).

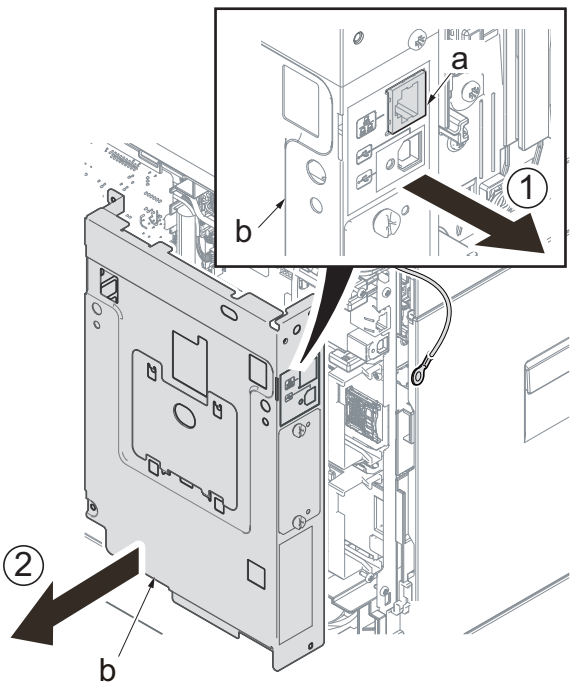


Figure 4-198

IMPORTANT

Pull out the ground wire (b) from the cut-out (c) of the controller shield (a) and secure it with the screw (d) when reattaching the controller shield (a).

The number of the ground wire (b) is one for 30 ppm model, and two for 35 ppm model.

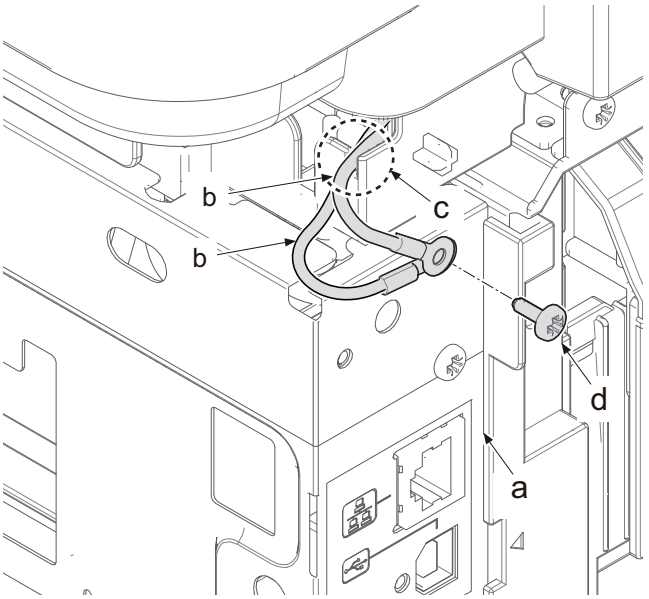


Figure 4-199

If removing the shield cover (b) when removing the controller shield (a), reattach it at that time.

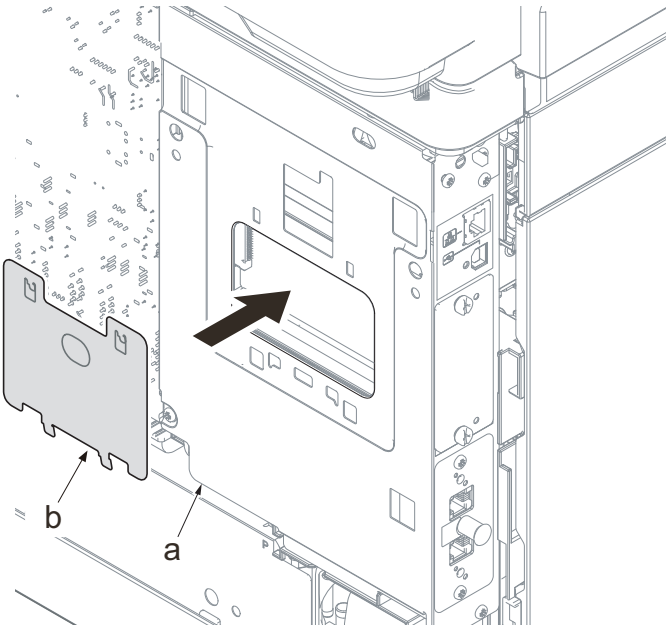


Figure 4-200

19. Remove the screw (a) (M3x8).
20. Slide the upper left cover (b) toward the machine rear side and detach it.

IMPORTANT
When reattaching the upper left cover (b), insert the hook (c) to the machine front side, and then fasten seven hooks (d) by sliding it toward the machine front side.

21. Pull the document processor out upward.
(See page 4-175)

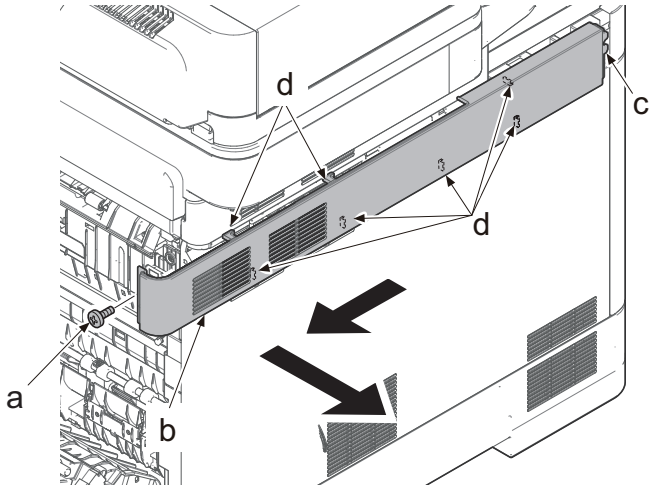


Figure 4-201

22. Push the DP lock button (a).

*: The inner tray is locked unless the document processor is installed. Thus, push the DP lock button (a) at the left side of the scanner unit to release the inner tray.

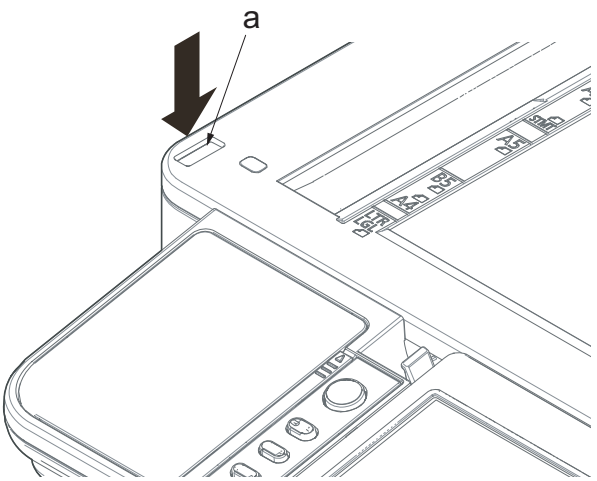


Figure 4-202

23. Pull the lever (a).
24. Lift up the scanner unit (b) and open the inner tray (c).

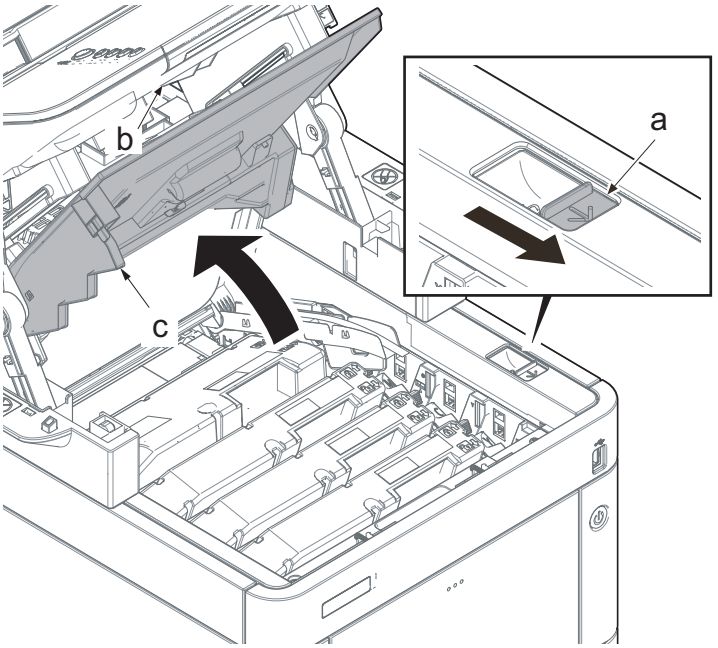


Figure 4-203

25. Pull out the left and right pins (b) from the inside of the inner tray (a) while opening the inner tray (a) in the middle of full-open angle.
    *: Broaden the gap between the rails (c) when the pins (b) are in the center of the rails (c), and pull out the pins from the inner tray (a).
    *: This procedure loweres the inner tray and only the scanner unit is opened.

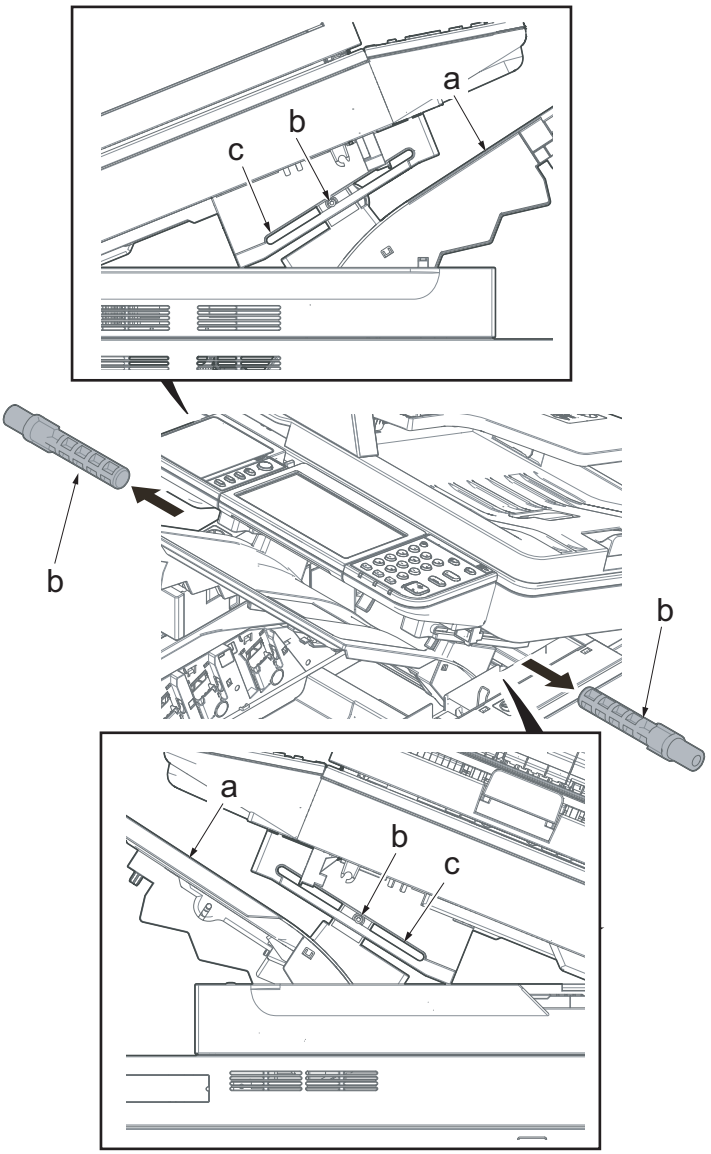


Figure 4-204

26. Release the hook (a) using a flat-blade screwdriver (d).
27. Release three hooks (b) using a flat-blade screwdriver (d).
28. Remove the scanner right cover (c).

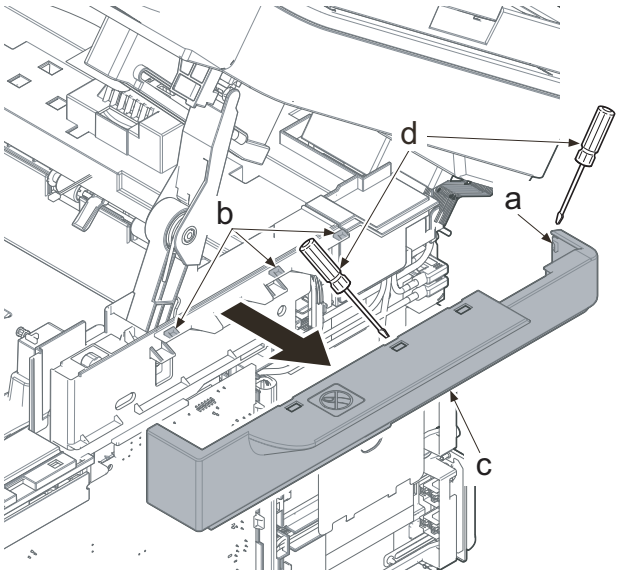


Figure 4-205

29. Release the hook (a) using a flat-blade screwdriver (d).
30. Release four hooks (b) using a flat-blade screwdriver (d).
31. Slide the scanner left cover (c) toward the machine front side and detach it.

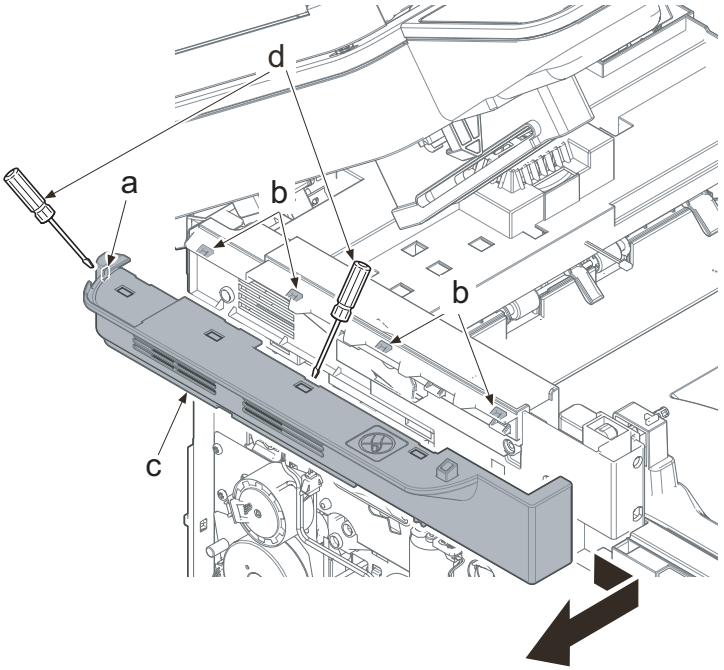


Figure 4-206

32. Release the hooks (b) of the left and right arm pins (a) using a flat-blade screwdriver (c).
    Pull out the arm pins (a) while pushing them out toward the machine right side.

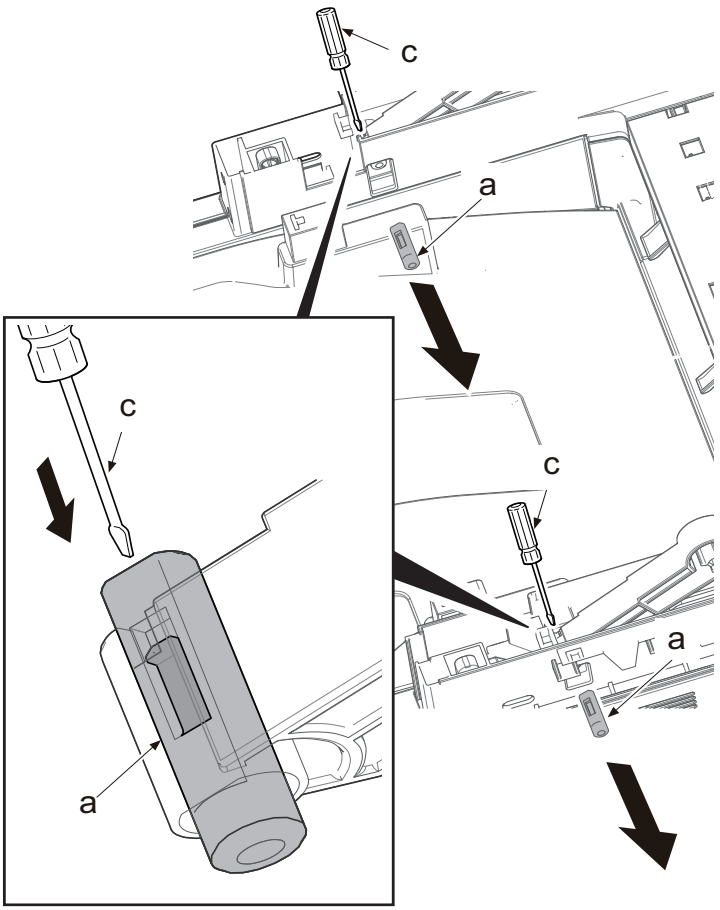


Figure 4-207

IMPORTANT
When reattaching the arm pins (a), fit their D-cut parts to the holes and insert them from the machine right side.

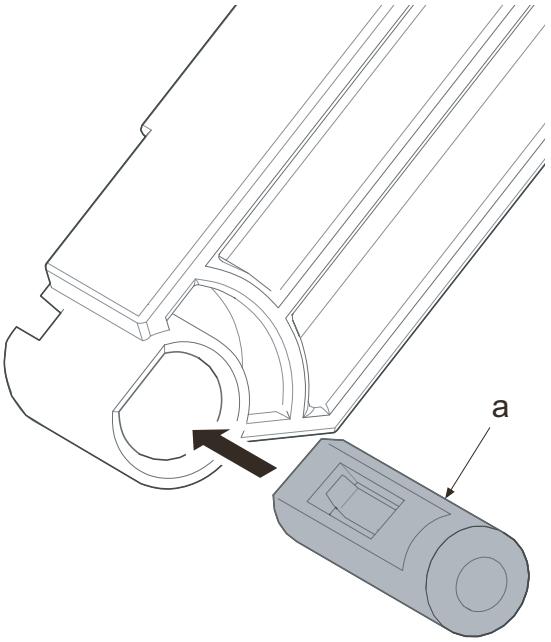


Figure 4-208

33. Inset the flat-blade screwdriver through the lower side of the upper rear cover (a) and release the hook (b) inside.
34. Release two hooks (c).
35. Remove the upper rear cover (a).

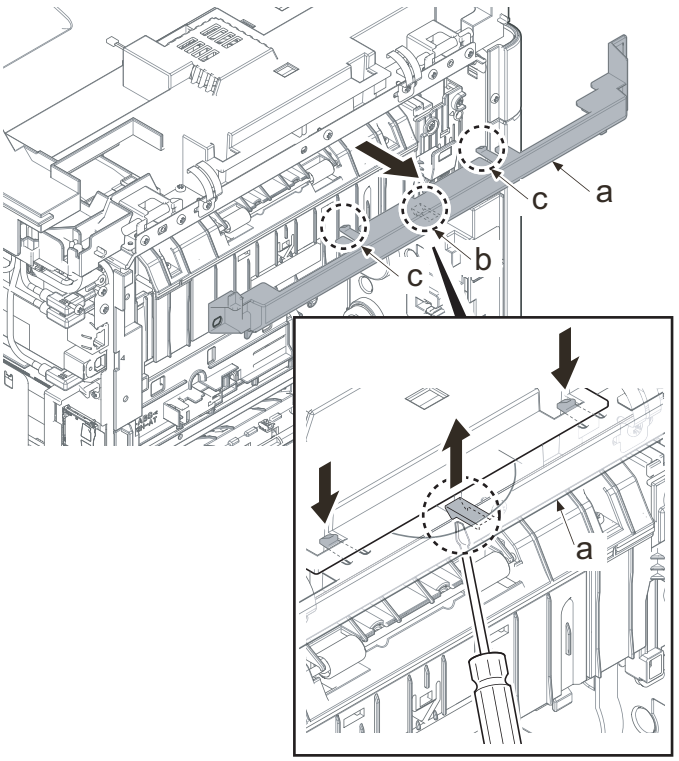


Figure 4-209

36. Release the hook (a).
    *: Insert a flat-blade screwdriver into the square hole to release the hook by pushing it toward th machine rear side.
37. Remove the upper exit cover (b).

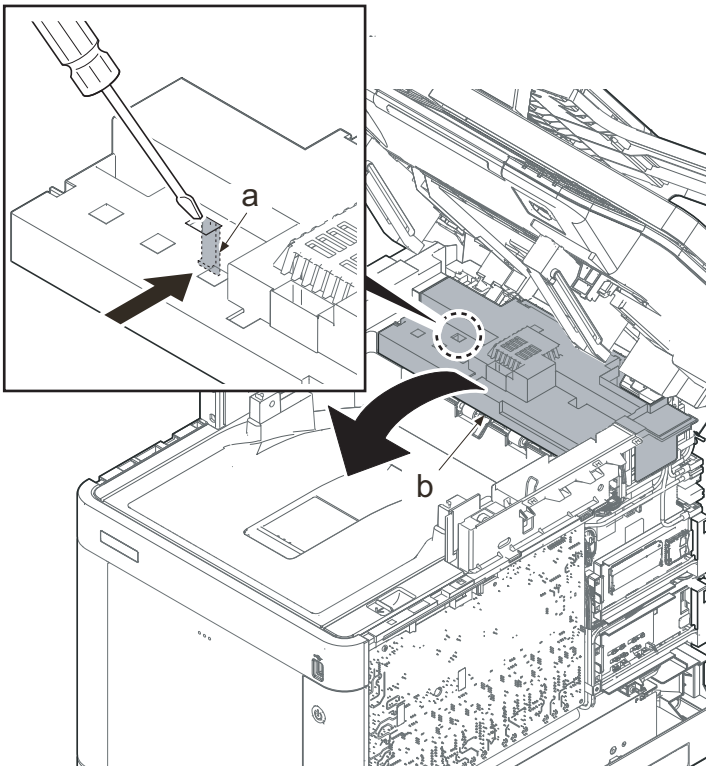


Figure 4-210

IMPORTANT
When reattaching the upper exit cover (a), insert the two hooks (b) into the square holes (c) of the main unit and fasten the hook (d).

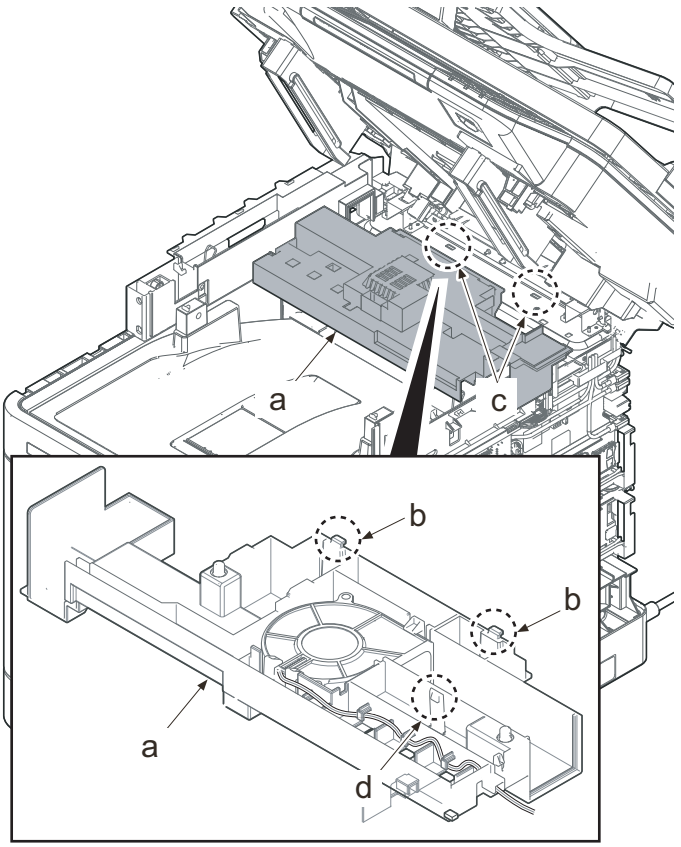


Figure 4-211

38. Disconnect the following six connectors connected to the main/engine PWB (a).
    YC17
    YC2001
    YC2002
    YC2011(BLACK)
    YC2008(BLACK)
    YC2014 FFC

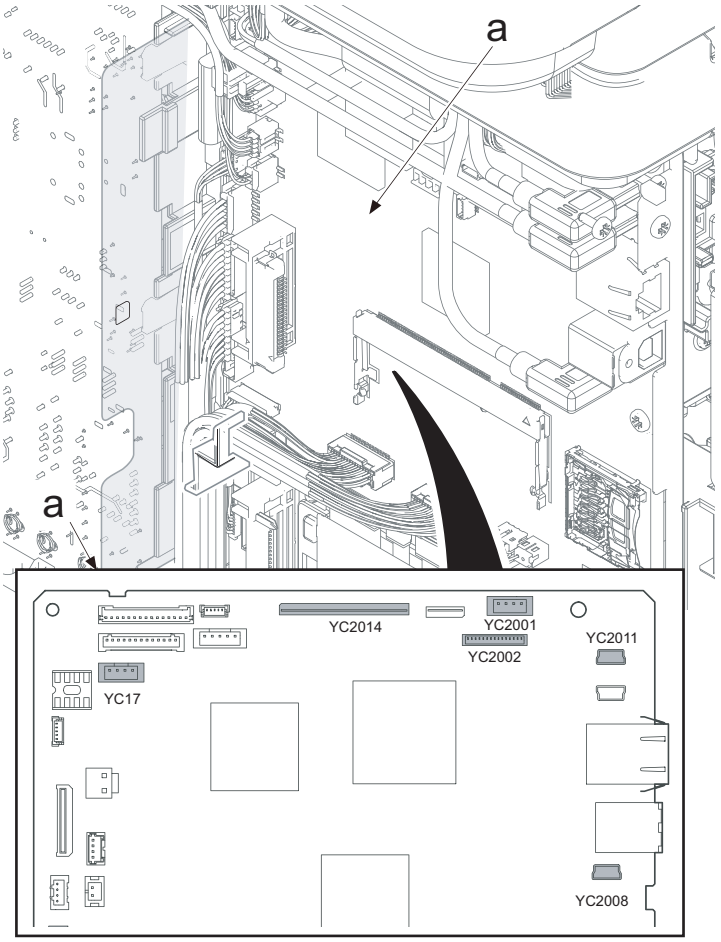


Figure 4-212

39. Remove the wire (a) from the hook (b).

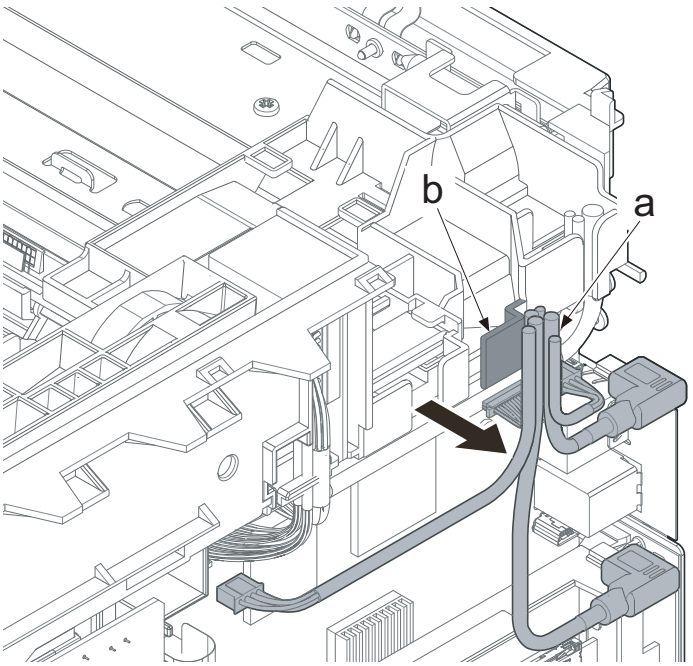


Figure 4-213

40. Pass the film (b) and FFC (a) through the hook (c) to pull them out when disconnecting the FFC (a).
41. Keep the FFC (a) horizontal and pass it through the ferrite core (d). Release it from four hooks (e) and remove it.

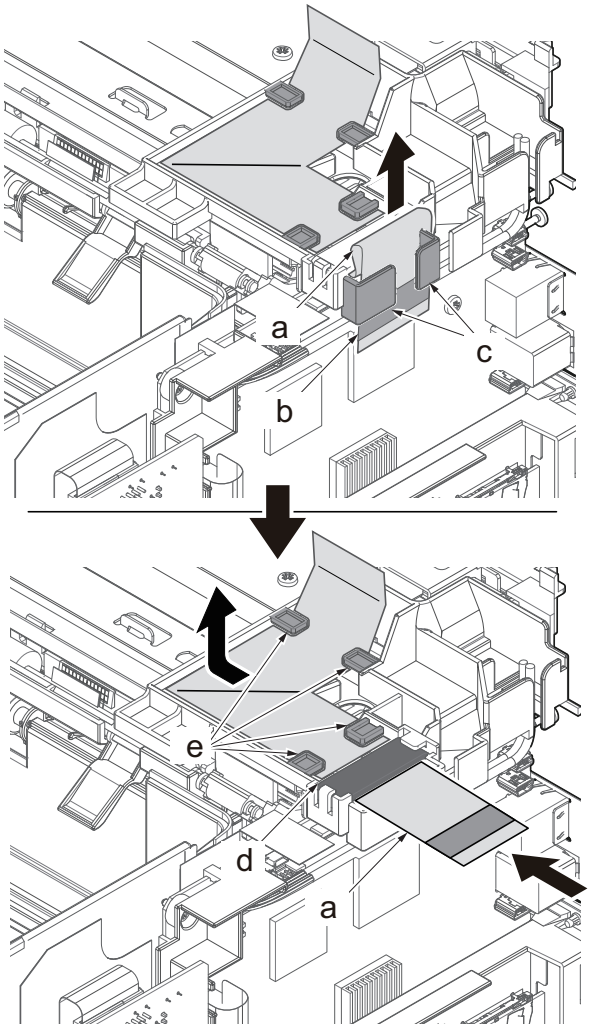


Figure 4-214

42. Pull out the DP relay PWB (a) and remove the connector (b) (YC2).

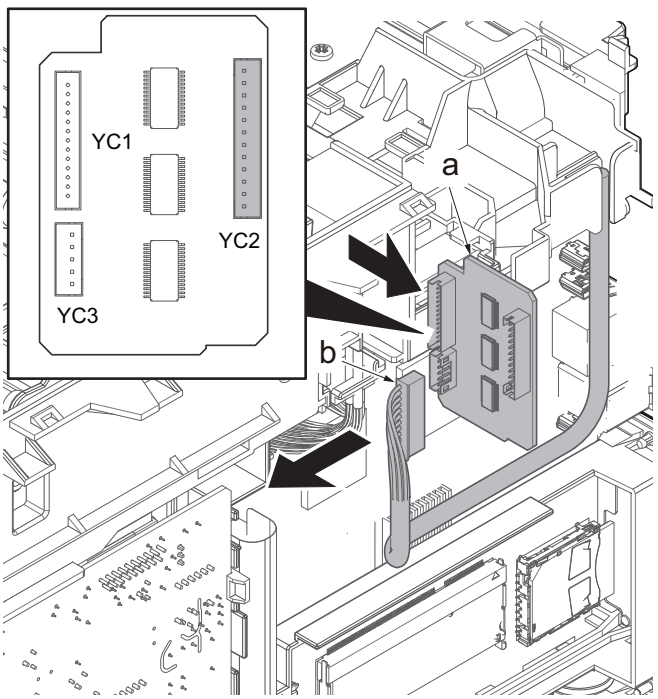


Figure 4-215

43. Remove the connector (a) (YC18).
44. Remove the wire (b) from the hook (c).

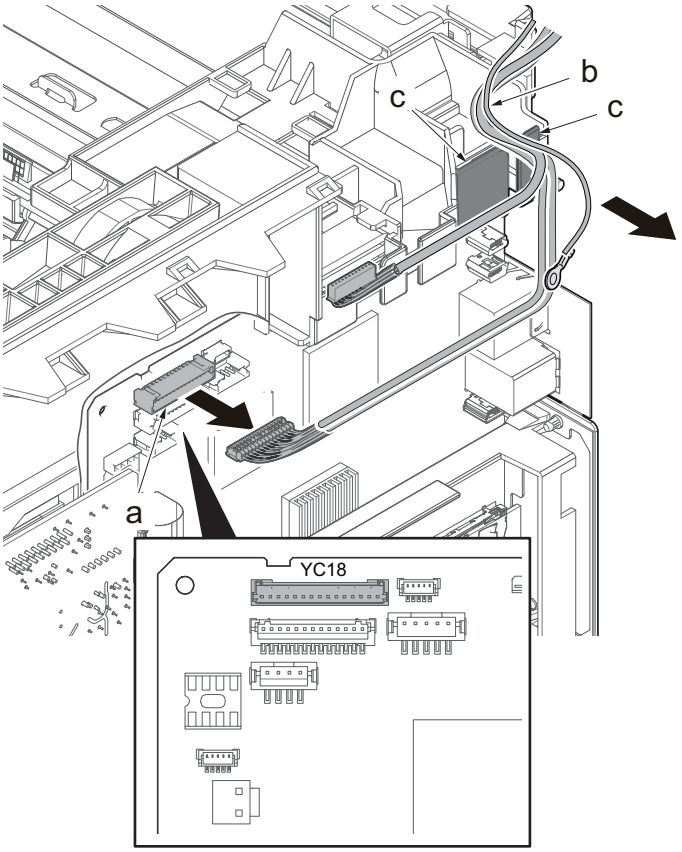


Figure 4-216

45. Pull out the pins (b) from the brackets (a) of the left and right fulcrum parts.

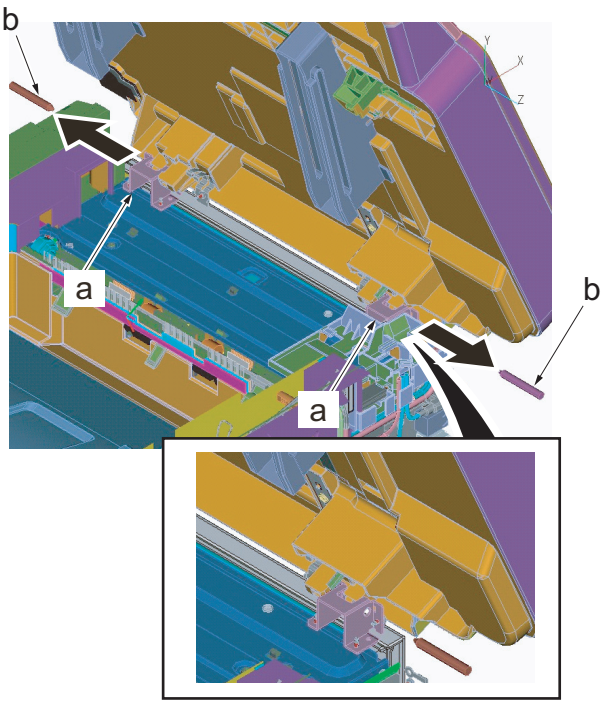


Figure 4-217

46. Detach the scanner unit (a).

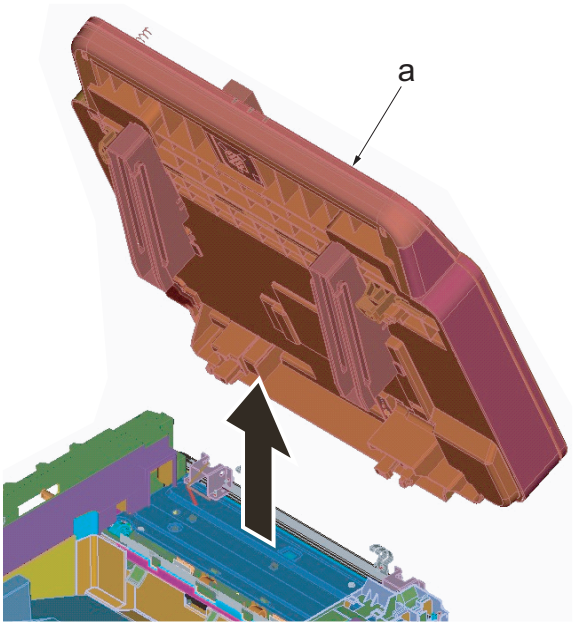


Figure 4-218

(2) Optical section (Laser scanning)

(2-1) Detaching and reattaching the LSU

<Procedure>

1. Pull the lever (a).
2. Lift up the scanner unit (b) and open the inner tray (c).

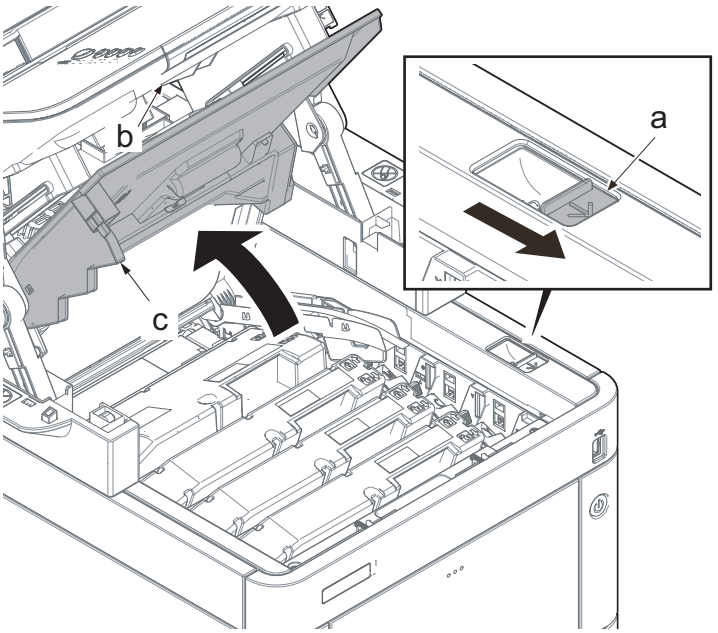


Figure 4-219

3. Rotate the lock lever (a).

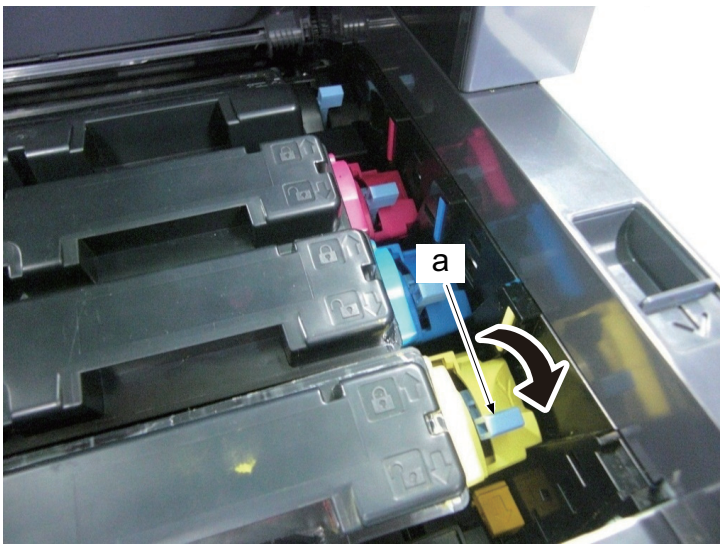


Figure 4-220

4. Detach the toner containers (K, M, C and Y)(a).

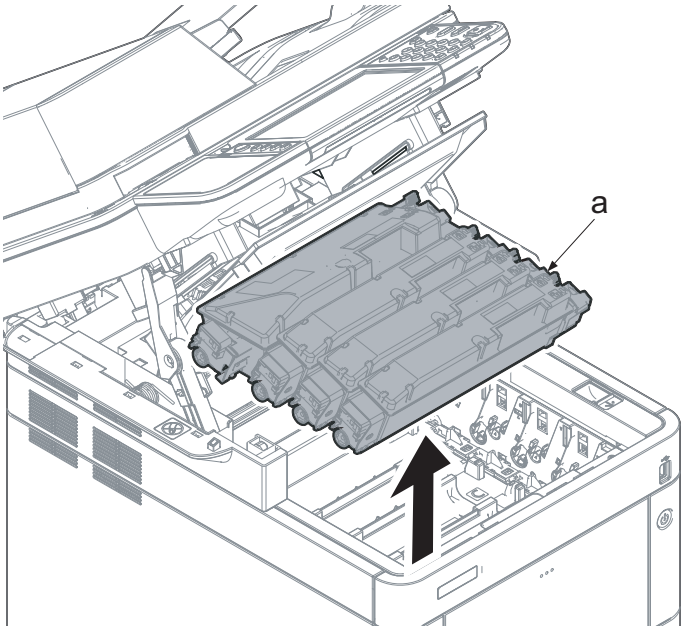


Figure 4-221

*: When detaching the toner container (a), first lift its handle (b) and then pull it out upward.

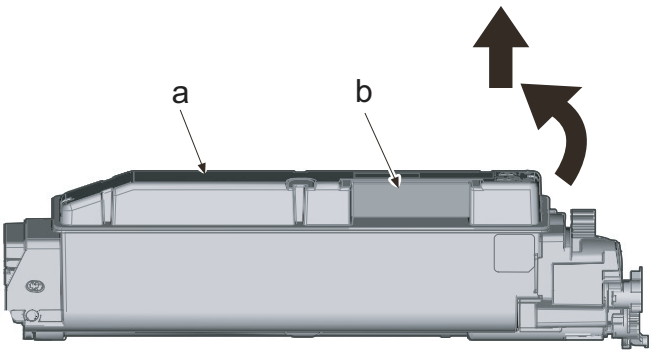


Figure 4-222

5. Pull the right shutter lever (a) in the direction of the arrow.

*: Close the toner feed inlet by pulling this lever.

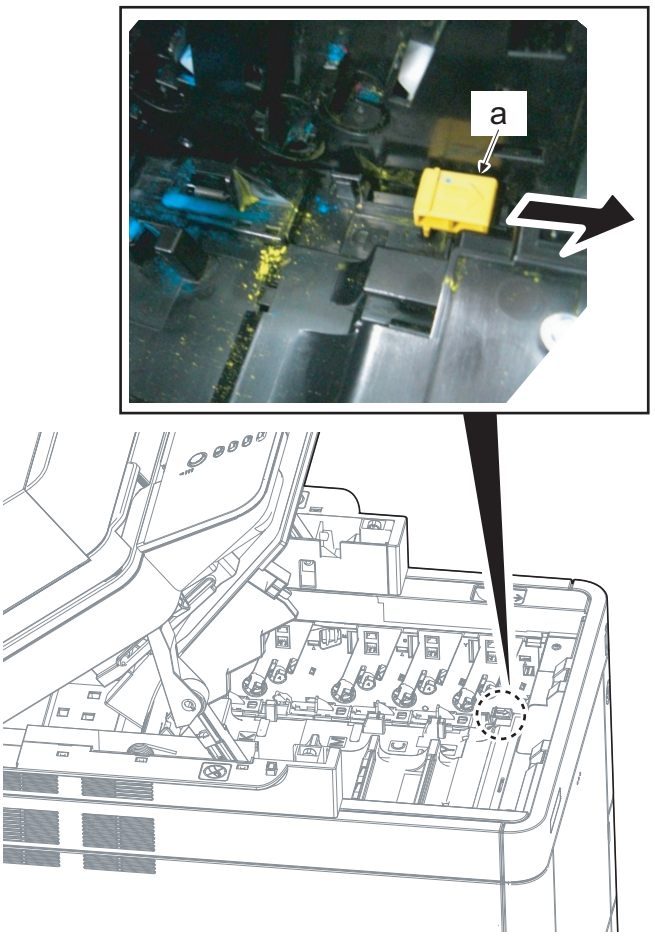


Figure 4-223

6. Remove the screw (a)(M3x12)

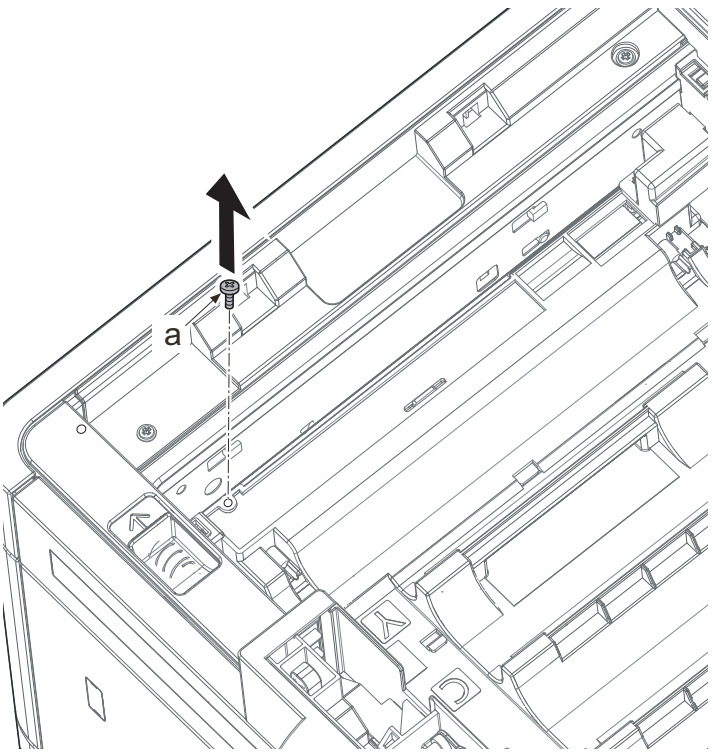


Figure 4-224

7. Remove the screw (a)(M3x12)
8. Remove the lever cover (b).
9. Lift up the drive release lever (c).

*: When raising the lever, the joint of the drive coupling is released.

IMPORTANT
If omitting to attach the lever cover, "Cover open" message is displayed while the tray swithc is not turned on.

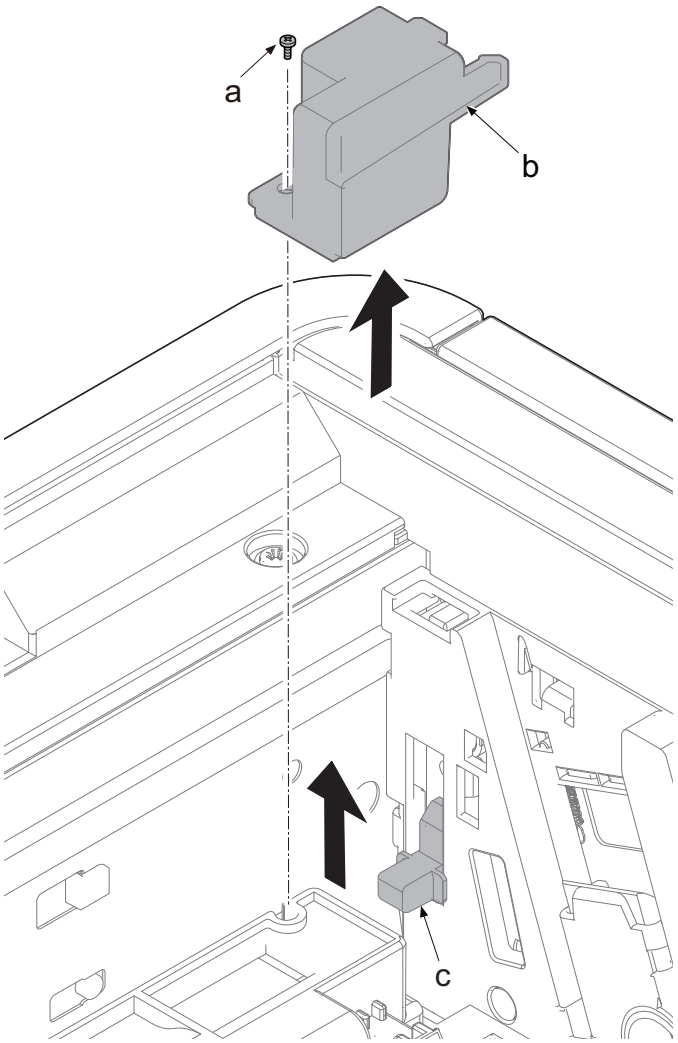


Figure 4-225

10. Detach the primary transfer unit (a).

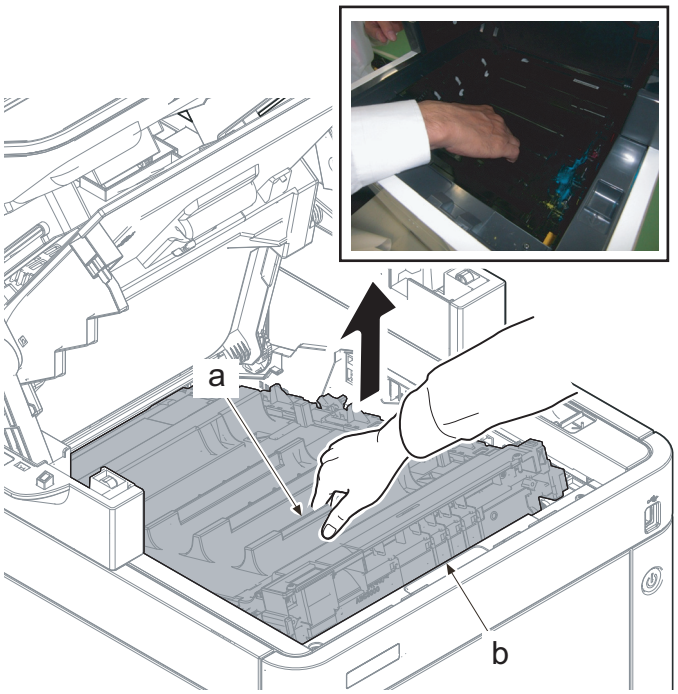


Figure 4-226

*: Hold the handle (b) at the machine front side and lift up the primary transfer unit (a). Then, further lift it up and pull it toward the machine front side to detach.

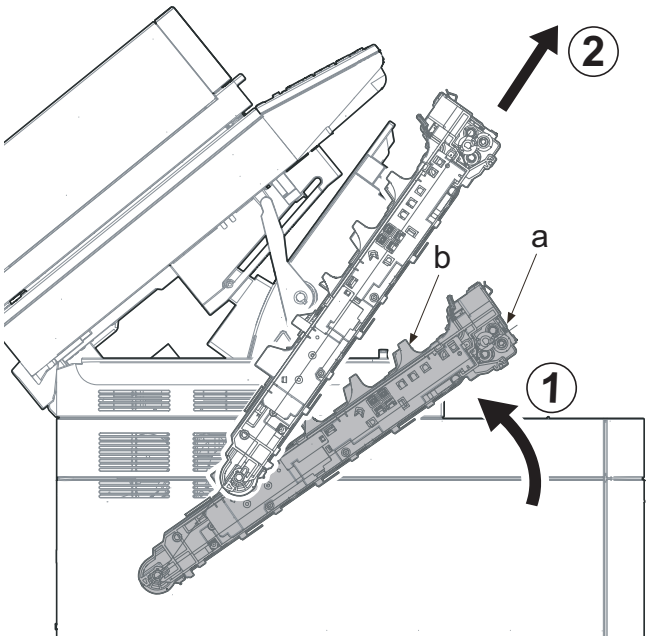


Figure 4-227

*: When removing the primary transfer unit (a) or it is unstable to install it, hold the handle (b) at the machine rear side by the other hand

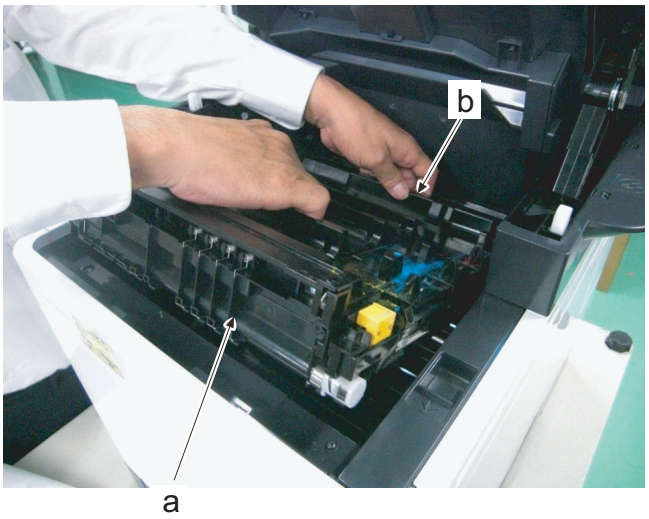


Figure 4-228

*: Do not touch the release lever (b) after detaching the primary transfer unit (a). This lever (b) is connected with the shutter lever (c) and so they are released together by installing the toner container into the main unit.
The operation mistakenly open the toner feed inlet (d).

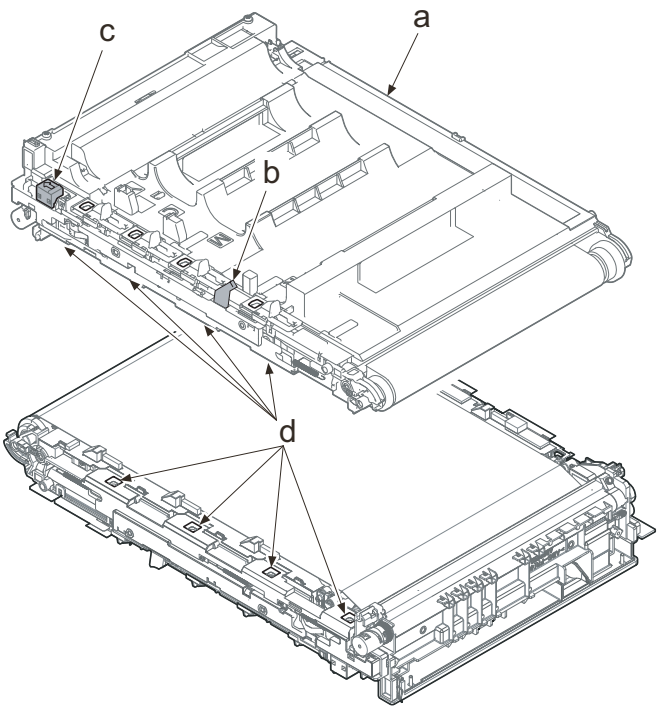


Figure 4-229

11. Detach the drum unit (a)(M,C and Y) by pulling it up.
    Lift up the drum unit (K)(b) and pull it toward the machine front side to detach it.

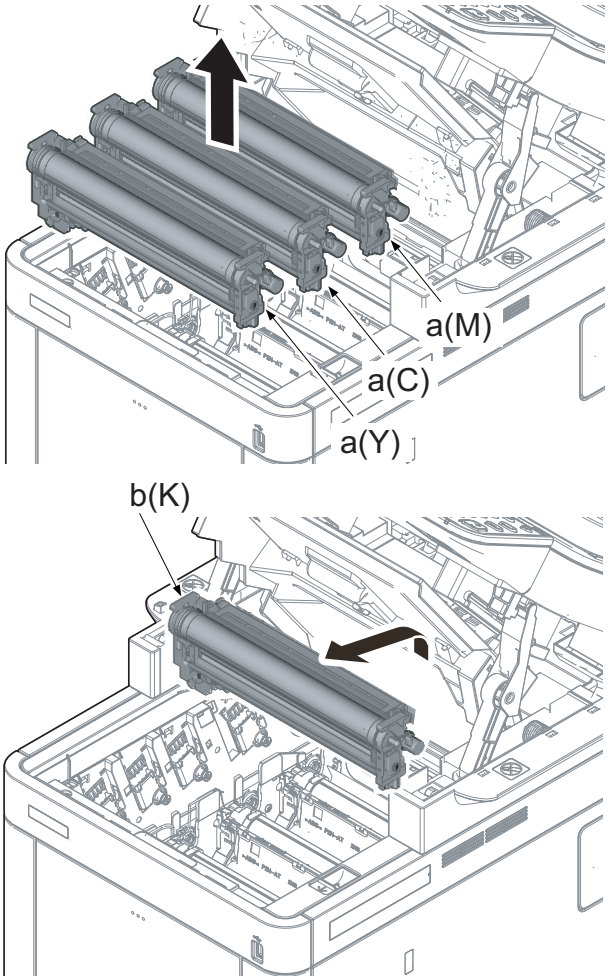


Figure 4-230

IMPORTANT
Hold the handles (b) on both sides when detaching the drum unit (a).

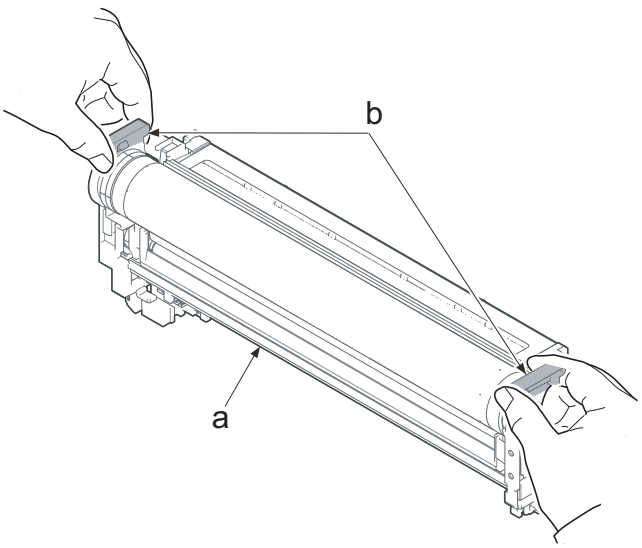


Figure 4-231

12. Detach the developer unit (K, M, C and Y)(a).

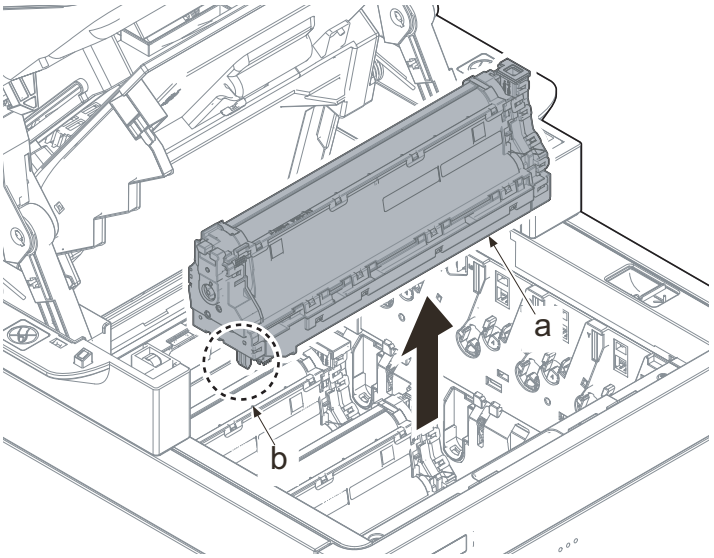


Figure 4-232

*: When detaching the developer unit (a), hold both the left and right handles (b).

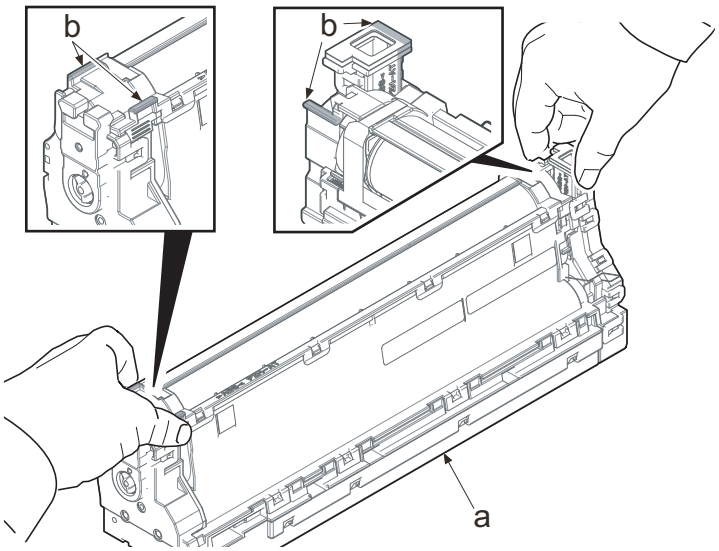


Figure 4-233

*: Make sure not to touch the gears (a) in the drive section where there is grease.

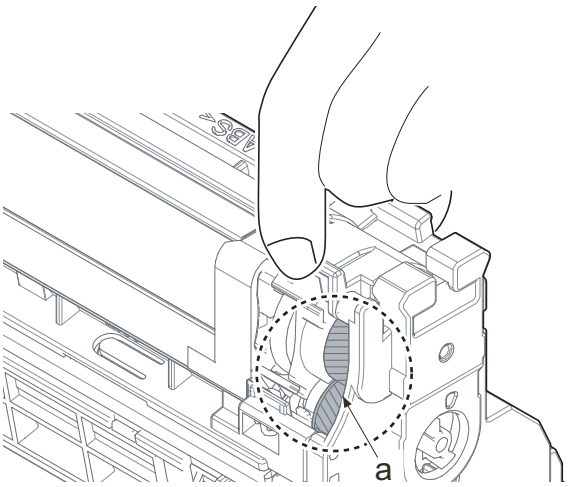


Figure 4-234

IMPORTANT
When attaching the developer unit (a), match the colors between the back side (b) of the developer unit and the right side (c) of the main unit.

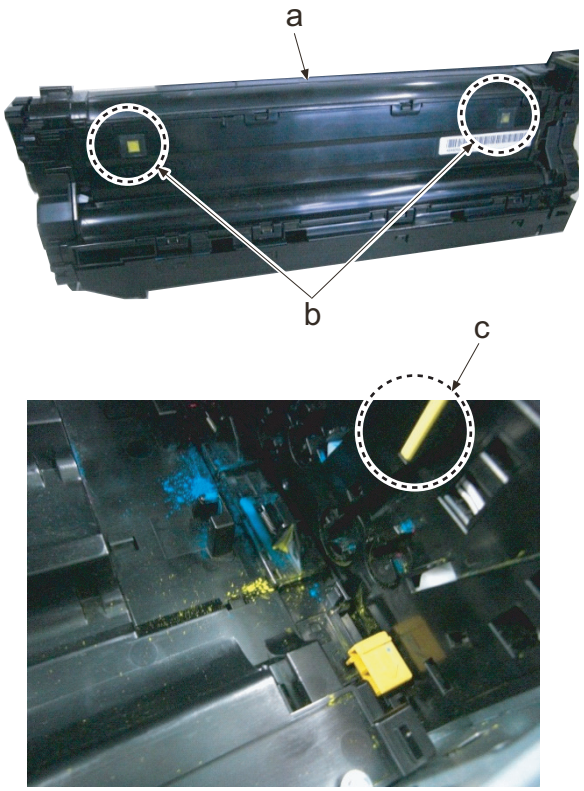


Figure 4-235

13. Open the rear cover (a).
14. Pull the lower part of the opening toward the machine rear side and release the hook (a).
15. Remove the interface cover (b).

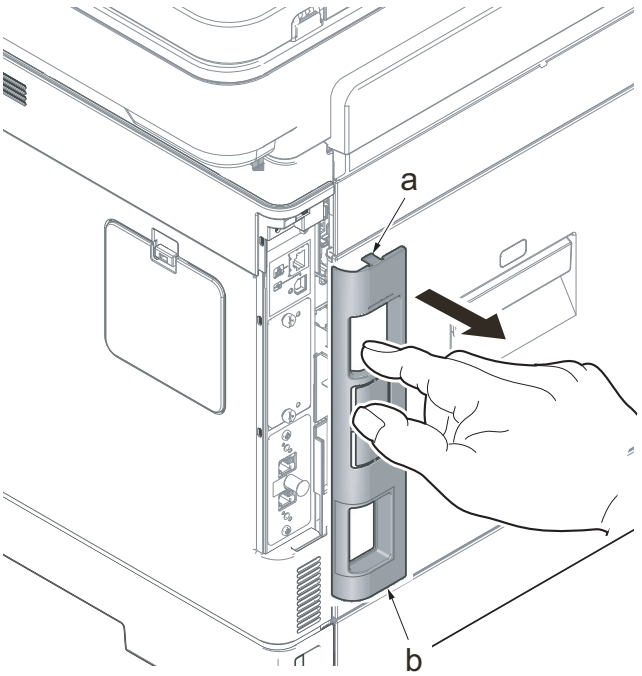


Figure 4-236

16. Remove the screw (a) (M3x8).
17. Slide the upper right cover (b) toward the machine rear side and detach it.

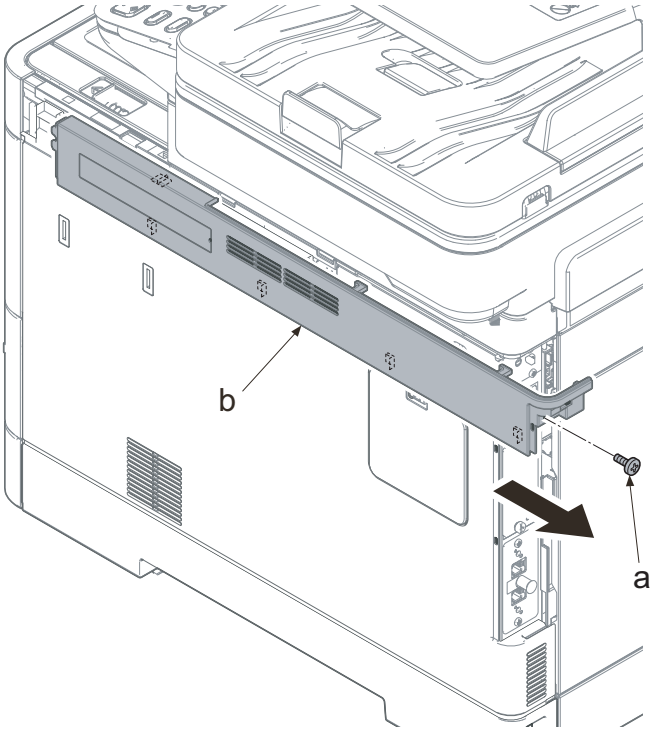


Figure 4-237

IMPORTANT
When reattaching the upper right cover (a), insert the hook (b) to the machine front side, and then fasten seven hooks (c) by sliding it toward the machine front side and insert the positioning projection (d) into the hole.

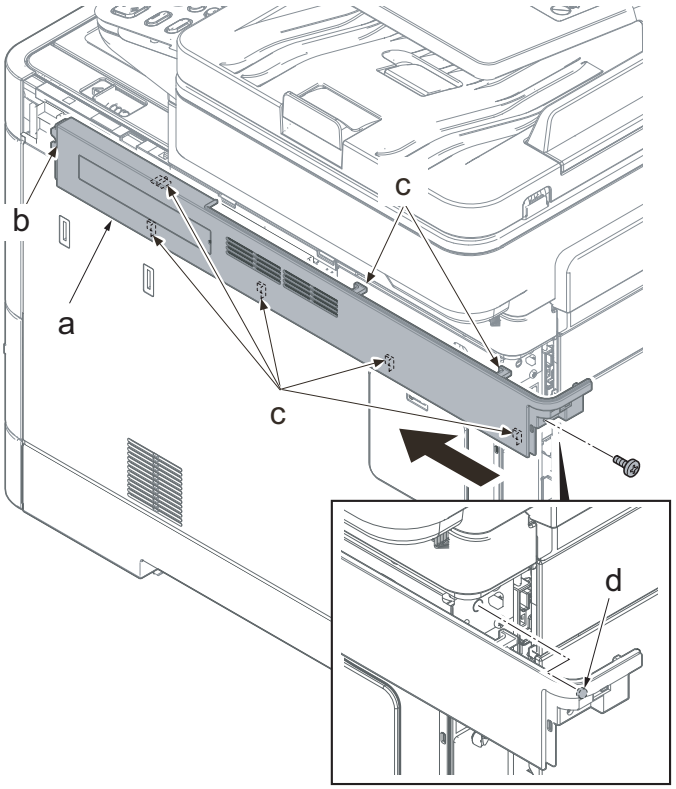


Figure 4-238

18. Open the waste toner cover (a).
19. Press the arm (b) down.
20. Remove the waste toner cover (a).

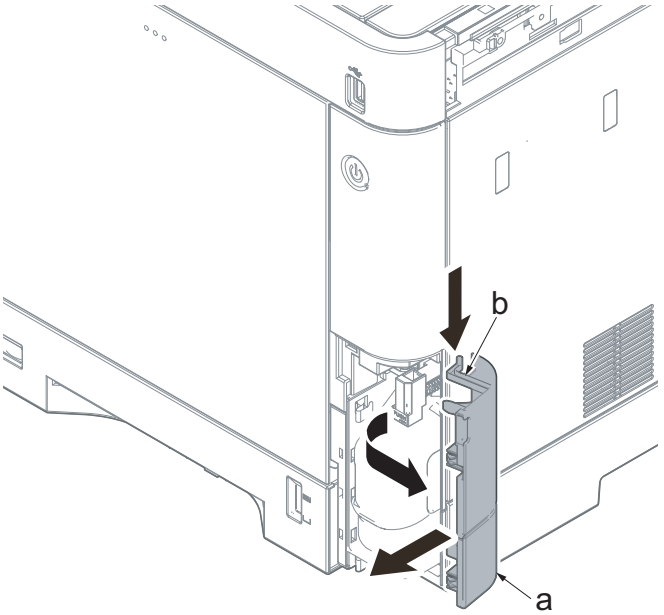


Figure 4-239

21. Push the lever (a) and open the memory cover (b).
22. Remove the memory cover (b).

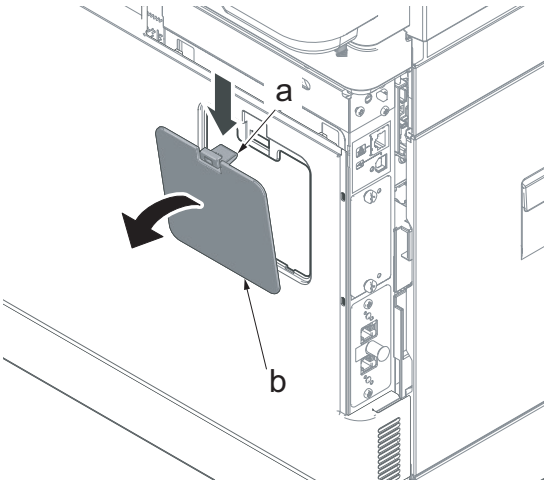


Figure 4-240

23. Pull up the shield lid (a) and pull it toward you to remove it.

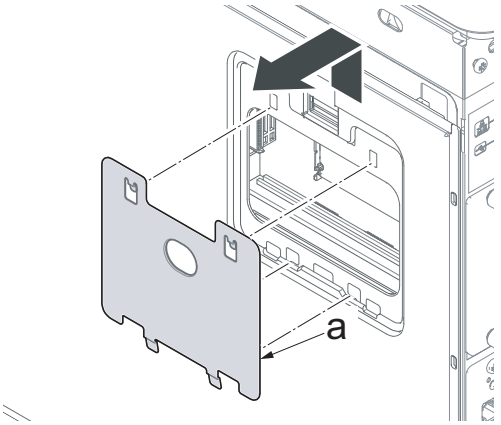


Figure 4-241

24. Open the rear cover (a).

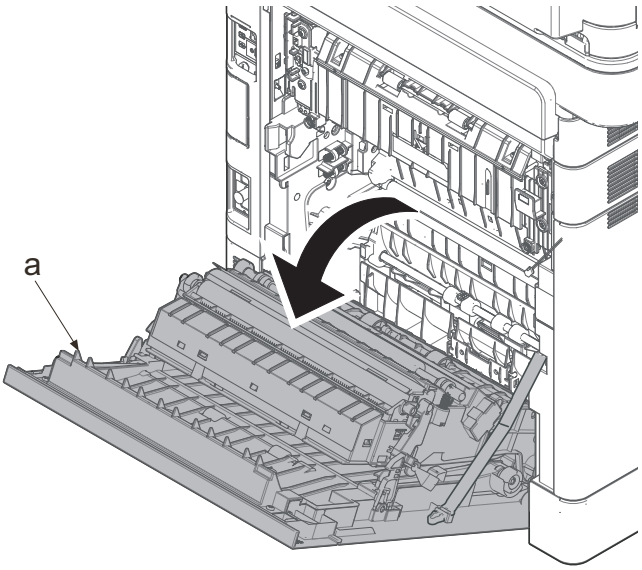


Figure 4-242

25. Push the machine front side of the middle right cover (a) toward the machine rear side and then lift up its machine rear side to detach it.

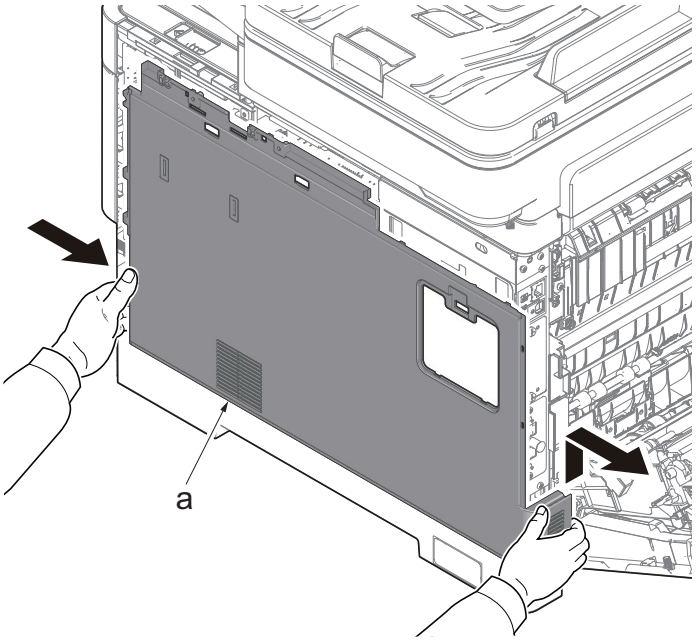


Figure 4-243

IMPORTANT
When reattaching the middle right cover (a), insert the lower rib into the the lower right cover. Slide it toward the machine front side to fasten three hooks (c) and then lower it to fasten three hooks (d), and fasten two hooks (e) at the machine rear side. Check if three hooks (d) at the machine rear side are surely fastened.

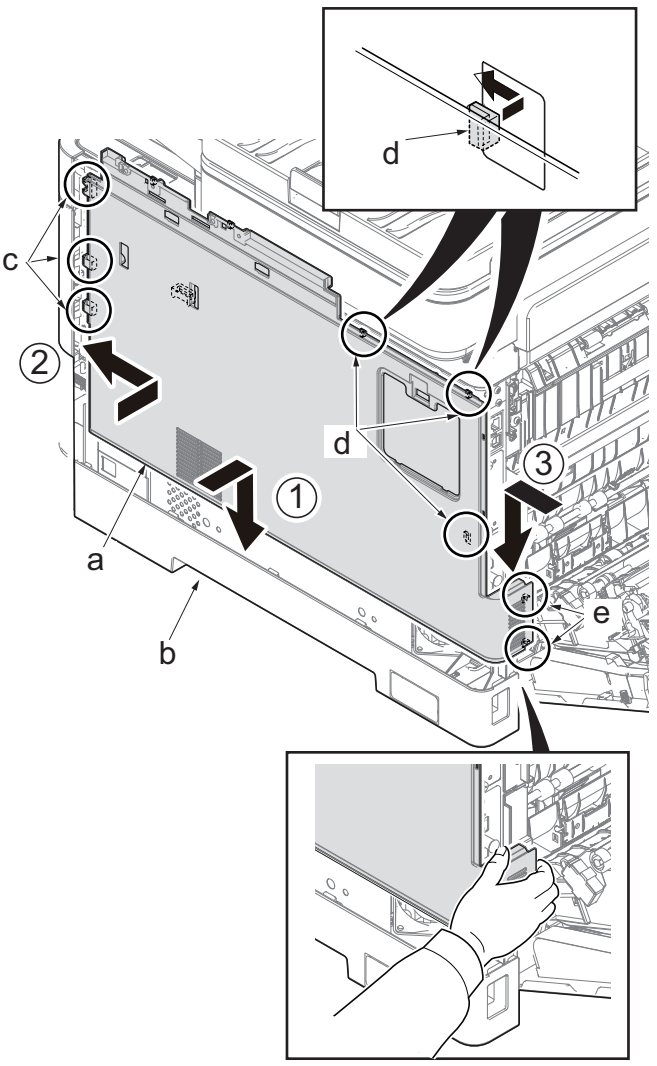


Figure 4-244

26. Remove the network connector cap (a).
27. Remove two screws (a) (M3x8).
28. Detach the FAX unit (b). (For 4in1 model only)
    Remove the optional board, if installed.

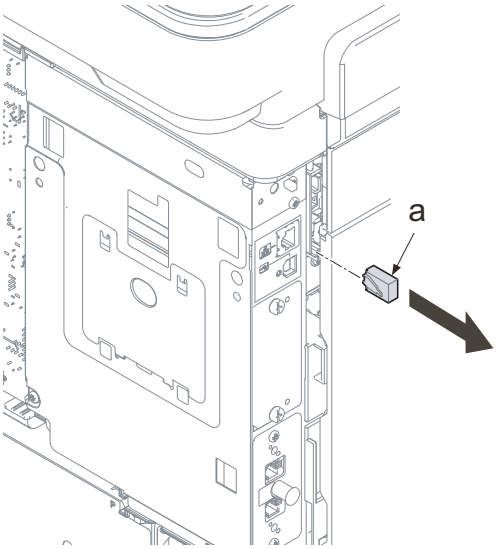


Figure 4-245

*: Do not hold the board, but the handle (c) when holding the FAX unit (b).

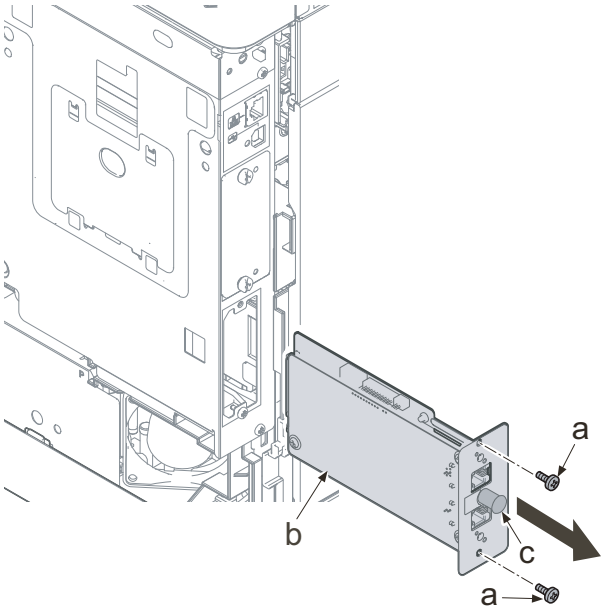


Figure 4-246

29. Remove five screws (a) (M3x8).
    *: 30 ppm model: four screws (M3x8)
30. Remove the screw (b) (M3x8) and remove the ground terminal (c).

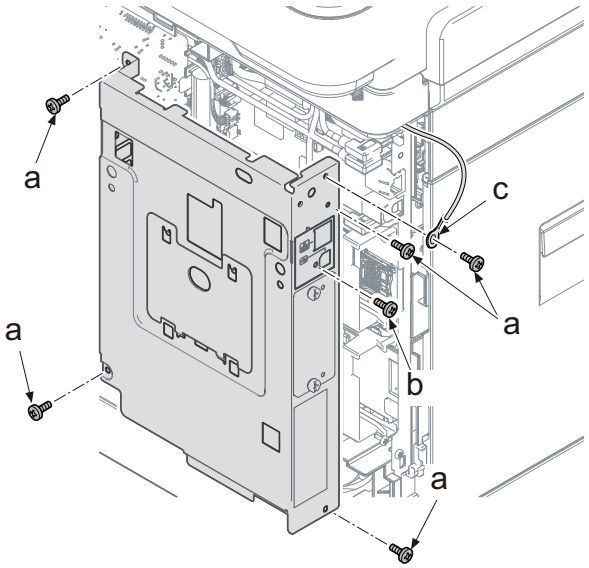


Figure 4-247

31. Remove the network connector (a) while sliding it toward the machine rear side and then remove the controller shield (b).

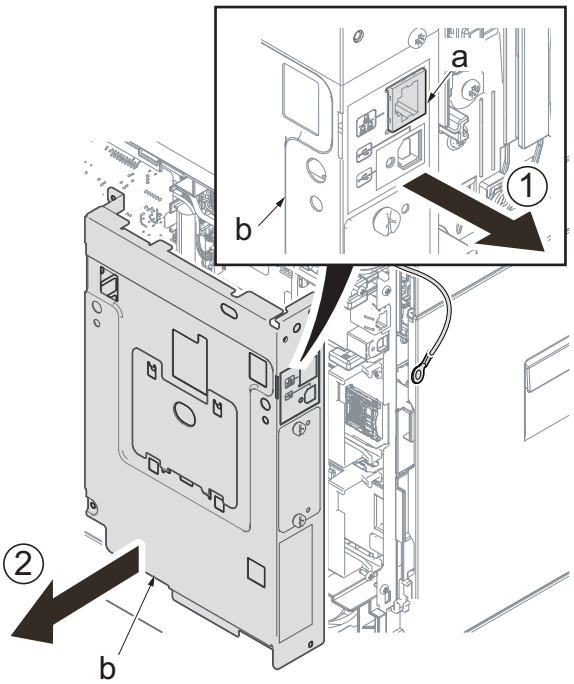


Figure 4-248

IMPORTANT
Pull out the ground wire (b) from the cut-out (c) of the controller shield (a) and secure it with the screw (d) when reattaching the controller shield (a).
The number of the ground wire is one for 30 ppm model, and two for 35 ppm model.

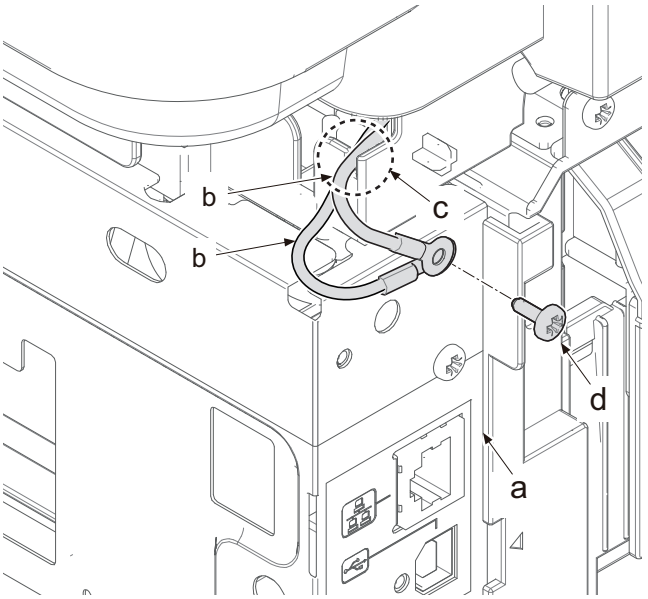


Figure 4-249

32. Open the wire alignment film (c) by releasing its square hole from the hook (b) of the upper PWB guide (a).

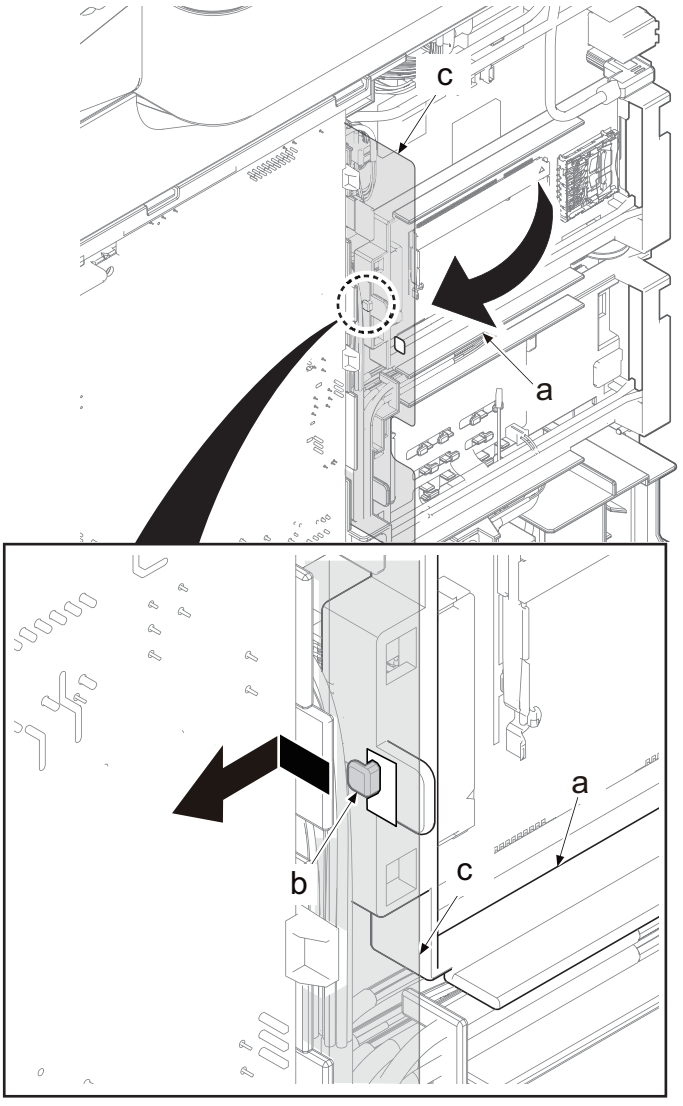


Figure 4-250

33. Release two hooks (b) of the upper and lower PWB guides (a).

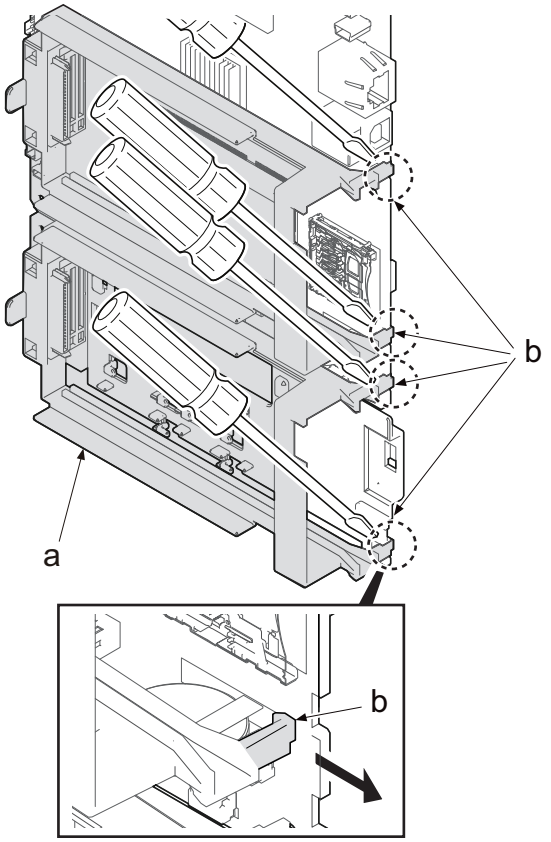


Figure 4-251

34. Slide the PWB guide (a) toward the machine rear side to release two hooks (b).
    *: Only the 4in1 model has the lower PWB guide (c).

IMPORTANT
Check if four hooks (a and b) are fastened after reattaching the PWB guide (c).
The PWB connector like FAX unit can not be connected without hooking.

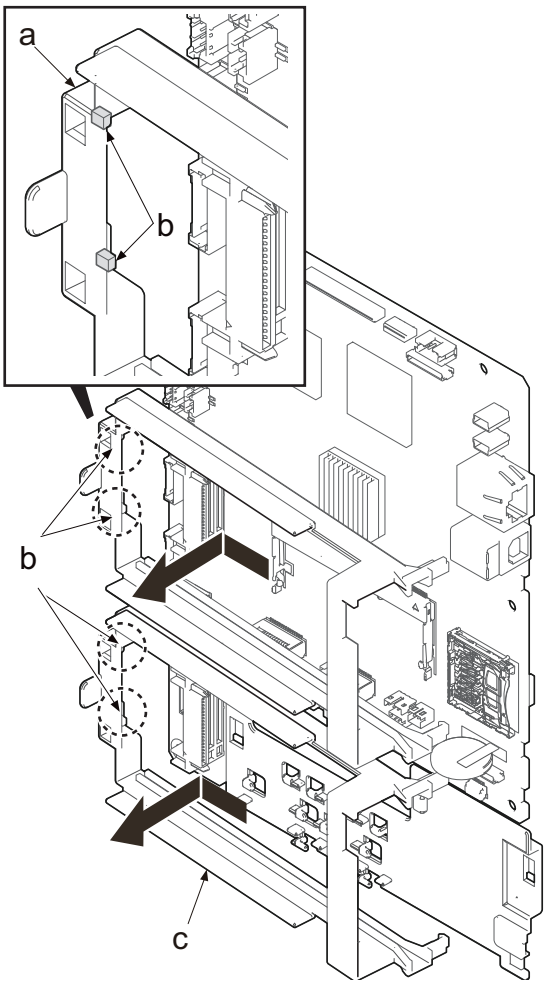


Figure 4-252

35. Disconnect two connectors (YC2016 and YC2017) from the main/engine PWB (a).
36. Release the wire from three hooks (c) of the wire guide (d).

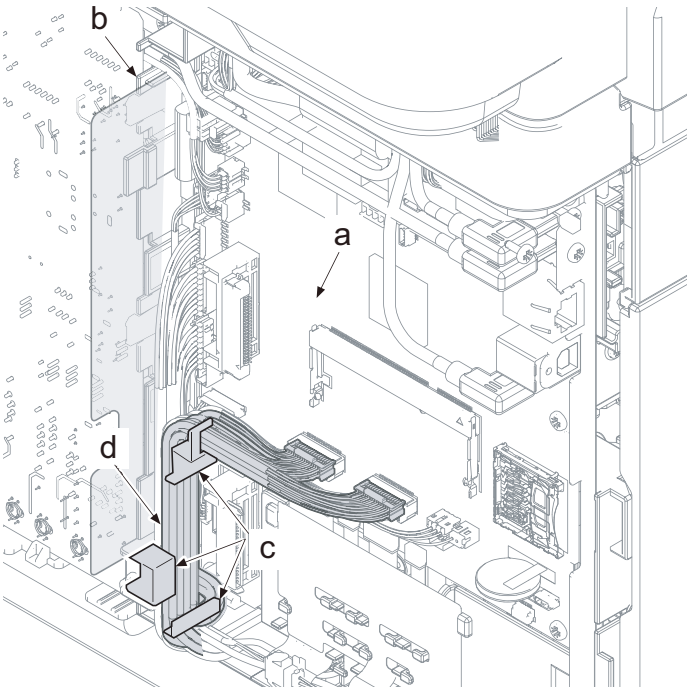


Figure 4-253

37. When removing the laser scanner unit (CY), open the wiring film (a) after removing the connector YC2017.

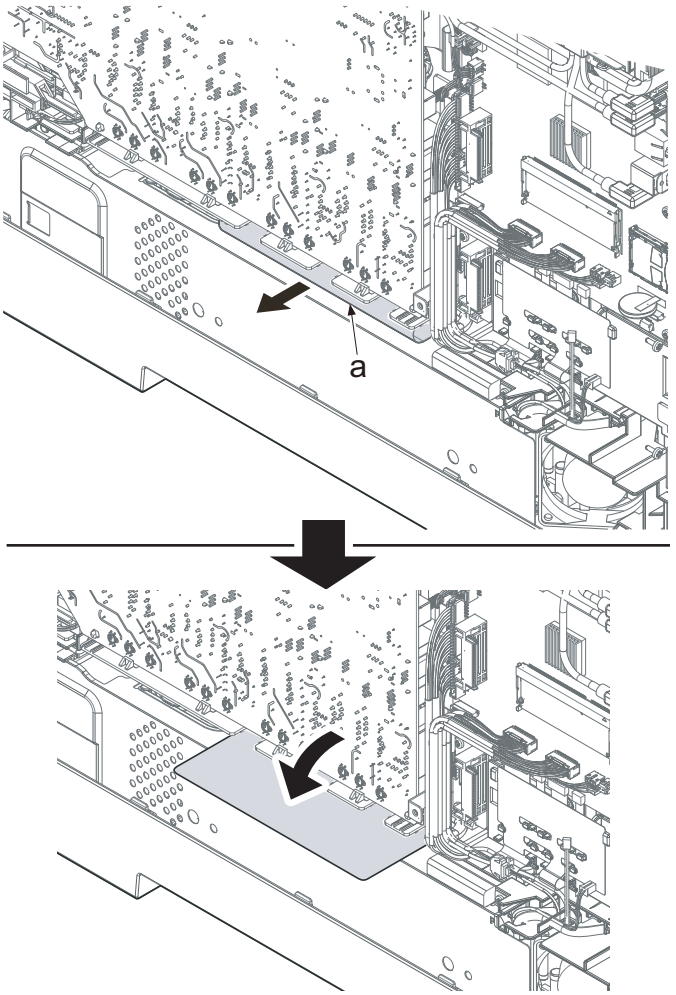


Figure 4-254

38. Pull the wire (a) into the main unit from the opening (b).

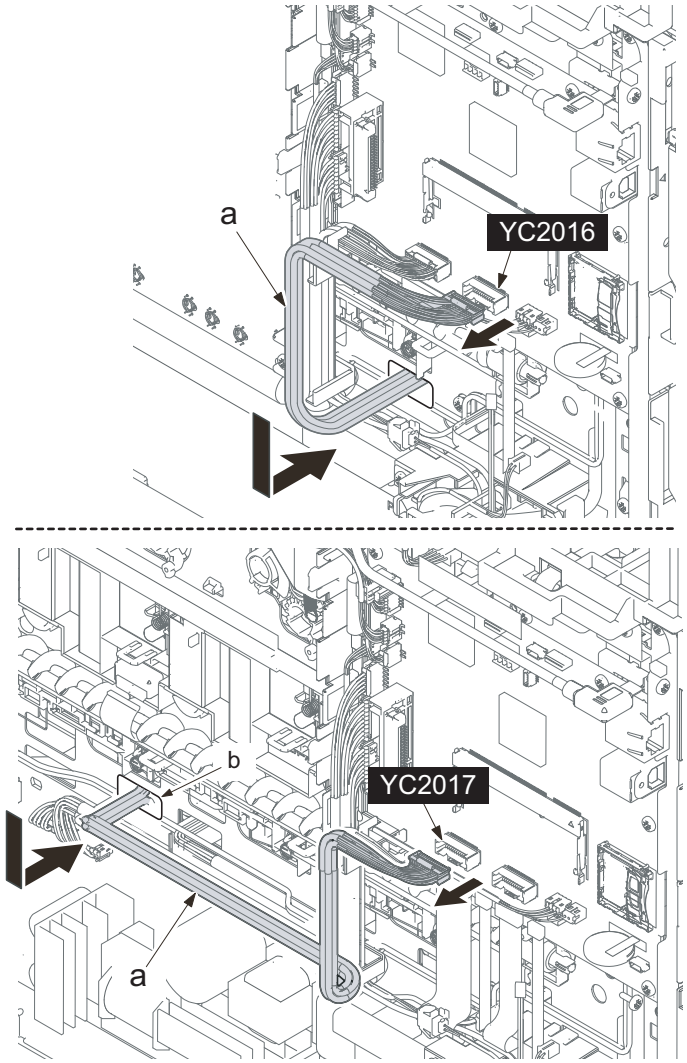


Figure 4-255

39. Remove each set of three pins (a).
40. Detach the LSUs (b) for KM and CY.
    *: Pull out the wire from the opening and remove it.
41. Check the paper feed drive unit and clean or replace it if necessary.
42. Reattach the parts once removed.
43. Execute the following after replacing with the new laser scanner unit.
    System Menu
    [Adjustment/Maintenance]
    1.Execute [Color Calibration]
    2.Execute [Color Registration]

IMPORTANT
Secure the pins in order of A, B and C when reattaching the LSU.

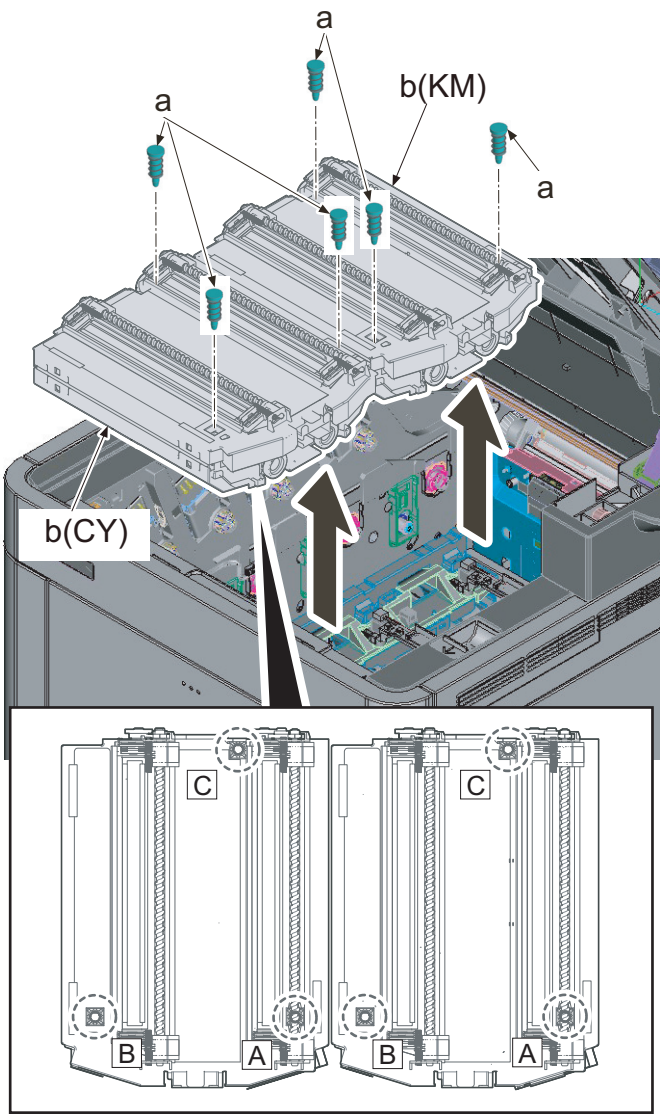


Figure 4-256

Make sure to return the spiral (b) to the lock position after relocating it to reattach the pin (a) that is in the position A.

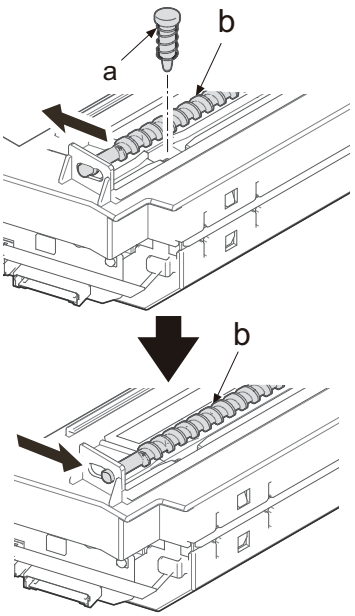


Figure 4-257

*: Make sure not to touch the APC PWB (b) when holding the LSU (a).

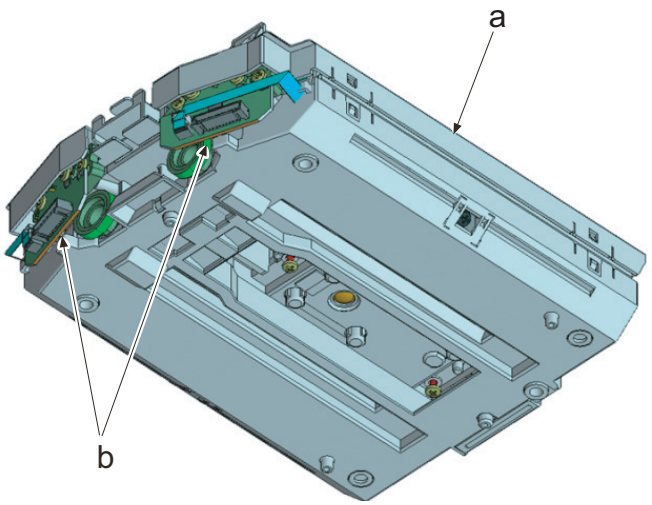


Figure 4-258

IMPORTANT
Pull the wire (b) out from the aperture (c) of the frame when reattaching the LSU (a).
There is an engraving (d) of an arrow indicating the opening position in the frame.

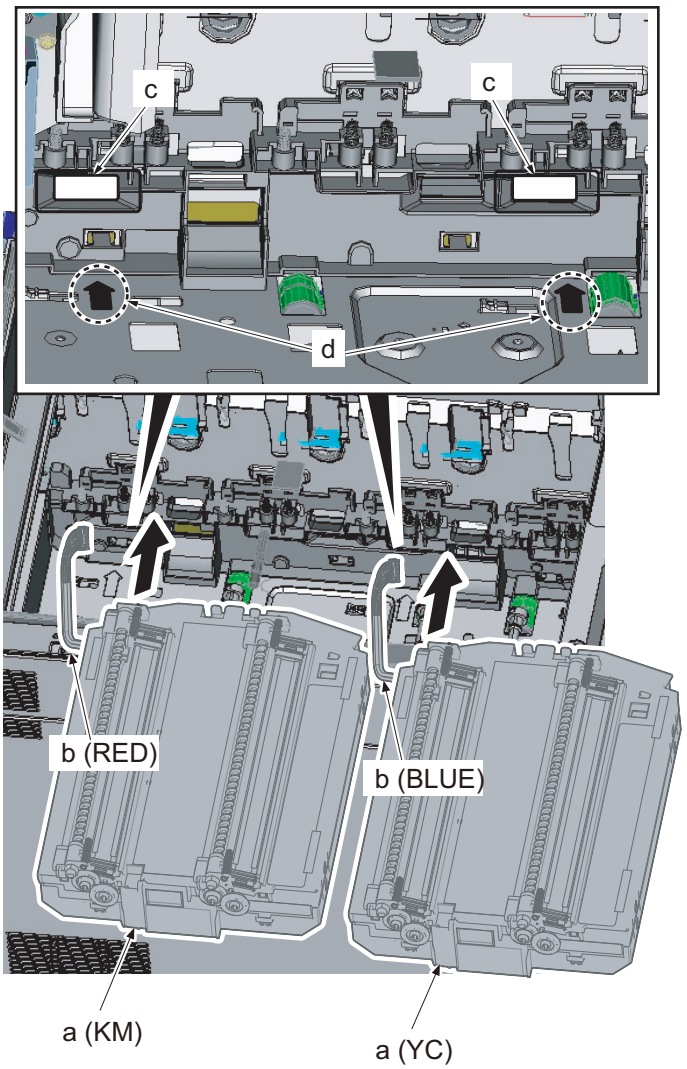


Figure 4-259

Please be care not locate the wire saddle (b) on the pin protrusion (c) before reattaching the LSU (a).

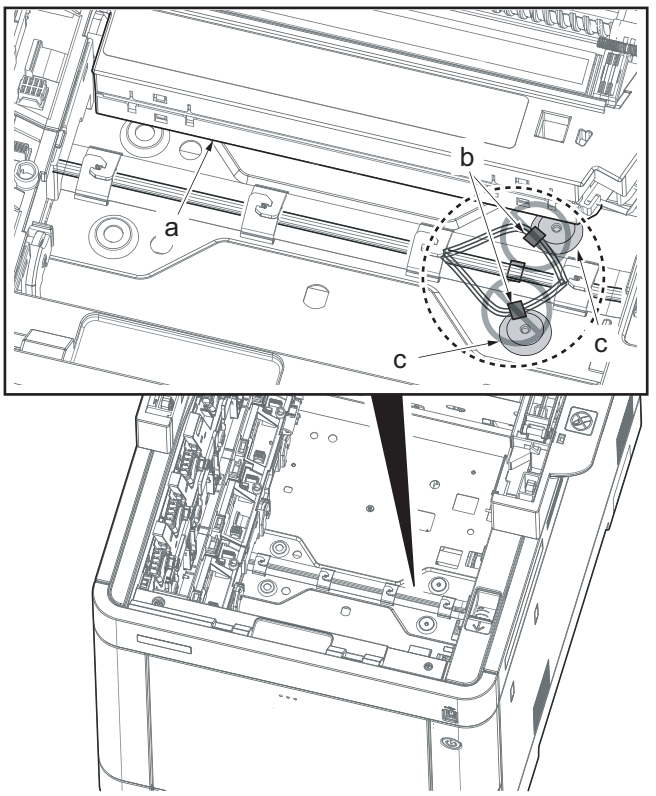


Figure 4-260

(3) MP tray paper feed section

(3-1) Detaching and reattaching the MP paper feed roller

<Procedure>

1. Pull out the cassette (a).

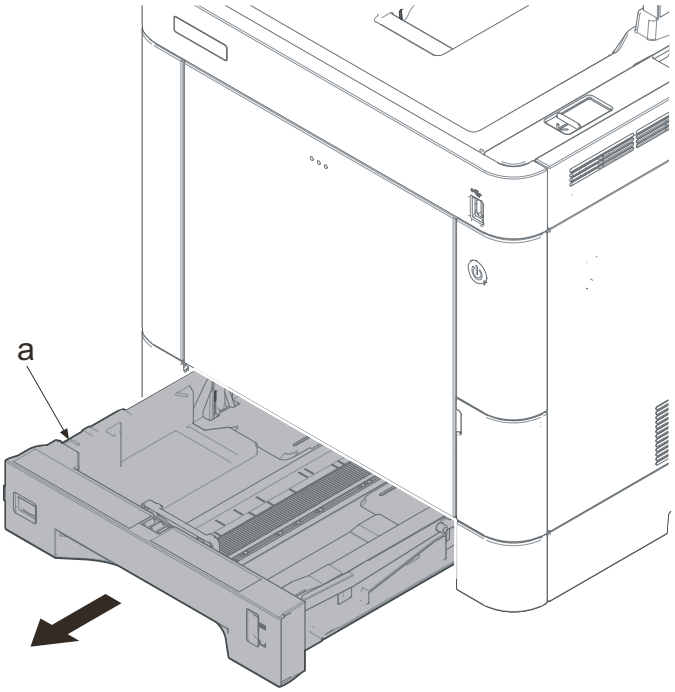


Figure 4-261

2. Lower the release lever (a).
3. Open the lower MP paper conveying unit (b).

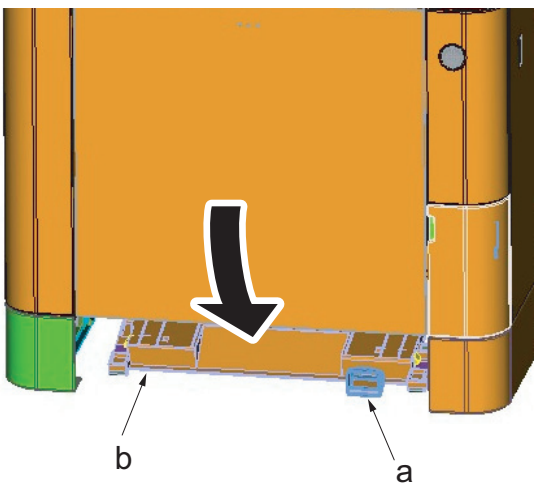


Figure 4-262

4. Pull the lever (a).
5. Lift up the scanner unit (b) and open the inner tray (c).

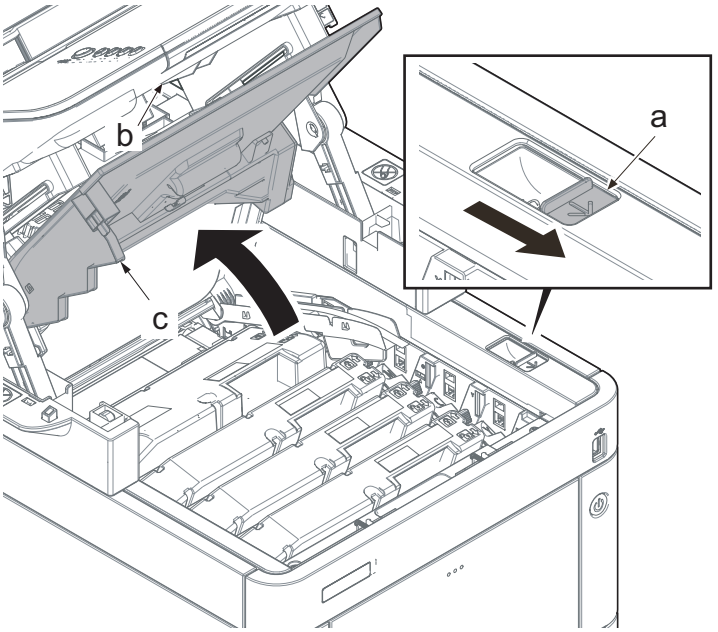


Figure 4-263

6. Open the MP tray (a).
7. Remove two screws (b) (M3x8).
8. Open the waste toner cover (c).

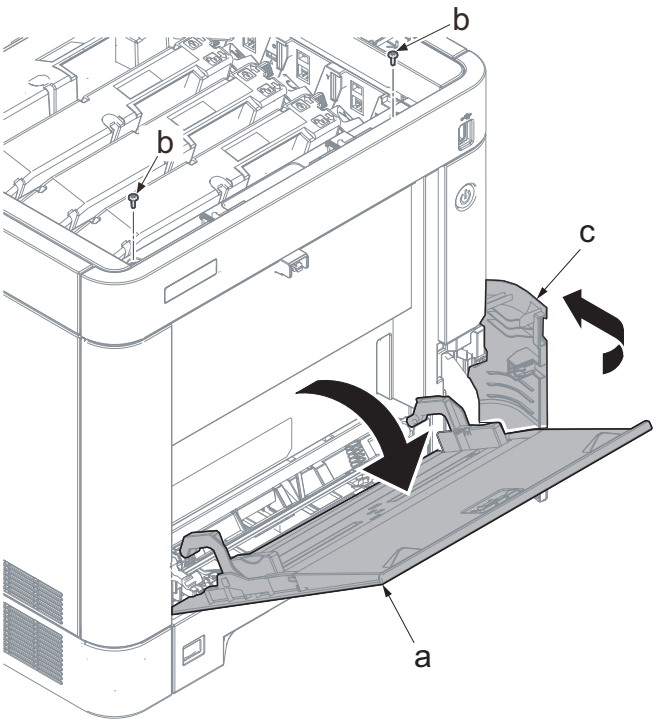


Figure 4-264

9. Slightly lift up the front cover (a) to release the boss (b).
10. Tilt the front cover (a) toward the machine front side.
11. Then, remove the front cover (a) by lifting it up.

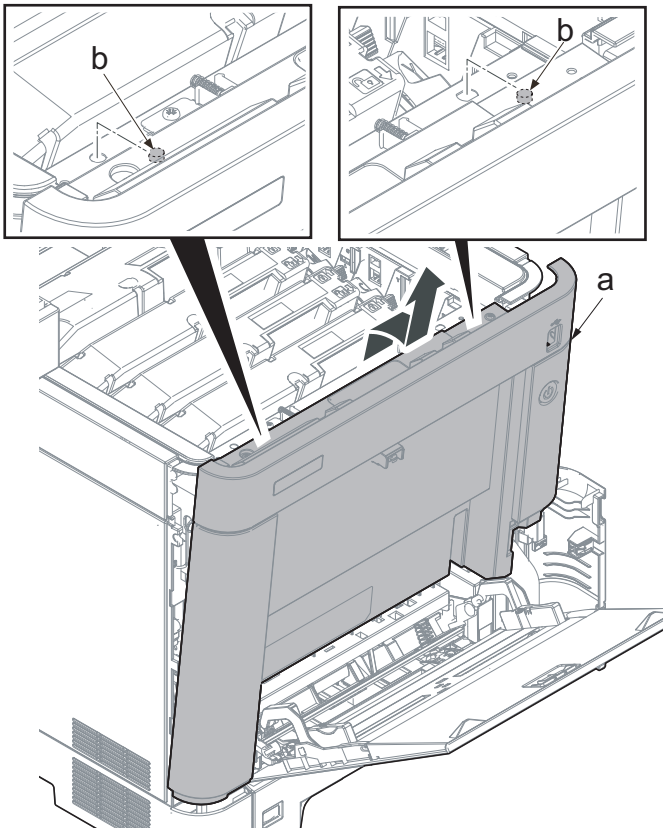


Figure 4-265

IMPORTANT
Make sure not to touch the waste toner cover sensor (b) when reattaching the front cover (a). If the waste toner cover sensor (b) comes off, even if you close the waste toner cover, "cover open" will be displayed.

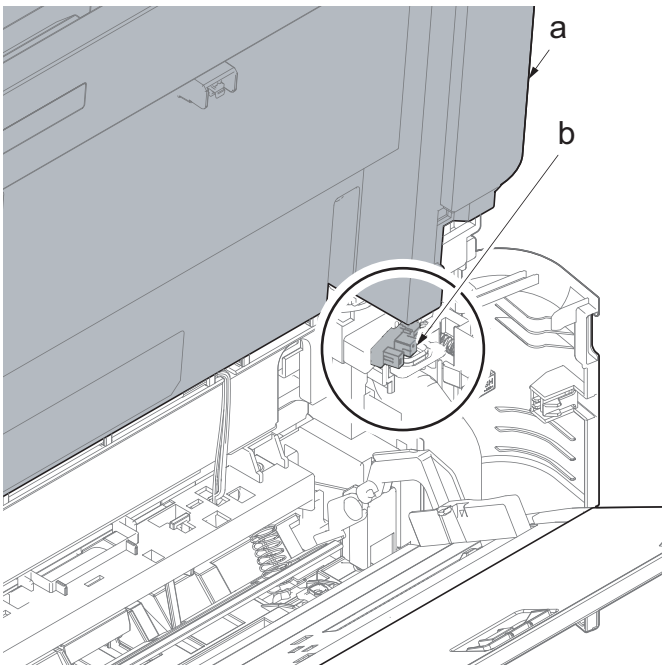


Figure 4-266

12. Open the MP tray (a) slightly.
13. Lift up the MP tray cover (b) and release two hooks (c).

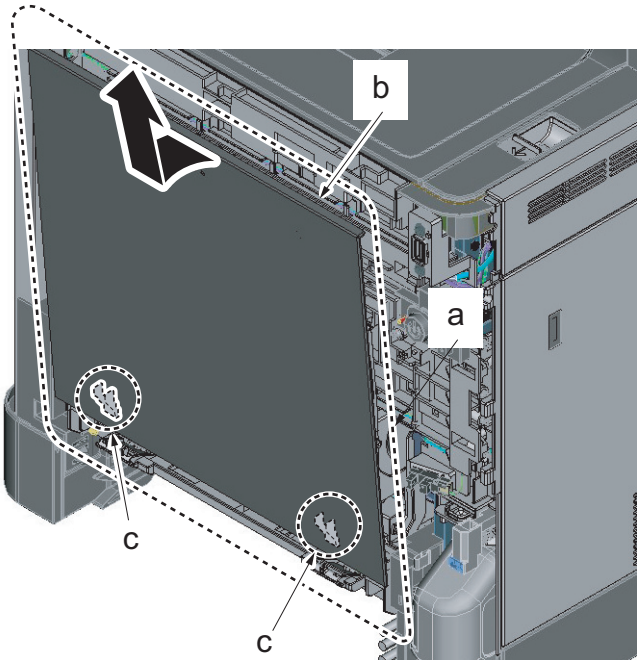


Figure 4-267

14. Fully open the MP tray (a).
15. Slide the arm (b) to the machine rear side and lift it up to remove.

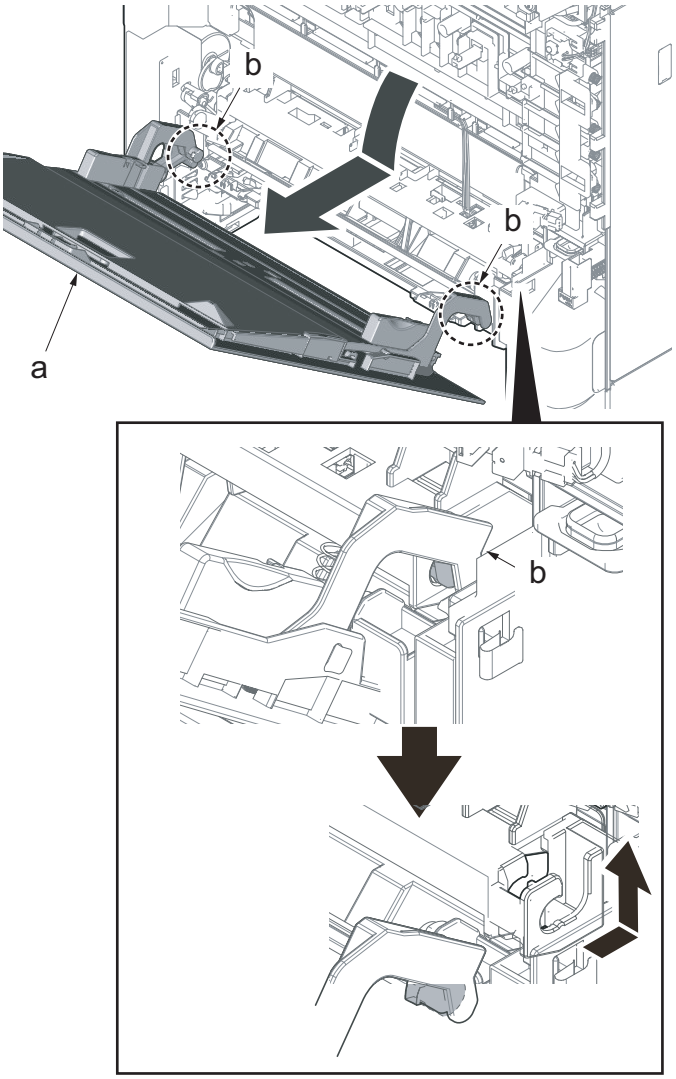


Figure 4-268

16. Remove two screws (a) (M3x8).
17. Detach the lower MP paper feed unit (b).

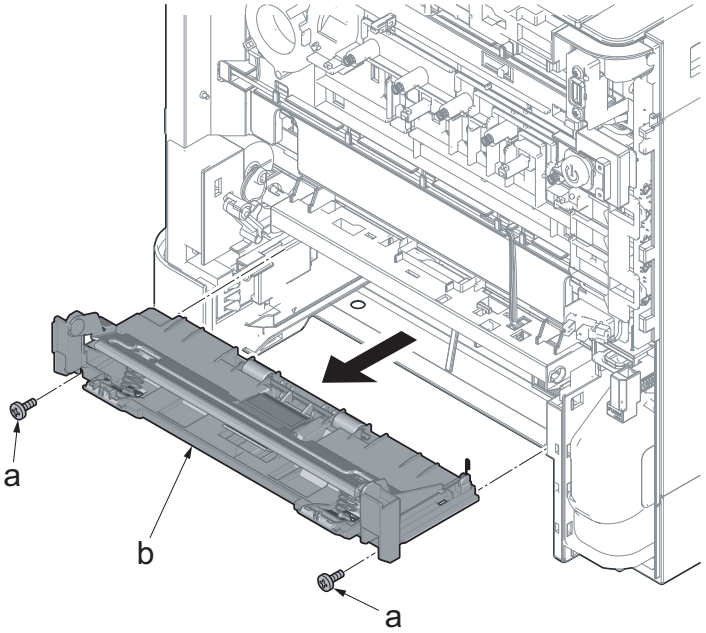


Figure 4-269

IMPORTANT

Lower the MP bottom plate (b) so that the lever (c) is on it when reattaching the lower MP paper feed unit (a).

*: The paper is not fed because the MP bottom plate (b) cannot ascend and descend when it is not in the correct position.

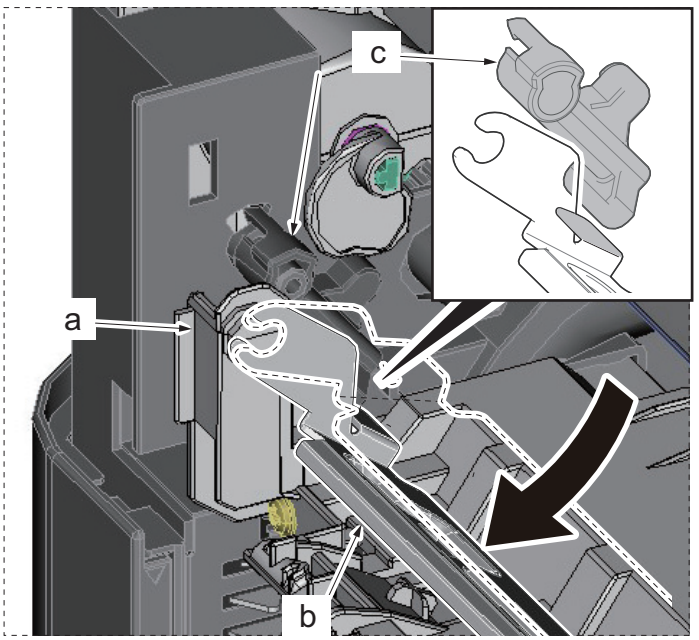


Figure 4-270

18. Pull the hook (a) toward the machine front side.
19. Slide the MP paper feed shaft (b).
20. Remove the MP paper feed roller (c).

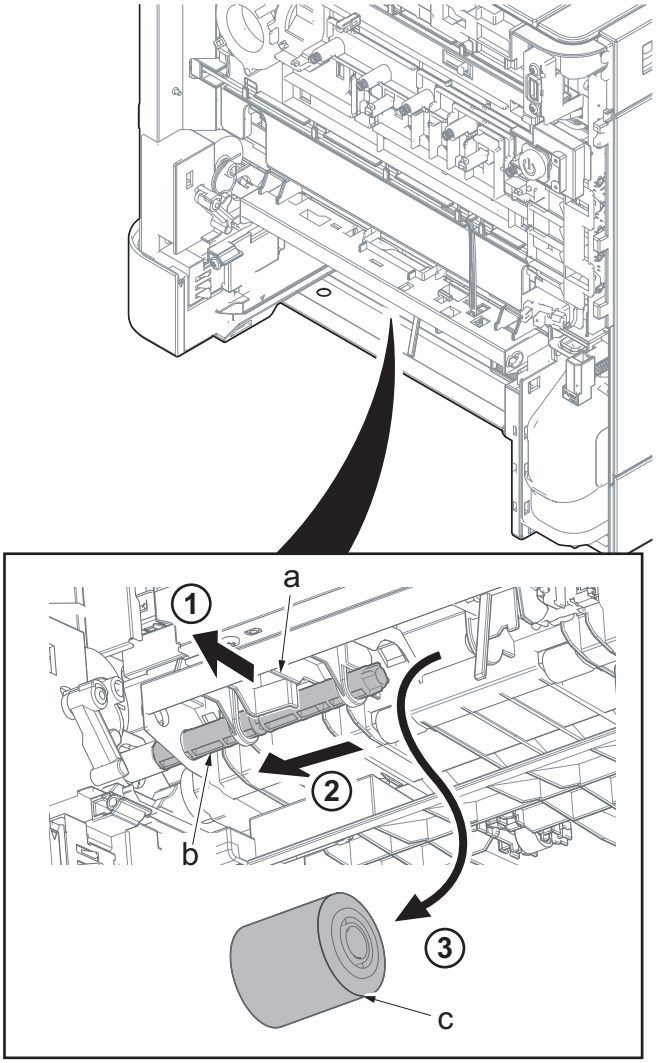


Figure 4-271

IMPORTANT
When reattaching the MP paper feed roller (a), be aware of the attachment direction.

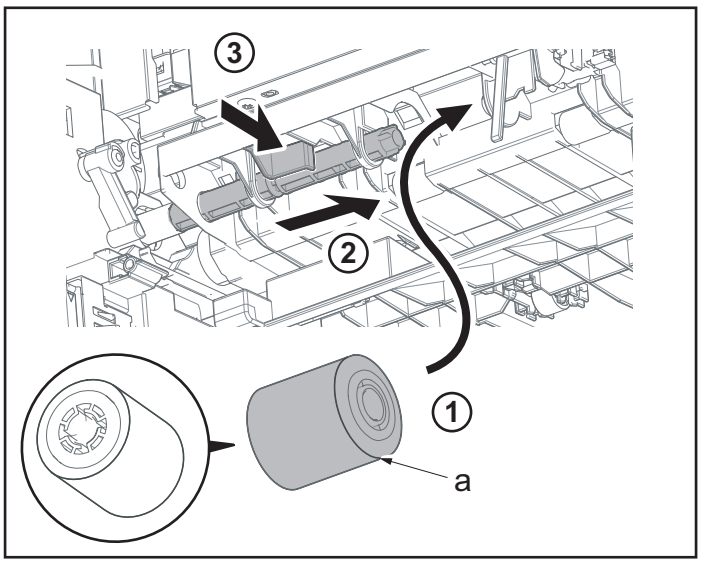


Figure 4-272

(3-2) Detaching and reattaching the MP tray paper conveying unit

<Procedure>

1. Remove the MP paper feed roller (a).
2. Pull the hook (b) toward the machine front side.
3. Slide the MP paper feed shaft (c).
4. Pull the MP paper feed shaft (c) out from the drive joint (d).

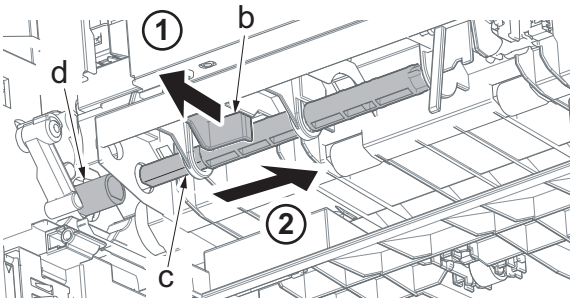


Figure 4-273

5. Disconnect the connector (b)(YC6) from the engine relay PWB (a).
6. Release the wire from eight hooks (c).

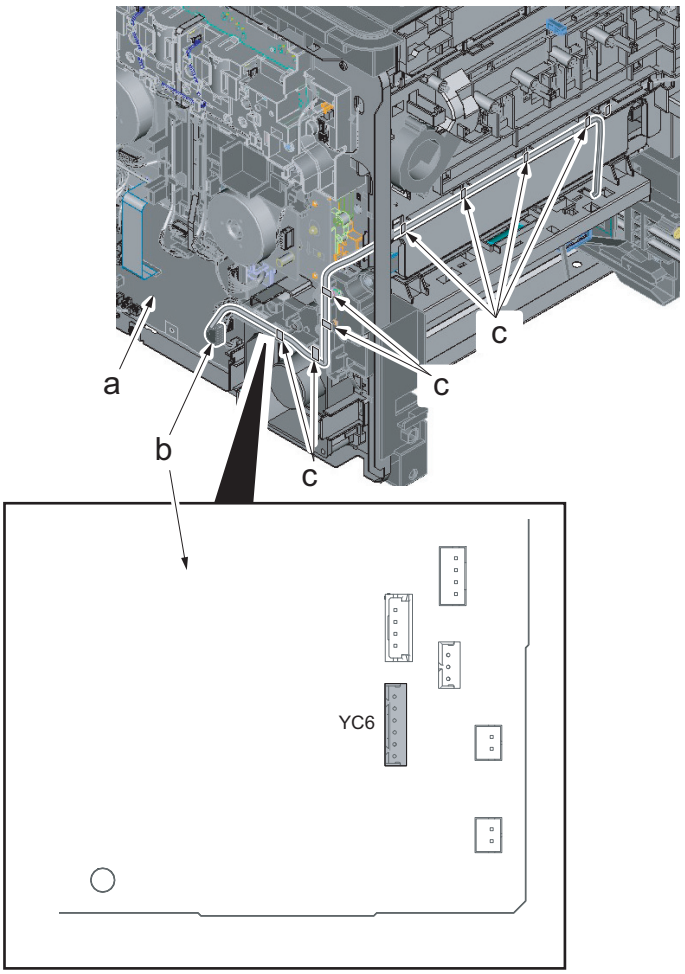


Figure 4-274

7. Remove two screws (a) (M3x8).
8. Detach the MP conveying unit (b) by pulling it toward the machine front side.

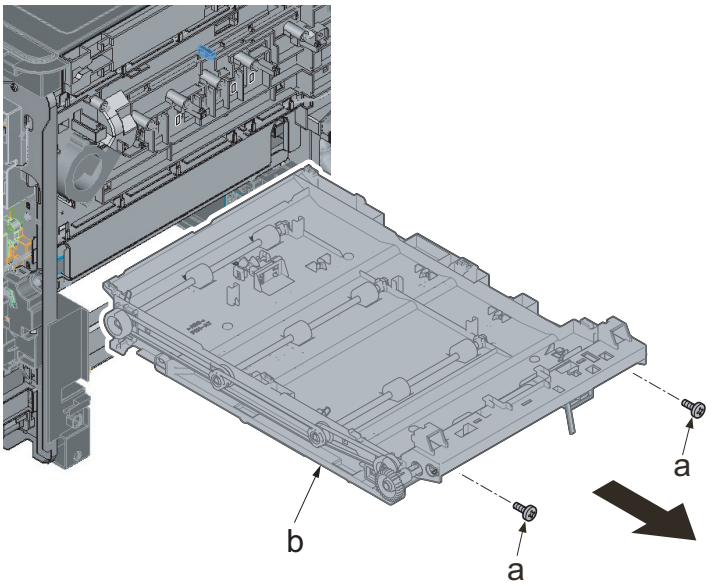


Figure 4-275

IMPORTANT
Check if the wire is fastened to the hook (b) before reattaching the MP conveying unit (a).

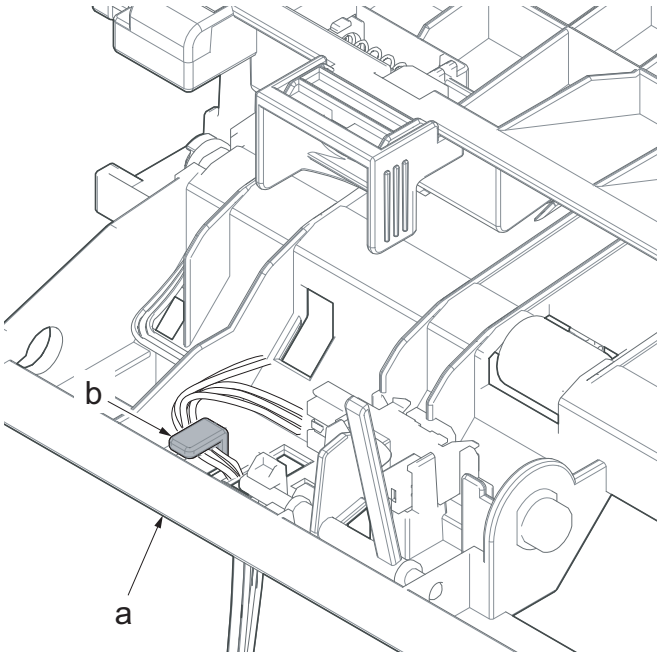


Figure 4-276

Lower the actuator (b) of the paper sensor before reattaching the MP conveying unit.

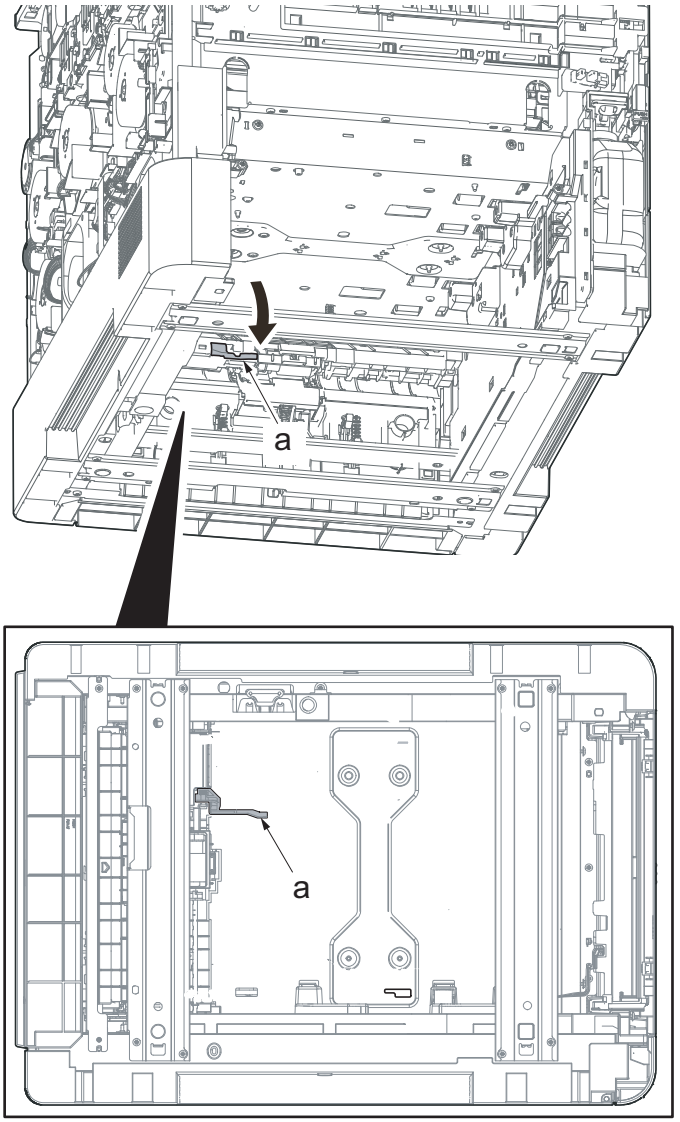


Figure 4-277

First apply the positioning (a) to the cutout at the left and right side and then scure the screw.

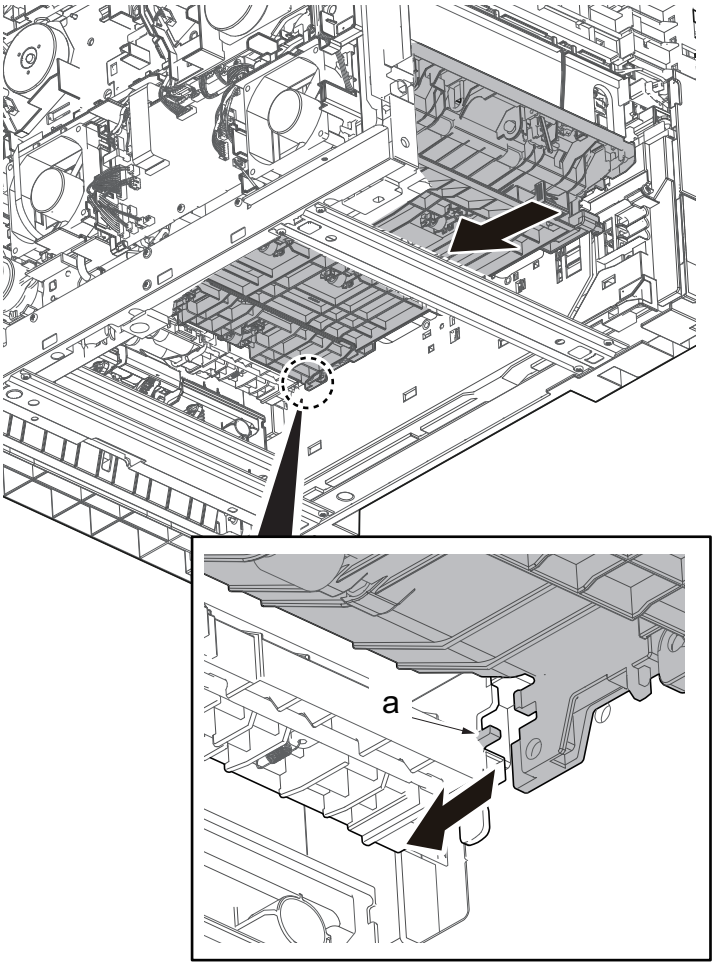


Figure 4-278

(4) Drum section

(4-1) Detaching and reattaching the charge roller unit

<Procedure>

1. Detach the drum unit (a).
2. Pull the hook (c) of the main charger roller unit (b) in the drum unit (a) to release it.
3. Push the main charger roller unit (b) from the opposite side of the opening.

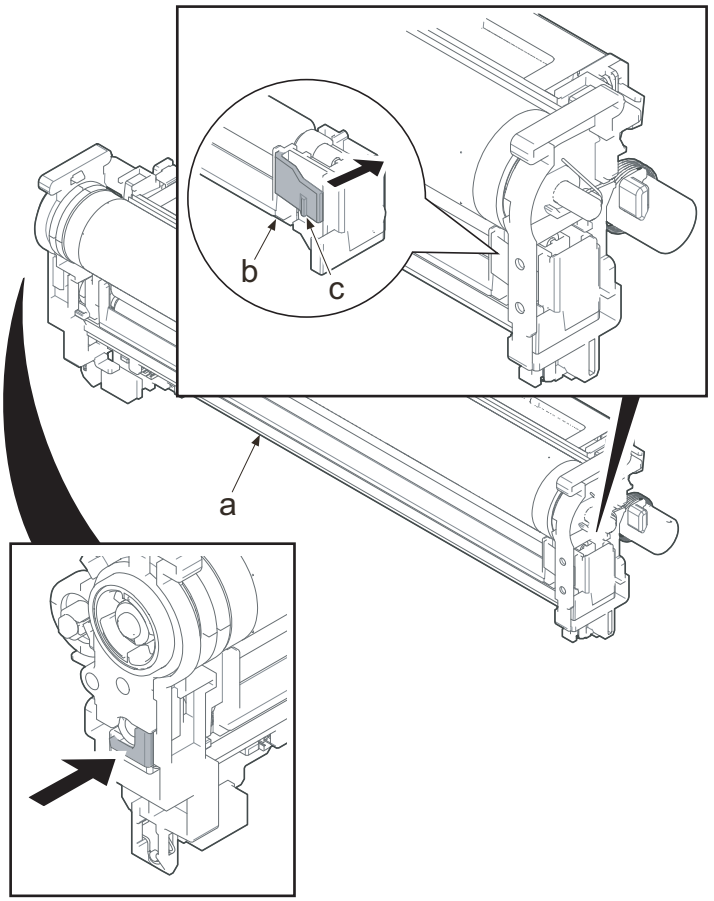


Figure 4-279

4. Pull the main charger roller unit (b) by holding the handle (a).

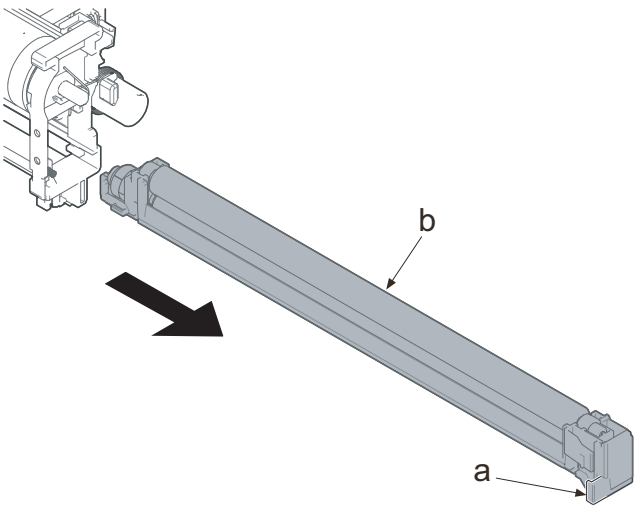


Figure 4-280

(5) Eject section

(5-1) Detaching and reattaching the eject unit

<Procedure>

1. Detach the scanner unit. (See page 4-118)

2. Release two hooks (c) of the wire guide (b) using a flat-blade screwdriver (a).
3. Slide the wire guide (b) toward the machine right side and then detach it by lifting up.

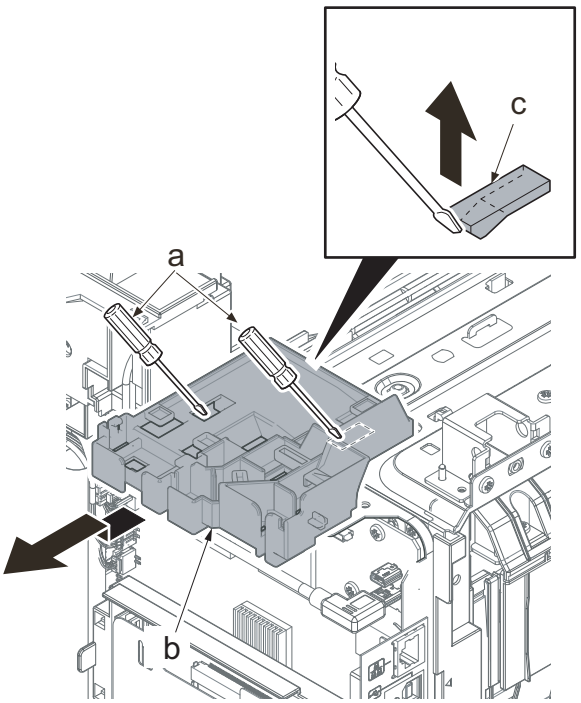


Figure 4-281

4. Remove the FFC (b) from the connector (a) of the main/engine PWB.
   Pull out from the opening (c).

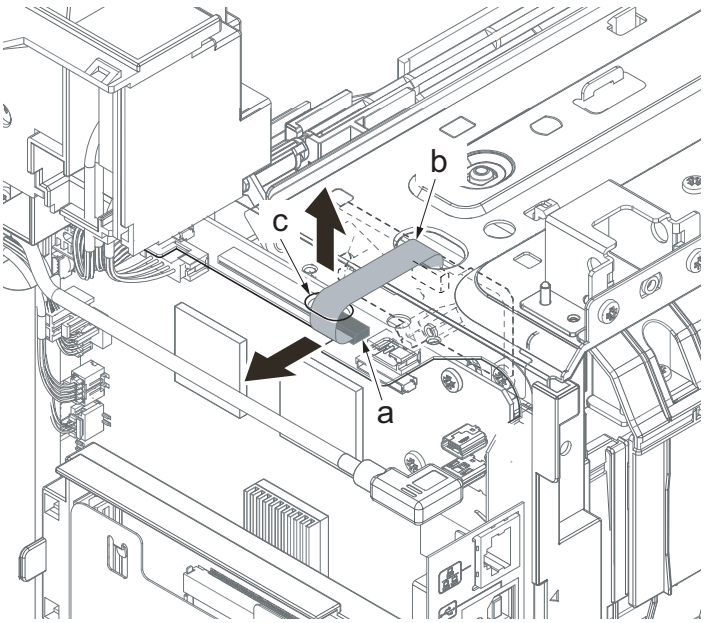


Figure 4-282

5. Remove five screws (a) (M3x8).
6. Get down the main/engine PWB (b).

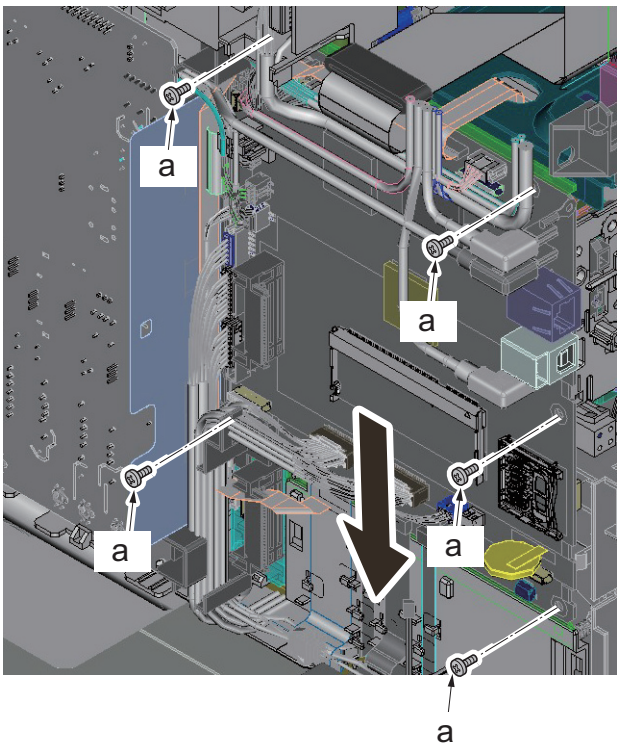


Figure 4-283

7. Remove four screws (a) (M3x8).

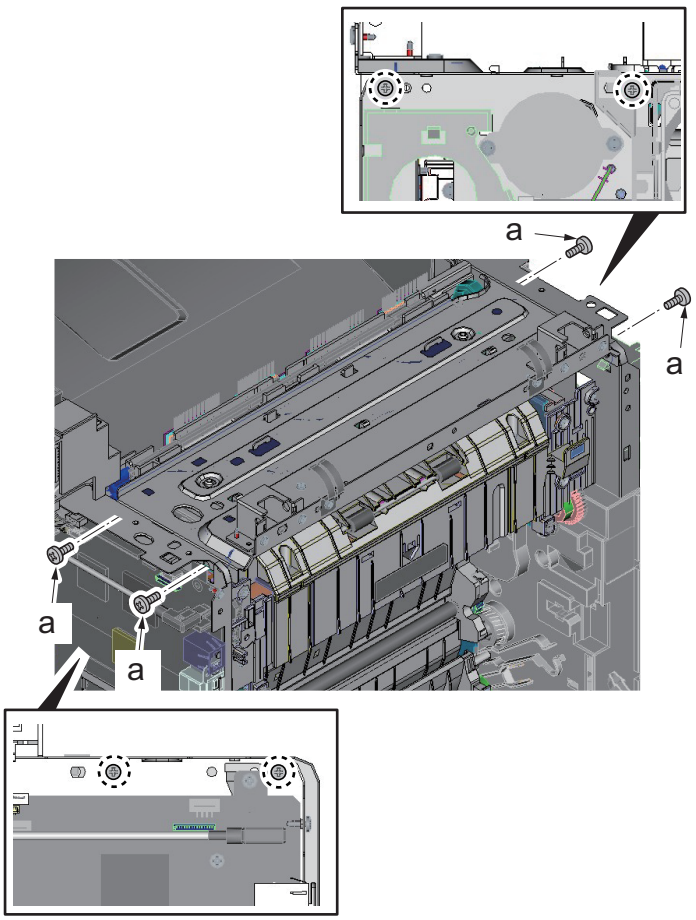


Figure 4-284

8. Disconnect the connector (b) of the exit PWB (a).

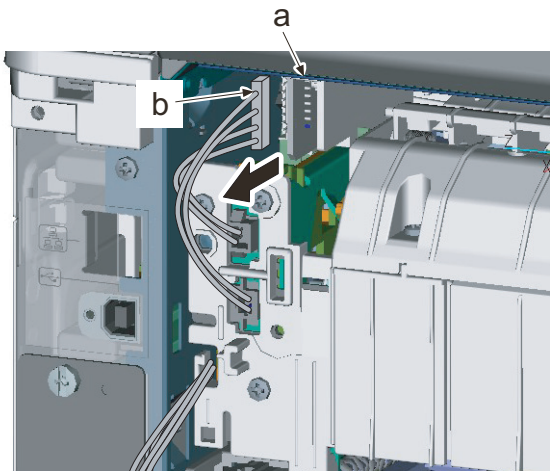


Figure 4-285

9. Detach the exit unit (a). Broaden the left and right frame of the main unit slightly to pull out the bosses of the stay of the exit unit (a) from the holes, and detach the exit unit (a).

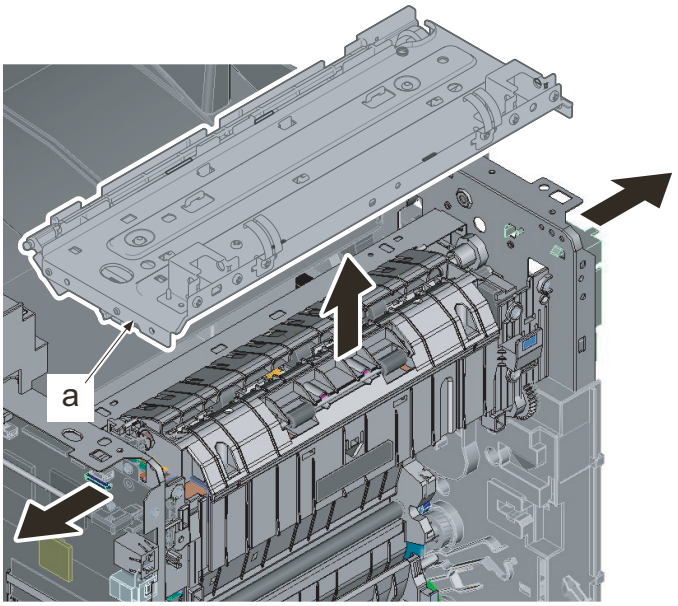


Figure 4-286

(6) Duplex conveying unit

(6-1) Detaching and reattaching the duplex conveying unit

<Procedure>

1. Open the rear cover (a).

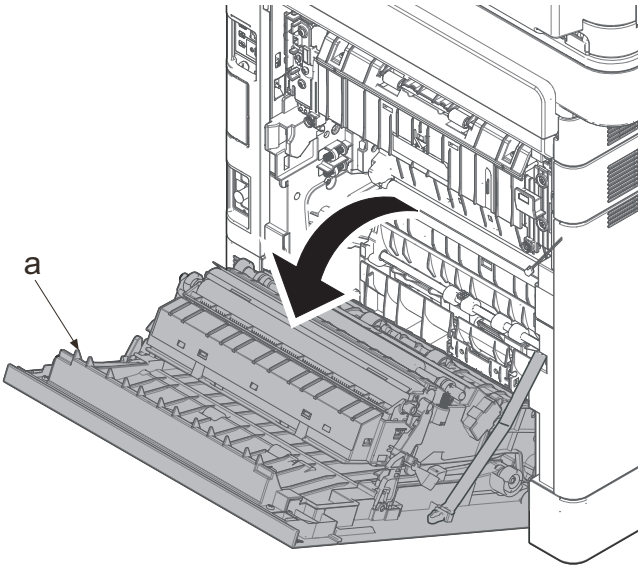


Figure 4-287

2. Pull the conveying stopper (a) toward the machine right side and rotate it by using a flat-blade screwdriver (b).
3. Release the hook (c) of the conveying stopper (a) from the rib (d) and pull the conveying stopper (a) out.

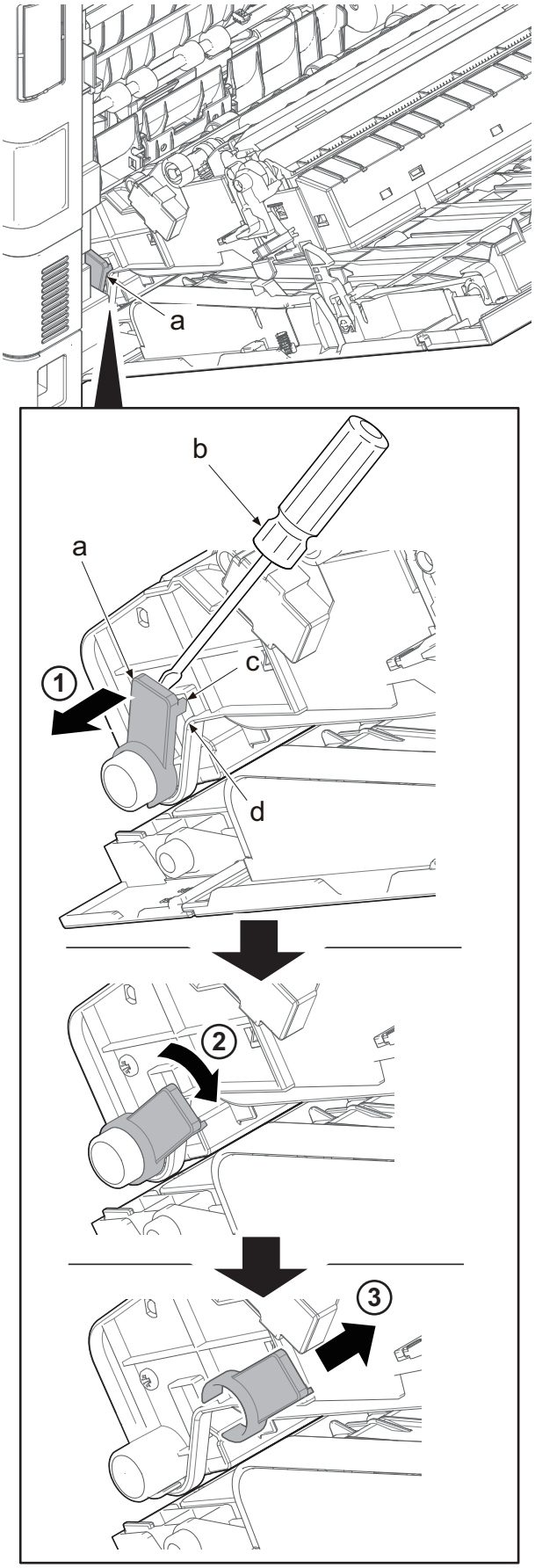


Figure 4-288

4. Slide the duplex paper conveying unit (a) toward the machine right side.
5. Release the fulcrum part of the duplex paper conveying unit (a) at the machine left side, and pull the unit out toward the machine rear side.

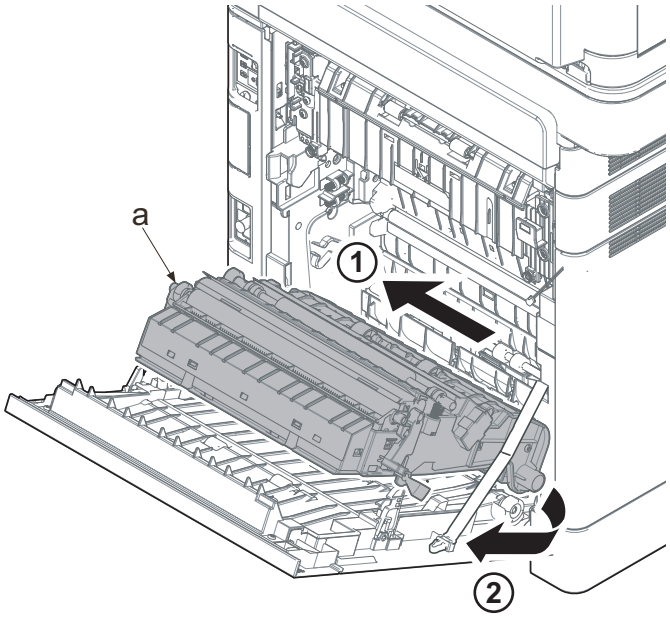


Figure 4-289

(7) Document processor

(7-1) Detaching and reattaching the document processor

<Procedure>

1. Open the DP upper cover (a).
2. Release five hooks (c) using a flat-blade screwdriver (b).
3. Detach the DP rear cover (d).

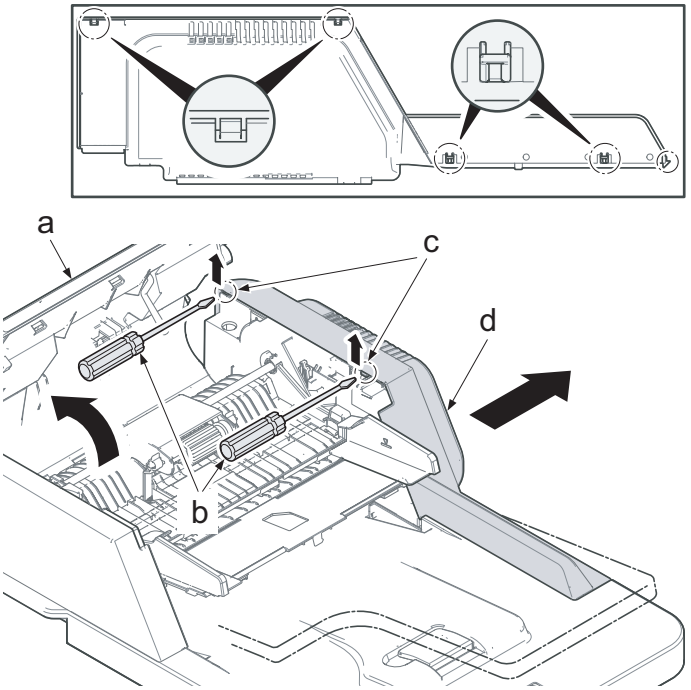


Figure 4-290

4. Remove two screws (a) (M3x8).

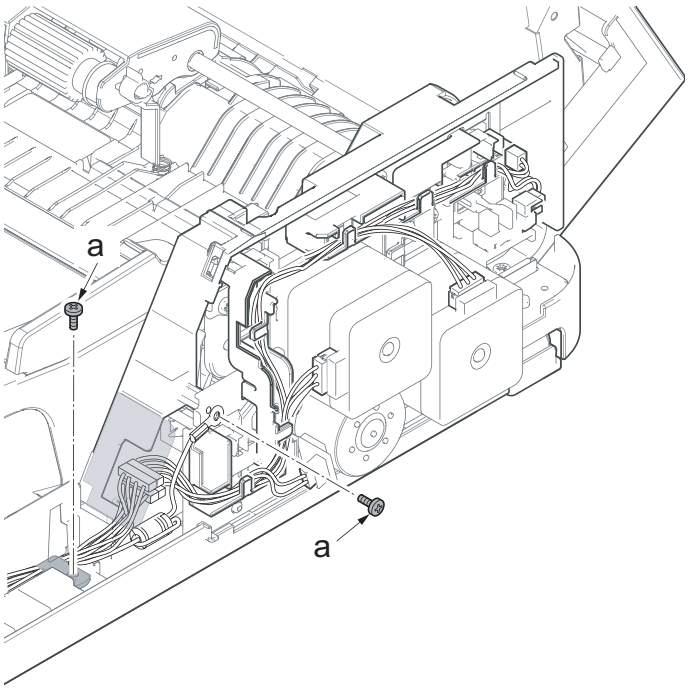


Figure 4-291

5. Pull out the wire from the back of the film (a).
6. Disconnect two connectors (c).

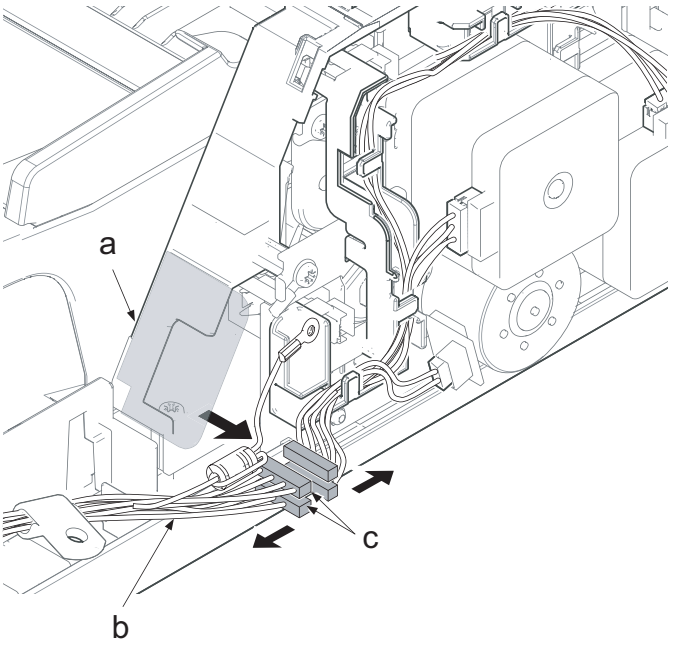


Figure 4-292

7. Open the document processor (a).
8. Pull out the wire from the opening (c) of the scanner unit (b).
9. Pull the document processor (a) out upward.

*: The document processor can not be opened when the scanner unit is opened.

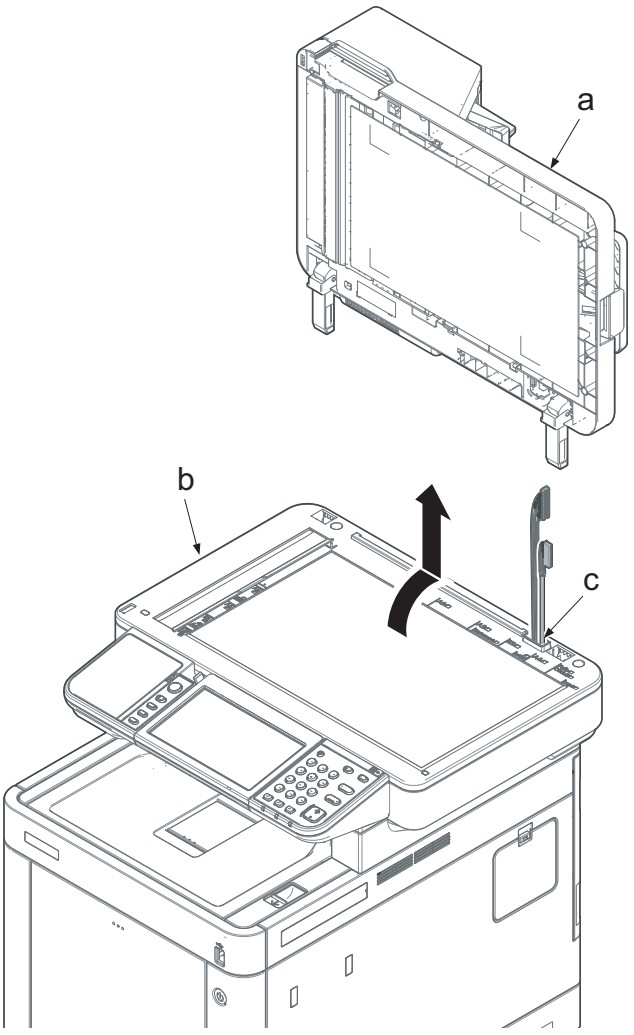


Figure 4-293

(7-2) Detaching and reattaching the DP feed motor and DP conveying motor

<Procedure>

1. Open the DP upper cover (a).
2. Release five hooks (c) using a flat-blade screwdriver (b).
3. Detach the DP rear cover (d).

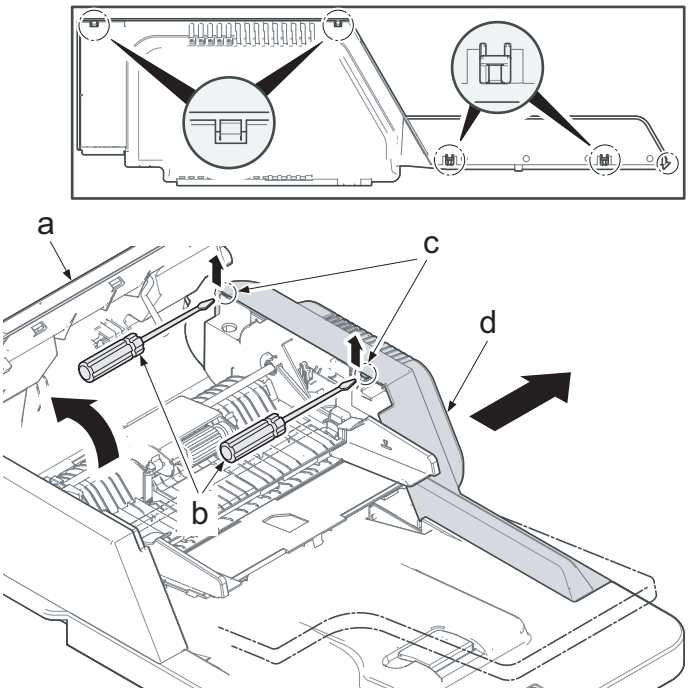


Figure 4-294

4. Disconnect five connectors (a) from the motor and sensors.
5. Release the wire (d) from six hooks (c) of the wire guide (b).

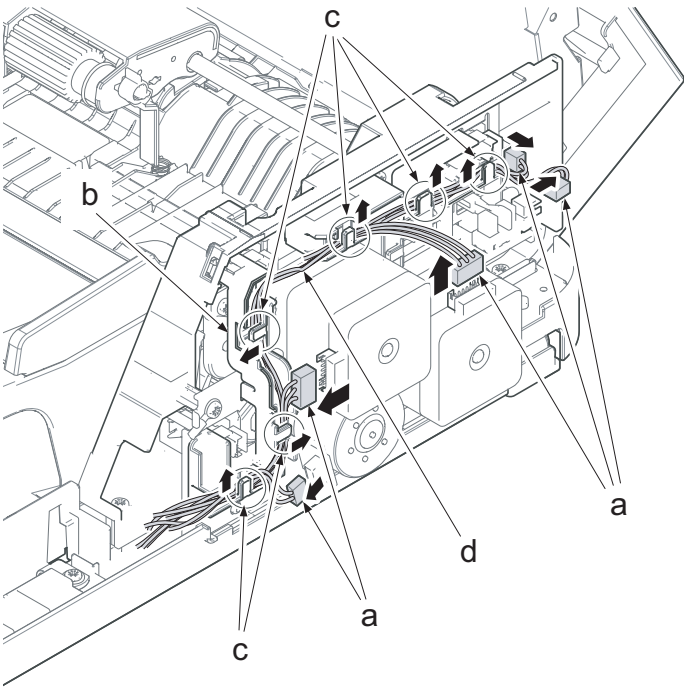


Figure 4-295

6. Remove two screws (a) (M3x8) and remove the ground terminal (b).
7. Detach drive unit B (c).

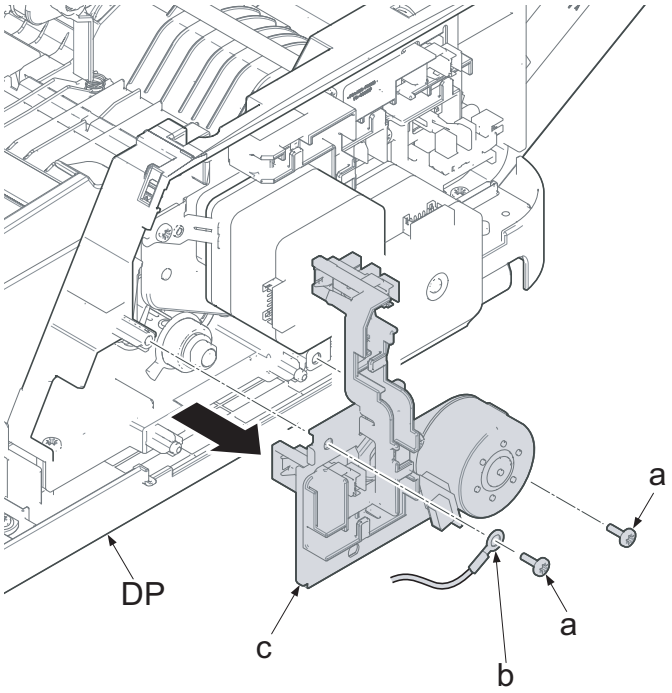


Figure 4-296

8. Remove four screws (a) (M3x8).
9. Detach drive unit A (b).

*: DP paper feed motor (c)
DP conveying motor (d)

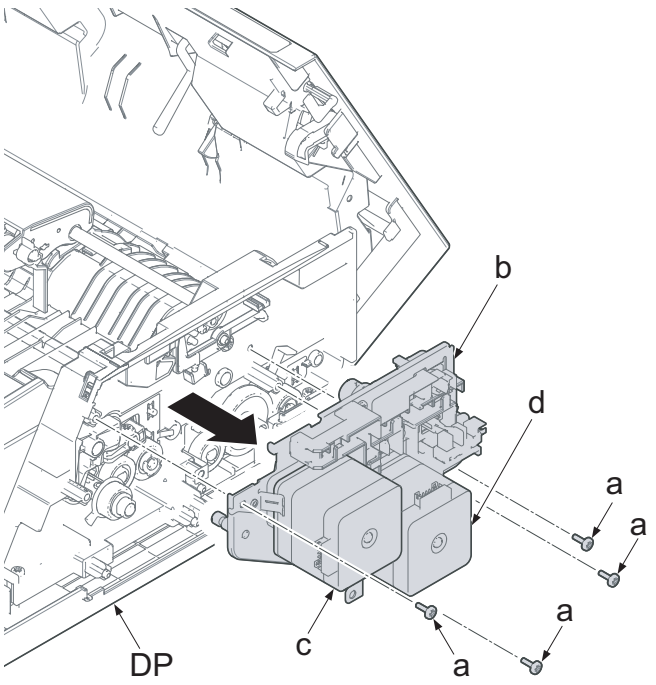


Figure 4-297

10. Remove two gears (a).
11. Remove four screws (b) (M3x8).
12. Remove the drive cover (c).
13. Remove the DP paper feed motor (d) and DP paper conveying motor (e).
14. Check the DP paper feed motor and DP paper conveying motor and clean or replace it if necessary.
15. Reattach the parts once removed.

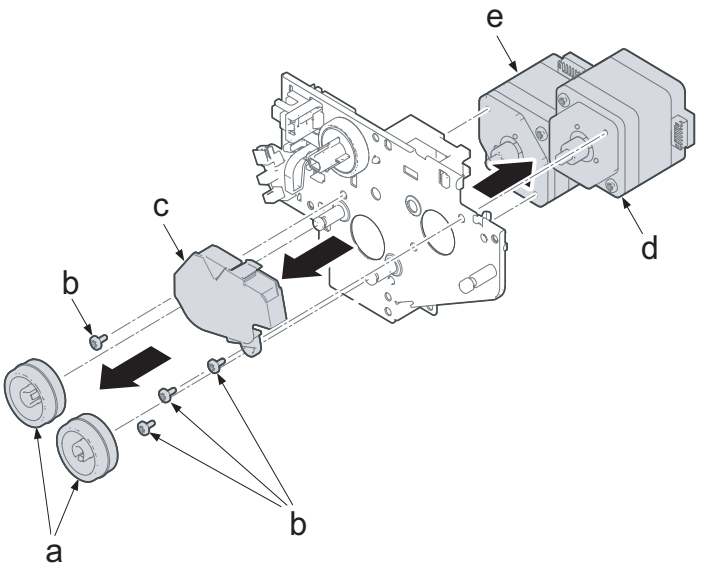


Figure 4-298

(7-3) Detaching and reattaching the DP reverse motor

<Procedure>

1. Open the DP upper cover (a).
2. Release five hooks (c) using a flat-blade screwdriver (b).
3. Detach the DP rear cover (d).

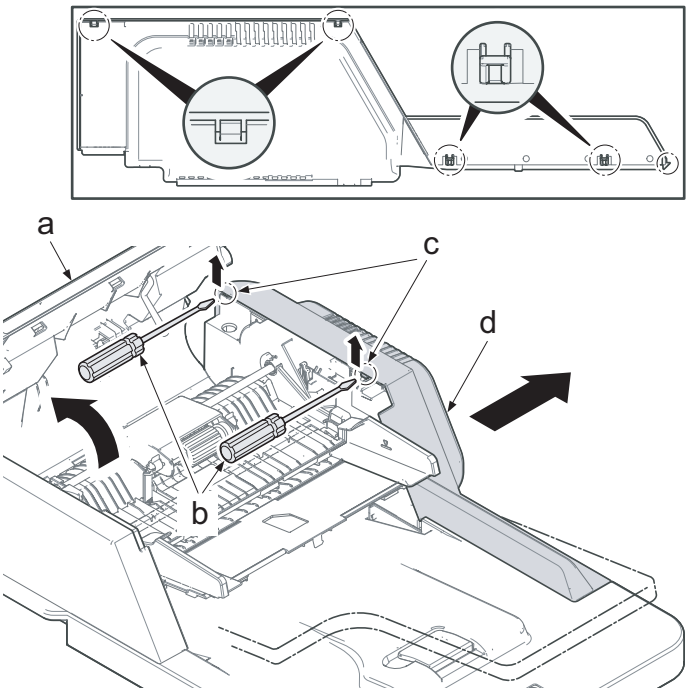


Figure 4-299

4. Disconnect the connector (b) from the DP reverse motor (a).
5. Remove two screws (c)(M3x8).
6. Remove the DP reverse motor (a).
7. Check the feed drive unit and clean or replace it if necessary.
8. Reattach the parts once removed.

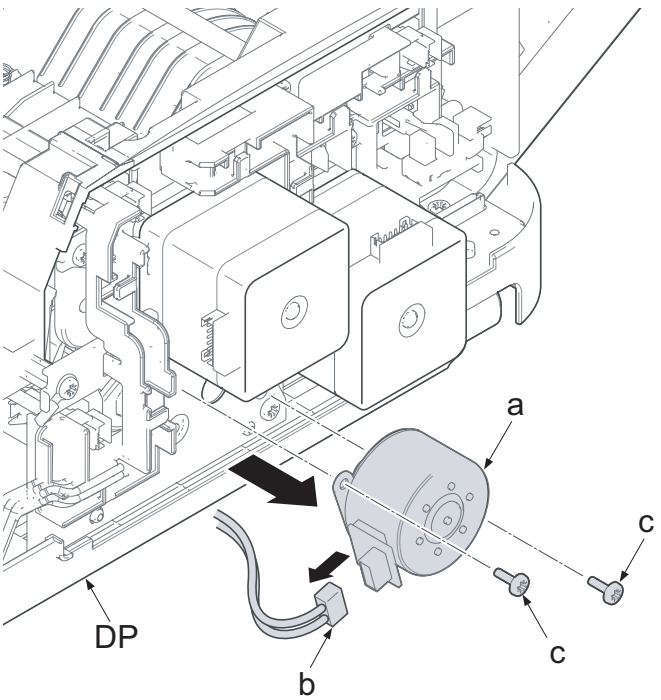


Figure 4-300

(8) Drive section

(8-1) Detaching and reattaching the main drive motor unit

<Procedure>

1. Open the rear cover (a).

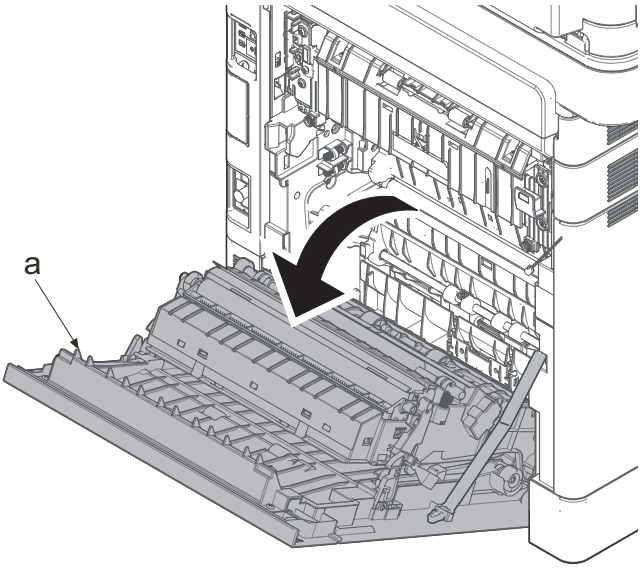


Figure 4-301

2. Remove the screw (a) (M3x8).
3. Slide the upper left cover (b) toward the machine rear side and detach it.

IMPORTANT

When reattaching the upper left cover (b), insert the hook (c) to the machine front side, and then fasten seven hooks (d) by sliding it toward the machine front side.

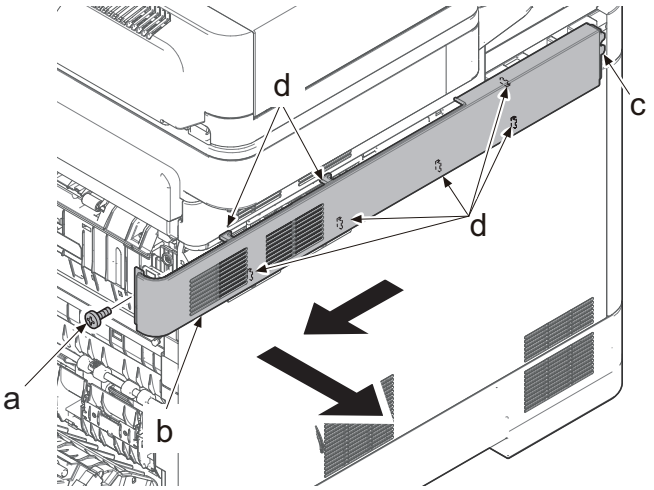


Figure 4-302

4. Lift up the machine rear side of the middle left cover (a) to release three hooks (b).
5. Slide the middle left cover (a) toward the machine rear side to release two hooks (c).
6. Detach the middle left cover (a).

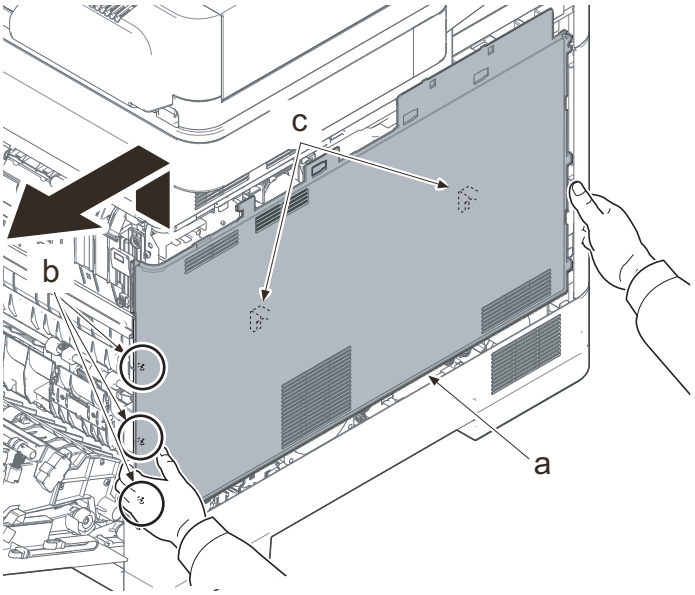


Figure 4-303

IMPORTANT

When reattaching the middle left cover (a), insert the lower rib into the lower left cover (b). And, slide it toward the machine front side to fasten three hooks (c) and four hooks (d), then lower the machine rear side of it to fasten three hooks (e) at the machine rear side.

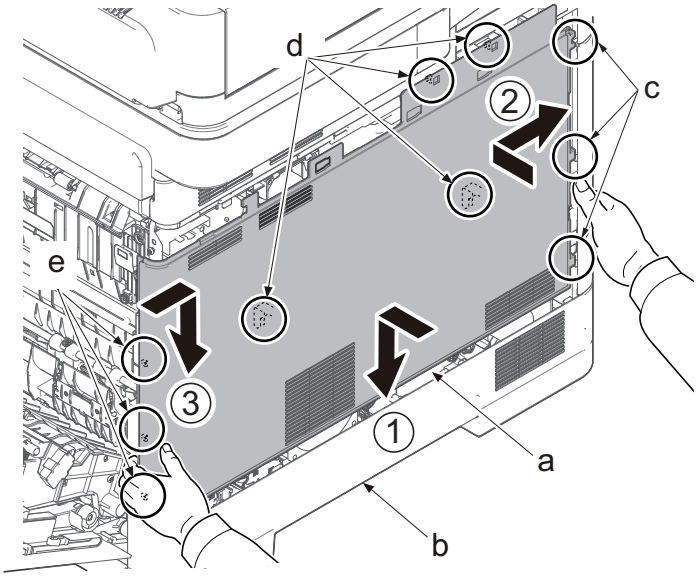


Figure 4-304

View of the main drive unit

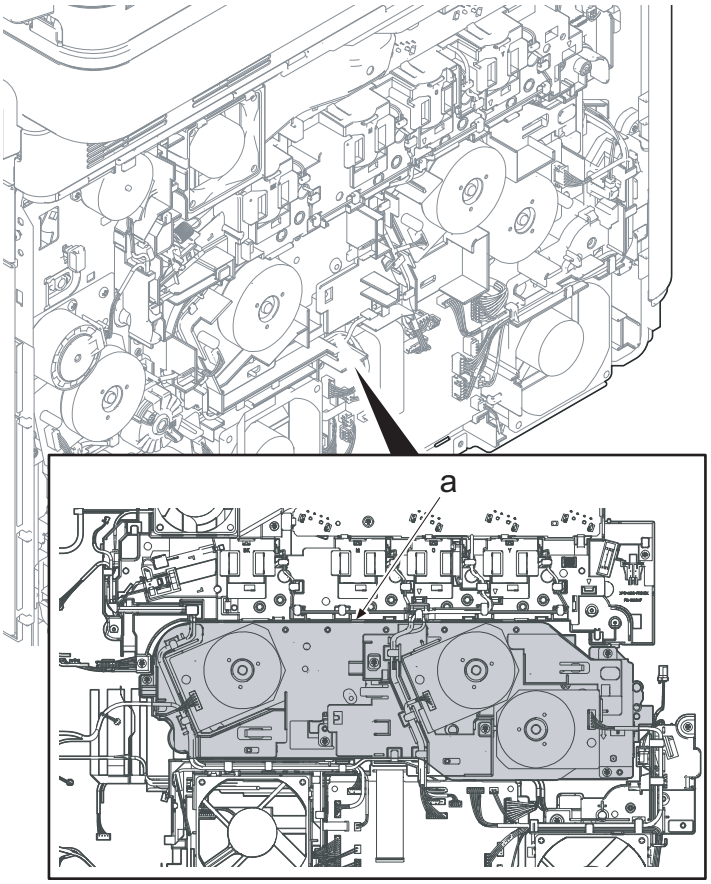


Figure 4-305

7. Disconnect the connector (b) of the drum motor 1 (a). Release the wire from seven hooks (c).

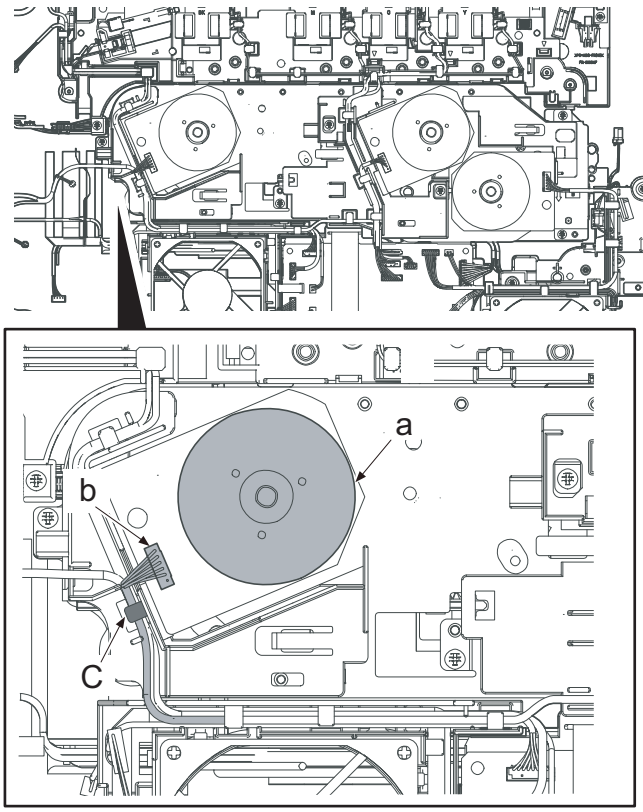


Figure 4-306

8. Disconnect three connectors (b) from the engine relay PWB (a). Release the wire from eight hooks (d).

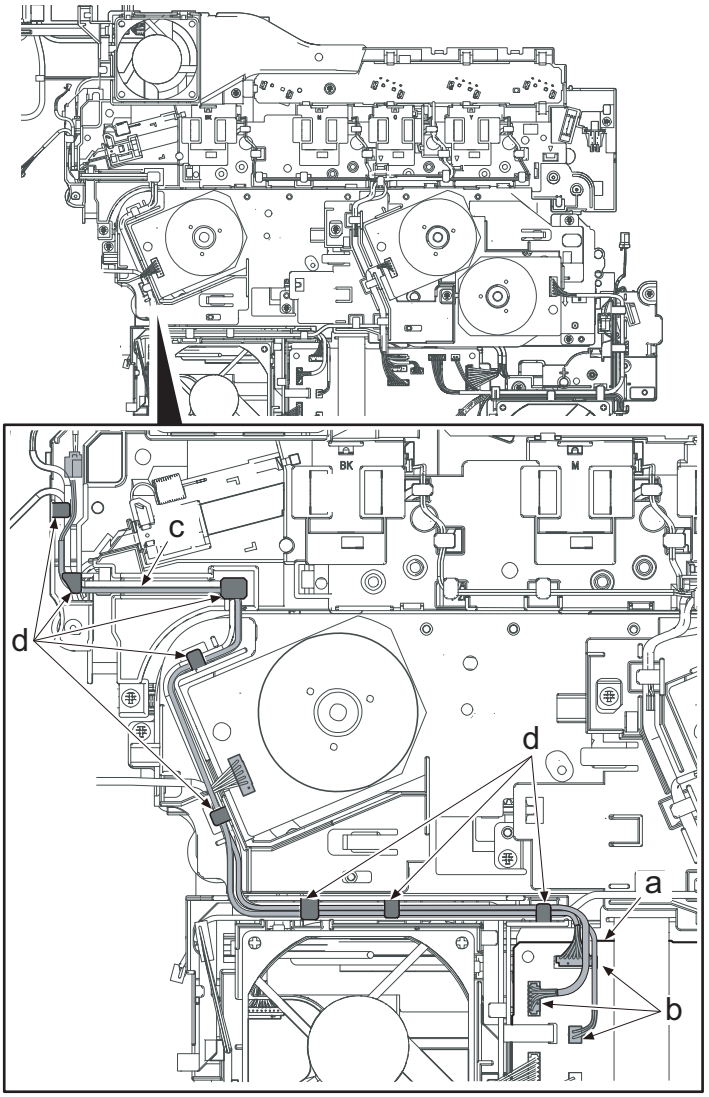


Figure 4-307

9. Disconnect the connector (b) of the drum motor 2 (a).
10. Release the wire from six hooks (f) of the wire guide (e).
11. Disconnect the connector (d) of the developer motor (c).

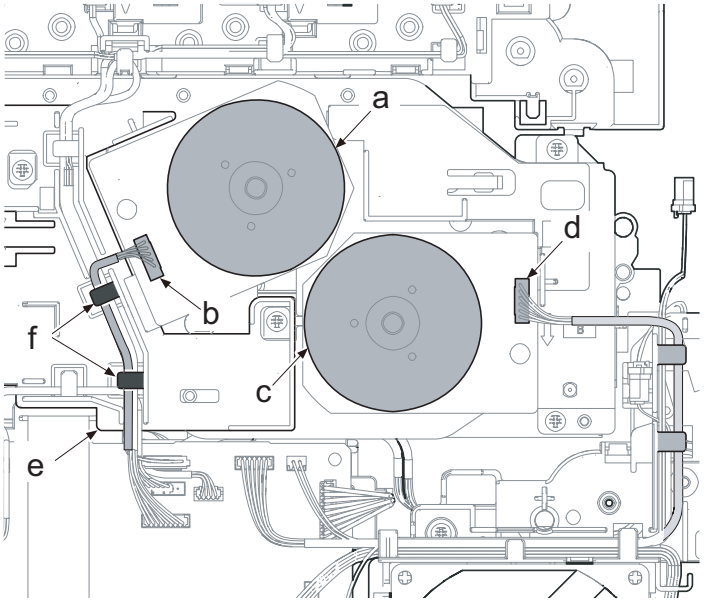


Figure 4-308

12. Disconnect two connectors from the engine relay PWB (c) of the wire guide (b).

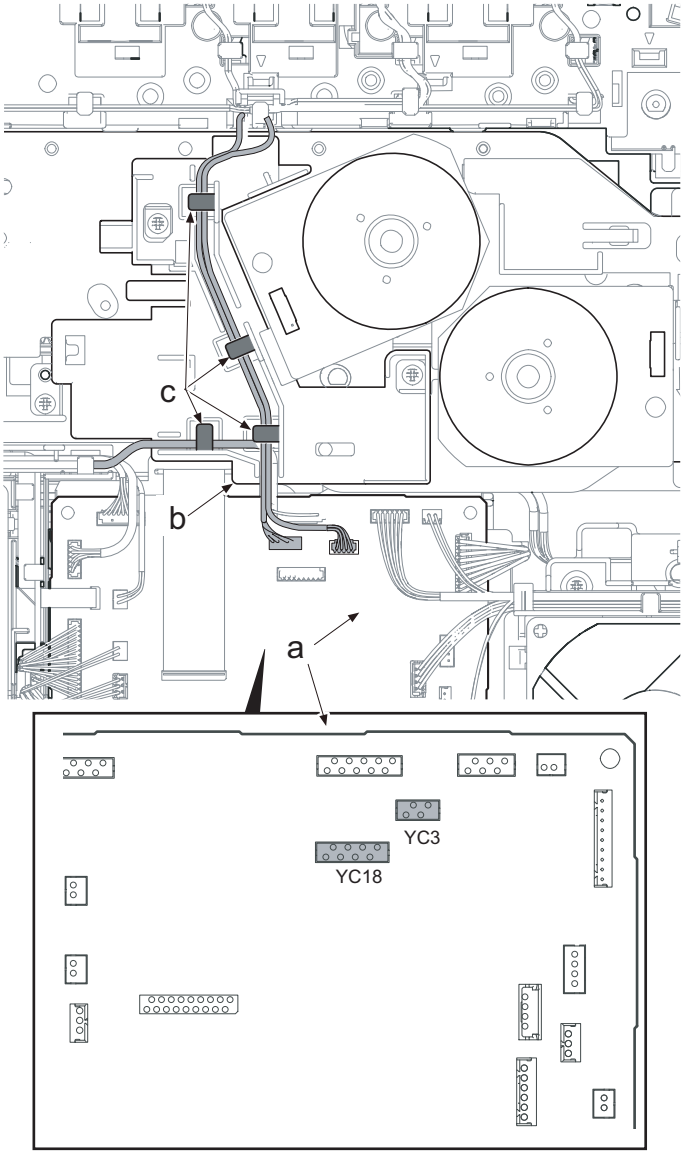


Figure 4-309

13. Pull the lever (a).
14. Lift up the scanner unit (b) and open the inner tray (c).

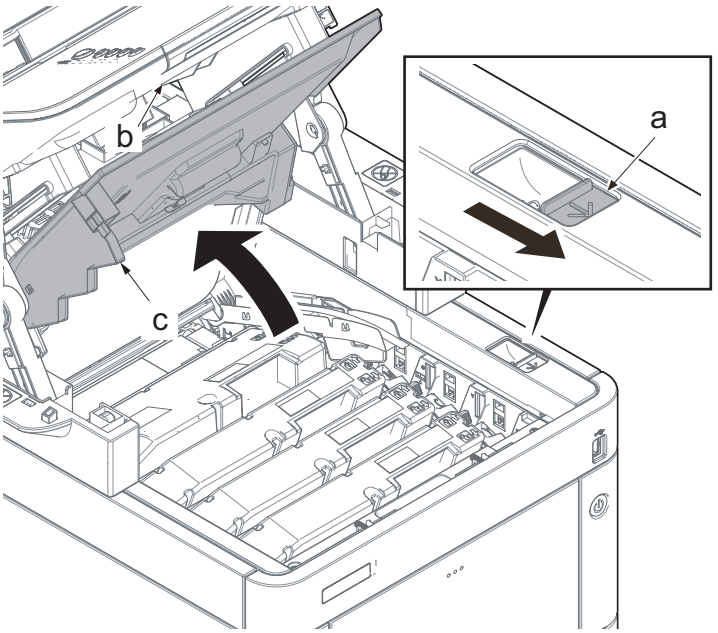


Figure 4-310

15. Detach toner container Y (a).

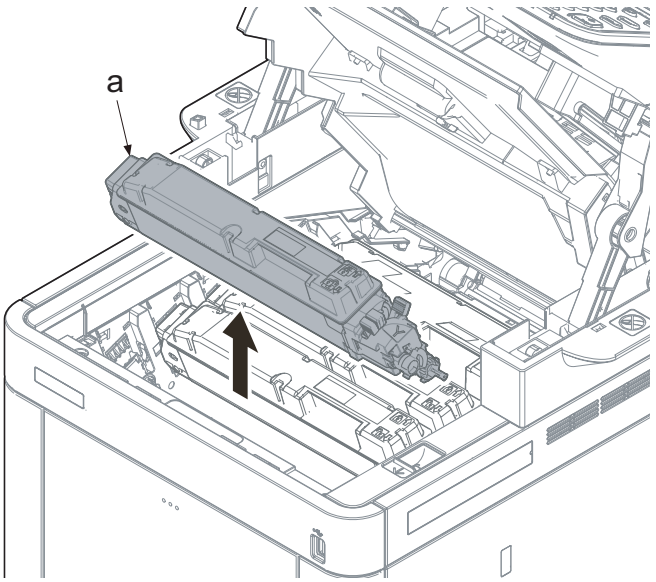


Figure 4-311

16. Remove the screw (a) (M3x12).
17. Remove the lever cover (b).
18. Lift up the drive release lever (c).

*: When raising the lever, the joint of the drive coupling is released.

IMPORTANT
If omitting to attach the lever cover, "Cover open" message is displayed while the tray swithc is not turned on.

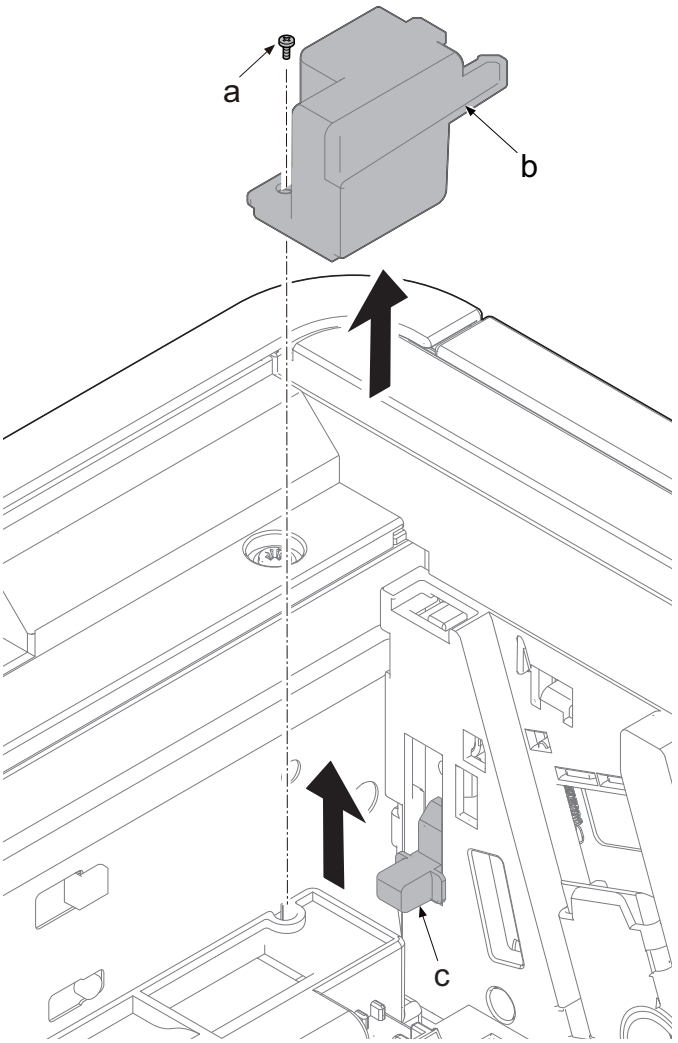


Figure 4-312

19. Remove six screws (a) (M3x8).
20. Detach the main drive motor unit (b).

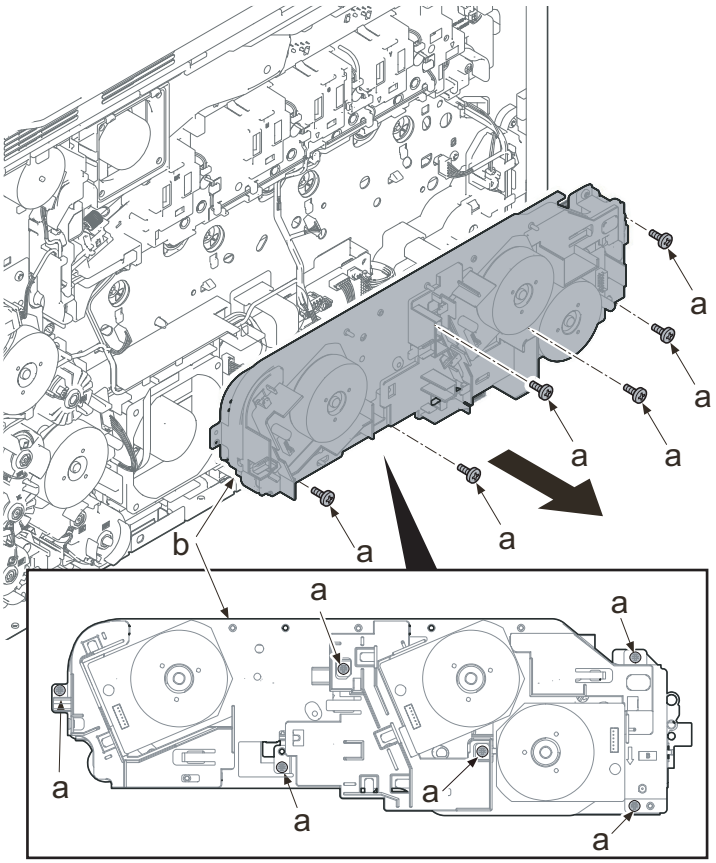


Figure 4-313

*: When detaching the main drive motor unit (a), pull out the drive release lever (b) from the drive release joint (c).

21. Check the paper feed drive unit and clean or replace it if necessary.
22. Reattach the parts once removed.

After reattaching the main drive motor unit (a), check if the couplings for driving the primary transfer unit, developer unit and the drum unit are relocated by being connected with the drive release lever (b).

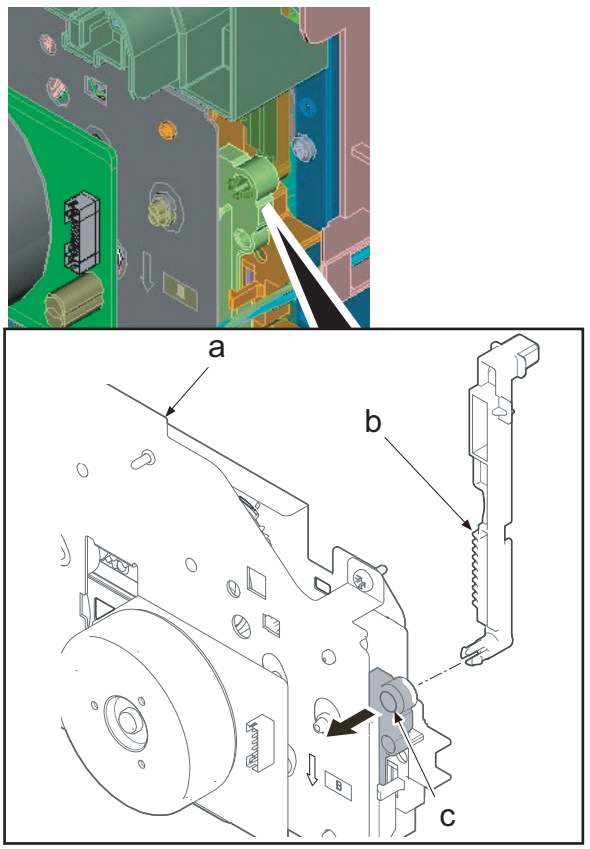


Figure 4-314

IMPORTANT
Attach the main drive motor unit (a) after confirming the drive coupling is at the release position.
Drive release joint (b) is raised.

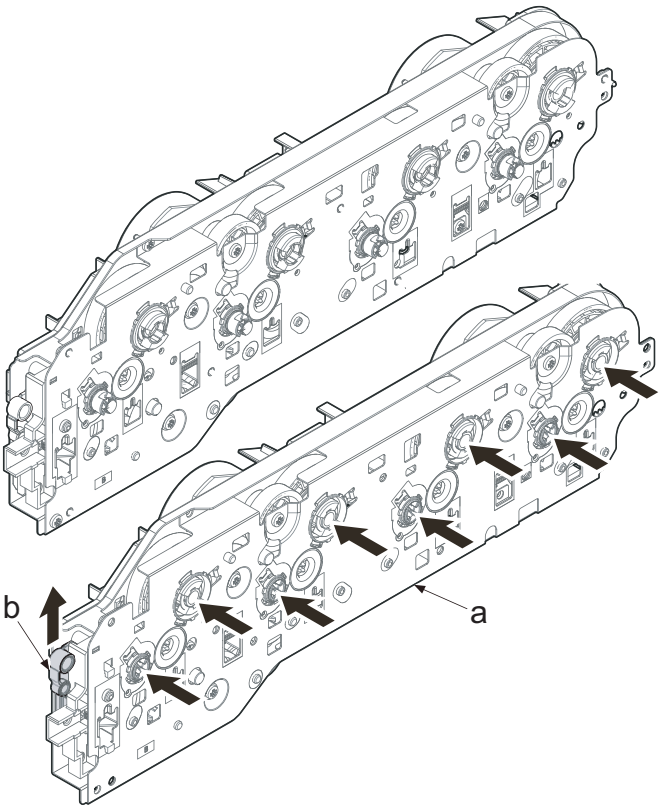


Figure 4-315

Insert the drive release lever (b) into the drive release joint (c) when reattaching the main drive motor unit (a).
Do not turn the developer motor (d) in the reverse direction of the engraving arrow (e).

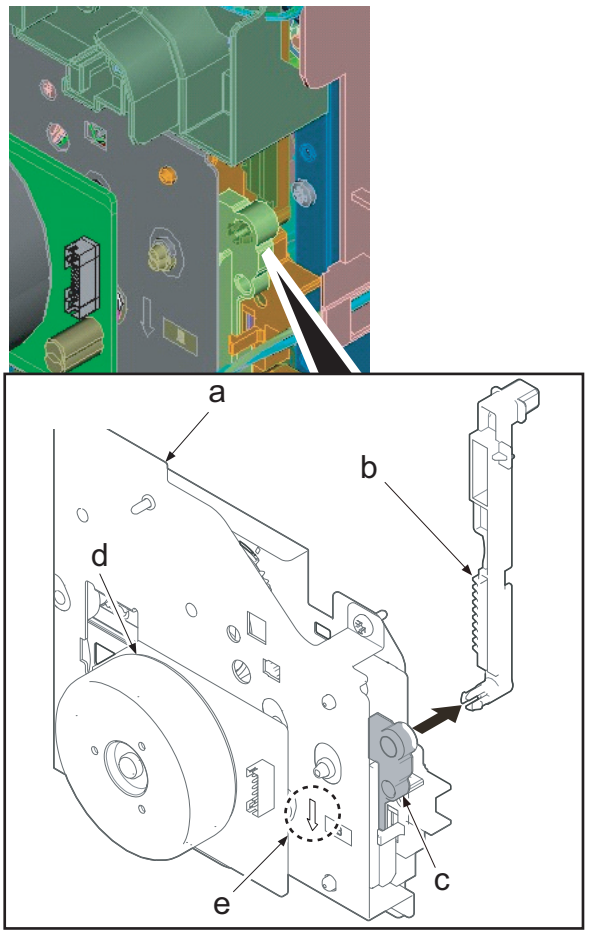


Figure 4-316

(8-2) Detaching and reattaching the paper feed drive unit

<Procedure>

1. Open the rear cover (a).

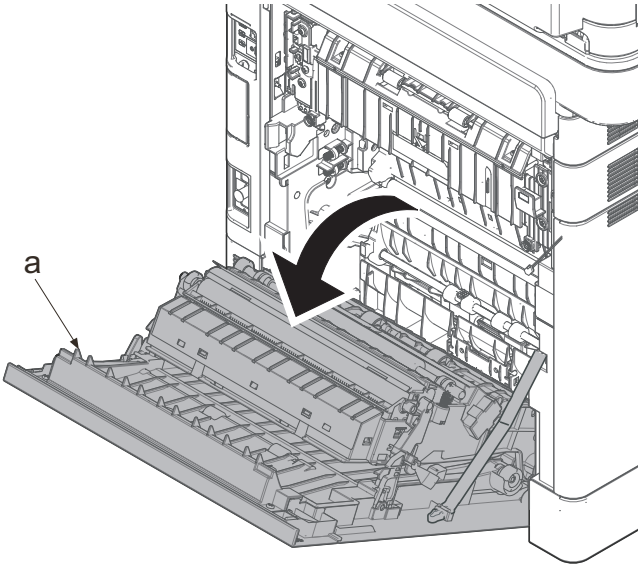


Figure 4-317

2. Remove the screw (a) (M3x8).
3. Slide the upper left cover (b) toward the machine rear side and detach it.

IMPORTANT

When reattaching the upper left cover (b), insert the hook (c) to the machine front side, and then fasten seven hooks (d) by sliding it toward the machine front side.

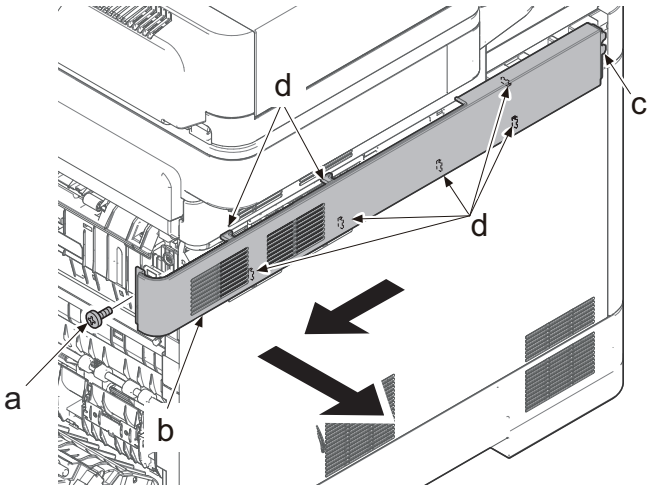


Figure 4-318

4. Lift up the machine rear side of the middle left cover (a) to release three hooks (b).
5. Slide the middle left cover (a) toward the machine rear side to release two hooks (c).
6. Detach the middle left cover (a).

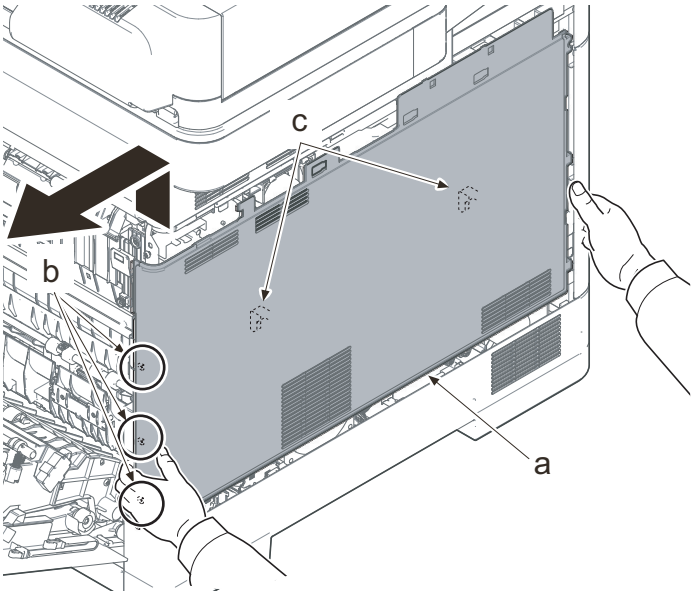


Figure 4-319

IMPORTANT

When reattaching the middle right cover (a), insert the lower rib into the the lower right cover. Slide it toward the machine front side to fasten three hooks (c) and then lower it to fasten four hooks (d), and fasten three hooks (e) at the machine rear side.

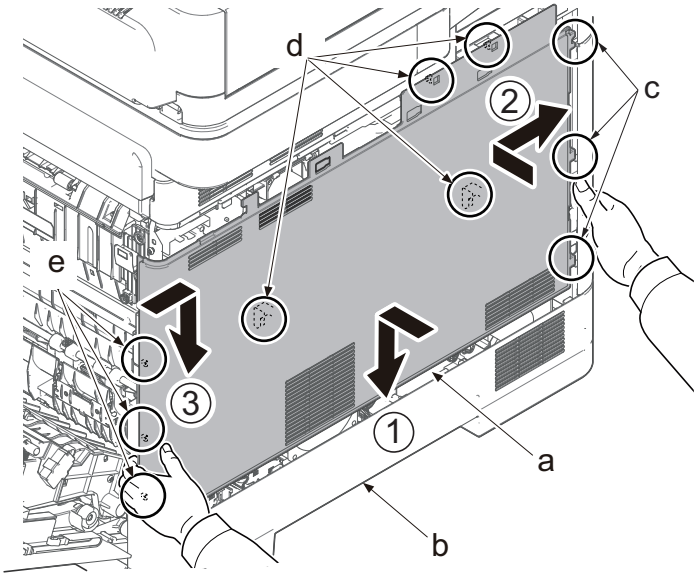


Figure 4-320

7. Remove the screw (a) (M3x8).
8. Pull the rib (b) toward you and release the center hook (c).
9. Detach the lower left cover (d).

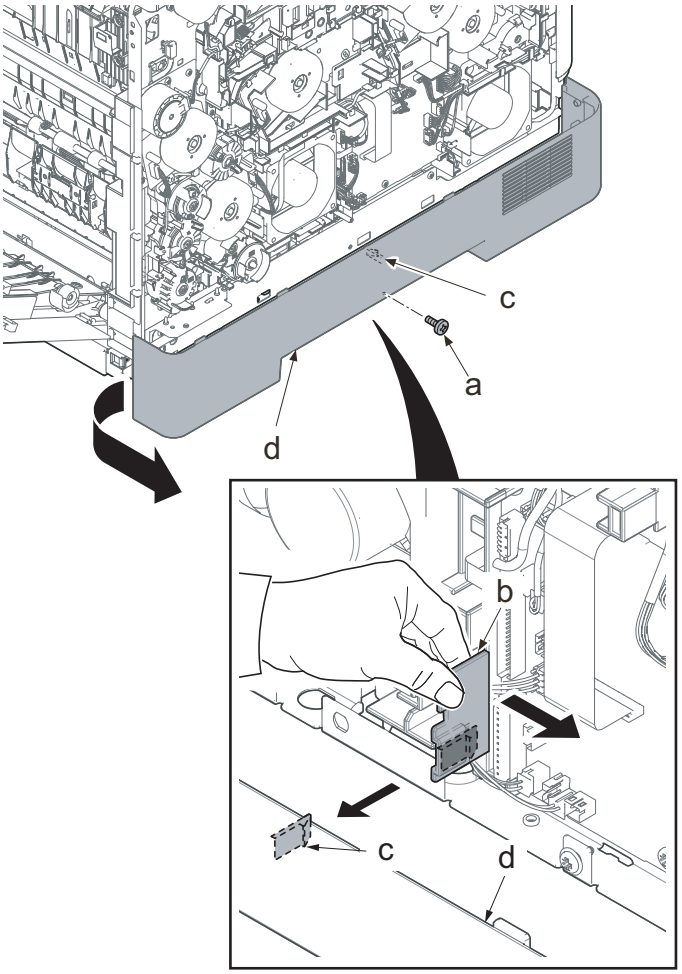


Figure 4-321

IMPORTANT
When attaching the lower left cover (a), insert two bosses (b) at the machine front side into the holes and apply the center hook (c). Then, push it toward the machine rear side.

Check if the hook (c) at the center is surely fastened.

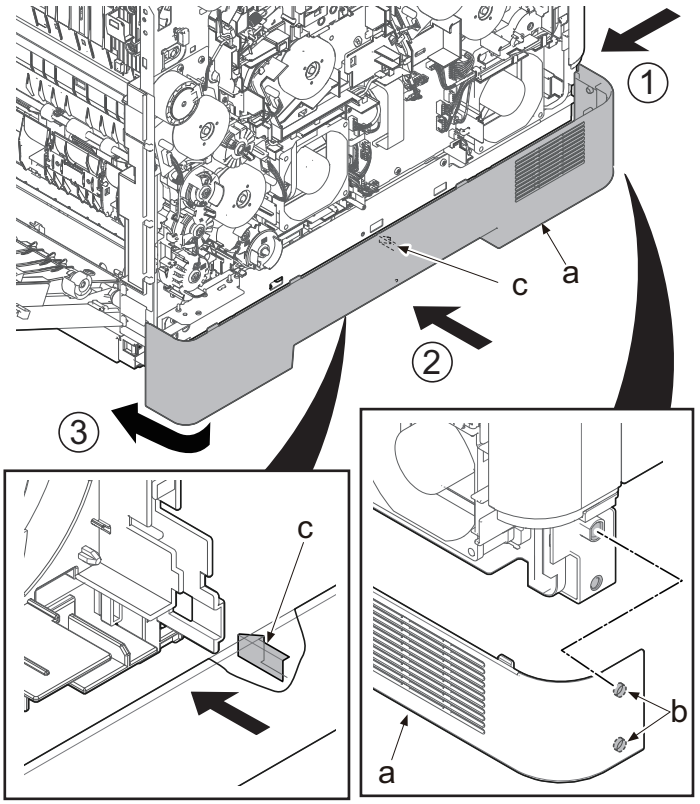


Figure 4-322

10. Disconnect the connector (b) of the primary transefer motor (a).
11. Release the wire from four hooks (c).

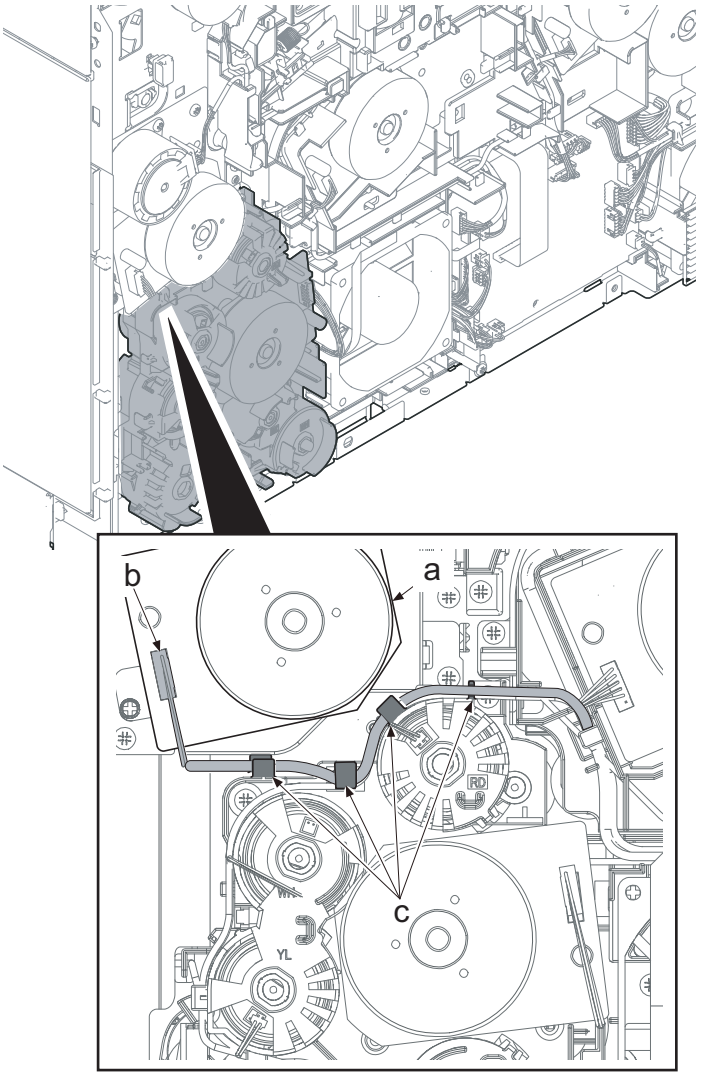


Figure 4-323

12. Disconnect five connectors (b) of the clutch in the paper feed drive unit (a).
13. Disconnect the connector (c) of the motor in the paper feed drive unit.
14. Release the wire from twelve hooks (d).

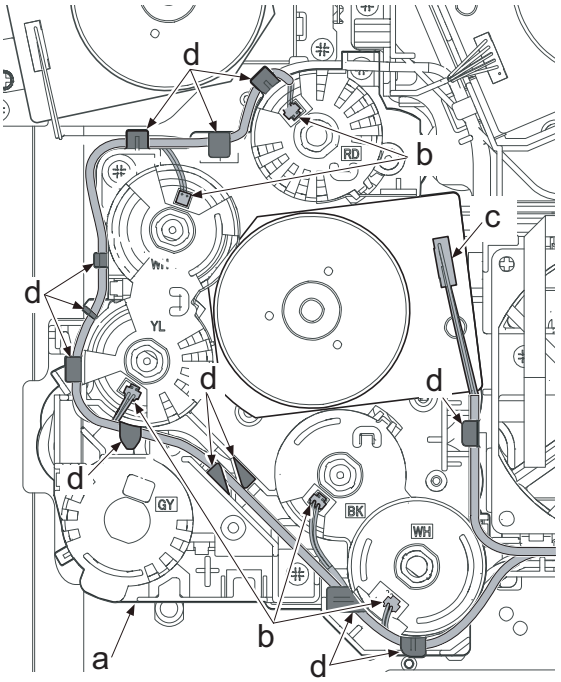


Figure 4-324

15. Remove three screws (a) (M3x12).
16. Detach the paper feed drive unit (b).
17. Check the paper feed drive unit and clean or replace it if necessary.
18. Reattach the parts once removed.

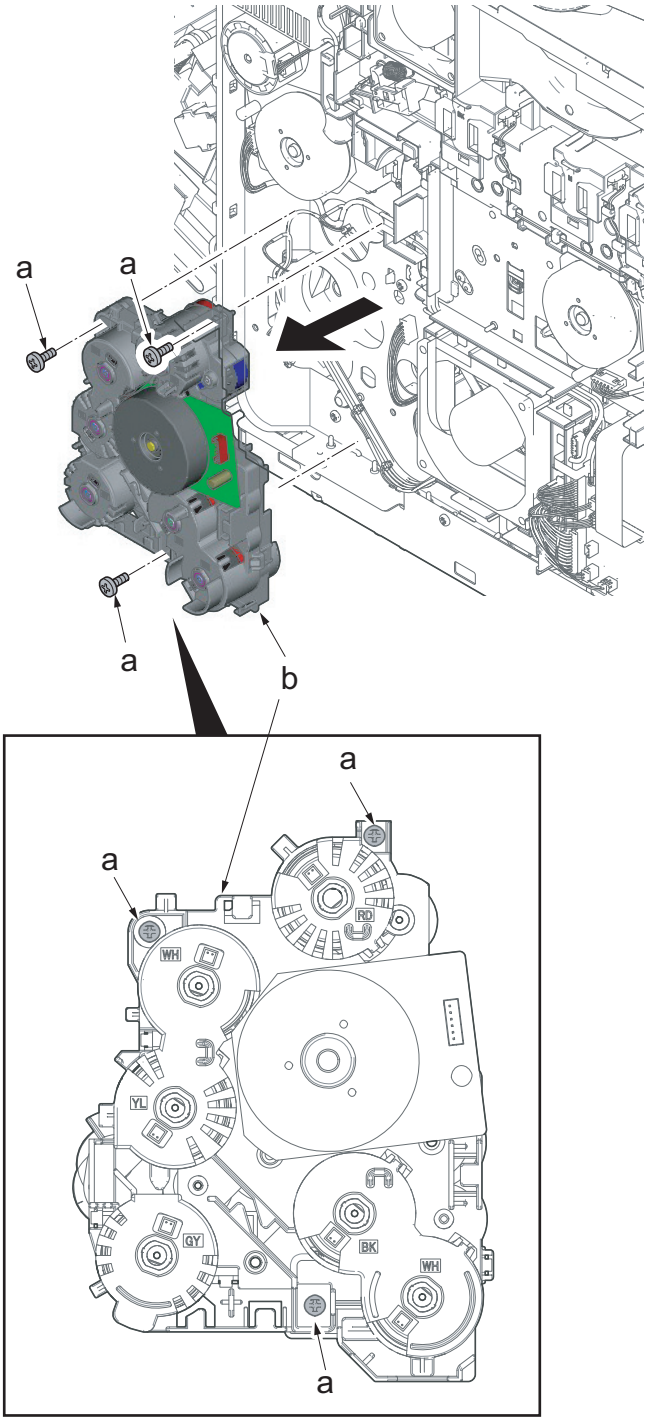


Figure 4-325

(8-3) Detaching and reattaching the MP paper feed drive unit

<Procedure>

1. Open the rear cover (a).

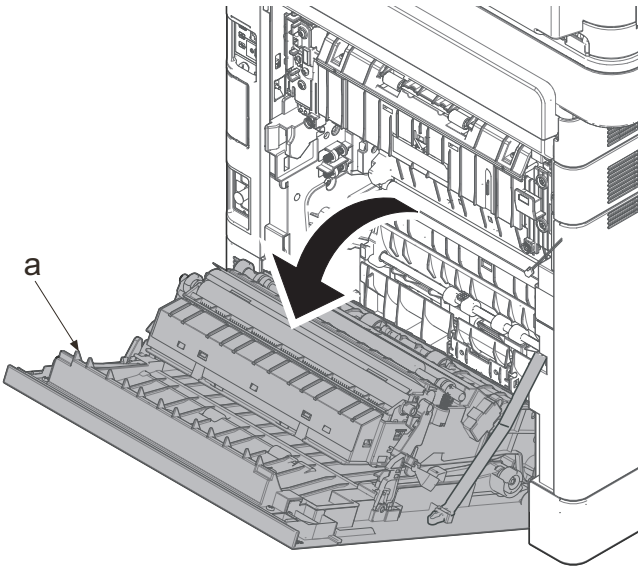


Figure 4-326

2. Remove the screw (a) (M3x8).
3. Slide the upper left cover (b) toward the machine rear side and detach it.

IMPORTANT

When reattaching the upper left cover (b), insert the hook (c) to the machine front side, and then fasten seven hooks (d) by sliding it toward the machine front side.

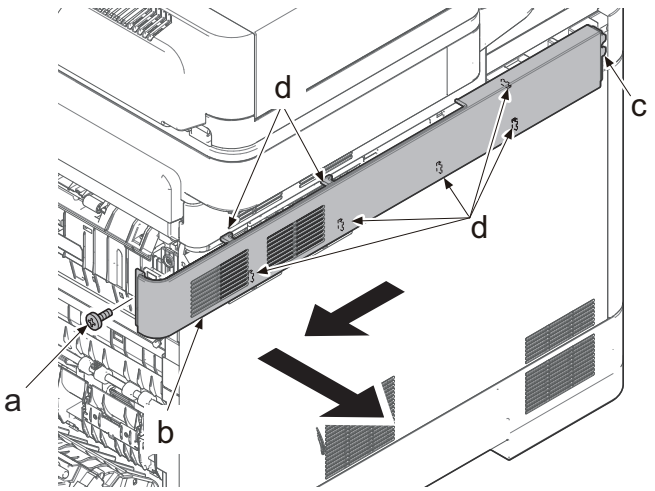


Figure 4-327

4. Lift up the machine rear side of the middle left cover (a) to release three hooks (b).
5. Slide the middle left cover (a) toward the machine rear side to release two hooks (c).
6. Detach the middle left cover (a).

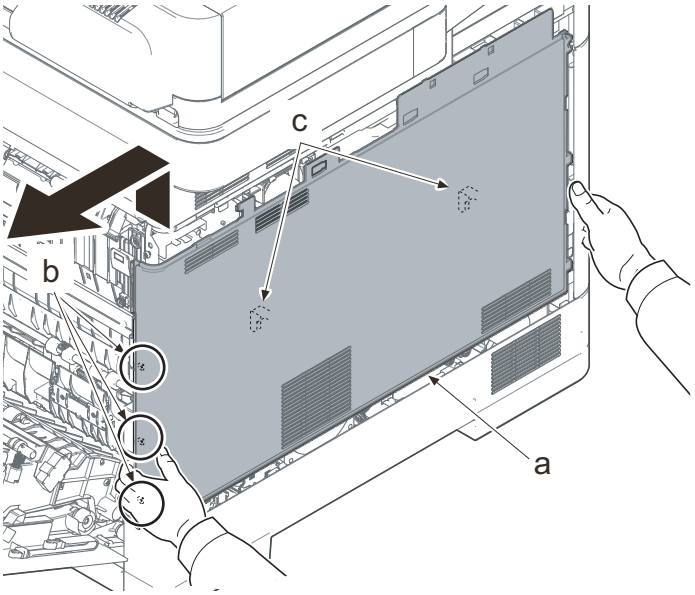


Figure 4-328

IMPORTANT

When reattaching the middle left cover (a), insert the lower rib into the lower left cover (b). And, slide it toward the machine front side to fasten three hooks (c) and four hooks (d), then lower the machine rear side of it to fasten three hooks (e) at the machine rear side.

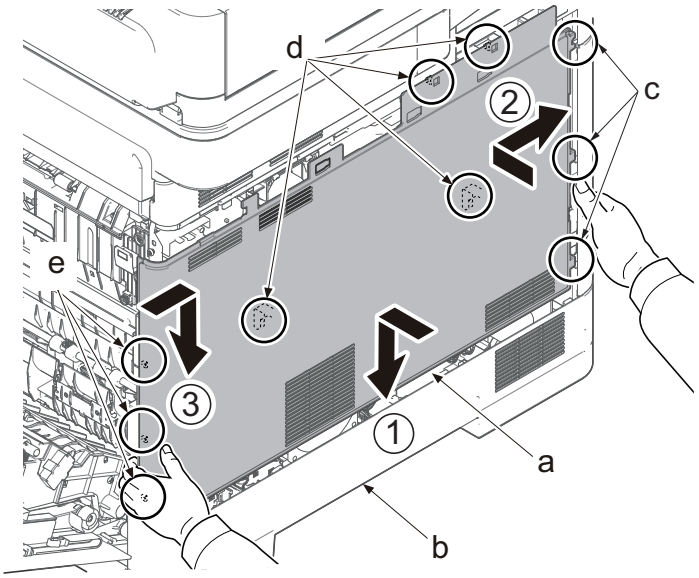


Figure 4-329

7. Remove the screw (a) (M3x8).
8. Pull the rib (b) toward you and release the center hook (c).
9. Detach the lower left cover (d).

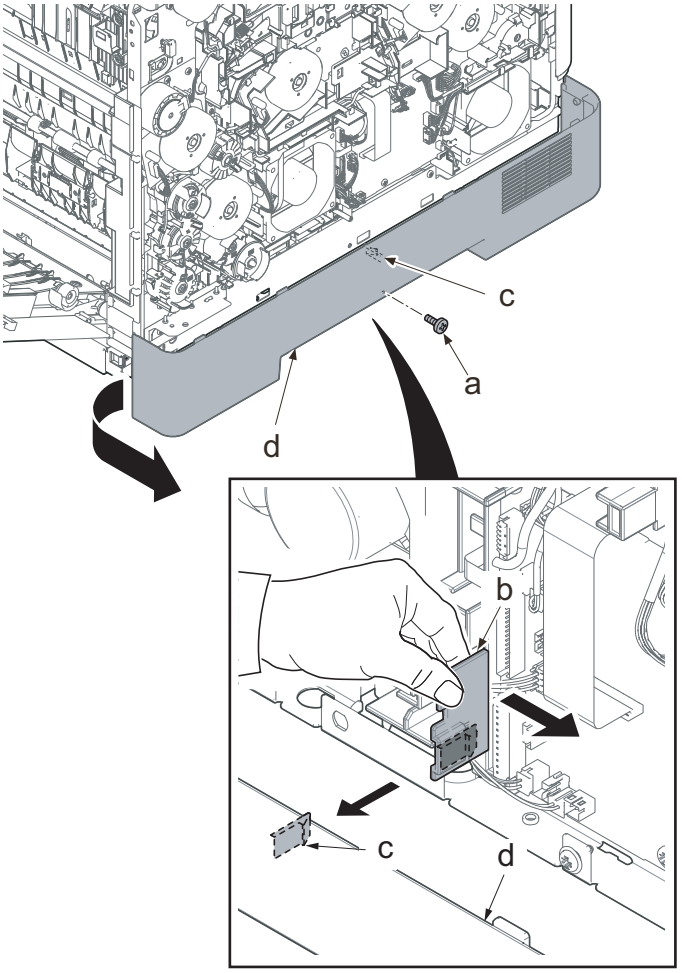


Figure 4-330

IMPORTANT
When attaching the lower left cover (a), insert two bosses (b) at the machine front side into the holes and apply the center hook (c). Then, push it toward the machine rear side.

Check if the hook (c) at the center is surely fastened.

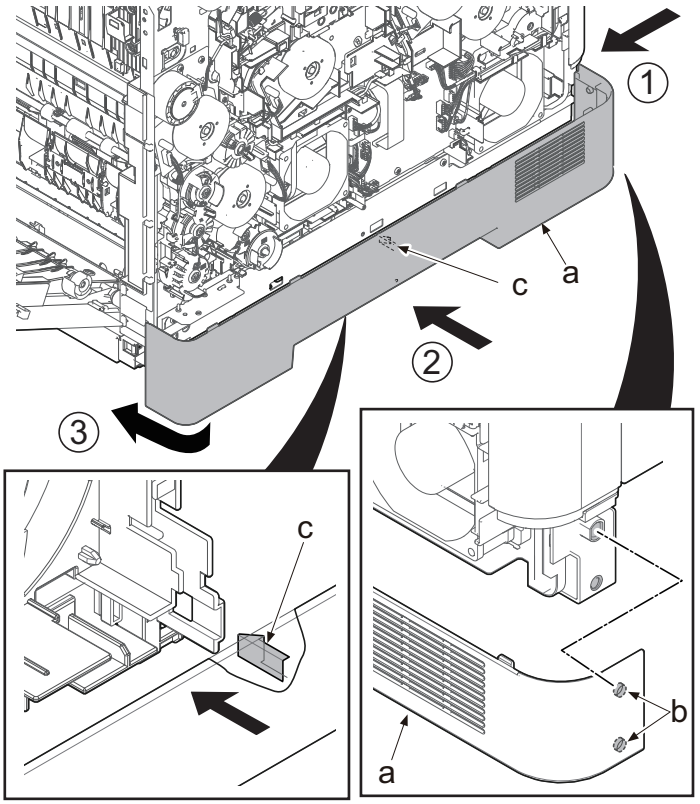


Figure 4-331

10. Pull the lever (a).
11. Lift up the scanner unit (b) and open the inner tray (c).

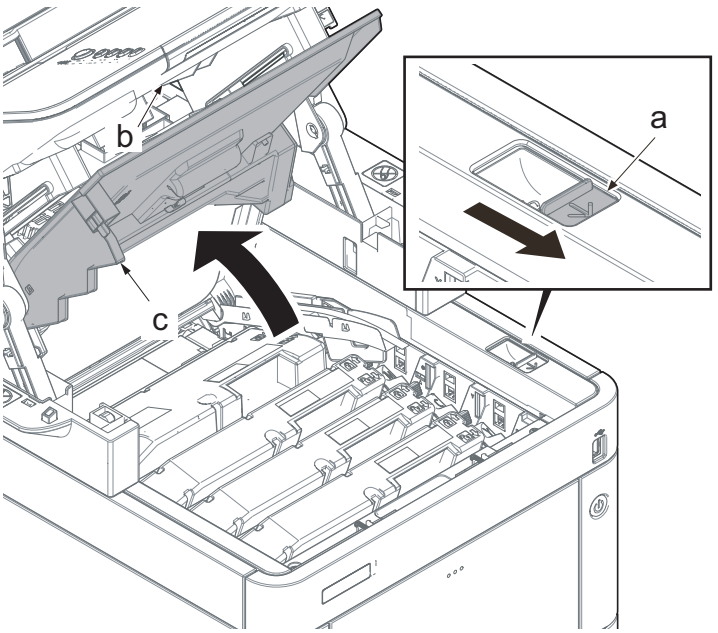


Figure 4-332

12. Open the MP tray (a).
13. Remove two screws (b) (M3x8).
14. Open the waste toner cover (c).

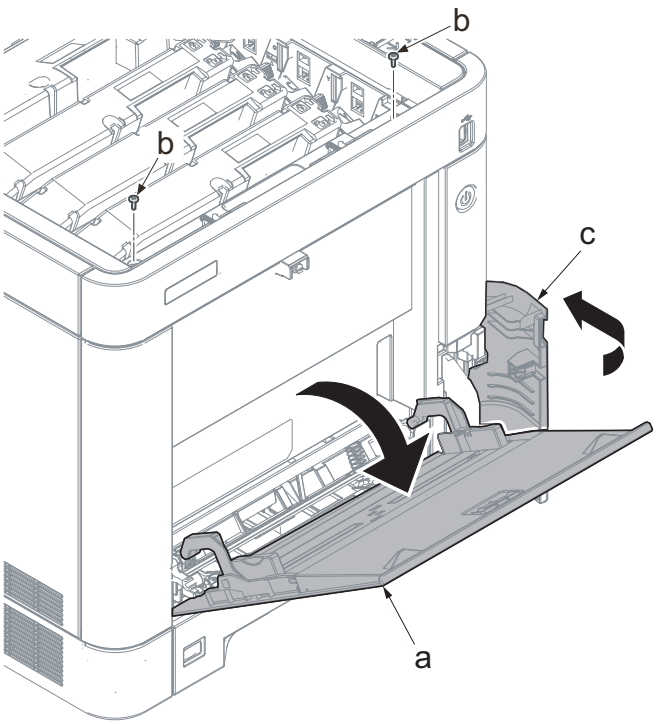


Figure 4-333

15. Slightly lift up the front cover (a) to release the boss (b).
16. Tilt the front cover (a) toward the machine front side.
17. Then, remove the front cover (a) by lifting it up.

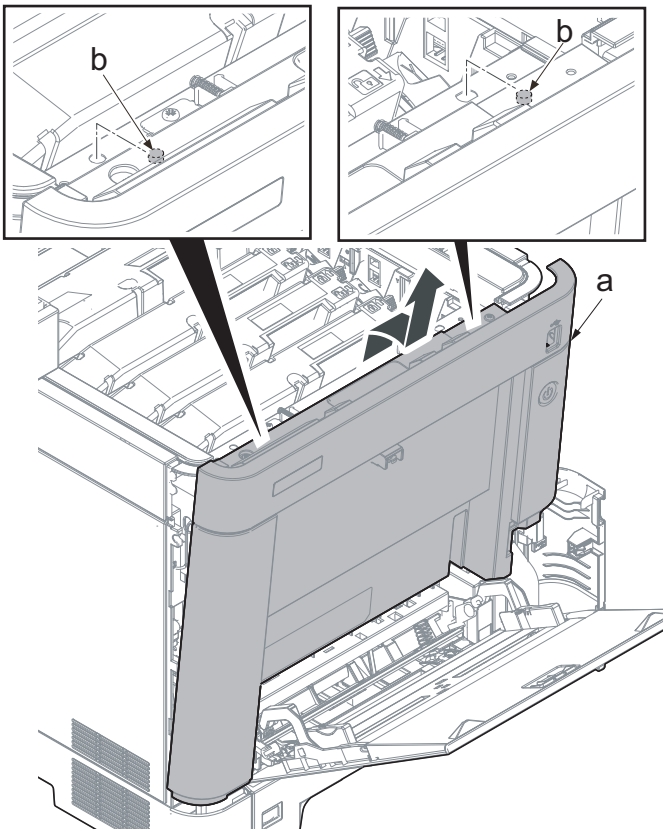


Figure 4-334

IMPORTANT
Make sure not to touch the waste toner cover sensor (b) when reattaching the front cover (a). If the waste toner cover sensor (b) comes off, even if you close the waste toner cover, "cover open" will be displayed.

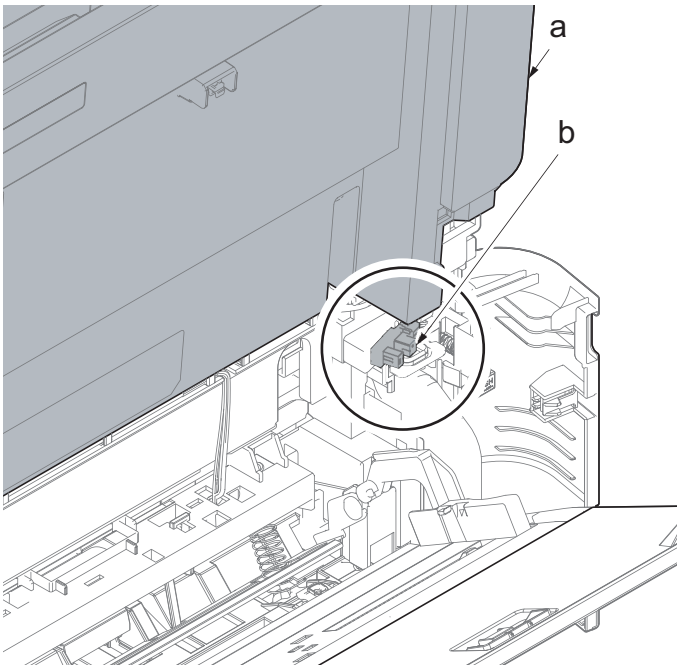


Figure 4-335

18. Pull out the cassette (a).
19. Open the MP tray (b) slightly.
20. Lift up the MP tray cover (c) and release two hooks (d).

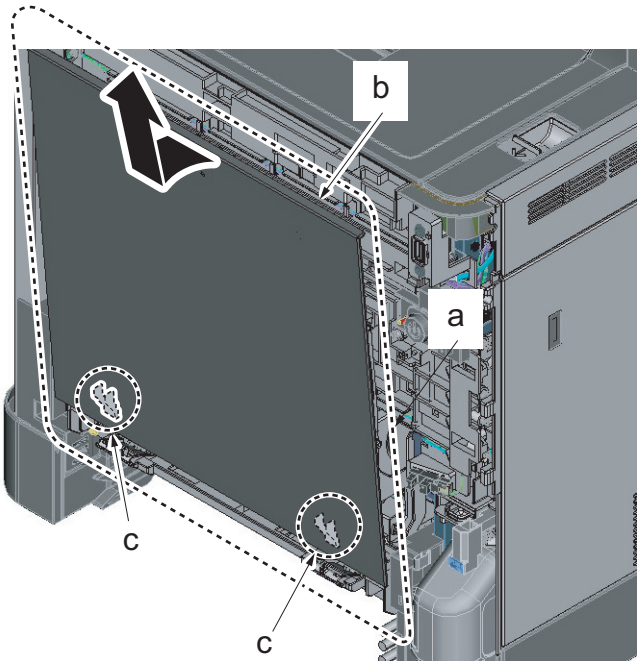


Figure 4-336

21. Fully open the MP tray (a).
22. Slide the arm (b) to the machine rear side and lift it up to remove.

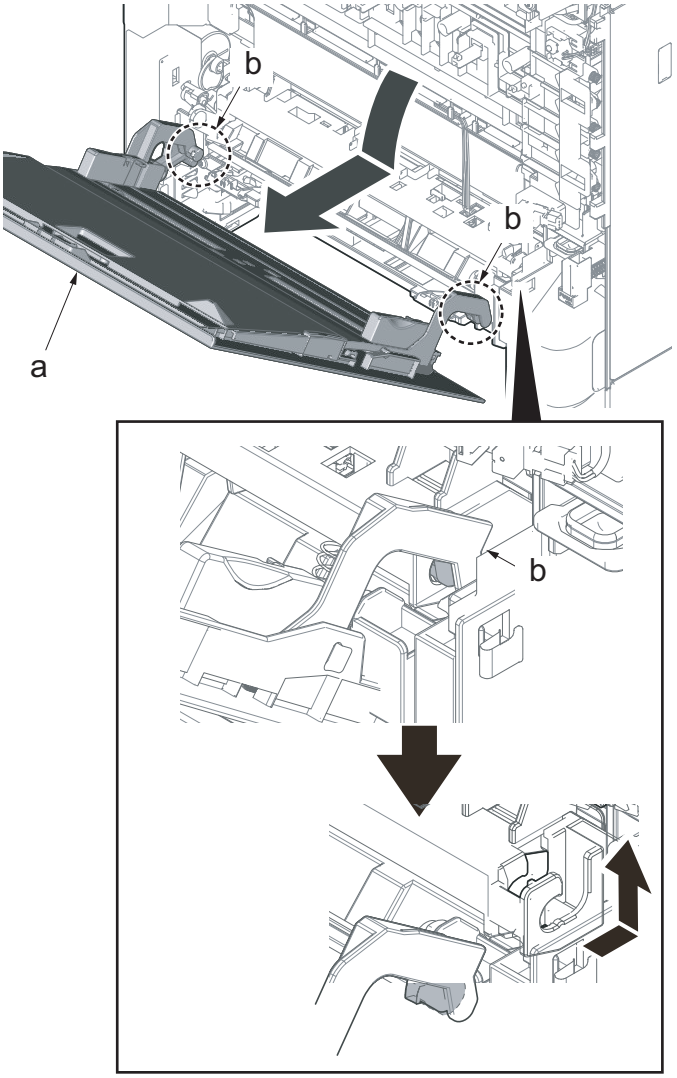


Figure 4-337

23. Rotate the cam (a) inside the main unit to the position in the figure.

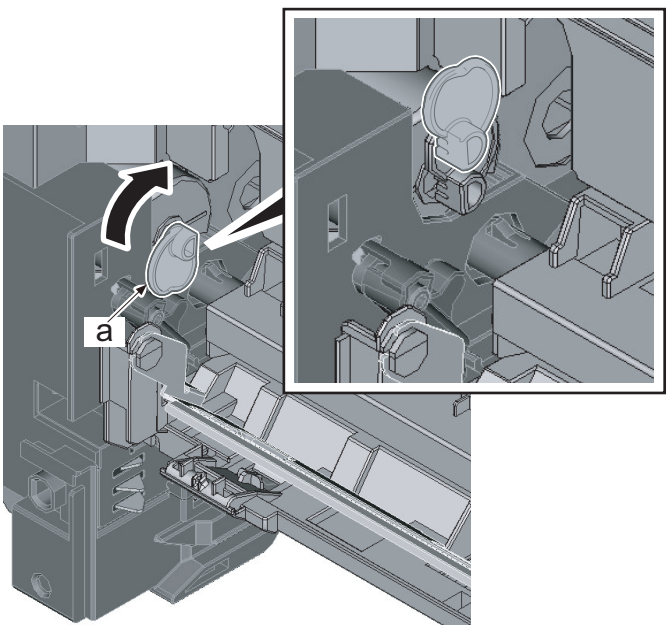


Figure 4-338

24. Disconnect eight connectors (b) from the engine relay PWB (a).

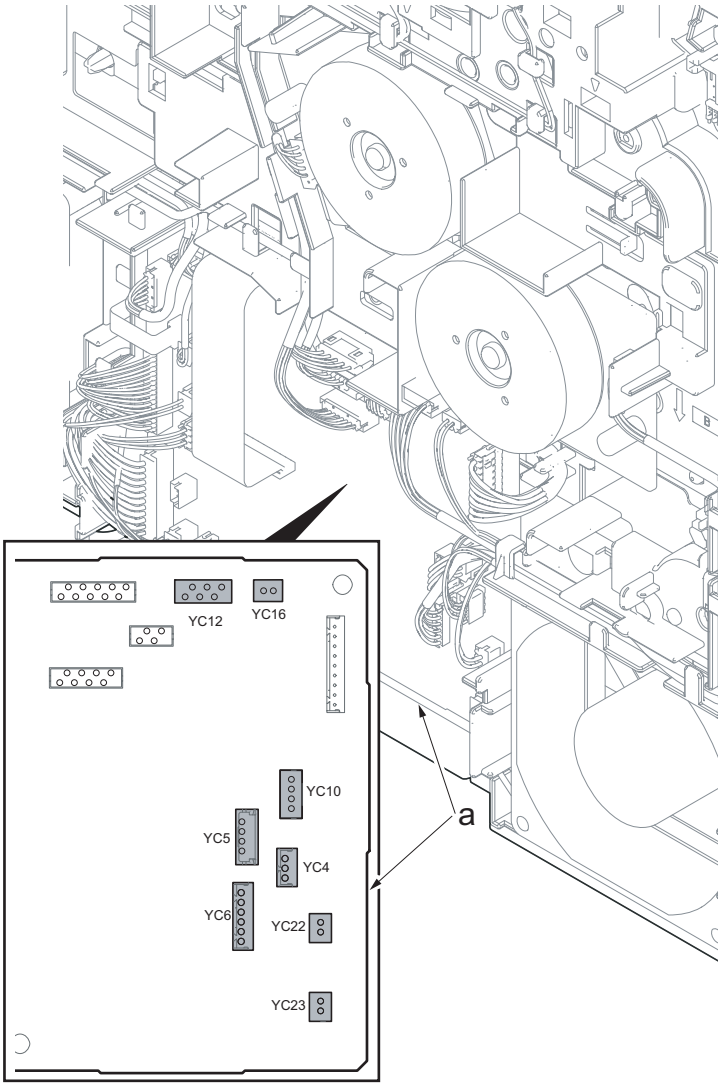


Figure 4-339

25. Release the wire (b) from five hooks (a).

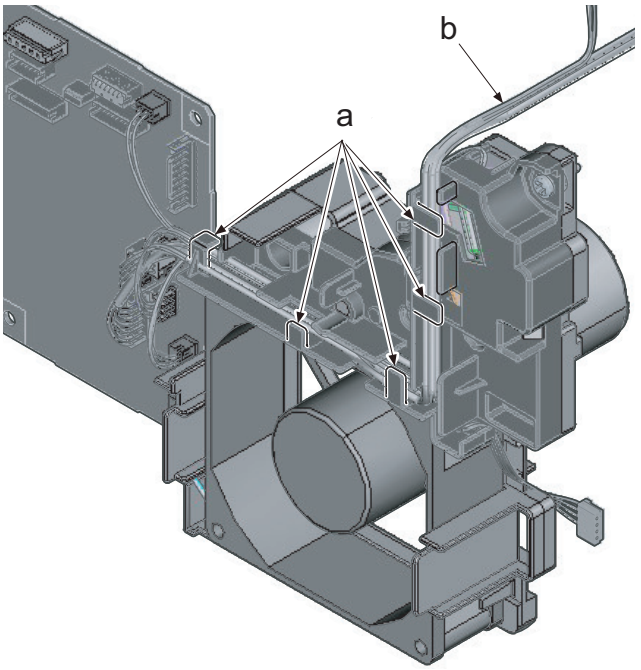


Figure 4-340

26. Remove two screws (a) (M3x12).
27. Lift up the MP paper feed drive unit (b) to release the lower two hooks (c).
28. Detach the MP paper feed drive unit (b).
29. Check the MP paper feed drive unit and clean or replace it if necessary.
30. Reattach the parts once removed.

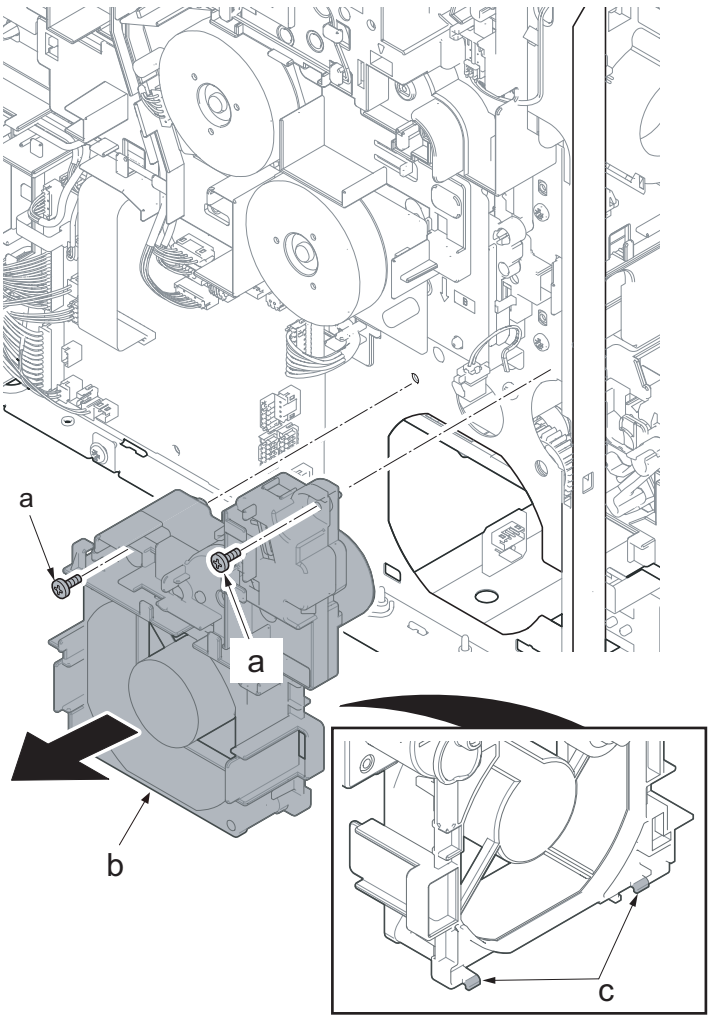


Figure 4-341

(8-4) Detaching and reattaching the toner motor unit

<Procedure>

1. Open the rear cover (a).

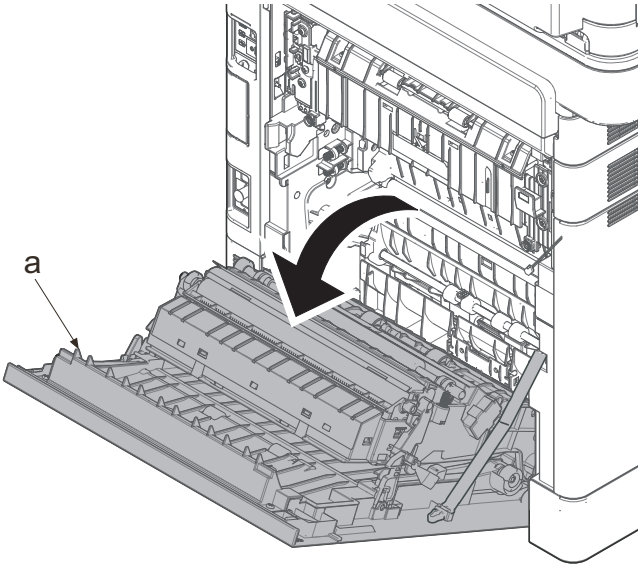


Figure 4-342

2. Remove the screw (a) (M3x8).
3. Slide the upper left cover (b) toward the machine rear side and detach it.

IMPORTANT

When reattaching the upper left cover (b), insert the hook (c) to the machine front side, and then fasten seven hooks (d) by sliding it toward the machine front side.

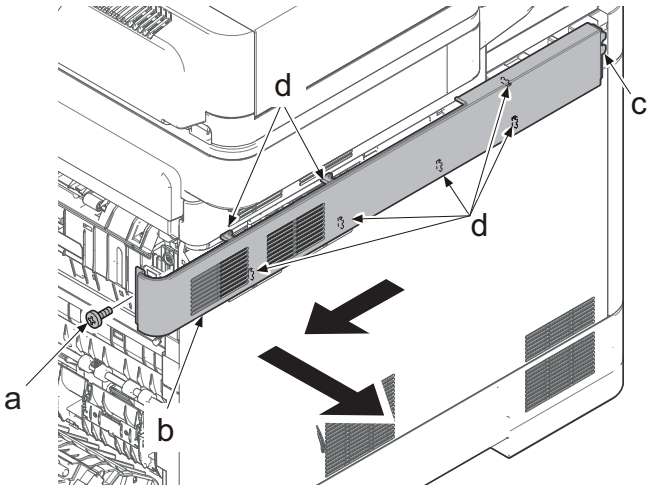


Figure 4-343

4. Lift up the machine rear side of the middle left cover (a) to release three hooks (b).
5. Slide the middle left cover (a) toward the machine rear side to release two hooks (c).
6. Detach the middle left cover (a).

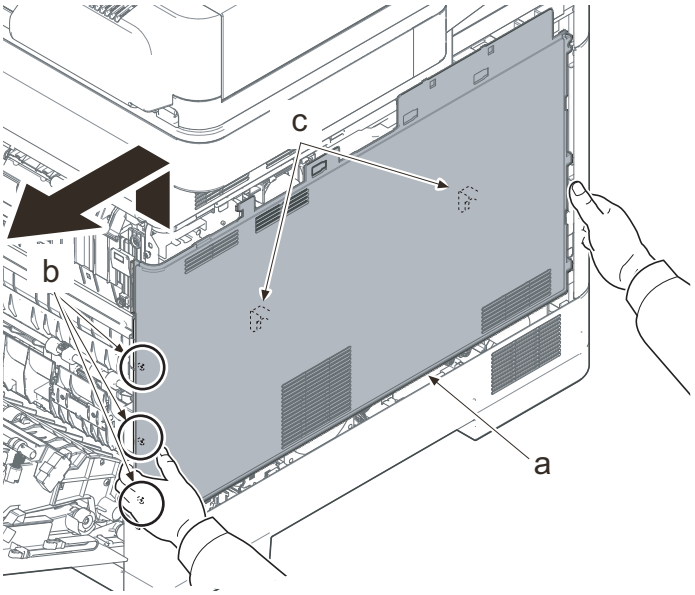


Figure 4-344

IMPORTANT

When reattaching the middle left cover (a), insert the lower rib into the lower left cover (b). And, slide it toward the machine front side to fasten three hooks (c) and four hooks (d), then lower the machine rear side of it to fasten three hooks (e) at the machine rear side.

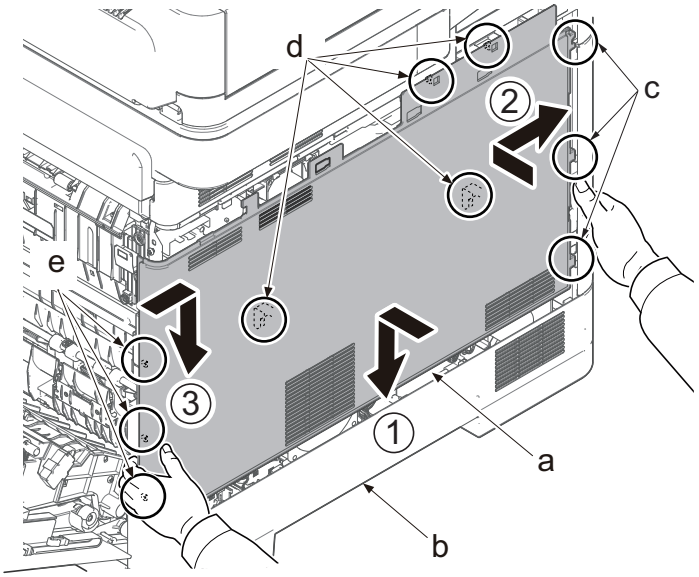


Figure 4-345

7. Remove the screw (a) (M3x8).
8. Pull the rib (b) toward you and release the center hook (c).
9. Detach the lower left cover (d).

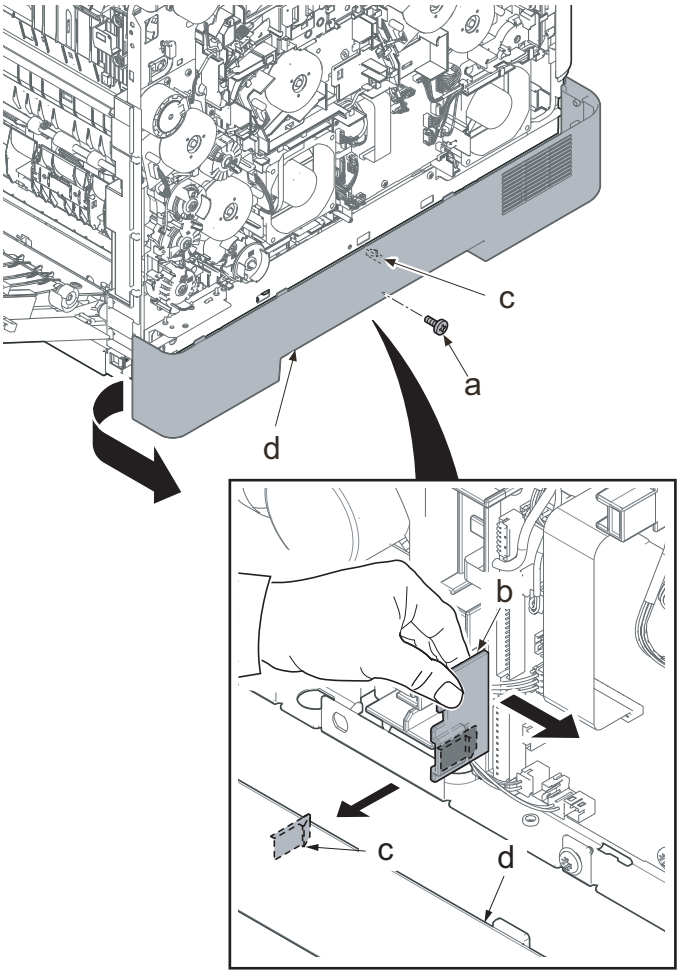


Figure 4-346

IMPORTANT
When attaching the lower left cover (a), insert two bosses (b) at the machine front side into the holes and apply the center hook (c). Then, push it toward the machine rear side.

Check if the hook (c) at the center is surely fastened.

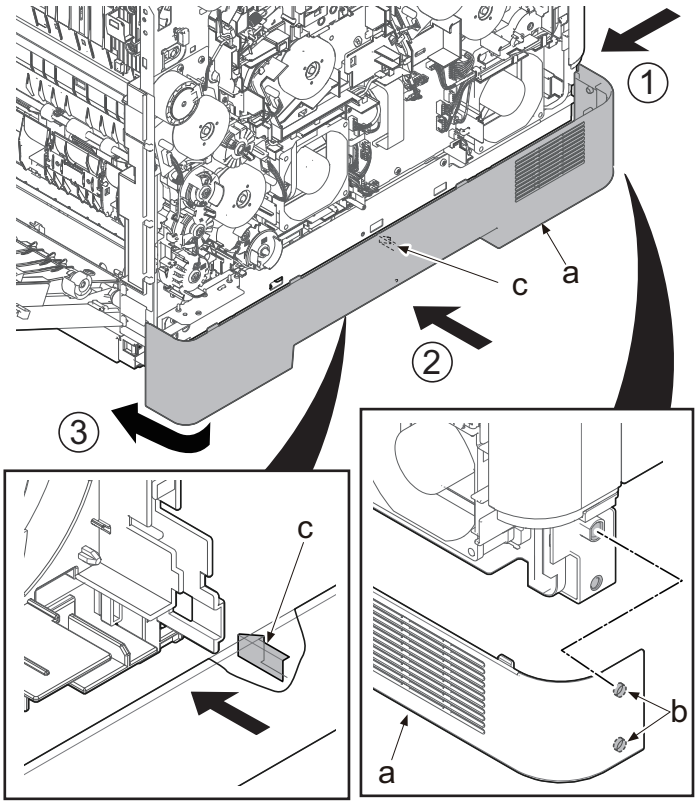


Figure 4-347

10. Detach the main drive motor unit (a). (See page 4-181)

11. Disconnect the connector (b) of the tray switch (a).
12. Release the wires of the exit motor (d) and the fuser motor (e) from three hooks (c).
13. Disconnect the connector (g) of the container fan motor (f).

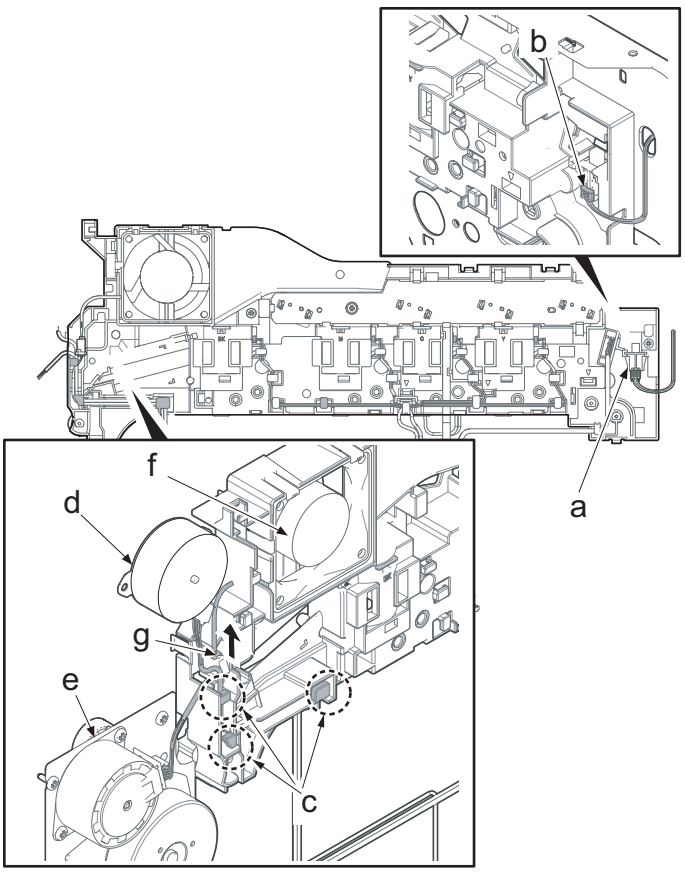


Figure 4-348

14. Release the wire from three hooks (b) of the toner motor unit (a).

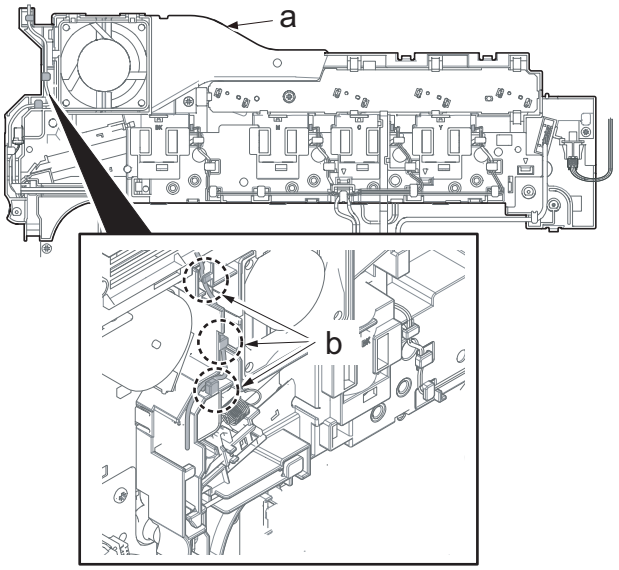


Figure 4-349

15. Release the hook (b) of the cleaner spring (a).

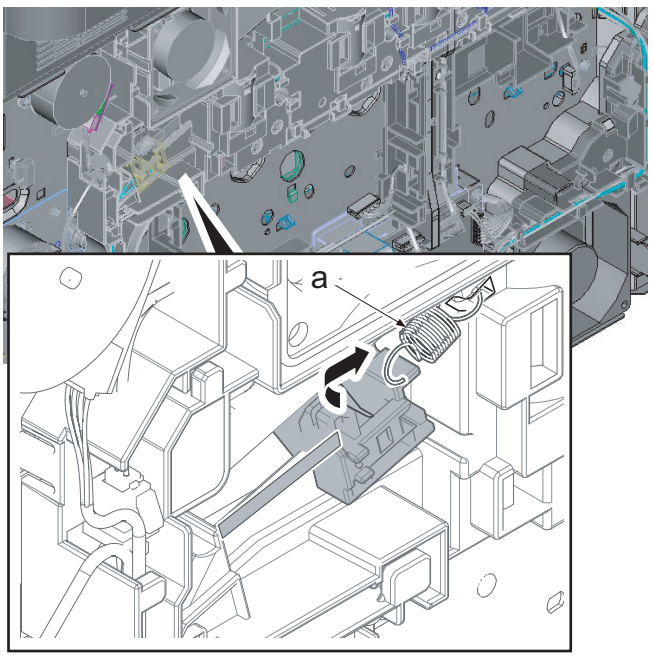


Figure 4-350

16. Pull the lever (a).
17. Lift up the scanner unit (b) and open the tray (c).

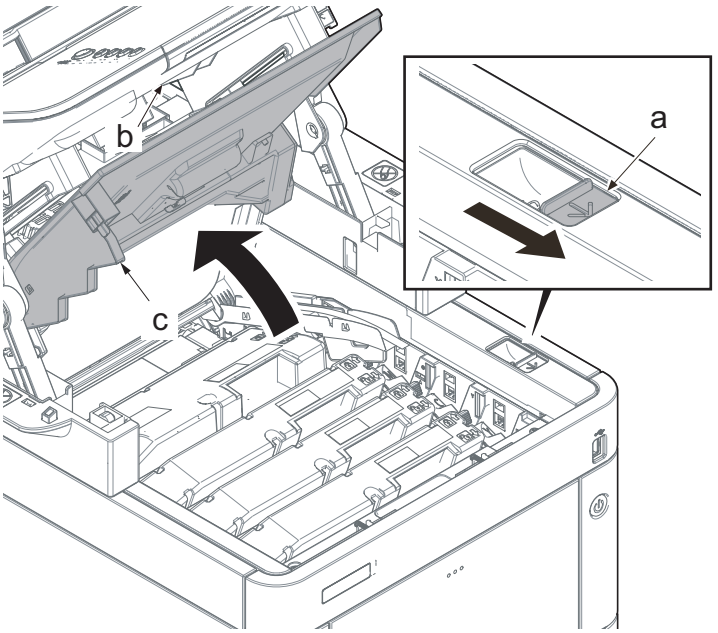


Figure 4-351

18. Relocate the cleaner slider (a) to the center of the rail (b).
19. Insert a flat-blade screwdriver (c) from the square hole.
20. Lift up the hook (d) to release.
21. Remove the cleaner slider (e) while rotating it.

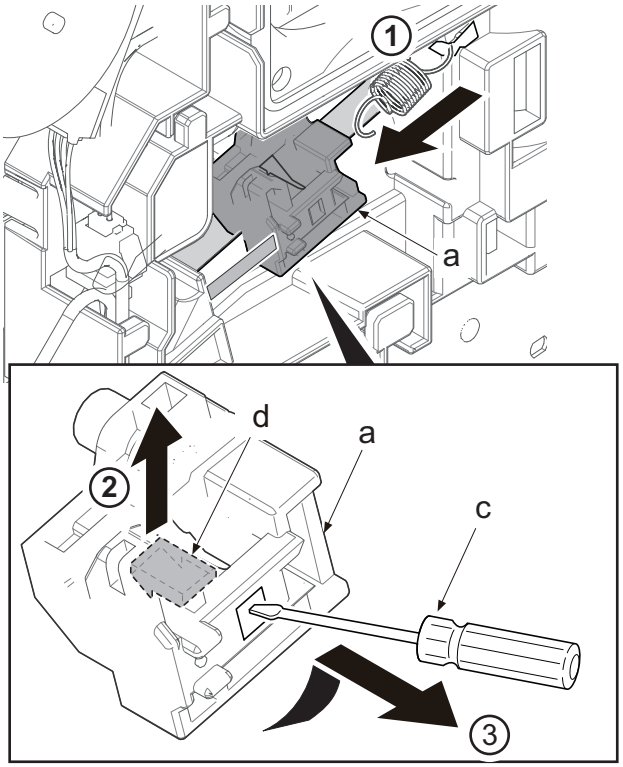


Figure 4-352

22. Remove the cleaner film (b) through the gap of the ribs (a).

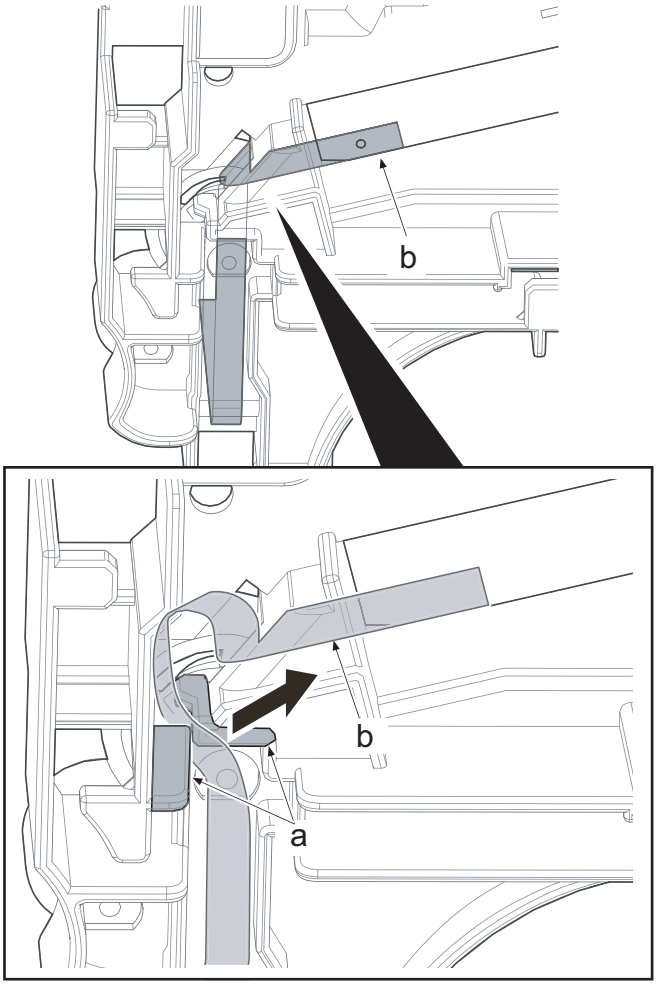


Figure 4-353

23. Remove four screws (b) (M3x8) from the toner motor unit (a).

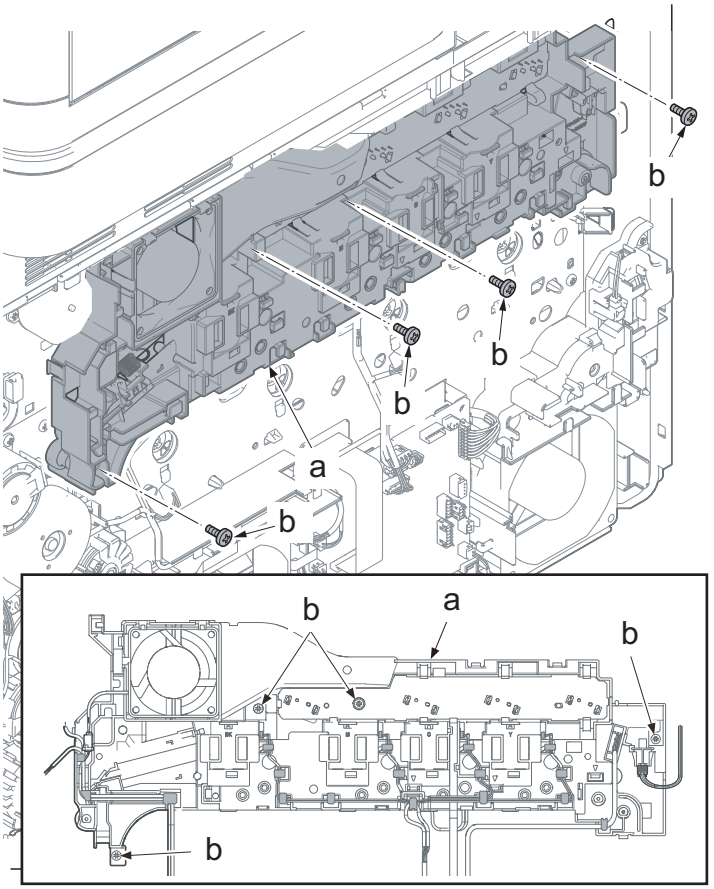


Figure 4-354

24. Release eight hooks (a).
25. Detach the toner motor unit (b).
    *: Check the triangle engravings (c) as for the position of the three inside hooks.

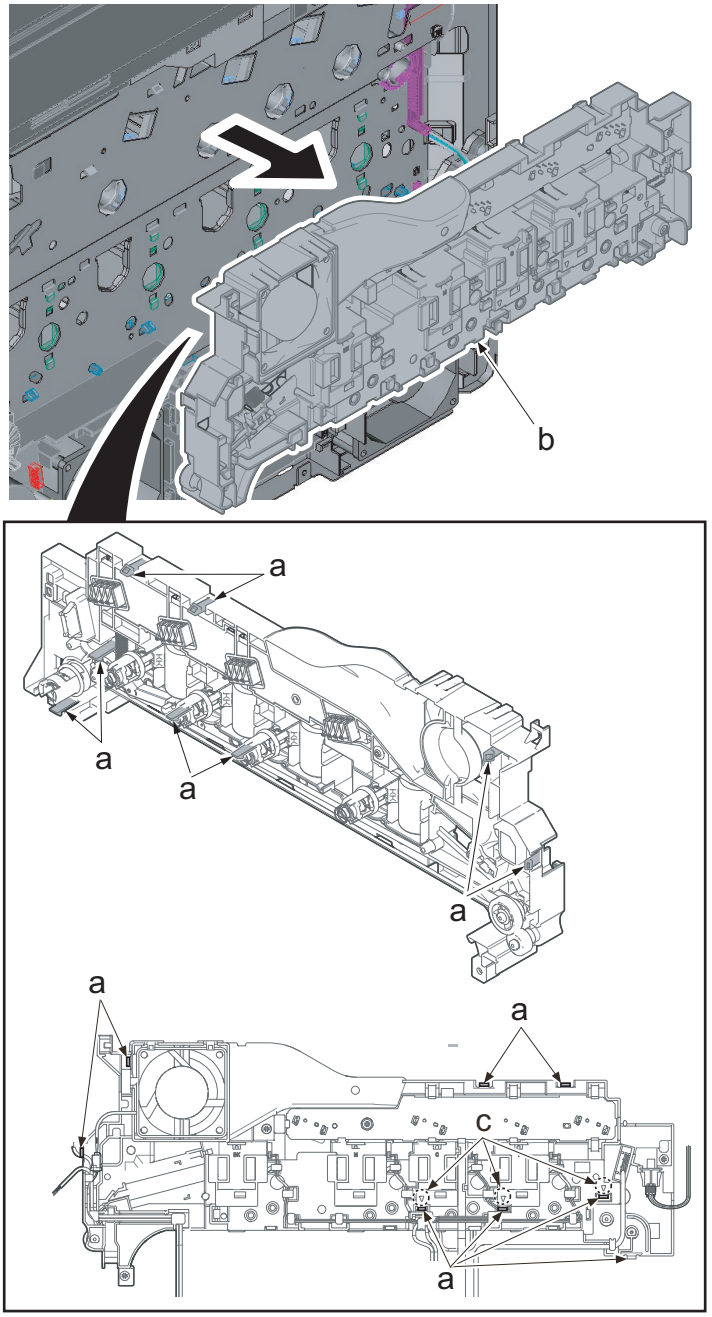


Figure 4-355

(8-5) Detaching and reattaching the toner motor

<Procedure>

1. Remove the tension spring (a).
   *: Take care not to lose the spring.

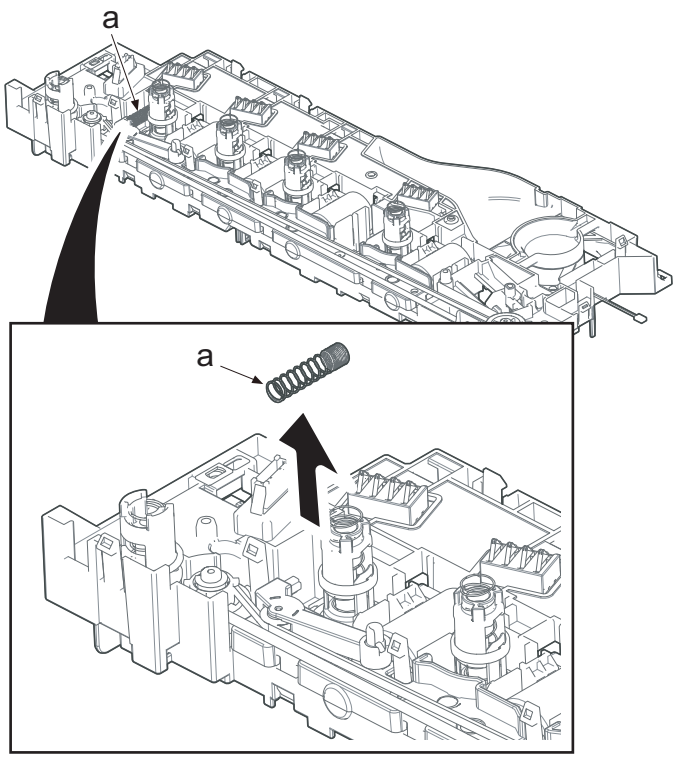


Figure 4-356

2. Release the tension arm (a) to loosen the tension..
3. Remove the belt (b).

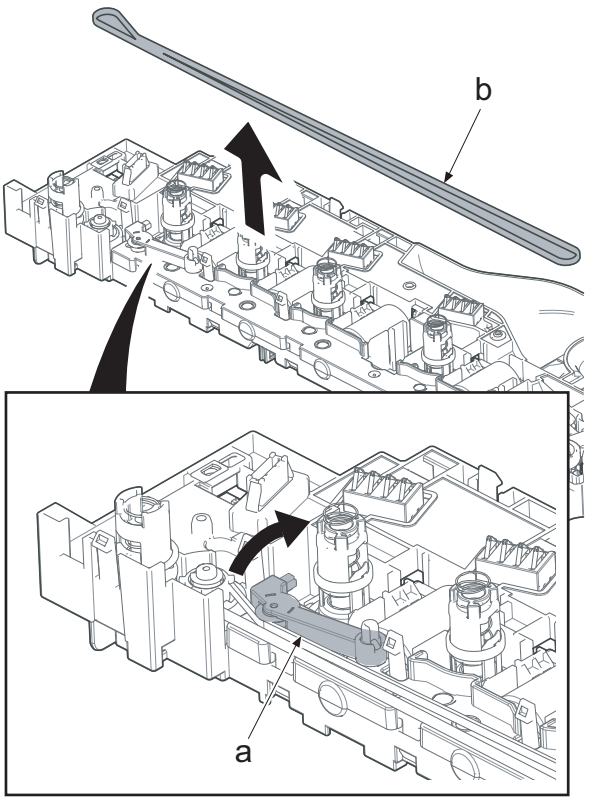


Figure 4-357

4. Release six hooks (a).
5. Remove the toner motor cover (b).

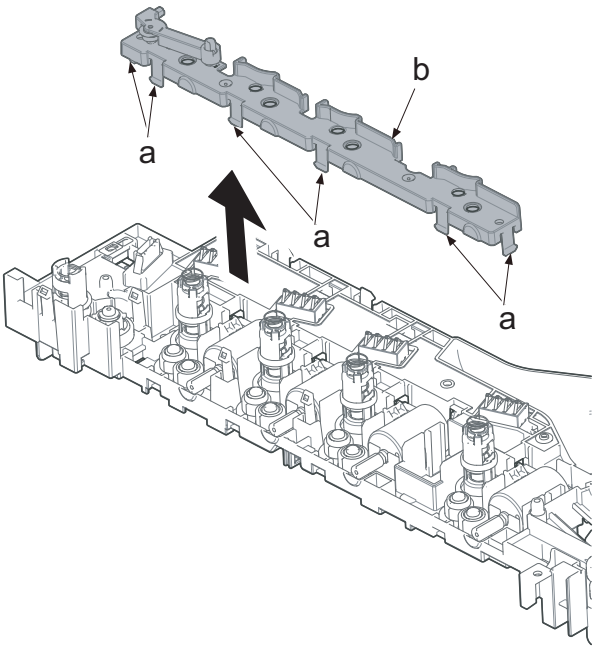


Figure 4-358

6. Disconnect the connector (a) of each toner motor.

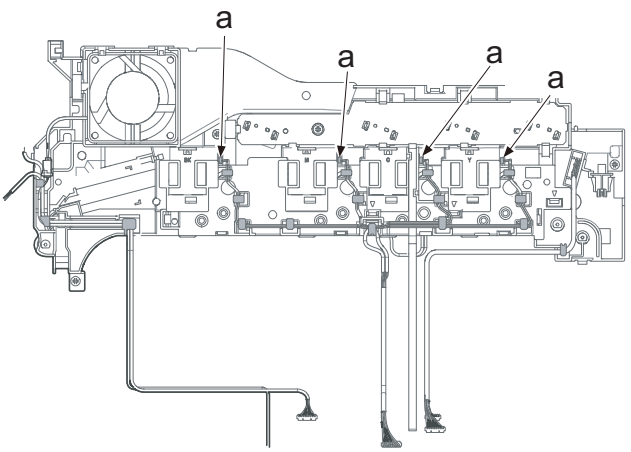


Figure 4-359

7. Release each set of two hooks (a).
8. Remove four toner motors (b).

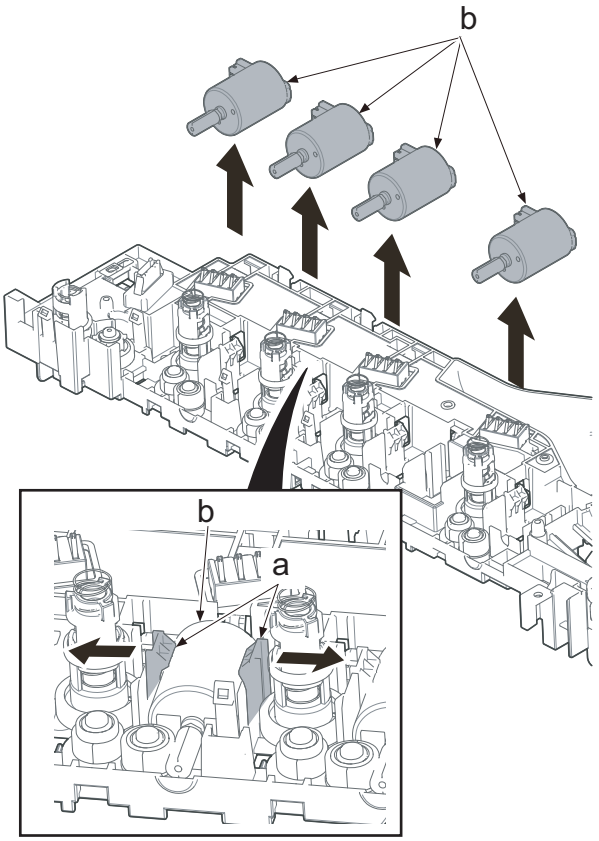


Figure 4-360

IMPORTANT
Apply one drop of grease (d)(EM-50LP) on the gear surface when attaching the new motor. Insert the boss (c) to the positioning hole (b) of the toner motor (a) and reattach it.

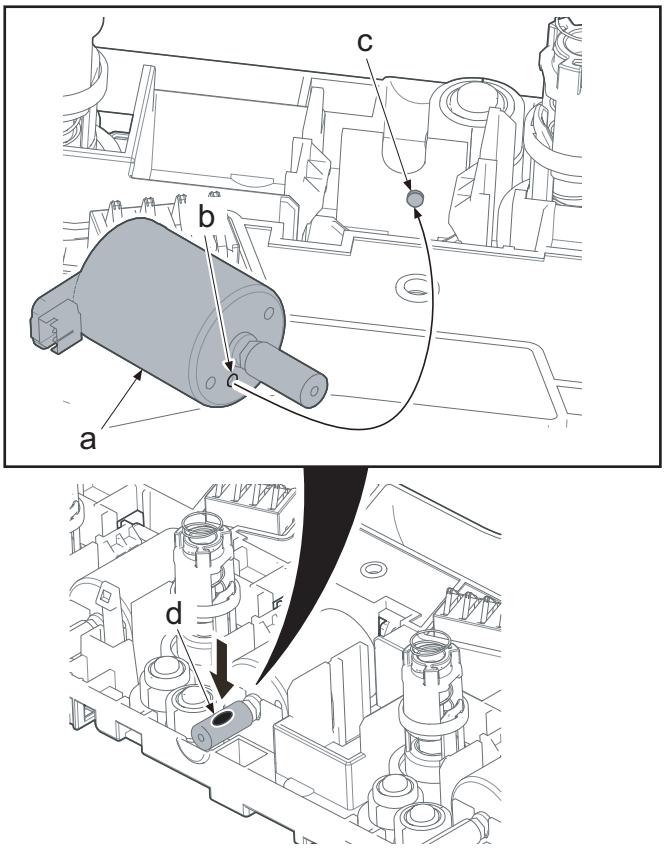


Figure 4-361

IMPORTANT

Reattach the drive cam (b) if coming off when reattaching the toner motor unit (a).

Check if the drive cam (b) gear is meshed with the lock lever (c) gear when reattaching the toner motor unit (a).

*: Drive can not be released without the drive cam.

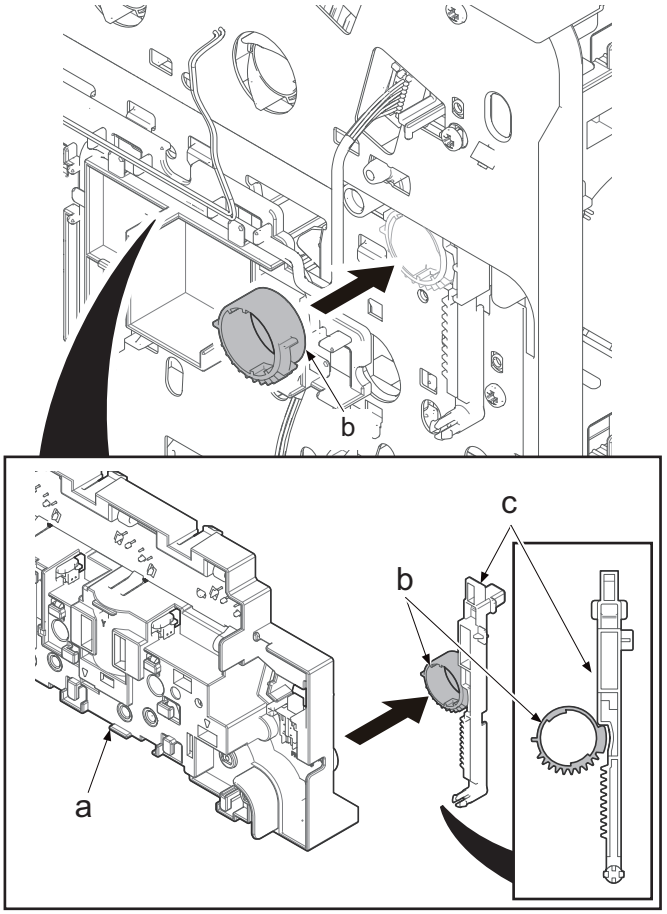


Figure 4-362

(8-6) Detaching and reattaching the lift motor

<Procedure>

1. Open the rear cover (a).

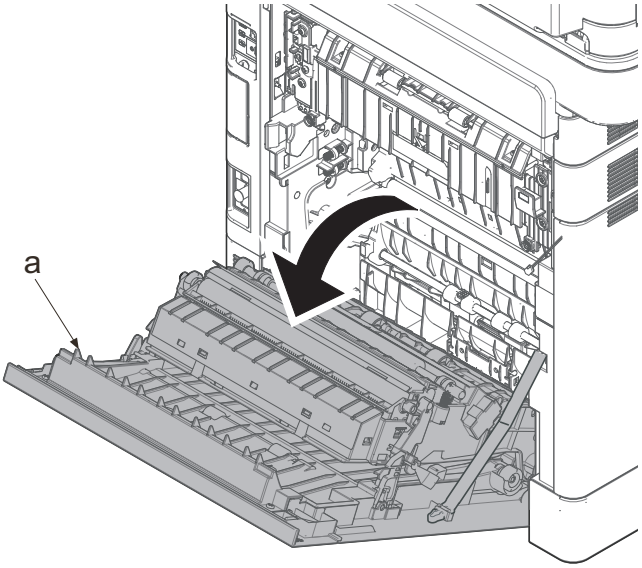


Figure 4-363

2. Remove the screw (a) (M3x8).
3. Slide the upper left cover (b) toward the machine rear side and detach it.

IMPORTANT

When reattaching the upper left cover (b), insert the hook (c) to the machine front side, and then fasten seven hooks (d) by sliding it toward the machine front side.

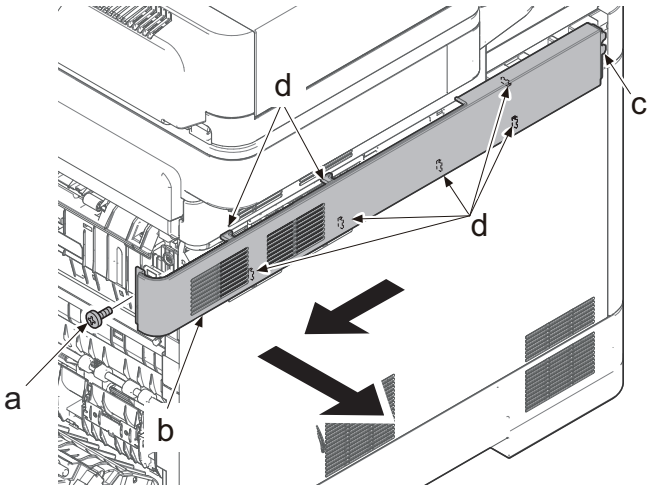


Figure 4-364

4. Lift up the machine rear side of the middle left cover (a) to release three hooks (b).
5. Slide the middle left cover (a) toward the machine rear side to release two hooks (c).
6. Detach the middle left cover (a).

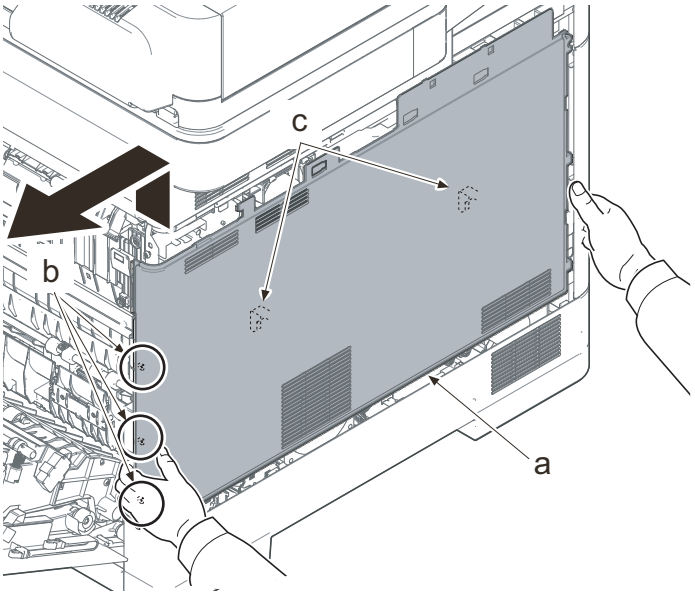


Figure 4-365

IMPORTANT

When reattaching the middle left cover (a), insert the lower rib into the lower left cover (b). And, slide it toward the machine front side to fasten three hooks (c) and four hooks (d), then lower the machine rear side of it to fasten three hooks (e) at the machine rear side.

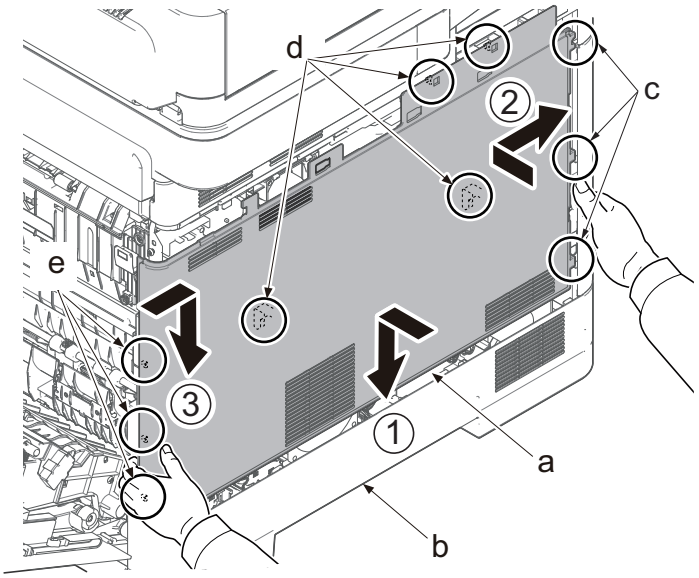


Figure 4-366

7. Remove the screw (a) (M3x8).
8. Pull the rib (b) toward you and release the center hook (c).
9. Detach the lower left cover (d).

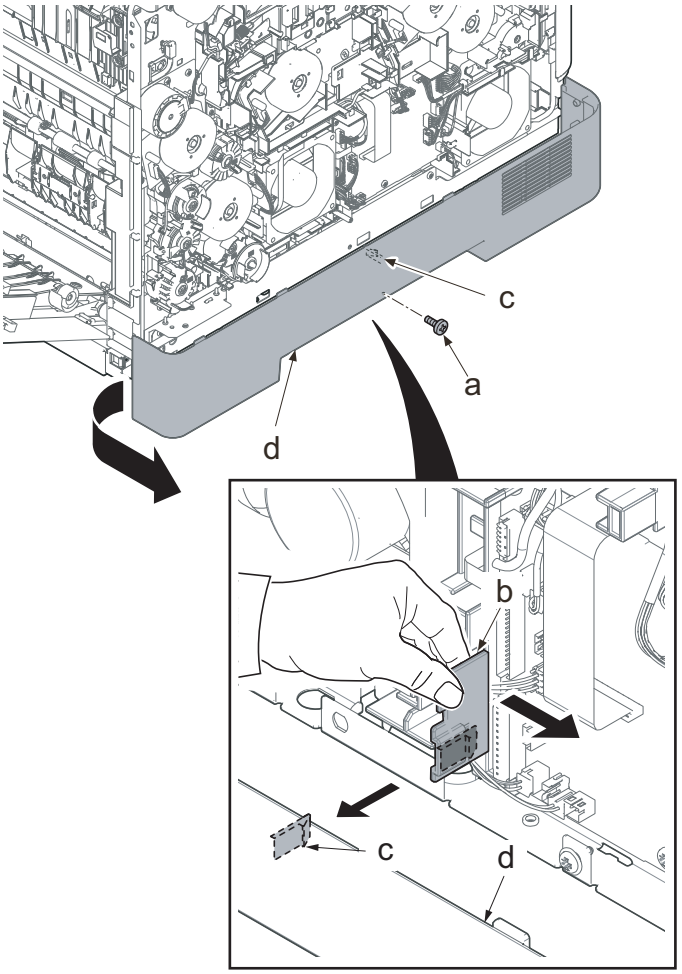


Figure 4-367

IMPORTANT
When attaching the lower left cover (a), insert two bosses (b) at the machine front side into the holes and apply the center hook (c). Then, push it toward the machine rear side.

Check if the hook (c) at the center is surely fastened.

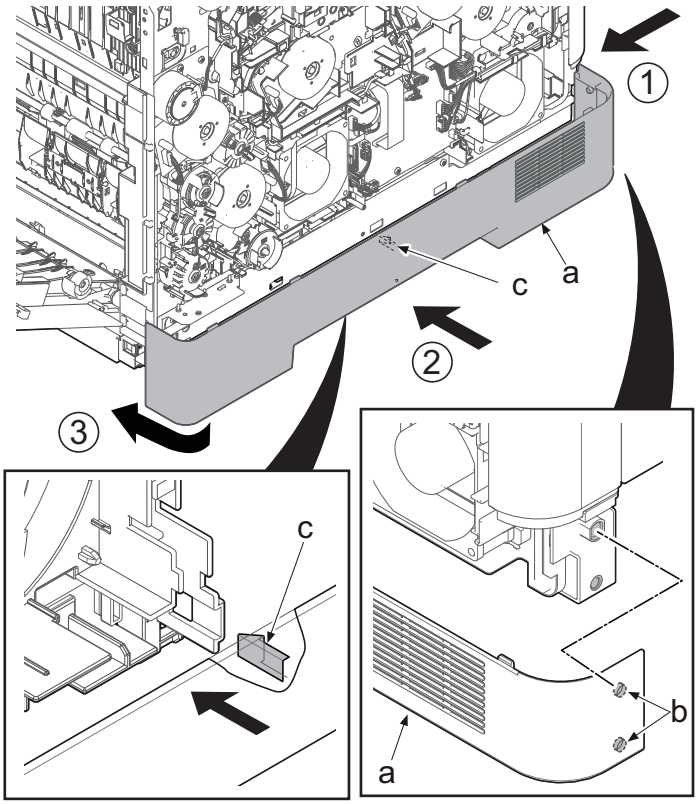


Figure 4-368

10. Disconnect all the connectors and FFCs from the engine relay PWB (a). (23 connectors)

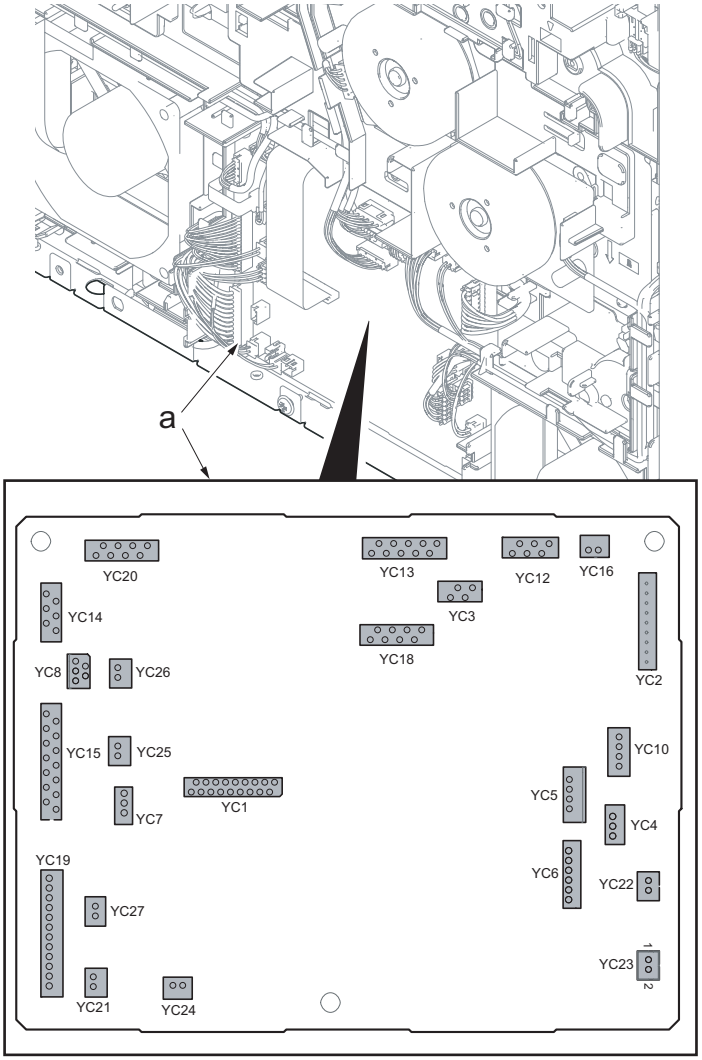


Figure 4-369

11. Remove three screws (a) (M3x8).
12. Detach the engine relay PWB (b).

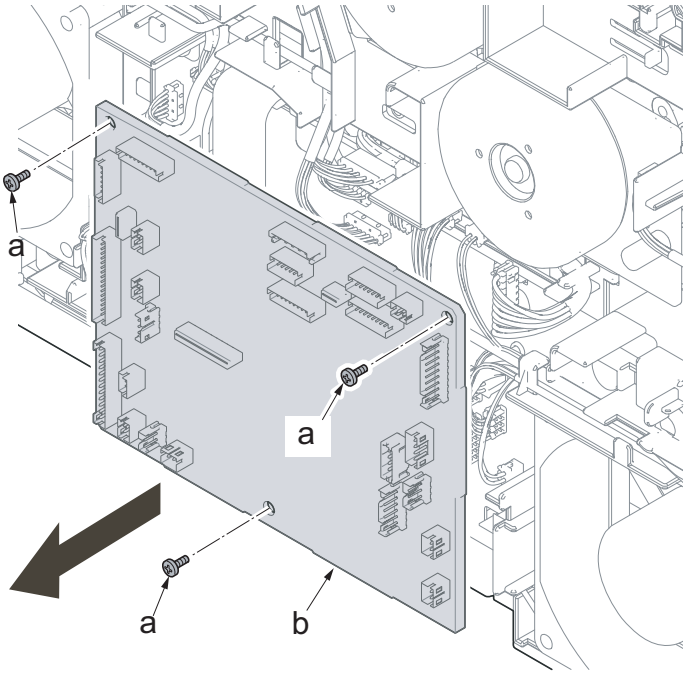


Figure 4-370

13. Disconnect the connector (b) of the lift motor (a).
14. Release the wire from seven hooks (c).

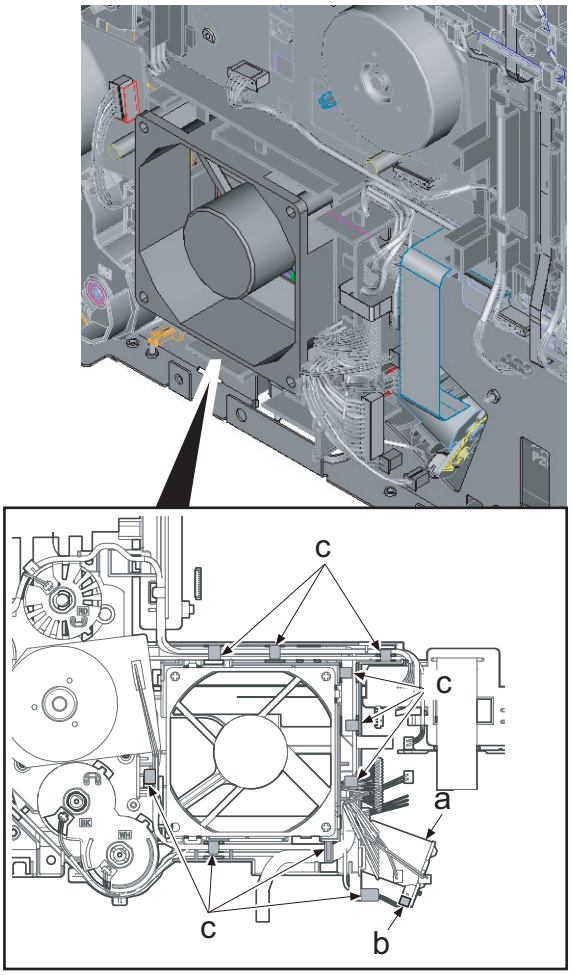


Figure 4-371

15. Release four hooks (a).
16. Remove the rear left duct (b).

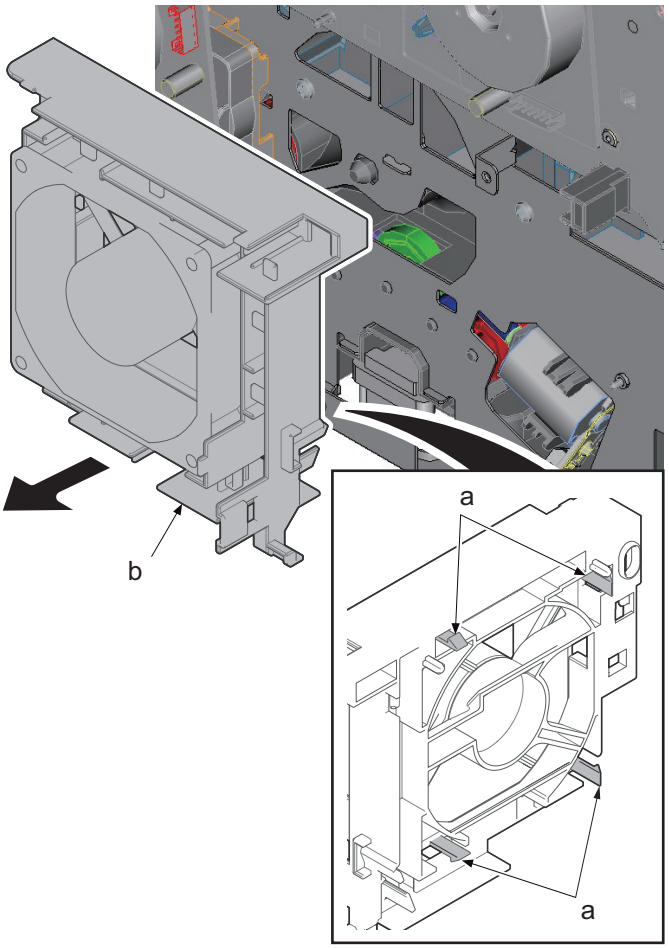


Figure 4-372

17. Release two hooks (a).
18. Remove the lift motor (b).
19. Check the paper feed drive unit and clean or replace it if necessary.
20. Reattach the parts once removed.

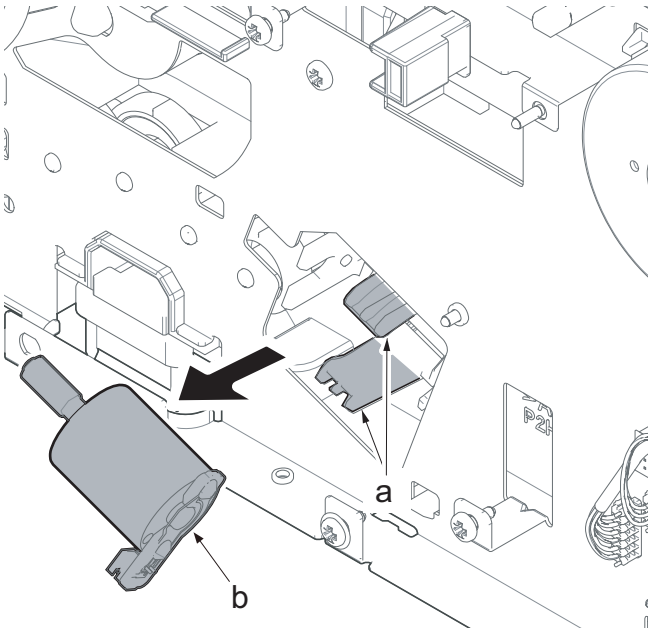


Figure 4-373

IMPORTANT
Apply one drop of grease (EM-50LP) on the gear surface when attaching the new motor (a).

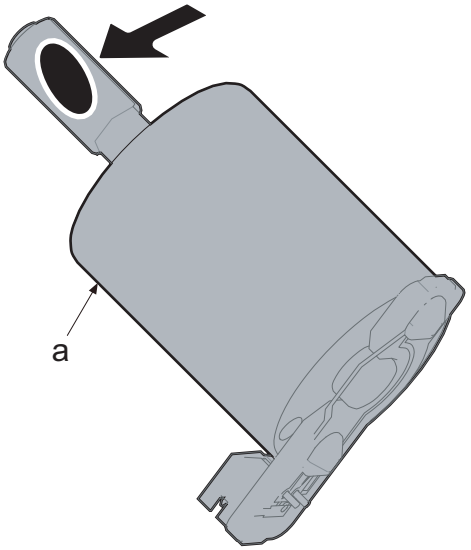


Figure 4-374

Insert the boss (c) to the positioning hole (b) of the lift motor (a) and reattach it.

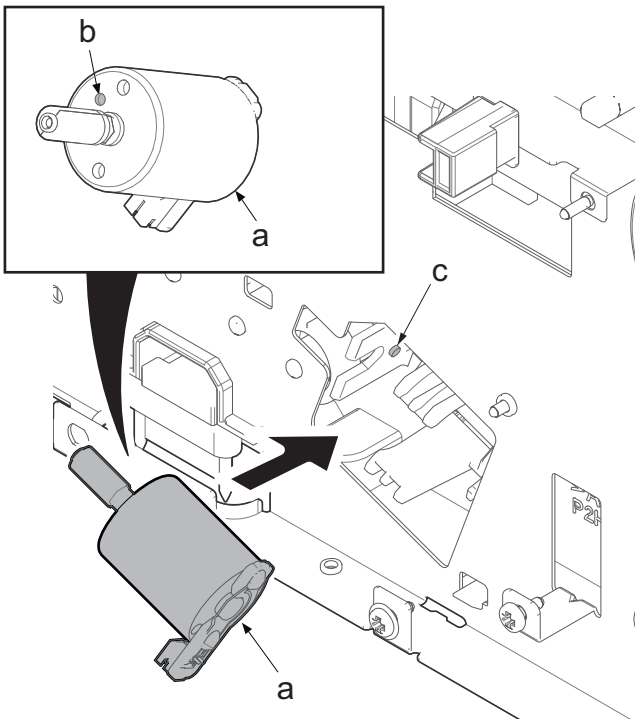


Figure 4-375

Attach the lift motor (a) after confirming it is not run over the rib (b).

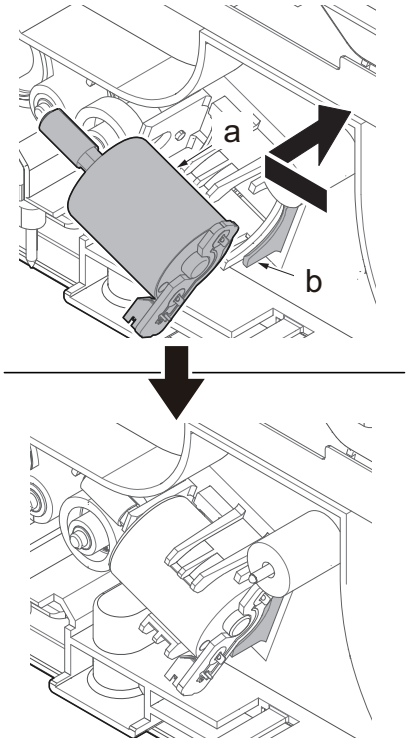


Figure 4-376

(9) Operation section

(9-1) Detaching and reattaching the language sheet

30 ppm model

<Procedure>

1. Slide the left and right panel plates (a) and remove them.

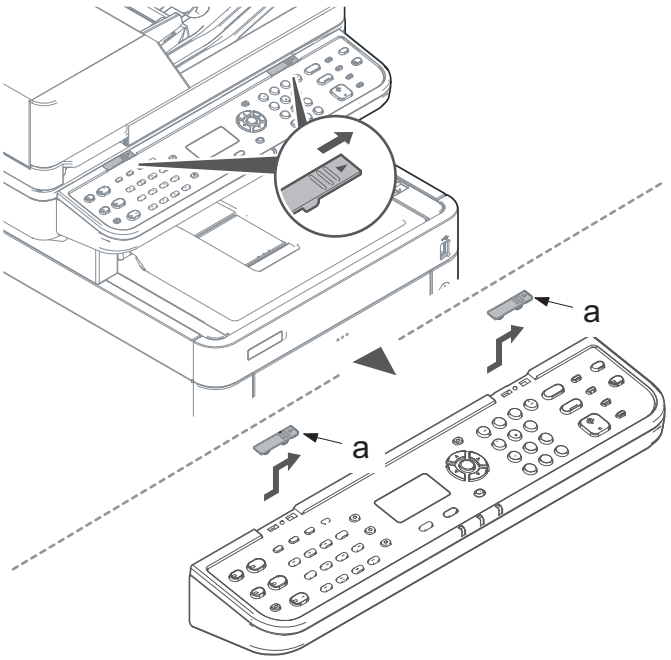


Figure 4-377

2. Remove the left and right operation panel covers (a).
3. Replace the left and right operation panel sheets (b) with the ones in the supported language.
4. Reattach the parts once removed.

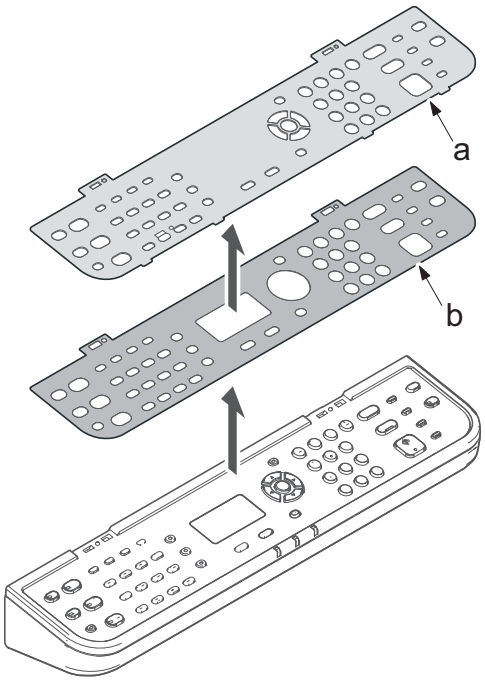


Figure 4-378

35 ppm model
<Procedure>

1. Slide the left and right panel plates (a) and remove them.

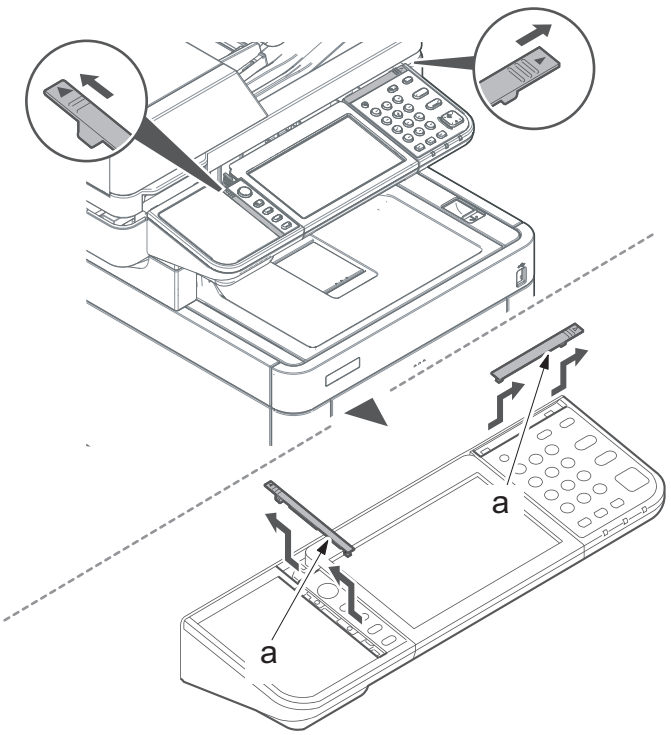


Figure 4-379

2. Remove the left and right operation panel covers (a).
3. Replace the left and right operation panel sheets (b) with the ones in the supported language.
4. Reattach the parts once removed.

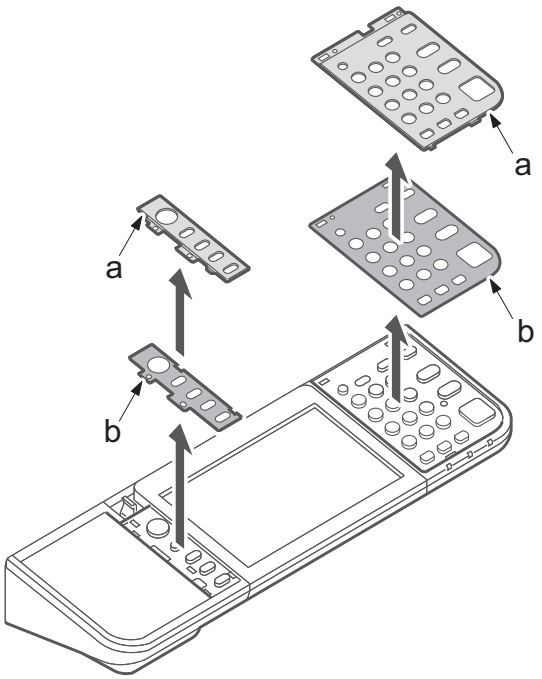


Figure 4-380

(10)Fan motor

(10-1) Attaching direction

IMPORTANT

When reattaching the fan motor, be aware of the attachment direction (in-take/exhaust).

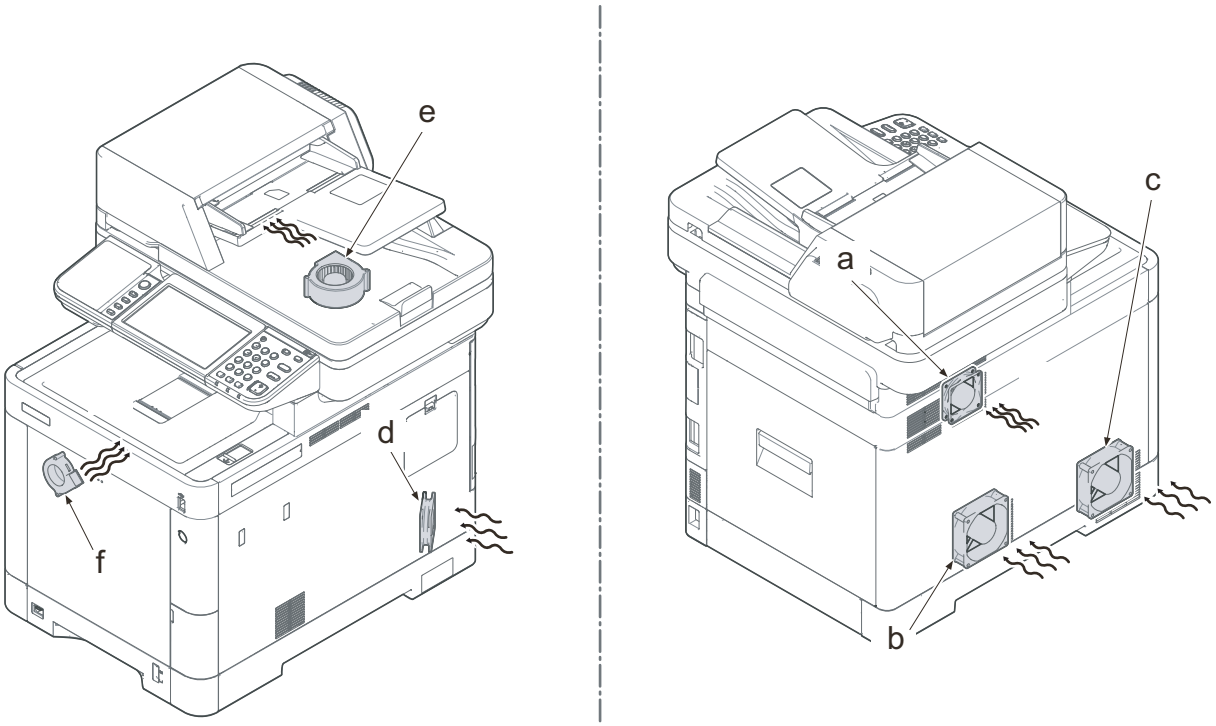


Figure 4-381

a. Container fan motor : (Rating label:inside) in-take
b. LSU fan motor1 : (Rating label:inside) in-take
c. LSU fan motor2 : (Rating label:inside) in-take
d. Power source fan motor : (Rating label:inside) in-take
e. Eject fan motor : (Rating label:lower) in-take
f. Transfer fan motor : (Rating label:inside) in-take

4-7 Disassembly & reassembly procedures for the paper feeder (option)

(1) Detaching and reattaching the retard roller unit and feed roller unit

(1-1) Detaching and reattaching the retard roller unit

<Procedure>

1. Open the PF rear cover (a).

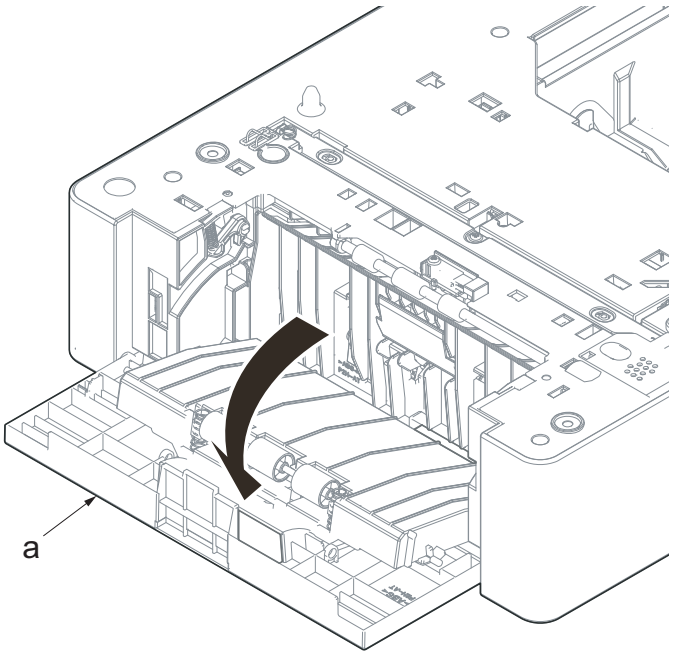


Figure 4-382

2. Release the hook (a) using a flat-blade screwdriver (d).
3. Remove the retard guide (c).

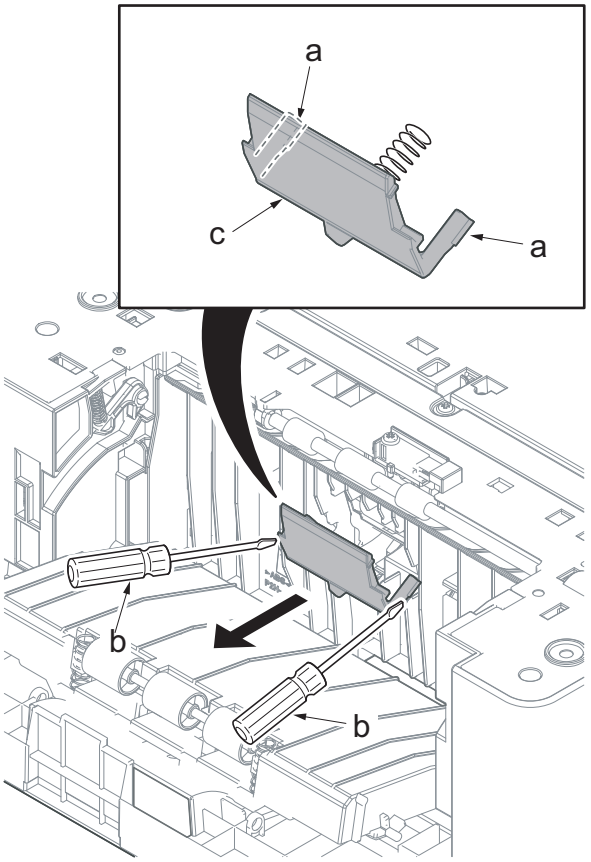


Figure 4-383

4. Remove the retard roller unit (a).
5. Check the retard roller unit and clean or replace it if necessary.
6. Reattach the parts once removed.

IMPORTANT
Install the cassette first when attaching the retard roller unit. The retard pressure release lever must be located at the machine front side from the retard roller unit to apply appropriate pressure.

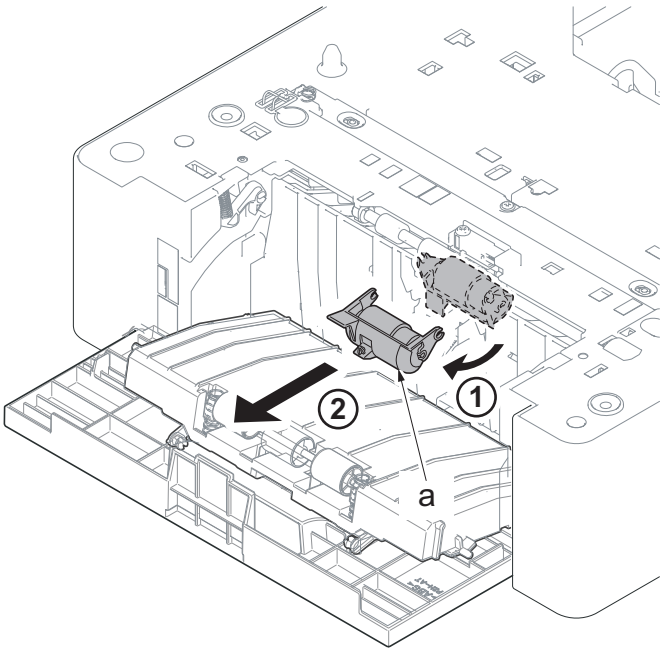


Figure 4-384

(2) Detaching and reattaching the paper feed roller unit

<Procedure>

1. Remove the cassette (a) from the paper feeder (b).

2. Remove the retard roller unit (d).

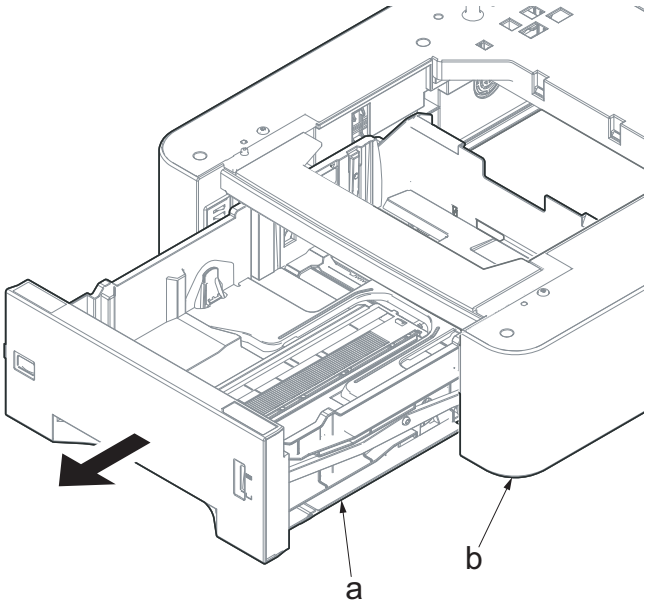


Figure 4-385

3. Place the paper feeder (a) while turning it over.

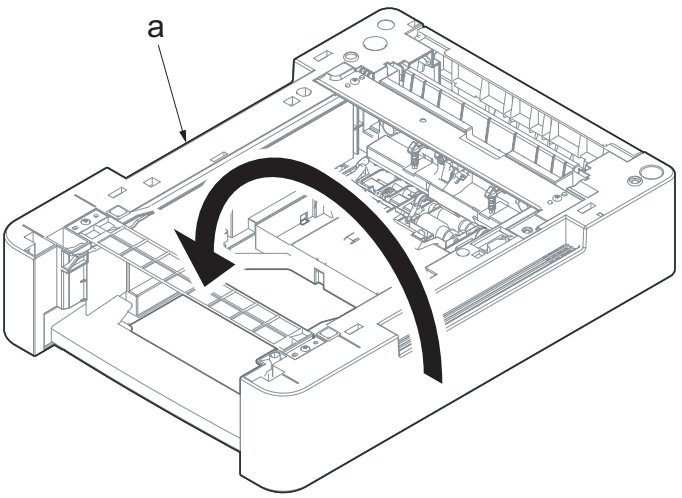


Figure 4-386

4. Push the lock lever (a).
5. Slide the feed roller pin (b) straight and release the lock.

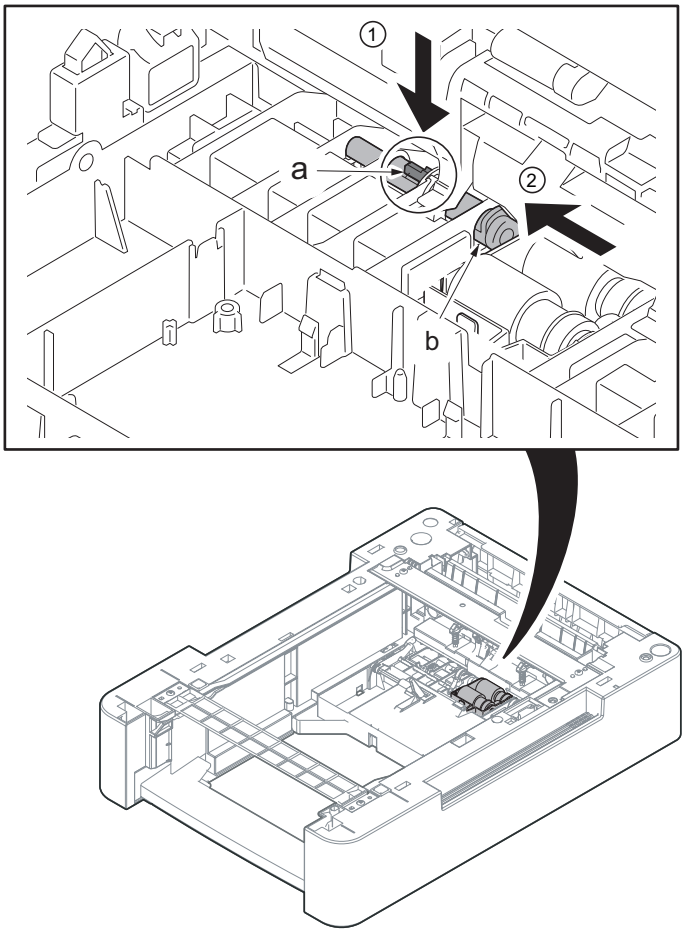


Figure 4-387

6. Push the lock lever (a).
7. Detach the paper feed roller unit (b).
8. Check the paper feed roller or pick up roller and clean or replace it if necessary.
9. Reattach the parts once removed.

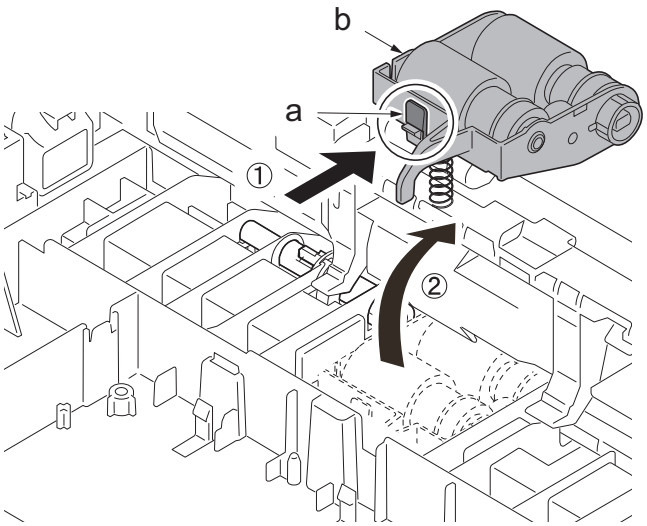


Figure 4-388

(3) Detaching and reattaching the PF main PWB

<Procedure>

1. Remove the cassette (a) from the paper feeder (b).

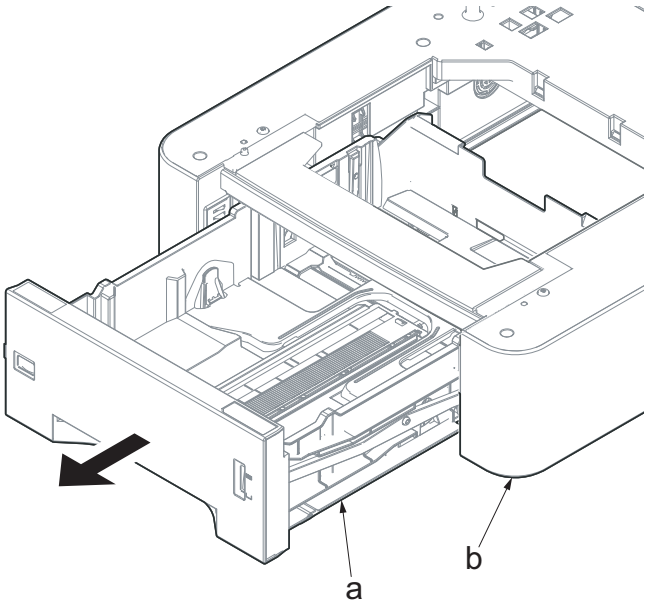


Figure 4-389

2. Place the paper feeder (a) while turning it over.

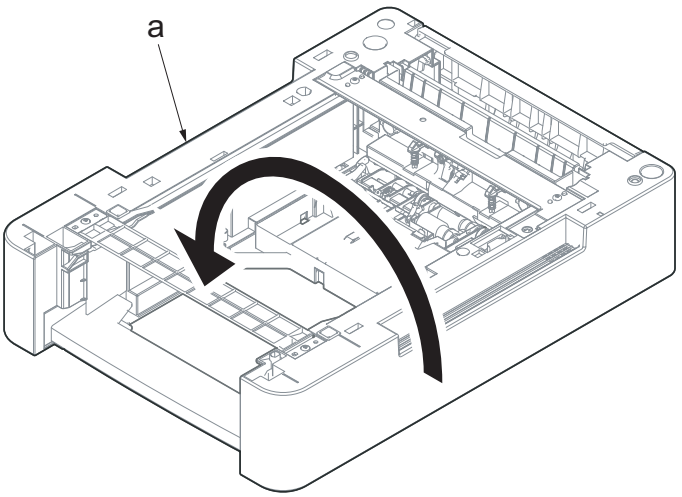


Figure 4-390

3. Release two hooks (b) of the PWB cover (a) using a flat-blade screwdriver (c).

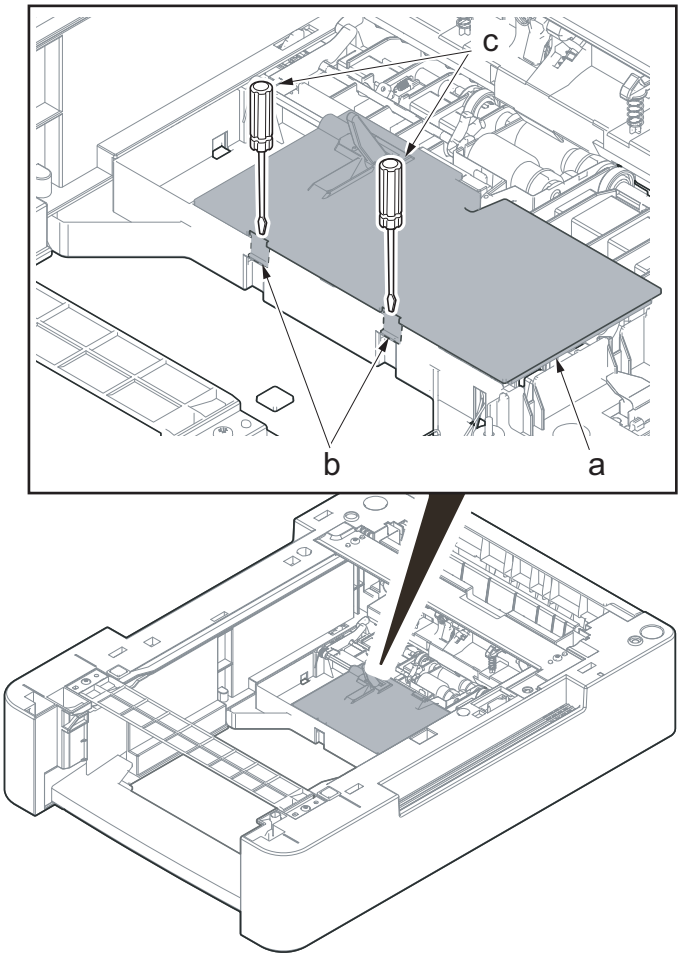


Figure 4-391

4. Detach the PWB cover (a).

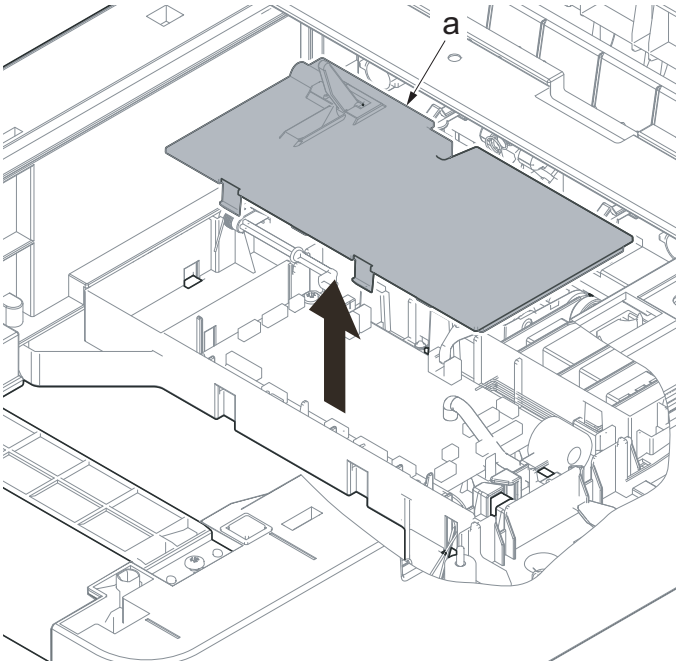


Figure 4-392

5. Remove the actuator (a) and spring (b).

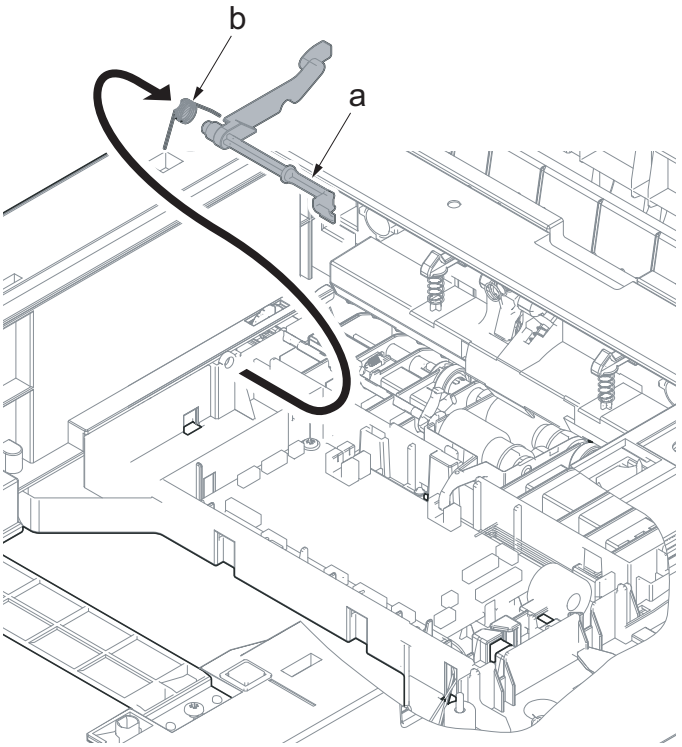
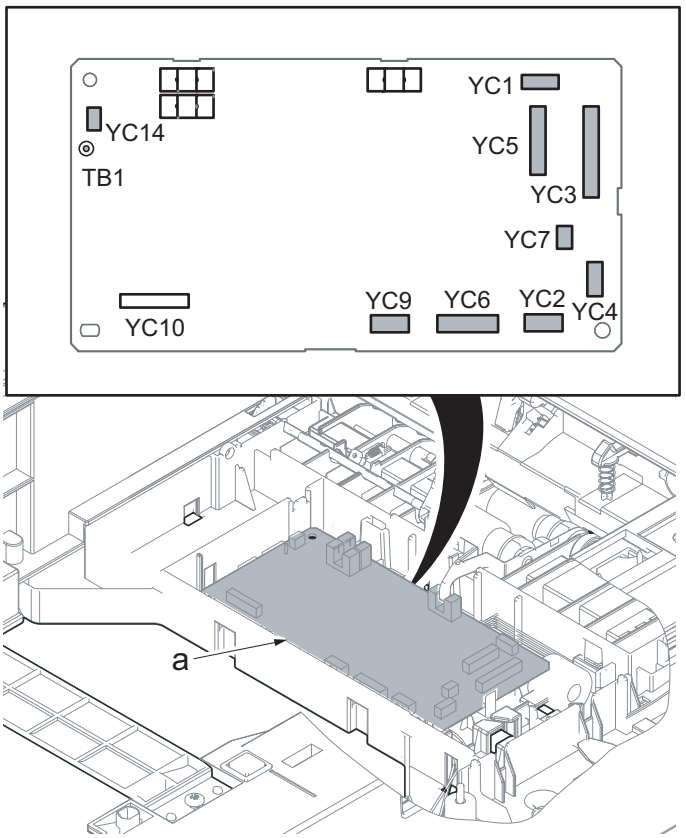


Figure 4-393

6. Disconnect all the connectors from the PF main PWB (a). (10 connectors)
*: YC10 connector is not used.



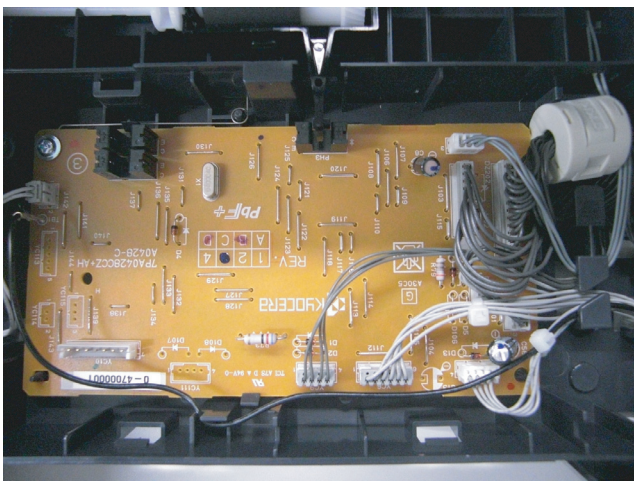


Figure 4-394

7. Push the lock lever (a).
8. Lift up the feed roller unit (b) to releasse the lock.

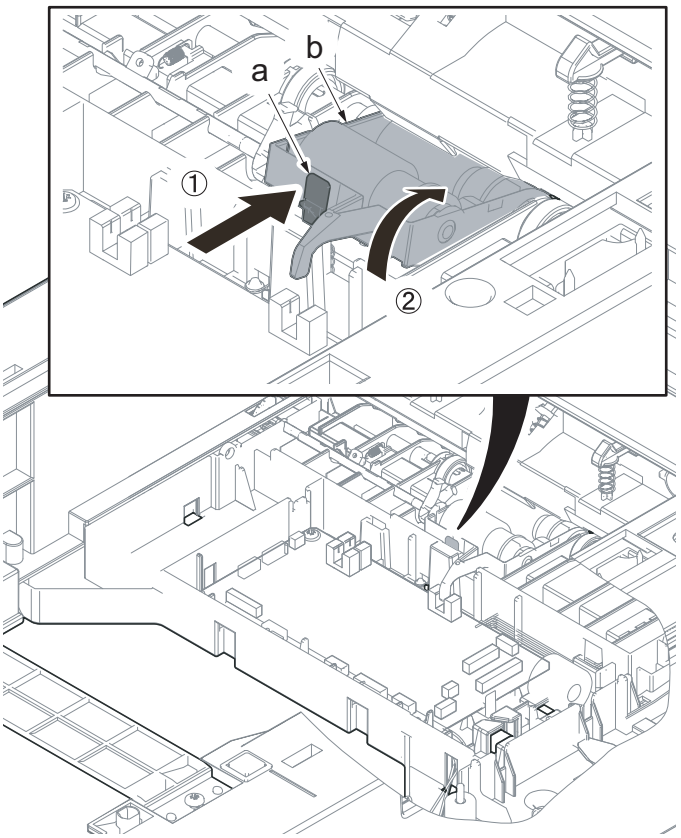


Figure 4-395

9. Remove the screw (a) (M3x8).

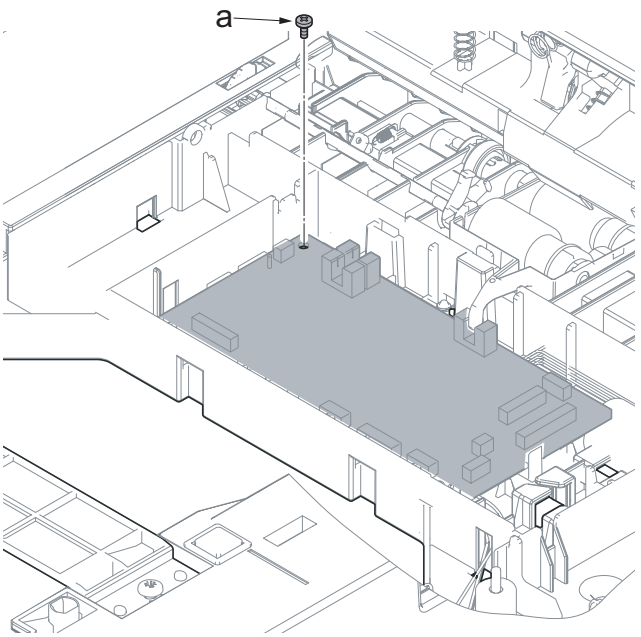


Figure 4-396

10. Remove four hooks (a) and then remove the PF main PWB (b).
11. Check the PF main PWB and clean or replace it if necessary.
12. Reattach the parts once removed.

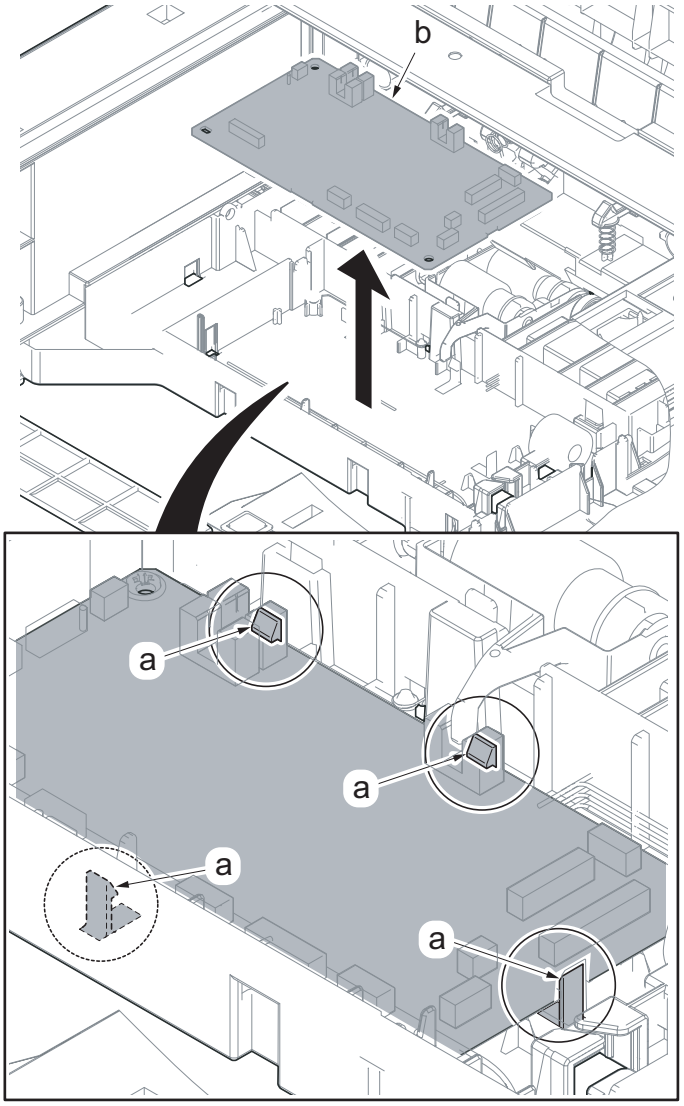


Figure 4-397

(4) Detaching and reattaching the PF drive unit

<Procedure>

1. Remove the cassette (a) from the paper feeder (b).

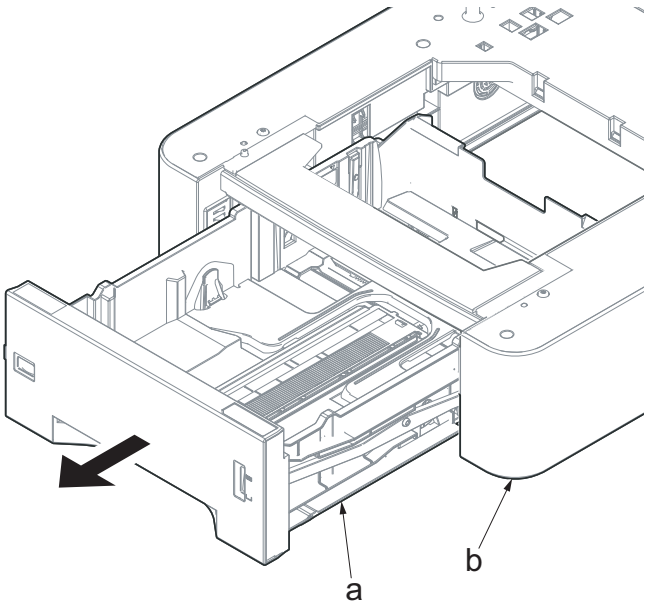


Figure 4-398

2. Remove eight screws (a)(M3x10)

IMPORTANT

Secure the screws in the order of the numbers.

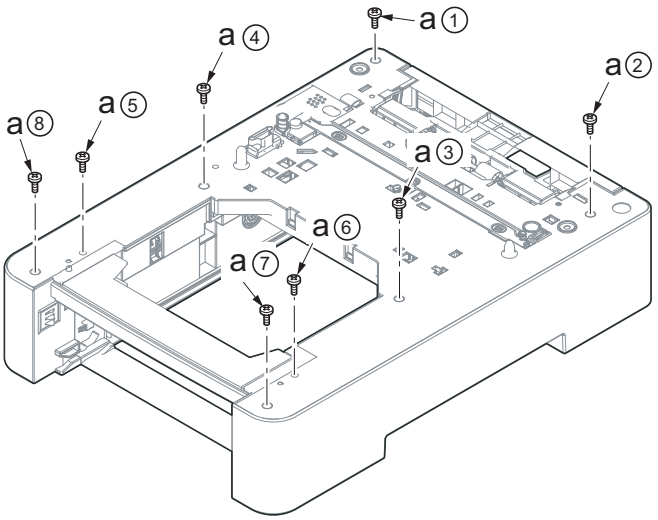


Figure 4-399

3. Place the paper feeder (a) while turning it over.

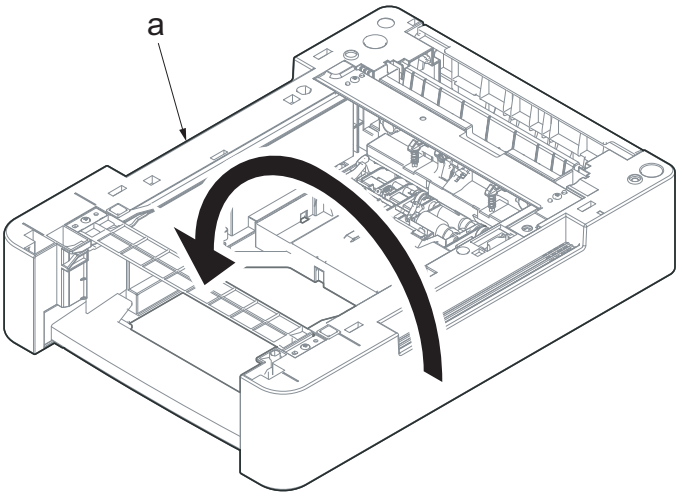


Figure 4-400

4. Release two hooks (b) of the PWB cover (a) using a flat-blade screwdriver (c).

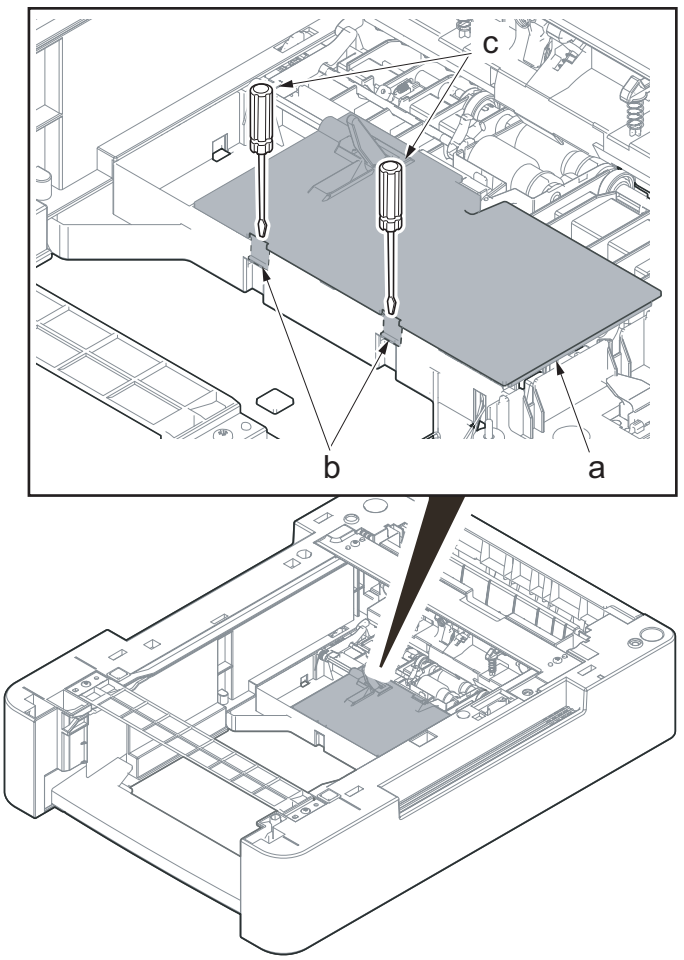


Figure 4-401

5. Detach the PWB cover (a).

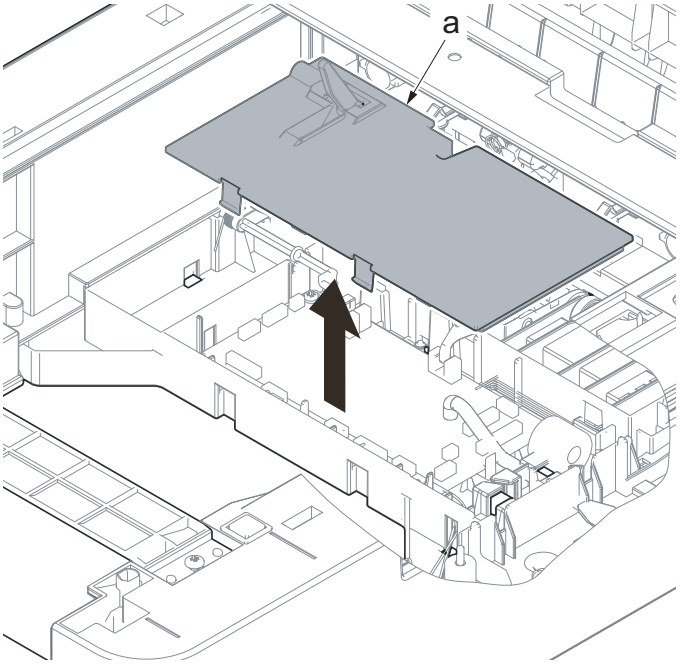


Figure 4-402

6. Remove the actuator (a) and spring (b).

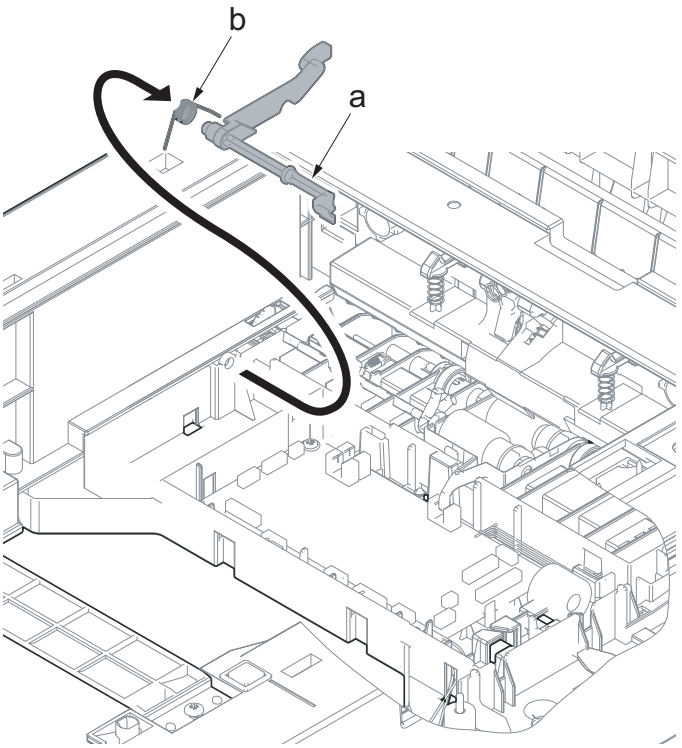


Figure 4-403

7. Disconnect nine connectors (b) from the PF main PWB (a).
   YC1 to YC7, YC9, TB1

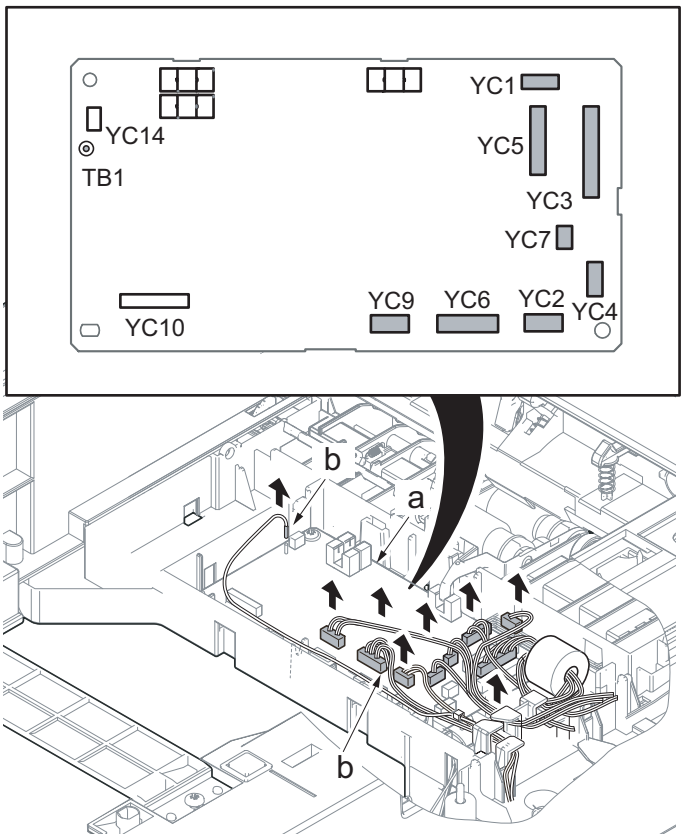


Figure 4-404

8. Remove the wire (a) from the hook (b).

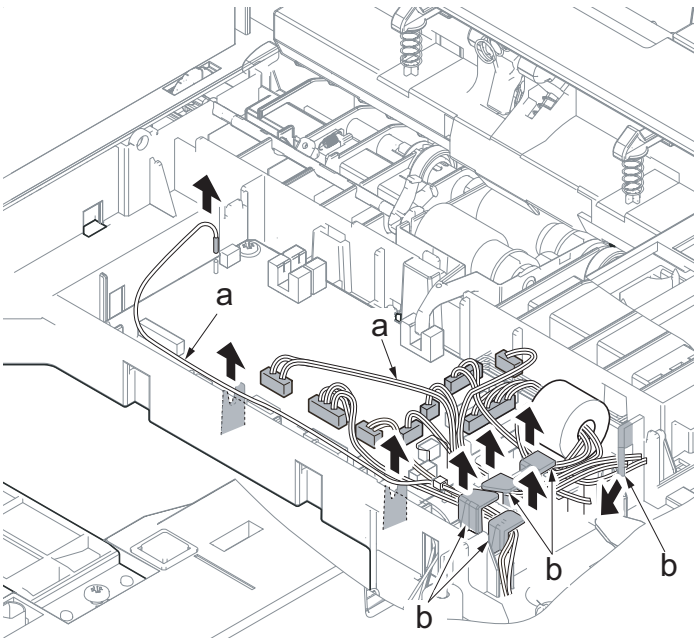


Figure 4-405

9. Place the paper feeder while turning it over. Release the hook (a) using a flat-blade screwdriver (b).

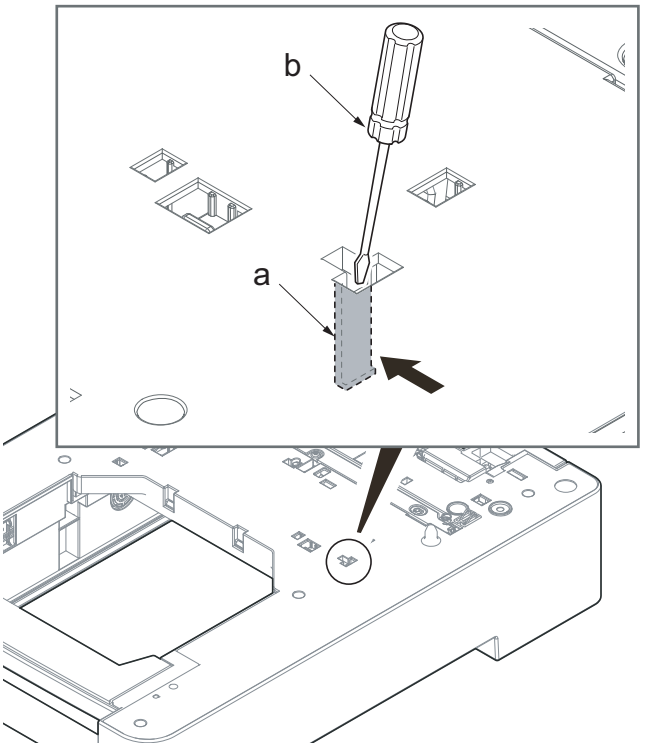


Figure 4-406

10. Place the paper feeder while turning it over. Release the hook (a) using a flat-blade screwdriver (b).

    *: Release it while widening the cover with a flat-blad screwdriver.

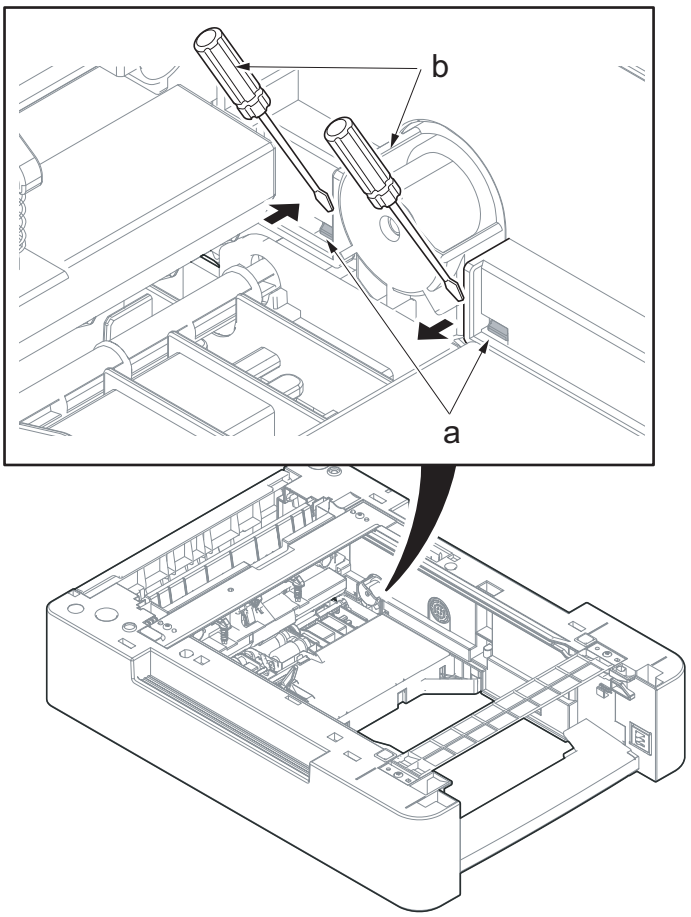


Figure 4-407

11. Lift up the paper feeder (b) and remove the upper cover (a).

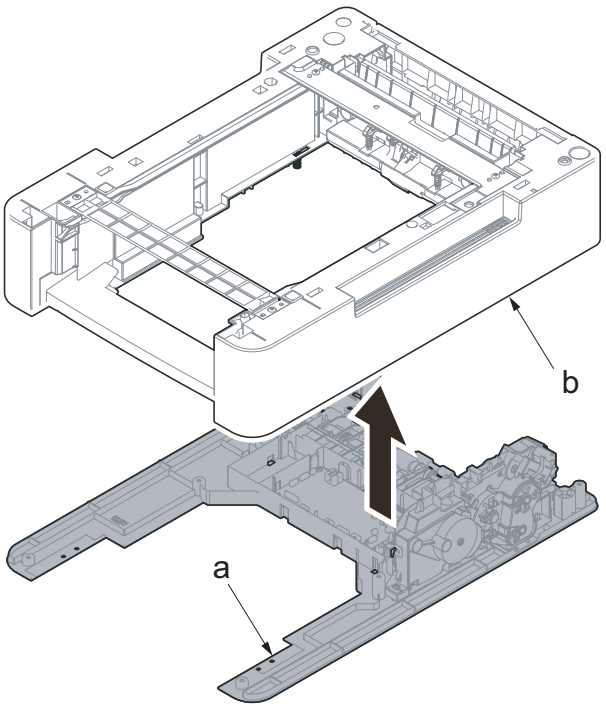


Figure 4-408

12. Push the lock lever (a).
13. Slide the feed roller pin (b) straight and release the lock.

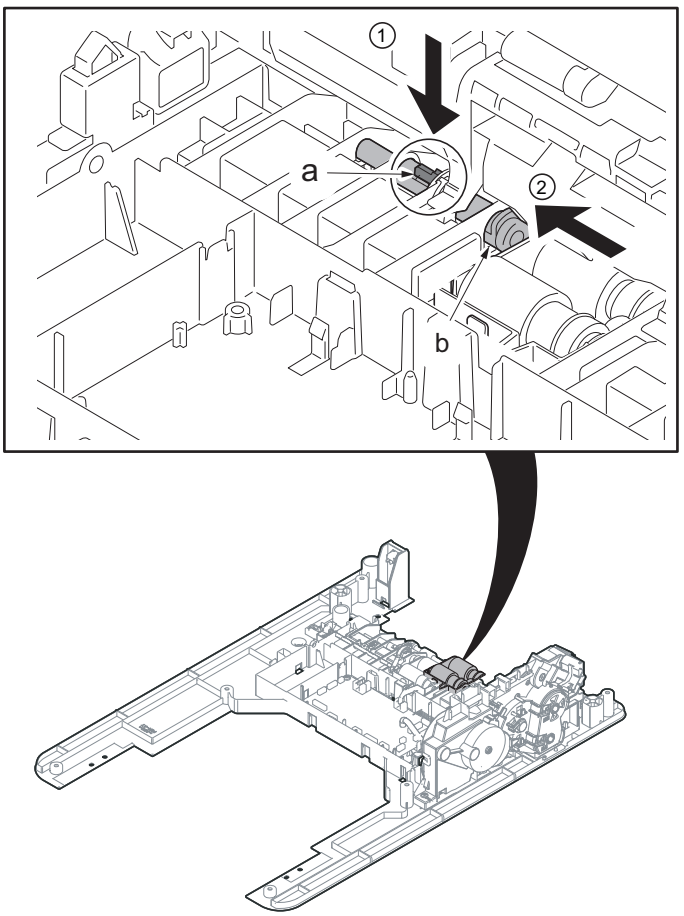


Figure 4-409

14. Push the lock lever (a).
15. Detach the paper feed roller unit (b).

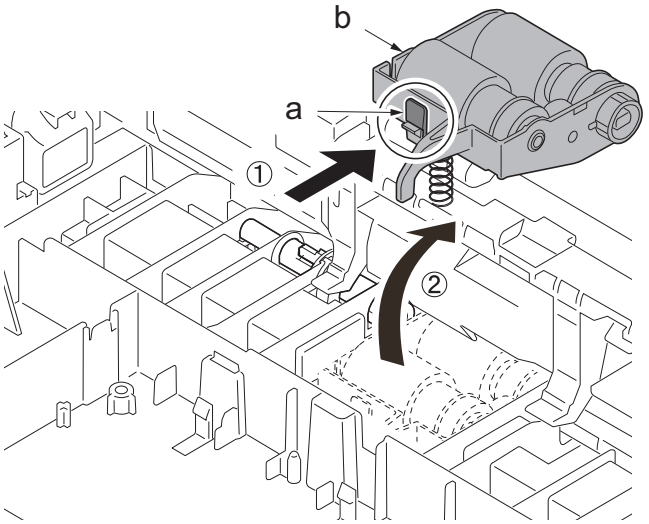


Figure 4-410

16. Slide the feed roller drive pin (a) and release it from the drive joint (b).

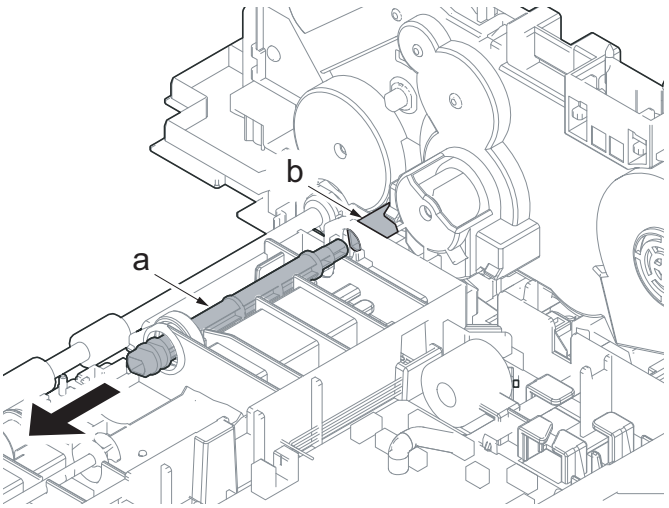


Figure 4-411

17. Remove two screws (a) (M3x8).

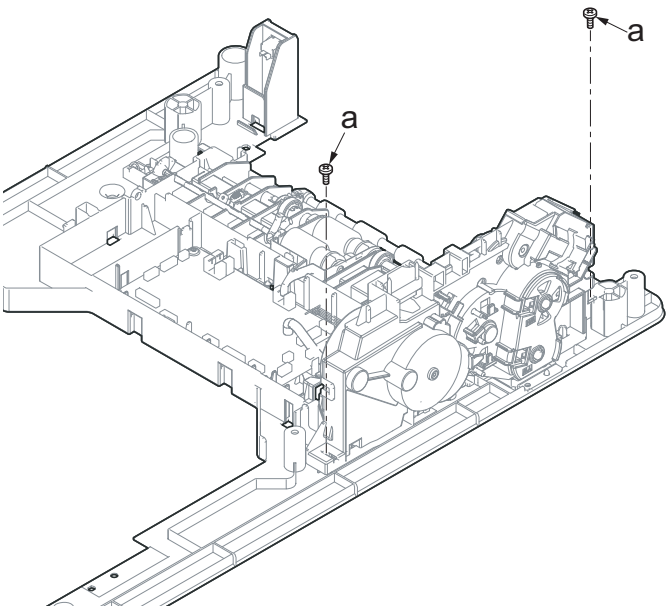


Figure 4-412

18. Release the hook (a) with a flat-blade screwdriver (b) and remove the PF drive unit (c).
19. Check the PF drive unit and clean or replace it if necessary.
20. Reattach the parts once removed.

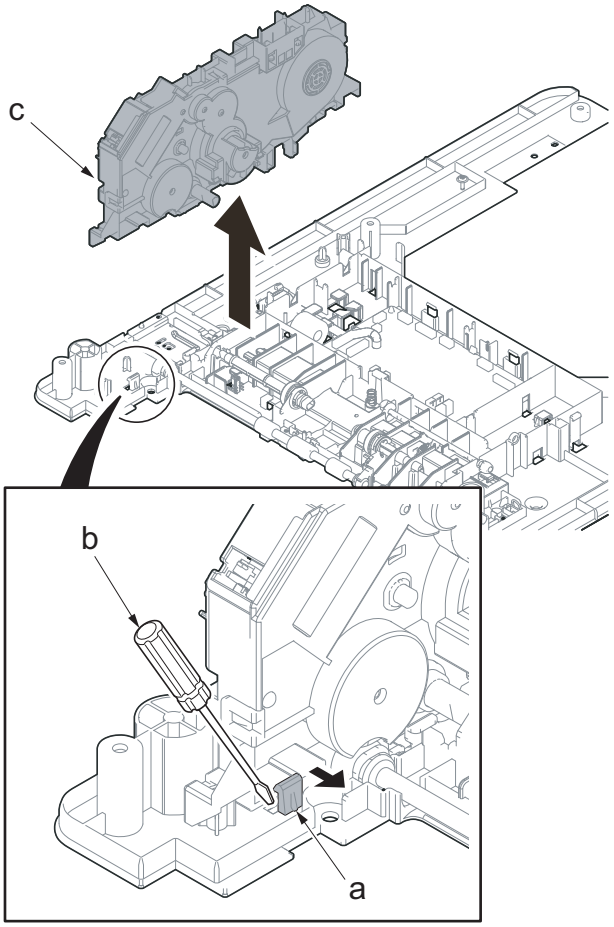


Figure 4-413

IMPORTANT
Before attaching the top cover (a), confirm the ground spring (b) is inserted in the hole on the main unit.
Attach the spring with its projection facing down.

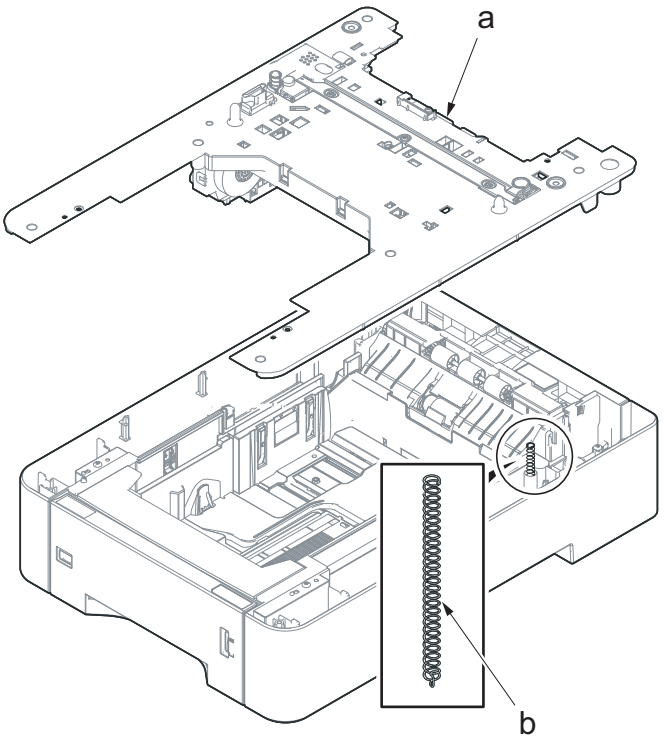


Figure 4-414

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5 Firmware
5-1 Firmware update (30ppm model)

Perform the following to update the firmware below.

Target firmware name	Master file name	Message
Optional language data for the controller	DL_OPT.2NW	OPT
Controller firmware for 3in1 model	DL_CTRL.2NV	CTRL
Controller firmware for 4in1 model	DL_CTRL.2NW	
First color table data	DL_PCLT1.2NW	CLT1
Second color table data	DL_PCLT2.2NW	CLT2
FAX firmware*1	DL_FAX.2NM	Fax
Firmware for the first PF (paper feeder)	DL_03PK.2PC	PF1
Firmware for the second PF (paper feeder)		PF2
Firmware for the third PF (paper feeder)		PF3
Engine firmware	DL_ENGN.2PC	ENGN
Panel data	DL_PANL.2NW	PANL

*1: For 4in1 model only

Preparations

Unzip the file containing the downloaded firmware and then copy the firmware and high-speed master file (skip files: ES_SKIP.ON) in the root folder of the USB memory.

*: If the high-speed master file exists, the same version firmware update is skipped.

Procedures

1. Turn the power switch on.After turning the power switch on, the screen is properly displayed and then turn the power switch off.
2. Insert the USB memory with the firmware into the USB memory slot.
3. Turn the power switch on.
4. "FW-Update" is displayed and the firmware update starts.

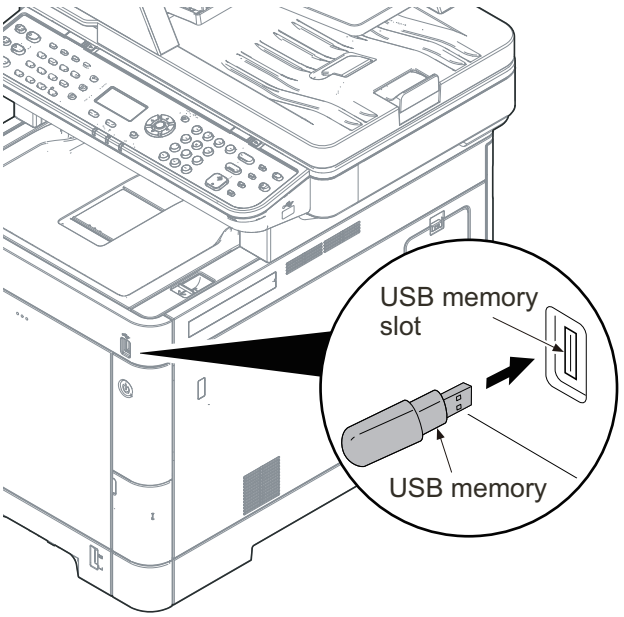


Figure 5-1

5. During the firmware upgrade, the progress indicator shows the firmware names and the progress.

Display sample

First line: Displays "FW-Update".
Second line: Progress indicator of the firmware update.

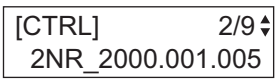
6. After the firmware update is successful, the first page displays the completion message and the following pages display the target firmware and the updated version.

First page

First line: Displays "FW-Update", (page number/total number of pages), the up and down key icon.
Second line: Displays "Completed". (Completion message)

Second page and later

First line: Displays "CTRL", (the target firmware), (page number/total number of pages), the up and down key icon.
Second line: Displays the target firmware and the updated version.



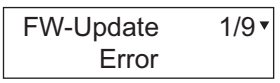
7. Check if the new firmware versions are displayed.
8. Unplug the power cord and disconnect the USB memory.
9. After plugging in the power cord, check if ”Ready” is displayed and then turn the power switch off.

Never turn the power switch off or disconnect the USB memory during the firmware update.

If any errors appear during the firmware update (such as the file can not be read), the process is cancelled immediately and the completion message is displayed.

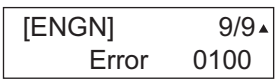
First page

First line: Displays "FW-Update", (page number/total number of pages), the up and down key icon.
Second line: Displays "Error".



Second page and later

First line: Displays "ENGN", (the target firmware), (page number/total number of pages), the up and down key icon.
Second line: Displays "Error", the error code



Error code

No.	Descriptions
0100	No Master file
0200	Version mismatch of the master file
03xx	No Download File (No.xx)
04xx	File (No.xx) Checksum mismatch
05xx	File (No.xx) Preparation failure
06xx	File (No.xx) Oversize
08xx	File (No.xx) Writing failure
0000	Others
N001	Network connection failed. (There is no upgrade target interrupted)
N002	Network connection failed. (There is an upgrade target interrupted)

Safe-Update

When the firmware update was interrupted by power shut-off or disconnecting the USB memory during the firmware update, the firmware update is retried at the next power-on.
Turn the main power on again while the USB memory is installed.
*: The firmware update that was already completed before power shut-down is skipped.

Emergency-Update

When the firmware update fails in Safe-Update, the following message or error code is displayed.

FW-Update
Error FFFF

Update the firmware after the machine is recovered in the following procedures.

Preparations

Format the USB memory in "FAT" or "FAT32" in advance.
Unzip the compressed file downloaded containing the firmware for the controller PWB.
Copy all the unzipped files in the root folder of the USB memory.
e.g.
Removable disk (E)
+- DL_CTRL.2NV*1
+- uImage.kmmfp
+- 2pc.dtb
+- rootdiskimage.bin
└- appdiskimage.bin

*1: 3 in 1 models
4 in 1 models: DL_CTRL.2NW

Rename the unzipped files.
Rename "DL_CTRL.2NV" "KM_EMRG.2NV": 3in1 models
Rename "DL_CTRL.2NW" "KM_EMRG.2NW": 4in1 models

Procedures

1. Unplug the power cord.
2. Insert the USB memory with the firmware into the USB memory slot.
3. Plug the power cord into the wall outlet and turn the power switch on.

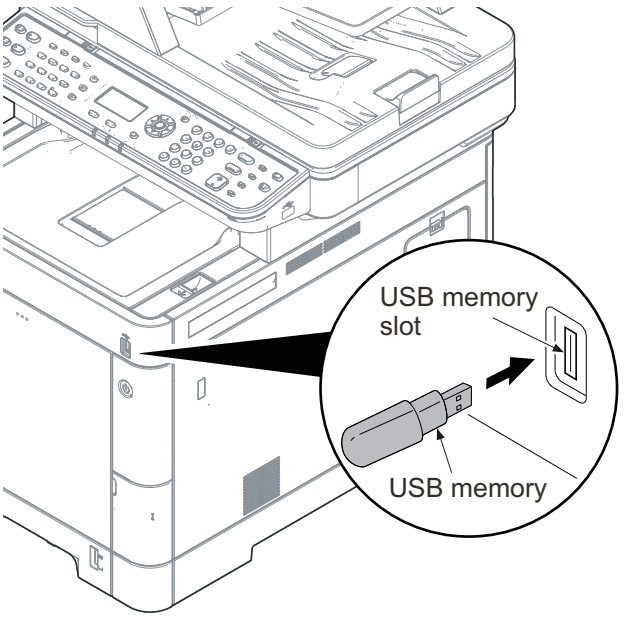
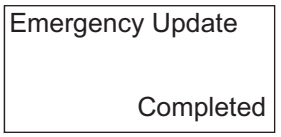


Figure 5-2

4. Restoration of the firmware updtate for the PWB starts.
“Emergency Update” is displayed on the operation panel.

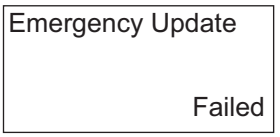
Emergency Update
▮▮▮▮

5. When rewriting is successful, “Completed” is displayed.



6. Unplug the power cord and disconnect the USB memory from the USB memory slot.
7. Unzip the file containing the downloaded firmware and then copy the firmware and high-speed master file (skip files: ES_SKIP.ON) in the root folder of the USB memory.
8. Execute the normal firmware update.

*:When rewriting fails, “Failed” is displayed.



If any errors appear during the firmware update, the process is cancelled and the error message is displayed on the operation panel. Redo after checking the following contents in that case.

No.	Descriptions
1	Check if the USB memory is properly installed.
2	Check if the management file "KM_EMRG.XXX" is generated from the official master file "DL_CTRL.XXX".
3	Check if the contents in the USB memory are sufficient.
4	Execute the firmware update again after formatting the USB memory.

5-2 Firmware update (35ppm model)

Perform the following to update the firmware below.

Target firmware name	Master file name	Message
Controller firmware for 3in1 model	DL_CTRL.2PB	CTRL
Controller firmware for 4in1 model	DL_CTRL.2PC	
First color table data	DL_PCLT1.2NW	CLT1
Second color table data	DL_PCLT2.2NW	CLT2
FAX firmware*1	DL_FAX.2NM	Fax
Firmware for the first PF (paper feeder)	DL_03PK.2PC	PF1
Firmware for the second PF (paper feeder)		PF2
Firmware for the third PF (paper feeder)		PF3
Engine firmware	DL_ENGN.2PC	ENGN
Optional language data	DL_OPT.2PC	OPT
Dictionary data	DL_DIC.2N4	DIC
Browser data	DL_BRWS.2NM	BRWS
Panel data	DL_PANL.2PC	PANL

*1: For 4in1 model only

Preparations

Unzip the file containing the downloaded firmware and then copy the firmware and high-speed master file (skip files: ES_SKIP.ON) in the root folder of the USB memory.

*: If the high-speed master file exists, the same version firmware update is skipped.

Procedures

1. After turning the power switch on, the screen is properly displayed and then turn the power switch off.
2. Insert the USB memory with the firmware into the USB memory slot.
3. Turn the power switch on.

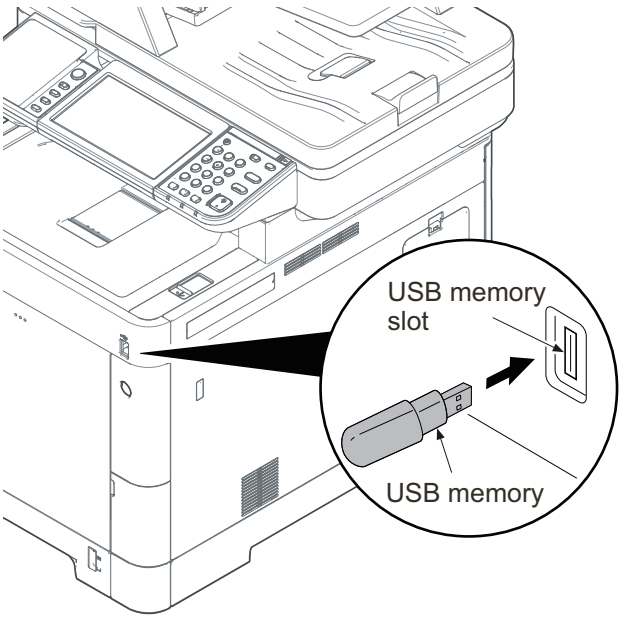
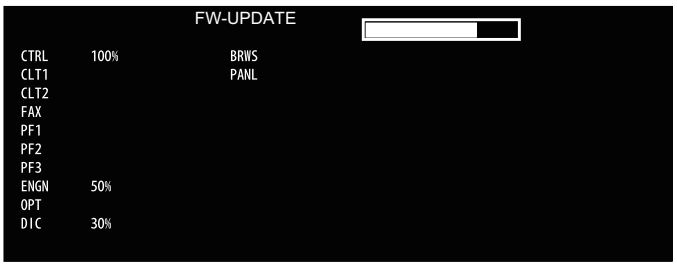
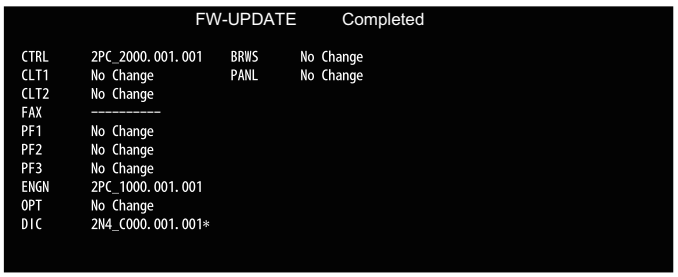


Figure 5-3

4. "FW-UPDATE" and the progress indicator is displayed.
*: Several kinds of firmware updates are processed simultaneously.



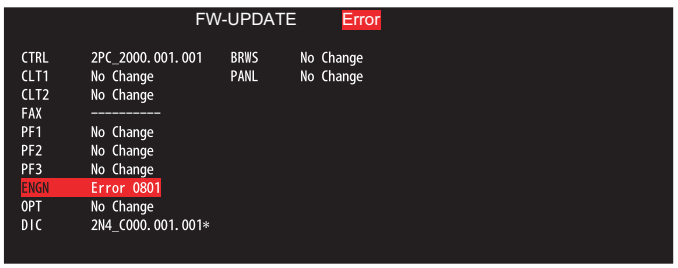
5. "Completed" is displayed when the firmware update is completed.
6. Check if the new firmware versions are displayed.



*: When there is no corresponding master file, "No Change" is displayed.
"*" is displayed after the firmware version update that has been skipped.
"----------"is displayed when the FAX PWB, the option equipment, etc. is not installed.
7. Unplug the power cord and disconnect the USB memory.
8. After plugging in the power cord, check that the "Home" screen is displayed and then turn the power switch off.

Never turn the power switch off or disconnect the USB memory during the firmware update.

If any errors appear during the firmware update (such as the file can not be read), the process is cancelled immediately and the completion message is displayed.



Error code

No.	Descriptions
0100	No Master file
0200	Version mismatch of the master file
03xx	No Download File (No.xx)
04xx	File (No.xx) Checksum mismatch
05xx	File (No.xx) Preparation failure
06xx	File (No.xx) Oversize
08xx	File (No.xx) Writing failure
0000	Others
N001	Network connection failed. (There is no upgrade target interrupted)
N002	Network connection failed. (There is an upgrade target interrupted)

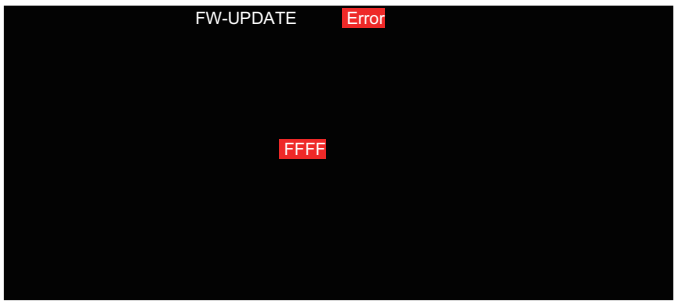
Safe-Update

When the firmware update was interrupted by power shut-off or disconnecting the USB memory during the firmware update, the firmware update is retried at the next power-on.
Turn the main power on again while the USB memory is installed.
*: The firmware update that was already completed before power shut-down is skipped.

Emergency-Update

When the firmware update fails in Safe-Update, the following message or error code is displayed.

Update the firmware after the machine is recovered in the following procedures.



Preparations

Format the USB memory in "FAT" or "FAT32" in advance.
Unzip the compressed file downloaded containing the firmware for the controller PWB.
Copy all the unzipped files in the root folder of the USB memory.
e.g.
Removable disk (E)
+- DL_CTRL.2PB*1
+- uImage.kmmfp
+- 2pc.dtb
+- rootdiskimage.bin
└- appdiskimage.bin

*1: 3 in 1 models
4 in 1 models: DL_CTRL.2PC

Rename the file.
Rename "DL_CTRL.2PB" "KM_EMRG.2PB": 3in1 models
Rename "DL_CTRL.2PC" " KM_EMRG.2PC": 4in1 models

Procedures

1. Unplug the power cord.
2. Insert the USB memory with the firmware into the USB memory slot.
3. Plug the power cord into the wall outlet and turn the power switch on.
4. Restoration of the firmware updtate for the PWB starts.
   Blinking of the memory and attention LEDs
   *: "Welcome" screen remains on the operation panel.
5. When rewriting is successful, only the Memory LED blinks.
   *:When rewriting is failed, only the attention LED blinks.
6. Unplug the power cord and disconnect the USB memory from the USB memory slot.

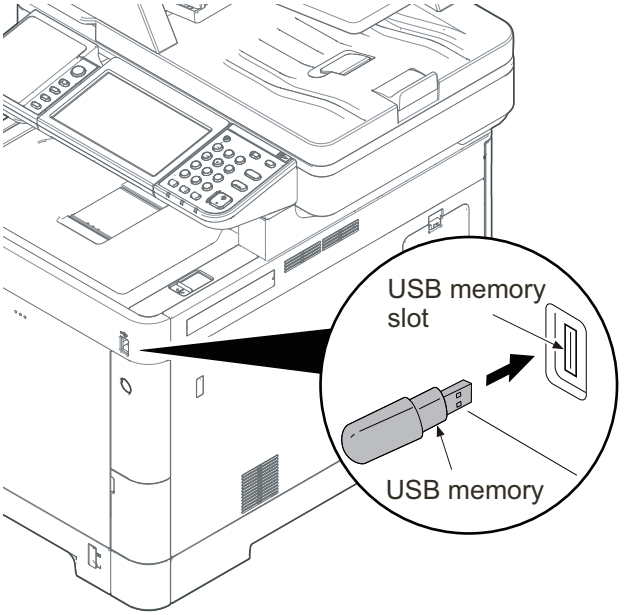


Figure 5-4

7. Unzip the file containing the downloaded firmware and then copy the firmware and high-speed master file (skip files: ES_SKIP.ON) in the root folder of the USB memory.
8. Execute the normal firmware update.

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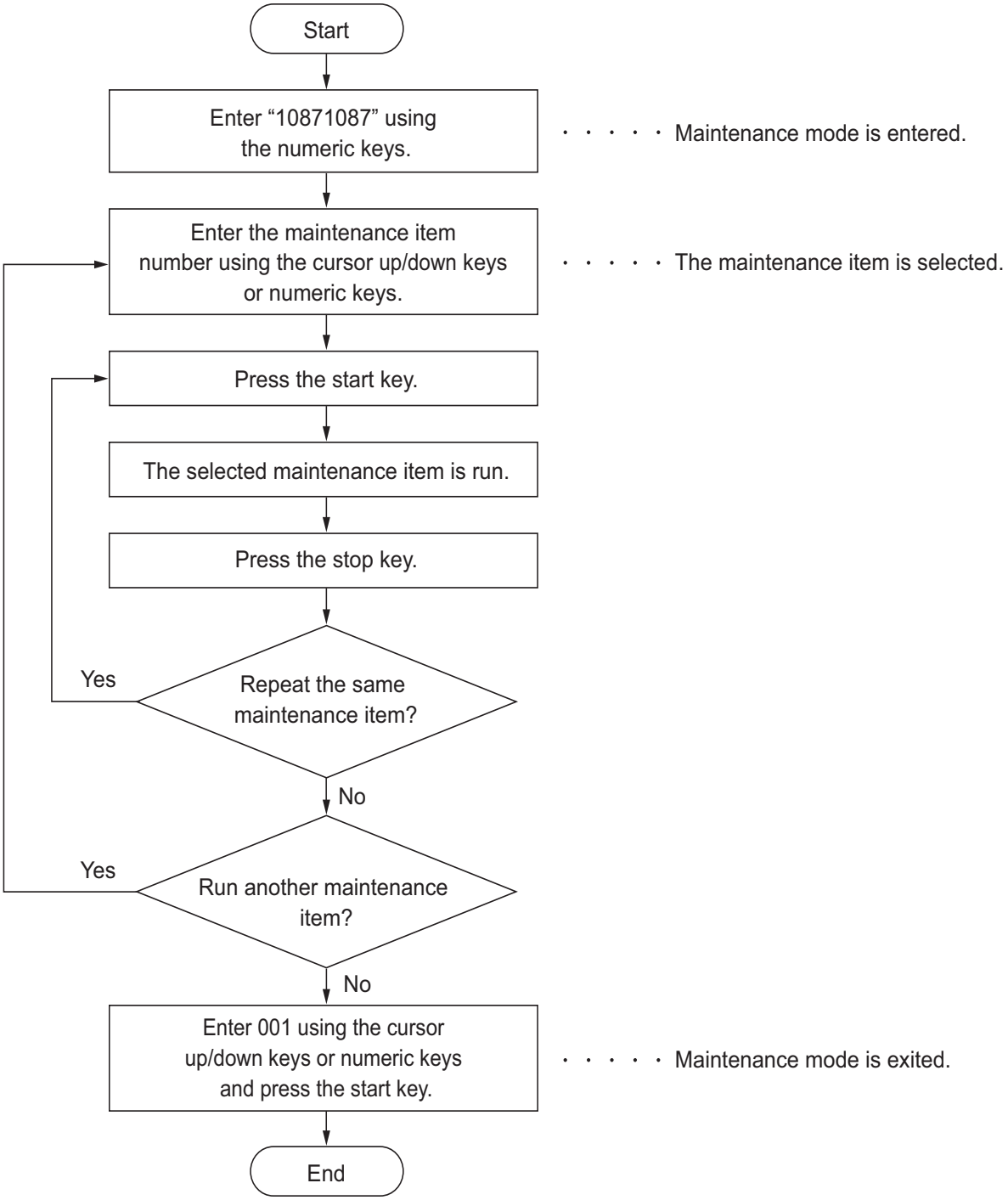
6 Maintenance Mode
6-1 Maintenance Mode

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

(1) Executing a maintenance mode



(2) Maintenance modes list

Section	No.	Content of maintenance item	Outline
General	**U000**	Output Maintenance Report	Printing the reports and exporting them to a USB Flash Drive
	U001	Exit Maintenance Mode (Message: Exit Mainte)	Canceling the maintenance mode
	U002	Set Factory Default (Message: Set Factory Def)	Initializing to the factory-default setting
	U004	Machine Number (Message: Machine No.)	Display of the machine serial number and setting
	U010	Set Maintenance Mode ID (Message: Set Mainte ID)	Setting the maintenance mode ID
	U019	Firmware Version (Message: Firm Version)	Display of each PWB's firmware version
Initialization	**U021**	Initialize Memory (Message: Init Memory)	Initializing the backup RAM
	U025	Firmware Update(Security) (Message: Firm Update(S))	Update of the firmware
Drive, paper feed, paper conveying and cooling system	**U034**	Adj Paper Timing (Message: Adj Paper Timing)	Adjusting the leading edge timing and the center line
Optical	**U065**	Scanner Adjust (Message: Adj Scn)	Adjusting the magnification for table scanning
	U066	Table Timing (Message: Table Timing)	Adjusting the leading edge timing for table scanning
	U067	Table Center (Message: Table Center)	Adjusting the center line for table scanning
	U068	DP Scn Start Pos (Message: DP Scn Start Pos)	Adjusting the starting position for DP-scanning
	U070	Adjust DP Motor Speed (Message: Adj DP Motor)	Adjusting the magnification for DP-scanning
	U071	Adjust DP Leading Edge Timing (Message: DP Timing)	Adjusting the leading edge timing for DP-scanning
	U072	Adjust DP Original Center (Message: DP Center)	Adjusting the center line for DP-scanning
Transfer	**U127**	Checking/clearing the transfer counts	Display of the maintenance counts
Fuser	**U167**	Clear Fuser Counter (Message: Clr Fuser Cnt)	Display of the maintenance counts and Checking/clearing

Section	No.	Content of maintenance item	Outline
Operation section Support equipment	**U201**	Initialize Touch Panel (Message: Init Touch Panel)	Correction of the detection position of the touch panel
	U203	Check DP Operation (Message: Chk DP Ope)	Checking the DP paper conveying operation on DP simple substance
	U222	Set IC Card Type (Message: Set IC Card Type)	Setting the IC card type
Mode setting	**U250**	Change Maintenance Counter Pre-set (Message: Mnt Cnt Pre-set)	Changing the preset value
	U251	Check/Clear Maintenance Counter (Message: Clr Mnt Cnt)	Display of the maintenance counts and changing/clearing
	U252	Set Destination (Message: Set Dest)	Setting the operation and screen of the machine according to the destination
	U253	Set Double/Single Count (Message: Set D/S Count)	Setting the count methods by color mode
	U260	Select Copy Count (Message: Set Count Mode)	Setting the count timing
	U285	Set Service Status Page (Message: Set Svc Sts Page)	Setting the print coverage report output
	U332	Adjust Coverage Size (Message: Adj Calc Rate)	Adjust Coverage Size (Message: Adj Calc Rate)
	U345	Set the maintenance time precaution display (Message: Set Mnt Time Disp)	Setting the number of sheets of a check close display till maintenance timing
	U346	Selecting Sleep Mode (Message: Slct Sleep Mode)	Setting the sleep mode of BAM related
Image processing	**U402**	Print Margin (Message: Print Margin)	Adjusting the margin of a leading edge, left edge, right edge and a trailing edge when writing
	U403	Scan Margin Tbl (Message: Scan Margin Tbl)	Adjusting the margin of the reading data by picture reading of table scanning
	U404	Scan Margin DP (Message: Scan Margin DP)	Adjusting the margin of the reading data by picture reading of table scanning
	U407	Adjusting the writing timing (Duplex/Reversal)	Adjusting the writing timing when duplex printing
	U410	Adjusting the halftone automatically	Acquisition of data for automatic adjustment of the halftone and the ID correction
	U411	Auto Adj Scn (Message: Auto Adj Scn)	Adjusting the scanner and DP automatically
	U425	Set Target (Message: Set Target)	Inputting the Lab value printed on an adjustment original
Network	**U520**	Set TDRS (Message: Set TDRS)	Performing TDRS settings and information views

Section	No.	Content of maintenance item	Outline
FAX	**U600**	Initialize: All Data (Message: Init All Data)	Initialize all data and image memory.
	U601	Initialize: Keep Data (Message: Init Keep Data)	Initializing the software switches of other than the machine data
	U603	User Data 1 (Message: User Data 1)	Makes user settings to enable the use as a FAX
	U604	User Data 2 (Message: User Data 2)	Makes user settings to enable the use as a FAX
	U605	Clear Data (Message: Clr Data)	Initializing all the data regarding the FAX communication
	U610	System Setting 1 (Message: System Setting 1)	Setting the number of lines to ignore at 100% magnification and automatic reduction
	U611	System Setting 2 (Message: System Setting 2)	Setting the number of adjustment lines for automatic reduction
	U612	System Setting 3 (Message: System Setting 3)	Setting regarding the FAX communication operation
	U620	FAX System (Message: FAX System)	Setting the remote change mode
	U625	Set Communication (Message: Set Comm)	Set the interval of a redial and the number of times
	U630	Communication control procedures	Setting regarding the FAX communication
	U631	Communication Control 2 (Message: Comm Ctrl 1)	Setting regarding the FAX communication
	U632	Communication Control 3 (Message: Comm Ctrl 3)	Setting regarding the FAX communication
	U633	Communication Control 4 (Message: Comm Ctrl 4)	Setting regarding the FAX communication
	U634	Communication Control 5 (Message: Comm Ctrl 5)	Set the TCF judgment standard
	U640	Communication Time 1 (Message: Comm Time 1)	Setting the detection time by remote switching mode
	U641	Communication Time 2 (Message: Comm Time 2)	Set the timeout time for the FAX communication
	U650	Modem 1 (Message: Modem 1)	Set the G3 cable equalizer
	U651	Modem 2 (Message: Modem 2)	Set the modem output level
	U660	Set Calls (Message: Set Calls)	Set NCU (network control unit)
	U670	Output List (Message: Output List)	Output the list of the data regarding the fax communication
	U695	Customize FAX Function (Message: Custom FAX Func)	Set On/Off the FAX batch transmission
	U699	Set: Soft SW (Message: Set Soft SW)	Set the individual software switches on the FAX PWB

Section	No.	Content of maintenance item	Outline
Others	**U910**	Clear Coverage Data (Message: Clr Coverage Dat)	Clearing the print coverage data and its period
	U917	Read/Write Backup HDD Data(USB) (Message: R/W Bkup Data)	Reading/writing of backup data to USB Flash Drive
	U920	Set/Check Charge Count (Message: Chg Cnt)	Display and clear the billing counts
	U927	Clear All Charge/Life Counter (one time only) (Message: Clr Chg/Life Cnt)	Clear the billing counts and machine life counts
	U928	Check Machine Life Count (Message: Life Cnt)	Display the machine life counts
	U930	Clear the main charger roller counts	Display and set the main charger roller counts
	U977	Data capture mode	Store the data sent to the MFP into a USB Flash Drive

(3) Content of the maintenance mode

U000	Output Maintenance Report

Description

Check the current settings of the maintenance items, paper jam and service call eror occurrences. Output the service status page.

Also, send output data to a USB Flash Drive.

Purpose

Check the current settings of the maintenance items, paper jam and service call error occurences

: Before initializing or replacing the backup RAM, output the 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 output.

Items	Output list
Maintenance	Maintenance report
User Status	User Status report
Svc Status	Service Status report
Event	Event log report
NW Status	Network status report
All	All kind of report

3.Press the [Start] key to output the list.

* : When A4/Letter paper is available, a report of this size is output. If not, specify the paper feed location and output status is displayed.

Method: when sending output data to the USB Flash Drive

1.Press the [Start] key.

2.Insert a USB Flash Drive in the USB Flash Drive slot of the main unit.

3.Select the item to send.

4.Select [USB(Text)] or [USB(HTML)].

Items	Output list
Print	A report is printed.
USB(Text)	Destination: send to USB Flash Drive (text format)
USB(HTML)	Destination: send to USB Flash Drive (HTML format)

5.Press the [Start] key.

* : The output data is sent to the USB Flash Drive.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

Detail of event log

Event Log

MFP

ECOSYS M6535cidn

(1) Firmware version 2PC_2000.001.077 2014.09.19

(2) 2014/10/19 15:15

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

(7) Paper Jam Log

#	Count.	Event Descriprions	Date and Time
12	5555555	0501.01.08.01.00	2014/02/12 17:30
11	4444444	4002.01.08.01.00	2014/02/12 17:30
10	3333333	0501.01.08.01.00	2014/02/12 17:30
9	2222222	4002.01.08.01.00	2014/02/12 17:30
8	1111111	0501.01.08.01.00	2014/02/12 17:30
7	999999	4002.01.08.01.00	2014/02/12 17:30
6	888888	0501.01.08.01.00	2014/02/12 17:30
5	777777	0501.01.08.01.00	2014/02/12 17:30
4	666666	0501.01.08.01.00	2014/02/12 17:30
3	555555	0501.01.08.01.00	2014/02/12 17:30
2	444444	0501.01.08.01.00	2014/02/12 17:30
1	1	4002.01.08.01.00	2014/02/12 17:30

0501.01.08.01.00
(a) (b) (c) (d) (e)

(8) Service Call Log

#	Count.	Service Code	Data and Time
8	1111111	01.6000	2014/02/12 17:30
7	999999	01.2100	2014/02/12 17:30
6	888888	01.4000	2014/02/12 17:30
5	777777	01.6000	2014/02/12 17:30
4	666666	01.2100	2014/02/12 17:30
3	555555	01.4000	2014/02/12 17:30
2	444444	01.6000	2014/02/12 17:30
1	1	01.2100	2014/02/12 17:30

(9) Maintenance Log

#	Count.	Item.	Data and Time
7	999999	01.21	2014/02/12 17:30
6	888888	01.40	2014/02/12 17:30
5	777777	01.60	2014/02/12 17:30
4	666666	01.21	2014/02/12 17:30
3	555555	01.40	2014/02/12 17:30
2	444444	01.60	2014/02/12 17:30
1	1	01.21	2014/02/12 17:30

(10) Unknown toner Log

#	Count.	Item.	Data and Time
5	1111111	01.00	2014/02/12 17:30
4	999999	01.00	2014/02/12 17:30
3	888888	01.00	2014/02/12 17:30
2	777777	01.00	2014/02/12 17:30
1	666666	01.00	2014/02/12 17:30

(11) Counter Log

(f)

J0000:	0	J4302:	0
J0100:	1	J4303:	1
J0101:	11	J4304:	11
J0104:	222	J4309:	2
J0105:	1	J9000:	1
J0106:	1	J9004:	0
J0107:	1	J9010:	1
J0110:	1	J9060:	1
J0111:	1	J9061:	2
J0211:	1	J9062:	1
J0212:	1	J9110:	1
J0213:	999	J9120:	0
J0501:	1	J9200:	1
J0502:	1	J9210:	1
J0503:	1	J9220:	2
J0504:	1		
J0508:	1		
J0509:	1		
J0511:	1		
J0512:	1		
J0513:	1		
J0514:	1		
J0518:	1		
J0519:	1		
J1403:	1		
J1404:	1		
J1413:	1		
J1414:	1		
J1604:	1		
J1614:	1		
J4002:	1		
J4003:	1		
J4004:	1		
J4009:	1		
J4012:	1		
J4013:	1		
J4014:	1		
J4019:	1		
J4201:	1		
J4202:	0		
J4203:	1		
J4204:	1		
J4208:	0		
J4209:	1		
J4211:	11		
J4212:	222		
J4213:	1		
J4214:	2		
J4218:	1		
J4219:	2		
J4301:	1		

(g)

C0000:	0
C0001:	1
C0002:	2
C0003:	3
C0004:	4
C0005:	5
C0006:	6
C0007:	7
C0008:	8
C0009:	9
C0010:	10
C0011:	11
C0012:	12
C0013:	13
C0014:	14
C0015:	15
C0016:	16
C0017:	17
C0018:	18
C0019:	19
C0020:	20
C0021:	21
C0022:	22
C0023:	23

(h)

T00:	10
M00:	20
M02:	30

(6) [XXXXXXXXXX]

Figure 6-1

Description of event log

<table>
<tr><th>No.</th><th>Items</th><th colspan="3">Description</th></tr>
<tr><td>(1)</td><td colspan="4">System version</td></tr>
<tr><td>(2)</td><td colspan="4">System date</td></tr>
<tr><td>(3)</td><td colspan="4">Engine software version</td></tr>
<tr><td>(4)</td><td colspan="4">Engine boot version</td></tr>
<tr><td>(5)</td><td colspan="4">Operation panel firmware version</td></tr>
<tr><td>(6)</td><td colspan="4">Machine serial number</td></tr>
<tr><td rowspan="13">(7)</td><td rowspan="13">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 diagnostic error is 8 or less, all of the diag-nostics errors are logged.</td><td>The total page count at the time of paper jam.</td><td>Log code (hexadecimal, 5 categories)

(a) Cause of paper jam
(b) Paper source
(c) Paper size
(d) Paper type
(e) Paper eject</td></tr>
<tr><td colspan="3">(a) Detail of Cause of paper jam (Hexadecimal)</td></tr>
<tr><td colspan="3">: Refer to "1-7-1 Paper Misfeed Detection" (page 7-1), for the detail of cause of paper jam. P.7-2</td></tr>
<tr><td colspan="3">(b) Detail of paper source (Hexadecimal)</td></tr>
<tr><td colspan="3">00: MP tray
01: Cassette 1
02: Cassette 2 (paper feeder)
03: Cassette 3 (paper feeder)
04: Cassette 4 (paper feeder)
05 to 09: Reserved</td></tr>
<tr><td colspan="3">(c) Detail of paper size (Hexadecimal)</td></tr>
<tr><td>00: Not specified
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</td><td>0B: B4
0C: Ledger
0D: A5R
0E: A6
0F: B6
10: Commercial #9
11: Commercial #6
12: ISO B5
13: Custom size
1E: C4
1F: Hagaki
20: Oufuku Hagaki
21: Oficio II</td><td>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: Youkei type 2
35: Youkei type 4</td></tr>
</table>

<table>
<tr><th>No.</th><th>Items</th><th colspan="3">Description</th></tr>
<tr><td rowspan="4">(7) cont.</td><td rowspan="4">Paper Jam Log</td><td colspan="3">(d) Detail of paper type (Hexadecimal)</td></tr>
<tr><td>01: Plain
02: Transparency
03: Preprinted
04: Labels
05: Bond
06: Recycled
07: Vellum
08: Rough
09: Letterhead</td><td>0A: Color
0B: Prepunched
0C: Envelope
0D: Cardstock
0E: Coated
0F: 2nd side
10: Media 16
11: High quality</td><td>15: Custom 1
16: Custom 2
17: Custom 3
18: Custom 4
19: Custom 5
1A: Custom 6
1B: Custom 7
1C: Custom 8</td></tr>
<tr><td colspan="3">(e) Output tray (hexadecimal)</td></tr>
<tr><td colspan="3">01: Face-down tray (FD)</td></tr>
<tr><td rowspan="2">(8)</td><td rowspan="2">Service Call Log</td><td>#</td><td>Count.</td><td>Service Code</td></tr>
<tr><td>Remembers 1 to 8 of occurrence.
: If the occurrence of the previous diagnostic error is 8 or less, all of the diagnostics errors are logged.</td><td>The total page count at the time of the self diagnostic error.</td><td>Self diagnostic error code (Refer to page P.7-17)

Example: 01.6000
01: Self diagnostic error
6000: Self diagnostic error code</td></tr>
<tr><td rowspan="2">(9)</td><td rowspan="2">Maintenance Log</td><td>#</td><td>Count.</td><td>item</td></tr>
<tr><td>Remembers 1 to 8 of occurrence. : If the occurrence of the previous replacement of the maintenance replacing item is 8 or less, all of the occurrences of replacement are logged.</td><td>Total page count at the time of the replacement of the maintenance replacement item.

: The toner replacement log is triggered by toner empty. This record may contain such a reference as the toner container is inserted</td><td>Code of maintenance replacement item (1 byte, 2 categories)

First byte (Replaced item)
01: Toner container
Second byte (Type of replaced item)
00: Black
01: Cyan
02: Magenta
03: Yellow

First byte (Replaced item)
02: Maintenance kit
Second byte (Type of replacing item)
01: MK-5140/5142/5144 (for 30 ppm model only)
MK-5155/5157/5159 (for 35 ppm model only)</td></tr>
</table>

No.	Items	Description		
(10)	Unknown Toner Log	#	Count.	item
		Remembers 1 to 5 of occurrence. If the occurrence of the previous request of toner container replacement is 5 or less, all of the occurrences of the request are logged.	Total page count at the time of the request of toner container replacement when using the unkown toner container.	Unknown toner log code (1 byte, 2 categories) First byte (Replacing item) 01: Toner container (Fixed to 01) Second byte (Type of replacing item) 00: Black 01: Cyan 02: Magenta 03: Yellow
(11)	Counter Log Consist of three log counters of paper jams, self diagnostics errors, and maintenance replacement items.	(f) Paper jam	(g) Self diagnostic error	(h) Maintenance replacement item
		Indicates the log counter of paper jams depending on location. Refer to Paper Jam Log. : All instances including those not having occurred are displayed.	Indicate the log counter of the self diagnostics errors depending on cause. Example: C6000: 4 Self diagnostic error 6000 occurred four times.	Indicate the log counter depending on the maintenance replacement item. T: Toner container 00: Black 01: Cyan 02: Magenta 03: Yellow M: Maintenance kit 01: MK-5140/5142/5144 (for 30 ppm model only) MK-5155/5157/5159 (for 35 ppm model only) Example: T00: 1 The toner container (Black) has been replaced once. The toner replacement log is triggered by toner empty. This record may contain such a reference as the toner container is inserted

Detail of service status page

Service Status Page

MFP

(2) 2014/10/27 15:15

(3) (4) (5)

(1) Firmware version 2PC_2000.000.000 2014.10.27 [XXXXXXXX] [XXXXXXXX] [XXXXXXXX]

Controller Information

Memory status

(7)	Standard Size	1.0 GB
(8)	Option Slot	1.0 GB
(9)	Total Size	2.0 GB

Time

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

Installed Options

(13)	Paper Feeder2:	Installed
(14)	Paper Feeder3:	Not Installed
(15)	Paper Feeder4:	Not Installed
(16)	Memory Card	Not Installed
(17)	SSD	Installed
(18)	Card Authentication Kit (B)	Installed
(19)	Security Kit (E)	Installed
(20)	UG-33	Installed
(21)	USB Keyboard	Installed
(22)	USB Keyboard Type	US-English

Print Settings

(23)	MP Tray Priority	Auto Feed

Print Coverage

(24) Average(%) / Usage Page(A4/Letter Conversion)

(25) Total

K: 1.10	/ 1111111.11
C: 1.10	/ 2222222.22
M: 1.10	/ 3333333.33
Y: 1.10	/ 4444444.44

(26) Copy

K: 1.10	/ 1111111.11
C: 1.10	/ 2222222.22
M: 1.10	/ 3333333.33
	/ 4444444.44

(27) Printer

K: 1.10	/ 1111111.11
C: 1.10	/ 2222222.22
M: 1.10	/ 3333333.33
Y: 1.10	/ 4444444.44

(28) FAX

K: 1.10	/ 1111111.11

(29) Period (27/10/2009 - 03/11/2009 08:40)

(30) Last Page (%) 1.00

FAX Information

(31)	Rings (Normal)	3	
(32)	Rings (FAX/TEL)	3	
(33)	Rings (TAD)	3	

(34) **FRPO Status**

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

RP Code

(35)	1234 5678 9012
(36)	5678 9012 3456
(37)	9012 3456 7890
(38)	3456 7890 1234

(39) **Altitude Adjustment**

Status Normal

1

(6) [XXXXXXXXXXXXXXXX]

Figure 6-2

Detail of service status page (2)

Service Status Page

MFP

2014/10/31 12:00

Firmware Version 2PC_2000.001.062 2014.10.27 [XXXXXXXX] [XXXXXXXX] [XXXXXXXX]

Engine Information

(40) NVRAM Version _CI04709_CI04709
(41) Scanner Version 2NM_1200.001.089
(42) FAX Slot1
FAX BOOT Version 2NM_5000.001.006
FAX APL Version 2NM_5100.004.001
FAX IPL Version 2NM_5200.001.006
(43) MAC Address 00:C0:EE:D0:01:0D
(44) DP Counters
合計

Send Information

(45) Date and ime 2013/02/19 15:30
(46) Address mail@bjd.ne.jp

1/2 **(47) (48)**
(49) 100/100
(50) 0/0/0/0/0/0
(51) 0/0/0/0/0/0
(52) 0/0/0/0
(53) 0000000/0000000/0000000/0000000/0000000/0000000/0000000/
0000000/0000000/0000000/0000000/0000000/0000000/0000000/0000000/0000000/0000000/0000000/
F00/U00/0/0/0/0/30/30/70/70/abcde/1/0/1/ **(54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68)**
(69) 0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/
0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/
(70) 0000/0100/0500/1000/0000/0100/0500/1000/0000/0100/0500/1000/0000/0100/0500/1000/
0000/0100/0500/1000/0000/0100/0500/1000/0000/0100/0500/1000/0000/0100/0500/1000/
(71) 000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/
(72) 000000000000000/000000000000000/000000000000000/000000000000000/00000000/
(73) 000000000000000/000000000000000/000000000000000/000000000000000/
(74) 000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/
(75) 000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/
(76) 000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/
(77) 000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/
(78) 000000000000000/000000000000000/000000000000000/000000000000000/
(79) 000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/
(80) 000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/
(81) 000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/
(82) 000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/000000000000000/
(83) 12345678/11223344/00001234abcd567800001234abcd5678/01234567890123456789012345678901/0008/00/07
12345678/11223344/00001234abcd567800001234abcd5678/01234567890123456789012345678901/0008/00/07
12345678/11223344/00001234abcd567800001234abcd5678/01234567890123456789012345678901/0008/00/07
12345678/11223344/00001234abcd567800001234abcd5678/01234567890123456789012345678901/0008/00/07
(84) [ ][ ][ ]
[ABCDEFGHIJ][ABCDEFGHIJ][ABCDEFGHIJ] **(85) (86) (87)**
(88) 00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/0
00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/0
00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/0
00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/0
00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/0
00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/0
00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/0
00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/00070107FE/0
00070107FE/
(89) 3/
0/1.0/2.5 **(90) (91) (92)**
1/0/1/1/ 2014/10/15 12:34:56 **(93)**
1/5/ **(94)(95)**
1/ **(96)**
0/15:47 **(97) (98)**
1/ **(99)**
ABCDEFGHIJKL/ABCDEFGHIJKL/ABCDEFGHIJKL/ABCDEFGHIJKL/ **(100)**
ABCDEFGHIJKL/ABCDEFGHIJKL/ABCDEFGHIJKL/ABCDEFGHIJKL/ **(101)**

2 [XXXXXXXXXX]

Figure 6-3

No.	Items	Description
(1)	Firmware Version	-
(2)	System date	-
(3)	Engine software version	-
(4)	Engine boot version	-
(5)	Operation panel software version	-
(6)	Machine serial number	-
(7)	Standard memory size	-
(8)	Optional memory size	-
(9)	Total memory size	-
(10)	Local time zone	-
(11)	Report output date	Day/Month/Year hour:minute
(12)	NTP server name	-
(13)	Availability of the optional paper feeder 2	Presence or absence of the optional paper feeder 3
(14)	Availability of the optional paper feeder 3	Presence or absence of the optional paper feeder 3
(15)	Availability of the optional paper feeder 4	Presence or absence of the optional paper feeder 3
(16)	Availability of the optional paper feeder 2	Presence or absence of the optional paper feeder 3
(17)	Availability of the optional memory card (SD)	Presence or absence of the SSD
(18)	Availability of the UG-33	Installed/Not Installed/Trial
(19)	Availability of the UG-33	Installed/Not Installed/Trial
(20)	Availability of the USB Keyboard	Installed/Not Installed
(21)	Type of the USB keyboard	US-English/US-English with Euro symbol
(22)	MP tray priority setting	Off/Auto/Always
(23)	Page count convrted to the A4/Letter size	Print Coverage provides a close-matching reference of toner consumption and will not match the actual toner consumption.
(24)	Average coverage for total	Black/Cyan/Magenta/Yellow
(25)	Average coverage for total	Black/Cyan/Magenta/Yellow
(26)	Average coverage for copy	Black/Cyan/Magenta/Yellow
(27)	Average coverage for printer	Black/Cyan/Magenta/Yellow
(28)	Average coverage for FAX	Black/Cyan/Magenta/Yellow
(29)	Cleared date and output date	-
(30)	Coverage on the last output page	-
(31)	Number of rings	0 to 15

No.	Items	Description
(32)	Number of rings before automatic switching	0 to 15
(33)	Number of rings before connecting to the answering machine	0 to 15
(34)	FRPO setting	-
(35)	RP code	Code the engine firmware version and the date of the latest update.
(36)	RP code	Code the main firmware version and the date of the latest update.
(37)	RP code	Code the engine firmware version and the date of the previous update.
(38)	RP code	Code the main firmware version and the date of the previous update.
(39)	Altitude Adjustment	Normal/1001-2000m/2001-3000m/3001-3500m
(40)	NVRAM version	_ 1F3 1225 _ 1F3 1225 (a)(b)(c)(d)(e)(f) (a) Consistency of the current firmtware version and the database _ (underscore): OK * (Asterisk): NG (b) Database version (c) The oldest time stamp of database version (d) Consistency of the current firmware version and the ME firmware version _ (underscore): OK * (Asterisk): NG (e) ME firmware version (f) The oldest time stamp of the ME firmware version Normal if (a) and (d) are underscored, and (b) and (e) are identical with (c) and (f).
(41)	Scanner firmware version	-
(42)	Fax firmware version	-
(43)	Mac address	-
(44)	DP counter	Display the number of times of DP feeding.
(45)	The last sent date and time	-
(46)	Transmission address	-
(47)	Destination information	-
(48)	Area information	-
(49)	Margin setting	Top margin/Left margin
(50)	Top offset for each cassette	MP tray Top offset/ Paper feeder 2 Top offset/ Paper feeder 3 Top offset/ Paper feeder 4 Top offset/ Duplex Top offset/ Rotation copy Top offset

No.	Items	Description
(51)	Left offset for each cassette	MP tray Top offset/ Paper feeder 2 Top offset/ Paper feeder 3 Top offset/ Paper feeder 4 Top offset/ Duplex Top offset/ Rotation copy Top offset
(52)	L parameters	Top margin integer part/Top margin decimal part/Left margin integer part /Left margin decimal part
(53)	Life counter (The first line)	Machine life/MP tray/Paper feeder 1/Paper feeder 2/ Paper feeder 3/Paper feeder 4/Duplex
	Life counter (The second line)	Drum unit K/Drum unit C/Drum unit M/Drum unit Y/Primary transfer unit/Developer unit K/Developer unit C/ Developer unit M/Developer unit Y/Maintenance kit A
(54)	Panel lock information	F00: OFF F01: Partial lock1 F02: Partial lock2 F03: Partial lock3 F04: Full lock
(55)	USB information	U00: Connected/Not Connected U01: Full speed U02: Hi speed
(56)	Paper handling information	0: Paper source select 1: Paper source fixed
(57)	Auto cassette change	0: OFF 1: ON (Default)
(58)	Color printing double count mode	0: All single counts 3: Folio (Less than 330mm length), Single counts
(59)	Black and white printing double count mode	0: All single counts 3: Folio (Less than 330mm length), Single counts
(60)	Billing counts timing	0: When secondary paper feed starts 1: When the paper is ejected
(61)	Temperature (machine inside)	-
(62)	Temperature (machine outside)	-
(63)	Relative humidity (machine outside)	-
(64)	Absolute humidity (machine outside)	-
(65)	Fixed assets number	-
(66)	Job end judgment time-out time	-
(67)	Job end detection mode	0: Detects as one job, even if contained multiple jobs 1: Detects as individual job, dividing multiple jobs at a break in job
(68)	Prescribe environment reset	0: Off 1: On

No.	Items	Description
(69)	Media type attributes 1 to 28 (Not used: 18, 19, 20) *: For details on settings, refer to MDAT command in "Prescribe Commands Reference Manual".	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
(70)	IO Calibration information	K/C/M/Y
(71)	Bias Calibration information	-
(72)	Sensor initial information	-
(73)	Calibration information	-
(74)	Calibration information	-
(75)	Calibration information	-
(76)	Calibration information	-
(77)	Calibration information	-
(78)	Paper loop correction shift amount	-
(79)	Paper loop correction interval	-
(80)	Paper loop correction patch amount	-
(81)	Calibration information	-
(82)	Calibration information	-
(83)	RFID information (K,C,M,Y)	-
(84)	Software version of the optional paper feeder	-
(85)	Optional message version	-
(86)	Color table version for printer	-
(87)	Color table 2 version for printer	-
(88)	Maintenance information	-
(89)	MC correction	1 to 7
(90)	Configuring the toner coverage counters	0: Full-color count display 1: Color coverage count display
(91)	Low coverage setting	0.1 to 100.0
(92)	Middle coverage setting	0.1 to 100.0

No.	Items	Description
(93)	Data sanitization information	FAX Board/Main Memory/Panel Memory/SSD/Performed time 1: Success 0: Fail - : Not performed or Not installed
(94)	Toner low setting	0: Disabled 1: Enabled
(95)	Toner low detection level	5 to 100 (%)
(96)	Full-page print mode	0: Normal mode (Factory setting) 1: Full-page mode
(97)	Wake-up mode	0: OFF (Don't wake up) 1: On (Do wake up)
(98)	Wake-up timer	Displays the wake-up time
(99)	BAM conformity mode setting	0: Non-conformity mode 1: Conformity mode
(100)	Drum serial number	Black/Cyan/Magenta/yellow
(101)	Developer serial number	Black/Cyan/Magenta/yellow
	Code conversion	

A	B	C	D	E	F	G	H	I	J
0	1	2	3	4	5	6	7	8	9

U001	Exit Maintenance Mode (Message: Exit Mainte)

Description

Exits the maintenance mode and returns to the normal copy mode.

Purpose

Exit the maintenance mode

Method

1.Press the [Start] key.
2.The normal copy mode is entered.

U002	Set Factory Default (Message: Set Factory Def)

Description

Restores the machine conditions to the factory default settings.

Purpose

Move the mirror frame of the scanner to the position for transport

Method

1.Press the [Start] key.
2.Select [Mode1(All)].
3.Press the [Start] key.
* : It brings nearby the left end so that the scanner carriage can be fixed.

Items	Description
Mode1(All)	A factory-default setup is performed.

4.Turn the power switch off.
* : An error code is displayed in case of the initialization error.
When errors occur, turn the power switch off then on, and execute initialization using maintenance mode U002.
Take interval more than 5 seconds between Off and On.

Error codes

Codes	Description
0001	Controller (Entity error)
0002	Controller (Counter error)
0003	Controller (OS error)
0020	Engine error

U004	Machine Number (Message: Machine No.)

Description

Sets or displays the machine number.

Purpose

Check or set the machine number

After the main/engine PWB replacement, execute if the "C0180 machine number mismatch" occurs.

Method

1.Press the [Start] key.

When the machine serial number of the engine PWB matches with that of the main PWB.

Items	Description
Machine serial number	Displays the machine serial number.

When the machine serial number of the engine PWB does not match with that of the main PWB.

Items	Description
Machine No.(Main)	Displays the serial number of the main PWB.
Machine No.(Eng)	Displays the serial number of the engine PWB.

Setting

Execute if the serial number does not match.

1.Select [Execute].

2.Press the [Start] key.

* : Writing of serial number starts.

3.Turn the power switch off then on. Take interval more than 5 seconds between Off and On.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance mode No. is displayed.

U010	Set Maintenance Mode ID (Message: Set Mainte ID)

Description

Set the maintenance mode ID for service.

Purpose

Modify maintenance mode ID for service for more security.

Method

1.Press the [Start] key.
2.Select [Change] or [Initialize].

Items	Description
Change	Changes the maintenance mode ID for service.
Initialize	Initializes the maintenance mode ID for service.

Setting: Change

1.Select [New ID].
2.Press ten keys (0–9, *, #) to enter a new 8-digit ID.
* : "*" or "#" are mandatory to contain.
3.Select [New ID(Reconfirm)].
4.Press ten keys (0–9, *, #) to re-enter the new 8-digit ID.
5.Select [Execute].
6.Press the [Start] key to confirm the setting.

Items	Description
New ID	Enter a new 8-digit ID
New ID(Reconfirm)	Enter a new 8-digit ID (to confirm)
Execute	Changes the maintenance mode ID

Method: Initialize

1.Select [Initialize].
2.Press the [Start] key.
3.Select [Execute].
4.Press the [Start] key to initialize the maintenance mode ID.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance mode No. is displayed.

Error codes

Codes	Description
0001	"#" or "*" is not included in ID.
0002	ID does not match.
0003	Need to enter a 8-digit ID.

U019	Firmware Version (Message: Firm Version)

Description

Display the firmware version installed in each PWB.

Purpose

Check the firmware version installed in each PWB

Method

1.Press the [Start] key.

* : The firmtware version are displayed.

2.Change the screen using the [▲] [▼] key.

Items	Description
Main	Main firmware
MMI	Operation firmware
Browser[*1]	Browser firmware
Engine	Engine firmware
Engine Boot	Engine Boot
Dictionary[*1]	Dictionary firmware
Option Language	Optional language firmware
Color Table1	Color table 1 firmware
Color Table2	Color table 2 firmware
Cass2	Cassette 2 firmware
Cass3	Cassette 3 firmware
Cass4	Cassette 4 firmware
Fax APL	Fax APL
Fax Boot	Fax Boot
Fax IPL	Fax IPL
Application Name1[*1]	Application 1 software
Application Name2[*1]	Application 2 software
Application Name3[*1]	Application 3 software
Application Name4[*1]	Application 4 software
Application Name5[*1]	Application 5 software
Application Name6[*1]	Application 6 software
Application Name7[*1]	Application 7 software
Application Name8[*1]	Application 8 software
Application Name9[*1]	Application 9 software
Application Name10[*1]	Application 10 software
Application Name11[*1]	Application 11 software
Application Name12[*1]	Application 12 software

Items	Description
Application Name13[*1]	Application 13 software
Application Name14[*1]	Application 14 software
Application Name15[*1]	Application 15 software
Application Name16[*1]	Application 16 software

* :35 ppm model

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance mode No. is displayed.

U021	Initialize Memory (Message: Init Memory)

Description

Initialize all settings, except those pertinent to the type of machine, namely each counter, service call error history and mode setting. Also, initialize the backup RAM according to the area specification selected in the maintenance mode U252 (Setting the destination).

Purpose

Initialize the machine settings to the factory default at the market

Method

1.Press the [Start] key.

2.Select [Execute].

Items	Description
Execute	Initialize data according to the destination information.

3.Press the [Start] key.

* : All data other than the ones for adjustments due to variations between machines is initialized based on the destination setting.

4.Turn the power switch off then on. Take interval more than 5 seconds between Off and On.

* : An error code is displayed in case of an initialization error.
When errors occur, turn the power switch off then on, and execute initialization using maintenance mode U002.

Error codes

Items	Description
0001	Controller (Entity error)
0002	Controller (Counter error)
0020	Engine error
0040	Scanner error

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance mode No. is displayed.

U025	Firmware Update(Security) (Message: Firm Update(S))

Description

Execute Firmware-Update from the USB Flash Drive while "Very High" is selected in the Security Level settings under the System Menu.

Purpose

Initiate the firmware upgrade by a service person by executing U025 while a USB Flash Drive is inserted

Method

1.Press the [Start] key.
2.Select [Execute].

Items	Description
Execute	Executes the firmware-update.

3.Press the [Start] key.
* : This is not executable when a USB Flash Drive is not installed.
4.After normal completion, turn the power switch off then on. Take interval more than 5 seconds between Off and On.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance mode No. is displayed.

U034	Adj Paper Timing (Message: Adj Paper Timing)

Description

Adjust the leading edge registration or center line.

Purpose

Make the adjustment if there are regular errors between the leading edges of the copy image and original

Make the adjustment if there are regular errors between the center lines of the copy image and original

Method

1.Press the [Start] key.

2.Select the item to adjust.

* : The screen for adjusting is displayed.

Items	Description
LSU Out Top	Adjust the leading edge registration
LSU Out Left	Adjust the center line

Adjustment: LSU Out Top

1.Press the [System Menu/Counter] key.

2.Press the [Start] key to output a test pattern.

3.Press the [System Menu/Counter] key.

4.Select the item to adjust.

LSU Out Top

Items	Description	Setting range	Initial setting	Change in value per step
MPT	Paper feed from MP tray	-3 to 3	0	0.1mm
Cass	Paper feed from cassette	-3 to 3	0	0.1mm
Duplex	Duplex mode (Back page)	-3 to 3	0	0.1mm
MPT Half	Paper feed from MP tray (Half speed)	-3 to 3	0	0.1mm
Cass Half	Paper feed from cassette (Half speed)	-3 to 3	0	0.1mm
Duplex Half	Duplex mode (Back page)(Half speed)	-3 to 3	0	0.1mm

5.By using [◄] [►] or the numeric keys, change the setting value.

For a test pattern 1, increase the value.

For a test pattern 2, decrease the value.

* : When the setting value is increased, the image moves backward and it moves forward when the setting value is decreased.

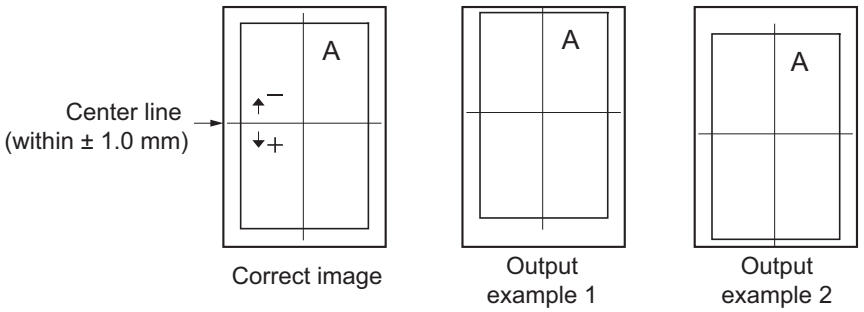


Figure 6-4

6.Press the [Start] key to confirm the setting.

Note

Check the copy image after the adjustment. If the image is still incorrect, adjust the following in the maintenance mode.
U034 > U066(P.6-29) > U071(P.6-33)

Adjustment: LSU Out Left

1.Press the [System Menu/Counter] key.
2.Press the [Start] key to output a test pattern.
3.Press the [System Menu/Counter] key.
4.Select the item to adjust.

LSU Out Left

Items	Description	Setting range	Initial setting	Change in value per step
MPT	Paper feed from MP tray	-3 to 3	0	0.1mm
Cass1	Paper feed from cassette 1	-3 to 3	0	0.1mm
Cass2	Paper feed from optional cassette 2	-3 to 3	0	0.1mm
Cass3	Paper feed from optional cassette 3	-3 to 3	0	0.1mm
Cass4	Paper feed from optional cassette 4	-3 to 3	0	0.1mm
Duplex	Duplex mode (Back page)	-3 to 3	0	0.1mm

5.By using [+] [-] or the numeric keys, change the setting value.
For a test pattern 1, increase the value.
For a test pattern 2, decrease the value.

* : When the setting value is increased, the image moves to right, and it moves to left when the setting value is decreased.

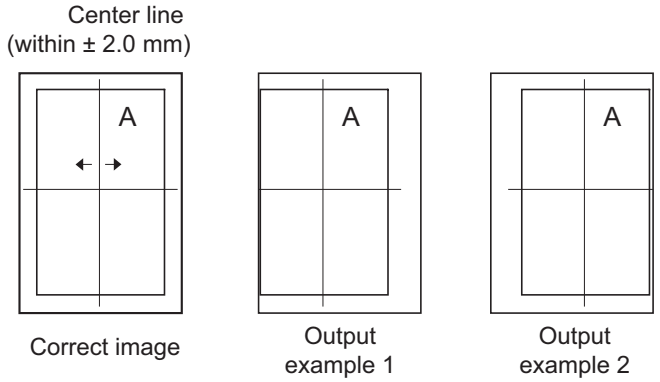


Figure 6-5

6.Press the [Start] key to set the setting value.

Note

Check the copy image after the adjustment. If the image is still incorrect, adjust the following in the maintenance mode.
U034 > U066(P.6-30) > U071(P.6-35)

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance mode No. is displayed.

U065	Scanner Adjust (Message: Adj Scn)

Description

Adjust the magnification in the main and auxiliary scanning direction of the table scanning.

Purpose

Make the adjustment if the magnification in the main and auxiliary scanning direction of the table scanning are incorrect

Note

The magnification adjustment in the main scanning direction could cause black streaks depending on the content of the original document.

Adjust the magnification of the scanner in the following order.

U065(main scanning)(P.6-27) > U065(sub-scanning)(P.6-27)

Method

1.Press the [Start] key.
2.Press the [System Menu/Counter] key.
3.Place an original and press the [Start] key to make a test copy.
4.Press the [System Menu/Counter] key.
5.Select the item to adjust.

Items	Description	Setting range	Initial setting	Change in value per step
Main Scan	Scanner magnification in the main scanning direction	-75 to 75	0	0.02%
Sub Scan	Scanner magnification in the sub-scanning direction	-125 to 125	0	0.02%

Adjustment: Main Scan

1.By using [◄] [►] or the numeric keys, change the setting value.
For copy example 1, increase the value.
For copy example 2, decrease the value.
* : When the setting value is increased, the image widens, and it narrows when the setting value is decreased.

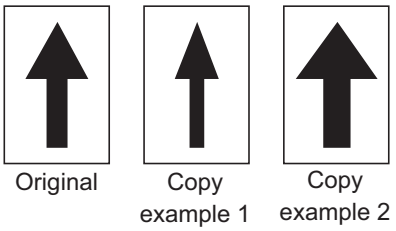


Figure 6-6

2.Press the [Start] key to set the setting value.

Adjustment: Sub Scan

1.By using [◄] [►] or the numeric keys, change the setting value.
For copy example 1, increase the value.
For copy example 2, decrease the value.

* : When the setting value is increased, the image gets longer, and it shortens when the setting value is decreased.

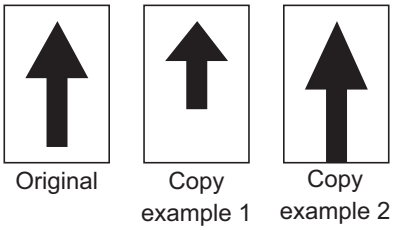


Figure 6-7

2.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance mode No. is displayed.

U066	Table Timing (Message: Table Timing)

Description

Adjusts the scanner leading edge registration of the table scanning.

Purpose

Make the adjustment if there are regular errors between the leading edges of the copy image and original

Adjustment

1.Press the [Start] key.
2.Press the [System Menu/Counter] key.
3.Place an original and press the [Start] key to make a test copy.
4.Press the [System Menu/Counter] key.
5.Select the item to adjust.

Items	Description	Setting range	Initial setting	Change in value per step
Front	Scanner leading edge registration.	-30 to 30	0	0.158 mm
Rotate	Scanner leading edge registration (rotate copying)	-30 to 30	0	0.158 mm

6.By using [◄] [►] or the numeric keys, change the setting value.
For copy example 1, increase the value.
For copy example 2, decrease the value.
* : When the setting value is increased, the image moves forward and it moves backward when the setting value is decreased.

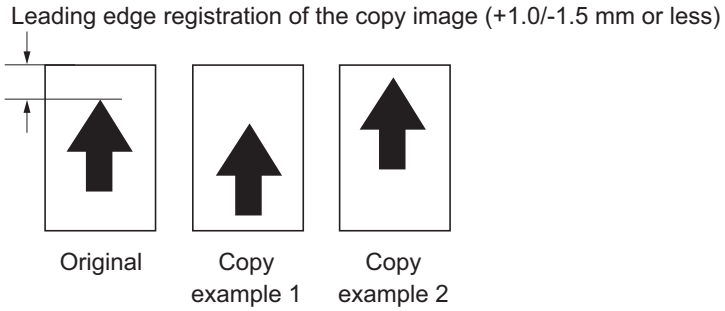


Figure 6-8

7.Press the [Start] key to set the setting value.

Note

Check the copy image after the adjustment. If the image is still incorrect, adjust the following in the maintenance mode.
U034(P.6-24) > U065(P.6-27) > U066

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U067	Table Center (Message: Table Center)

Description

Adjusts the scanner center line of the table scanning.

Purpose

Make the adjustment if there are regular errors between the center lines of the copy image and original

Adjustment

1.Press the [Start] key.
2.Press the [System Menu/Counter] key.
3.Place an original and press the [Start] key to make a test copy.
4.Press the [System Menu/Counter] key.
5.Select the item to adjust.

Items	Description	Setting range	Initial setting	Change in value per step
Front	Scanner center line	-60 to 60	0	0.085 mm
Rotate	Scanner center line (rotate copying)	-40 to 40	0	0.085 mm

1.By using [◄] [►] or the numeric keys, change the setting value.
For copy example 1, decrease the value.
For copy example 2, increase the value.
* : When the setting value is increased, the image moves to left, and it moves to right when the setting value is decreased.

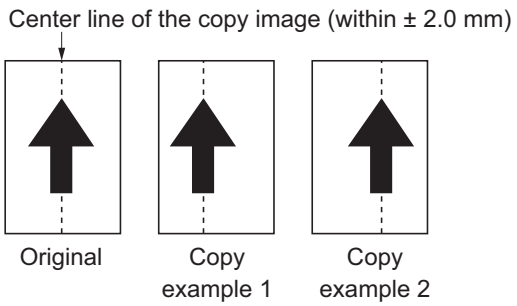


Figure 6-9

2.Press the [Start] key to confirm the setting.

Note

Check the copy image after the adjustment. If the image is still incorrect, adjust the following in the maintenance mode.
U034(P.6-24) > U065(P.6-27) > U067

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U068	DP Scn Start Pos (Message: DP Scn Start Pos)

Description

Adjusts the starting position for scanning originals from the DP.
Performs the test copy at the four scanning positions after adjusting.

Purpose

Make the adjustment if the image fogging occurs because the scanning position is not proper when the DP is used : Execute U071 to adjust the timing of DP leading edge when the scanning position is changed.

Method

1.Press the [Start] key.
2.Select the item to adjust.

Items	Description	Setting range	Initial setting	Change in value per step
DP Read	Starting position adjustment for scanning originals.	-38 to 38	0	0.158 mm
Black Line	Scanning position for the test copy originals.	0 to 3	0	-

Adjustment: DP Read

1.Select [DP Read].
2.By using [◄] [►] or the numeric keys, change the setting value.
* : When the setting value is increased, the image moves backward and it moves forward when the setting value is decreased.
3.Press the [Start] key to confirm the setting.

Adjustment: Black Line

1.Select [Black Line].
2.By using [◄] [►] or the numeric keys, change the setting value.
3.Press the [Start] key to confirm the setting.
4.Set the original (the one of which density is known) in the DP and press the [System Menu/Counter] key.
5.Press the [Start] key to execute a test copy.
6.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.

U070	Adjust DP Motor Speed (Message: Adj DP Motor)

Description

Make the adjustment if the magnification is incorrect in the auxiliary scanning direction when the DP is used

Purpose

Make the adjustment if the magnification is incorrect in the auxiliary scanning direction when the DP is used

Adjustment

1.Press the [Start] key.
2.Press the [System Menu/Counter] key.
3.Place an original on the DP and press the [Start] key to make a test copy.
4.Press the [System Menu/Counter] key.
5.Select the item to adjust.

Items	Description	Setting range	Initial setting	Change in value per step
SubScan(F)	Adjustment of the magnification in the sub-scanning direction.(Front page)	-25 to 25	0	0.1 %
SubScan(B)	Adjustment of the magnification in the sub-scanning direction.(Back page)	-25 to 25	0	0.1 %
Duplex 1side	Adjustment of the magnification in the sub-scanning direction.(Front page in duplex scanning)	-25 to 25	-3	0.1 %

6.By using [◄] [►] or the numeric keys, change the setting value.
For copy example 1, increase the value.
For copy example 2, decrease the value.
* : When the setting value is increased, the image gets longer, and it shortens when the setting value is decreased.

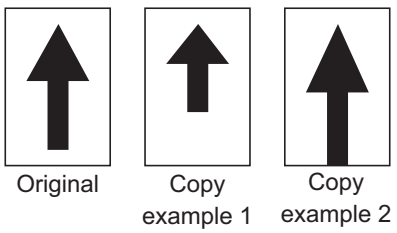


Figure 6-10

7.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U071	Adjust DP Leading Edge Timing (Message: DP 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.Press the [System Menu/Counter] key.
3.Place an original on the DP and press the [Start] key to make a test copy.
4.Press the [System Menu/Counter] key.
5.Select the item to adjust.

Items	Description	Setting range	Initial setting	Change in value per step
Front Head	Leading edge registration. (Front page)	-32 to 32	-	0.085mm
Front Tail	Trailing edge registration. (Front page)	-32 to 32	-	0.085mm
Back Head	Leading edge registration. (Back page)	-32 to 32	-	0.085mm
Back Tail	Trailing edge registration. (Back page)	-32 to 32	-	0.085mm

Adjustment: Front Head/Back Head

1.By using [◄] [►] or the numeric keys, change the setting value.
For copy example 1, increase the value.
For copy example 2, decrease the value.
* : When the setting value is increased, the image moves forward and it moves backward when the setting value is decreased.

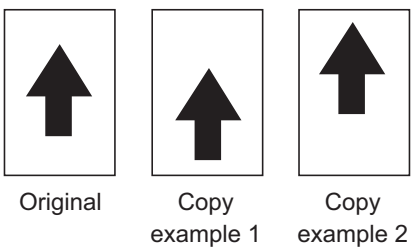


Figure 6-11

2.Press the [Start] key to confirm the setting.

Note

If the front page is adjusted, check the back page 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.
U034(P.6-24) > U071

Adjustment: Front Tail/Back Tail

1.By using [◄] [►] or the numeric keys, change the setting value.
For copy example 1, increase the value.
For copy example 2, decrease the value.
* : When the setting value is increased, the image gets longer, and it shortens when the setting value is decreased.

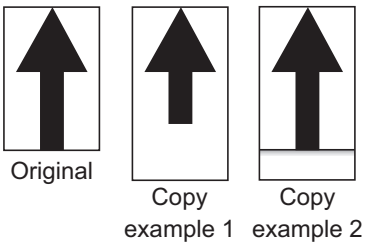


Figure 6-12

2.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U072	Adjust DP Original Center (Message: DP Center)

Description

Adjusts the DP original center line.

Purpose

Make the adjustment if there is a regular error between the center lines of the original and the copy image when the DP is used

Adjustment

1.Press the [Start] key.
2.Press the [System Menu/Counter] key.
3.Place an original on the DP and press the [Start] key to make a test copy.
4.Press the [System Menu/Counter] key.
5.Select the item to adjust.

Items	Description	Setting range	Initial setting	Change in value per step
Front	DP center line. (Front page)	-60 to 60	0	0.085 mm
Back	DP center line. (Back page)	-60 to 60	0	0.085 mm

6.By using [◄] [►] or the numeric keys, change the setting value.
For copy example 1, increase the value.
For copy example 2, decrease the value.
* : When the setting value is increased, the image moves to right, and it moves to left when the setting value is decreased.

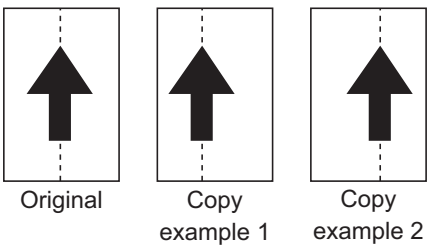


Figure 6-13

7.Press the [Start] key to confirm the setting.

Note

If the front page is adjusted, check the back page 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.
U034(P.6-24) > U065(P.6-27) > U067(P.6-30) > U072

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U127	Check/Clear transfer Count (Message: Clr Trans Cnt)

Description

Display,and change or clear the transfer counts.

Purpose

Verify the primary/secondary transfer unit counts after replacing Also, clear the counts after replacing.

Method

1.Press the [Start] key.

* : The transfer count is displayed.

Items	Description
Mid(Cnt)	Primary transfer counter
2nd(Cnt)	Secondary transfer counter

Setting: Mid(Cnt)

1.By pressing[◄] [►] key or [*] key, [#] key, the value is switched to [0] or "Current value".
2.When clearing the counter value, select [0] and then press the [Start] key.

Setting: 2nd(Cnt)

1.By using [◄] [►] or the numeric keys, change the setting value.
2.Press the [Start] key to set the count value.

Method: Clear

1.Select [Clear].
2.Press the [Start] key to clear the count value.

Completion

1.Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U167	Clear Fuser Counter (Message: Clr Fuser Cnt)

Description

Displays and clears the fuser count.

Purpose

Verify the fuser count after replacement Also, clear the counts after replacing

Method

1.Press the [Start] key.

* : The fuser count is displayed.

Method: Clear

1.Select [Clear].
2.Press the [Start] key to clear the count value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U201	Initialize Touch Panel (Message: Init Touch Panel)

* : 35 ppm model only

Description

Adjusts touch panel detecting positions.

Purpose

Correct and confirm the touch panel detecting positions, when the panel PWB or the operation panel is replaced or if the detecting positions are not aligned

Method

1.Press the [Start] key.
2.Select [Initialize] or [Check].
* : The screen for executing is displayed.

Items	Description
Initialize	Automatic correction of the touch panel display position
Check	Confirmation of the touch panel display position

Method: Initialize

1.Press the center of "+". (three positions)
* : The touch panel is adjusted automatically.
2.: After complete setting, move to the [Check] screen automatically.

Method: Check

1.Press the indicated three "+", and then check the display position.
* : When adjusting the display, press [Initialize] to execute the adjustment automatically.
2.Press the [Stop] key.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U203	Check DP Operation (Message: Chk DP Ope)

Description

Simulate the original conveying operation separately in the DP.

Purpose

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 scan speed

Items	Description
Normal Speed	Normal reading (600dpi)
High Speed	High-speed reading

4.Select the item to operate.

Items	Description
CCD ADP(Non-P)	Without paper, single-sided original of CCD (continuous operation)
CCD ADP	With paper, single-sided original of CCD
CCD RADP(Non-P)	Without paper, double-sided original of CCD (continuous operation)
CCD RADP	With paper, double-sided original of CCD

5.Press the [Start] key.

* : The operation starts.

6.To stop the operation, press the [stop] key.

To stop the operation, press the [Stop] key.

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U222	Set IC Card Type (Message: Set IC Card Type)

Description
Sets the type of ID card.
Purpose
Change the type of ID card

Setting
1.Press the [Start] key.
2.Select the item to set.

Items	Description
Other	When the type of ID card is not SSFC.
SSFC	When the type of ID card is SSFC.

* : Initial setting: Other

3.Press the [Start] key to confirm the setting.

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

U250	Change Maintenance Counter Pre-set (Message: Mnt Cnt Pre-set)

Description
Changes pre-set values for maintenance cycle and automatic grayscale adjustment.
Purpose
Change the time when the message to acknowledge to conduct maintenance adjustment and automatic grayscale adjustment is periodically displayed

Setting
1.Press the [Start] key.
2.Select the item to set.
3.By using [◄] [►] or the numeric keys, change the setting value.

Items	Description	Setting range
M.Cnt A	Pre-set values for maintenance cycle (Kit A)	0 to 9999999
Clear	Clearing of maintenance counts	0

4.Press the [Start] key to confirm the setting.

Clearing
1.Select [Clear].
2.Press the [Start] key to clear the setting value.

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

U251	Check/Clear Maintenance Counter (Message: Clr Mnt Cnt)

Description

Display, clear and change the maintenance count.

Purpose

Check the maintenance count

Also, clear the count during maintenance service.

Setting

1.Press the [Start] key.

2.Select the item to set.

3.By using [◄] [►] or the numeric keys, change the setting value.

Items	Description	Setting range
M.Cnt A	Count values for maintenance cycle (Kit A)	0 to 9999999
Clear	Clearing of maintenance counts	0

Clearing

1.Select [Clear].

2.Press the [Start] key to clear the setting value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U252	Set Destination (Message: Set Dest)

Description

Switch the operations and screens of the main unit according to the destination.

Purpose

Execute after initializing the backup RAM, in order to return the setting to the value before replacement or initialization

Method

1.Press the [Start] key.
2.Select [Japan Metric].

Items	Description
Japan Metric	Japan Metric

3.Press the [Start] key.
* : Initialize software switches and all data in the backup data, according to the destination.
4.Turn the power switch off then on. Take interval more than 5 seconds between Off and On.
* : An error code is displayed in case of an initialization error.
When errors occur, turn the power switch off then on, and execute maintenance mode U252.

Error codes

Items	Description
0001	Controller (Entity Error)
0002	Controller error
0020	Engine error
0040	Scanner error

U253	Set Double/Single Count (Message: Set D/S Count)

Description

Switch the count system for the total counter and other counters for every color mode.

Purpose

Select, according to user's request (copy service provider), if the maximum size paper is to be counted as one sheet (single count) or two sheets (double count)

Setting

1.Press the [Start] key.

2.Select [Color] or [B/W].

Items	Description
Color	Single or Double Count for full color mode
B/W	Single or Double Count for monochrome mode

3.Select [SGL(All)] or [DBL(Folio)].

Items	Description
SGL(All)	Single count for all size paper
DBL(Folio)	Double count for Folio size or larger.

* : Initial setting: SGL(All)

4.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U260	Select Copy Count (Message: Set Count Mode)

Description

Switch the count system for the total counter and other counters.

Purpose

Change the count timing according to user request

Setting

1.Press the [Start] key.

2.Select the copy count timing.

Items	Description
Feed	When secondary paper feed starts.
Eject	When the paper is ejected

* : Initial setting: Eject

3.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U285	Set Service Status Page (Message: Set Svc Sts Page)

Description

Determines displaying the digital dot coverage report on reporting.

Purpose

Change the setting according to user's request

Setting

1.Press the [Start] key.

2.Select [On] or [Off].

Items	Description
On	Displays the digital dot coverage.
Off	Not to display the digital dot coverage.

* : Initial setting: On

3.Press the [Start] key to confirm the setting.

Completion

4.Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U332	Adjust Coverage Size (Message: Adj Calc Rate)

Description

Set the coefficient of custom 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 the service status page.

Purpose

Set the coefficient for converting the black ratio for custom sizes in relation to the A4/Letter size

Method

1.Press the [Start] key.

2.Select the item to set.

Items	Description
Rate	Set the coefficient for converting the black ratio for custom sizes in relation to the A4/Letter size
Mode	Switch full-color count and color coverage count display
Level1	Low coverage threshold value
Level2	Middle coverage threshold value

Setting: Rate

1.By using [◄] [►] or the numeric keys, change the setting value.

Items	Description	Setting range	Initial setting
Rate	Set the coefficient for converting the black ratio for custom sizes in relation to the A4/Letter size	0.1 to 3.0	1.0

2.Press the [Start] key to confirm the setting.

Setting: Mode

1.Select the mode.

Items	Description
0	Full-color count display
1	Color coverage count display

* : Initial setting: 0

2.Press the [Start] key to confirm the setting.

Setting: Level1,2

1.Select the item to set.

2.By using [◄] [►] or the numeric keys, change the setting value.

Items	Description	Setting range	Initial setting
Level1	Low coverage threshold value	0.1 to 99.8	1.0
Level2	Middle coverage threshold value	0.2 to 99.9	2.5

3.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U345	Set the maintenance time precaution display (Message: Set Mnt Time Disp)

Description

Set when to display a message notifying that the time for maintenance is about to be reached, by setting the number of prints that can be made before the current maintenance cycle reaches. Display the message when the difference between the number of prints of the maintenance cycle and that of the maintenance count reaches the set value.

Purpose

Change the time for maintenance precaution display

Setting

1.Press the [Start] key.
2.Select the item to set.
3.By using [◄] [►] or the numeric keys, change the setting value.

Items	Description	Setting range	Initial setting
Cnt	Maintenance time precaution display (Remaining number of prints that can be made before the current maintenance cycle reaches)	0 to 9999	0
Clear	Clear the count value	-	-

4.Press the [Start] key to set the setting value.

Clearing

1.Select [Clear].
2.Press the [Start] key to clear the setting value.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U346	Selecting Sleep Mode (Message: Slct Sleep Mode)

Description

Changes the sleep mode-related setting.

Purpose

Change the sleep mode-related setting

Method

1.Press the [Start] key.

2.Select the item to set.

* : The screen for setting is displayed.

Items	Description
Timer/Sleep Level	BAM conformity country setting
Auto sleep	On/Off setting of the AutoSleep function

Setting: Timer/Sleep Level

1.Select [More Energy Save] or [Less Energy Save].

Items	Description
More Energy Save	BAM conformity setting On Sleep setting is disabled (Quick Recovery setting is disabled)
Less Energy Save	BAM conformity setting Off Sleep level can be set (Quick Recovery or Energy Saver)

* : Initial setting: More Energy Save

2.Press the [Start] key. Press the [Start] key to confirm the setting.

3.Turn the power switch off then on. Take interval more than 5 seconds between Off and On.

Setting: Auto sleep

1.Set [On] or [Off].

Items	Description
On	Transition to sleep mode is deactivated from the system menu.
Off	Transition to sleep mode is activated from the system menu.

* : Initial setting: On

2.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U402	Print Margin (Message: Print Margin)

Description

Adjust margins when writing.

Purpose

Make the adjustment if margins are incorrect

* : If the leading edge margin is less than the specified value, it may cause jam at the fuser.
* : If there is no rear margin, when continuously printing, it may cause of image smudge on the second page.

Adjustment

1.Press the [Start] key.
2.Press the [System Menu/Counter] key.
3.Press the [Start] key to output a test pattern.
4.Press the [System Menu/Counter] key.
5.Select the item to set.

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

6.By using [◄] [►] or the numeric keys, change the setting value.

* : When the setting value is increased, the margin widens, and it narrows when the setting value is decreased.

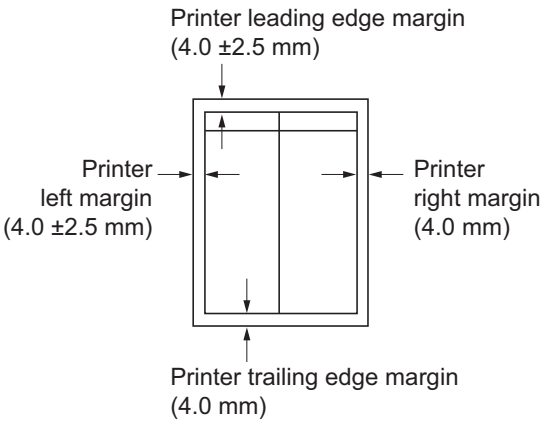


Figure 6-14

7.Press the [Start] key to confirm the setting.

Note

Check the copy image after the adjustment. If the image is still incorrect, adjust the following in the maintenance mode.
U034 (P.6-24) > U402

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U403	Scan Margin Tbl (Message: Scan Margin Tbl)

Description

Adjusts the margins for table scanning.

Purpose

Make the adjustment if margins are incorrect

Adjustment

1.Press the [Start] key.
2.Press the [System Menu/Counter] key.
3.Place an original and press the [Start] key to make a test copy.
4.Press the [System Menu/Counter] key.
5.Select the item to adjust.

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

6.By using [◄] [►] or the numeric keys, change the setting value.
* : When the setting value is increased, the margin widens, and it narrows when the setting value is decreased.

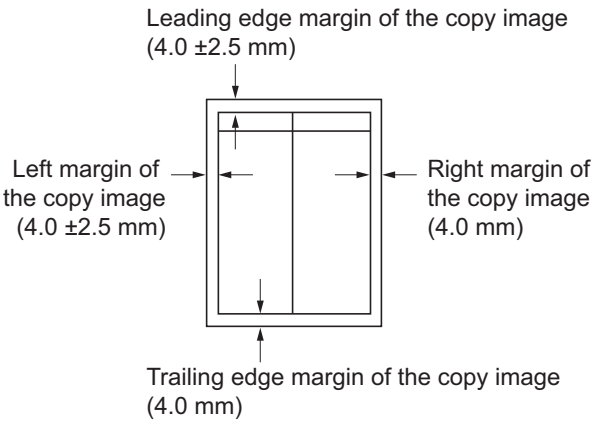


Figure 6-15

7.Press the [Start] key to set the setting value.

Note

Check the copy image after the adjustment. If the image is still incorrect, adjust the following in the maintenance mode.
U034(P.6-24) > U402(P.6-47) > U403

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U404	Scan Margin DP (Message: Scan Margin DP)

Description

Adjusts the margins for DP scanning.

Purpose

Make the adjustment if margins are incorrect

Adjustment

1.Press the [Start] key.
2.Press the [System Menu/Counter] key.
3.Place an original on the DP and press the [Start] key to make a test copy.
4.Press the [System Menu/Counter] key.
5.Select the item to adjust.

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

6.By using [◄] [►] or the numeric keys, change the setting value.
* : When the setting value is increased, the margin widens, and it narrows when the setting value is decreased.

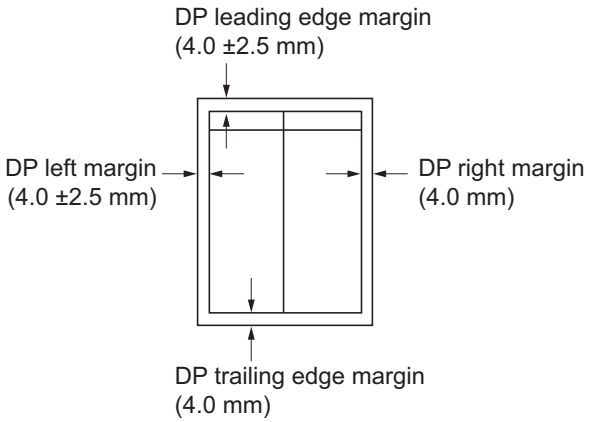


Figure 6-16

7.Press the [Start] key to confirm the setting.

Note

Check the copy image after the adjustment. If the image is still incorrect, adjust the following in the maintenance mode.
U034(P.6-24) > U402(P.6-47) > U403(P.6-48) > U404

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U407	WR Timing (D/R) (Message: WR DR Timing)

Description

Adjusts the writing timing when printing in duplex.

Purpose

Make the adjustment when the back page image of double-sided copying is printed in rotated 180 degrees against the scanner reading image (image on the memory)

Note

Proceed this adjustment after finishing the following maintenance modes.
U034(P.6-24) > U402(P.6-47) > U66(P.6-29) >
U403(P.6-48) > U71(P.6-33) > U404(P.6-49) > U407

Adjustment

1.Press the [Start] key.
2.Press the [System Menu/Counter] key.
3.Place an original on the DP and press the [Start] key to make a test copy.
4.Press the [System Menu/Counter] key.
5.Select [Adj Data].

Items	Description	Setting range	Initial setting	Change in value per step
Adj Data	The timing of leading edge when writing the image on memory	-47 to 47	0	1dot

6.By using [◄] [►] or the numeric keys, change the setting value.
For copy example 1, increase the value.
For copy example 2, decrease the value.
* : When the setting value is increased, the image moves forward and it moves backward when the setting value is decreased.

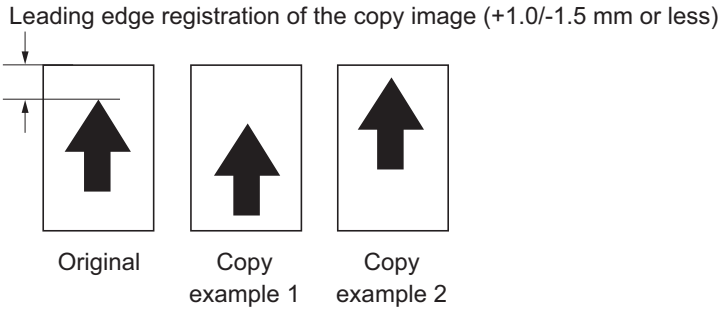


Figure 6-17

7.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U410	Adjusting the halftone automatically

Description

Carries out processing for the data acquisition that is required in order to perform either automatic adjustment of the halftone or the ID correction operation.

Purpose

Execute when the quality of reproduced halftones has dropped

Adjustment

1.Press the [Start] key.
2.Select [Normal Mode].
3.Press the [Start] key.
 * : A test patterns 1 and 2 are output on the A4 paper.
4.Place the output test pattern 1 as the original.
 * : Place approximately 20 sheets of white paper on the test pattern 1 and set them.
5.Press the [Start] key.
 * : The first auto adjustment is executed.
6.Place the output test pattern 2 as the original.
7.Press the [Start] key.
 * : The second auto adjustment is executed.
8.When normally completed, [Fin] is displayed.
9.An error code appears when there is an error.

Error codes

Codes	Occurrence position	Description
S001	Scanner	Original reference patch not detected
S002		Original deviation is in excess in the main scanning direction
S003		Original deviation is in excess in the auxiliary scanning direction
S004		Original inclination is in excess
S005		Original type error
SFFF		Scanner other error
E001	Engine	Engine status error
E002		Survey results abnormal
EFFF		Engine other error
C001	Contorller	Pause status
C002		Adjustment results error
C110		Adjustment value error (black)
C120		Adjustment value error (cyan)
C140		Adjustment value error (magenta)
C180		Adjustment value error (yellow)
C210		Adjustment value error (black)
C220		Adjustment value error (cyan)
C240		Adjustment value error (magenta)
C280		Adjustment value error (yellow)
CFFF		Controller other error

U411	Auto Adj Scn (Message: Auto Adj Scn)

Description

Uses the specified originals and automatically adjusts the following items in the scanner and the DP scanning sections.

Scanner section: Original size magnification, leading edge timing, center line, input gamma, input gamma in monochrome mode and matrix.

DP scanning section: Original size magnification, leading edge timing and center line.

Purpose

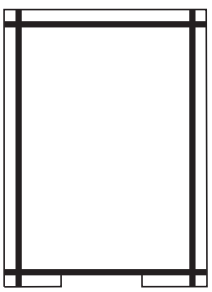
Perform the automatic adjustment of various items in the scanner and the DP scanning sections

Method

1.Press the [Start] key.

2.Select the item to execute.

* : The screen for setting is displayed.

Items	Description	Original for adjustment (P/N)
Table(chartA)	Perform the automatic adjustment in the table scanning. Magnification in the sub-scanning direction 302NM9434_ Leading edge timing Center line Chromatic aberration in the main scanning direction Input gamma in monochrome mode Input gamma in color mode Color correction matrix	302NM9434_
DP FU(ChartB) **DP FD(ChartB)**	Perform the automatic adjustment in the DP scanning section. Magnification in the sub-scanning direction Leading edge timing Center line	302NM9433_ 
All	Perform the automatic adjustment in the DP scanning section after the automatic adjustment in the table scanning. Automatic adjustment in the scanning section.	302NM9434_ 302NM9433_
Target	Set-up for obtaining the target value	302NM9434_ 302NM9433_

Method: Table(chartA)
Automatic input of the target value

* : Usually, it adjusts here.

1.Set the specified original (P/N: 302NM9434_) on the table.
2.Enter maintenance item U411.
3.Select [Target].
4.Using [◄] [►] key or [*] key, [#] key, select [Auto], and press the[Start] key.
5.Select [Table(ChartA)].
6.Press the [Start] key to read the barcode of the original chart and to start the automatic adjustment.
7.When automatic adjustment has normally completed, [OK] is displayed.

*: When the error code "1e" or "1f" is displayed during the automatic adjustment in the table scanning and the barcode is not read, perform the adjustments in the following procedure after manual of input the target value.

Manual input of the target value

1.Enter the target values which are shown on the lower part of the front page of the adjustment original (P/N: 302NM9434_) by executing the maintenance mode U425.
2.Set the specified original (P/N: 302NM9434_) on the table.
3.Enter maintenance item U411.
4.Select [Target].
5.Using [◄] [►] key, select [U425] and press the [Start] key.
6.Select [Table(ChartA)].
7.Press the [Start] key to start Auto adjustment.
8.When automatic adjustment has normally completed, [OK] is displayed.

Method: DP FU(ChartB)

* : To adjust the front page of the DP scanning

1.Set the specified original (P/N: 302NM94330) on the DP face-up.
2.Enter maintenance item U411.
3.Select [DP FU(ChartB)].
4.Press the [Start] key to start auto adjustment.
5.When automatic adjustment has normally completed, [OK] is displayed.

Method: DP FD(ChartB)

* : Adjust the back page of the DP scanning

1.Set the specified original (P/N: 302NM9433_) on the DP face-down.
2.Enter maintenance item U411.
3.Select [DP FD(ChartB)].
4.Press the [Start] key to start auto adjustment.
5.When automatic adjustment has normally completed, [OK] is displayed.

* : If an error occurs during auto adjustment, error code "NGXX" is displayed and operation stops. In this case, check the details of the error and repeat the automatic adjustment procedure from the beginning.

Error codes

Codes	Description	Corrective Action
00	Automatic adjustment success	-
01	Black band detection error (Table scanning leading edge skew in the sub-scanning direction)	1. Set the original correctly and perform the adjustment again. 2. Check lighting of the lamp or replace it.
04	Black band is not detected (Table leading edge in the sub-scanning direction)	
05	Black band is not detected (Table far end in the main scanning direction)	
06	Black band is not detected (Table near end in the main scanning direction)	
07	Black band is not detected (Table trailing edge in the sub-scanning direction)	
08	Black band is not detected (DP far end in the main scanning direction)	1. Check the attachment position of DP. 2. Check lighting of the lamp or replace it. 3. Check the back and front of the adjustment original.
09	Black band is not detected (DP near end in the main scanning direction)	
0a	Black band is not detected (DP leading edge in the sub-scanning direction)	
0b	Black band is not detected (Original check of DP leading edge in the sub-scanning direction)	
0c	Black band is not detected (DP trailing edge in the sub-scanning direction)	
0d	White band is not detected (DP trailing edge in the sub-scanning direction)	
0e	DMA time out	Turn the power switch off then on, and execute again.
0f	Magnification error in the sub-scanning direction	1. Turn the power switch off then on, and execute again. 2. Manually adjust the items below. (U065 to U067, U070 to U072)
10	Leading edge error in the sub-scanning direction	
11	Trailing edge error in the sub-scanning direction	
12	DP skew error in the sub-scanning direction	
13	Maintenance request error	Turn the power switch off then on, and execute again.

Codes	Description	Corrective Action
14 **15** **16**	Center line error in the main scanning direction DP skew error in the main scanning direction Magnification error in the main scanning direction	1. Turn the power switch off then on, and execute again. 2. Manually adjust the items below. (U065 to U067, U070 to U072)
17	Service call error	Turn the power switch off then on, and execute again.
18	DP paper jam error	**Set the original correctly and execute again.**
19	PWB replacement error	-
1a	Original error	1. Clean the contact glass and slit glass. Exchange the adjustment original.
1b **1c** **1d**	Input gamma adjustment original error Matrix adjustment original error Original for the white reference correction coefficient error	Set the original correctly and execute again.
1e	Lab value detection error	Check the following and execute again. Bar code is dirty or not ? Position of the original is correct or not ? Position of the bar code is correct or not ?
1f	Lab value comparing error	Check the following and execute again. The acquired bar code is the same or not ? Position of the original is correct or not ? Position of the bar code is correct or not ?
20 **21** **30**	Input gamma correction coefficient error Color correction matrix coefficient error Chromatic aberration adjustment original error	Set the original correctly and execute again.
99	Completed to obtain a test RAW	-

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U425	Set Target (Message: Set Target)

Description

Enter the lab values which are shown on the back page of the adjustment original (P/N: 302NM9434_).

Purpose

Enter data in order to correct for differences in originals during the automatic adjustment

Method

1.Press the [Start] key.
2.Select the item to set.

Items	Description
ChartA	Setting the adjustment value of the table scanning
ChartB	Setting the adjustment value of the DP scanning

Method: ChartA

1.Press the [Start] key.
2.Select the item to set.

Items	Description
White	Setting the white patch for the adjustment original
Black	Setting the black patch for the adjustment original
Gray1	Setting the Gray1 patch for the adjustment original
Gray2	Setting the Gray2 patch for the adjustment original
Gray3	Setting the Gray3 patch for the adjustment original
C	Setting the cyan patch for the adjustment original
M	Setting the magenta patch for the adjustment original
Y	Setting the yellow patch for the adjustment original
R	Setting the red patch for the adjustment original
G	Setting the green patch for the adjustment original
B	Setting the blue patch for the adjustment original
Adjust Original	Setting the main scanning and sub-scanning directions

3.Press the [Start] key.
4.Select the item to set.

Items	Description	Setting range	Initial setting	Change in value per step
L	Setting the L value	0.0 to 100.0	93.6/10.6/76.2/25.2/51.3 72.6/48.1/86.2/46.7/67.8/38.8	
a	Setting the a value	-200.0 to 200.0	0.9/-0.2/-0.2/-0.2/-0.3 -32.8/69.9/-18.6/54.2/-51.3/25.3	
b	Setting the b value	-200.0 to 200.0	-0.4/-0.7/1.2/-0.2/0.3 -11.5/-6.1/81.7/38.6/48.9/-22.8	

5.By using [◄] [►] or the numeric keys, enter the values which are shown on the back page of the adjustment original.
6.Press the [Start] key to set the setting value.

Setting: Adjust Original

* : This setting is usually unnecessary.

Items	Description	Setting range	Initial setting	Change in value per step
Lead	Set the adjustment value of a leading edge.	4.0 to 6.0	5.0	
Main Scan	Sets the adjustment value of the left edge.	9.0 to 11.0	10.0	
Sub Scan	Set the adjustment value of the trailing edge.	265.0 to 267.0	266.0	

1.Measure the distance from the leading edge to the top edge of black belt 1 on the adjustment original at three positions.
Measurement procedure
1) Measure the distance of "A","B" and "C" at the following three positions. (A: 30mm from the left edge, B: 105mm from the left edge, C: 180mm from the left edge)
Measure the distance to the leading edge of the black band
2) Apply the following formula for the values obtained: ((A+B+C)/3)
2.Enter the value solved in "Lead" using the [◄] [►] keys.
3.Press the [Start] key to set the setting value.
4.Measure the distance from the left edge to the right edge of black belt 2 on the adjustment original.
Measurement procedure
1) Measure the distance "F" from the left edge to the right edge of black belt 2 on the adjustment original at 21mm from the top edge of black belt 1.
5.Enter the value measured in "Main Scan" using the [◄] [►] keys.
6.Press the [Start] key to set the setting value.
7.Measure the distance from the top edge of black belt 1 to the bottom edge of black belt 3 on the adjustment original at two positions.
Measurement procedure
1) Measure the distance of "D" and "E" at the following two positions. (D: Measure the distance from the leading edge to the bottom edge of black belt 3 on the adjustment original at 30mm from the left edge and deduct the value of A. E: Measure the distance from the leading edge to the bottom edge of black belt 3 on the adjustment original at 180mm from the left edge and deduct the value of C.)
2) Apply the following formula for the values obtained: (D/2+E/2)
8.Enter the value solved in "Sub Scan" using the [◄] [►] keys.

9.Press the [Start] key to set the setting value.

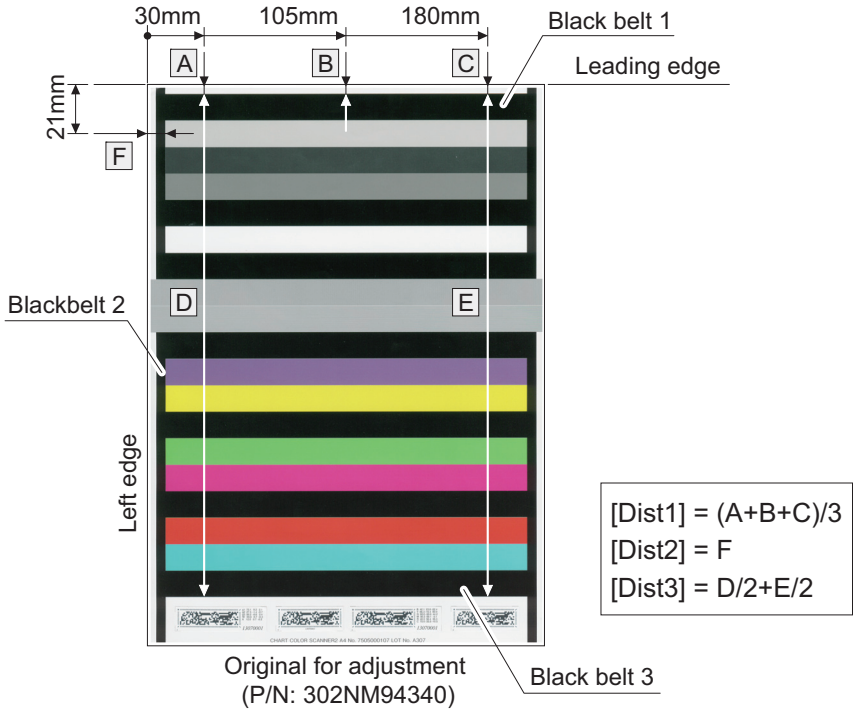


Figure 6-18

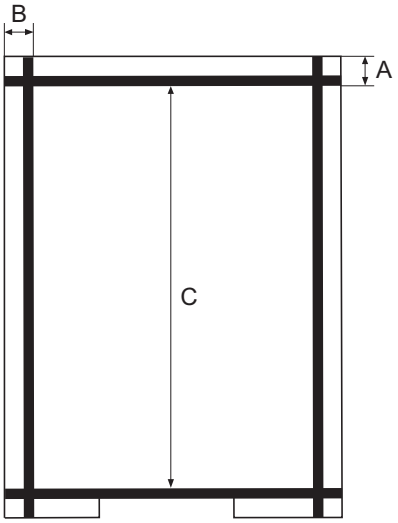
Setting: DP(ChartB)

* : This setting is usually unnecessary.

Items	Description	Setting range	Initial setting	Change in value per step
Lead	Set the adjustment value of a leading edge.	14.0 to 16.0	15.0	
Main Scan	Sets the adjustment value of the left edge.	14.0 to 16.0	15.0	
Sub Scan	Set the adjustment value of the trailing edge.	265.0 to 269.0	267.0	

1.Measure the distance "A" from the leading edge to the black belt (inside) on the adjustment original.
2.Enter the values measured in "Lead" using the [◄] [►] keys.
3.Measure the distance "B" from the left edge to the black belt (inside) on the adjustment original.
4.Enter the value measured in "Main Scan" using the [◄] [►] keys.
5.Measure the distance "C" from the leading black belt (inside) to the trailing black belt (inside) on the adjustment original.
6.Enter the values measured in "Sub Scan" using the [◄] [►] keys.

7.Press the [Start] key to confirm the setting.



Original for adjustment (P/N: 302NM94330)

Figure 6-19

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U520	Set TDRS (Message: Set TDRS)

Description

Performs TDRS settings and information views.

Purpose

Perform the TDRS settings and information views

Method

1.Press the [Start] key.

2.Select the item to set.

Items	Description
Registration	Transition to the TDRS Manager registering dialog
Information	Transition to the Device Agent description dialog
On/Off Config	Transition to the TDRS features setting dialog

Setting: Registration

3.Select the item to set.

Items	Description
TDRS User	Registering process for user and password
Access Code	Registering process for Access Code

Setting: Access Code

4.Select the item to set.

Items	Description
Regist	Registration to TDRS Manager
TDRS Server	TDRS Server URL
TDRS User	TDRS Username
Access Code	TDRS Access Code
Proxy Server	TDRS Proxy Server URL
Proxy Port	TDRS Proxy Port Number
Proxy User	TDRS Proxy Username
Text	TDRS Description

* : [Regist] is inoperative if the USB is not installed.
* : When the USB Flash Drive is inserted, TDRS information is automatically obtained and displayed.
  After obtaining TDRS information, select [Regist] and then register the TDRS information by pressing the [OK] or [Start] key.
* : After the normal completion, [Complete] is indicated in the status information of the item that was performed.
  When an error occurs, the following numbers are indicated in the status information of the item that was performed.
* : If [User/Processing Registration using a Password] is selected in the previous dialog, the "TDRS User" will be indicated.
  If [Processing Registration using an Access Code] is selected, the "Access Code" will be indicated.

Error codes

Items	Description	Items	Description
e0001	HDD is unavailable.	**t0001**	Fatal error
e0002	USB Flash Drive is unavailable.	**t0002**	Error in processing the network
e0003	The file to import does not exist	**t0003**	An illegal parameter error
e0004	Reading from the USB Flash Drive has failed.	**t0004**	Insufficient resource
e0005	Unmounting the USB Flash Drive has failed.	**t0005**	Communication error
e0006	Moving or renaming the file has failed.	**t0006**	Error in processing communication.
e0007	Opening the file has failed.	**t0007**	Login error
e0008	Closing the file has failed.	**t0008**	External error
e0009	Error in reading the file	**t0009**	Authentication error
e000A	Copying the file has failed.	**t000A**	HTTP error: Request error
e000B	Opening the directory has failed.	**t000B**	HTTP error: Error due to the server
e00C	Creating the working directory has failed.	**t00C**	HTTP error: Error due to the client.
e00D	Deleting the working file has failed.		

Setting: Information

1.Select the item to set.

Items	Description
Agent ID	Agent ID
Agent Type	Agent Type
Model	Model name
Serial No	Serial number
Offline	TDRS connection state

Setting: On/Off Config

1.Select the item to set.

Items	Description
On	Enable TDRS
Off	Disable TDRS

2.Press the [Start] key to set the setting value.

3.Turn the power switch off then on. Take interval more than 5 seconds between Off and On.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U600	Initialize: All Data (Message: Init All Data)

Description

Initialize software switches and all data and image memory in the backup data on the FAX control PWB, according to the destination and OEM setting.

Execute check of the file system when abnormality of the file system is detected, initialize the file system and then initializes the communication record and the registering contents.

Purpose

Initialize the FAX control PWB

Method

1.Press the [Start] key.

* : The screen for entering the destination code and OEM code is displayed.

2.Select [Country Code] and enter a destination code using the numeric keys.

* : Refer to the following destination code list.

Items	Description
Country Code	Setting for Country Code
OEM Code	Setting the OEM Code
Execute	Executing data initialization

* : No operation of "OEM code" is necessary.

3.Select [Execute] and press the [Start] key.

* :Data initialization starts.

To cancel the data initialization, press the [Stop] key.

4.After the data initialization, the firmware version is displayed.

Firmware version displays in three kinds of application, boot, and IPL.

* : When initialization is successful, "Completed" is displayed during one second.

* : Where an irregular value is input, when it initializes, the following errors are displayed.

Kind of error
Unknown Country (When Country Code is unknown)
Unknown OEM (When OEM Code is unknown)
Unknown Country (When both are unknown)

Destination code list

Destination code	Destination	Destination code	Destination
000	Japan	**253**	CTR21 (European nations)
007	Argentina	↑	Italy
009	Australia	↑	Germany
022	Brazil	↑	Spain
038	China	↑	U.K.
080	Hong Kong	↑	Netherlands
084	Indonesia	↑	Sweden
088	Israel	↑	France

Destination code	Destination	Destination code	Destination
097	Korea	↑	Austria
181	U.S.A.	↑	Switzerland
250	Russia	↑	Belgium
108	Malaysia	↑	Denmark
115	Mexico	↑	Finland
126	New Zealand	↑	Portugal
136	Peru	↑	Ireland
137	Philippines	↑	Norway
152	Middle East	**254**	Taiwan
156	Singapore		
159	South Africa		
169	Thailand		

U601	**Initialize: Keep Data (Message: Init Keep Data)**

Description

Initializes software switches other than the machine data on the FAX control PWB according to the destination and OEM setting.

Purpose

Initialize the FAX control PWB without changing the user registration data and the factory defaults

Method

1.Press the [Start] key.

* : The screen for entering the destination code and OEM code is displayed.

2.Select [Country Code] and enter a destination code using the numeric keys.

* : Refer to the destination code list. (Refer to page P.6-62)

Items	Description
Country Code	Setting for Country Code
OEM Code	Setting the OEM Code
Execute	Executing data initialization

* :: No operation of "OEM code" is necessary.

3.Select [Execute] and press the [Start] key.

* :Data initialization starts.

To cancel the data initialization, press the [Stop] key.

4.After the data initialization, the firmware version is displayed.

Firmware version displays in three kinds of application, boot, and IPL.

U603	User Data 1 (Message: User Data 1)

Description

Sets the type of line to enable the use of the main unit as a fax.

Purpose

Execute as required

Method

1.Press the [Start] key.

2.Select [Line Type] and press the [Start] key.

Items	Description
Line Type	Line Type

3.Select the item to set.

Items	Description
DTMF	DTMF
10PPS	10PPS
20PPS	20PPS

* : Initial setting: DTMF

4.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U604	User Data 2 (Message: User Data 2)

Description

Adjust the number of rings of fax/telephone automatic switching to enable the use of the machine as a fax.

Purpose

Adjust the number of rings to longer (or shorter) that occur before the main unit switches into fax receiving mode according to the user's requirement

Method

1.Press the [Start] key.

2.Select [Rings(F/T)#].

3.By using [◄] [►] or the numeric keys, change the setting value.

Items	Description	Setting range	Initial setting
Rings (F/T) #	Number of fax/telephone rings	0 to 15	-

* : If the default is set to "0", the main unit will start fax reception without any ringing.

4.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U605	Clear Data (Message: Clr Data)

Description

Initializes data related to the fax transmission such as transmission history or various ID.

Purpose

Clear the communication history

Method

1.Press the [Start] key.
2.Select [Comm Rec].

Items	Description
Comm Rec	Delete data of communication history and protocol list of display port

3.Press the [Start] key.
* : Initialization starts, and after processing is finished, "Completed" is displayed.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U610	System Setting 1 (Message: System Setting 1)

Description

Set the number of lines to be ignored when receiving a fax at 100% magnification and in the auto reduction mode.

Method

1.Press the [Start] key.
2.Select the item to set.

Items	Description
Cut Line: A4	Set the number of lines to be ignored when receiving a fax (A4R/LetterR) in the auto reduction mode.
Cut Line: 100%	Set the number of lines to be ignored when receiving a fax at 100% magnification.
Cut Line: Auto	Set the number of lines to be ignored when receiving a fax in the auto reduction mode.

Setting: Cut Line: A4

Set the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when the data is recorded in the auto reduction mode onto A4R or LetterR paper.
If the number of excess lines is below the setting, those lines are ignored. If over the setting, the entire data on a page is further reduced so that it can be recorded on the same page.

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Set the number of lines to be ignored when receiving a fax (A4R/LetterR) in the auto reduction mode.	0 to 22	0	16 lines

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

2.Press the [Start] key to set the setting value.

Setting: Cut Line: 100%

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

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Set the number of lines to be ignored when receiving a fax at 100% magnification.	0 to 22	3	16 lines

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

2.Press the [Start] key to set the setting value.

Setting: Cut Line:Auto

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

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Set the number of lines to be ignored when receiving a fax in the auto reduction mode.	0 to 22	0	16 lines

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

2.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U611	System Setting 2 (Message: System Setting 2)

Description

Sets the number of adjustment lines for automatic reduction.

Purpose

Sets the number of adjustment lines for automatic reduction.

Method

1.Press the [Start] key.

2.Select the item to set.

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

Setting: ADJ LINES

Sets the number of adjustment lines for automatic reduction.

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Sets the number of adjustment lines for automatic reduction.	0 to 22	7	

2.Press the [Start] key to confirm the setting.

Setting: ADJ LINES(A4)

Sets the number of adjustment lines for automatic reduction.

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Sets the number of adjustment lines for automatic reduction when A4 paper is set.	0 to 22	22	

2.Press the [Start] key to set the setting value.

Setting: ADJ LINES(LT)

Sets the number of adjustment lines for automatic reduction when letter size paper is set.

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Sets the number of adjustment lines for automatic reduction when letter size paper is set.	0 to 22	26	

2.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U612	System Setting 3 (Message: System Setting 3)

Description

Sets the fax transmission operation and automatic printing of the protocol list.

Method

1.Press the [Start] key.

2.Select the item to set.

* : The screen for executing is displayed.

Items	Description
Auto reduct	Selects if auto reduction in the auxiliary direction is to be performed.
Protocol List	Sets the automatic printing of the protocol list.

Setting: Auto Reduct

Sets whether to receive a long document by automatically reducing it in the auxiliary direction or at 100% magnification.

1.Select the item to set.

Items	Description
On	Auto reduction is performed if the received document is longer than the fax paper.
Off	Auto reduction is not performed.

* : Initial setting: On

2.Press the [Start] key to confirm the setting.

Setting: Protocol List

Sets if the protocol list is automatically printed out.

1.Select the item to set.

Items	Description
Err	The protocol list is automatically printed out after communication only if a communication error occurs.
On	The protocol list is automatically printed out after communication.
Off	The protocol list is not printed out automatically.

* : Initial setting: Off

2.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U620	FAX System (Message: FAX System)

Description

Sets the signal detection method for remote switching.
Change the setting according to the type of telephone connected to the main unit.

Purpose

Set the decision system of a remote switching to compensate for a user's telephone classification, peculiarity, etc

Setting

1.Press the [Start] key.
2.Select [Remote Mode] and press the [start] key.

Items	Description
Remote Mode	Setting the remote switching mode

3.Select the item to be set.

Items	Description
One	One-shot type detection
Cont	Continuous type detection

* : Initial setting: One

4.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U625	Set Communication (Message: Set Comm)

Description

Sets the auto redialing interval and the number of times of auto redialing.

Purpose

Changes the setting to prevent the following problems.
Fax transmission is not possible due to too short redial interval, or fax transmission takes too much time to complete due to too long redial interval.

Method

1.Press the [Start] key.
2.Select the item to set.

Items	Description
Interval	Setting the auto redialing interval
Times	Setting the number of times of auto redialing

Setting: Interval

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Setting the auto redialing interval	1 to 9 minutes	3 min-utes	

2.Press the [Start] key to set the setting value.

Setting: Times

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Setting the number of times of auto redialing	0 to 15 times	3 times	

2.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U630	Communication control procedures

Description

Set the fax communication.

Purpose

Corresponding to the event of a request from a user

Reducing the transmission time to improve the accuracy of reception when using a low quality line

Improving the accuracy of communication at the international communication

Method

1.Press the [Start] key.

2.Select the item to set.

* : The screen for executing is displayed.

Items	Description
TX Speed	Sets the communication starting speed.
RX Speed	Sets the reception speed.
TX Echo	Sets the waiting period to prevent echo problems at the sender.
RX Echo	Sets the reception speed.

Setting: TX Speed

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

1.Select the communication speed.

Items	Description
14400bps/V17	V.17 14400bps
9600bps/V29	V.29 9600bps
4800bps/V27ter	V.27ter 4800bps
2400bps/V27ter	V.27ter 2400bps

* : Initial setting: 14400bps/V17

2.Press the [Start] key to set the setting value.

Setting: RX Speed

Sets the reception speed which will be shown to the sender unit in the DIS / NSF signal. When the destination unit has V.34 capability, V.34 is selected for transmission regardless of this setting.

1.Select the reception speed.

Items	Description
14400bps	V.17, V.33, V.29, V.27ter
9600bps	V.29, V.27ter
4800bps	V.27ter
2400bps	V.27ter (fallback only)

* : Initial setting: 14400bps

2.Press the [Start] key to set the setting value.

Setting: TX Echo

Sets the period before a DCS signal is sent after a DIS signal is received. Used when problems occur due to echoes at the sender.

1.Select the item to set.

Items	Description
500	Sends a DCS after 500 ms from receiving a DIS.
300	Sends a DCS after 300 ms from receiving a DIS.

* : Initial setting: 300

2.Press the [Start] key to confirm the setting.

Setting: RX Echo

Sets the period before an NSF, CSI or DIS signal is sent after a CED signal is received. Used when problems occur due to echoes at the receiver.

1.Select the item to set.

Items	Description
500	Sends an NSF, CSI or DIS after 500 ms from receiving a CED.
75	Sends an NSF, CSI or DIS after 75 ms from receiving a CED.

* : Initial setting: 75

2.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U631	Communication Control 2 (Message: Comm Ctrl 1)

Description

Set the fax communication.

Purpose

Sets the transmission and reception of ECM

Sets the frequency of CED

Method

1.Press the [Start] key.

2.Select the item to set.

* : The screen for executing is displayed.

Items	Description
ECM TX	Sets ECM transmission.
ECM RX	Sets ECM reception.
CED Freq	The frequency of CED is set up.

Setting: ECM TX

Set to OFF when the reduction of transmission costs is of higher priority than image quality.

* : This should not be set to OFF when connecting to the IP (Internet Protocol) telephone line.

1.Select the item to set.

Items	Description
On	ECM transmission is enabled.
Off	ECM transmission is disabled.

* : Initial setting: On

2.Press the [Start] key to confirm the setting.

Setting: ECM RX

Set to OFF when the reduction of transmission costs is of higher priority than image quality.

* : This should not be set to OFF when connecting to the IP (Internet Protocol) telephone line.

1.Select the item to set.

Items	Description
On	ECM reception is enabled.
Off	ECM reception is disabled.

* : Initial setting: On

2.Press the [Start] key to confirm the setting.

Setting: CED Freq

Set the frequency of CED. Perform it as one of the communication accuracy improvement measures for the international communication.

1.Select the item to set.

Items	Description
2100	2100Hz
1100	1100Hz

* : Initial setting: 2100

2.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U632	Communication Control 3 (Message: Comm Ctrl 3)

Description

Set the fax communication.

Purpose

Reducing the error communication when using a low quality line

Corresponding to the event of a request from a user in the fax/telephone automatic switching

Method

1.Press the [Start] key.

1.Select the item to set.

* : The screen for executing is displayed.

Items	Description
DIS 4Byte	Sets the DIS signal to 4 bytes.
Num OF CNG(F/T)	Sets the CNG detection times in the fax/telephone automatic switching mode.

Setting: DIS 4Byte

Sets wheter to send bit 33 and later bits of the DIS/DTC signal

1.Select the item to set.

Items	Description
On	Bit 33 and later bits of the DIS/DTC signal are not sent.
Off	Bit 33 and later bits of the DIS/DTC signal are sent.

* : Initial setting: Off

2.Press the [Start] key to set the setting value.

Setting: Num OF CNG(F/T)

Sets the CNG detection times in the fax/telephone automatic switching mode.

1.Select the item to set.

Items	Description
1Time	Detects CNG once.
2Time	Detects CNG twice.

* : Initial setting: 1Time

2.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U633	Communication Control 4 (Message: Comm Ctrl 4)

Description

Set the fax communication.

Purpose

Reducing the error communication when using a low quality line

Method

1.Press the [Start] key.

2.Select the item to set.

* : The screen for executing is displayed.

Items	Description
V.34	Enables or disables the V.34 communication.
V.34-3429Hz	Sets the V.34 symbol speed (3429 Hz).
DIS 2Res	Sets the number of times of DIS signal reception.
RTN Check	Sets the reference for RTN signal output.

Setting: V.34

Sets whether to enable/disable the V.34 communication for transmission and reception.

1.Select the item to set.

Items	Description
On	V.34 communication is enabled for both transmission and reception.
TX	V.34 communication is enabled for transmission only.
RX	V.34 communication is enabled for reception only.
Off	V.34 communication is disabled for both transmission and reception.

* : Initial setting: On

2.Press the [Start] key to confirm the setting.

Setting: V.34-3429Hz

Sets if the V.34 symbol speed 3429 Hz is used.

1.Select the item to set.

Items	Description
On	V.34 symbol speed 3429 Hz is used.
Off	V.34 symbol speed 3429 Hz is not used.

* : Initial setting: On

2.Press the [Start] key to confirm the setting.

Setting: DIS 2Res

Sets the number of times to receive the DIS signal to once or twice. Perform it as one of the correction measures for transmission errors and other problems.

1.Select the item to set.

Items	Description
: Initial setting: Once	Responds to the first signal.
Twice	Responds to the second signal.

* : Initial setting: Once

1.Press the [Start] key to set the setting value.

Setting: RTN Check

Sets the error line rate as the reference for RTN signal output. If transmission errors occur frequently due to the quality of the line, they can be reduced by lowering this setting.

1.Select the item to set.

Items	Description
5%	Error line rate of 5%
10%	Error line rate of 10%
15%	Error line rate of 15%
20%	Error line rate of 20%

* : Initial setting: 15%

2.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U634	Communication Control 5 (Message: Comm Ctrl 5)

Description

Sets the maximum number of error bytes judged acceptable when receiving a TCF signal. Perform it as one of measures to ease transmission conditions if transmission errors occur.

Purpose

* :Alleviating the communication conditions

Setting

1.Press the [Start] key.

2.Select [TCF Check].

3.By using [◄] [►] or the numeric keys, change the setting value.

Items	Description	Setting range	Initial setting	Change in value per step
TCF Check	Number of allowed error bytes when detecting TCF	1 to 255 s		

4.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U640	Communication Time 1 (Message: Comm Time 1)

Description

Sets the detection time when one-shot detection is selected for remote switching.
Sets the detection time when continuous detection is selected for remote switching.

Purpose

Set the decision system of a remote switching to compensate for a user's telephone classification, peculiarity, etc

Method

1.Press the [Start] key.
2.Select the item to set.
3.By using [◄] [►] or the numeric keys, change the setting value.

Items	Description	Setting range	Initial setting	Change in value per step
Time(One)	Sets the one-shot detection time for remote switching.	0 to 255	7	
Time(Cont)	Sets the continuous detection time for remote switching.	0 to 255	80	

4.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U641	Communication Time 2 (Message: Comm Time 2)

Description

Sets the time-out time for the fax communication.

Purpose

Mainly improving the accuracy of communication at the international communication

Method

1.Press the [Start] key.

1.Select the item to set.

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

Setting: T0 Time Out

Sets the time before detecting a CED or DIS signal after a dialing signal is sent.

Change the setting to prevent the problem of disconnecting a line that occurs depending on the quality of the exchanger, or when the destination unit sets the auto switching function.

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Sets the T0 time-out time.	30 to 90 s	56	

2.Press the [Start] key to confirm the setting.

Setting: T1 Time Out

Sets the time before receiving the correct signal after call reception.

: This setting is usually unnecessary.

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Sets the T1 time-out time.	30 to 90 s	36	

2.Press the [Start] key to confirm the setting.

Setting: T2 Time Out

The T2 time-out time decides the following.

From CFR signal output to image data reception

From image data reception to the next signal reception
In ECM, from RNR signal detection to the next signal reception

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Sets the T2 time-out time.	1 to 255 s	69	

2.Press the [Start] key to confirm the setting.

Setting: Ta Time Out

In the fax/telephone automatic switching mode, sets the time of ringing an operator through the connected telephone after receiving a call as a fax machine (see figure 1-3-18). If either receiving a fax signal within this time or passed this period, the mode automatically switches to fax reception mode. In the fax/telephone automatic switching mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Sets the Ta time-out time.	1 to 255 s	30	

2.Press the [Start] key to confirm the setting.

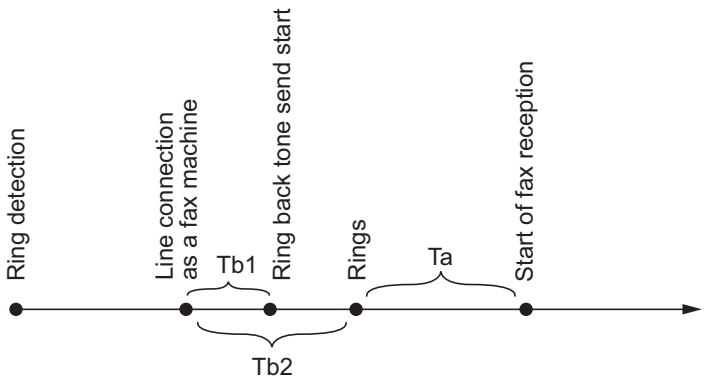


Figure 6-20 Ta/Tb1/Tb2 time-out time

Setting: Tb1 Time Out

In the fax/telephone automatic switching mode, sets the time to start sending the ring back tone after receiving a call as a fax machine (see figure 1-3-18). In the fax/telephone automatic switching mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Sets the Tb1 time-out time.	1 to 255 s	20	

2.Press the [Start] key to confirm the setting.

Setting: Tb2 Time Out

In the fax/telephone automatic switching mode, sets the time to start ringing an operator through the connected telephone after receiving a call as a fax machine (see figure 1-3-27). In the fax/ telephone automatic switching mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
T2 time-out time	1 to 255 s	100 ms	

2.Press the [Start] key to confirm the setting.

Setting: Tc Time Out

In the TAD mode, set the time to check if there are any triggers for shifting to fax reception after a connected telephone receives a call. Only the telephone function is available if shifting is not made within the set Tc time.
In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Sets the Tc time-out time.	1 to 255 s	60	

2.Press the [Start] key to confirm the setting.

Setting: Td Time Out

Sets the length of the time required to determine silent status (fax), one of the triggers for Tc time check.
In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1.By using [◄] [►] or the numeric keys, change the setting value.

Description	Setting range	Initial setting	Change in value per step
Sets the Td time-out time.	1 to 255	30	

2.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U650	Modem 1 (Message: Modem 1)

Description

Sets G3 cable equalizer. Sets the modem output level.

Purpose

Adjust to make the equalizer compatible with the line characteristics
Improve the accuracy of communication when using a low quality line

Method

1.Press the [Start] key.
2.Select the item to set.

Items	Description
Reg G3 TX Eqr	Sets the G3 transmission cable equalizer.
Reg G3 RX Eqr	Sets the G3 reception cable equalizer.
RX Mdm Level	Sets the modem detection level.

Setting: Reg G3 TX Eqr

1.Select [0dB], [4dB], [8dB] or [12dB].
* : Initial setting: 0dB
2.Press the [Start] key to confirm the setting.

Setting: Reg G3 RX Eqr

1.Select [0dB], [4dB], [8dB] or [12dB].
* : Initial setting: 0dB
2.Press the [Start] key to confirm the setting.

Setting: RX Mdm Level

1.Select [-33dBm], [-38dBm], [-43dBm] or [-48dBm].
* : Initial setting: 43dBm
2.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U651	Modem 2 (Message: Modem 2)

Description

Sets the modem output level.

Purpose

Adjust to make the equalizer compatible with the line characteristics when installing the main unit

Setting

1.Press the [Start] key.
2.Select the item to set.
3.By using [◄] [►] or the numeric keys, change the setting value.

Items	Description	Setting range	Initial setting	Change in value per step
Sgl LV Mdm	Modem output level	-15 to 0	-	
DTMF LV(C)	DTMF output level (center value)	-15 to 0	-	
DTMF LEV(D)	DTMF output level (level difference)	0 to 5.5	-	

4.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

U660	Set Calls (Message: Set Calls)

Description

Set the NCU (network control unit).

Purpose

Execute as required

Method

1.Press the [Start] key.

2.Select the item to set.

* : The screen for executing is displayed.

Items	Description
Exchange	Sets the connection to PBX/PSTN.
Dial Tone	Sets PSTN dial tone detection.
Busy Tone	Sets busy tone detection.
PBX Setting	Setting for a PBX.
DC Loop	Sets the loop current detection before dialing.

Setting: Exchange

Selects if a fax is connected to either a PBX or public switched telephone network.

1.Select the item to set.

Items	Description
PSTN	Connected to the public switched telephone network.
PBX	Connected to a PBX.

* : Initial setting: PSTN

2.Press the [Start] key to confirm the setting.

Setting: Dial Tone

Selects if the dial tone is detected to check the telephone is off the hook when a fax is connected to a public switched telephone network.

1.Select the item to set.

Items	Description
On	Detects the dial tone.
Off	Does not detect the dial tone.

* : Initial setting: On

2.Press the [Start] key to confirm the setting.

Setting: Busy Tone

When a fax signal is sent, sets whether the line is disconnected immediately after a busy tone is detected, or the busy tone is not detected and the line remains connected until T0 time-out time. Fax transmission may fail due to incorrect busy tone detection. When set to OFF, this problem may be prevented. However, the line is not disconnected within the T0 time-out time even if the destination line is busy.

1.Select the item to set.

Items	Description
On	Detects the busy tone.
Off	Does not detect the busy tone.

* : Initial setting: Off

2.Press the [Start] key to confirm the setting.

Setting: PBX Setting

Selects the mode to connect an outside call when connected to a PBX.

: According to the type of the PBX connected, select the mode to connect an outside call.

1.Select the item to set.

Items	Description
Flash	Flashing mode
Loop	Code number mode

* : Initial setting: Loop

2.Press the [Start] key to confirm the setting.

Setting: DC Loop

Sets if the loop current is detected before dialing.

1.Select the item to set.

Items	Description
On	Detect loop current before dialing.
Off	Loop current is not detected before dialing.

* : Initial setting: On

2.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U670	Output List (Message: Output List)

Description

Outputs a list of fax communication data.

: Printing a list is disabled either when a job is remaining in the buffer or when [Pause All Print Jobs]

Purpose

Check conditions of use, settings and transmission procedures of the fax.

Method

1.Press the [Start] key.
2.Select the item to execute.
3.Press the [Start] key.
4.The selected list is output.

Items	Description
Sys Conf Report	Outputs a list of software switches, self telephone number, confidential boxes, firmware versions and other information.
Action List	Outputs a list of error history, transmission line details and other information.
Self Sts Report	Outputs a list of settings in maintenance mode (self-status report) regarding fax communication only.
Protocol List	Outputs a list of communication procedures.
Error List	Outputs a list of error.
Addr List(No.)	Outputs address book in the IDs order
Addr List(Idx)	Outputs address book in the order of names.
One-touch List	Outputs a list of one-touch.
Group List	Outputs a list of group.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U695	Customize FAX Function (Message: Custom FAX Func)

Description

FAX package transmission is set up. Change of print size priority at the time of small size reception.

Purpose

Execute as required

Method

1.Select the item to set.

Items	Description
FAX Bulk TX	Set On/Off the FAX batch transmission
A5 Pt Pri Chg	Change of print size priority at the time of small size reception.

Setting: FAX Bulk TX

1.By using [◄] [►] keys, select [On] or [Off].

Items	Description
On	Fax batch transmission is enabled.
Off	Fax batch transmission is disabled.

* : Initial setting: On

2.Press the [Start] key to confirm the setting.

Setting: A5 Pt Pri Chg

1.By using [◄] [►] keys, select [On] or [Off].

Items	Description
On	At the time of A5 size reception: A5 >B5 >A4 >B4 >A3
Off	At the time of A5 size reception: A5 >A4 >B5 >A3 >B4

* : Initial setting: Off

2.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U699	Set: Soft SW (Message: Set Soft SW)

Description

Sets the software switches on the FAX control PWB individually.

Purpose

Change the setting when a problem such as split output of received originals occurs
: Since the communication performance is largely affected, normally this setting need not be changed.

Method

1.Press the [Start] key.
2.Select [SW No.].
3.Enter the desired software switch number (3 digits) using the numeric keys and press the [Start] key.

Items	Description
SW No.	Specifies the soft switch number (2 to 3 digits)

4.Press the keys of bit 0 to 7 to switch each bit between 0 and 1.

Items	Description
Bit	Set the soft switch (8 digits).

5.Press the [Start] key to confirm the setting.

Completion

Press the [Stop] key.
* : The screen for selecting a maintenance item No. is displayed.

List of Soft Switches of which the setting can be changed
Communication control procedures

No.	Bit	Description
36	7654	Coding format in transmission
	3210	Coding format in reception
37	5	33600bps/V34
	4	31200bps/V34
	3	28800bps/V34
	2	26400bps/V34
	1	24000bps/V34
	0	21600bps/V34
38	7	19200bps/V34
	6	16800bps/V34
	5	14400bps/V34
	4	12000bps/V34
	3	9600bps/V34
	2	7200bps/V34
	1	4800bps/V34
	0	2400bps/V34

No.	Bit	Description
41	3	FSK detection in V.8
No.	**Bit**	**Description**
42	4	4800 bps transmission when low-speed setting is active
	2	FIF length in transmission of 4 times or more of DIS/ DTC signal

Communication time setting

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

Modem setting

No.	Bit	Description
89	76543	RX gain adjust

NCU setting

No.	Bit	Description
121	7654	Dial tone/busy tone detection pattern
122	7654	Busy tone detection pattern
	1	Busy tone detection in FAX/TEL automatic switching
125	76543210	Access code registration for connection to PSTN
126	7654	FAX/TEL automatic switching ringback tone ON/OFF cycle
68	76543210	Timeout for FSK detection start in V.8

Calling time setting

No.	Bit	Description
133	76543210	DTMF signal transmission time
134	76543210	DTMF signal pause time
141	76543210	Ringer detection cycle (minimum)
142	76543210	Ringer detection cycle (maximum)
143	76543210	Ringer ON time detection
144	76543210	Ringer OFF time detection
145	76543210	Ringer OFF time undetected
147	76543210	Dial tone detection time (continuous tone)

No.	Bit	Description
148	76543210	Allowable dial tone interruption time
149	76543210	Time for transmitting selection signal after closing the DC circuit
151	76543210	Ringer frequency detection invalid time

U910	Clear Coverage Data (Message: Clr Coverage Dat)

Description

Clears the accumulated data for the print coverage per A4 size paper and its period of time (as shown on the service status report).

Purpose

Clears data as required at the time such as maintenance service

Method

1.Press the [Start] key.

2.Select [Execute].

Items	Description
(No Action)	-
Execute	The print coverage data is cleared.

3.Press the [Start] key to clear the print coverage data.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U917	Read/Write Backup HDD Data(USB) (Message: R/W Bkup Data)

Description

Retrieves the backup data to a USB Flash Drive from the main unit, or writes the data from the USB Flash Drive to the main unit.

Purpose

Makes a back up of the main unit information, and import or export to restore the main unit information

Method

1.Turn the power switch off.
2.Insert a USB Flash Drive in the USB Flash Drive slot of the main unit.
3.Turn the power switch on.
* : Wait for 10 seconds to allow the main unit to recognize the USB Flash Drive.
4.Enter maintenance item U917.
5.Select [Export] or [Import], and press the [start] key.

Items	Description
Import	Writing data from the USB Flash Drive to the main unit.
Export	Retrieving data from the main unit to the USB Flash Drive.

6.Select the object item.

Items	Description	Depending data*
Address	Address book information	-
Job Accnt	Job accounting information	-
One Touch	One-touch key information	Address book information
User	User managements information	Job accounting information
Document	Document box information	Job accounting, User information
Fax Fwd	FAX transfer information	Job accounting, User, Document Box information
System	System setting information	-
Network	Network setting information	-
Job Set	Job setting information	-
Printer	Printer setting information	-
Fax Set	Fax setting information	-
Program	Program information	Address book, Job accounting, User management, Document box, Fax transfer, Fax setting information
Panel Set	Panel setting information	Address book, Job accounting, User management, Document box, Fax transfer, Fax setting, Program information

* : Since data are dependent with each other, data other than those assigned are also retrieved or written in.

7.By using [◄] [►] keys, select [On].

8.Press the [Start] key to start the 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.

9.When normally completed, [Fin] is displayed.

10.When selecting [Import], turn the power switch off then on, after completing writing. Take interval more than 5 seconds between Off and On.

Error codes

Codes	Description
e0000	Unspecified error
e0001	Parameter error
e0002	Failed to generate a dummy file
e0003	The target XML file to import does not exist
e0004	The exported file does not exist
e0100 to e01ff	Error in handling addressbook
e0200 to e02ff	Error in handling One-touch
e0300 to e03ff	Error in handling user management
e0400 to e04ff	Error in handling panel-program data
e0500 to e05ff	Error in handling forwarding Fax data
e0600 to e06ff	Error in handling system configurations
e0700 to e07ff	Error in handling network parameters
e0800 to e08ff	Error in handling job accounting
e0900 to e09ff	Error in handling short-cuts
e0a00 to e0aff	Error in handling job information
e0b00 to e0bff	Error in handling Fax data
e0c00 to e0cff	Error in handling printer data
e0d00 to e0dff	Error in handling panel data
e0e00 to e0eff	Error in handling document boxes
e1000 to e1fff	Error in handling device-related information
e2000 to e2fff	Error in handling SOAP IF
e3000 to e3fff	Error in handling KM-WSDL IF
e4000 to e4fff	Error in a file mandatory for importing (e4002) A file mandatory for importing is missing (e4008) Invalid file header
e5000 to e5fff	Error in handling rewriting SOAP data

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U920	Set/Check Charge Count (Message: Chg Cnt)

Description

Displays the charge counts.

Purpose

To verify the current charge counts

Method

1.Press the [Start] key.

1.Select the item.

* : The current charge counts are displayed.

Items	Description
Col Copy H	Color copy counts (Coverage: High)
Col Copy M	Color copy counts (Coverage: Middle)
Col Copy L	Color copy counts (Coverage: Low)
B/W Copy	B/W Copy counts
Col Prn H	Color print counts (Coverage: High)
Col Prn M	Color print counts (Coverage: Middle)
Col Prn L	Color print counts (Coverage: Low)
B/W Prn	B/W print counts
B/W Fax	FAX counts
Simplex	Simplex print counts
Duplex	Duplex print counts
Comb(Off)	Combine print counts (Off)
Comb(2in1)	Combine print counts (2in1)
Comb(4in1)	Combine print counts (4in1)

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U927	Clear All Charge/Life Counter (one time only) (Message: Clr Chg/Life Cnt)

Description

Clears all charge counts and machine life counts.

Supplement

The total charge counts and the machine life counts can be cleared only once if all count values are 1000 or less.

Method

1.Press the [Start] key.

2.Select [Execute].

Items	Description
Execute	Executes the initializing of charge counts and machine life counts.

3.Press the [Start] key.

* : All charge counts and machine life counts are cleared.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U928	Check Machine Life Count (Message: Life Cnt)

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.

Items	Description
Cnt	Machine life counts

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U930	Clear/Check Charger Roller Counter (Message: Clr Chg Cnt)

Description

Displays and clears the current main charger roller counts.

Purpose

To verify the main charger roller counts after replacing. Also to clear the counts after replacing.

Method

1.Press the [Start] key.

* : The current main charger roller counts are displayed. (C,M,Y and K)

Method: Clear

1.Select [Clear].

Press the [Start] key to clear the count value.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U977	Data Capture Mode (Message: Set Data Capture)

Description

Stores the data sent to the main unit into USB Flash Drive.

Purpose

To store the data sent to the main unit into USB Flash Drive, and check

Method

1.Press the [Start] key.

2.Select [Execute].

Items	Description
Execute	Stores the data into USB Flash Drive.

3.Press the [Start] key.

* : When the operation is completed abnormally, an error code is displayed.

Error codes

Items	Description
1	The USB Flash Drive is broken, was disconnected during data processing, or cannot be overwritten.
4	The USB Flash Drive does not have enough free space.
#	Other error

Completion

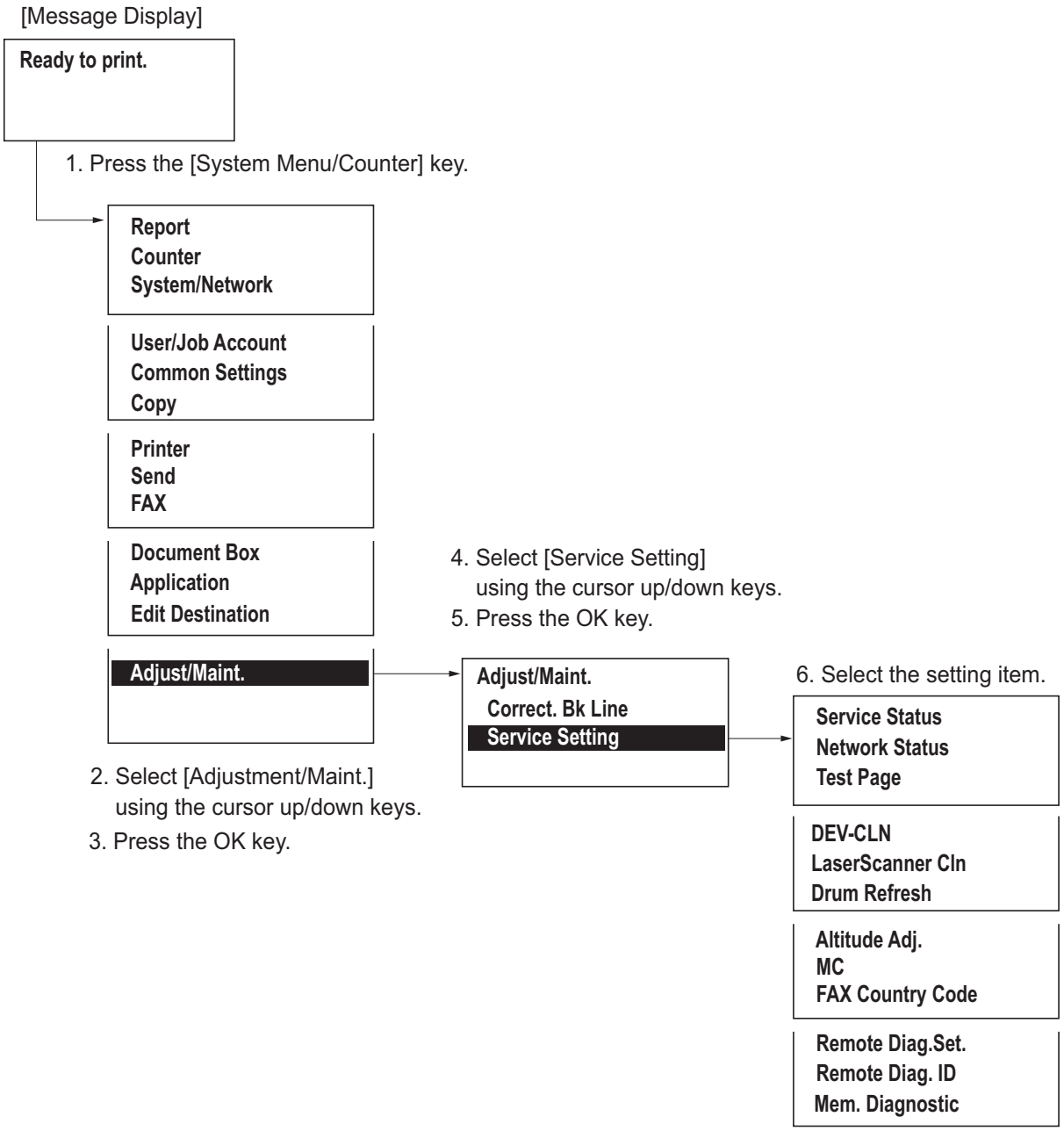
Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

6-2 Service mode

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

(1) Executing the service mode (30 ppm model)



Service setting

Items	Description	Page
Service Status Page	Outputs the service status page.	P.6-99
Network Status	Outputs the network status page.	P.6-99
Test Page	The test page is printed with halftones.	P.6-99
Developer refreshing	Perform developer refreshing.	P.6-101
Laser scanner cln	Clean the LSU dust shield glass.	P.6-101
Drum refreshing	Clean the drum surface.	P.6-101
Altitude Adjustment	Sets the altitude adjustment mode.	P.6-102
MC	Sets the main charger output.	P.6-102
FAX Country Code	Initialize all data and image memory.	P.6-103
Remote Diagnostics setting	Sets the remote diagnostics.	P.6-104
Remote Diagnostics ID	Sets the remote diagnostics.	P.6-104
Memory Diagnostics	Diagnose memory at power-up (whether reading and writing are executable).	P.6-104

(2) Descriptions of service modes

Service Status Page

Description
Outputs the service status page.

Purpose
This is used to retrieve the setting environment information and service data.

Method
1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Service Status Page].
3.Press the [OK] key.
4.By the left selection key, select [Yes].
Outputs the service status page.
* :Refer to maintenance mode U000 for details. (Refer to page P.6-24)

Completion
By the right selection key, select [Exit].

Network Status

Description
Prints the status page for network.

Purpose
To acquire the detailed network setting information.

Method
1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Network Status].
3.Press the [OK] key.
4.By the left selection key, select [Yes].
Outputs the network status page.

Completion
By the right selection key, select [Exit].

Test Page

Description

Outputs the test page which is printed in four colors respectively with halftones of three different levels.

Purpose

To output the test page to judge which is the cause of the image error, the engine-side or the scanner-side.

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Test Page].
3.Press the [OK] key.
4.By the left selection key, select [Yes]. Test page will be printed.

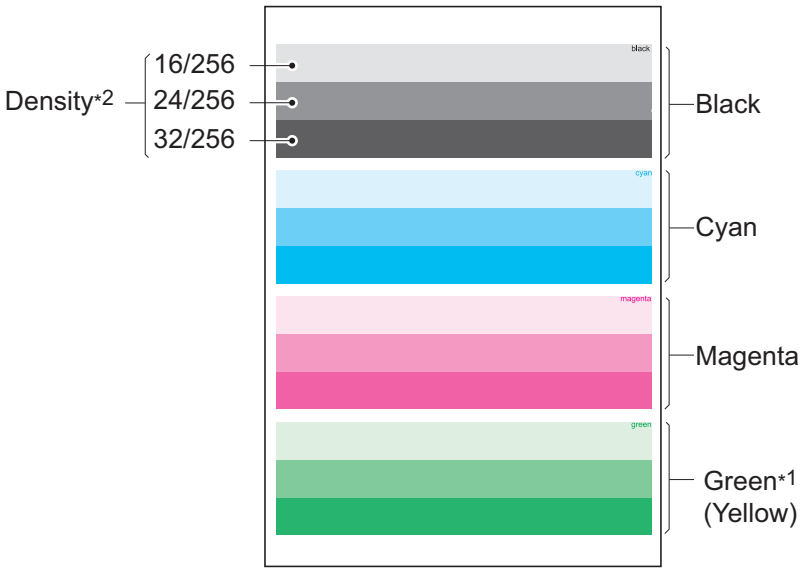


Figure 6-21

*1: Since focusing in yellow is hardly readable, yellow is mixed with cyan for more readability, resulting in green.
*2: Four colors are printed respectively with halftones of three different levels (bands). If focus is excessively lost, dots are not recognizable with the 16/256 band, resulting in uneven density. It also results in vertical streaks (white or black) in the 24/256 and/or 32/256 bands.

Completion

By the right selection key, select [Exit].

Developer refreshing

Description

The laser output of the image data for developer refreshing is carried out, and the operation of exposure, developing and primary transfer is performed, for ten pages equivalent. (paper is not fed).

Purpose

Execute when the image density deteriorates or a problem in the developer unit occurs.

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [DEV-CLN].
3.Press the [OK] key.
4.By the left selection key, select [Yes].
5.Developer refreshing is performed.

Completion

By the right selection key, select [Exit].

Laser scanner cln

Description

The LSU cleaning motor drives the cleaning pad to wipe the LSU dust shield glass.

Purpose

To perform when the image failure occurs and stripes are seen in the vertical direction

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Laser Scanner cln].
3.Press the [OK] key.
4.By the left selection key, select [Yes]. Laser Scanner cleaning is performed.

Completion

By the right selection key, select [Exit].

Drum refreshing

Description

Rotates the drum approximately 2 minutes with toner lightly on the overall drum. The cleaning blade in the drum unit scrapes toner off the drum surface to clean it.

Purpose

To clean the drum surface when image failure occurs due to the drum. This mode is effective when dew condensation on the drum occurs.

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Drum Refresh].
3.Press the [OK] key.
4.By the left selection key, select [Yes]. Drum refreshing is performed.

Completion

By the right selection key, select [Exit].

Altitude Adjustment

Description

Sets the altitude adjustment mode.

Purpose

To perform when print quality deteriorates in the installation at the altitude of 1,500 meters or higher

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Altitude Adj.].
3.Press the [OK] key.
4.Using the [▲] [▼] keys, select [Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m].
5.Press the [OK] key to set the setting.

Completion

By the right selection key, select [Exit].

MC

Description

Sets the main charger output.

Purpose

To perform when the image density declines, dirt of a background or an offset has occurred.

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [MC].
3.Press the [OK] key.
4.Using the [▲] [▼] keys, select the setting "1 to 7".
5.Press the [OK] key to set the setting.

Completion

By the right selection key, select [Exit].

FAX Country Code

Description

Initializes software switches, and all data and image memory in the backup data on the FAX control PWB according to the destination and OEM setting.

Purpose

To initialize the FAX control PWB.

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [FAX Country Code].
3.Press the [OK] key.
4.Enter the destination code using the numeric keys.
5.Press the [OK] key to set the setting.
6.Press the [OK] key. Data initialization starts.

Destination code list

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

Completion

By the right selection key, select [Exit].

Remote Diagnostics setting

Description
Sets the remote diagnostics.

Purpose
To establish communication between the main unit and the service facility when a problem occurs

Method
1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Remote Diag.Set.].
3.Press the [OK] key.
4.Select [Setting].
5.Press the [OK] key to set the setting.

Completion
By the right selection key, select [Exit].

Remote Diagnostics ID

Description
Sets the remote diagnostics ID.

Purpose
To register the ID for communication between the main unit and the service facility when a problem occurs

Method
1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Remote Diag.ID].
3.Enter the prespecified remote diagnostics ID number (0000 to 9999) using the numeric keys.
4.Press the [OK] key to set the setting.

Completion
By the right selection key, select [Exit].

Memory Diagnostics

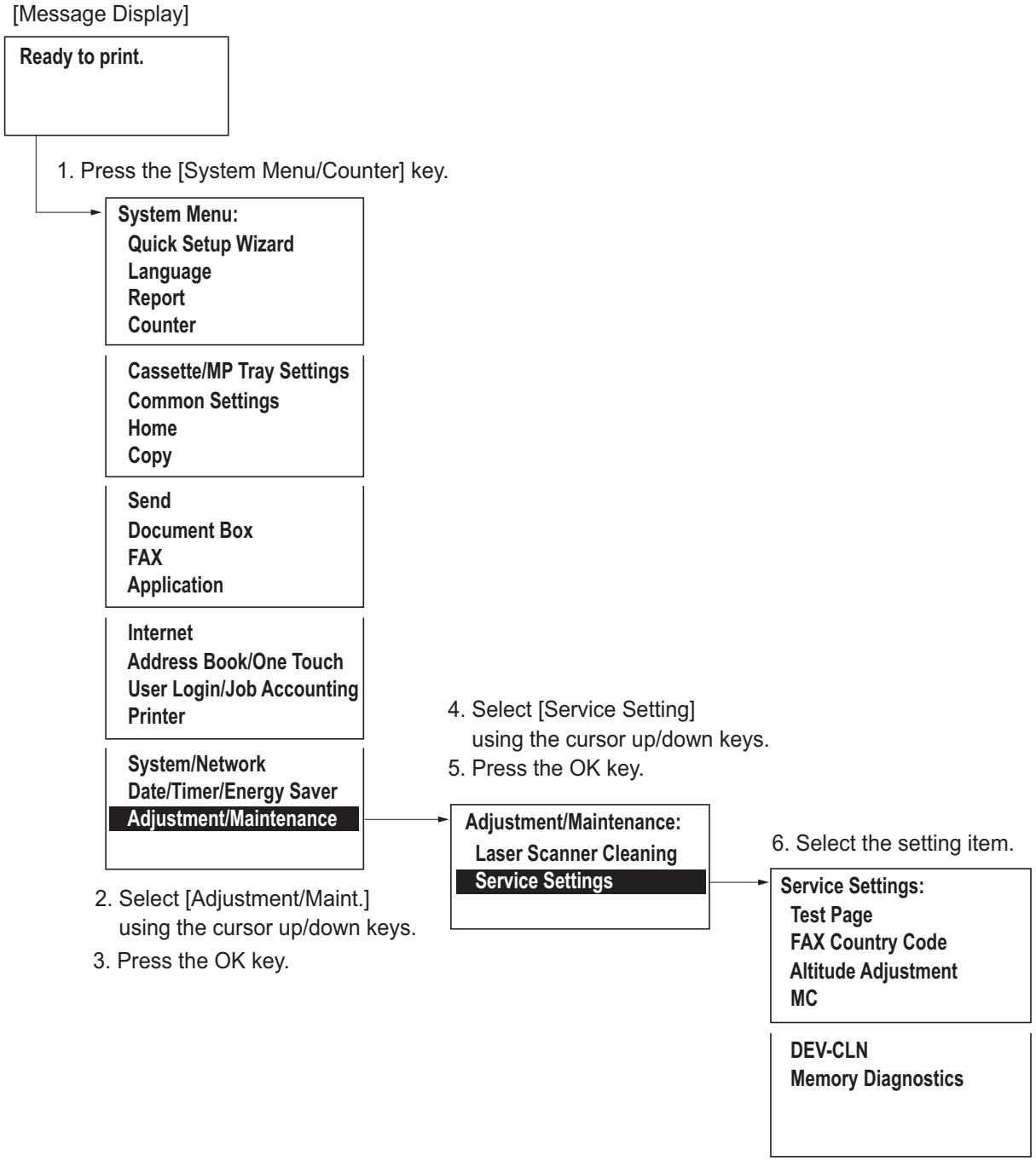
Description
Diagnose memory at power-up (whether reading and writing are executable).

Purpose
To perform the memory check for the purpose of rectifying the defective memory device which may possibly cause an unresolvable F-code error, locking or abnormal images

Method
1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Mem.Diagnostics].
3.Press the [OK] key.
4.By the right selection key, select [Start].
5.Turn the power switch off then on. Take interval more than 5 seconds between Off and On.

Completion
By the right selection key, select [Exit].

(3) Executing the service mode (35 ppm model)



Service setting

Items	Description	Page
Test Page	The test page is printed with halftones.	P.6-106
FAX Country Code	Initialize all data and image memory.	P.6-107
Altitude Adjustment	Sets the altitude adjustment mode.	P.6-108
MC	Sets the main charger output.	P.6-108
DEV-CLN	Perform developer refreshing.	P.6-108
Memory Diagnostics	Diagnose memory at power-up (whether reading and writing are executable).	P.6-109

(4) Descriptions of service modes

Test Page

Description

Outputs the test page which is printed in four colors respectively with halftones of three different levels.

Purpose

To output the test page to judge which is the cause of the image error, the engine-side or the scanner-side.

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Test Page].
3.Press the [Start] key.
4.Test page will be printed.

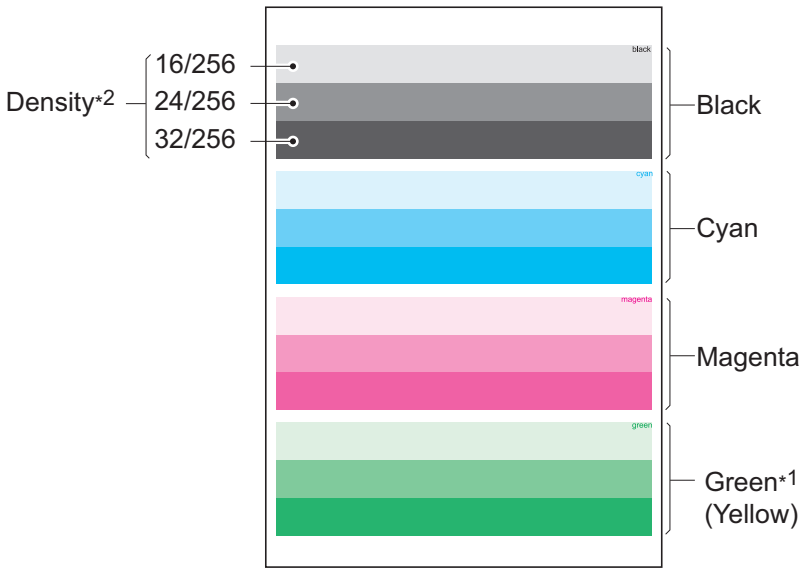


Figure 6-22

*1: Since focusing in yellow is hardly readable, yellow is mixed with cyan for more readability, resulting in green.
*2: Four colors are printed respectively with halftones of three different levels (bands). If focus is excessively lost, dots are not recognizable with the 16/256 band, resulting in uneven density. It also results in vertical streaks (white or black) in the 24/256 and/or 32/256 bands.

Completion

Press the [System Menu/Counter] key.

FAX Country Code

Description

Initializes software switches, and all data and image memory in the backup data on the FAX control PWB according to the destination and OEM setting.

Purpose

To initialize the FAX control PWB.

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [FAX Country Code].
3.Press the [Start] key.
4.Enter the destination code using the numeric keys.
5.Press the [OK] key to set the setting.
6.Press the [OK] key. Data initialization starts.

Destination code list

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

Completion

Press the [System Menu/Counter] key.

Altitude Adjustment

Description

Sets the altitude adjustment mode.

Purpose

To perform when print quality deteriorates in the installation at the altitude of 1,500 meters or higher

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Altitude Adj.].
3.Press the [Start] key.
4.Using the [▲] [▼] keys, select [Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m].
5.Press the [Start] key to confirm the setting.

Completion

Press the [System Menu/Counter] key.

MC

Description

Sets the main charger output.

Purpose

To perform when the image density declines, dirt of a background or an offset has occurred.

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [MC].
3.Press the [Start] key.
4.Using the [▲] [▼] keys, select the setting "1 to 7".
5.Press the [Start] key to confirm the setting.

Completion

Press the [System Menu/Counter] key.

DEV-CLN

Description

The laser output of the image data for developer refreshing is carried out, and the operation of exposure, developing and primary transfer is performed, for ten pages equivalent. (paper is not fed).

Purpose

Execute when the image density deteriorates or a problem in the developer unit occurs.

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [DEV-CLN].
3.Press the [Start] key.
4.Developer refreshing is performed. Press [OK].

Completion

Press the [System Menu/Counter] key.

Memory Diagnostics

Description

Diagnose memory at power-up (whether reading and writing are executable).

Purpose

To perform the memory check for the purpose of rectifying the defective memory device which may possibly cause an unresolvable F-code error, locking or abnormal images

Method

1.Enter the Service Setting menu.
2.Using the [▲] [▼] keys, select [Mem.Diagnostics].
3.Press [Start]. Press [OK].
4.Turn the power switch off then on. Take interval more than 5 seconds between Off and On.

Completion

1.Press the [System Menu/Counter] key.

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7 Troubleshooting
7-1Paper misfeed detection

(1) Paper misfeed indication

When a paper misfeed occurs, the machine immediately stops printing and displays the paper misfeed message on the operation panel. To remove paper misfed in the machine, pull out the cassette, open the paper conveying unit or paper conveying cover.
The locations are displayed on the operation panel when a paper jam has occurred.

Jam lacation indicators

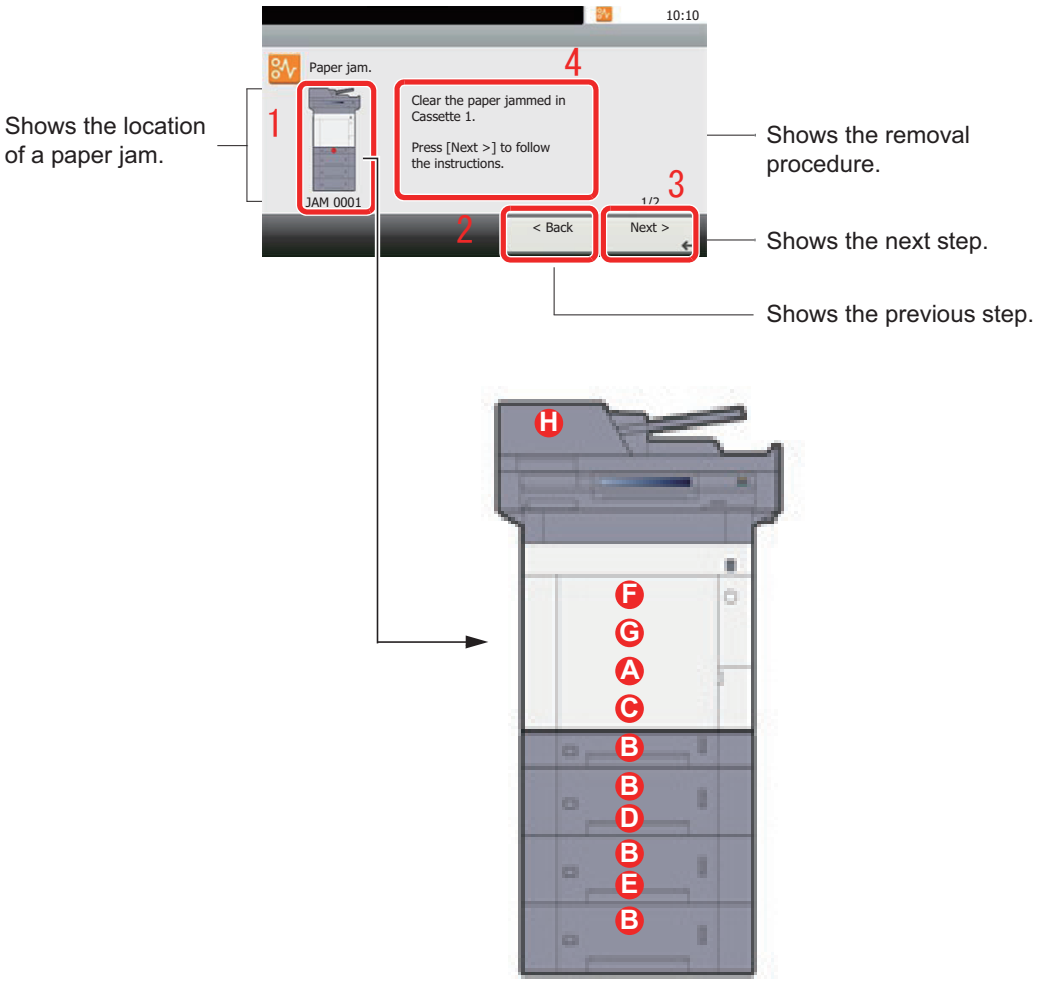


Figure 7-1

A. Misfeed in MP tray
B. Misfeed in the cassette 1 to 4
C. Misfeed inside the rear cover 2 to 4
D. Misfeed inside the rear cover 1
E. Misfeed in the duplex unit
F. Misfeed in the document processor

(2) Paper misfeed detection condition

Machine + PF (Option)

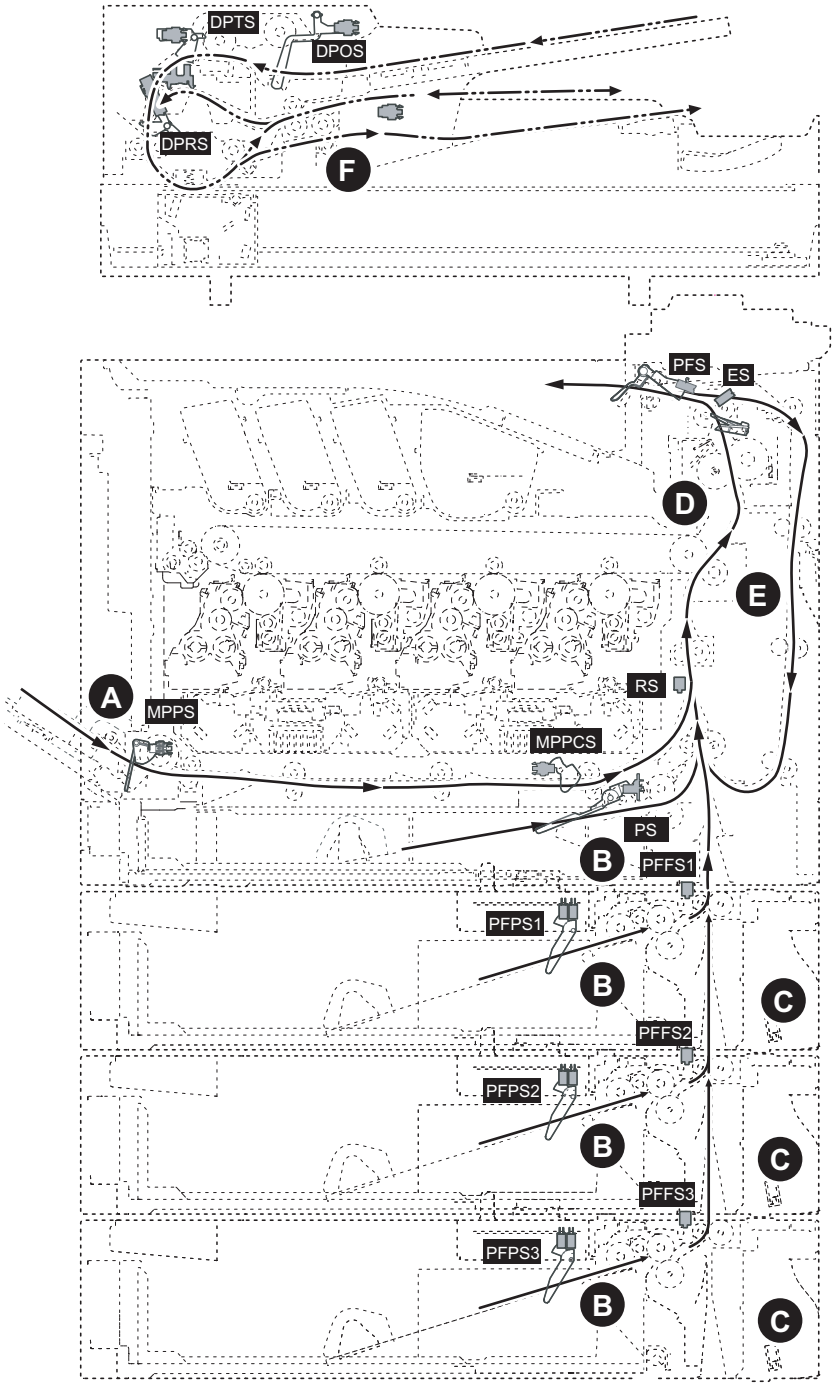


Figure 7-2

List of JAM Code

Code	Contents	Detection conditions	JAM Position*
0000	Initial jam	The power is turned on when a sensor in the conveying system is on.	-
0100	Secondary feeding timeout	Secondary paper feed request given by the controller is unreachable.	-
0101	Wait for ready of print-process package	Before the paper feeding, the reply of Standby-Ready from the driving function does not come for 40 s, or before the secondary paper feeding, the reply of StartReady from the drive function does not come for 40 s.	-
0104	Wait for ready of conveying package	Before the paper feeding or the secondary paper feeding starts, the permission notice of the paper feeding or the secondary paper feeding does not come for 40 s.	-
0105	Drive prevention jam	A drive does not stop.	-
0106	Paper feeding request for duplex printing time out	Paper feeding request for duplex printing given by the controller is unreachable.	-
0107	Wait for ready of fuser package	Before the paper feeding or the secondary paper feeding starts, the secondary paper feeding temperature does not come for 80 s.	-
0110	Rear cover open jam	The rear cover is opened during printing.	-
0111	Top cover open jam	The inner tray is opened during printing.	-
0211	Cassette cover 2 open jam	The cassette cover 2 is opened during printing.	-
0212	Cassette cover 3 open jam	The cassette cover 3 is opened during printing.	-
0213	Cassette cover 4 open jam	The cassette cover 4 is opened during printing.	-
0501	No paper feeding jam	Registration sensor does not turn on during paper feed from cassette 1.	B
0502		PF feed sensor 1 does not turn on during paper feed from cassette 2.	B
0503		PF feed sensor 2 does not turn on during paper feed from cassette 3.	B
0504		PF feed sensor 3 does not turn on during paper feed from cassette 4.	B
0508		Registration sensor does not turn on during paper feed from duplex section. * When the eject motor is reversely rotating.	B
0509		MP conveying sensor does not turn on during paper feed from MP tray, even if the specified time has passed after the solenoid turned on.	A

Code	Contents	Detection conditions	JAM Position*
0511	Multiple sheets jam	Registration sensor does not turn off during paper feed from cassette 1.	B
0512		PF feed sensor 1 does not turn off during paper feed from cassette 2.	B
0513		PF feed sensor 2 does not turn off during paper feed from cassette 3.	B
0514		PF feed sensor 3 does not turn off during paper feed from cassette 4.	B
0518	Multiple sheets jam	Registration sensor does not turn off during paper feed from duplex section.	E
0519		MP conveying sensor does not turn off during paper feed from MP tray.	E
1403	PF paper feed sensor 2 non arrival jam	PF feed sensor 2 does not turn on during paper feed from cassette 3.	B
1404		PF feed sensor 2 does not turn on during paper feed from cassette 4.	B
1413	PF paper feed sensor 2 stay jam	PF feed sensor 2 does not turn off during paper feed from cassette 3.	C
1414		PF feed sensor 2 does not turn off during paper feed from cassette 4.	C
1604	PF paper feed sensor 3 non arrival jam	PF feed sensor 3 does not turn on during paper feed from cassette 4.	B
1614	PF paper feed sensor 3 stay jam	PF feed sensor 3 does not turn off during paper feed from cassette 4.	C
4002	Registration sensor non arrival jam	Registration sensor does not turn on during paper feed from cassette 2.	C
4003		Registration sensor does not turn on during paper feed from cassette 3.	B
4004		Registration sensor does not turn on during paper feed from cassette 4.	B
4009		Registration sensor does not turn on during paper feed from MP tray.	A
4012	Registration sensor stay jam	Registration sensor does not turn off during paper feed from cassette 2.	D
4013		Registration sensor does not turn off during paper feed from cassette 3.	D
4014		Registration sensor does not turn off during paper feed from cassette 4.	D
4019		Registration sensor does not turn off during paper feed from MP tray.	D

Code	Contents	Detection conditions	JAM Position*
4201	Eject sensor non arrival jam	Eject sensor does not turn on during paper feed from cassette 1.	E
4202		Eject sensor does not turn on during paper feed from cassette 2.	E
4203		Eject sensor does not turn on during paper feed from cassette 3.	E
4204		Eject sensor does not turn on during paper feed from cassette 4.	E
4208		Eject sensor does not turn on during paper feed from duplex section.	D
4209		Eject sensor does not turn on during paper feed from MP tray.	D
4211	Eject sensor stay jam	Eject sensor does not turn off during paper feed from cassette 1.	E
4212		Eject sensor does not turn off during paper feed from cassette 2.	E
4213		Eject sensor does not turn off during paper feed from cassette 3.	E
4214		Eject sensor does not turn off during paper feed from cassette 4.	E
4218		Eject sensor does not turn off during paper feed from duplex section.	E
4219		Eject sensor does not turn off during paper feed from MP tray.	E
9000	DP no original feeding jam	DP timing sensor does not turn on during the sheet feed from DP (Retry 5 times).	F
9004	DP switchback jam	DP registration sensor does not turn on within specified time of DP switchback sensor turning on.	F
9010	Document processor open	Document processor is opened during original feeding. When the power is turned on or the cover is closed, the sensor of the transport system is turned on.	F
9060	DP paper feed motor timeout due to non-stopping	After the DP paper feed motor drive, it does not turn OFF within the specified time.	-
9061	DP paper feed motor timeout due to non-stopping	DP conveying motor does not turn off within specified time of DP conveying motor drive.	-
9062	DP paper feed motor timeout due to non-stopping	DP switchback motor does not turn off within specified time of DP switchback motor drive.	-
9110	DP timing sensor stay jam	DP original timing sensor does not turn off within specified time of DP registration sensor turning on.	F

Code	Contents	Detection conditions	JAM Position*
9120	DP timing sensor initial jam	When DP reading is begun while the original remains in the conveyance path after power on.	F
9200	DP registration sensor non arrival jam	DP registration sensor does not turn on within specified time of DP timing sensor turning on.	F
9210	DP registration sensor stay jam	DP registration sensor does not turn off within specified time of DP timing sensor turning on.	F
9220	DP registration sensor initial jam	When DP reading is begun while the original remains in the conveyance path after power on.	F

*: Refer to figure 1-4-1 and 1-4-2 for paper misfeed indication (see page 7-1,7-2).

(3) First check items

If the paper is fed askew, jammed, curled, or leading-edge dog-eared, first check the following items.

Check items	Check description	Corrective Action
Paper	1. Check the paper delivered is dog-eared, skewed or creased.	If a dog-ear occurs, check there are no objects existing in the conveying paths, and if any, fix it. If the paper is fed askew or creased, execute No.2. below
	2. Check how paper is loaded in the cassette (paper feeder). Check that the paper has been properly aligned with the width adjuster cursor and the rear guide; it has been loaded without skewing; or it is not damaged. (creased paper, main unit jam)	Adjust the cursors to the size of the paper.
	3. Check how paper is loaded. Check if the cutting edge of the paper bundle inside is crumpled or bent.	If the cutting edge of the paper bundle is crumpled, fan the paper before loading. If the paper is folded, stretch before loading in the cassette.
	4. Check the paper is moist, wavy, or curled.	Load the paper in the cassette upside down. Load paper in the cassette after rotating it 180 degrees. Change the paper.
	5. Check if the paper loaded in the cassette was stored in a continuously humid place.	Instruct the user to store paper in a dry, less humid place.
	6. Check if the paper conforms to the specification.	Isolate the cause of the problem by replacing the paper with the recommended paper. (see page 1-1)

Check items	Check description	Corrective Action
Settings/ Detection	1. Check if the margin is within 4.0mm from the leading edge of paper.	If there is no margin of 4.0mm from the leading edge, adjust the leading margin by U402. (see page 1-1)
	2. Check the operation panel if the paper size is correctly set. (multi-feed jam)(MFP: Perform U000 to obtain a Event Log to check if the paper size and the size of the paper loaded are met when jam has ocurred and if the size of the original document and the paper size are met.) (see page 6-6)	If the paper size is incorrectly displayed, set the size of the paper cassette properly.
	3. Check that paper settings are made in accordance with the paper being used. (Jam caused by faulty separation)	Select Original/Paper settings under [Common Settings] in the system menu to set media type and weight of paper.
Rear cover	Check the rear cover of the main unit are slightly strained and closed	Open the rear cover and close it firmly. (Check the position of the safery switch)
Conveying guide Entry guide feedshift guide	1. Check that the foreign objects including torn paper, paper clips, etc., do not exist in the paper conveying paths.	If foreign objects such as torn paper, etc. remain in the paper conveying path, remove them
	2. Check that the paper conveying guide and the separation brush are not contaminated with toner, paper dust, etc.	If dirty, clean the guide, ribs (by a cloth), and the separation brush (by a cleaning brush). If the ribs of the conveying guides were broken or deposited with toner, replace the conveying guide.
	3. Check that the paper conveying guide has no barrs, deformations, or abrasions; and it is properly attached without being floated.	Clean the conveying guide or the paper entry guide. Remove any protrusions including barrs. If floated, reattach. If deformation or abrasion is observed, replace it.
	4. Check that the guide is smoothly operative. Check that the guide is smoothly operative by hand.	If the guide does not operate smoothly, replace the guide or the unit.
	5. Check that the guide is smoothly operative.	If the guide is inoperative or won't operate smoothly, reattach the guide or replace the unit.

Check items	Check description	Corrective Action
Conveying roller, Paper feed roller	1. Check the conveying rollers have no paper dust, toner, or foreign objects stucked. Check the variation of the external diameter of the roller or abrasion is not observed with the coveying roller.	Clean the conveying rollers or the pollyes. If variation in the external diameter or abrasion is observed, replace it.
	2. Turn the cover safety switch and check the motor and the clutch are operated normally.	If the conveying motor or the clutch is inoperative, replace it. If stained, replace the clutch. If the clutch is kept turned on due to a tensioned wire, realign the wire.
	3. Check the conveying rollerrotates without overloading. Check the bushing or the roller shaft is not contaminated. Check that the spring has not fallen off and is attached so that it is properly applying pressure against the rollers or pulleys.	Clean the roller shaft or bushing. Reattach it while checking the pressure of the spring.
Sensor	1. Check if it does not operate with smoothness due to an abnormal move or dropping off of the actuator of the conveying switch.	Reattach the actuator or the return spring.
	2. Check that the surface of the sensor is not contaminated with toner, paper dust, etc.	If dirty, clean the sensor.
	3. Check the sensors are operated normally.	If the sensor is inoperative, replace the switch.
Static	Check if the location is susceptible to build static discharge at the conveying guide during printing.	Reattach and reconnect the static discharge sheet at the eject unit and the metal guide at the tranfer unit so that they are properly grounded.

(4) Items and corrective actions relating to the device that will cause paper jam

Jam types	Check description	Corrective Action
No paper feeding jam or the leading edge of paper is curled back at the position of the roller (J0501, J0502, J0503, J0504, J0509)	1. Check if the jammed paper or printed paper has a tear at its leading edge caused by the roller.	Replace the paper feed roller. (Service life of roller is 200000 images) Clean the roller, or decrease the spring pressure to pinch the retard rollers if the component is under to its expected life. Or replace the spring.
	2. Check abrasion and paper dusts on the feed roller and forwarding rollers.	Clean the paper feed roller and the pickup roller. Or, if not corrected, replace.
	3. Check the pickup roller and paper feed roller are rotating.	If disconnected or or stained, replace the conveying drive unit.
	4. Check that the convey-ing force of the pickup roller is sufficient.	Increase the conveying force during paper pickup by increasing the spring load of the pickup roller.
Multiple-feed Jam (J0511, J0512, J0513, J0514, J0519)	1. Check if the cutting edge of the paper bun-dle is crumpled or the cassette is loaded with multiple times of replen-ishing paper.	If the cutting edge of the paper bundle is crumpled or the cassette is loaded with multiple times of replen-ishing paper, load new paper.
	2. Checking paper size Check that the size of the loaded paper and the paper size chosen on the operator panel are met.	If the paper size does not match If the cassette cursors have gaps with paper, set them properly. Insert the cassette until the paper size detector switch is turned on. If the size is not detectable evev after inserting all the way, check the position of the size detector switch, or replace the size detection switch.
		If the paper size matches If paper is used out of the specification such as coated paper, inkjet paper, etc., replace the paper. Reattach the retard roller in the primary paper feed unit if it is mounted to the opposite direction. Check if the retard spring has not been fallen off of the mounting position. If the retard spring is not dropped off of the mount position, decrease the spring pressure that is applied to the separation rollers. Replace the retard roller unit.
	3. Check if paper dusts and abrasion are observed on the retard roller.	If the paper fanning roller is dirty, clean. If abrasion is observed, replace.

Jam types	Check description	Corrective Action
	4. Check the clutch that are rotating following other component when the motor is turned on.	If the clutch rotates following other component and its stain is observed, replace the conveying drive unit.
Duplex no paper feeding Jam (J0508) Duplex Multiple-feed Jam (J0518)	Check if the registration sensor is detected.	If the registration sensor is not working, replace the registration sensor.
PF conveying sensor stay jam (J1413, J1414, J1614)	1. Check to see if the actuator of the paper conveying sensor is smoothly operative.	If it does not operate smoothly, reattach or replace the actuator's return spring.
	2. Check the operation of the sensor.	If the sensor is inoperative, replace it.
	3. Check if the PF paper feed clutch rotates following other component.	If stained, replace the clutch. Re-assmeble the clutch so that it is not continuously energized. Change of wirings, etc.
	4. Check if the conveying guide is attached while twisted. (If the attached parts of the guide is floated, the actuator does not protrude sufficiently.)	If the bracket is attached while twisted, remove the screw securing the conveying guide and properly reattach the bracket in the right positioning.
	5. Check no wrinkles are observed at the sluck of paper during paper feeding.	Adjust the cursors to the size of the paper.
PF conveying sensor non arrival jam (J1403, J1404, J1604)	1. Check to see if the actuator is smoothly operative.	Reattach or replace the actuator's return spring.
	2. Check the operation of the motor. Check the transmission of the gear drive by the clutch operation. *: * Check the conveying roller rotates and is smoothly movable in the thrust direction.	If the roller does not rotate smoothly, loosen the screws for adjusting the position (at the gear train bracket) to mount the driving gears, and tighten so that a gap between the gears and frame is eliminated.

Jam types	Check description	Corrective Action
Fuser eject sensor non arrival jam, stay jam (J420X,J421X)	1. If paper jams at the feedshift guide, check if the guide is smoothly operative.	If the clearance between the housing and the feed-shift guide is too small for the guide to smoothly move, replace the feedshift guide.
	2. Check to see if the actuator of the ejct sensor is smoothly operative.	1. If the actuator is not in proper position, or does not return due to falling of the return spring, reattach it. 2. If the actuator is damaged or deformed, replace it.
	3. Check if the eject sensor does not show a false detection.	Replace the defective eject sensor or the eject unit.

(5) Paper jam at feeding from paper feeder 1

Electrical parts that could cause paper jam during paper conveying at the primary feed (to the registration roller)

Timing of detection

Jam code
J0501, J0511

Corrective Action

Related parts	
Registration sensor	Main/Engine PWB
Paper feed clutch	Engine relay PWB
Middle clutch	
Paper conveying and developer motor	

Check action at the occurrence Step J0501/J502	Corrective action at the occurrence of J0501	Point of checking connection of On/ Off control signal output connector (terminal)
1	Items for Initial Checks	(see page 7-6)
2	Registration sensor: Check continuity, location and operation of registration sensor	Main/Engine PWB YC12-2
3	Main/Engine PWB: Replace	
4	Engine relay PWB: Replace	
5	Paper feed clutch: Operation check	Engine relay PWB YC15-13
6	Middle clutch: Operation check	Engine relay PWB YC15-9
7	Conveying/Developer motor: Operation check	Engine relay PWB YC14-1/2/3/4

(6) Paper jam at feeding from cassette 2 (paper feerder 1)

Electrical parts that could cause paper jam during paper conveying at the primary feed (to the registration roller)

Timing of detection

Jam code
J0502, J0512, J4002, J4012

Corrective Action

Related parts	
PF paper feed sensor	Paper conveying and developer motor
PF paper feed clutch	Registration sensor
PF paper feed motor	PF main PWB
PF main PWB	Main/Engine PWB
Middle clutch	Engine relay PWB

Check action at the occurrence Step J0502/J0512	Corrective action at the occurrence	Point of checking connection of On/ Off control signal output connector (terminal)
1	Items for Initial Checks	(see page 7-6)
2	PF Feed sensor 1: Conduct connectivity check, mounting location check, operation check	PF main PWB YC5-6
3	PF paper feed clutch: Operation check	PF main PWB 2 YC4-1
4	PF paper feed motor: Operation check	PF main PWB 5 YC4-3 (RDY), 5 (REM)
5	PF main PWB: Replace	

Check action at the occurrence Step J4002/J4012	Corrective action at the occurrence	Point of checking connection of On/ Off control signal output connector (terminal)
1	Items for Initial Checks	(see page 7-6)
2	Check continuity, location and operation of registration sensor (RS)	Main/Engine PWB YC12-2
3	Main/Engine PWB: Replace	
4	Middle clutch: Operation check	Engine relay PWB YC15-13
5	Conveying/Developer motor: Operation check	Engine relay PWB YC15-1/2/3/4
6	Engine relay PWB: Replace	

(7) Paper jam at feeding from the MP tray

Electrical parts that could cause paper jam during paper conveying at the primary feed (to the registration roller)

Timing of detection

Jam code
J0509,J0519

Corrective Action

Related parts	
Registration sensor	MP conveying clutch
MP solenoid	Main/Engine PWB
Paper conveying and developer motor	Engine relay PWB

Check action at the occurrence Step J0509/J0512	Corrective action at the occurrence	Point of checking connection of On/ Off control signal output connector (terminal)
1	Items for Initial Checks	(see page 7-6)
2	Check continuity, location and operation of registration sensor	Main/Engine PWB YC12-2
3	MP solenoid: Operation check	Engine relay PWB YC16-2
4	MP conveying clutch: Operation check	Engine relay PWB: Replace YC15-11
5	Conveying/Developer motor: Operation check	Engine relay PWB YC15-1/2/3/4
6	Engine relay PWB: Replace	
7	Main/Engine PWB: Replace	

(8) Paper jam at the duplex re-feeding section

Electrical parts that could cause paper jam during paper conveying at the primary feed (to the registration roller)

Timing of detection

Jam code
J0508,J0518

Corrective Action

Related parts	
Registration sensor	Main/Engine PWB
Primary clutch	Engine relay PWB
Paper conveying and developer motor	

Check action at the occurrence Step J0508/J0518	Corrective action at the occurrence	Point of checking connection of On/ Off control signal output connector (terminal)
1	Items for Initial Checks	(see page 7-6)
2	Check continuity, location and operation of registration sensor	Main/Engine PWB YC12-2
3	Main/Engine PWB: Replace	
4	Middle clutch: Operation check	Engine relay PWB YC15-9
5	Conveying/Developer motor: Operation check	Engine relay PWB YC15-1/2/3/4
6	Engine relay PWB: Replace	

(9) Electrical parts that could cause paper jam at the transfer , the fuser and the eject parts

Timing of detection

Jam code
J4201,J4211

Corrective Action

Related parts	
Eject sensor	Main/Engine PWB
Paper conveying and developer motor	Engine relay PWB
Duplex eject motor	

Checking procedure at the occurrence of J4201/J4211	Corrective action at the occurrence of J41XX	Point of checking connection of On/Off control signal output connector (terminal)
1	Items for Initial Checks	(see page 7-6)
2	Check continuity, location and operation of eject sensor	Main/Engine PWB YC11-7
3	Main/Engine PWB: Replace	(see page 4-62)
4	Duplex eject motor: Operation check	Engine relay PWB YC20-1/2/3/4
5	Conveying/Developer motor: Operation check	Engine relay PWB YC15-1/2/3/4
6	Engine relay PWB: Replace	

7-2 Self diagnostic

(1) Self diagnostic function

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

(2) Self diagnostic codes

If the part causing the problem was not supplied, use the unit including the part for replacement.
*: * Before attempting to check the power supply and the fuser unit, be sure to turn the power switch off and unplug the machine from power. Allow at least 5 s before starting to conduct service until the capacitors on the circuit boards have been completely discharged.

Indication	Contents	Related parts	Check procedures/corrective measures
0030	**FAX PWB system error** The FAX process can not be continued due to the malfunction of the FAXPWB. *Only 4in1 models detect	FAX PWB	1. Unplug the power cord from the wall outlet, and reinstall the FAX controller PWB, and then plug the power cord and turn power on. 2. Reinstall the FAX firmware. 3. Replace the FAX PWB.
0070	**FAX PWB incompatible detection error** In the initial communication with the FAX control PWB, any normal communication command is not transmitted. *Only 4in1 models detect	FAX PWB	1. Install the FAX system designed for the model. 2. Reinstall the FAX firmware.
0100	**Backup memory device error** Outputs an abnormal status from the flash memory.	Flash memory (Main/Engine PWB)	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Check that the connectors on the Main/Engine PWB are properly connected, and if not, re-connect them. 3. Replace the Main/Engine PWB. (see page 4-62)
0120	**MAC address data error** In case MAC address is invalid data	Flash memory (Main/Engine PWB)	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Check the MAC address on the network status page. 3. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
0130	**Backup memory read/write error (Main/Engine PWB)** Read/write to the NAND memory can not be executed.	Flash memory (Main/Engine PWB)	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Check that the connectors on the Main/Engine PWB are properly connected, and if not, re-connect them. 3. Replace the Main/Engine PWB. (see page 4-62)
0140	**Backup memory data error (Main/Engine PWB)** At power up, the data that was read from the NAND memory has been determined to be a error.	Flash memory (Main/Engine PWB)	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Execute U021 initialize memory. (see page 6-22) 3. Replace the Main/Engine PWB. (see page 4-62)
0150	**EEPROM read/write error (Main/Engine PWB)** 1. No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated 5 times successively. 2. Mismatch of reading data from two locations occurs 8 times successively. 3. Mismatch between writing data and reading data occurs 8 times successively.	EEPROM (Main/Engine PWB)	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Check that the EEPROM is peroperly installed on the Main/Engine PWB and if not, reinstall it. 3. Replace the Main/Engine PWB. (see page 4-62) 4. Check the EEPROM and if it is damaged, contact the service support.
0160	**EEPROM data error (Main/Engine PWB)** Reading data from EEPROM is detected abnormal.	EEPROM (Main/Engine PWB)	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Execute U021 initialize memory. (see page 6-22) 3. If the EEPROM data are currupted, contact the service support.
0170	**Billing counting error** Mismatch between the value of the Main/Engine PWB and EEPROM, in one of the value of billing counter, life counter, or scanner counter.	EEPROM (Main/Engine PWB)	1. Check that the EEPROM installed in the Main/Engine PWB is correct and, if not, install the correct EEPROM for the model. 2. Replace the Main/Engine PWB. (see page 4-62) 3. If the EEPROM data are currupted, contact the service support.

Indication	Contents	Related parts	Check procedures/corrective measures
0180	**Machine number mismatch** When the power is turned on, the machine number does not match the one stored in the Main/Engine PWB.	EEPROM (Main/ Engine PWB)	1. Check that the EEPROM installed in the Main/Engine PWB is correct and, if not, install the correct EEPROM for the model. 2. Confirm the serial number data for the Main/Engine PWB by using U004. (see page 6-19) If the mutually different machine number data between "Machine No. (Main)" and "Machine No. (Eng)" is displayed, or if there is a difference between the actual machine number and the number of "Machine No. (Eng)", install the correct EEPROM, and then execute U004.
0190	**Backup memory device error (Main/Engine PWB)** At power up, read/write data from FRAM can not be performed. (retry: 3times)	FRAM (Main/ Engine PWB)	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Check that the connectors on the Main/ Engine PWB are properly connected, and if not, re-connect them. 3. Replace the Main/Engine PWB. (see page 4-62)
0360	**Communication error between the engine ASIC** During the readback data checked after data transmission, the checksum error or the video signal is not inverted. (failed 10 consecutive times)	Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. Check continuity within the connector wire. If none, replace the wire. Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	Replace the Main/Engine PWB. (see page 4-62)
0640	**Hard disk (SSD) error** During the file access after Ready, the I/O error of SSD is detected. (SSD format error after rebooting. For example, System initialization, Sanitization, Encrypted format when installing security kit.)	SSD (optional HD-6/7)	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Unplug the power cord from the wall outlet, and reinstall the HD-6/7 (SSD). 3. Check that the connection between KUIO connector on the Main/Engine PWB and HD-6/7 (SSD) is proper, and if not, re-connect them. 4. Initialize the HD-6/7 (SSD). 5. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
0800	**Image formation problems** The printing sequence JAM (J010X) is detected for 2 consecutive times.	Main/Engine PWB	1. Check if the problem is a printing operation error detection in a particular file, and if it is possible to obtain the reproduction of phenomena by the identification of the job that detected the error, take the job log. 2. If the problem occurs in unspecified job, check the connectors on the Main/Engine PWB, and reattach it. 3. Replace the Main/Engine PWB. (see page 4-62)
0830	**FAX PWB flash program area checksum error** The program stored in the flash memory on the FAX control PWB is broken and can not be executed. *Only 4in1 models detect	FAX firmware	1. Reinstall the FAX firmware.
		FAX PWB	1. Unplug the power cord from the wall outlet, and reinstall the FAX controller PWB, and then plug the power cord and turn power on. 2. Check that the connection between KUIO connector on the Main/Engine PWB and Fax PWB is proper, and if not, re-connect them. 3. Execute [Initializing] by U600. (see page 6-62) 4. Replace the FAX PWB.

Indication	Contents	Related parts	Check procedures/corrective measures
0840	**Faults of RTC** Check at power up. The RTC setting has reverted to a previous state. The machine has not been powered for 5 years (compared to the settings stored periodically in the EEPROM). The RTC setting is older than 00:01 on January 1, 2000. Checked periodically (at every 5 minutes) after power-up. The RTC setting has reverted to a state older than the last time it was checked. 10 minutes have been passed since the previous check.	Settings of RTC	1. Execute Date Setting using the system menu.
		Backup battery (Main/Engine PWB)	1. Check if the backup battery on the Main/Engine PWB is not short-circuited. 2. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. If the same service call error is displayed, replace the backup battery.
		Main/Engine PWB	1. If the communication error (due to a noise, etc.) is present with the RTC on the Main/Engine PWB, check that the PWB is properly grounded or secured by screws. 2. Replace the Main/Engine PWB. (see page 4-62)
0870	**FAX PWB to Main/Engine PWB image data transfer error** High-capacity data transfer between the FAX PWB and the Main/Engine PWB was not normally performed even if the data transfer was retried the specified times. *Only 4in1 models detect	FAX PWB	1. Unplug the power cord from the wall outlet, and reinstall the FAX controller PWB, and then plug the power cord and turn power on. 2. Check that the connection between KUIO connector on the Main/Engine PWB and Fax PWB is proper, and if not, re-connect them. 3. Replace the FAX PWB.
		Main/Engine PWB	1. Replace the Main/Engine PWB. (see page 4-62)
0920	**Fax file system error** The backup data is not retained for file system abnormality of the flash memory of the FAX PWB. *Only 4in1 models detect	FAX PWB	1. Execute [Initializing] by U600. (see page 6-62) 2. Reinstall the FAX firmware. 3. Unplug the power cord from the wall outlet, and reinstall the FAX controller PWB, and then plug the power cord and turn power on. 4. Check that the connection between KUIO connector on the Main/Engine PWB and Fax PWB is proper, and if not, re-connect them. 5. Replace the FAX PWB.

Indication	Contents	Related parts	Check procedures/corrective measures
1010	**Lift motor error (main unit)** The following states have been detected 5 times in succession. The lift motor overcurrent is detected for 80 ms. After the cassette is installed, the upper limit detection sensor does not turn ON within 10 s. During printing, after the upper limit detection sensor detects off, and 1 s after ascending control, and the upper limit detection sensor does not detect on. The upper limit detection sensor does not turn off within 5 s after descending control.	Bottom plate	1. Check to see if the bottom plate can move smoothly and repair or replace it if any problem is found.
		Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. If a wire is pinched by other component, or has defect conduction, replace it. Lift motor and Engine relay PWB (YC25) Engine relay PWB (YC1) and Main/Engine PWB (YC4) Llift sensor and Engine relay PWB
		Drive transmission system for the lift motor	1. Check if the gears rotate smoothly. If not, clean or grease the bushes and gears. 2. Check broken gears and replace if any.
		Lift motor	Replace the lift motor.
		Lift sensor (upper limit detection sensor)	1. Check if the actuator of the lift sensor can be turned ON/OFF to suit the rise of the cassette bottom plate. 2. Replace the lift sensor
		Engine relay PWB	1. Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
1020	**PF lift motor error (PF1)** The following states have been detected 5 times in succession. The lift motor overcurrent is detected for 200 ms. After the cassette is installed, the upper limit detection sensor does not turn ON within 10 s. During printing, after the upper limit detection sensor detects off, and 1 s after ascending control, and the upper limit detection sensor does not detect on. The upper limit detection sensor does not turn off within 5 s after descending control.	Bottom plate	Check to see if the bottom plate can move smoothly and repair or replace it if any problem is found.
		Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. If a wire is pinched by other component, or has defect conduction, replace it. PF lift motor and PF main PWB (YC7) Llift sensor and PF main PWB (YC7) PF main PWB and Engine relay PWB (YC19)
		Drive transmission system for the lift motor	1. Check if the gears rotate smoothly. If not, clean or grease the bushes and gears. 2. Check broken gears and replace if any.
		PF lift motor	Replace the PF lift motor 1.
		PF lift sensor (upper limit detection sensor)	1. Check if the actuator of the PF lift sensor can be turned ON/OFF to suit the rise of the cassette bottom plate. 2. Replace the PF lift sensor.
		PF main PWB	Replace the PF main PWB. (see page 4-236)
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)

Indication	Contents	Related parts	Check procedures/corrective measures
1030	**PF lift motor error (PF2)** The following states have been detected 5 times in succession. The lift motor overcurrent is detected for 200 ms. After the cassette is installed, the upper limit detection sensor does not turn ON within 10 s. During printing, after the upper limit detection sensor detects off, and 1 s after ascending control, and the upper limit detection sensor does not detect on. The upper limit detection sensor does not turn off within 5 s after descending control.	Bottom plate	Check to see if the bottom plate can move smoothly and repair or replace it if any problem is found.
		Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. If a wire is pinched by other component, or has defect conduction, replace it. PF lift motor and PF main PWB (YC7) Llift sensor and PF main PWB (YC7) PF main PWB and Engine relay PWB (YC19)
		Drive transmission system for the lift motor	1. Check if the gears rotate smoothly. If not, clean or grease the bushes and gears. 2. Check broken gears and replace if any.
		PF lift motor	Replace the PF lift motor 2.
		PF lift sensor (upper limit detection sensor)	1. Check if the actuator of the PF lift sensor can be turned ON/OFF to suit the rise of the cassette bottom plate. 2. Replace the PF lift sensor.
		PF main PWB	Replace the PF main PWB. (see page 4-236)
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)

Indication	Contents	Related parts	Check procedures/corrective measures
1040	**PF lift motor error (PF3)** The following states have been detected 5 times in succession. The lift motor overcurrent is detected for 200 ms. After the cassette is installed, the upper limit detection sensor does not turn ON within 10 s. During printing, after the upper limit detection sensor detects off, and 1 s after ascending control, and the upper limit detection sensor does not detect on. The upper limit detection sensor does not turn off within 5 s after descending control.	Bottom plate	Check to see if the bottom plate can move smoothly and repair or replace it if any problem is found.
		Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. If a wire is pinched by other component, or has defect conduction, replace it. PF lift motor and PF main PWB (YC7) Llift sensor and PF main PWB (YC7) PF main PWB and Engine relay PWB (YC19)
		Drive transmission system for the lift motor	1. Check if the gears rotate smoothly. If not, clean or grease the bushes and gears. 2. Check broken gears and replace if any.
		PF lift motor	Replace the PF lift motor.
		PF lift sensor (upper limit detection sensor)	1. Check if the actuator of the PF lift sensor can be turned ON/OFF to suit the rise of the cassette bottom plate. 2. Replace the PF lift sensor.
		PF main PWB	Replace the PF main PWB. (see page 4-236)
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
1810	**Paper feeder communication error (first cassette)** A communication error from paper feeder is detected 10 times in succession.	Paper feeder 1	Check the wiring connection status with the main unit, and if necessary, reconnecting it.
		PF1 main PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. PF1 main PWB (YC3 and Engine relay PWB (YC19) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Reinstall the PF firmware. 4. Replace the PF main PWB. (Refer to the service manual for the paper feeder).
		Engine relay PWB	1. Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
1820	**Paper feeder communication error (second cassette)** A communication error from paper feeder is detected 10 times in succession.	Paper feeder 2	Check the wiring connection status with PF1, and if necessary, reconnect it.
		PF2 main PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. PF1 main PWB (YC3)and PF2 main PWB (YC5,4) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Reinstall the PF firmware. 4. Replace the PF2 main PWB.
		PF1 main PWB	Replace the PF1 main PWB. (see page 4-236)
1830	**Paper feeder communication error (third cassette)** A communication error from paper feeder is detected 10 times in succession.	Paper feeder 3	Check the wiring connection status with PF2, and if necessary, reconnect it.
		PF3 main PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. PF2 main PWB (YC3 and PF3 main PWB (YC5,4) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Reinstall the PF firmware. 4. Replace the PF3 main PWB.
		PF2 main PWB	Replace the PF2 main PWB. (see page 4-236)
1900	**Paper feeder 1 EEPROM error (first cassette)** When writing the data, read and write data does not match 4 times in succession.	PF1 main PWB (EEPROM)	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the wiring connector to the main unit is firmly connected, and if necessary, connect the connector all the way in. 3. Replace the PF1 main PWB.
1910	**Paper feeder 2 EEPROM error (second cassette)** When writing the data, read and write data does not match 4 times in succession.	PF2 main PWB (EEPROM)	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the wiring connector with the PF1 is firmly connected, and if necessary, connect the connector all the way in. 3. Replace the PF2 main PWB.

Indication	Contents	Related parts	Check procedures/corrective measures
1920	**Paper feeder 3 EEPROM error (third cassette)** When writing the data, read and write data does not match 4 times in succession.	PF3 main PWB	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the wiring connector with the PF2 is firmly connected, and if necessary, connect the connector all the way in. 3. Replace the PF3 main PWB.
2101	**Developer motor steady-state error (C,M,Y)** After motor is stabilized, the stable signal is turned OFF for continuous 2 s.	Developer unit	1. Check that the developer roller can be rotated by hand, and if it is locked, replace the developer unit.
		Developer motor	1. Check if the couplings and gears rotate smoothly, and if necessary replace them. 2. Reinsert the connector. 3. Check continuity within the connector wire. If none, replace the wire. Developer motor and Engine relay PWB (YC12) Engine relay PWB (YC1) and Main/Engine PWB (YC4) 4. Replace the developer motor (see page 4-181)
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
2111	**Developer motor startup error (C,M,Y)** After the motor starting, the stable signal is not turned ON within 3 s.	Developer unit	1. Check that the developer roller can be rotated by hand, and if it is locked, replace the developer unit.
		Developer motor	1. Check if the couplings and gears rotate smoothly, and if necessary replace them. 2. Reinsert the connector. 3. Check continuity within the connector wire. If none, replace the wire. Developer motor and Engine relay PWB (YC12) Engine relay PWB (YC1) and Main/ Engine PWB (YC4) 4. Replace the developer motor (see page 4-181)
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
2201	**Drum motor CY steady-state error** After motor is stabilized, the stable signal is turned OFF for continuous 2 s.	Drum unit C or Drum unit Y	Check that the drum can be rotated by hand, and if it is locked, replace the drum unit C or drum unit Y.
		Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. Check continuity within the connector wire. If none, replace the wire. Drum motor CY and Engine relay PWB (YC13) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Drive transmission system for the drum motor CY	1. Check if the couplings and gears rotate smoothly, and if not, clean or grease the gears. 2. Check broken couplings and gears, and replace if any.
		Drum motor CY	Replace the drum motor CY.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
2202	**Drum motor KM steady-state error** After motor is stabilized, the stable signal is turned OFF for continuous 2 s.	Drum unit K or Drum unit M	Check that the drum can be rotated by hand, and if it is locked, replace the drum unit K or drum unit M.
		Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. Check continuity within the connector wire. If none, replace the wire. Drum motor KM and Engine relay PWB (YC13) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Drive transmission system for the drum motor KM	1. Check if the couplings and gears rotate smoothly, and if not, clean or grease the gears. 2. Check broken couplings and gears, and replace if any.
		Drum motor KM	Replace the drum motor KM.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	Replace the Main/Engine PWB. (see page 4-62)
2211	**Drum motor CY startup error** After the motor starting, the stable signal is not turned ON within 3 s.	Drum unit C or Drum unit Y	Check that the drum can be rotated by hand, and if it is locked, replace the drum unit C or drum unit Y.
		Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. Check continuity within the connector wire. If none, replace the wire. Drum motor CY and Engine relay PWB (YC13) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Drive transmission system for the drum motor CY	1. Check if the couplings and gears rotate smoothly, and if not, clean or grease the gears. 2. Check broken couplings and gears, and replace if any.
		Drum motor CY	Replace the drum motor CY.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
2212	**Drum motor KM startup error** After the motor starting, the stable signal is not turned ON within 3 s.	Drum unit K or Drum unit M	Check that the drum can be rotated by hand, and if it is locked, replace the drum unit K or drum unit M.
		Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. Check continuity within the connector wire. If none, replace the wire. Drum motor KM and Engine relay PWB (YC13) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Drive transmission system for the drum motor KM	1. Check if the couplings and gears rotate smoothly, and if not, clean or grease the gears. 2. Check broken couplings and gears, and replace if any.
		Drum motor KM	Replace the drum motor KM.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	Replace the Main/Engine PWB. (see page 4-62)
2500	**Paper feed motor error** After the motor starting, the stable signal is not turned ON within 3 s. After motor is stabilized, the stable signal is turned OFF for continuous 2 s.	Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. Check continuity within the connector wire. If none, replace the wire. Paper feed motor and Engine relay PWB (YC15) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Drive transmission system for the paper feed motor	1. Check if the rollers and gears rotate smoothly. If not, clean or grease the bushes and gears. 2. Replace the gears, if damaged.
		Paper feed motor	Replace the paper feed motor.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
2600	**PF drive motor 1 error (PF1)** During the motor drive, the stable signal is not turned on for continuous 5 s.	Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. Check continuity within the connector wire. If none, replace the wire. PF drive motor 1 and PF main PWB (YC6)
		Drive transmission system for the PF drive motor	1. Check if the rollers and gears rotate smoothly. If not, clean or grease the bushes and gears. 2. Replace the gears, if damaged.
		PF drive motor	Replace the PF drive motor 1.
		PF main PWB	Replace the PF main PWB. (see page 4-236)
2610	**PF drive motor 2 error (PF2)** During the motor drive, the stable signal is not turned on for continuous 5 s.	Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. Check continuity within the connector wire. If none, replace the wire. PF drive motor 2 and PF main PWB (YC6)
		Drive transmission system for the PF drive motor	1. Check if the rollers and gears rotate smoothly. If not, clean or grease the bushes and gears. 2. Replace the gears, if damaged.
		PF drive motor	Replace the PF drive motor 2.
		PF main PWB	Replace the PF main PWB. (see page 4-236)
2620	**PF drive motor 3 error (PF3)** During the motor drive, the stable signal is not turned on for continuous 5 s.	Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. Check continuity within the connector wire. If none, replace the wire. PF drive motor 3 and PF main PWB (YC6)
		Drive transmission system for the PF drive motor	1. Check if the rollers and gears rotate smoothly. If not, clean or grease the bushes and gears. 2. Replace the gears, if damaged.
		PF drive motor	Replace the PF drive motor 3.
		PF main PWB	Replace the PF main PWB. (see page 4-236)

Indication	Contents	Related parts	Check procedures/corrective measures
2760	**Primary transfer belt motor startup error** After the motor starting, the stable signal is not turned ON within 3 s.	Primary transfer unit	1. Check that the belt can be rotated by hand, and if it is locked, get rid of the factor. 2. Replace the primary transfer unit.
		Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. Check continuity within the connector wire. If none, replace the wire. Transfer belt motor and Engine relay PWB (YC14) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Drive transmission system for the primary transfer belt motor	1. Check if the rollers and gears rotate smoothly. If not, clean or grease the bushes and gears. 2. Replace the gears, if damaged.
		Primary transfer belt motor	Replace the primary transfer belt motor.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	Replace the Main/Engine PWB. (see page 4-62)
2820	**Primary transfer belt motor steady-state error** After motor is stabilized, the stable signal is turned OFF for continuous 2 s.	Primary transfer unit	1. Check that the belt can be rotated by hand, and if it is locked, check if foreign objects such as jammed paper, and if jammed, get rid of it. 2. Replace the primary transfer unit.
		Defective connector cable or poor contact in the connector	1. Reinsert the connector. 2. Check continuity within the connector wire. If none, replace the wire. Transfer belt motor and Engine relay PWB (YC14) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Drive transmission system for the primary transfer belt motor	1. Check if the rollers and gears rotate smoothly. If not, clean or grease the bushes and gears. 2. Replace the gears, if damaged.
		Primary transfer belt motor	Replace the primary transfer belt motor.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
3100	**Scanner carriage error** When turning the power on, or when the reading of the original document by table or DP scanning has completed, the home position sensor is not turned off, even if the home position sensor is on and the scanner carriage moves to the scanning direction. Or, the home position sensor does not turn on, even if the home position sensor is in off and the scanner carriage move to the return direction.	Image scanner motor	1. Move the scanner by hand to check whether it smoothly moves, and if necessary, remedy it. 2. Check that the scanner drive belt is not disengaged, and if necessary, remedy it. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Image scanner motor and Main/Engine PWB (YC17) 4. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 5. Replace the image scanner motor.
		Home position sensor	1. Check that the sensor is correctly positioned. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Home position sensor and CCD PWB (YC3) CCD PWB (YC1) and Main/Engine PWB (YC2014) 3. Replace the home position sensor.
		CCD PWB	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
		Main/Engine PWB	Replace the Main/Engine PWB. (see page 4-62)
3200	**LED lamp error** The white standard data obtained when the lamp is turned on at the time of an initialization is lower than the rated value.	LED PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LED PWB and CCD PWB (YC2) CCD PWB (YC1) and Main/Engine PWB (YC2014)
		Mirror	Replace the image scanner unit and execute U411, if the mirror is dropped off by drop shock. (see page 6-52)
		CCD PWB	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
		Main/Engine PWB	Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
3500	**Communication error between scanner ASIC (MFP model only)** A communication error is detected. (Read back values are different.)	CCD PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. CCD PWB (YC1) and Main/Engine PWB (YC2014) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
		Main/Engine PWB	1. Upgrade the scanner firmware to the latest version. 2. Replace the Main/Engine PWB. (see page 4-62)
4001	**Polygon motor (Black, Magenta) startup error** After the polygon motor starting, the motor stable signal is not turned ON after 6 s.	Polygon motor (Black, Magenta)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2016) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
4002	**Polygon motor (Cyan, Yellow) startup error** After the polygon motor starting, the motor stable signal is not turned ON after 6 s.	Polygon motor (Cyan, Yellow)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2017) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
4011	**Polygon motor (Black, Magenta) steady error** After the polygon motor stabilization, the motor stable signal is turned OFF for consecutive 6 s.	Polygon motor (Black, Magenta)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2016) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
4012	**Polygon motor (Cyan, Yellow) steady error** After the polygon motor stabilization, the motor stable signal is turned OFF for consecutive 6 s.	Polygon motor (Cyan, Yellow)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2017) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
4101	**Laser BD (Black) error** The laser can not be received for 1 s, after the Black laser emission starts.	LSU (Black,Magenta)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2016) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check both main and engine firmware, and upgrade to the latest version, if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

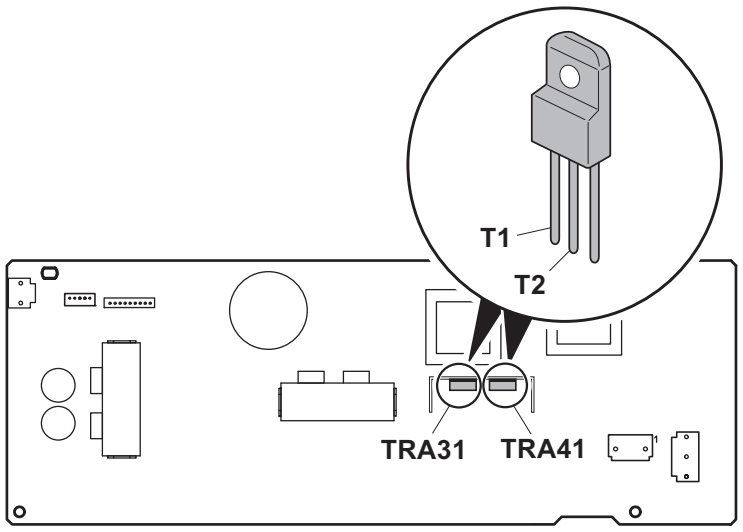
Indication	Contents	Related parts	Check procedures/corrective measures
4102	**Laser BD (Cyan) error** The laser can not be received for 1 s, after the Cyan laser emission starts.	LSU (Cyan, Yellow)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2017) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check both main and engine firmware, and upgrade to the latest version, if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
4103	**Laser BD (Magenta) error** The laser can not be received for 1 s, after the Magenta laser emission starts.	LSU (Black,Magenta)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2016) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check both main and engine firmware, and upgrade to the latest version, if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
4104	**Laser BD (Yellow) error** The laser can not be received for 1 s, after the Yellow laser emission starts.	LSU (Cyan, Yellow)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2017) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check both main and engine firmware, and upgrade to the latest version, if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
4201	**Laser BD (Black) steady-state error** During the polygon motor steady rotation, the BD signal of Black is not detected.	LSU (Black,Magenta)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2016) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check both main and engine firmware, and upgrade to the latest version, if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
4202	**Laser BD (Cyan) steady-state error** During the polygon motor steady rotation, the BD signal of Cyan is not detected.	LSU (Cyan,Yellow)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2017) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check both main and engine firmware, and upgrade to the latest version, if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
4203	**Laser BD (Magenta) steady-state error** During the polygon motor steady rotation, the BD signal of Magenta is not detected.	LSU (Black,Magenta)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2016) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check both main and engine firmware, and upgrade to the latest version, if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
4204	**Laser BD (Yellow) steady-state error** During the polygon motor steady rotation, the BD signal of Yellow is not detected.	LSU (Cyan,Yellow)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU and Main/Engine PBW (YC2017) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the LSU. (see page 4-135)
		Main/Engine PWB	1. Check both main and engine firmware, and upgrade to the latest version, if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
4600	**LSU cleaning motor error** During driving the LSU cleaning motor, an over-current is detected for 5 s successively.	LSU cleaning spiral	1. Execute [LSU cleaning] using [Adjustment/Maintenance] of the system menu. 2. Check that the drive gear and cleaning spiral can rotate and they are not unusually loaded, and if necessary, clean and grease.
		LSU cleaning motor	1. Confirm that the LSU cleaning motor has been firmly attached. 2. Replace the LSU cleaning motor.
		Engine relay PWB	1. Reconnect the connector if its connection is loose. 2. If a wire is pinched by other component, or has defect conduction, replace it. LSU cleaning motor and Engine relay PWB (YC26) 3. Replace the engine relay PWB. (see page 4-84)
4700	**VIDEO_ASIC device error** Communication with the video ASIC has failed 5 times successively. After writing to VIDEO ASIC, the error that the reading value from same address does not match occurs 8 times successively.	Main/Engine PWB	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Check that the connectors on the Main/Engine PWB are properly connected, and if not, re-connect them. 3. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
6000	**Broken fuser main heater wire** During the warming up, the temperature detected by the center thermistor does not reach 100 °C/212.0 °F for 20 s. During the warming up, the temperature detected by the center thermistor does not reach the stable display temperature for 30 s successively, after it reach to 100 °C/212.0 °F.	Fuser unit	1. Check there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit and Eject PWB (YC2) Eject PWB (YC1) and Main/Engine PWB (YC11) 3. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 4. If the fuser heater is not turned on (broken thermostat wire), replace the fuser unit. (see page 4-16)
		Power source PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Power source PWB (YC105) and Main/Engine PWB (YC20) 2. Replace the power source PWB. (see page 4-98)
		Eject PWB	Replace the eject PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
6020	**Abnormally high fuser center thermistor temperature** The center thermistor detected the temperature exceeds 240 °C/464.0 °F. for 1 s successively.	Fuser unit	1. Check there is no paper jam. 2. Check if the fuser roller has foreign objects such as the toner contamination. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit and Eject PWB (YC2) Eject PWB (YC1) and Main/Engine PWB (YC11) 4. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 5. Replace the fuser unit. (see page 4-16)
		Power source PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Power source PWB (YC105) and Main/Engine PWB (YC20) 2. If the fuser heater is turned on at all times, replace the power source PWB. (see page 4-98)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Check if the Main/Engine PWB is properly secured with screws. 3. Replace the Main/Engine PWB. (see page 4-62)
6030	**Broken fuser center thermistor wire** During the edge thermistor detects more than 30 °C/86.0 °F, the center thermistor detects low temperature for 1.6 s.	Fuser unit	1. Check there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit and Eject PWB (YC2) Eject PWB (YC1) and Main/Engine PWB (YC11) 3. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 4. Replace the fuser unit. (see page 4-16)
		Eject PWB	Replace the eject PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
6040	**Fuser heater error** (35 ppm models) Input value from the fuser center thermistor is abnormal for 1 s successively.	Fuser unit	1. Check there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit and Eject PWB (YC2) Eject PWB (YC1) and Main/Engine PWB (YC11) 3. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 4. Replace the fuser unit. (see page 4-16)
		Eject PWB	Replace the eject PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
6000 **6020** **6030** **6220** **6230** **Common**	**Broken fuser heater wire** Abnormally high fuser center thermistor temperature Broken fuser center thermistor wire Abnormally high fuser edge thermistor temperature Broken fuser edge thermistor wire	Connector pin	If the interface connector pins of the fuser unit and the main unit are deformed owing to foreign ogbjects, replace the connectors or the units including the connectors.
		Triac TRA31: for main heater control TRA41: for sub heater control (35 ppm models only)	Unplug the power cord, and then check if the continuity between T1 and T2 of triac TRA31 / TRA41 (TRA41: 35 ppm models only) on the power source PWB has a resistance of MΩ level and no short-circuit. (see Figure 73) If there is a short-circuit, replace the power source PWB. (see page 4-98)
		 Power source PWB	

Indication	Contents	Related parts	Check procedures/corrective measures
6050	**Abnormally low fuser center thermistor temperature** During the warming up and the printing, the center thermistor has detected less than 100 °C/212.0 °F. for 1 s successively.	Reduction of the power supply voltage	1. Check that no voltage drop of more than 10% of the rated is caused during printing. 2. If the power is overloaded, change the AC outlet that supplies power.
		Fuser unit	1. Check there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit and Eject PWB (YC2) Eject PWB (YC1) and Main/Engine PWB (YC11) 3. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 4. If the fuser heater is not turned on (broken thermostat wire), replace the fuser unit. (see page 4-16)
		Power source PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Power source PWB (YC105) and Main/Engine PWB (YC20) 2. Replace the power source PWB. (see page 4-98)
		Eject PWB	Replace the eject PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
6200	**Fuser heater error (SUb heater: for 35ppm models)** During the warming up, even if the main heater (sub heater for 35ppm models) is turned on for 30 s successively, the temperature detected by the edge thermistor does not reach 100 °C/212.0 °F. During the warming up, the temperature detected by the edge thermistor does not reach the stable display temperature, even if the main heater (sub heater for 35ppm models) is turned on for 30 s successively, after the temperature detected by the edge thermistor has reached to 100 °C/212.0 °F.	Fuser unit	1. Check there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit and Eject PWB (YC2) Eject PWB (YC1) and Main/Engine PWB (YC11) 3. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 4. If the fuser sub-heater is not turned on (broken thermostat wire), replace the fuser unit. (see page 4-16)
		Power source PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Power source PWB (YC105) and Main/Engine PWB (YC20) 2. Replace the power source PWB. (see page 4-98)
		Eject PWB	Replace the eject PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
6220	**Abnormally high fuser heater temperature** The temperature detected by the edge thermistor exceeds 240 °C/464.0 °F for 1 s successively.	Fuser unit	1. Check there is no paper jam. 2. Check if the fuser roller has foreign objects such as the toner contamination. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit and Eject PWB (YC2) Eject PWB (YC1) and Main/Engine PWB (YC11) 4. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 5. Replace the fuser unit. (see page 4-16)
		Power source PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Power source PWB (YC105) and Main/Engine PWB (YC20) 2. If the fuser heater is turned on at all times, replace the power source PWB. (see page 4-98)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Check if the Main/Engine PWB is properly secured with screws. 3. Replace the Main/Engine PWB. (see page 4-62)
6230	**Broken fuser edge thermistor wire** Fuser edge thermistor detects low temperature for 1.6 s.	Fuser unit	1. Check there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit and Eject PWB (YC2) Eject PWB (YC1) and Main/Engine PWB (YC11) 3. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 4. Replace the fuser unit. (see page 4-16)
		Eject PWB	Replace the eject PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
6250	**Abnormally low fuser edge thermistor temperature** During the warming up and the printing, the edge thermistor has detected less than 100 °C/212.0 °F for 1 s successively.	Reduction of the power supply voltage	1. Check that no voltage drop of more than 10% of the rated is caused during printing. 2. If the power is overloaded, change the AC outlet that supplies power.
		Fuser unit	1. Check there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit and Eject PWB (YC2) Eject PWB (YC1) and Main/Engine PWB (YC11) 3. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 4. If the fuser heater is not turned on (broken thermostat wire), replace the fuser unit. (see page 4-16)
		Power source PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Power source PWB (YC105) and Main/Engine PWB (YC20) 2. Replace the power source PWB. (see page 4-98)
		Eject PWB	Replace the eject PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
6400	**Zero-cross signal error** During the fuser heater on, and no detection the disconnection 24V, the zero-cross signal is not input for 1 s successively.	Power source PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Power source PWB (YC105) and Main/Engine PWB (YC20) 2. Replace the power source PWB. (see page 4-98)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
6610	**The fuser pressure release error** The fuser release sensor does not turn on or off, after 30 s from starting pressurization or depressurization operation.	Fuser unit	1. Check there is no paper jam. 2. Check if the fuser pressure can be reduced by inverse rotation of the fuser gear by hand. 3. Check if the envelope sensor light is blocked out by the actuator during depressurization operation. 4. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit (Envelope sensor) and Eject PWB (YC2) Eject PWB (YC1) and Main/Engine PWB (YC11) 5. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 6. Replace the fuser unit. (see page 4-16)
		Fuser motor	1. Check if the fuser motor is rotating. 2. When turning the power on, check if the fuser motor rotates reversely. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser motor and Engine relay PWB (YC20) 4. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 5. Replace the fuser motor.
		Eject PWB	Replace the eject PWB.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
6910	**Engine firmware unexpected error** The drum motor drive continued more than 60 minutes except during printing. (engine lock) The charge bias is turned off, during the developer bias is on. If the writing operation to the EEPROM is locked for 30 sec. Fuser temperature is abnormal, for more than a predetermined time.	Main/Engine PWB	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Check if the Main/Engine PWB is properly secured with screws. (Grounding check) 3. Check that the connectors on the Main/Engine PWB are properly connected, and if not, re-connect them. 4. Check the engine firmware and upgrade to the latest version if necessary. 5. Replace the Main/Engine PWB. (see page 4-62)
7001	**Toner motor K error** During driving the toner motor, an over-current detection signal is detected for 40 ms successively. When detected during warming up The message of "Shake the toner container (K)" is displayed. (exited by the opening and closing of the inner tray) Repeat the operation above, for three times. Four times or more, if an over-current detection signal is detected for 5 s successively, a service call error message appears.	Toner container Black	1. Check that the spiral of the toner container can be rotated by hand 2. Replace the toner container.
		Drive transmission system for the toner motor	1. Check if the couplings and gears rotate smoothly, and if not, clean or grease the gears. 2. Check broken couplings and gears, and replace if any.
		Defective connector cable or poor contact in the connector	1. Reconnect the connector if its connection is loose. 2. If a wire is pinched by other component, or has defect conduction, replace it. Toner motor and Engine relay PWB (YC18) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Toner motor	1. Check how the toner motor is attached. 2. Replace the toner motor.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7002	**Toner motor C error** During driving the toner motor, an over-current detection signal is detected for 40 ms successively. When detected during warming up The message of "Shake the toner container (C)" is displayed. (exited by the opening and closing of the inner tray) Repeat the operation above, for three times. Four times or more, if an over-current detection signal is detected for 5 s successively, a service call error message appears.	Toner container Cyan	1. Check that the spiral of the toner container can be rotated by hand 2. Replace the toner container.
		Drive transmission system for the toner motor	1. Check if the couplings and gears rotate smoothly, and if not, clean or grease the gears. 2. Check broken couplings and gears, and replace if any.
		Defective connector cable or poor contact in the connector	1. Reconnect the connector if its connection is loose. 2. If a wire is pinched by other component, or has defect conduction, replace it. Toner motor and Engine relay PWB (YC18) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Toner motor	1. Check how the toner motor is attached. 2. Replace the toner motor.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7003	**Toner motor M error** During driving the toner motor, an over-current detection signal is detected for 40 ms successively. When detected during warming up The message of "Shake the toner container (M)" is displayed. (exited by the opening and closing of the inner tray) Repeat the operation above, for three times. Four times or more, if an over-current detection signal is detected for 5 s successively, a service call error message appears.	Toner container Magenta	1. Check that the spiral of the toner container can be rotated by hand 2. Replace the toner container.
		Drive transmission system for the toner motor	1. Check if the couplings and gears rotate smoothly, and if not, clean or grease the gears. 2. Check broken couplings and gears, and replace if any.
		Defective connector cable or poor contact in the connector	1. Reconnect the connector if its connection is loose. 2. If a wire is pinched by other component, or has defect conduction, replace it. Toner motor and Engine relay PWB (YC18) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Toner motor	1. Check how the toner motor is attached. 2. Replace the toner motor.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7004	**Toner motor Y error** During driving the toner motor, an over-current detection signal is detected for 40 ms successively. When detected during warming up The message of "Shake the toner container (Y)" is displayed. (exited by the opening and closing of the inner tray) Repeat the operation above, for three times. Four times or more, if an over-current detection signal is detected for 5 s successively, a service call error message appears.	Toner container Yellow	1. Check that the spiral of the toner container can be rotated by hand 2. Replace the toner container.
		Drive transmission system for the toner motor	1. Check if the gears rotate smoothly. If not, clean or grease the bushes and gears. 2. Check broken couplings and gears, and replace if any.
		Defective connector cable or poor contact in the connector	1. Reconnect the connector if its connection is loose. 2. If a wire is pinched by other component, or has defect conduction, replace it. Toner motor and Engine relay PWB (YC18) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
		Toner motor	1. Check how the toner motor is attached. 2. Replace the toner motor.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
7101	**Toner sensor K error** For a certain period of time, the sensor output value is less than 0.1V, or more than 3.2V.	Toner container Black	1. Check that the toner container has been properly installed, and if necessary, reinstall. 2. Check that the toner supply inlet of the toner container can be opened by the lever operation. 3. Replace the toner container.
		Primary transfer unit	1. Check whether the toner supply inlet at the upper side of the unit opens by attaching the toner container. 2. Check whether the toner supply inlet at the lower side of the unit is open by the lever operation. 3. Check if toner is clogged in the toner supplying pass in the cleaning section. 4. Replace the primary transfer unit.

Indication	Contents	Related parts	Check procedures/corrective measures
7101	**Toner sensor K error**	Developer unit (toner sensor)	1. Confirm that the connector of the developer unit is firmly connected, and if necessary, push the unit all the way in. Developer unit (toner sensor) and Drum relay PWB (YC6) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 2. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 3. Check if the gears and spirals in the developer unit rotate smoothly. 4. Replace the developer unit. (see page 4-13)
		Toner motor	1. Check that the toner motor is properly attached. 2. Check the couplings and gears can rotate or they are not unusually loaded, and if necessary, replace. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Toner motor and Engine relay PWB (YC18) Engine relay PWB (YC1) and Main/Engine PWB (YC4) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the toner motor.
		Drum relay PWB	Replace the drum relay PWB.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
7102	**Toner sensor C error** For a certain period of time, the sensor output value is less than 0.1V, or more than 3.2V.	Toner container Cyan	1. Check that the toner container has been properly installed, and if necessary, reinstall. 2. Check that the toner supply inlet of the toner container can be opened by the lever operation. 3. Replace the toner container.

Indication	Contents	Related parts	Check procedures/corrective measures
7102	**Toner sensor C error**	Primary transfer unit	1. Check whether the toner supply inlet at the upper side of the unit opens by attaching the toner container. 2. Check whether the toner supply inlet at the lower side of the unit is open by the lever operation. 3. Check if toner is clogged in the toner supplying pass in the cleaning section. 4. Replace the primary transfer unit.
		Developer unit (toner sensor)	1. Confirm that the connector of the developer unit is firmly connected, and if necessary, push the unit all the way in. Developer unit (toner sensor) and Drum relay PWB (YC8) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 2. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 3. Check if the gears and spirals in the developer unit rotate smoothly. 4. Replace the developer unit. (see page 4-13)
		Toner motor	1. Check that the toner motor is properly attached. 2. Check the couplings and gears can rotate or they are not unusually loaded, and if necessary, replace. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Toner motor and Engine relay PWB (YC18) Engine relay PWB (YC1) and Main/Engine PWB (YC4) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the toner motor.
		Drum relay PWB	Replace the drum relay PWB.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7103	**Toner sensor M error** For a certain period of time, the sensor output value is less than 0.1V, or more than 3.2V.	Toner container Magenta	1. Check that the toner container has been properly installed, and if necessary, re-install. 2. Check that the toner supply inlet of the toner container can be opened by the lever operation. 3. Replace the toner container.
		Primary transfer unit	1. Check whether the toner supply inlet at the upper side of the unit opens by attaching the toner container. 2. Check whether the toner supply inlet at the lower side of the unit is open by the lever operation. 3. Check if toner is clogged in the toner supplying pass in the cleaning section. 4. Replace the primary transfer unit.
		Developer unit (toner sensor)	1. Confirm that the connector of the developer unit is firmly connected, and if necessary, push the unit all the way in. Developer unit (toner sensor) and Drum relay PWB (YC7) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 2. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 3. Check if the gears and spirals in the developer unit rotate smoothly. 4. Replace the developer unit. (see page 4-13)
		Toner motor	1. Check that the toner motor is properly attached. 2. Check the couplings and gears can rotate or they are not unusually loaded, and if necessary, replace. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Toner motor and Engine relay PWB (YC1) Engine relay PWB (YC1) and Main/Engine PWB (YC4) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the toner motor.
		Drum relay PWB	Replace the drum relay PWB.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)

Indication	Contents	Related parts	Check procedures/corrective measures
7103	**Toner sensor M error**	Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
7104	**Toner sensor Y error** For a certain period of time, the sensor output value is less than 0.1V, or more than 3.2V.	Toner container Yellow	3. Check that the toner container has been properly installed, and if necessary, re-install. 4. Check that the toner supply inlet of the toner container can be opened by the lever operation. 5. Replace the toner container.
		Primary transfer unit	1. Check whether the toner supply inlet at the upper side of the unit opens by attaching the toner container. 2. Check whether the toner supply inlet at the lower side of the unit is open by the lever operation. 3. Check if toner is clogged in the toner supplying pass in the cleaning section. 4. Replace the primary transfer unit.
		Developer unit (toner sensor)	1. Confirm that the connector of the developer unit is firmly connected, and if necessary, push the unit all the way in. Developer unit (toner sensor) and Drum relay PWB (YC9) Drum relay PWB (YC1) and Main/Engine PWB (YC4) 2. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 3. Check if the gears and spirals in the developer unit rotate smoothly. 4. Replace the developer unit. (see page 4-13)
		Toner motor	1. Check that the toner motor is properly attached. 2. Check the couplings and gears can rotate or they are not unusually loaded, and if necessary, replace. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Toner motor and Engine relay PWB (YC18) Engine relay PWB (YC1) and Main/Engine PWB (YC4) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the toner motor.

Indication	Contents	Related parts	Check procedures/corrective measures
7104	**Toner sensor Y error**	Drum relay PWB	Replace the drum relay PWB.
		Engine relay PWB	Replace the engine relay PWB. (see page 4-84)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7200	**Broken inner thermistor wire (Developer)** The sensor input sampling is greater than the reference value. (After detection, controlled at 25 °C/77.0 °F)	Developer unit K	1. Confirm that the connector of developer unit K is firmly connected, and if necessary, push the unit all the way in. Developer unit K (toner sensor) and Drum relay PWB (YC6) Drum relay PWB (YC1) and Main/Engine PWB (YC4) 2. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 3. Replace the developer unit K. (see page 4-13)
		Drum relay PWB	Replace the drum relay PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
7201	**Short-circuited inner thermistor (Developer)** The sensor input sampling is less than the reference value. (After detection, controlled at 25 °C/77.0 °F)	Developer unit K	1. Confirm that the connector of developer unit K is firmly connected, and if necessary, push the unit all the way in. Developer unit K (toner sensor) and Drum relay PWB (YC6) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 2. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 3. Replace the developer unit K. (see page 4-13)
		Drum relay PWB	Replace the drum relay PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7221	**Broken inner thermistor wire (LSU Magenta & Black)** The sensor input sampling is greater than the reference value. (After detection, controlled at 25 °C/77.0 °F)	LSU (Magenta & Black)	1. Confirm that the wiring connector of LSU (Magenta & Black) is firmly connected, and if necessary, connect the connector all the way in. LSU (Magenta & Black) and Main/ Engine PWB (YC2016) 2. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 3. Replace the LSU (Magenta & Black). (see page 4-135)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
7222	**Broken inner thermistor wire (LSU Cyan & Yellow)** The sensor input sampling is greater than the reference value. (After detection, controlled at 25 °C/77.0 °F)	LSU (Cyan & Yellow)	1. Confirm that the wiring connector of LSU (Cyan & Yellow) is firmly connected, and if necessary, connect the connector all the way in. LSU (Cyan & Yellow) and Main/Engine PWB (YC2017) 2. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 3. Replace the LSU (Cyan & Yellow). (see page 4-135)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
7401	**Developer unit K type mismatch error (Black)** Improper adaptation of the main unit and developer unit is detected.	Developer unit K	Check if the developer unit of different models is mounted, and replace it to the correct one. (see page 4-13)
7402	**Developer unit C type mismatch error (Cyan)** Improper adaptation of the main unit and developer unit is detected.	Developer unit C	Check if the developer unit of different models is mounted, and replace it to the correct one. (see page 4-13)
7403	**Developer unit M type mismatch error (Magenta)** Improper adaptation of the main unit and developer unit is detected.	Developer unit M	Check if the developer unit of different models is mounted, and replace it to the correct one. (see page 4-13)

Indication	Contents	Related parts	Check procedures/corrective measures
7404	**Developer unit Y type mismatch error (Yellow)** Improper adaptation of the main unit and developer unit is detected.	Developer unit Y	Check if the developer unit of different models is mounted, and replace it to the correct one. (see page 4-13)
7411	**Drum unit K type mismatch error (Black)** Improper adaptation of the main unit and drum unit is detected.	Drum unit K	Check if the drum unit of different models is attached, and replace it to the correct one. (see page 4-11)
7412	**Drum unit C type mismatch error (Cyan)** Improper adaptation of the main unit and drum unit is detected.	Drum unit C	Check if the drum unit of different models is attached, and replace it to the correct one. (see page 4-11)
7413	**Drum unit M type mismatch error (Magenta)** Improper adaptation of the main unit and drum unit is detected.	Drum unit M	Check if the drum unit of different models is attached, and replace it to the correct one. (see page 4-11)
7414	**Drum unit Y type mismatch error (Yellow)** Improper adaptation of the main unit and drum unit is detected.	Drum unit Y	Check if the drum unit of different models is attached, and replace it to the correct one. (see page 4-11)
7601	**ID sensor L error (Left side)** When the measured value of the ID sensor matches any of the following. If the light potential P-wave is lower than the dark potential P-wave (+0.5V). If light potential S-wave is lower than the dark potential S-wave. The dark potential P/S-wave is greater than 0.8V, or less than 0.15V.	ID sensor L (Left side)	1. Clean the ID sensor surface. 2. Check how the ID sensor is attached. 3. Check if the error is detected after performing the calibration. 4. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. ID sensor and Main/Engine PWB (YC13) 5. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 6. Replace the ID sensor.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7602	**ID sensor R error (Right side)** When the measured value of the ID sensor matches any of the following. If the light potential P-wave is lower than the dark potential P-wave (+0.5V). If light potential S-wave is lower than the dark potential S-wave. The dark potential P/S-wave is greater than 0.8V, or less than 0.15V.	ID sensor R (Right side)	1. Clean the ID sensor surface. 2. Check how the ID sensor is attached. 3. Check if the error is detected after performing the calibration. 4. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. ID sensor and Main/Engine PWB (YC14) 5. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 6. Replace the ID sensor.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
7611	**ID sensor density error (K)** During the calibration, ID sensor cannot read a patch density on the primary transfer belt normally. (Black)	Primary transfer unit ID sensor Drum unit Developer unit LSU Main/Engine PWB	1. After turning OFF the power switch, disconnect the power plug and connect it again, then turning ON the power switch. 2. By adjustment / maintenance of the system menu, execute the color calibration. 3. Check the occurrence of this C call in the Event Log. 4. When the same C call is detected again, Clean if there are any dirt or stains on the primary transfer belt or the ID sensor surface. 5. Check whether the shutter of ID sensor is opened during closing the paper tray. 6. There is no improvement, replace the primary transfer unit. (see page 4-5) 7. After performing the test print, if the poor density occurs, check whether any failure in the drum unit, developer unit, LSU. 8. There is no improvement, replace the main / engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7612	**ID sensor density error (C)** During the calibration, ID sensor cannot read a patch density on the primary transfer belt normally. (Cyan)	Primary transfer unit ID sensor Drum unit Developer unit LSU Main/Engine PWB	1. After turning OFF the power switch, disconnect the power plug and connect it again, then turning ON the power switch. 2. By adjustment / maintenance of the system menu, execute the color calibration. 3. Check the occurrence of this C call in the Event Log. 4. When the same C call is detected again, Clean if there are any dirt or stains on the primary transfer belt or the ID sensor surface. 5. Check whether the shutter of ID sensor is opened during closing the paper tray. 6. There is no improvement, replace the primary transfer unit. (see page 4-5) 7. After performing the test print, if the poor density occurs, check whether any failure in the drum unit, developer unit, LSU. 8. There is no improvement, replace the main / engine PWB. (see page 4-62)
7613	**ID sensor density error (M)** During the calibration, ID sensor cannot read a patch density on the primary transfer belt normally. (Magenta)	Primary transfer unit ID sensor Drum unit Developer unit LSU Main/Engine PWB	1. After turning OFF the power switch, disconnect the power plug and connect it again, then turning ON the power switch. 2. By adjustment / maintenance of the system menu, execute the color calibration. 3. Check the occurrence of this C call in the Event Log. 4. When the same C call is detected again, Clean if there are any dirt or stains on the primary transfer belt or the ID sensor surface. 5. Check whether the shutter of ID sensor is opened during closing the paper tray. 6. There is no improvement, replace the primary transfer unit. (see page 4-5) 7. After performing the test print, if the poor density occurs, check whether any failure in the drum unit, developer unit, LSU. 8. There is no improvement, replace the main / engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7614	**ID sensor density error (Y)** During the calibration, ID sensor cannot read a patch density on the primary transfer belt normally. (Yellow)	Primary transfer unit ID sensor Drum unit Developer unit LSU Main/Engine PWB	1. After turning OFF the power switch, disconnect the power plug and connect it again, then turning ON the power switch. 2. By adjustment / maintenance of the system menu, execute the color calibration. 3. Check the occurrence of this C call in the Event Log. 4. When the same C call is detected again, Clean if there are any dirt or stains on the primary transfer belt or the ID sensor surface. 5. Check whether the shutter of ID sensor is opened during closing the paper tray. 6. There is no improvement, replace the primary transfer unit. (see page 4-5) 7. After performing the test print, if the poor density occurs, check whether any failure in the drum unit, developer unit, LSU. 8. There is no improvement, replace the main / engine PWB. (see page 4-62)
7620	**ID sensor timing error** The ID sensor does not properly read the patch printing position on the primary transfer belt or there is poor density. *: Automatic color registration correction does not succeed	Primary transfer unit ID sensor Drum unit Developer unit LSU Main/Engine PWB	1. After turning OFF the power switch, disconnect the power plug and connect it again, then turning ON the power switch. 2. By adjustment / maintenance of the system menu, execute the color calibration. 3. Check the occurrence of this C call in the Event Log. 4. When the same C call is detected again, Clean if there are any dirt or stains on the primary transfer belt or the ID sensor surface. 5. Check whether the shutter of ID sensor is opened during closing the paper tray. 6. There is no improvement, replace the primary transfer unit. (see page 4-5) 7. After performing the test print, if the poor density occurs, check whether any failure in the drum unit, developer unit, LSU. 8. When checking the printing position of the color, if there is any color shift occurs, re-install the LSU and the drum unit. 9. There is no improvement, replace the main / engine PWB.

Indication	Contents	Related parts	Check procedures/corrective measures
7800	**Broken outer thermistor wire** The sensor input sampling is greater than the reference value. (After detection, controlled at 25 °C/77.0 °F)	Temperature sensor	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Outer temperature sensor and Main/Engine PWB (YC24) 2. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 3. Replace the temperature sensor PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7901	**Drum unit K EEPROM error** No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated 5 times successively. Mismatch of reading data from two locations occurs 8 times successively. Mismatch between writing data and reading data occurs 8 times successively.	Drum unit K	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the connector of the drum unit is firmly connected, and if necessary, push the unit all the way in. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Drum unit and Drum relay PWB (YC2) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the drum unit. (see page 4-11)
		Drum relay PWB	Replace the drum relay PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
7902	**Drum unit C EEPROM error** No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated 5 times successively. Mismatch of reading data from two locations occurs 8 times successively. Mismatch between writing data and reading data occurs 8 times successively.	Drum unit C	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the connector of the drum unit is firmly connected, and if necessary, push the unit all the way in. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Drum unit and Drum relay PWB (YC4) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the drum unit. (see page 4-11)
		Drum relay PWB	Replace the drum relay PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7903	**Drum unit M EEPROM error** No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated 5 times successively. Mismatch of reading data from two locations occurs 8 times successively. Mismatch between writing data and reading data occurs 8 times successively.	Drum unit M	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the connector of the drum unit is firmly connected, and if necessary, push the unit all the way in. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Drum unit and Drum relay PWB (YC3) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the drum unit. (see page 4-11)
		Drum relay PWB	Replace the drum relay PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
7904	**Drum unit Y EEPROM error** No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated 5 times successively. Mismatch of reading data from two locations occurs 8 times successively. Mismatch between writing data and reading data occurs 8 times successively.	Drum unit Y	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the connector of the drum unit is firmly connected, and if necessary, push the unit all the way in. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Drum unit and Drum relay PWB (YC5) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the drum unit. (see page 4-11)
		Drum relay PWB	Replace the drum relay PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7911	**Developer unit K EEPROM error** No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated 5 times successively. Mismatch of reading data from two locations occurs 8 times successively. Mismatch between writing data and reading data occurs 8 times successively.	Developer unit K	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the connector of the developer unit is firmly connected, and if necessary, push the unit all the way in. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Developer unit and Drum relay PWB (YC6) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the developer unit. (see page 4-13)
		Drum relay PWB	Replace the drum relay PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
7912	**Developer unit C EEPROM error** No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated 5 times successively. Mismatch of reading data from two locations occurs 8 times successively. Mismatch between writing data and reading data occurs 8 times successively.	Developer unit C	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the connector of the developer unit is firmly connected, and if necessary, push the unit all the way in. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Developer unit and Drum relay PWB (YC8) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the developer unit. (see page 4-13)
		Drum relay PWB	Replace the drum relay PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
7913	**Developer unit M EEPROM error** (1)No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated 5 times successively. (2)Mismatch of reading data from two locations occurs 8 times successively. (3)Mismatch between writing data and reading data occurs 8 times successively.	Developer unit M	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the connector of the developer unit is firmly connected, and if necessary, push the unit all the way in. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Developer unit and Drum relay PWB (YC3) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the developer unit. (see page 4-13)
		Drum relay PWB	Replace the drum relay PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)
7914	**Developer unit Y EEPROM error** No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated 5 times successively. Mismatch of reading data from two locations occurs 8 times successively. Mismatch between writing data and reading data occurs 8 times successively.	Developer unit Y	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the connector of the developer unit is firmly connected, and if necessary, push the unit all the way in. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Developer unit and Drum relay PWB (YC9) Drum relay PWB (YC1) and Main/Engine PWB (YC15) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the developer unit. (see page 4-13)
		Drum relay PWB	Replace the drum relay PWB.
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
9180	DP switchback motor error When the home position was not detected even if the processing was retried 3 consecutive times. Home position detection: When the home position is not detected by driving one rotation of the DP switchback motor.	DP switchback motor	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the connector of the switchback motor is firmly connected, and if necessary, push the unit all the way in. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. DP switchback motor and DP main PWB (YC2) DP main PWB (YC1) and Main/Engine PWB (YC2) 4. If the wire is disconnected, short-circuited or has ground fault, or the connector pin is deformed, replace the wire. 5. Replace the DP switchback motor. (see page 4-236)
		DP switchback sensor	1. Rotate the switchback motor by hand to check that it is not unusually difficult to rotate. 2. Check that the DP switchback sensor is not disengaged and is correctly positioned. And check that the actuator correctly blocks the light. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. DP switchback sensor and Main/Engine PWB (YC18) 4. If the wiring is disconnected, short-circuited or has ground fault, replace the wire. 5. DP switchback sensor (DPSBS)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the Main/Engine PWB. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
9540	**Backup data error** The machine may not be recovered or may have trouble in its function with changes of the internal data when replacing some the parts at the same time.	PWBs	Reattach the parts below in case of replacing 2 or more of them at the same time. Affected parts : Memory, PWBs * Do not replace two or more of the parts at the same time. * And, do not either execute the following works when replacing the above parts. Replace the drum unit or the developing unit. Replace the drum unit for the one color with another in the same machine.
F000	**Communication error** between Main/Engine PWB and Operation panel PWB	Main/Engine PWB	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Check the wirings and connectors between the Main/Engine PWB and the operation panel PWB. Operation panel PWB and Main/Engine PWB (YC2002). 3. Replace the Main/Engine PWB. (see page 4-62)
		Operation panel PWB	Replace the operation panel PWB. (see page 4-104)
F010	**Program read error**	Main/Engine PWB	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. If not corrected, replace the Main/Engine PWB and check operation. (see page 4-62)
F020	**Main/Engine PWB RAM checksum error**	Main memory of the Main/Engine PWB (RAM)	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. If not corrected, replace the Main/Engine PWB and check operation. (see page 4-62)

Indication	Contents	Related parts	Check procedures/corrective measures
F040	**Communication error** between Main/Engine PWB and Print engine	Main/Engine PWB	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Repair or replace the wire from the Main/Engine PWB that may be grounded. (Check short-circuit between 5V and 3.3V.) 3. Check both main and engine firmware, and upgrade to the latest version, if necessary. 4. If not corrected, replace the Main/Engine PWB. (see page 4-62)
F050	**Print engine main program error**	Main/Engine PWB	1. Unplug the power cord from the wall outlet, and wait five seconds. Then plug the power cord and then turn on the power switch. 2. Confirm that the EEPROM has been properly installed. 3. Check both main and engine firmware, and upgrade to the latest version, if necessary. 4. If not corrected, replace the Main/Engine PWB. (see page 4-62)

7-3 Image formation problems

Isolate the component an image defect has occurred from.
A guide to isolate the component of the cause

Print a test page, and check if an image defect has occurred.
(System Menu > Adjustment/Maintenance > Service setting)

YES: Main unit as the cause of defect
No : Scanner as the cause of defect

Perform enlarged or reduced copying and verify if the defective images are enlarged or reduced, accordingly.

YES: Scanner as the cause of defect

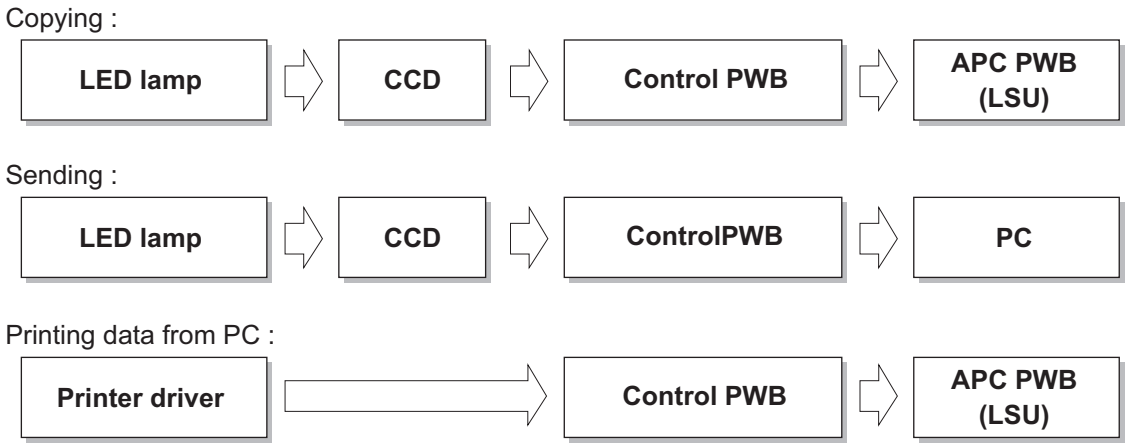
1. Scanner as the cause of defect: If the defect occurs with copying or sending, (see page 7-71).
   (Defects caused by a reading error that occurs at the original (glass) LED lamp to CCD.)

Isolate the problem at the location that the originals are scanned.

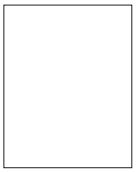
Single side DP (read by Main CCD)
On the contact glass (read by Main CCD)

2. Main unit as the cause of defect: (see page 7-93).
   (A defect of image forming occurs from the rendering process that involves charging, drum, LSU, developer, and primary transferring.)

Flow of image data

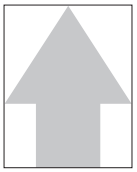


(1) Poor image (due to DP and scanner reading)

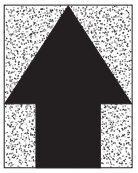


(1-1)No image appears (entirely white)

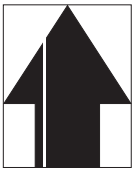
(1-2)No image appears (entirely black)



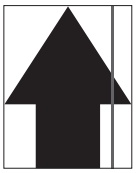
(1-3)Image is too light



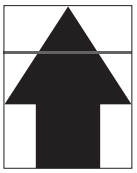
(1-4)The background is colored



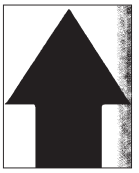
(1-5)White streaks are printed vertically



(1-6)Black or color streaks appear longitudinally

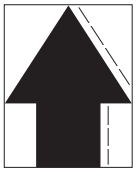


(1-7)Black streaks appears horizontally

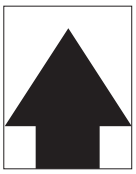


(1-8)A part of image is darker or brighter

(1-9)Black or color dots appear on the image

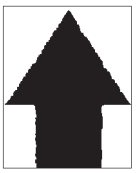


(1-10)Image is blurred

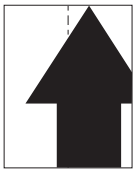


(1-11)The leading edge of the image is consistently misaligned with the original

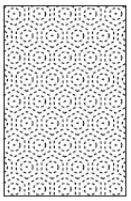
(1-12)Part of image is missing



(1-13)Image is out of focus

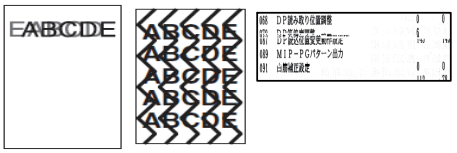


(1-14)Image center does not align with the original centerr



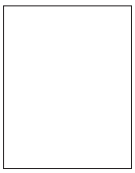
(1-15)Moires

(1-16)Skewed image



(1-17)Abnormal image

(1-1) No image appears (entirely white)

Print sample


1. at the table read

	Trouble location	Check	Corrective action
1	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
2	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
3	Home position sensor	Check the home position sensor position.	If the home position sensor is out of position, reattach it.
4	Scanner drive belt	Check if the scanner drive belt tension is loose.	If the scanner drive belt is attached loosely, secure the screw again.
5	Scanner	Check the scanner drive gear is not attached loosely.	If the scanner drive gear is attached loosely, secure the screw again.
6	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
7	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	Original	Check the side of set original.	Set the original again if the set side of it is incorrect.
2	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
3	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
4	Home position sensor	Check the home position sensor position.	If the home position sensor is out of position, reattach it.
5	Scanner drive belt	Check if the scanner drive belt tension is loose.	If the scanner drive belt is attached loosely, secure the screw again.
6	Scanner drive gear	Check the scanner drive gear is not attached loosely.	If the scanner drive gear is attached loosely, secure the screw again.
7	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
8	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

(1-2) No image appears (entirely black)

Print sample

1. at the table read

	Trouble location	Check	Corrective action
1	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
2	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
3	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	DP read position	Adjust the U068 [DPRead].	If a large value is input in [DPRead] of U068, adjust it. (see page 6-31)
2	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
3	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
4	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

(1-3) Image is too light

Print sample

1. at the table read

	Trouble location	Check	Corrective action
1	Density adjustment	Check density adjustment.	If EcoPrint is enabled, disable it. Or, if the density adjustment setting is light, select the original image quality that matches the original type. Thicken the image density. Perform the background color adjustmentusing the system menu.
2	Bleed-through prevention	Check the bleed-through prevention.	Turn the bleed-through prevention off if it is turned on.
3	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U411 Table. (see page 6-52)
4	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
5	Home position sensor	Check the home position sensor position.	If the home position sensor is out of position, reattach it.

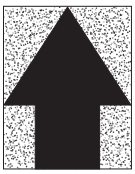
	Trouble location	Check	Corrective action
6	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
7	Scanner carriage	Check the position of the scanner carriage.	If the scanner carriage is out of position, reattach it.
8	LED PWB	Check if the LED is lit.	If the LED is not lit, replace the scanner carriage and execute U411. (see page 6-52)
9	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
10	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	Density adjustment	Check density adjustment.	If EcoPrint is enabled, disable it. Or, if the density adjustment setting is light, select the original image quality that matches the original type. Thicken the image density. Perform the background color adjustmentusing the system menu.
2	Bleed-through prevention	Check the bleed-through prevention.	Turn the bleed-through prevention off if it is turned on.
3	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U410 [Adjusting the halftone automatically]. (see page 6-51)
4	Contact glass	Check whether the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
5	Home position sensor	Check the home position sensor position.	If the home position sensor is out of position, reattach it.
6	DP read position	Check if the DP scanning position is shifted.	If the DP scanning position is shifted, adjust [DPRead] in the maintenance mode U068. (see page 6-31)
7	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
8	Scanner carriage	Check the position of the scanner carriage.	If the scanner carriage is out of position, reattach it.
9	LED PWB (LED-PWB)	Check if the LED is lit.	If the LED is not lit, replace the scanner carriage and execute U411. (see page 6-52)
10	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)

	Trouble location	Check	Corrective action
11	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

(1-4) The background is colored

Print sample


1. at the table read

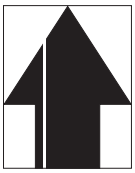
	Trouble location	Check	Corrective action
1	Original	1. Check the background density of the original. 2. Check if the original floats when scanned.	1. If the background density of the original is thick, adjust the background automatically. Or set the density with the background adjustment. 2. Press the original to set it if it floats.
2	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U411(Automatic adjustmen scanning). (see page 6-52)
3	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
4	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
5	Home position sensor	Check the position where the home position sensor is attached.	If the home position sensor is out of position, reattach it.
6	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
7	Scanner carriage	Check the position of the scanner carriage.	If the scanner carriage is out of position, reattach it.
8	LED PWB (LED-PWB)	Check if the LED is lit.	If the LED is not lit, replace the scanner carriage and execute U411. (see page 6-52)
9	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)

	Trouble location	Check	Corrective action
10	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	Original	1. Check the background density of the original. 2. Check if the original floats when scanned.	1. If the background density of the original is thick, adjust the background automatically. Or set the density with the background adjustment. 2. Press the original to set it if it floats.
2	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U411(Automatic adjustmen scanning). (see page 4-110)
3	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it. (see page 4-62)
4	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
5	Home position sensor	Check the position where the home position sensor is attached.	If the home position sensor is out of position, reattach it.
6	Installing the DP	Check if the DP frame is deformed or the hinge is broken.	Replace the DP if broken.
7	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
8	Scanner carriage	Check the position of the scanner carriage.	If the scanner carriage is out of position, reattach it.
9	LED PWB (LED-PWB)	Check if the LED is lit.	If the LED is not lit, replace the scanner carriage and execute U411. (see page 6-52)
10	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
11	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

(1-5) White streaks are printed vertically

Print sample


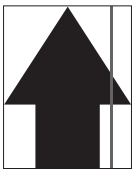
1. at the table read

	Defective part	Check description	Corrective Action
1	Original	Check if the original is dirty.	Replace the original if it is dirty.
2	Contact glass Shading plate	Check if the contact glass and shading plate are dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it. (see page 4-62)
3	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
4	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
5	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	Original	Check if the original is dirty.	Replace the original if it is dirty.
2	Slit glass Shading plate	Check if the slit glass is dirty.	If the slit glass is dirty, clean it.
3	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
4	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
5	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

(1-6) Black or color streaks appear longitudinally

Print sample


1. at the table read

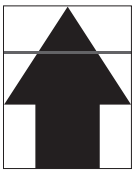
	Defective part	Check description	Corrective Action
1	Original	Check if the original is dirty.	Replace the original if it is dirty.
2	Original	Check the original size and judged original size match.	In case the original size and judged original size are different, set original size or border erase.
3	Contact glass Shading plate	Check if the contact glass and shading plate are dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it. (see page 4-110)
4	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
5	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
6	Scanner adjust-ment	Check if there are streaks or bands outside the original.	1. Execute maintenance mode U067, Front. (see page 6-30) 2. Execute maintenance mode U411, Table. (see page 6-52)
7	CCD PWB	Check if dust adheres to the CCD PWB glass surface.	If dust adheres to the CCD PWB glass surface, clean it with a air blower brush.
8	Mirror	Check if the mirror is dropped off or it is dirty.	1. Replace the image scanner unit and execute U411 if the mirror is dropped off by drop shock. (see page 6-52)
9	CCD PWB	CCD PWB is defective.	1. Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
10	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	Original	Check if the original is dirty.	Replace the original if it is dirty.

	Trouble location	Check	Corrective action
2	Original	Check the original size and judged original size match.	In case the original size and judged original size are different, set original size or border erase.
3	DP read position	Check if the DP scanning position is shifted.	If the DP scanning position is shifted, adjust [DPRead] in the maintenance mode U068. (see page 6-31)
4	Slit glass	Check if the slit glass is dirty.	If the slit glass is dirty, clean it.
5	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
6	CCD PWB	Check if dust adheres to the CCD PWB glass surface.	If dust adheres to the CCD PWB glass surface, clean it with a air blower brush.
7	Scanner adjustment	Check if there are streaks or bands outside the original.	1. Execute maintenance mode U072, Front. (see page 6-35) 2. Execute maintenance mode U411, DP. (see page 6-52)
8	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
9	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

(1-7) Black streaks appears horizontally

Print sample


1. at the table read

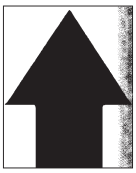
	Trouble location	Check	Corrective action
1	Original	Check if the original is dirty.	Replace the original if it is dirty.
2	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
3	Scanner adjustment	Check if the image at the backside of the size indication plate appears.	1. If the image at the backside of the size indication plate appears, adjust it in the maintenance mode U066: [Front]. (see page 6-29) 2. Execute maintenance mode U411, Table. (see page 6-52)
4	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
5	LED PWB (LED-PWB)	Check if the LED is lit.	If the lamp is not lit, replace the scanner carriage and execute U411. (see page 6-52)
6	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	Original	Check if the original is dirty.	Replace the original if it is dirty.
2	Slit glass	Check if the slit glass is dirty.	If the slit glass is dirty, clean it.
3	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
4	LED PWB	Check if the LED is lit.	If the lamp is not lit, replace the scanner carriage and execute U411. (see page 6-52)

	Trouble location	Check	Corrective action
5	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

(1-8) A part of image is darker or brighter

Print sample


1. at the table read

	Defective part	Check description	Corrective Action
1	Original	Check if the original is dirty.	Replace the original if it is dirty.
2	Original	Check if the original has folds or creases.	In case the original has folds or creases, straighten it.
3	Platen mat	Check if the DP or platen mat position is shifted.	If the DP or platen mat position is shifted, refit it.
4	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
5	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
6	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
7	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
8	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	Original	Check if the original is dirty.	Replace the original if it is dirty.
2	Original	Check if the original has folds or creases.	In case the original has folds or creases, straighten it.
3	DP read guide	Check if the scanner guide moves smoothly.	Reattach the original guide if it does not move smoothly.
4	Slit glass	Check if the slit glass is dirty.	If the slit glass is dirty, clean it with the shading plate at the backside.
5	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
6	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
7	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
8	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

(1-9) Black or color dots appear on the image

Print sample

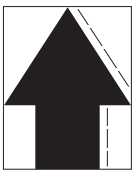
1. at the table read

	Trouble location	Check	Corrective action
1	Original	Check if the original is dirty.	Replace the original if it is dirty.
2	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
3	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
4	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	Original	Check if the original is dirty.	Replace the original if it is dirty.
2	Slit glass	Check if the slit glass is dirty.	If the slit glass is dirty, clean it with the shading plate at the backside.
3	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
4	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

(1-10) Image is blurred

Print sample


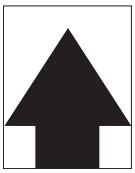
1. at the table read

	Trouble location	Check	Corrective action
1	Optical rail	Check if the scanner carriage moves smoothly.	If the scanner carriage does not move smoothly, remove foreign objects on the optical rails.
2	Scanner shaft	Check if the scanner carriage moves smoothly.	If the scanner carriage does not move smoothly, clean the scanner shaft.
3	Scanner carriage	Check if the scanner carriage moves smoothly.	If the scanner carriage contacts the frame while moving and does not move smoothly, reattach it.
4	Scanner drive gear	Check if there are foreign objects in between the scanner drive belt and scanner drive gear.	Remove foreign objects if mixed up.
5	Scanner drive belt	Check if foreign objects adhere to the scanner drive belt or it is scratched.	If foreign objects adhere to the scanner drive belt, remove them. Or, replace it if scratched.

2. at the DP read

	Trouble location	Check	Corrective action
1	DP conveying pulley	Check if the DP conveying roller smoothly rotates.	Reassemble the conveying roller and spring if the DP conveying roller does not move smoothly.
2	DP installing	Check how DP is attached to the main unit.	If attachment to the main unit is faulty, reattach it after confirming the positioning.
3	Hinge	Check if the vertical motion of the DP hinge is smooth and it can continue opened.	Replace the hinges if the DP does not move smoothly or it cannot continue opened.
4	DP original mat	Check the position where the DP original mat position is attached.	In case the original mat is out of position, reattach it.
5	Original	If the leading edge of the original is folded, straighten it.	Check if the leading edge of the original is folded.
6	Scanner guide	Check if the scanner guide is deformed.	Replace the scanner guide if deformed.
7	DP conveying roller (Before and after scanning	Check if the DP conveying roller is contaminated.	Clean the DP conveying roller if contaminated.
8	Drive belt	Check the drive belt jumping.	If the drive belt jumps, readjust the belt tension.

(1-11) The leading edge of the image is consistently misaligned with the original

Print sample


1. at the table read

	Trouble location	Check	Corrective action
1	Original	Check if the original is set correctly.	If the original is not set correctly, set it again.
2	Scanner carriage	Check the carriage fixing of the scanner drive belt.	Check if the scanner drive belt is securely set at the carriage fix part.
3	Scanner	Check the scanner position.	1. Execute maintenance mode U066, Front. (see page 6-29) 2. Execute maintenance mode U411, Table. (see page 6-52)
4	Home position sensor	Check the position where the home position sensor is attached.	If the home position sensor is out of position, reattach it.
5	Scanner drive belt	Check if the scanner drive belt tension is loose.	If the scanner drive belt tension is loose, give it tension.
6	Scanner drive gear	Check the scanner drive gear is not attached loosely.	If the scanner drive gear is attached loosely, secure the screw again.

2. at the DP read

	Trouble location	Check	Corrective action
1	Scanner adjustment	Check the DP scanning position adjustment.	1. Execute maintenance mode U071, Front. (see page 6-33) 2. Execute maintenance mode U411, DP. (see page 6-52)
2	Conveying roller	Check if the conveying roller is dirty or worn.	If the conveying roller is dirty, clean the conveying roller and bushing. Replace the roller if it is worn.
3	DP drive motor	Check if the DP drive motor rotation is unstable.	Apply grease to the drive gear if the DP drive motor rotation is unstable. Replace the DP drive motor if no improvement is observed.

(1-12) Part of image is missing

Print sample

1. at the table read

	Trouble location	Check	Corrective action
1	Original	Check if the original is set correctly.	If the original is not set correctly, set it again.
2	Original	Check if the original size and paper size match in the operation panel indication.	If the original size and paper size do not match in the operation panel indication, manually set the original size
3	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
4	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
5	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB . Or check continuity of the wire.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
6	Scanner carriage	Check the position of the scanner carriage.	If the scanner carriage is out of position, reattach it.
7	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
8	Main PWB 30 ppm model	Main PWB is defective.	Replace the main PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	Original	Check if the original is set correctly.	If the original is not set correctly, set it again.
2	Original	Check if the original size and paper size match in the operation panel indication.	If the original size and paper size do not match in the operation panel indication, manually set the original size
3	Slit glass	Check if the slit glass is dirty.	If the slit glass is dirty, clean it.

	Trouble location	Check	Corrective action
4	FFC cable CCD	Check the FFC cable between the CCD sensor and ISC PWB is properly connected. Or, verify conduction of the wires.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
5	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
6	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

(1-13) Image is out of focus

Print sample

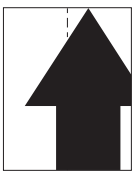
1. at the table read

	Trouble location	Check	Corrective action
1	Original	Check if the original is wavy.	In case the original is wavy, straighten it to plain. Or, replace.
2	Contact glass	Check if the contact glass is condensed.	If the contact glass is condensed, remove it.
3	Scanner carriage	Check if the scanner carriage is condensed inside.	If condensed, remove it.
4	CCD PWB	Check if the CCD PWB glass surface has condensation.	If the CCD sensor glass surface has condensation, remove it.
5	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U411, Table. (see page 6-52)
6	Scanner carriage	Check the position of the lens and CCD PWB.	If the position of the lens and CCD PWB is shifted, replace the scanner carriage and execute U411. (see page 6-52)
7	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	Original	Check if the original is wavy.	In case the original is wavy, straighten it to plain. Or, replace.
2	Slit glass	Check if the slit glass is condensed.	If the slit glass is condensed, remove it.
3	Scanner carriage	Check if the scanner carriage is condensed inside.	If condensed, remove it.
4	CCD PWB	Check if the CCD PWB glass surface is condensed.	If the CCD PWB glass surface has condensation, remove it.
5	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U411, DP. (see page 6-52)
6	Scanner carriage	Check the position of the lens and CCD PWB.	If the position of the lens and CCD PWB is shifted, replace the scanner carriage and execute U411. (see page 6-52)
7	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

(1-14) Image center does not align with the original center

Print sample


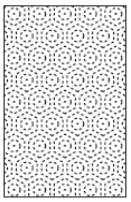
1. at the table read

	Trouble location	Check	Corrective action
1	Original	Check if the original is set correctly.	If the original is not set correctly, set it again.
2	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
3	Scanner adjustment	Check the scanner position.	1. Execute maintenance mode U067, Front. (see page 6-30) 2. Execute maintenance mode U411, Table. (see page 6-52)

2. at the DP read

	Trouble location	Check	Corrective action
1	Original	Check if the original is set correctly.	If the original is not set correctly, set it again.
2	Scanner adjustment	Check the DP scanning position adjustment.	1. Execute maintenance mode U072, Front. (see page 6-35) 2. Execute maintenance mode U411, DP. (see page 6-52)

(1-15) Moires

Print sample


1. at the table read

	Trouble location	Check	Corrective action
1	Image mode function	Check if the moire changes depending on the image mode.	If the moire changes depending on the image mode, change it. 1. Print in Text mode or Printer mode. 2. Weaken (reduce) the sharpness.
2	Original	Check if moire is generated depending on original scanning direction.	If moire is generated, rotate the original set direction 90 degrees.
3	Magnification setting	Check if it occurs in 100% magnification.	Slightly reduce the U065 magnification in main scanning direction. (see page 6-27)
4	Scanner adjustment	Check if the scanner automatically adjustment has been executed.	Execute maintenance mode U411, Table. (see page 6-52)

2. at the DP read

	Trouble location	Check	Corrective action
1	Image mode function	Check if the moire changes depending on the image mode.	If the moire changes depending on the image mode, change it. 1. Print in Text mode or Printer mode. 2. Weaken (reduce) the sharpness.
2	Scanner adjustment	Check if the scanner automatically adjustment has been executed.	Execute maintenance mode U411, DP. (see page 6-52)

(1-16) Skewed image

Print sample

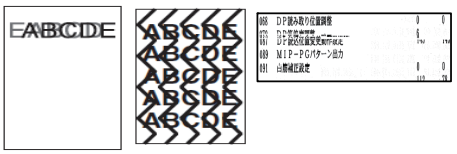
1. at the table read

	Trouble location	Check	Corrective action
1	Original	The original is placed in angle.	If the original is set in angle, set it again.
2	Main unit and scanner unit level	Check if the scanner height position is distorted or shifted.	If the scanner height position is distorted or shifted, adjust the entire scanner unit height.
3	Scanner carriage	Check the position of the scanner carriage.	If the scanner carriage is out of position, reattach it.

2. at the DP read

	Trouble location	Check	Corrective action
1	Original	Check if the original has folds or creases.	In case the original has folds or creases, straighten it.
2	DP original feeding	Check the skew feed of the original.	If the original is skew fed, set the original side registration guide again.
3	Scanner carriage	Check the position of the scanner carriage.	If the scanner carriage is out of position, reattach it.
4	Original feed roller	Check if the original feed roller is dirty.	Clean the original feed roller if it is dirty. Replace it if it is not improved after cleaning it.
5	DP registration roller	Check dirt on the DP registration sensor and its rotation.	Clean the DP registration roller. If the rotation is not smooth, clean the busing and reattach, Clean the bushing.
6	Original set	Check if cursors are aligned to originals.	Align the cursor to fit the original document, ifnecessary.

(1-17) Abnormal image

Print sample


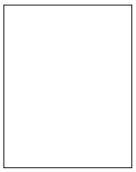
1. at the table read

	Trouble location	Check	Corrective action
1	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
2	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
3	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

2. at the DP read

	Trouble location	Check	Corrective action
1	FFC cable CCD	Check the FFC cable connection between the CCD PWB and Main/Engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity.
2	CCD PWB	CCD PWB is defective.	Replace the scanner carriage and execute the U411. (see page 4-110, 6-52)
3	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

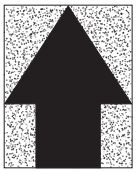
(2) Poor image (Image rendering problems: Mono-color printer engine)



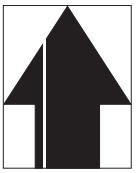
(2-1)No image appears (entirely white)

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

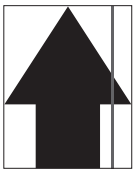
(2-3)Image is too light



(2-4)The background is colored

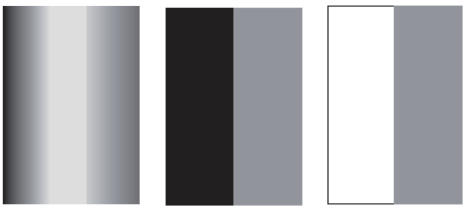


(2-5)White streaks are printed vertically

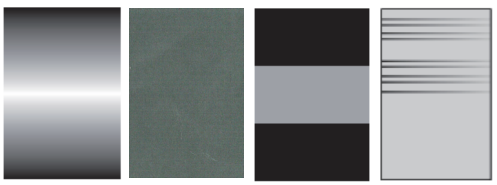


(2-6)Black or color streaks appear longitudinally

(2-7)Black, white or color streaks appear horizontally

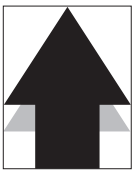


(2-8)Uneven density vertically



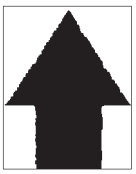
(2-9)Uneven density horizontally

(2-10)Black or color dots appear on the image

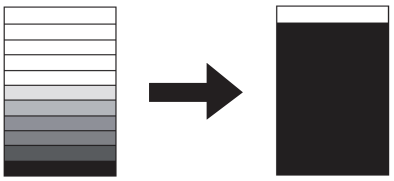


(2-11)Offset occurs

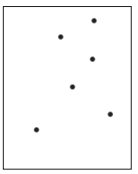
(2-12)Part of image is missing



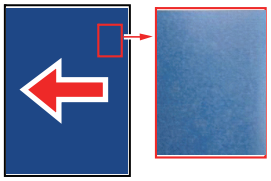
(2-13)Image is out of focus



(2-14)Poor grayscale reproducibility

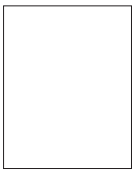


(2-15)Unevenly repeating horizontal streaks in the printed objects. Colored spots in the printed objects



(2-16)Grainy image (low solid image density)

(2-1) No image appears (entirely white)

Print sample	Cause of trouble
	1. No or defective developing bias output. 2. Failure of the rotation of the developer roller. 3. Defective primary transfer. 4. Defective the laser output from the laser scanner unit (LSU). 5. Drum does not operate.

	Trouble location	Check	Corrective action
1	Developer unit	Select [Test page] using [Sevice Setting] in [Adjustment/Maintenance] of the system menu, and generate four-color PGs to check the following with the color which is defective.	
		Check if the developer drive gear is broken.	Replace the developer unit if broken.
		Check if the developer roller can be rotated manually.	Replace the developer unit if it has a problem. (see page 4-13)
		Check dirt and deformation of the developer unit and high voltage PWB contact terminal.	Clean the contact if it is dirty. Correct the contact if it is deformed so that it contacts.
2	Main drive motor unit (C,M,Y)	Check if the gear and coupling in the drive unit that drive the developer unit are damaged.	Replace the main drive unit if broken.
3	Developer clutch (Bk)	Check if the developer clutch in the conveying drive unit is connected.	Replace the paper conveying drive unit.
4	High voltage PWB	1. Check that the terminals on the high voltage PWB surely contact the developer roller and primary transfer roller. 2. Check the connection between the high voltage PWB and connector. Or, check the wire's continuity.	1. Clean the contact if it is dirty. 2. Correct the contact if it is deformed so that it contacts. 3. If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity. High-voltage PWB and Main/Engine PWB (YC7)
		The high voltage PWB (developer, transfer) output failure.	Replace the high voltage PWB. (see page 4-89)
5	Laser scanner unit (LSU)	Check the connector connection. Or check continuity of the wire.	1. Reinsert the connector if it is incompletely inserted. Replace the wire if there is no continuity. 2. Replace the LSU. (see page 4-135)

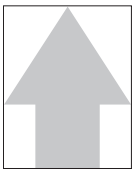
	Trouble location	Check	Corrective action
6	Main/Engine PWB	Check that a control signal is output from the Main/Engine PWB.	Replace the Main/Engine PWB. (see page 4-62)

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

Print sample	Cause of trouble
	1. No main charging. 2. The laser from the LSU is activated simultaneously for all colors. 3. Abnormal developer bias output

	Trouble location	Check	Corrective action
1	Charger roller	Check attachment of the main charge roller.	Reattach the main charge roller if it is improperly attached.
		Check if the contact on the high voltage PWB to the main charge roller is deformed.	Correct the contact if it is deformed so that it contacts.
2	Drum unit	Check if there is the contact failure with the high voltage PWB.	1. Correct the contact if it is deformed so that it contacts. 2. Detach the drum unit.
		Check the ground contact for the drum ground failure.	Correct the contact if it is deformed so that it contacts.
3	Developer unit	Check if there is the contact failure with the high voltage PWB.	1. Correct the contact if it is deformed so that it contacts. 2. Attach the new fuser unit.
4	High voltage PWB	Check the connector connection. Or check continuity of the wire.	If the connector is not inserted enough, reconnect it. Replace the wire if there is no continuity. High-voltage PWB (YC1,2) and Main/Engine PWB (YC16)
		There is the main charge current failure or developer bias output failure.	Replace the high voltage PWB. (see page 4-89)
5	Laser scanner unit (LSU)	Failure in turning the laser diode on/off control failure on the LSU PWB.	Replace the LSU. (see page 4-135)
6	Main/Engine PWB	The video data of the Main/Engine PWB is faulty.	Replace the Main/Engine PWB. (see page 4-62)

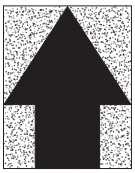
(2-3) Image is too light

Print sample	Cause of trouble
	1. Variance in environments (dew formation). 2. Toner is insufficient. Or it is deteriorated (becomes had to charge). 3. Developer bias output is low. 4. Low primary transfer current output. 5. The LSU laser power is low 6. The drum surface potential is high

	Trouble location	Check	Corrective action
1	Drum unit	Check if the drum is condensed.	Drum refreshing is executed. [Adjustment/ Maintenance]
2	Developer unit	Select [Test page] using [Sevice Setting] in [Adjustment/Maintenance] of the system menu, and generate four-color PGs to check the following with the color which is defective. 30 ppm model : see page 6-100, 35 ppm model : see page 6-106	
		Check if printed at low density continuously.	1. Execute the developer refresh (DEV-CLN) if printing at low density. ([System Menu] > [Adjustment/Maintenance]) 2. Select [Adjustment/Maintenance] and then [Calibration]. 3. Execute maintenance mode U410 [Adjusting the halftone automatically]. (see page 6-51)
		Check if the developer bias connection terminal is deformed.	Correct the contact if it is deformed so that it contacts.
		Developer bias setting failure.	Select [Adjustment/Maintenance] and then [Calibration].
3	Developer unit	There is the contact failure with the drum due to the dirt or damage in the sides of the developer roller.	Clean the DS roller. Replace the developer unit if broken.
		Check the contact between the developer roller and drum surface. (Pressure failure)	Re-attach the new fuser unit.
		Check if the toner control sensor is normal.	Replace the developer unit.

	Trouble location	Check	Corrective action
4	Toner container	Shake the toner container up and down about ten times and check the below. 1. Check "Add toner" indication. 2. Check if the toner supply vent opens.	Replace the toner container if "Add toner" is indicated or the toner supply vent does not open.
5	Toner motor	Check the toner motor rotation.	Check connection if the toner motor does not rotate. Or, replace the toner motor.
6	High voltage PWB	Check the contact and output of the high voltage connection terminal of the developer, main charge and transfer bias.	1. Correct the contact if it is deformed so that it contacts. 2. Replace the high voltage PWB. (see page 4-89)
7	Primary transfer unit	Check the primary transfer roller attachment and if the belt contacts the drum.	1. Refit the primary transfer roller. 2. Detach the primary transfer unit.
		Check the high voltage contact deformation.	1. Correct the contact if it is deformed so that it contacts.
8	LSU	1. LSU laser beam power failure. 2. Internal mirror contamination	Replace the LSU. (see page 4-135)
9	Drum unit	1. Check if the eraser lamp is dirty. 2. Check the lamp on/off. 3. Check if the drum surface is worn down.	1. Clean the eraser lamp if it is dirty. 2. Replace the drum unit if it is not improved after cleaning, it is not turned on or the surface is worn. (see page 4-11)
10	Charger roller	Check the contact with the high voltage PWB.	Remove foreign objects if adhering to the contact.
11	Engine relay PWB	Engine relay PWB is defective.	Replace the engine relay PWB. (see page 4-84)
12	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)

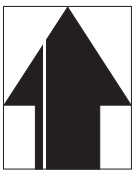
(2-4) The background is colored

Print sample	Cause of trouble
	1. Toner is deteriorated (becomes had to charge). 2. Over-supply of toner. 3. Developer bias voltage is high. 4. Toner layer on the developer roller surface is thick (too much toner adheres). 5. The drum surface potential is low (low temperature environment)

	Trouble location	Check	Corrective action
1	Developer unit	Select [Test page] using [Sevice Setting] in [Adjustment/Maintenance] of the system menu, and generate four-color PGs to check the following with the color which is defective. 30 ppm model : see page 6-100, 35 ppm model : see page 6-106	
		1. Check if printed high coverage continuously with oversupply of toner or high temperature.	1. Execute the calibration after executing the developer refresh (DEV-CLN). ([System Menu] > [Adjustment/Maintenance])
		2. Check if the developer bias connection terminal is dirty or deformed.	Clean the developer bias connection terminal, if it is dirty. Correct the contact if it is deformed so that it contacts.
		3. Developer bias setting failure.	1. Select [Adjustment/Maintenance] and then [Calibration]. 2. Execute maintenance mode U410 [Adjusting the halftone automatically]. (see page 6-51)
2	Drum unit	1. Check if the machine is used at low temperature.	If the room temperature is 16 degrees C/ 60.8 degrees F or less, use it at 16 degrees C/ 60.8 degrees F or more.
		2. Check if the drum unit is attached improperly.	Re-attach the drum unit. (see page 4-11)
		3. Check if the ground connection terminal is dirty or conductive grease is applied to it.	Clean the contact if it is dirty. Apply conductive grease to the receptacle side bearing of the drum drive shaft if little grease is applied.
		4. Check if the main charge roller is dirty.	Clean the main charge roller if it is dirty. Or, replace.
3	High voltage PWB	There is the contact failure or output failure of the developer bias or main charge current from the high voltage PWB.	Correct the contact if it is deformed. Or, replace the high voltage PWB. (see page 4-89)

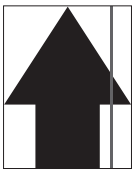
	Trouble location	Check	Corrective action
4	Engine relay PWB	Engine relay PWB is defective.	Replace the engine relay PWB. (see page 4-84)
5	Main/Engine PWB	Main/Engine PWB is defective.	Replace the Main/Engine PWB. (see page 4-62)
6	Toner motor	Check if the toner motor is rotating constantly. Check if the wiring is short-circuited.	Replace the wire if it is short-circuited and the toner motor rotates constantly.

(2-5) White streaks are printed vertically

Print sample	Cause of trouble
	1. Dirty LSU slit glass. 2. Foreign objects inside the developer unit. 3. Internal contamination 4. Dirty drum unit inside.

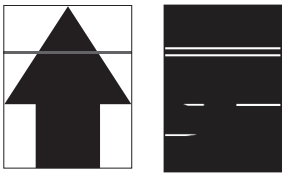
	Trouble location	Check	Corrective action
1	LSU	Check if the LSU slit glass is dirty.	1. Laser Scanner cleaning is performed. 2. Replace the LSU if it is dirty inside. (see page 4-135)
2	Developer unit	Select [Test page] using [Sevice Setting] in [Adjustment/Maintenance] of the system menu, and generate four-color PGs to check the following with the color which is defective. 30 ppm model : see page 6-100, 35 ppm model : see page 6-106	
		Check if there are foreign objects in the developer unit.	Clean or replace the developer unit at the color of problem. (see page 4-13)
3	Light path between the LSU and the drum	Check if the light path is interrupted by foreign objects such as dust, toner, etc.	If there are foreign objects on the frame between the LSU and the drum unit, and on the seals, remove them.
4	Drum unit	Check if the main charge roller is dirty.	Clean the main charge roller if it is dirty. Or, replace. (see page 4-168)
		The drum has scratches.	Replace the drum unit.
		Check if the eraser lamp is dirty.	Clean the eraser lamp if it is dirty.

(2-6) Black or color streaks appear longitudinally

Print sample	Cause of trouble
	1. Dirty charge roller 2. Damaged or dirty drum unit 3. Damaged or paper dust accumulated cleaning blade

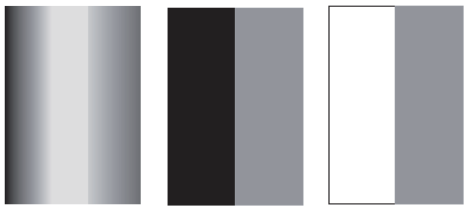
	Trouble location	Check	Corrective action
1	Charger roller unit	Check if the main charge roller surface has lines as marks of toner.	Clean the main charge roller if lines appear on the surface. Or replace the main charge roller. (see page 4-168)
2	Drum unit	Check if the drum surface is dirty.	Drum refreshing is executed. [Adjustment/ Maintenance]
		Check if the drum surface is scratched. Check if the cleaning blade edge is damaged. Check if there is wear or paper dust pinched in. Check if toner is accumulated at the cleaning section.	Replace the drum unit. (see page 4-11)
3	Developer unit	Foreign objects adhere to the developer roller surface.	1. Clean the developer roller surface. 2. Replace the developer unit if foreign objects are mixed in. (see page 4-13)

(2-7) Black, white or color streaks appear horizontally

Print sample	Cause of trouble
	1. Dirty developer unit and terminals 2. Damaged or dirty drum unit Defective grounding. 3. Dirty primary transfer roller terminals

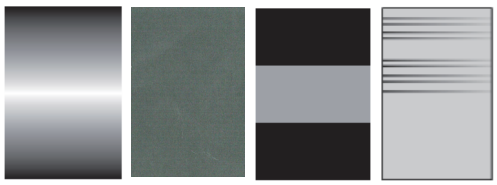
	Trouble location	Check	Corrective action
1	Developer unit	1. Check if the print appears in the developer roller circumference interval. 2. Check if the sides of the developer roller and the bias contact are dirty. 3. There is the cleaning failure at the developer roller surface. 4. Check if there are scratches on the sleeve roller.	1. If the sides of the developer roller and the bias contact are dirty, clean them. 2. Execute developer refreshing (DEV-CLN). ([System Menu] > [Adjustment/Maintenance]) 3. Replace the developer unit. (see page 4-13)
2	Drum unit	Check if the print appears in the drum circumference interval.	Drum refreshing is executed. [Adjustment/ Maintenance]
		Check the drum surface potential erasing failure.	Lower the MC (main charge) value. [Adjustment/Maintenance]
		Check if the drum is scratched.	Replace the drum unit. (see page 4-11)
		Check the ground terminal of the drum or drum drive shaft.	1. Check the drum unit attachment and reattach it if its fixing is insufficient. 2. Replace the drum unit. (see page 4-11)
3	Charger roller	Check if the print appears in the main charge roller circumference interval.	Replace the main charge roller if deformed.
4	Primary transfer roller (Primary transfer belt)	Check if the high voltage PWB contact with the primary transfer roller is dirty with toner. Check if the contact is deformed and there is no contact.	1. Clean the contact if it is dirty. 2. Correct the contact if it is deformed so that it contacts. 3. Replace the primary transfer unit. (see page 4-5)
5	High voltage PWB	Contact failure of the high voltage PWB or uneven bias voltage.	Check if how the high voltage PWB is attached and secure it with screws to secure grounding. Or, replace. (see page 4-89)

(2-8) Uneven density vertically

Print sample	Cause of trouble
	1. LSU laser beam radiation uneven. 2. Improper contact on the transfer belt with the drum 3. Drum condensation. 4. The layer of toner on the developer roller uneven.

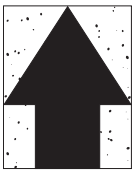
	Trouble location	Check	Corrective action
1	LSU	Laser is not output evenly from LSU. (Internal mirror drop-off)	Reattach the LSU. Or, replace. (see page 4-135)
2	Primary transfer roller (Primary transfer belt)	Check the fitting condition of the primary transfer roller. (Uneven pressure to the drum)	If the transfer roller and belt are at incorrect position, correct it and reattach them. Detach the primary transfer unit. (see page 4-5)
3	Drum unit	1. Check if toner spreads evenly on the drum. 2. Check if it is used at high humidity. 3. Check if the drum surface is worn down.	1. Drum refreshing is executed. [Adjustment/ Maintenance] 2. Use in the environment without condensation. 3. Replace the drum unit. (see page 4-11)
4	Developer unit	1. Check if the toner layer thickness on the developer roller is even. 2. Check if the DS pulleys the sides of the developer rollers are dirty or damaged. Failure of the developer roller to contact the drum surface 3) Foreign objects inside the developer unit.	1. Execute the developer refresh (DEV-CLN) to evenly distribute the toner in the developer unit. ([System Menu] > [Adjustment/ Maintenance]) 2. Clean the developer roller and DS pulley. Replace the developer unit if broken. (see page 4-13)

(2-9) Uneven density horizontally

Print sample	Cause of trouble
	1. Uneven rotation of the main drive. 2. Failure of the rotation of the charger roller. 3. Improper contact on the developer unit terminals 4. Defective LSU.

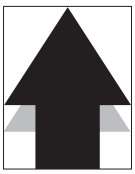
	Trouble location	Check	Corrective action
1	Main drive	Check if drive is delivered to the developer unit and drum unit smoothly.	1. Check the fitting condition of the developer unit and drum unit and clean the drive transmission section and apply grease if it is dirty. 2. Check if the main drive unit is surely secured with screws and reattached it.
2	Drum unit	The drum surface is worn down.	Replace the drum unit.
3	Charger roller	1. Check if the main charge roller is attached wrongly. 2. Check if the main charge roller is deformed.	1. Reattach the main charge roller if it is improperly attached. 2. Replace the main charge roller if deformed. (see page 4-168)
		Check if the direction of the fur brush on the surface of the main charge cleaning roller is uniform.	Clean the main charge cleaning roller or replace the main charge roller. (see page 4-168)
4	Developer unit	1. Check if the developer bias connection terminal of the developer unit is dirty with toner. 2. The DS pulleys at the sides of the developer unit are damaged.	1. Clean the contact if it is dirty. 2. Clean the developer unit or replace it if the DS pulley is damaged. (see page 4-13)
5	LSU	Check the image if it is the phenomenon from uneven laser beam output.	Replace the LSU. (see page 4-135)

(2-10) Black or color dots appear on the image

Print sample	Cause of trouble
	1. Dirty charge roller 2. Damaged or dirty drum unit 3. Damaged or paper dust accumulated cleaning blade

	Trouble location	Check	Corrective action
1	Drum unit	Check if the print appears in the drum circumference interval.	Replace the drum unit if is scratched. (see page 4-11)
2	Charger roller	Check if the image appears in the main charge roller circumference interval.	Replace the main charge roller if it appears in the circumference interval. (see page 4-168)
3	Developer unit	Check if the developer bias leaks.	1. Clean the edge of the developer roller if leaked. 2. If used at high altitude, set the high altitude at [Adjustment/Maintenance] in [System Menu].
		Check if the image appears in the developer roller circumference interval.	1. Clean the developer roller if the offset image appears in the roller circumference interval. 2. Replace the developer unit. (see page 4-13)

(2-11) Offset occurs

Print sample	Cause of trouble
	1. Damaged or dirty drum unit 2. Developer bias leakage.

	Trouble location	Check	Corrective action
1	Drum unit	Check if the print appears in the drum interval.	If the drum unit is dirty with paper duct, toner, etc., clean it and reattach it. Or, replace. (see page 4-11)
2	Developer unit	Check if the offset image appears in the developer roller circumference interval.	In case the developer unit is dirty with toner, etc., clean it and reattach it. Or, replace. (see page 4-13)

(2-12) Part of image is missing

Print sample	Cause of trouble
	1. Damaged or dirty drum unit 2. Deformed or dirty primary transfer belt on its surface

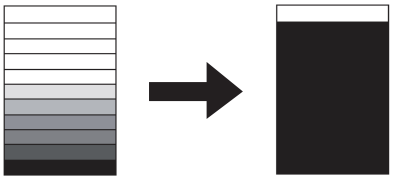
	Trouble location	Check	Corrective action
1	Drum unit	Check if the print appears in the drum circumference interval.	Drum refreshing is executed. [Adjustment/ Maintenance]
2	Primary transfer belt (Primary transfer unit)	Check if the primary transfer belt surface is deformed or dirty.	If the surface is deformed or dirty, clean the primary transfer belt or replace the unit. (see page 4-5)

(2-13) Image is out of focus

Print sample	Cause of trouble
	1. Drum unit condensation. 2. Dirty LSU slit glass.

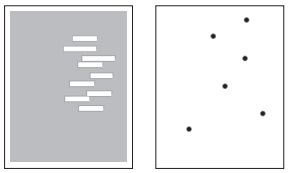
	Trouble location	Check	Corrective action
1	Drum unit	The drum surface is condensed.	Drum refreshing is executed. [Adjustment/ Maintenance]
2	LSU	Check if the LSU slit glass is fully dirty.	1. If the LSU slit glass is dirty, execute the laser scanner cleaning. 2. Replace the LSU. (see page 4-135)

(2-14) Poor grayscale reproducibility

Print sample	Cause of trouble
	1. Image adjustment problems

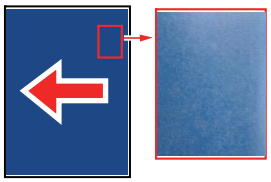
	Trouble location	Check	Corrective action
1	Image adjustment	Check if the color calibration is done.	Executing Calibration. ([System Menu] > [Adjustment/Maintenance]) Execute maintenance mode U410 [Adjusting the halftone automatically]. (see page 6-51)

(2-15) Unevenly repeating horizontal streaks in the printed objects. Colored spots in the printed objects

Print sample	Cause of trouble
	1. Installation at a high altitude. 2. Defective drum unit grounding. 3. Using the paper with high surface resistance.

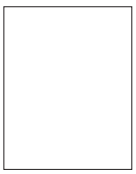
	Trouble location	Check	Corrective action
1	Developer unit	Check if the operating environment is 1001m or more above sea level. (Developer bias leakage)	If the machine is installed in an altitude higher than 1001m sea level, change the altitude setting. (System menu > Adjustment/Maintenance >Sevice setting) ([Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m])
2	Drum unit	Check if there is contact failure between the main charger roller and high voltage PWB contact.	1. Correct the contact if it is deformed so that it contacts. 2. Reattach the drum unit (main charge roller).
		Check the ground contact for the drum ground failure.	Correct the contact if it is deformed so that it contacts.
3	Paper	Check if high surface resistance paper is used.	Change paper to different type.

(2-16) Grainy image (low solid image density)

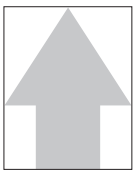
Print sample	Cause of trouble
	1. Installation at a high altitude. 2. Using the paper with high surface resistance.

	Trouble location	Check	Corrective action
1	Developer unit	Check the device is installed in an altitude higher than 1001m sea level.	If the machine is installed in an altitude higher than 1001m sea level, change the altitude setting. (System menu > Adjustment/Maintenance >Sevice setting) ([Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m])
2	Paper	Check if high surface resistance paper is used.	Change paper to different type.

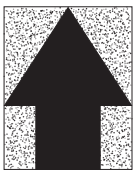
(3) Poor image (Caused by transferring toner, paper conveying, or fusing: Four-color printer engine)



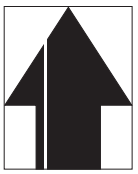
(3-1)No image appears (entirely white)



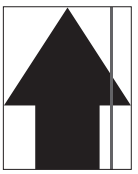
(3-2)Image is too light



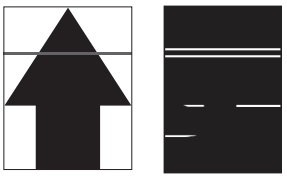
(3-3)The background is colored



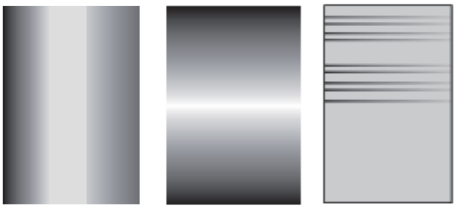
(3-4)White streaks are printed vertically



(3-5)Black or color streaks appear longitudinally

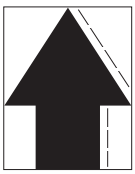


(3-6)Black, white or color streaks appear horizontally



(3-7)Uneven transferring toner

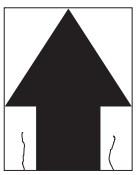
(3-8)Black or color dots appear on the image



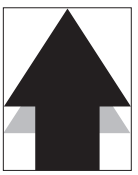
(3-9)Image is blurred (Shifted transferring)

(3-10)The leading edge of the image is consistently misaligned with the original

(3-11)The leading edge of the image is sporadically misaligned with the original

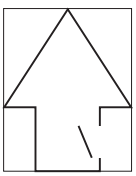


(3-12)Paper is creaseed



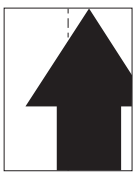
(3-13)Offset occurs

(3-14)Image is partly missing (Outlines objects and white dots)



(3-15)Fusing failure

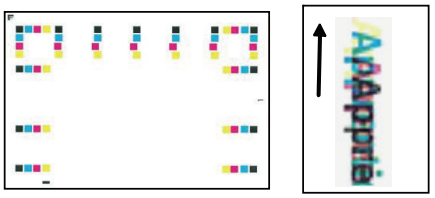
(3-16)Image is out of focus



(3-17)Image center does not align with the original center

(3-18)Dirty paper with toner

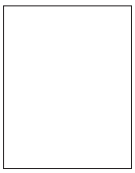
(3-19)Poor color reproduction



(3-20)Color shift

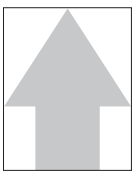
(3-21)Dirty reverse side of paper

(3-1) No image appears (entirely white)

Print sample	Cause of trouble
	1. Defective the secondary transfer bias output.

	Trouble location	Check	Corrective action
1	Secondary transfer roller	Check if the rear cover is securely closed.	Check the rear cover lock. Open and close the rear cover.
2	High voltage PWB	1. Check how the connector is inserted. High voltage PWB (YC1) to Main/Engine PWB (YC8) 2. Check the wire's continuity.	1. If the connector is not inserted enough, reconnect it. 2. Replace the wire if there is no continuity. 3. Replace the high voltage PWB. (see page 4-89)
3	Main/Engine PWB	1. Check how the connector is inserted. 2. Check the wire's continuity. 3. Check if the secondary transfer high voltage on signal is input from Main/Engine PWB.	1. If the connector is not inserted enough, reconnect it. 2. Replace the wire if there is no continuity. 3. Replace the Main/Engine PWB if no signal is output. (see page 4-62)

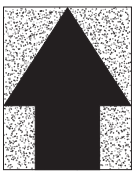
(3-2) Image is too light

Print sample	Cause of trouble
	1. The paper absorbs moisture. 2. The contact pressure at the secondary trasnfer roller and the primary transfer belt is too low. 3. The voltage applied to the secondary transfer current is incorrect.

	Trouble location	Check	Corrective action
1	Paper	1. Check if paper is moist. 2. Check the humidity of where paper is stored.	Replace paper if it is moist. If the place to store paper is moist, move it to a low humidity place.
2	Paper conveying unit	Check if the rear cover is securely closed.	Check the rear cover lock. Open and close the rear cover.

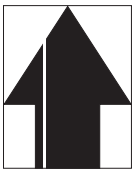
	Trouble location	Check	Corrective action
3	Secondary transfer roller	Check the secondary transfer roller position. (Pressure failure)	If the secondary transfer roller is taken off, refit it.
4	High voltage PWB	Check if there is dirt or deformation in the contact of the high voltage PWB to the secondary transfer roller. (Secondary transfer bias error)	1. Clean the contact if it is dirty. 2. Correct the contact if it is deformed so that it contacts. 3. Replace the high voltage PWB. (see page 4-89)

(3-3) The background is colored

Print sample	Cause of trouble
	1. Defective primary transfer unit grounding. 2. Dirty secondary transfer roller

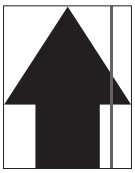
	Trouble location	Check	Corrective action
1	Primary transfer unit	Check if the belt surface is whitened.	Replace the primary transfer unit if the entire belt surface is whitened and is not improved after executing the calibration. (see page 4-5)
		Check if the ground plate of the primary transfer unit is deformed.	If the ground plate is deformed, correct it to secure ground.
2	Secondary transfer roller	1. Check the transfer bias ground failure. 2. Check if the roller full surface is dirty.	1. Correct the contact to securely contact the roller shaft. 2. Clean or replace the secondary transfer roller if its full surface is dirty.

(3-4) White streaks are printed vertically

Print sample	Cause of trouble
	1. Dirty primary transfer unit 2. Dirty secondary transfer roller

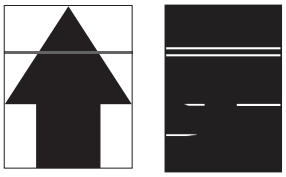
	Trouble location	Check	Corrective action
1	Primary transfer unit	Check if the white streaks match the position of dirt on the primary transfer belt.	1. Clean the primary transfer belt if contaminated. 2. Detach the primary transfer unit. (see page 4-5)
2	Secondary transfer roller	Check if the white streaks match the position of dirt on the transfer roller.	Clean the secondary transfer belt if contaminated. Replace the secondary transfer roller if it is not improved after cleaning it. (see page 4-28)
3	Eject guide	Check if paper slides the eject guide ribs intensely.	Correct the ribs if white steaks appear at the position of the ribs but paper is not wavy.

(3-5) Black or color streaks appear longitudinally

Print sample	Cause of trouble
	1. Poor voltage impressed for the primary transfer belt cleaning. 2. Dirty secondary transfer roller 3. Dirty separation brush. 4. Dirty fuser unit inside.

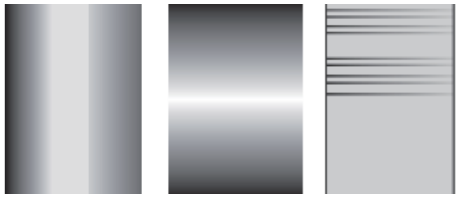
	Trouble location	Check	Corrective action
1	Primary transfer unit	Check if paper dust is accumulated around the cleaning section.	1. Clean the cleaning section if paper dust accumulates. 2. Replace the primary transfer unit if it is not improved after cleaning it. (see page 4-5)
		Check dirt and deformation of the cleaning bias connector and high voltage terminals.	1. Clean the connector and connection terminal if they are dirty. 2. Correct the contact if deformed. 3. Replace the high voltage PWB. (see page 4-89)
		Check dirt or scratch in the interval of the primary transfer belt circumference.	Replace the primary transfer unit if it is dirty or has scratches. (see page 4-5)
2	Secondary transfer roller	Check dirt, deformation or wear of the secondary transfer roller.	1. Clean the secondary transfer roller if contaminated. 2. Replace the secondary transfer roller if it is deformed or worn out. (see page 4-28)
3	Separation brush	Check if the separation brush are dirty with paper dust and toner.	Clean the separation brush if they are dirty.
4	Fuser unit	1. The paper separation plate is contaminated with toner. 2. Check if the paper weight setting matches the paper to use.	1. Clean the paper separation plate if contaminated. 2. Change the setting if the paper weight setting does not match the paper to use.
5	Eject guide	The ribs are dirty with toner.	Clean it if dirty.

(3-6) Black, white or color streaks appear horizontally

Print sample	Cause of trouble
	1. Defective primary transfer unit grounding. 2. Dirty secondary transfer roller

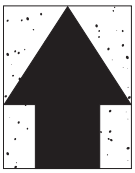
	Trouble location	Check	Corrective action
1	Primary transfer unit	Check the image in the interval of the primary transfer belt circumference. Belt deformation	1. Clean the primary transfer belt with soft cloth. 2. Replace the primary transfer unit if it is not improved after cleaning it. (see page 4-5)
2	Secondary transfer roller	1. Check if the right cover is closed. 2. Check if the secondary transfer roller surely contacts the transfer belt.	1. Close the right cover slightly. 2. Refit the press spring for the secondary transfer roller. Replace it if is deformed.
3	Fuser unit	Check if the image appears in the fuser roller circumference interval.	Clean the fuser roller if it appears in the image. Replace the fuser unit if it is not improved after cleaning it. (see page 4-16)

(3-7) Uneven transferring toner

Print sample	Cause of trouble
	1. Defective primary transfer unit grounding. 2. Dirty secondary transfer roller

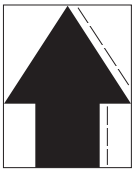
	Trouble location	Check	Corrective action
1	Primary transfer unit	Check if paper dust is accumulated around the cleaning section.	1. Clean the cleaning section if paper dust accumulates. 2. Replace the primary transfer unit if it is not improved after cleaning it. (see page 4-5)
		Check dirt and deformation of the cleaning bias connector and high voltage terminals.	1. Clean the connector or connection terminal if dirty. 2. Correct the contact if deformed. 3. Replace the high voltage PWB. (see page 4-89)
		Primary transfer belt is dirty or has scratches.	Detach the primary transfer unit. (see page 4-5)
2	Secondary transfer roller	Check dirt, deformation or wear of the secondary transfer roller.	1. Clean the secondary transfer belt if contaminated. 2. Replace the secondary transfer roller if it is not improved after cleaning it. (see page 4-28)
3	Fuser unit	Check if the roller and fuser pressure release mechanism are deformed, worn or damaged.	Replace the fuser unit if the roller and fuser pressure release mechanism are deformed, worn or damaged. (see page 4-16)

(3-8) Black or color dots appear on the image

Print sample	Cause of trouble
	1. Damaged or dirty primary transfer belt 2. Dirty secondary transfer roller 3. Dirty fuser unit inside.

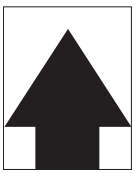
	Trouble location	Check	Corrective action
1	Primary transfer unit	Check the primary transfer belt cleaning.	1. Clean the cleaning section. 2. Replace the unit if it is not improved after cleaning it. (see page 4-5)
		Check dirt or scratch in the interval of the primary transfer belt outer circumference.	Replace the primary transfer unit. (see page 4-5)
2	Secondary transfer roller	Check if ditty appears in the interval of the secondary transfer roller circumference.	1. Clean the secondary transfer roller if it appears in the image. 2. Replace the secondary transfer roller if it is not improved after cleaning it. (see page 4-28)
3	Fuser unit	Check if the image appears in the fuser roller or fuser belt circumference interval.	1. Clean the fuser roller or fuser belt if it appears in the image. 2. Replace the fuser unit if it is not improved after cleaning it. (see page 4-16)

(3-9) Image is blurred (Shifted transferring)

Print sample	Cause of trouble
	1. The paper used does not conform to the specification. 2. Imbalanced fuser unit pressures.

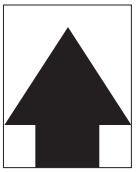
	Trouble location	Check	Corrective action
1	Paper	1. Check if the paper is within the specification. 2. Check if the paper type and weight settings are proper.	1. If paper type is out of specification, use proper paper. 2. If the paper setting is improper, set it in accordance with the paper.
2	Fuser unit	1. Check the pressure balance between the left and right sides of the fuser unit. 2. Check if the paper entry guide to the fuser is deformed.	1. Replace the fuser unit in case of the balance failure. (see page 4-16) 2. Replace the fuser unit if deformed. (see page 4-16)
3	Paper conveying motor	Check if the paper conveying drive is smooth.	If the drive is not smooth, apply grease to the gears.
4	Conveying guide	The paper conveying guide is deformed.	Replace the paper conveying guide if deformed.

(3-10) The leading edge of the image is consistently misaligned with the original

Print sample	Cause of trouble
	1. Improperly adjusted leading edge timing. 2. Improper amount of slack of the original document before the registration.

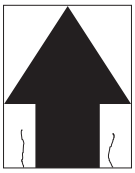
	Trouble location	Check	Corrective action
1	Registration roller	Correct the contact if it is deformed.	If the adjustment is insufficient, adjust the leading edge timing in the maintenance mode U034. (see page 6-24)
		Check if the registration sensor ON timing (original loop amount) is proper.	When the paper feeding failure has occurred, clean the paper feed roller or replace the paper to check if the failure is improved.

(3-11) The leading edge of the image is sporadically misaligned with the original

Print sample


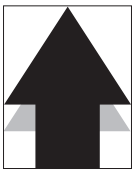
	Trouble location	Check	Corrective action
1	Registration clutch, Registration roller	Check if the registration roller is dirty and the registration clutch and paper conveying and developer motor operate smoothly.	1. Clean the registration roller. 2. Reattach it if it is improperly attached. 3. Replace the paper conveying drive unit if it does not move smoothly.

(3-12) Paper is creaseed

Print sample


	Trouble location	Check	Corrective action
1	Paper side registration	Check if the paper width guide set position matches the paper.	If the paper size does not match, align the side registration cursors to the paper edges.
2	Paper	1. Check if it is curled or wavy. 2. Check if the place to store paper is moist.	1. If paper is curled r wavy, replace it. 2. If the place to store paper is moist, move it to a low humidity place.
3	Registration roller	Balance is not secured between the front and rear springs.	Attach the parts with the regular spring pressure.
4	Fuser unit	The fuser pressure spring of the fuser unit is faulty.	Replace the fuser unit. (see page 4-16)

(3-13) Offset occurs

Print sample


	Trouble location	Check	Corrective action
1	Paper	1. Check if the paper is within the specification. 2. Check if the paper type and weight settings are proper.	1. If paper type is out of specification, use proper paper. 2. Set paper type and weight.
2	Primary transfer unit	Check offset image in the interval of the primary transfer belt circumference.	1. Clean the primary transfer belt if it appears in the outer circumference interval. 2. Make the cleaning bias contact of the cleaning roller securely contact the contact of the high voltage PWB. 3. Replace the primary transfer unit. (see page 4-5)
3	Fuser unit	Check if dirt appears on the image in the fuser roller circumference interval.	If the roller of the fuser unit is dirty, clean it or replace the unit. (see page 4-16)

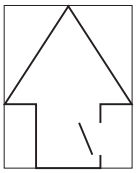
(3-14) Image is partly missing (Outlines objects and white dots)

Print sample

	Trouble location	Check	Corrective action
1	Paper	Check if paper is moist. Check if the place to store paper is moist.	Replace paper if it is moist. If the place to store paper is moist, move it to a low humidity place.
2	Primary transfer unit	Check dirt or scratch in the interval of the primary transfer belt circumference.	1. Clean the primary transfer belt with soft cloth. 2. Replace the primary transfer unit. (see page 4-5)

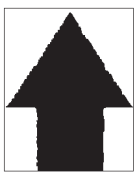
	Trouble location	Check	Corrective action
3	Secondary transfer roller	Check if ditty appears in the interval of the secondary transfer roller circumference.	1. Clean the secondary transfer roller. 2. Replace the secondary transfer roller. (see page 4-28)

(3-15) Fusing failure

Print sample


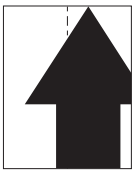
	Trouble location	Check	Corrective action
1	Paper	1. Check if the paper is within the specification. 2. Check if the paper type and weight settings are proper.	1. If paper type is out of specification, use proper paper. 2. Set the paper weight to match the paper.
2	Paper weight setting	Check the paper weight setting.	If the paper weight setting is insufficient, set the paper weight in accordance with the paper thickness.
3	Fuser unit	Fuser pressure setting (spring) is faulty.	Replace the fuser unit. (see page 4-16)

(3-16) Image is out of focus

Print sample


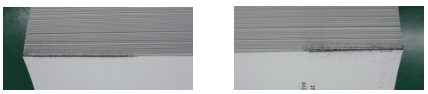
	Trouble location	Check	Corrective action
1	Paper	Check if paper is moist. Check if the place to store paper is moist.	1. Replace paper if it is moist. 2. If the place to store paper is moist, move it to a low humidity place.

(3-17) Image center does not align with the original center

Print sample


	Trouble location	Check	Corrective action
1	Paper setting	Check if paper is set correctly.	Set paper if it is not set correctly.
2	Image position adjustment	Check the center alignment during writing images.	If the adjustment is insufficient, adjust the center line in the maintenance mode U034. (see page 6-24)

(3-18) Dirty paper with toner

Print sample	Cause of trouble
	1. The toner scattering inside the machine, during continuous high density printing

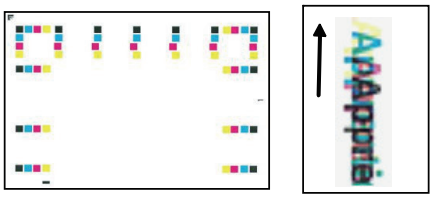
	Trouble location	Check	Corrective action
1	Conveying guide	Check if the conveying guide is dirty with toner.	Clean the developer unit, drum unit and primary transfer unit if the conveying guide is dirty with toner.
2	Toner scattering inside the machine	Check if a large volume with high coverage was continuously output.	Clean the machine inside.

(3-19) Poor color reproduction

Print sample

	Trouble location	Check	Corrective action
1	Paper	Check if paper is moist. Check if the place to store paper is moist.	1. Replace paper if it is moist. 2. If the place to store paper is moist, move it to a low humidity place.
2	Paper specification	Granular image (slightly uneven gloss) appears in the high density image area.	1. Check the paper specification and use proper paper. 2. Change to color paper if rough paper for monochrome print is used.
3	Paper type	Check paper type and weight.	The paper type and weight do not match the paper, set them properly.
4	Image adjustment	Check if the target density adjustment was done.	1. Select [Adjustment/Maintenance] and then [Calibration]. 2. Execute maintenance mode U410 [Adjusting the halftone automatically]. (see page 6-51)
5	Developer unit	Toner is not Charged.	Execute the calibration after executing the developer refresh (DEV-CLN). ([System Menu] > [Adjustment/Maintenance])
6	Drum unit	Check the drum surface condensation.	Drum refreshing is executed. ([System Menu] > [Adjustment/Maintenance])
7	Printer driver setting	Check the printer color table selection.	1. Change the printer color table selection to the proper mode in the color reproduction mode in [Imaging] tab of the printer driver. 2. Download necessary color tables.
		Check the printer data is CMYK.	If the printer data is CMYK, select the proper mode in the KPDL color conversion process.

(3-20) Color shift

Print sample	Cause of trouble
	1. ID sensor density detection error 2. Primary transfer belt 3. Primary transfer belt skew (color registration shift in the main scanning direction) 4. Motor speed control error (color registration shift in the sub-scanning direction)

	Trouble location	Check	Corrective action
1	Color registration adjustment	Check if the color registration has been adjusted before executing the calibration.	Execute the calibration by [Adjustment / Maintenance] in the system menu, and then execute the color registration.
2	ID sensor	Check if the ID sensor shutter is open when executing calibration.	1. If the sensor shutter is not opened, correct it to open. 2. Clean the ID sensor. Or, replace.
3	Primary transfer unit	Check if the ID sensor can detect the image density correctly after executing the calibration with degraded belt.	Execute the calibration and replace the primary transfer unit if the color registration patches appear twice at the left and right sides of the transfer belt. (see page 4-5)
		Check the belt skew.	Reattach the primary transfer unit. Replace the frame if deformed.
4	Main/Engine PWB	Extreme color registration shift. (The motor speed is not correctly controlled.)	Replace the Main/Engine PWB. (see page 4-62)

(3-21) Dirty reverse side of paper

Print sample

	Trouble location	Check	Corrective action
1	Secondary transfer roller	Check if the secondary transfer roller is dirty.	1. Clean the secondary transfer roller. 2. Check if the transfer bias terminal contacts the roller.
2	Fuser pressure roller	Check if foreign objects such as toner dirt, etc. mix in or adhere to the fuser press roller.	1. Clean the fuser pressure roller if foreign objects adhere. 2. If the paper thickness setting does not match the paper, set the proper paper thickness.
3	Conveying guide	The conveying guide is dirty with toner.	Clean the developer unit, drum unit and primary transfer unit if the conveying guide is dirty with toner.

7-4 Electric problems

If the part causing the problem was not supplied, use the unit including the part for replacement.
Troubleshooting 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 power switch is turned on.	1. No electricity at the power outlet.	Measure the input voltage.
	2. The power cord is not plugged improperly.	Check the connection of the connectors.
	3. Broken power cord.	Check for continuity. If none, replace the wire.
	4. Defective power switch.	Checkcontinuity across the contacts. If none, replae the power switch.
	5. Defective power source PWB.	Replace the power source PWB. (see page 4-98)
	6. Defective Engine relay PWB.	Replace the engine relay PWB. (see page 4-84)
	7. Defective Main/ Engine PWB.	Replace the Main/Engine PWB and check operation. (see page 4-62)
(2) Image scanner motor does not rotate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Image scanner motor and Main/Engine PWB (YC17)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, clean or grease the bushes and gears. Check broken gears and replace if any.
	3. Defective motor.	Replace the scanner motor.
	4. Defective PWB.	Replace the Main/Engine PWB. (see page 4-62)
(3) Duplex eject motor does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Duplex eject motor and Engine relay PWB (YC20) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, clean or grease the bushes and gears. Check broken gears and replace if any.
	3. Defective motor.	Reattach the duplex eject motor. Or replace.
	4. Defective PWB.	Replace the engine relay PWB. (see page 4-84)
		Replace the Main/Engine PWB. (see page 4-62)

Problem	Causes	Check procedures/corrective measures
(4) Toner motor does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Toner motor and Engine relay PWB (YC18) Engine relay PWB (YC4) and Main/Engine PWB (YC1)
	2. Defective motor.	Reattach the toner motor. Or replace.
	3. Defective PWB.	Replace the engine relay PWB. (see page 4-84)
		Replace the Main/Engine PWB. (see page 4-62)
(5) Power source fan motor does not rotate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Power source fan motor and Main/Engine PWB (YC19)
	2. Defective motor.	Replace the power source fan motor.
	3. Defective PWB.	Replace the Main/Engine PWB. (see page 4-62)
(6) LSU fan motor does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. LSU fan motor and Engine relay PWB (YC23,24) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
	2. Defective motor.	Replace the LSU fan motor.
	3. Defective PWB.	Replace the engine relay PWB. (see page 4-84)
		Replace the Main/Engine PWB. (see page 4-62)
(7) Container fan motor does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Container fan motor and engine relay PWB (YC24)
	2. Defective motor.	Replace the container fan motor.
	3. Defective PWB.	Replace the Main/Engine PWB. (see page 4-62)
(8) Paper feed clutch does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Paper feed clutch and Engine relay PWB (YC15) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
	2. Defective clutch.	Replace the conveying drive unit.
	3. Defective PWB.	Replace the engine relay PWB. (see page 4-84)
		Replace the Main/Engine PWB. (see page 4-62)

Problem	Causes	Check procedures/corrective measures
(9) Registration clutch does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Registration sensor and Main/Engine PWB (YC21)
	2. Defective clutch.	Replace the conveying drive unit.
	3. Defective PWB.	Replace the Main/Engine PWB. (see page 4-62)
(10) Developer clutch does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Developer clutch and Engine relay PWB (YC15) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
	2. Defective clutch.	Replace the conveying drive unit.
	3. Defective PWB.	Replace the engine relay PWB. (see page 4-84)
		Replace the Main/Engine PWB. (see page 4-62)
(11) Middle clutch does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Primary clutch and Engine relay PWB (YC15) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
	2. Defective clutch.	Replace the conveying drive unit.
	3. Defective PWB.	Replace the engine relay PWB. (see page 4-84)
		Replace the Main/Engine PWB. (see page 4-62)
(12) MP solenoid does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. MP solenoid and Engine relay PWB (YC16) Engine relay PWB (YC1) and Main/Engine PWB (YC4)
	2. Defective the solenoid.	Replace the MP solenoid.
	3. Defective PWB.	Replace the engine relay PWB. (see page 4-84)
		Replace the Main/Engine PWB. (see page 4-62)

Problem	Causes	Check procedures/corrective measures
(13) The message requesting paper to be loaded is shown when paper is present on the cassette.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Cassette PWB and Engine relay PWB (YC8)
	2. Deformed actuator.	Check and replace if necessary.
	3. Defective sensor.	Replace the cassette PWB.
	4. Defective PWB.	Replace the engine relay PWB. (see page 4-84)
(14) The message requesting paper to be loaded is shown when paper is present on the MP tray.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. MP paper sensor and Engine relay PWB (YC8)
	2. Deformed actuator.	Check and replace if necessary.
	3. Defective sensor.	Replace the MP paper sensor.
	4. Defective PWB.	Replace the engine relay PWB. (see page 4-84)
(15) The size of paper on the MP tray is not displayed correctly.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Cassette size detection switch and Engine relay PWB (YC5)
	2. Defective switch.	Replace the cassette size detection switch.
	3. Defective PWB.	Replace the engine relay PWB. (see page 4-84)
(16) A paper jam in the paper feed, paper conveying or eject section is indicated when the power switch is turned on.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Registration sensor and Main/Engine PWB (YC12) Eject sensor, Eject full sensor and Main/Engine PWB (YC11)
	2. A piece of paper torn from paper is caught around PF paper feed sensor, eject sensor or paper full sensor.	Check and remove torn paper if any.
	3. Defective sensor.	Replace the registration sensor, PF paper feed sensor, paper full sensor or eject sensor.
	4. Defective PWB.	Replace the engine relay PWB. (see page 4-84)
		Replace the Main/Engine PWB. (see page 4-62)

Problem	Causes	Check procedures/corrective measures
(17) A message indicating cover open is displayed when the rear cover is closed.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. Interlock switch and Power source PWB (YC104)
	2. Defective switch.	Check the interlock switch, and if necessary, replace it.
	3. Defective PWB.	Replace the power source PWB. (see page 4-98)
(18) DP original feeding motor does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. DP original feeding motor and Main/Engine PWB (YC1,2)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, clean or grease the bushes and gears. Check broken gears and replace if any.
	3. Defective motor.	Replace the DP original feeding motor.
	4. Defective PWB.	Replace the Main/Engine PWB. (see page 4-62)
(19) The original conveying motor does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. DP original conveying motor and Main/Engine PWB (YC1,2)
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, clean or grease the bushes and gears. Check broken gears and replace if any.
	3. Defective motor.	Replace the DP original conveying motor.
	4. Defective PWB.	Replace the Main/Engine PWB. (see page 4-62)
(20) DP switchback motor does not operate.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. DP switchback motor and Main/Engine PWB (YC1,21)
	2. Defective motor.	Replace the DP switchback motor.
	3. Defective PWB.	Replace the Main/Engine PWB. (see page 4-62)
(21) A original document jam is indicated when the power switch is turned on.	1. A piece of paper torn from paper is caught around DP timing sensor, DP registration sensor and DP switchback sensor.	Check and remove torn paper if any.
	2. Defective sensor.	Defective the DP timing sensor, DP registration sensor, or DP switchback sensor.
	3. Defective PWB.	Replace the Main/Engine PWB. (see page 4-62)

Problem	Causes	Check procedures/corrective measures
(22) A message indicating cover open is displayed when the DP top cover is closed.	1. Defective connector cable or poor contact in the connector	Reconnect the connector if its connection is loose. Also check the continuity within the connector wire. If none, replace the wire. DP open/close sensor and Main/Engine PWB (YC18)
	2. Defective sensor.	Replace the DP open/close sensor.
	3. Defective PWB.	Replace the Main/Engine PWB. (see page 4-62)

7-5 Mechanical problems

If the part causing the problem was not supplied, use the unit including the part for replacement.

Problem	Causes/check procedures	Corrective Action
(1) No primary paper feed.	Check if the surfaces of the following rollers are dirty with paper dust. Pickup roller Paper feed roller MP paper feed roller	Clean with a wet cloth.
	Check if the following rollers are deformed. Pickup roller Paper feed roller MP paper feed roller	Check and replace if deformed. (see page 4-19)
	Paper feed unit installed incorrectly.	Check and repair if necessary.
(2) No secondary paper feed.	Check if the surfaces of the following rollers are dirty with paper dust. Lower registration roller Lower registration roller	Clean with a wet cloth.
	Paper conveying unit is improperly attached	Check and repair if necessary.
(3) Skewed paper feed.	Paper width guide in the cassette installed incorrectly.	Check the paper width guide is attached properly and reattach or replace if necessary.
(4) Multiple sheets of paper are fed.	1. Check if the paper is excessively curled.	Change the paper if the paper is excessively curled.
	2. The paper in the cassette is not set correctly.	Load the paper correctly.
	3. Check if the retard roller is abraded.	Replace the retard roller if it is worn. (see page 4-19)
(5) Paper jams.	Check if the paper is excessively curled.	Change the paper if the paper is excessively curled.
	Check if the contact between the upper and lower registration rollers is correct.	Check and repair if necessary.
	Check if the heat roller or press roller is extremely dirty or deformed.	Check and replace the fuser unit. (see page 4-16)
(6) Toner drops on the paper conveying path.	Check if the developer unit, drum unit, and primary transfer unit is extremely dirty.	Clean the developer unit, drum unit, and primary transfer unit.
(7)The message of toner replenishing does not disappear. (K)	1. Check that the spiral of the toner container can be rotated. 2. Check whether the toner supply inlet opens by the lever operation.	Replace the toner container.
	Check if the roller in the developer unit rotates and the developer clutchs, etc., that transfer the drive are damaged.	1. Replace the developer unit. 2. Replace the conveying drive unit.

Problem	Causes/check procedures	Corrective Action
(8)The message of toner replenishing does not disappear. (C,M,Y)	1. Check that the spiral of the toner container can be rotated. 2. Check whether the toner supply inlet opens by the lever operation.	Replace the toner container.
	Check if the roller in the developer unit rotates and the couplings, etc., that transfer the drive are damaged.	1. Replace the developer unit. 2. Replace the main drive unit.
(9) Abnormal sound is generated.	Check if the rollers, pullys and gears rotate smoothly.	Grease the bushes and gears.
	Check if the roller in the developer unit rotates.	If the developer roller is locked, replace the developer unit.
	Check if the problem has occured between the cleaning section in the primary transfer unit and the drive transmission section of the main unit.	1. If the waste toner is clogged inside the cleaning unit, clean it. 2. If it is the sliding noise from the side of the waste joint gear in the main body, grease the gear.
	Check the occurrence from the fuser unit. During printing drive, or at the power is turned on, the fuser motor is rotated reversely for the pressure releasing operation.	Check if the meshing of gears is proper, and if necessary, reattach the fuser unit. Grease the fuser release drive gear.
	Check if it occurrs when the cassette lift motor operates.	Check if the cassette lift motor is attached properly, and if necessary, reattach it.

7-6 Send error code

This section describes the sending error codes and descriptions, preventive actions, as well as corrective actions for Scan to PC(SMB/FTP/E-mail).
Error codes not described here could fall within software errors.
If such an error is encountered, turn power off then on, and advise the service representative.

(1) Scan to SMB error codes

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

(2) Scan to FTP error codes

Code	Contents	Check procedures/corrective measures
1101	FTP server does not exist on the network.	1. Check the FTP server name. 2. Confirm the device's network parameters. 3. Confirm the network parameters where the device is connected.
1102	Login to the FTP server has failed.	1. Confirm user name and passowrd. 2. Check the FTP server.
1103	Destined folder is invalid.	1. Check illegal characters are not contained within these names. 2. Check the FTP server.
1105	FTP protocol is not enabled.	1. Confirm device's FTP protocols.
1131	Initializing TLS has failed.	1. Confirm the device's security parameters.
1132	TLS negotiation has failed.	1. Confirm the device's security parameters. 2. Check the FTP server.
2101	Access to the FTP server has failed.	1. Check the FTP server name. 2. Confirm that the LAN cable is properly connected to the device. 3. Check the FTP port number. 4. Confirm the device's network parameters. 5. Confirm the network parameters where the device is connected. 6. Check the FTP server.
2102	Access to the FTP server has failed. (Connection timeout)	1. Check the FTP server name. 2. Check the FTP port number. 3. Confirm the device's network parameters. 4. Confirm the network parameters where the device is connected. 5. Check the FTP server.
2103	The server cannot establish communication.	1. Check the FTP server name. 2. Check the FTP port number. 3. Confirm the device's network parameters. 4. Confirm the network parameters where the device is connected. 5. Check the FTP server.
2201	Connection with the FTP server has failed.	1. Confirm the device's network parameters. 2. Confirm the network parameters where the device is connected. 3. Confirm destined folder. 4. Check the FTP server.
2202	Connection with the FTP server has failed. (Timeout)	1. Confirm the device's network parameters. 2. Confirm the network parameters where the device is connected.

Code	Contents	Check procedures/corrective measures
2203	No response from the server during a certain period of time.	1. Confirm the device's network parameters. 2. Confirm the network parameters where the device is connected.
2231	Connection with the FTP server has failed. (FTPS communication)	1. Confirm the device's network parameters. 2. Confirm the network parameters where the device is connected.
3101	FTP server responded with an error.	1. Confirm the device's network parameters. 2. Confirm the network parameters where the device is connected. 3. Check the FTP server.

(3) Scan to E-mail error codes

Code	Contents	Check procedures/corrective measures
1101	SMTP/POP3 server does not exist on the network.	1. Check the SMTP/POP3 server name. 2. Confirm the device's network parameters. 3. Confirm the network parameters where the device is connected.
1102	Login to the SMTP/POP3 server has failed.	1. Confirm user name and passowrd. 2. Check the SMTP/POP3 server.
1104	The domain of the destination address prohibits scanning.	1. Confirm device's SMTP parameters.
1105	SMTP protocol is not enabled.	1. Confirm device's SMTP protocols.
1106	Sender’s address is not specified.	1. Confirm device's SMTP protocols.
2101	Connection to the SMTP/POP3 server has failed.	1. Check the SMTP/POP3 server name. 2. Confirm that the LAN cable is properly connected to the device. 3. Check the SMTP/POP3 port number. 4. Confirm the device's network parameters. 5. Confirm the network parameters where the device is connected. 6. Check the SMTP/POP3 server.
2102	Connection to the SMTP/POP3 server has failed. (Connection timeout)	1. Check the SMTP/POP3 server name. 2. Check the SMTP/POP3 port number. 3. Confirm the device's network parameters. 4. Confirm the network parameters where the device is connected. 5. Check the SMTP/POP3 server.
2103	The server cannot establish communication.	1. Check the SMTP/POP3 server name. 2. Check the SMTP/POP3 port number. 3. Confirm the device's network parameters. 4. Confirm the network parameters where the device is connected. 5. Check the SMTP/POP3 server.

Code	Contents	Check procedures/corrective measures
2201	Connection to the SMTP/POP3 server has failed.	1. Confirm the device's network parameters. 2. Confirm the network parameters where the device is connected.
2202	communication with the SMTP/POP3 server has failed. (Timeout)	1. Confirm the device's network parameters. 2. Confirm the network parameters where the device is connected.
2204	The size of scanning exceeded its limit.	1. Confirm the device's network parameters.
3101	SMTP/POP3 server responded with an error.	1. Confirm the device's network parameters. 2. Confirm the network parameters where the device is connected. 3. Check the SMTP/POP3 server.
3102	Server response error	1. Check the SMTP/POP3 server. 2. Make a pause and retry.
3201	No SMTP authentication is found.	1. Check the SMTP server. 2. The device supports SMTP authentication services including "CRAM-MD5", "DIGEST-MD5", "PLAIN" and "LOGIN". 3.
4803	Failed to establish the SSL session.	1. Verify the self certificate of the device. 2. Check the server certificate of the SMTP/POP3 server. 3. Check the SMTP/POP3 configuration of the device and the SMTP/POP3 server.

7-7 Error code:

(1) Error code:

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

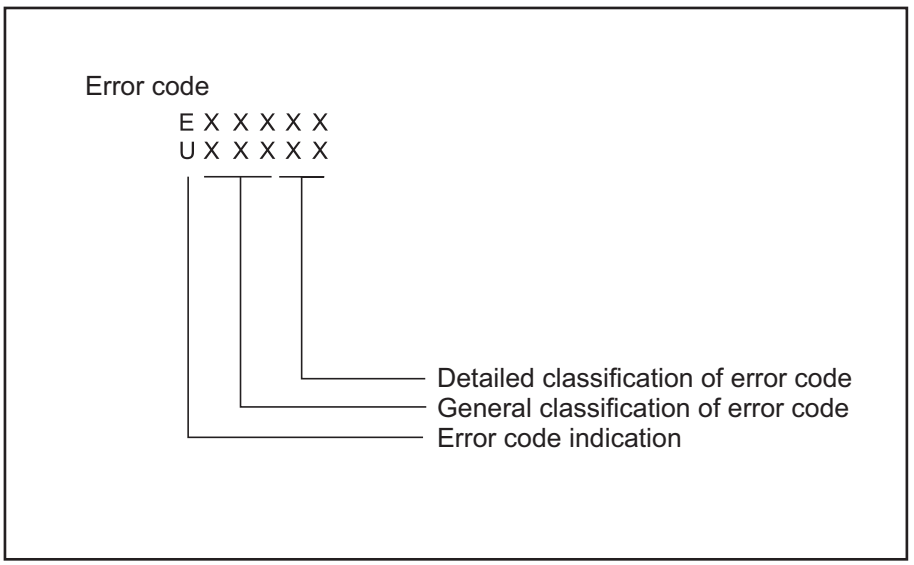


Figure 7-3

(2) Table of general classification

Error code:	Contents
U00000/E00000	No response or busy after the set number of redials.
U00100/E00100	Transmission was interrupted by pressing the [Stop] key.
U00200/E00200	Reception was interrupted by pressing the [Stop] key.
U00300/E00300	Recording paper on the destination unit has run out during transmission.
U004XX/E004XX	A connection was made but interrupted during handshake with the receiver unit U004XX error code table: Interrupted phase B (see page 7-141)
U006XX/E006XX	Communication was interrupted because of a machine problem. U006XX error code table: Problems with the unit (see page 7-142)
U00700/E00700	Communication was interrupted because of a problem in the destination unit.
U008XX/E008XX	A page transmission error occurred in G3 mode. U008XX error code table: Page transmission error (see page 7-142)
U009XX/E009XX	A page reception error occurred in G3 mode. U009XX error code table: Page reception error (see page 7-142)
U010XX/E010XX	Transmission in G3 mode was interrupted by a signal error. U010XX error code table: G3 transmission (see page 7-143)

Error code:	Contents
U011XX/E011XX	Reception in G3 mode was interrupted by a signal error. U011XX error code table: G3 reception (see page 7-144)
U01400/E01400	An invalid one-touch key was specified during communication.
U01500/E01500	A communication error occurred when calling in V.8 mode.
U01600/E01600	A communication error occurred when called in V.8 mode.
U017XX/E017XX	A communication error occurred before starting T.30 protocol during reception in V.34 mode. U017XX error code table: V.34 transmission (see page 7-144)
U018XX/E018XX	A communication error occurred before starting T.30 protocol during transmission in V.34 mode. U018XX error code table: V.34 reception (see page 7-145)
U03000/E03000	No document was present in the destination unit when polling reception started.
U03200/E03200	In confidential polling reception, data was not accumulated in the specified box in the destination unit. Or, in interoffice subaddress-based bulletin board reception, data was not stored in the box specified by the destination unit.
U03300/E03300	In polling reception from the own unit, operation was interrupted due to a mismatch in permit ID or telephone number. Or, in interoffice subaddress-based bulletin board reception, operation was interrupted due to a mismatch in permit ID or telephone number.
U03400/E03400	Polling reception was interrupted because of a mismatch in individual numbers (destination unit is either of own or other).
U03500/E03500	In confidential polling reception, the specified confidential box number was not registered in the destination. Or, in interoffice subaddress-based bulletin board reception, the specified subaddress confidential box number was not registered in the destination unit. Or, the destination was being accessed.
U03600/E03600	Confidential polling reception was interrupted because of a mismatch in specified confidential box No. Or, an interoffice subaddress-based bulletin board reception was interrupted because of a mismatch in the specified subaddress confidential box number.
U03700/E03700	Confidential polling reception failed because the destination unit had no confidential polling transmission capability. or data was not accumulated in any box in the destination unit. Or, interoffice subaddress-based bulletin board reception failed because the destination unit had no subaddress-based bulletin board transmission capability. or data was not stored in any subaddress confidential box in the destination unit.
U04000/E04000	The confidential box specified for confidential transmission was not registered in the destination unit. Or, in interoffice subaddress-based transmission mode, the specified subaddress box number was not registered in the destination unit. Or, the destination was being accessed.
U04100/E04100	Confidential transmission failed because the destination unit had no confidential capability. Or, subaddress-based transmission failed because the destination unit had no subaddress-based reception capability.
U04200/E04200	In encrypted transmission, the specified encryption box was not registered in the destination unit.
U04300/E04300	Encrypted transmission failed because the destination unit had no encrypted communication capability.
U044XX/E044XX	Communication was interrupted because of an encryption key error during encrypted transmission. (see page 7-145)
U04500/E04500	Encrypted reception was interrupted because of a mismatch in encryption keys.

Error code:	Contents
U05100/E05100	Password check transmission or restricted transmission was interrupted because the permit ID's did not match.
U05200/E05200	Password check reception or restricted reception was interrupted because the permit ID's did not match, the rejected FAX number's did match, or the destination receiver did not return its phone number.
U05300/E05300	The password check reception or the restricted reception was interrupted because the permitted numbers did not match, the rejected numbers did match, or the machine in question did not acknowledge its phone number.
U14000/E14000	Memory overflowed during confidential reception. Or, in subaddress-based confidential reception, memory overflowed.
U14100/E14100	Memory overflowed in the destination unit during confidential transmission. Or, in interoffice subaddress-based transmission, memory overflowed in the destination unit.
U19000/E19000	Memory overflowed during memory reception.
U19100/E19100	Memory overflowed in the destination unit during transmission.
U19300/E19300	Transmission failed because an error occurred during JBIG encoding.

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

Error code:	Contents
U00430/E00430	Polling request (confidential or reverse) was received but interrupted because of a mismatch in permit number. Or, subaddress-based bulletin board transmission request was received but interrupted because of a mismatch in permit ID in the transmitting unit.
U00431/E00431	Confidential polling transmission was interrupted because the specified confidential box number was not registered. Or, an subaddress-based bulletin board transmission was interrupted because the specified subaddress confidential box was not registered.
U00432/E00432	Confidential polling transmission was interrupted because of a mismatch in confidential box ID number. Or, an subaddress-based bulletin board transmission was interrupted because of a mismatch in subaddress confidential box numbers.
U00433/E00433	Confidential polling request was received but data was not present in the confidential box. Or, subaddress-based bulletin board transmission request was received but data was not present in the subaddress confidential box.
U00440/E00440	Confidential reception was interrupted because the specified confidential box No. was not registered. Or, subaddress-based confidential reception or subaddress-based relay reception was interrupted because the specified subaddress box was not registered. Or, subaddress based confidential reception or subaddress relay command reception was interrupted because the specified subaddress box No. was being accessed.
U00450/E00450	The destination transmitter disconnected because the permit ID's did not agree with while the destination transmitter is in password-check transmission or restricted transmission.
U00460/E00460	Encrypted reception was interrupted because the specified encryption box number was not registered. Or, encrypted reception request was received but interrupted because the specified encryption box was being accessed.
U00462/E00462	Encrypted reception was interrupted because the encryption key for the specified encryption box was not registered.

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

Error code:	Contents
U00601/E00601	Document jam or the document length exceeds the maximum.
U00613/E00613	Image writing section problem
U00656/E00656	Data was not transmitted after CTS was activated due to a modem error.
U00690/E00690	System error.

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

Error code:	Contents
U00800/E00800	A page transmission error occurred because of reception of a RTN or PIN signal.
U00811/E00811	A page transmission error reoccurred after retrial of transmission in the ECM mode.

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

Error code:	Contents
U00900/E00900	An RTN or PIN signal was transmitted because of a page reception error.
U00910/E00910	A page reception error remained after retrial of transmission in the ECM mode.

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

Error code:	Contents
U01000/E01000	An FTT signal was received for the specified number of times after the TCF signal transmission at 2400 bps. Or, an RTN signal was received in response to a Q signal (excluding EOP) after transmission at 2400 bps.
U01001/E01001	Function of the unit differs from that indicated by a DIS signal.
U01016/E01016	An MCF signal was received but no DIS signal was received after transmission of an EOM signal, and T1 timeout was detected.
U01019/E01019	No relevant signal was received after transmission of a CNC signal, and the preset number of command retransfers was exceeded (between own units).
U01020/E01020	No relevant signal was received after transmission of a CTC signal, and the preset number of command retransfers was exceeded (ECM).
U01021/E01021	No relevant signal was received after transmission of an EOR.Q signal, and the preset number of command retransfers was exceeded (ECM).
U01022/E01022	No relevant signal was received after transmission of an RR signal, and the preset number of command retransfers was exceeded (ECM).
U01028/E01028	T5 time-out was detected during ECM transmission (ECM).
U01052/E01052	A DCN signal was received after transmission of an RR signal (ECM).
U01080/E01080	A PIP signal was received after transmission of a PPS.NULL signal.
U01092/E01092	During transmission in V.34 mode, communication was interrupted because of an impossible combination of the symbol speed and communication speed.
U01093/E01093	A DCN or other inappropriate signal was received during phase B of transmission.
U01094/E01094	The preset number of command retransfers for DCS/NSS signals was exceeded during phase B of transmission.
U01095/E01095	No relevant signal was received after transmission of a PPS (Q) signal during phase D of transmission, and the preset number of command transfers was exceeded.
U01096/E01096	A DCN signal or invalid command was received during phase D of transmission.
U01097/E01097	The preset number of command retransfers was exceeded after transmission of an RR signal or no response.

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

Error code:	Contents
U01100/E01100	Function of the unit differs from that indicated by a DCS signal.
U01101/E01101	Function of the unit (excl. communication mode select) differs from that indicated by an NSS signal.
U01102/E01102	A DTC (NSC) signal was received when no transmission data was in the unit.
U01110/E01110	No response after transmission of a DIS signal.
U01111/E01111	No response after transmission of a DTC (NSC) signal.
U01113/E01113	No response after transmission of an FTT signal.
U01125/E01125	No response after transmission of a CNS signal (between own units).
U01129/E01129	No response after transmission of an SPA signal (short protocol).
U01141/E01141	A DCN signal was received after transmission of a DTC signal.
U01143/E01143	A DCN signal was received after transmission of an FTT signal.
U01155/E01155	A DCN signal was received after transmission of an SPA signal (short protocol).
U01160/E01160	During message reception, transmission time exceeded the maximum transmission time per line.
U01162/E01162	A break in loop current was detected during message reception.
U01191/E01191	Communication was interrupted because an error occurred during an image data reception sequence in the V.34 mode.
U01193/E01193	There was no response, or a DCN signal or invalid command was received, during phase C/D of reception.
U01194/E01194	A DCN signal was received during phase B of reception.
U01195/E01195	No message was received during phase C of reception.
U01196/E01196	Error line control was exceeded and a decoding error occurred for the message being received.

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

Error code:	Contents
U01700/E01700	A communication error occurred in phase 2 (line probing).
U01720/E01720	A communication error occurred in phase 4 (modem parameter exchange).
U01721/E01721	Operation was interrupted due to the absence of a common communication speed between units. (or interrupted.)

U01700/E01700: For example, INFO0/A/Abar (B/Bbar, for polling transmission)/INFOh was not detected.
A communication error that occurs at the transmitting unit in the period after transmission of INFO0 and before entering phase 3 (primary channel equivalent device training).
U01720/E01720: For example, PPh/ALT/MPh/E was not detected.
A communication error that occurs at the transmitting unit in the period after initiating the control channel and before entering the T.30 process.
U01721/E01721: In the absence of a common communication speed between units (including when an impossible combination of communication speed and symbol speed occurs) after MPh exchange; a DCN signal was received from the destination unit, and the line was cut; or a DIS (NSF, CSI) signal was received from the destination unit, and in response to the signal, the unit transmitted a DCN signal, and the line was cut.

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

Error code:	Contents
U01800/E01800	A communication error occurred in phase 2 (line probing).
U01810/E01810	A communication error occurred in phase 3 (primary channel equivalent device training).
U01820/E01820	A communication error occurred in phase 4 (modem parameter exchange).
U01821/E01821	Operation was interrupted due to the absence of a common communication speed between units.

U01800/E01800: For example, INFO0/B/Bbar (A/Abar, for polling reception)/probing tone was not detected.
A communication error that occurs at the receiver unit in the period after transmission of INFO0 before entering phase 3 (primary channel equivalent device training).
U01810/E01810: For example, S/Sbar/PP/TRN was not detected.
A communication error that occurs at the receiver unit in phase 3 (primary channel equivalent device training).
U01820/E01820: For example, PPh/ALT/MPh/E was not detected.
A communication error that occurs at the receiver unit in the period after initiating the control channel and before entering the T.30 process.
U01821/E01821: In the absence of a common communication speed between units (including when an impossible combination of communication speed and symbol speed occurs) after MPh exchange, a DCN signal was transmitted to the destination unit and the line was cut.

(2-9) U044XX error code table: Encrypted transmission

Error code:	Contents
U04400/E04400	Encrypted transmission was interrupted because encryption keys did not match.
U04401/E04401	Calling failed during encrypted transmission because the encryption key was not registered.

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8 PWBs

8-1 Description for PWB

(1) Main/Engine PWB

(1-1) Connector position

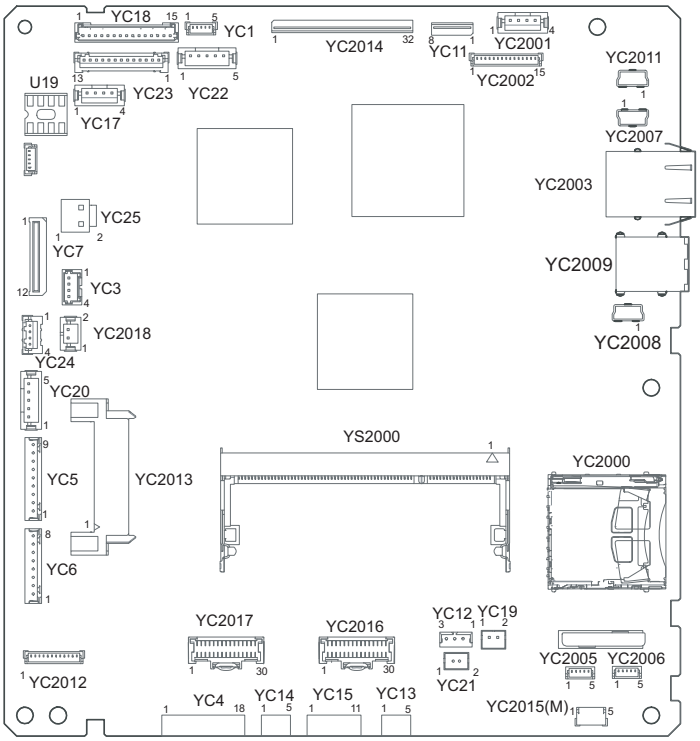


Figure 8-1

(1-2) PWB photograph

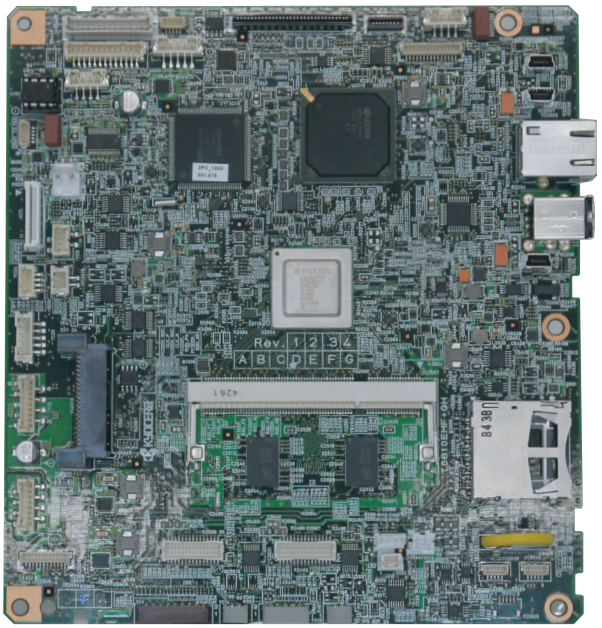


Figure 8-2

(1-3) Connector lists

Connector	Pin	Signal	I/O	Voltage	Description
YC3	1	GND	-	-	Ground
Connected to the toner container switch and inner tray switch	2	TCONTERRN	I	DC0V/3.3V	TCSW: On/Off
	3	GND	-	-	Ground
	4	TOPOPN	I	DC0V/3.3V	ITSW: On/Off
YC4	1	EGASSDI	I	DC0V/3.3V(pulse)	Serial communication data input
Connected to the engine relay PWB	2	GND	-	-	Ground
	3	EGASCS	O	DC0V/3.3V	Serial communication chip select signal
	4	EGASEN	I	DC0V/3.3V	Serial communication enable signal
	5	+3.3V1	O	DC3.3V	DC3.3V power output
	6	EGASSDO	O	DC0V/3.3V(pulse)	Serial communication data output
	7	+3.3V3	O	DC3.3V	DC3.3V power output
	8	EGASSCK	O	DC0V/3.3V(pulse)	Serial communication clock signal
	9	WAKEUPINTN	I	DC0V/3.3V	Engine CPU return signal
	10	FRAM2SDA	I/O	DC0V/3.3V	Security communication data
	11	ERRTEMP	O	DC0V/3.3V	Abnormal high temperature detection signal
	12	FRAM2SCL	O	DC0V/3.3V(pulse)	Security communication clock
	13	+3.3V3	O	DC3.3V	DC3.3V power output
	14	OPSDO	O	DC0V/3.3V(pulse)	Option serial data output
	15	OPDYN	I	DC0V/3.3V	Option ready signal
	16	OPSDI	I	DC0V/3.3V(pulse)	Option serial data input
	17	GND	-	-	Ground
	18	OPSCK	O	DC0V/3.3V(pulse)	Option serial clock signal
YC5	1	+24V1	O	DC24V	DC24V power output
Connected to the power source PWB	2	+24V1	O	DC24V	DC24V power output
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	+24V2	O	DC24V	DC24V power output
	8	+24V2	O	DC24V	DC24V power output
	9	+24V2	O	DC24V	DC24V power output

Connector	Pin	Signal	I/O	Voltage	Description
YC6	1	+24V1	O	DC24V	DC24V power output
Connected to the engine relay PWB	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	GND	-	-	Ground
	6	+24V3	O	DC24V	DC24V power output
	7	+24V3	O	DC24V	DC24V power output
	8	+24V3	O	DC24V	DC24V power output
YC7	1	+24V3	O	DC24V	DC24V power output
Connected to the high-voltage PWB	2	+24V3	O	DC24V	DC24V power output
	3	DACSLD1	O	DC0V/3.3V(pulse)	DAC1 load signal
	4	DACSLD2	O	DC0V/3.3V(pulse)	DAC2 load signal
	5	DACSCLK	O	DC0V/3.3V(pulse)	DAC clock signal
	6	GND	-	-	Ground
	7	DACSDI	I/O	DC0V/3.3V(pulse)	DAC data signal
	8	HVREMN	O	DC0V/3.3V	Primary/Secondary transfer remote signal
	9	HVCLKK	O	DC0V/3.3V	Developer clock signal
	10	MISENS	I	Analog	Main charger current detection output
	11	GND	-	-	Ground
	12	GND	-	-	Ground
YC11	1	NCTHCOM	I	Analog	NC compensating voltage
Connected to the eject PWB (30 ppm model)	2	FTHERM1	I	Analog	FTH1 detection voltage
	3	NCTHDET	I	Analog	FTH2 detection voltage
	4	+3.3V4	O	DC3.3V	DC3.3V power output
	5	PDIRN	I	DC0V/3.3V	ENVS: On/Off
	6	PDFULL	I	DC0V/3.3V	PFS: On/Off
	7	FUSJAM	I	DC0V/3.3V	ES: On/Off
	8	GND	-	-	Ground
YC11	1	NCTHCOM	I	Analog	NC compensating voltage
Connected to the eject PWB (35 ppm model)	2	FTHERM1	I	Analog	FTH1 detection voltage
	3	FCTHDET	I	Analog	FTH2 detection voltage
	4	+3.3V4	O	DC3.3V	DC3.3V power output
	5	PDIRN	I	DC0V/3.3V	ENVS: On/Off
	6	PDFULL	I	DC0V/3.3V	PFS: On/Off
	7	FUSJAM	I	DC0V/3.3V	ES: On/Off
	8	GND	-	-	Ground

Connector	Pin	Signal	I/O	Voltage	Description
YC12	1	GND	-	-	Ground
Connected to the registration sensor	2	REGPAP	I	DC0V/3.3V	RS: On/Off
	3	+3.3V3	O	DC3.3V	DC3.3V power output
YC13	1	VOPL	I	Analog	IDS1 S signal input
Connected to the ID sensor 1	2	VOSL	I	Analog	IDS1 P signal input
	3	GND	-	-	Ground
	4	LEDREFL	O		IDS1 reference signal output
	5	+3.3V3	O	DC3.3V	DC3.3V power output
YC14	1	VOPR	I	Analog	IDS2 S signal input
Connected to the ID sensor 2	2	VOSL	I	Analog	IDS2 P signal input
	3	GND	-	-	Ground
	4	LEDREFR	O	Analog	IDS2 reference signal output
	5	+3.3V3	O	DC3.3V	DC3.3V power output
YC15	1	GND	-	-	Ground
Connected to the drum relay PWB	2	PTSCL	O	DC0V/3.3V(pulse)	E2PROM communication clock signal
	3	+3.3V3	O	DC3.3V	DC3.3V power output
	4	PTSDA	I/O	DC0V/3.3V(pulse)	E2PROM communication data signal
	5	TNSENC	I	Analog	Toner sensor remaining level signal (C)
	6	TNSENY	I	Analog	Toner sensor remaining level signal (Y)
	7	TNSENK	I	Analog	Toner sensor remaining level signal (K)
	8	TNSENM	I	Analog	Toner sensor remaining level signal (M)
	9	DRMHEATDR	O	DC24V	DC24V power output
	10	DLPTHERM	I	Analog	Developer thermistor
	11	ERASEDR	O	DC24V	Eraser (BK) ON signal
YC17	1	SCMOTB2	O	DC0V/24V(pulse)	ISUM drive control signal
Connected to the image scanner motor	2	SCMOTA1	O	DC0V/24V(pulse)	ISUM drive control signal
	3	SCMOTA1	O	DC0V/24V(pulse)	ISUM drive control signal
	4	SCMOTA1	O	DC0V/24V(pulse)	ISUM drive control signal

Connector	Pin	Signal	I/O	Voltage	Description
YC18	1	+3.3V3	O	DC3.3V	DC3.3V power output
Connected to the DP original sensor, DP registration sensor, DP reversing sensor and DP timing sensor	2	GND	-	-	Ground
	3	DPSET	I	DC0V/3.3V	DPOS: On/Off
	4	+3.3V3	O	DC3.3V	DC3.3V power output
	5	GND	-	-	Ground
	6	DPREG	I	DC0V/3.3V	DPRS: On/Off
	7	+3.3V3	O	DC3.3V	DC3.3V power output
	8	GND	-	-	Ground
	9	DPCOVOPN	I	DC0V/3.3V	DPOCS: On/Off
	10	+3.3V3	O	DC3.3V	DC3.3V power output
	11	GND	-	-	Ground
	12	DPJHPSW	I	DC0V/3.3V	DPSBS: On/Off
	13	+3.3V3	O	DC3.3V	DC3.3V power output
YC18	14	GND	-	-	Ground
	15	DPTIMING	I	DC0V/3.3V	DPTS: On/Off
YC19	1	+24V1	O	DC24V	DC24V power output
Connected to the power source fan motor	2	LVUFANDRN	O	DC0V/12V/24V	PSFM: full speed/half speed/Off
YC20	1	PSSLEEPN	O	DC0V/3.3V	Sleep mode signal: On/Off
Connected to the power source PWB	2	ZCROSSN	I	DC0V/3.3V(pulse)	Zero cross signal
	3	RELAYON	O	DC0V/3.3V	Power relay signal: On/Off
	4	HEATREM1	O	DC0V/3.3V	FH1: On/Off
	5	HEATREM2*1	O	DC0V/3.3V	FH2: On/Off
YC21	1	+24V3	O	DC24V	DC24V power output
Connected to the registration clutch	2	REGCLDRVN	O	DC0V/3.3V	RCL: On/Off
YC22	1	+3.3V3	O	DC3.3V	DC3.3V power output
Connected to the DP relay PWB	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	+24V4	O	DC24V	DC24V power output
	5	+24V4	O	DC24V	DC24V power output

Connector	Pin	Signal	I/O	Voltage	Description
YC23	1	DPCMTTEN	O	DC0V/3.3V	DPCM: On/Off
Connected to the DP relay PWB	2	DPCMTDIR	O	DC0V/3.3V	DPCM rotation direction switching signal
	3	DPCMTHLDN	O	DC0V/3.3V	DPCM voltage switching signal
	4	DPTLKUPN	O	DC0V/3.3V	High torque signal at low temperature
	5	DPCMTUSMO	O	DC0V/3.3V	DPCM mode switching signal
	6	DPCMTSTEP	O	DC0V/3.3V	DPCM operating frequency signal
	7	DPJMTSTEP	O	DC0V/3.3V	DPSBM operating frequency signal
	8	DPJMTEN	O	DC0V/3.3V	DPSBM: On/Off
	9	DPFMTEN	O	DC0V/3.3V	DPPFM: On/Off
	10	DPFMTDIR	O	DC0V/3.3V	DPPFM rotation direction switching signal
	11	DPFMTHLDN	O	DC0V/3.3V	DPPFM voltage switching signal
	12	DPFMTUSNO	O	DC0V/3.3V	DPPFM mode switching signal
	13	DPFMTSTEP	O	DC0V/3.3V	DPPFM operating frequency signal
YC24	1	AIRTEMP	I	Analog	OTEMS detection voltage (temperature)
Connected to the external temperature sensor	2	+3.3V3	O	DC3.3V	DC3.3V power output
	3	HUMOUT	I	Analog	OTEMS detection voltage (humidity)
	4	HUMCLK	O	DC0V/3.3V(pulse)	OTEMS clock signal
YC25	1	GND	-	-	Ground
Connected to the manual stapler	2	+24V5	O	DC24V	DC24V power output
YC2001	1	+5V2	O	DC5V	DC5V power output
Connected to the operation panel PWB (35 ppm model)	2	+5V2	O	DC5V	DC5V power output
	3	GND	-	-	Ground
	4	GND	-	-	Ground

Connector	Pin	Signal	I/O	Voltage	Description
YC2002	1	GND	-	-	Ground
Connected to the operation panel PWB (30 ppm model)	2	-	-	-	Not used
	3	INT_POWERKEY	I	DC0V/3.3V	Power key: On/Off
	4	FPRST	O	DC0V/3.3V	OPPWB-M reset signal
	5	AUDIO	O	Analog	Audio output signal
	6	-	-	-	Not used
	7	PAN_TXD	O	DC0V/3.3V	24V voltage drop signal
	8	PAN_RXD	O	DC0V/3.3V	Processing LED control signal
	9	-	-	-	Not used
	10	-	-	-	Not used
	11	+5.0V3	O	DC5V	DC5V power output
	12	-	-	-	Not used
	13	LCDCON	O	DC0V/3.3V	Sleep return signal 0
	14	+3.3V1	O	DC3.3V	DC3.3V power output
	15	GND	-	-	Ground
YC2002	1	GND	-	-	Ground
Connected to the operation panel PWB (35 ppm model)	2	PANEL STATUS	I	DC0V/3.3V	Operation panel status signal
	3	INT_POWERKEY_N	I	DC0V/3.3V	Power key: On/Off
	4	FPRSTN	O	DC0V/3.3V	OPPWB-M reset signal
	5	AUDIO	O	Analog	Audio output signal
	6	C2P_MODE1	O	DC0V/3.3V	Sleep return signal 1
	7	24V0DOWN	O	DC0V/3.3V	24V voltage drop signal
	8	LED PROCESSING N	O	DC0V/3.3V	Processing LED control signal
	9	LED ATTENTION N	O	DC0V/3.3V	Attention LED control signal
	10	LED MEMORY N	O	DC0V/3.3V	Memory LED control signal
	11	SUSPEND_POWER	O	DC5V	DC5V power output
YC2002	12	ENERGYSAVE	O	DC0V/3.3V	Energy saver signal
Connected to the operation panel PWB (35 ppm model)	13	C2P_MODE1	O	DC0V/3.3V	Sleep return signal 0
	14	SECOND_TRAY_SW	-	-	Not used
	15	GND	-	-	Ground

Connector	Pin	Signal	I/O	Voltage	Description
YC2012	1	+5V1_C	O	DC5V	DC5V power output
Connected to the IO relay PWB (4in1 model only)	2	GND	-	-	Ground
	3	RST_KUION1	O	DC0V/5V	Reset signal
	4	+5V2_C	O	DC5V	DC5V power output
	5	+5V2_C	O	DC5V	DC5V power output
	6	GND	-	-	Ground
	7	WAKE_UP_KUIO1	I	DC0V/5V	Return notification signal
	8	AUDIO		Analog	Audio signal
	9	USBH_DP3	I/O	DC0V/5V	Transmission and reception data signal
	10	USBH_DN3	I/O	DC0V/5V	Transmission and reception data signal
	11	VBUS_USBH	O	DC0V/5V	Signal for communication start
	12	GND	-	-	Ground
YC2014	1	12V3 E1	O	DC12V	DC12V power output
Connected to the CCD PWB	2	12V3 E1	O	DC12V	DC12V power output
	3	N.C	-	-	Not used
	4	+5V3 E2	O	DC5V	DC5V power output
	5	+5V3 E2	O	DC5V	DC5V power output
	6	N.C	-	-	Not used
	7	GND	-	-	Ground
	8	CCDOSR	I	Analog	Image analog signal RED
	9	GND	-	-	Ground
	10	CCDOSG(EVEN)	I	Analog	Image analog signal GREEN
	11	GND	-	-	Ground
	12	CCDOSB(ODD)	I	Analog	Image analog signal BLUE
	13	GND	-	-	Ground
	14	CCDSW	O	DC0V/3.3V	CCD color/BW switching signal
	15	CCDSH	O	DC0V/3.3V	Shift gate signal
	16	GND	-	-	Ground
	17	GND	-	-	Ground
	18	CCDPH1P	O	LVDS	CCD shift register clock signal
	19	CCDPH1N	O	LVDS	CCD shift register clock signal
	20	GND	-	-	Ground
	21	CCDCPN	O	LVDS	CCD clamp signal
	22	CCDCPP	O	LVDS	CCD clamp signal

Connector	Pin	Signal	I/O	Voltage	Description
YC2014	23	GND	-	-	Ground
Connected to the CCD PWB	24	CCDRSP	O	LVDS	CCD reset signal
	25	CCDRSN	O	LVDS	CCD reset signal
	26	GND	-	-	Ground
	27	N.C	-	-	Not used
	28	+3.3V3_C	O	DC3.3V	DC3.3V power output
	29	HP_SWN	I	DC0V/3.3V	HPS: On/Off
	30	GND	-	-	Ground
	31	M_MED_C	I	DC0 to 2V	LED cathode
	32	M_MED_A	O	DC3V	LED anode
YC2016	1	POLREMN1	O	DC0V/3.3V	Polygon motor ready signal
Connected to the APC PWB K, APC PWB M, and Polygon motor KM	2	GND	-	-	Ground
	3	POLRDYN1	I	DC0V/3.3V	Polygon motor ready signal
	4	+24V3	O	DC24V	DC24V power output
	5	POLCLK1	O	DC0V/3.3V(pulse)	Polygon motor clock signal
	6	PDKN	I	DC0V/3.3V	BD (K)
	7	PDMN	I	DC0V/3.3V	BD (M)
	8	+3.3V3_VIDEO	O	DC3.3V	DC3.3V power output
	9	+3.3V3_VIDEO	O	DC3.3V	DC3.3V power output
	10	VREFK	O	Analog	Reference voltage 1 (K)
	11	VREFM	O	Analog	Reference voltage 1 (M)
	12	VDOK1P	O	LVDS+	Video 1 differential P (K)
	13	VDOM1P	O	LVDS+	Video 1 differential P (M)
	14	VDOK1N	O	LVDS-	Video 1 differential N (K)
	15	VDOM1N	O	LVDS-	Video 1 differential N (M)
	16	GND	-	-	Ground
	17	GND	-	-	Ground
	18	OUTPEKN	O	DC0V/3.3V	Output enable (K)
	19	OUTPEMN	O	DC0V/3.3V	Output enable (M)
	20	SAMPLEK1N	O	DC0V/3.3V	Sample hold 1 (K)
	21	SAMPLEM1N	O	DC0V/3.3V	Sample hold 1 (M)
	22	LSUTHERMK	I	Analog	LSU thermistor (K)
	23	VDOM2P	O	LVDS+	Video 2 differential P (K)
	24	VDOK2P	O	LVDS+	Video 2 differential P (M)
	25	VDOM2N	O	LVDS-	Video 2 differential N (K)
	26	VDOK2N	O	LVDS-	Video 2 differential N (M)
	27	SAMPLEM2N	O	DC0V/3.3V	Sample hold 2 (K)

Connector	Pin	Signal	I/O	Voltage	Description
YC2016	28	SAMPLEK2N	O	DC0V/3.3V	Sample hold 2 (M)
	29	+5.0V3	O	DC5V	DC5V power output
	30	+5.0V3	O	DC5V	DC5V power output
YC2017	1	POLREMN1	O	DC0V/3.3V	Polygon motor ready signal
Connected to the APC PWB C, APC PWB Y, and Polygon motor CY	2	GND	-	-	Ground
	3	POLRDYN1	I	DC0V/3.3V	Polygon motor ready signal
	4	+24V3	O	DC24V	DC24V power output
	5	POLCLK1	O	DC0V/3.3V(pulse)	Polygon motor clock signal
	6	PDCN	I	DC0V/3.3V	BD (C)
	7	PDYN	I	DC0V/3.3V	BD (Y)
	8	+3.3V3_VIDEO	O	DC3.3V	DC3.3V power output
	9	+3.3V3_VIDEO	O	DC3.3V	DC3.3V power output
	10	VREFC	O	Analog	Reference voltage 1 (C)
	11	VREFY	O	Analog	Reference voltage 1 (Y)
	12	VDOC1P	O	LVDS+	Video 1 differential P (C)
	13	VDOY1P	O	LVDS+	Video 1 differential P (Y)
	14	VDOC1N	O	LVDS-	Video 1 differential N (C)
	15	VDOY1N	O	LVDS-	Video 1 differential N (Y)
	16	GND	-	-	Ground
	17	GND	-	-	Ground
	18	OUTPECN	O	LVDS+	Output enable (C)
	19	OUTPEYN	O	LVDS+	Output enable (Y)
	20	SAMPLEC1N	O	LVDS-	Sample hold 1 (C)
	21	SAMPLEY1N	O	LVDS-	Sample hold 1 (Y)
	22	LSUTHERMC	I	Analog	LSU thermistor (C)
	23	VDOY2P	O	LVDS	Video 2 differential P (Y)
	24	VDOC2P	O	LVDS	Video 2 differential P (C)
	25	VDOY2N	O	LVDS	Video 2 differential N (Y)
	26	VDOC2N	O	LVDS	Video 2 differential N (C)
	27	SAMPLEY2N	O	DC0V/3.3V	Sample hold 2 (Y)
	28	SAMPLEC2N	O	DC0V/3.3V	Sample hold 2 (C)
	29	+5.0V3	O	DC5V	DC5V power output
	30	+5.0V3	O	DC5V	DC5V power output
YC2018	1	POWERSW	O	DC0V/24V	PSSW: On/Off
Connected to the power switch	2	GND	-	-	Ground

*1: 35 ppm model only

(2) Engine relay PWB

(2-1) Connector position

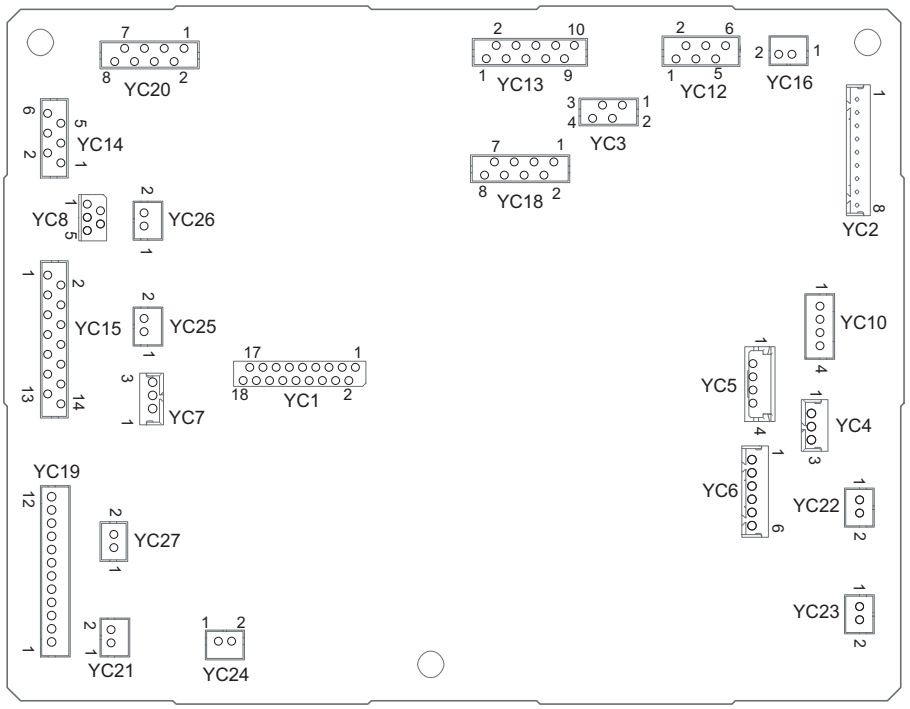


Figure 8-3

(2-2) PWB photograph

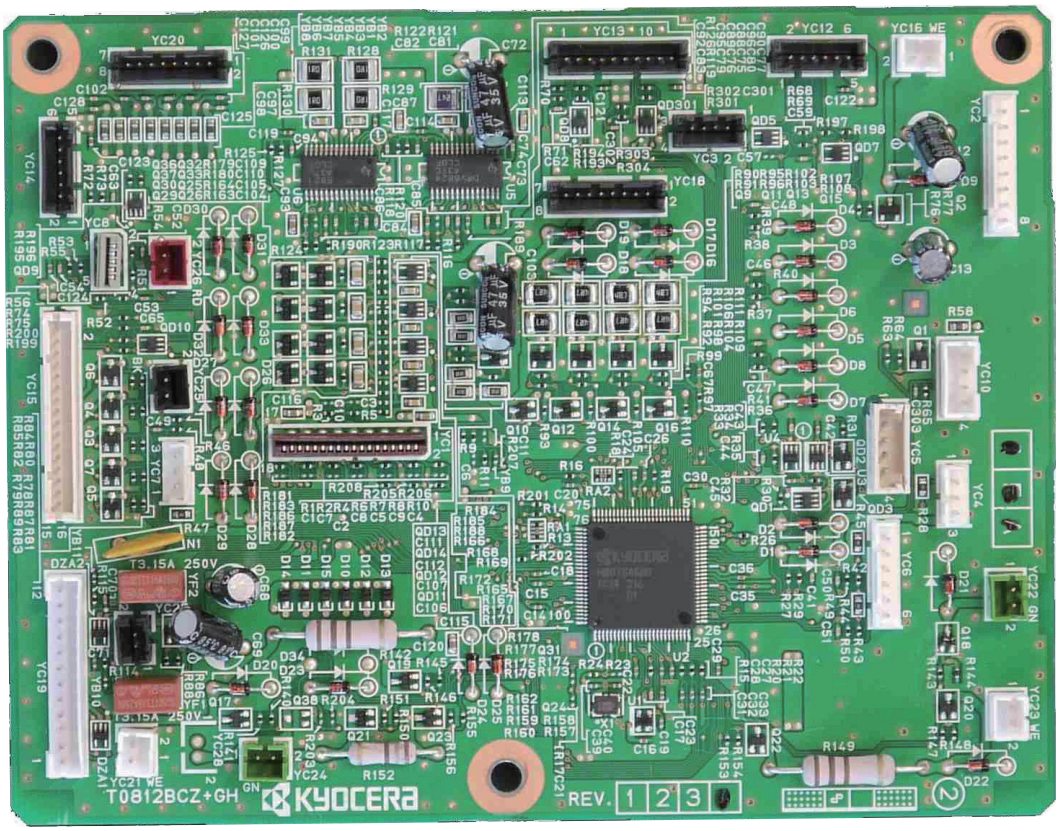


Figure 8-4

(2-3) Connector lists

Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	EGASSDI	I	DC0V/3.3V(pulse)	Serial communication data input
Connected to the main/ engine PWB	2	GND	-	-	Ground
	3	EGASCS	O	DC0V/3.3V	Serial communication chip select signal
	4	EGASEN	I	DC0V/3.3V	Serial communication enable signal
	5	+3.3V1	O	DC3.3V	DC3.3V power output
	6	EGASSDO	O	DC0V/3.3V(pulse)	Serial communication data output
	7	+3.3V3	O	DC3.3V	DC3.3V power output
	8	EGASSCK	O	DC0V/3.3V(pulse)	Serial communication clock signal
	9	WAKEUPINTN	I	DC0V/3.3V	Engine CPU return signal
	10	FRAM2SDA	I/O	DC0V/3.3V	Security communication data
	11	ERRTEMP	O	DC0V/3.3V	Abnormal high temperature detection signal
	12	FRAM2SCL	O	DC0V/3.3V(pulse)	Security communication clock
	13	+3.3V3	O	DC3.3V	DC3.3V power output
	14	OPSDO	O	DC0V/3.3V(pulse)	Option serial data output
	15	OPDYN	I	DC0V/3.3V	Option ready signal
	16	OPSDI	I	DC0V/3.3V(pulse)	Option serial data input
	17	GND	-	-	Ground
	18	OPSCK	O	DC0V/3.3V(pulse)	Option serial clock signal
YC2	1	+24V3	O	DC24V	DC24V power output
Connected to the main/ engine PWB	2	+24V3	O	DC24V	DC24V power output
	3	+24V3	O	DC24V	DC24V power output
	4	GND	-	-	Ground
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	GND	-	-	Ground
	8	+24V1	O	DC24V	DC24V power output
YC3	1	FRAM2SCL	O	DC0V/3.3V(pulse)	FRAMTS clock signal
Connected to the toner container relay PWB	2	+3.3V3	O	DC3.3V	DC3.3V power output
	3	FRAM2SDA	I/O	DC0V/3.3V	FRAMTS data signal
	4	GND	-	-	Ground
YC4	1	+3.3V1_LED1	O	DC3.3V	DC3.3V power output
Connected to the waste toner cover sensor	2	GND	-	-	Ground
	3	WSTOPN	I	DC0V/3.3V	WTCS: On/Off

Connector	Pin	Signal	I/O	Voltage	Description
YC5	1	CAS2	I	DC0V/3.3V	CSSW(SW2): On/Off
Connected to the cassette size detection switch	2	CAS1	I	DC0V/3.3V	CSSW(SW2): On/Off
	3	COM	-	-	Ground
	4	CAS0	I	DC0V/3.3V	CSSW(SW0): On/Off
YC6	1	+3.3V3_LED1	O	DC3.3V	DC3.3V power output
Connected to the MP paper sensor and conveying sensor	2	GND	-	-	Ground
	3	MPFPAP	I	DC0V/3.3V	MPPS: On/Off
	4	+3.3V3_LED1	O	DC3.3V	DC3.3V power output
	5	GND	-	-	Ground
	6	MPFJAM	I	DC0V/3.3V	MPPCS: On/Off
YC8	1	GND	-	-	Ground
Connected to the cassette PWB	2	PAPVOL2	I	DC0V/3.3V	PS2: On/Off
	3	PAPVOL1	I	DC0V/3.3V	PS1: On/Off
	4	LIFTSEN	I	DC0V/3.3V	LS: On/Off
	5	+3.3V3	O	DC3.3V	DC3.3V power output
YC10	1	LEDA	O	DC3.3V	DC3.3V power output
Connected to the waste toner sensor	2	LEDK	O	DC0V/3.3V(pulse)	WTS emission signal
	3	PTRE	I	Analog	WTS detection signal
	4	PTRC	O	DC3.3V	DC3.3V power output
YC12	1	MOTREV	O	DC0V/3.3V	DEVM forward/reverse control signal
Connected to the developer motor	2	DLPCMTRDYN	I	DC0V/24V	DEVM ready signal
	3	DLPCMTCLK	O	DC0V/24V(pulse)	DEVM clock signal
	4	DLPCMTREMN	O	DC0V/24V	DEVM: On/Off
	5	GND	-	-	Ground
	6	+24V3	O	DC24V	DC24V power output
YC13	1	DRMMTRDYN	I	DC0V/24V	DRM1 ready signal
Connected to the drum motor 1 and drum motor 2	2	DRMMTCLK	O	DC0V/24V(pulse)	DRM1 clock signal
	3	DRMMTREMN	O	DC0V/24V	DRM1: On/Off
	4	GND	-	-	Ground
	5	+24V3	O	DC24V	DC24V power output
	6	DRMMT2RDYN	I	DC0V/24V	DRM2 ready signal
	7	DRMMT2CLK	O	DC0V/24V(pulse)	DRM2 clock signal
	8	DRMMT2REMN	O	DC0V/24V	DRM2: On/Off
	9	GND	-	-	Ground
	10	+24V3	O	DC24V	DC24V power output

Connector	Pin	Signal	I/O	Voltage	Description
YC14	1	IMGCCW	I	DC0V/3.3V	CCW fixed control
Connected to the primary transfer motor	2	IMGMTRDYN	I	DC0V/24V	TRM ready signal
	3	IMGMTCLK	O	DC0V/24V(pulse)	TRM clock signal
	4	IMGMTREMN	O	DC0V/24V	TRM: On/Off
	5	GND	-	-	Ground
	6	+24V3	O	DC24V	DC24V power output
YC15	1	FEMOTREV	O	DC0V/3.3V	PCDVM forward/reverse control signal
Connected to the paper conveying and developer motor, developer clutch, middle clutch, MP conveying clutch and paper feed clutch	2	FEDMTRDYN	I	DC0V/24V	PCDVM ready signal
	3	FEDMTCLK	O	DC0V/24V(pulse)	PCDVM clock signal
	4	FEDMTREMN	O	DC0V/24V	PCDVM: On/Off
	5	GND	-	-	Ground
	6	+24V3	O	DC24V	DC24V power output
	7	DLPKCLDRN	O	DC0V/24V	DEVCL: On/Off
	8	+24V3	O	DC24V	DC24V power output
	9	MIDCLDRN	O	DC0V/24V	MIDCL: On/Off
	10	+24V3	O	DC24V	DC24V power output
	11	MPFCLDRN	O	DC0V/24V	MPFCL: On/Off
	12	+24V3	O	DC24V	DC24V power output
	13	FEDCLDRN	O	DC0V/24V	PFCL: On/Off
	14	+24V3	O	DC24V	DC24V power output
YC16	1	+24V3	O	DC24V	DC24V power output
Connected to the MP solenoid	2	MPFSOLDRVN	O	DC0V/24V	MPSOL: On/Off
YC18	1	TNMYDRVN	O	DC0V/24V(pulse)	TM-Y drive control signal
Connected to the toner motor Y, C, M and K	2	+24V3	O	DC24V	DC24V power output
	3	TNMCDRVN	O	DC0V/24V(pulse)	TM-C drive control signal
	4	+24V3	O	DC24V	DC24V power output
	5	TNMMDRVN	O	DC0V/24V(pulse)	TM-M drive control signal
	6	+24V3	O	DC24V	DC24V power output
	7	TNMKDRVN	O	DC0V/24V(pulse)	TM-K drive control signal
	8	+24V3	O	DC24V	DC24V power output

Connector	Pin	Signal	I/O	Voltage	Description
YC19	1	+3.3V3	O	DC3.3V	DC3.3V power output
Connected to the paper feeder	2	-	-	-	N.C
	3	OPSEL2	O	DC0V/3.3V	Paper feeder select signal
	4	OPSEL1	O	DC0V/3.3V	Paper feeder select signal
	5	OPSEL0	O	DC0V/3.3V	Paper feeder select signal
	6	GND	-	-	Ground
	7	GND	-	-	Ground
	8	OPSD0	O	DC0V/3.3V(pulse)	Paper feeder serial communication data signal output
	9	OPSDI	I	DC0V/3.3V(pulse)	Paper feeder serial communication data signal input
	10	OPRDYN	I	DC0V/3.3V	Paper feeder ready signal
	11	OPSCLK	O	DC0V/3.3V(pulse)	Paper feeder clock signal
	12	+24V3	O	DC24V	DC24V power output
YC20	1	STDUPB1	O	DC0V/24V(pulse)	FUM BN drive control signal
Connected to the fuser motor and duplex con-veying motor	2	STDUPB3	O	DC0V/24V(pulse)	FUM AN drive control signal
	3	STDUPA3	O	DC0V/24V(pulse)	FUM B drive control signal
	4	STDUPA1	O	DC0V/24V(pulse)	FUM A drive control signal
	5	STFUSBN	O	DC0V/24V(pulse)	DUM BN drive control signal
	6	STFUSAN	O	DC0V/24V(pulse)	DUM AN drive control signal
	7	STFUSB	O	DC0V/24V(pulse)	DUM B drive control signal
	8	STFUSA	O	DC0V/24V(pulse)	DUM A drive control signal
YC21	1	+24V1	O	DC24V	DC24V power output
Connected to the LSU fan motor 1	2	LSUKMFANDRN	O	DC0V/24V	LSUFM1: On/Off
YC22	1	+24V1	O	DC24V	DC24V power output
Connected to the transfer fan motor	2	IMGFANDRN	O	DC0V/24V	TRFM: On/Off
YC23	1	+24V1	O	DC24V	DC24V power output
Connected to the LSU fan motor 2	2	LSUCYFANDRN	O	DC0V/24V	LSUFM2: On/Off
YC24	1	+24V1	O	DC24V	DC24V power output
Connected to the container motor	2	TCONTFANDRN	O	DC0V/24V	CFM: On/Off

Connector	Pin	Signal	I/O	Voltage	Description
YC25	1	LIFTMTB	O	DC0V/24V(pulse)	LM B drive control signal
Connected to the lift motor	2	LIFTMTA	O	DC0V/24V(pulse)	LM A drive control signal
YC26	1	LSUMTB	O	DC0V/24V(pulse)	LSUCM B drive control signal
Connected to the LSU cleaning motor	2	LSUMTA	O	DC0V/24V(pulse)	LSUCM A drive control signal
YC27	1	+24V3	O	DC24V	DC24V power output
Connected to the eject fan motor	2	EXITFANDRN	O	DC0V/24V	EJFM: On/Off

(3) High-voltage transformer PWB

(3-1) Connector position

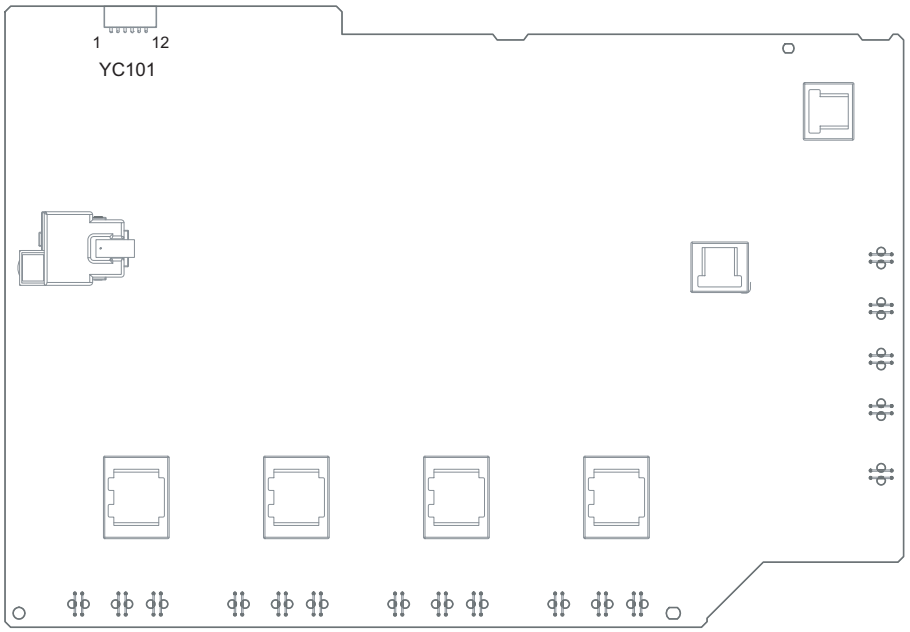


Figure 8-5

(3-2) PWB photograph

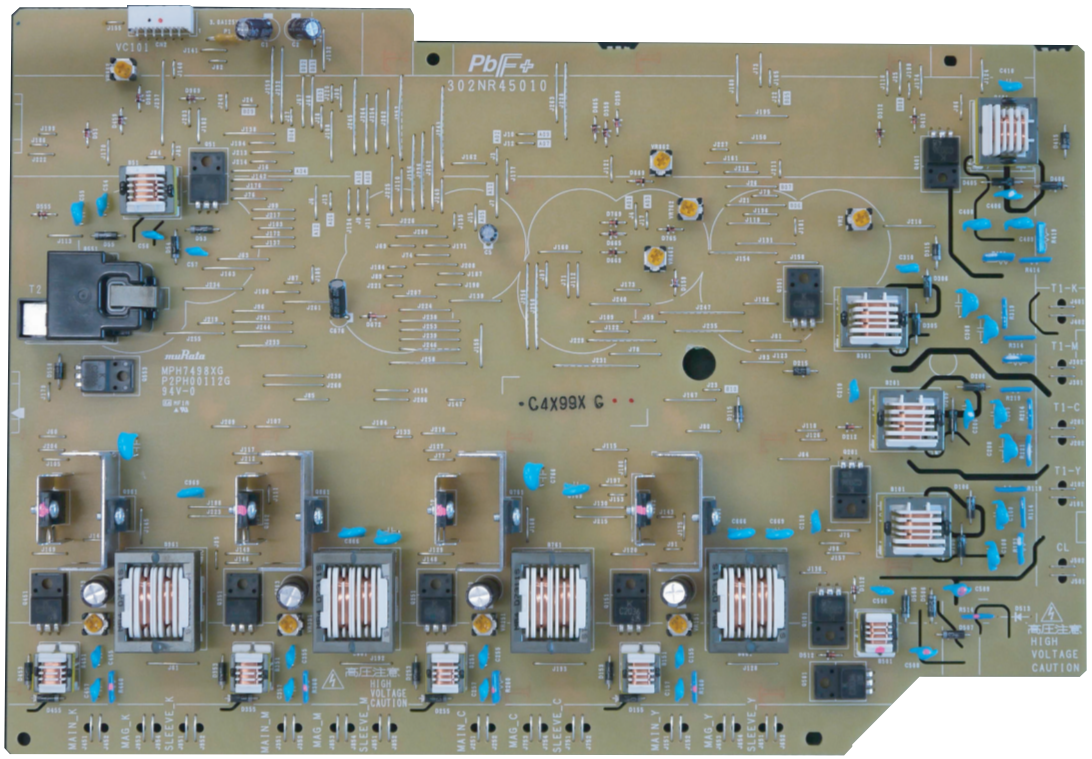


Figure 8-6

(3-3) Connector lists

Connector	Pin	Signal	I/O	Voltage	Description
YC101	1	+24V3	I	DC24V	DC24V power input
Connected to the main/ engine PWB	2	+24V3	I	DC24V	DC24V power input
	3	DACSLD1	I	DC0V/3.3V(pulse)	DAC1 load signal
	4	DACSLD2	I	DC0V/3.3V(pulse)	DAC2 load signal
	5	DACSCLK	I	DC0V/3.3V(pulse)	DAC clock signal
	6	GND	-	-	Ground
	7	DACSDO	I/O	DC0V/3.3V(pulse)	DAC data signal
	8	HVREM	I	DC0V/3.3V	Primary/Secondary transfer remote signal
	9	HVCLK	I	DC0V/3.3V	Developer clock signal
	10	MKISENS	O	Analog	Main charger current detection output
	11	GND	-	-	Ground
	12	GND	-	-	Ground

(4) Power supply PWB

(4-1) Connector position

30 ppm model

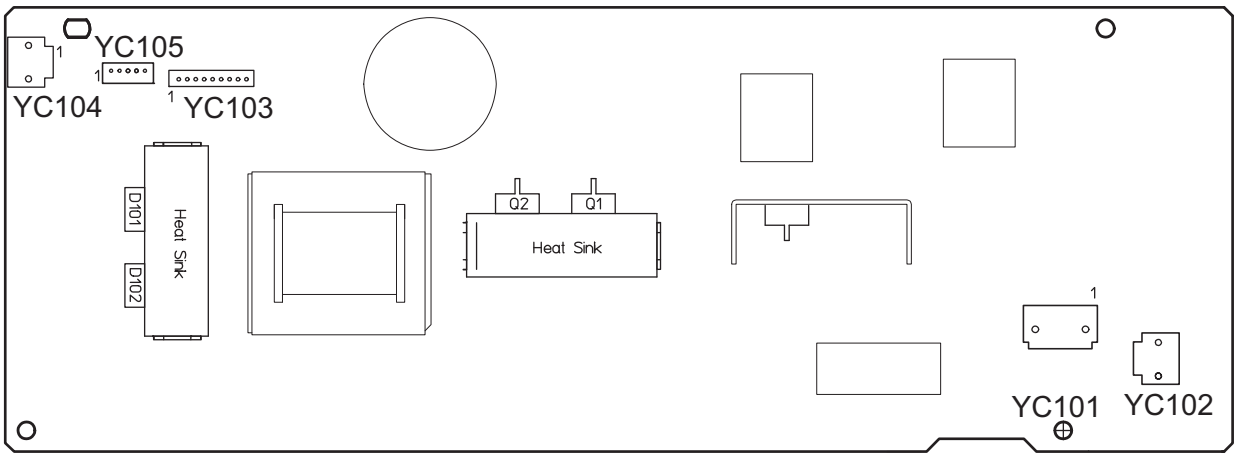


Figure 8-7

35 ppm model

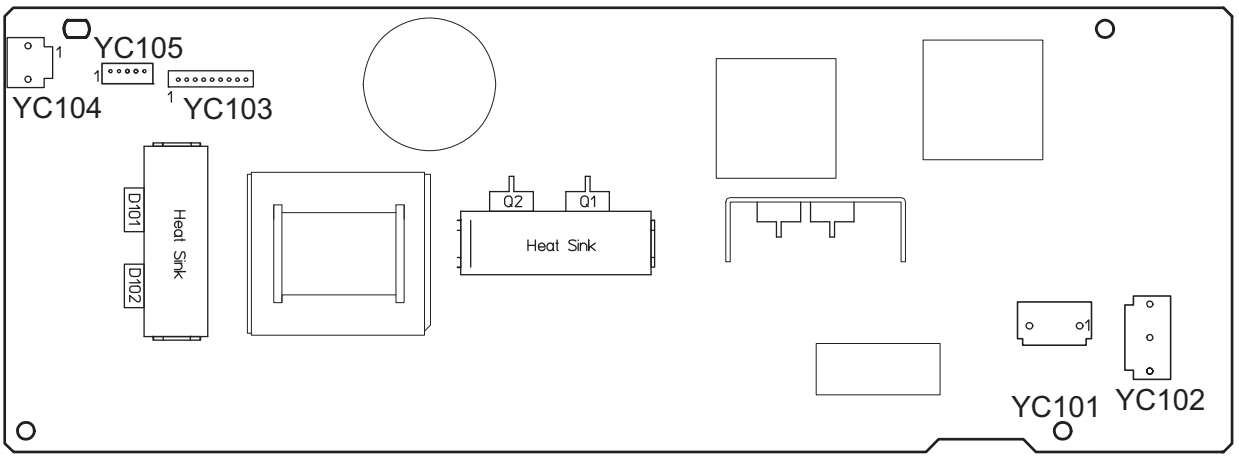


Figure 8-8

(4-2) PWB photograph

30 ppm model

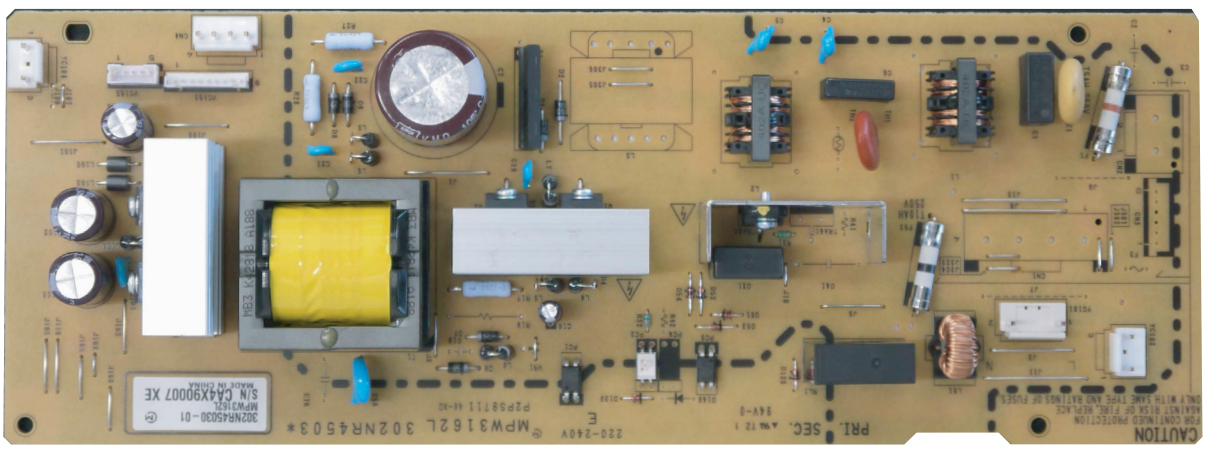


Figure 8-9

35 ppm model

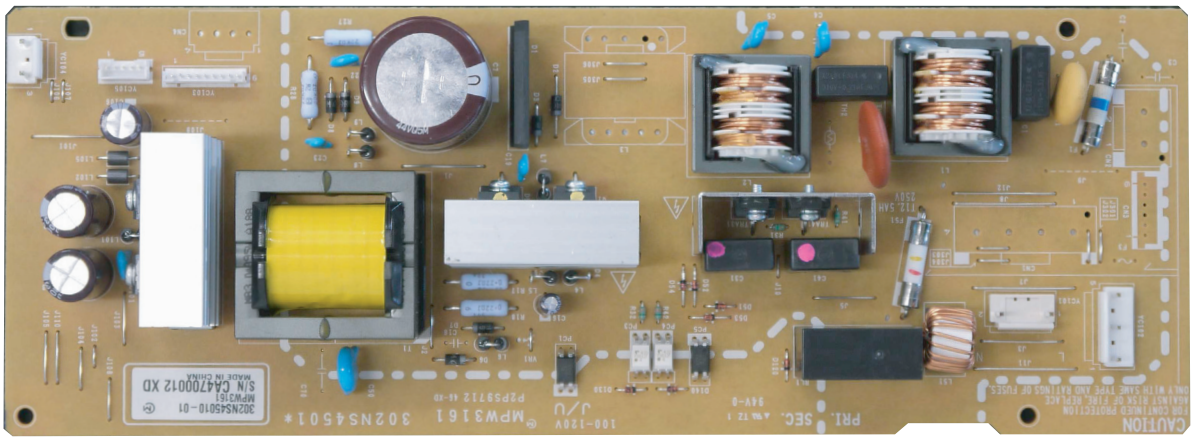


Figure 8-10

(4-3) Connector lists

Connector	Pin	Signal	I/O	Voltage	Description
YC101	1	LIVE	I	AC100V	AC power input
Connected to the inlet	2	NEUTRAL	I	AC100V	AC power input
YC102	1	NEUTRAL1	I	AC100V	Fuser heater 1
Connected to the fuser unit	3	LIVE	O	AC100V	AC power input
	5	NEUTRAL2*1	I	AC100V	Fuser heater 2
YC103	1	+24V2	O	DC24V	DC24V power output to MPWB
Connected to the main/ engine PWB	2	+24V2	O	DC24V	DC24V power output to MPWB
	3	+24V2	O	DC24V	DC24V power output to MPWB
	4	GND	-	-	Ground
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	GND	-	-	Ground
	8	+24V1	O	DC24V	DC24V power output to MPWB
	9	+24V1	O	DC24V	DC24V power output to MPWB
YC104	1	+24V2	I	DC24V	DC24V power input from ILSW
Connected to the interlock switch	2	N.C.	-	-	Not used
	3	+24V1	O	DC24V	DC24V power output to ILSW
YC105	1	HEATREM1	I	DC0V/3.3V	FH1: On/Off
Connected to the main/ engine PWB (30 ppm model only)	2	RELAY	I	DC0V/3.3V	Power relay signal: On/Off
	3	ZCROSS	O	DC0V/3.3V(pulse)	Zero cross signal
	4	PSSLEEPN	I	DC0V/3.3V	Sleep mode signal: On/Off
	5	N.C.	-	-	Not used
YC105	1	HEATREM2	I	DC0V/3.3V	FH2: On/Off
Connected to the main/ engine PWB (35 ppm model only)	2	HEATREM1	I	DC0V/3.3V	FH1: On/Off
	3	RELAY	I	DC0V/3.3V	Power relay signal: On/Off
	4	ZCROSS	O	DC0V/3.3V(pulse)	Zero cross signal
	5	PSSLEEPN	I	DC0V/3.3V	Sleep mode signal: On/Off

*1: 35 ppm model only

(5) Operation panel PWB

(5-1) Connector position

30 ppm model

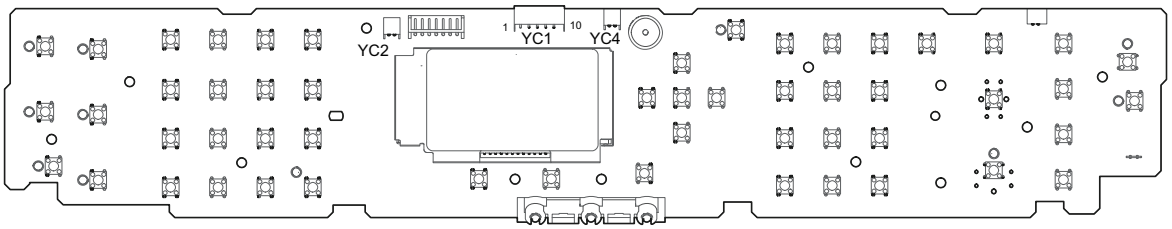


Figure 8-11

35/40 ppm model

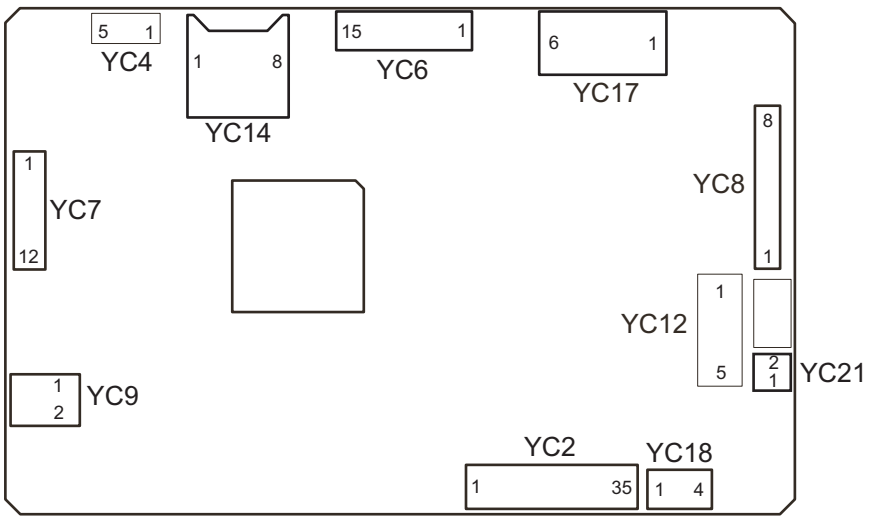


Figure 8-12

(5-2) PWB photograph

30 ppm model

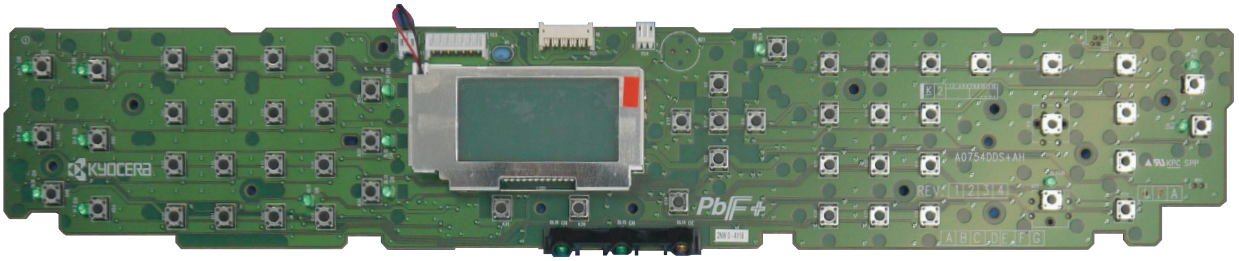


Figure 8-13

35 ppm model

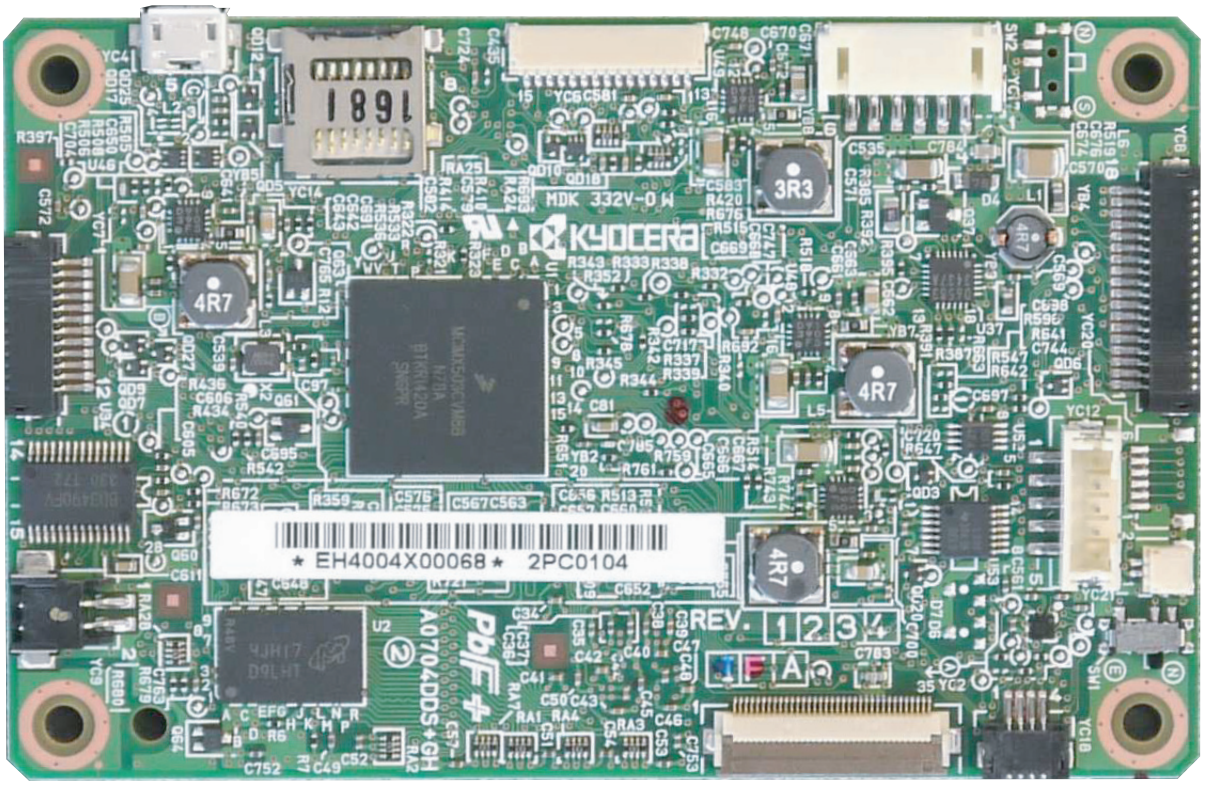


Figure 8-14

(5-3) Connector lists

30 ppm model

Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	GND	-	-	Ground
Connected to the main/ engine PWB	2	+3.3V1	O	DC0V/3.3V	Operation panel status signal
	3	LCDCON		DC0V/3.3V	Power key: On/Off
	4	+5.0V3	I	DC5.0V3	DC5.0V power input
	5	PAN_RXD	O	DC0V/3.3V	UART transmission signal
	6	PAN_TXD	I	DC0V/3.3V	UART reception signal
	7	AUDIO	I	Analog	Audio output signal
	8	FPRST	I	DC0V/3.3V	Reset signal
	9	INT_POWERKEY	I	DC0V/3.3V	Energy Saver key output signal
	10	GND	-	-	Ground
YC2	1	+5V5	O	DC5V	DC5V power output
Connected to the back light PWB	2	BLIGHT	O	DC0V/5V	Backlight lighting control signal
YC4	1	SPK+	O	Analog	Speaker sound signal (+)
Connected to speaker (4in1 model only)	2	SPK-	O	Analog	Speaker sound signal (-)

35 ppm model

Connector	Pin	Signal	I/O	Voltage	Description
YC2	1	GND	-	-	Ground
Connected to the LCD	2	R0	O	DC0V/3.3V	LCD control signal
	3	R1	O	DC0V/3.3V	LCD control signal
	4	R2	O	DC0V/3.3V	LCD control signal
	5	R3	O	DC0V/3.3V	LCD control signal
	6	R4	O	DC0V/3.3V	LCD control signal
	7	R5	O	DC0V/3.3V	LCD control signal
	8	GND	-	-	Ground
	9	G0	O	DC0V/3.3V	LCD control signal
	10	G1	O	DC0V/3.3V	LCD control signal
	11	G2	O	DC0V/3.3V	LCD control signal
	12	G3	O	DC0V/3.3V	LCD control signal
	13	G4	O	DC0V/3.3V	LCD control signal
	14	G5	O	DC0V/3.3V	LCD control signal
	15	GND	-	-	Ground
	16	B0	O	DC0V/3.3V	LCD control signal
	17	B1	O	DC0V/3.3V	LCD control signal
	18	B2	O	DC0V/3.3V	LCD control signal
	19	B3	O	DC0V/3.3V	LCD control signal
	20	B4	O	DC0V/3.3V	LCD control signal
	21	B5	O	DC0V/3.3V	LCD control signal
	22	GND	-	-	Ground
	23	DCLK	O	DC0V/3.3V	LCD dot clock signal
	24	3.3V	O	DC3.3V	DC3.3V power output
	25	3.3V	O	DC3.3V	DC3.3V power output
	26	3.3V	O	DC3.3V	DC3.3V power output
	27	3.3V	O	DC3.3V	DC3.3V power output
	28	DE	O	DC0V/3.3V(pulse)	LCD data enabling signal
	29	HSYNC	O	DC0V/3.3V(pulse)	Horizontal synchronizing signal
	30	VSYNC	O	DC0V/3.3V(pulse)	Vertical synchronizing signal
	31	LED_EN	O	DC0V/3.3V	Back light LED enabling signal
	32	LED_PWM	O	DC0V/3.3V	Back light LED control signal
	33	TSC_INT	-	-	Not used
	34	I2C_SDA	-	-	Not used
	35	I2C_SCL	-	-	Not used

Connector	Pin	Signal	I/O	Voltage	Description
YC6	1	GND	-	-	Ground
Connected to the main/ engine PWB	2	SECOND_TRAY _SW	O	DC0V/3.3V	Operation panel status signal
	3	C2P MODE2	O	DC0V/3.3V	Power key: On/Off
	4	ENERGY SAVE	I	DC0V/3.3V	Panel sleep signal
	5	SUSPEND POWER	I	DC3.30V/5V	Power for a the power LED
	6	LED MEMORY N	I	DC0V/3.3V	Memory LED lighting signal
	7	LED ATTEN-TION N	I	DC0V/3.3V	Attention LED lighting signal
	8	LED PROCESS-ING N	I	DC0V/3.3V	Processing LED lighting signal
	9	24V0DOWN	I	DC0V/3.3V	Attention LED control signal
	10	C2_MODE1	I	DC0V/3.3V	Memory LED control signal
	11	AUDIO	I	DC3.3V	Audio output signal
	12	PANEL_RESET	I	DC0V/3.3V	Software reset signal
	13	INT POWERKEY_N	O	DC0V/3.3V	Power key interrupt signal
	14	PANEL STATUS	O	DC0V/3.3V	Operation panel status signal
	15	GND	-	-	Ground
YC7	1	GND	-	-	Ground
Connected to the panel-L PWB	2	SCAN0	O	DC0V/3.3V(pulse)	Scan signal 0
	3	KEYLEFT1	I	DC0V/3.3V(pulse)	Operation panel key scan return signal 0
	4	LEDLEFT1	O	DC0V/3.3V(pulse)	Operation panel LED display drive signal 1
	5	KEYLEFT2	I	DC0V/3.3V(pulse)	Operation panel key scan return signal 2
	6	SCAN1	O	DC0V/3.3V(pulse)	Scan signal 1
	7	SCAN2	O	DC0V/3.3V(pulse)	Scan signal 2
	8	SCAN3	O	DC0V/3.3V(pulse)	Scan signal 3
	9	KEYLEFT0	I	DC0V/3.3V(pulse)	Operation panel key scan return signal 0
	10	LEDLEFT0	O	DC0V/3.3V(pulse)	Operation panel LED display drive signal 0
	11	LEDLEFT2	O	DC0V/3.3V(pulse)	Operation panel LED display drive signal 2
	12	S LED	O	DC0V/3.3V	Memory LED control signal

Connector	Pin	Signal	I/O	Voltage	Description
YC8	1	SCAN0	O	DC0V/3.3V(pulse)	Scan signal 0
Connected to the panel-R PWB	2	SCAN1	O	DC0V/3.3V(pulse)	Scan signal 1
	3	SCAN2	O	DC0V/3.3V(pulse)	Scan signal 2
	4	SCAN3	O	DC0V/3.3V(pulse)	Scan signal 3
	5	SCAN4	O	DC0V/3.3V(pulse)	Scan signal 4
	6	LEDRIGHT0	O	DC0V/3.3V(pulse)	Operation panel LED display drive signal 0
	7	KEYRIGHT0	I	DC0V/3.3V(pulse)	Operation panel key scan return signal 0
	8	KEYRIGHT1	I	DC0V/3.3V(pulse)	Operation panel key scan return signal 1
	9	KEYRIGHT2	I	DC0V/3.3V(pulse)	Operation panel key scan return signal 2
	10	KEYRIGHT3	I	DC0V/3.3V(pulse)	Operation panel key scan return signal 3
	11	KEYRIGHT4	I	DC0V/3.3V(pulse)	Operation panel key scan return signal 4
	12	LEDRIGHT1	O	DC0V/3.3V(pulse)	Operation panel LED display drive signal 1
	13	P LED	O	DC0V/3.3V	Processing LED control signal
	14	M LED	O	DC0V/3.3V	Memory LED control signal
	15	A LED	O	DC0V/3.3V	Attention LED control signal
	16	INT_POWERKEY_N	I	DC0V/3.3V	Power key: On/Off
	17	SUPEND_POWER	O	3.3VDC	DC3.3V power input
	18	GND	-	-	Ground
YC9	1	SPK+	O	Analog	Speaker sound signal (+)
Connected to the speaker	2	SPK-	O	Analog	Speaker sound signal (-)
YC17	1	-	-	-	Not used
Connected to the main/ engine PWB	2	+5V0 PANEL	I	DC5V	DC5V power input
	3	+5V0 PANEL	I	DC5V	DC5V power input
	4	GND	-	-	Ground
	5	GND	-	-	Ground
	6	-	-	-	Not used

Connector	Pin	Signal	I/O	Voltage	Description
YC18	1	X2	I/O	Analog	Touch screen control signal
Connected to the touch screen	2	Y2	I/O	Analog	Touch screen control signal
	3	X1	I/O	Analog	Touch screen control signal
	4	Y1	I/O	Analog	Touch screen control signal
YC21	1	LEDA_OR_5V	O	0/20V DC	Back light LED cathode
Connected to the back light	2	LEDC_OR_GND	O	DC0V/5V	Back light LED anode

(6) Drum relay PWB

(6-1) Connector position

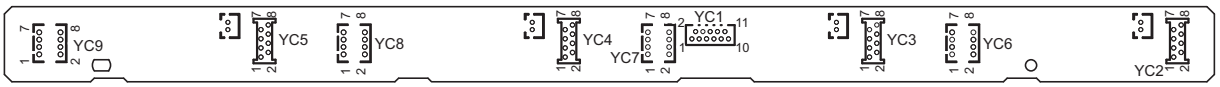


Figure 8-15

(6-2) PWB photograph

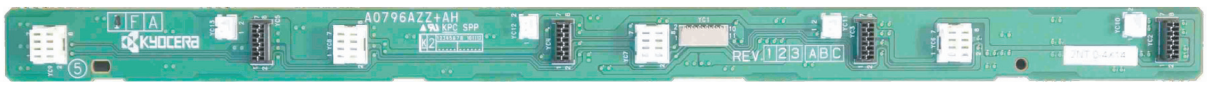


Figure 8-16

(6-3) Connector lists

Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	GND	-	-	Ground
Connected to the main/ engine PWB	2	PTSCL	O	DC0V/3.3V(pulse)	E2PROM communication clock signal
	3	+3.3V3	O	DC3.3V	DC3.3V power output
	4	PTSDA	I/O	DC0V/3.3V(pulse)	E2PROM communication data signal
	5	TNSENC	I	Analog	Toner sensor remaining level signal (C)
	6	TNSENY	I	Analog	Toner sensor remaining level signal (Y)
	7	TNSENK	I	Analog	Toner sensor remaining level signal (K)
	8	TNSENM	I	Analog	Toner sensor remaining level signal (M)
	9	DRMHEATDR	O	DC24V	DC24V power output
	10	DLPTHERM	I	Analog	Developer thermistor
	11	ERASEDR	O	DC24V	Eraser (BK) ON signal

Connector	Pin	Signal	I/O	Voltage	Description
YC2	1	GND	-	-	Ground
Connected to the drum PWB K	2	PTSCL	O	DC0V/3.3V(pulse)	EEPROM clock signal
	3	ERASEK	O	DC0V/24V	CL-K: On/Off
	4	PTSDA	I/O	DC0V/3.3V(pulse)	EEPROM data signal
	5	N.C	-	-	-
	6	3.3V2	O	DC3.3V	DC3.3V power output
	7	DA0	O	DC3.3V	DC3.3V power output
	8	DA1	-	-	Ground
YC3	1	GND	-	-	Ground
Connected to the drum PWB M	2	PTSCL	O	DC0V/3.3V(pulse)	EEPROM clock signal
	3	ERASECOL	O	DC0V/24V	CL-M: On/Off
	4	PTSDA	I/O	DC0V/3.3V(pulse)	EEPROM data signal
	5	N.C	-	-	-
	6	3.3V2	O	DC3.3V	DC3.3V power output
	7	DA0	O	DC3.3V	DC3.3V power output
	8	DA1	-	-	Ground
YC4	1	GND	-	-	Ground
Connected to the drum PWB C	2	PTSCL	O	DC0V/3.3V(pulse)	EEPROM clock signal
	3	ERASECOL	O	DC0V/24V	CL-C: On/Off
	4	PTSDA	I/O	DC0V/3.3V(pulse)	EEPROM data signal
	5	N.C	-	-	-
	6	3.3V2	O	DC3.3V	DC3.3V power output
	7	DA0	-	-	Ground
	8	DA1	O	DC3.3V	DC3.3V power output
YC5	1	GND	-	-	Ground
Connected to the drum PWB Y	2	PTSCL	O	DC0V/3.3V(pulse)	EEPROM clock signal
	3	ERASECOL	O	DC0V/24V	CL-Y: On/Off
	4	PTSDA	I/O	DC0V/3.3V(pulse)	EEPROM data signal
	5	N.C	-	-	-
	6	3.3V2	O	DC3.3V	DC3.3V power output
	7	DA0	-	-	Ground
	8	DA1	-	-	Ground

Connector	Pin	Signal	I/O	Voltage	Description
YC6	1	GND	-	-	Ground
Connected the to developer PWB K	2	3.3V2	O	DC3.3V	DC3.3V power output
	3	TNSENSK	I	Analog	TS-K detection signal
	4	PTSCL	O	DC0V/3.3V(pulse)	EEPROM clock signal
	5	DLPTH	I	Analog	Developer thermistor (K) output
	6	PTSDA	I/O	DC0V/3.3V(pulse)	EEPROM data signal
	7	DA0ERASEK	O	DC0V/3.3V	CL-K: On/Off
	8	DA1	-	-	Ground
YC7	1	GND	-	-	Ground
Connected to the developer PWB M	2	3.3V2	O	DC3.3V	DC3.3V power output
	3	TNSENSK	I	Analog	TS-K detection signal
	4	PTSCL	O	DC0V/3.3V(pulse)	EEPROM clock signal
	5	DLPTH	I	Analog	Developer thermistor (M) output
	6	PTSDA	I/O	DC0V/3.3V(pulse)	EEPROM data signal
	7	DA0ERASEK	O	DC0V/3.3V	CL-K: On/Off
	8	DA1	O	DC3.3V	DC3.3V power output
YC8	1	GND	-	-	Ground
Connected to the developer PWB C	2	3.3V2	O	DC3.3V	DC3.3V power output
	3	TNSENSK	I	Analog	TS-K detection signal
	4	PTSCL	O	DC0V/3.3V(pulse)	EEPROM clock signal
	5	DLPTH	I	Analog	Developer thermistor (C) output
	6	PTSDA	I/O	DC0V/3.3V(pulse)	EEPROM data signal
	7	DA0ERASEK	O	DC0V/3.3V	CL-K: On/Off
	8	DA1	-	-	Ground
YC9	1	GND	-	-	Ground
Connected to the developer PWB Y	2	3.3V2	O	DC3.3V	DC3.3V power output
	3	TNSENSK	I	Analog	TS-K detection signal
	4	PTSCL	O	DC0V/3.3V(pulse)	EEPROM clock signal
	5	DLPTH	I	Analog	Developer thermistor (Y) output
	6	PTSDA	I/O	DC0V/3.3V(pulse)	EEPROM data signal
	7	DA0ERASEK	O	DC0V/3.3V	CL-K: On/Off
	8	DA1	O	DC3.3V	DC3.3V power output

(7) PF main PWB (Optional Paper Feeder)

(7-1) Connector position

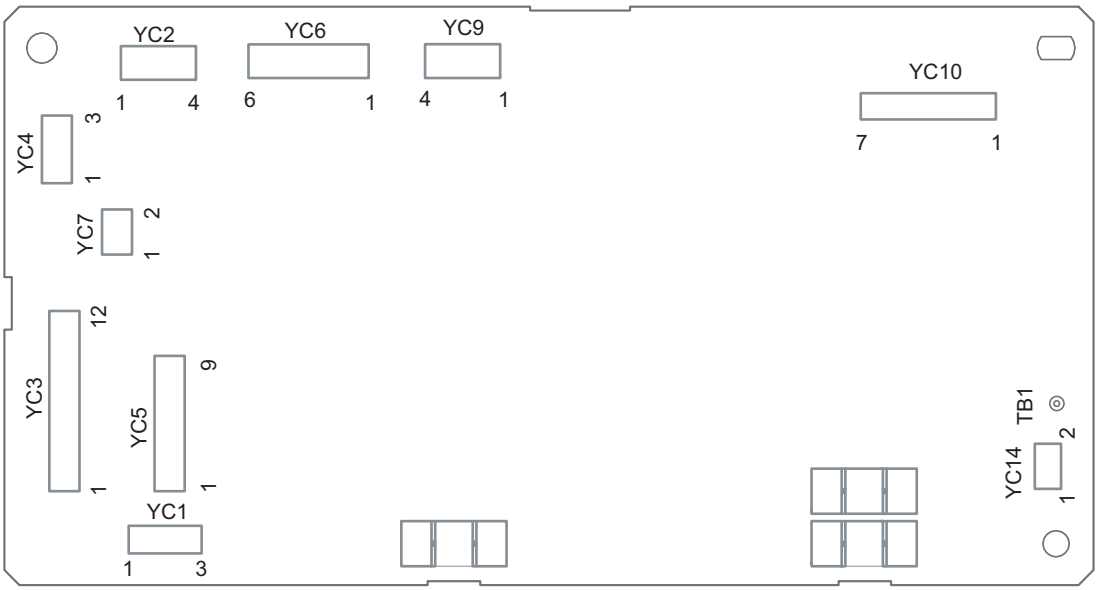


Figure 8-17

(7-2) PWB photograph

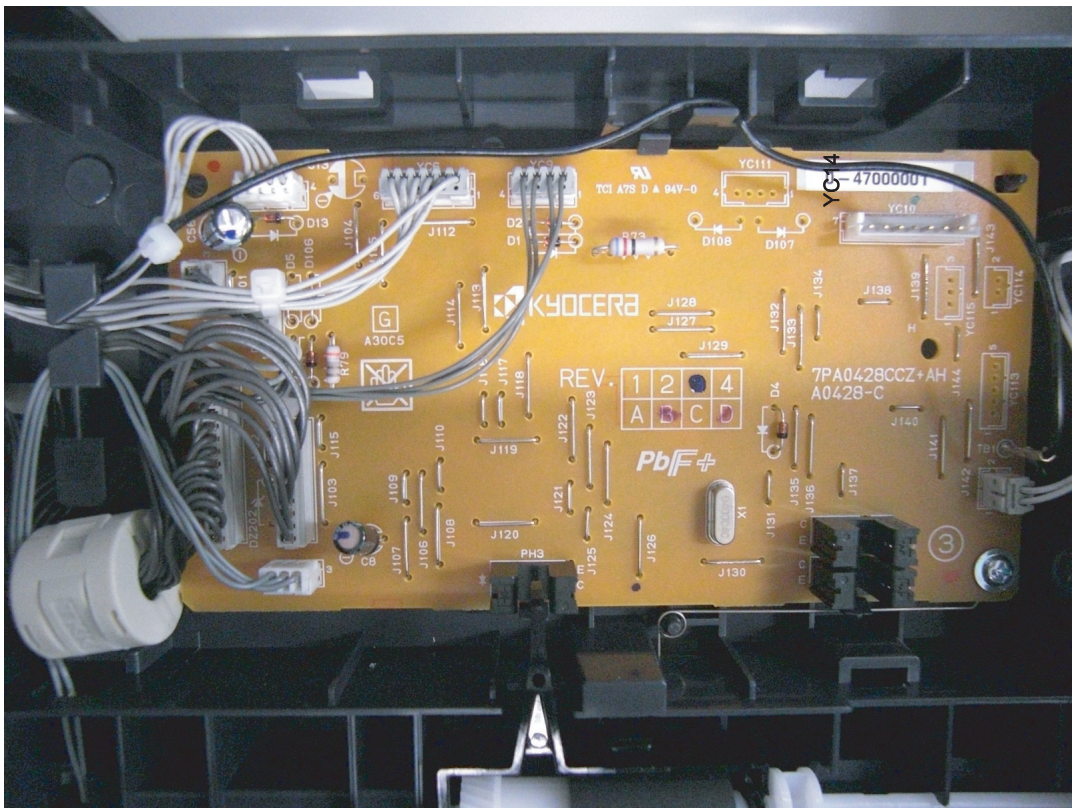


Figure 8-18

(7-3) Connector lists

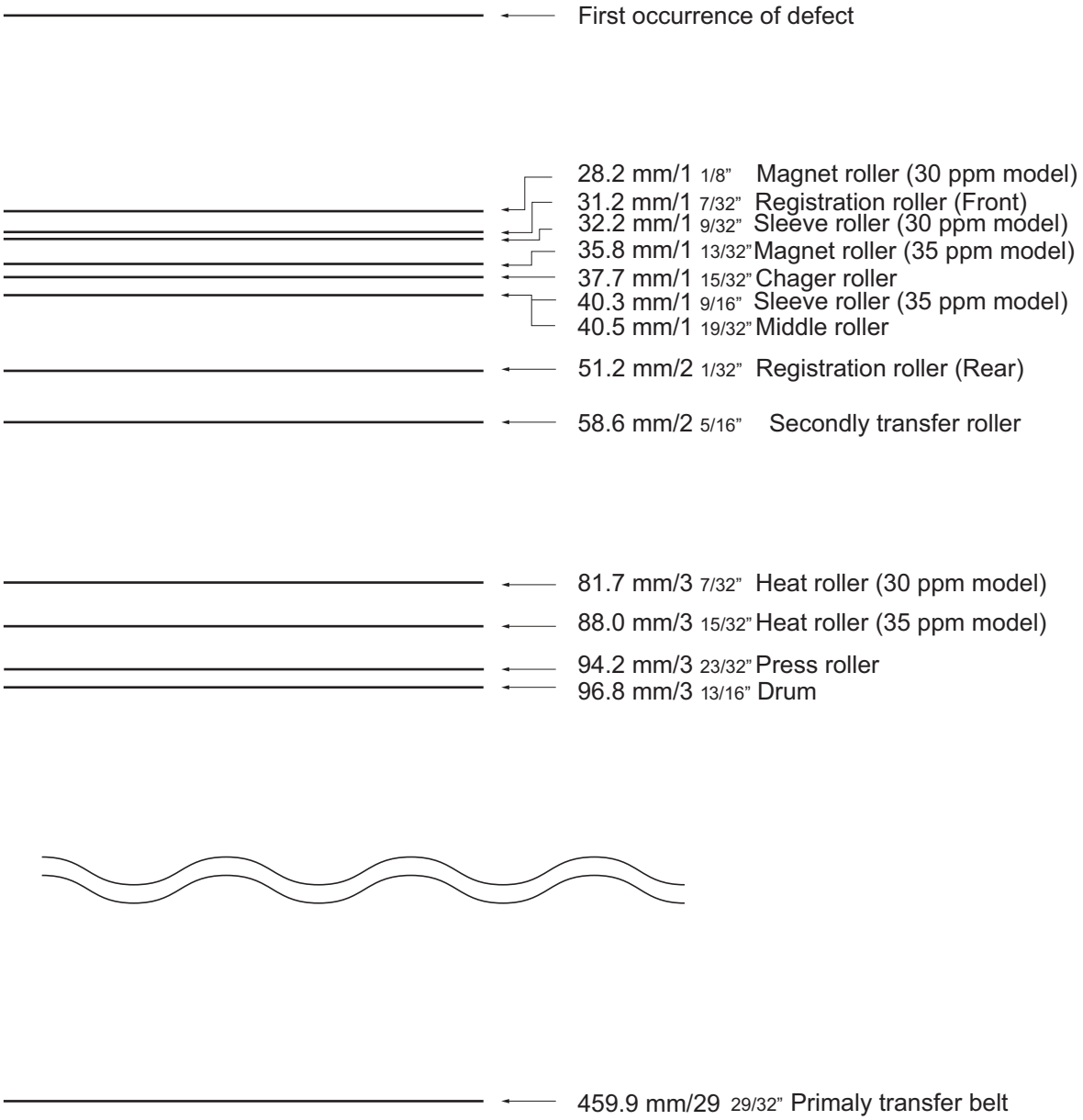
Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	+3.3V	O	DC3.3V	DC3.3V power output
Connected to the PF conveying sensor	2	GND	-	-	Ground
	3	OUT	I	DC0V/3.3V	PFFS: On/Off
YC2	1	PAPSIZE0	I	DC0V/3.3V	PFCSSW: On/Off
Connected to the cassette size detection switch	2	PAPSIZE1	I	DC0V/3.3V	PFCSSW: On/Off
	3	GND	-	-	Ground
	4	PAPSIZE2	I	DC0V/3.3V	PFCSSW: On/Off
YC3	1	GND	-	-	Ground
Connected to the interface connector	2	OPSCLK	I	DC0V/3.3V(pulse)	Serial communication clock signal
	3	OPRDYN	O	DC0V/3.3V(pulse)	Ready signal
	4	OPSDI	O	DC0V/3.3V(pulse)	Serial communication data signal
	5	OPSDO	I	DC0V/3.3V(pulse)	Serial communication data signal
	6	+3.3V	I	DC0V/3.3V	DC3.3V power
	7	GND	-	-	Ground
	8	OPSEL0	I	DC0V/3.3V	Paper feeder select signal
	9	OPSEL1	I	DC0V/3.3V	Paper feeder select signal
	10	OPSEL2	I	DC0V/3.3V	Paper feeder select signal
	11	PAPSIZE	O	DC0V/3.3V	PFCSSW: On/Off
YC4	1	+24V	O	DC24V	DC24V power
Connected to the interface connector	2	PAPSIZE	I	DC0V/3.3V	PFCSSW: On/Off
	3	GND	-	-	Ground
YC5	1	GND	-	-	Ground
Connected to the interface connector	2	OPSCLK	O	DC0V/3.3V(pulse)	Serial communication clock signal
	3	OPRDYN	I	DC0V/3.3V	Ready signal
	4	OPSDI	I	DC0V/3.3V(pulse)	Serial communication data signal
	5	OPSDO	O	DC0V/3.3V(pulse)	Serial communication data signal
	6	+3.3V	O	DC0V/3.3V	DC3.3V power
	7	OPSEL1	O	DC0V/3.3V	Paper feeder select signal
	8	OPSEL2	O	DC0V/3.3V	Paper feeder select signal
	9	OPSEL0	O	DC0V/3.3V	Paper feeder select signal

Connector	Pin	Signal	I/O	Voltage	Description
YC6	1	TMDIR	O	DC0V/3.3V	PFPFM control signal
Connected to the PF paper feed motor	2	TMLOCK	I	DC0V/3.3V	PFPFM Clock signal
	3	TMCLK	O	DC0V/3.3V(pulse)	PFPFM clock signal
	4	#TMDRY	O	DC0V/3.3V	PFPFM: On/Off
	5	GND	-	-	Ground
	6	+24V	O	DC24V	DC24V power
YC7	1	LMOT+	O	DC24V/0V/0V	PFLM: forward/-/Off
Connected to the PF lift motor	2	LMOT-	O	DC0V/24V/0V	PFLM:-/reverse/Off
YC9	1	TRANSCLN	O	DC0V/24V	PFPCCL: On/Off
Connected to the PF paper feed clutch and PF con-veying clutch	2	+24V	O	DC24V	DC24V power
	3	FEEDCLN	O	DC0V/24V	PFPFCL: On/Off
	4	+24V	O	DC24V	DC24V power
YC14	1	COV_SW	O	DC0V/3.3V	PFRCSW: On/Off
Connected to the PF rear cover switch	2	GND	O	-	Ground

9 Appendixes

9-1 Appendixes

(1) Repetitive defects gauge



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

(2) Firmware environment commands

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

Using FRPO commands for reprogramming the firmware

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

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

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

FRPO parameters

Item	FRPO	Setting values	Factory setting
Default pattern resolution	B8	0: 300 dpi 1: 600 dpi	0
Copy count	C0	Number of copies to print:1-999	1
Page orientation	C1	0: Portrait 1: Landscape	0
Default font No.	C2 C3 C5	Middle two digits of power-up font Last two digits of power-up font First two digits of power-up font	0 0 0
PCL font switch	C8	0:HP compatibility mode (Characters higher than 127 are not printed.) 32:Conventional mode (Characters higher than 127 are printed. Supported symbol sets: ISO-60 Norway [00D], ISO-15 Italian [00I], ISO-11 Sweden [00S], ISO-6 ASCII [00U], ISO-4 U.K. [01E], ISO-69 France [01F], ISO-21 Germany [01G], ISO-17 Spain [02S], Symbol [19M]	0
Total host buffer size	H8	0 to 99 in units of the size defined by FRPO S5	5
Form feed time-out value	H9	Value in units of 5 seconds (0 to 99).	6
Duplex binding	N4	0: Off 1: Long edge 2: Short edge	0
Sleep timer time-out time	N5	1 to 240 minutes	1
Ecoprint level	N6	0: Off 2: On	0

Item	FRPO	Setting values	Factory setting
Default emulation mode	P1	0 : Line printer 1 : IBM proprinter 2 : DIABLO 630 5 : Epson LQ-850 6 : PCL6 (except PCL XL) 8 : KC-GL 9 : KPDL 11 : PC-PR201 12 : IBM 5577 13 : VP-1000 14 : N5200 15 : FMPR-359F1	9(U.S.A) or 6(Euro and other)
Carriage-return action *	P2	0: Ignores 0x0d 1: Carriage-return 2: Carriage-return+linefeed	1
Linefeed action *	P3	0: Ignores 0x0d 1: Linefeed 2: Carriage-return+linefeed	1
Automatic emulation sensing (For KPDL3)	P4	0: AES disabled 1: AES enabled	1(U.S.A) or 0(Euro and other)
Automatic emulation switching trigger (For KPDL3)	P7	0: Page eject commands 1: None 2: Page eject and PRESCRIBE EXIT 3: PRESCRIBE EXIT 4: Formfeed (^L) 6: Page eject, PRESCRIBE EXIT and formfeed 10: Page eject commands; if AES fails, resolves to KPDL	11(U.S.A) or 10(Euro and other)
Command recognition character	P9	ASCII code of 33 to 126	82 (R)

Item	FRPO	Setting values	Factory setting
Default paper size	R2	0: Size of the default paper cassette (See R4.) 1: Monarch (3-7/8 × 7-1/2 inches) 2: Business (4-1/8 × 9-1/2 inches) 3: International DL (11 × 22 cm) 4: International C5 (16.2 × 22.9 cm) 5: Executive (7-1/4 × 10-1/2 inches) 6: US Letter (8-1/2 × 11 inches) 7: US Legal (8-1/2 × 14 inches) 8: A4 (21.0 × 29.7 cm) 9: JIS B5 (18.2 × 25.7 cm) 13: ISO A5 14: A6 (10.5 × 14.8 cm) 15: JIS B6 (12.8 × 18.2 cm) 16: Commercial #9 (3-7/8 × 8-7/8 inches) 17: Commercial #6 (3-5/8 × 6-1/2 inches) 18: ISO B5 (17.6 × 25 cm) 19: Custom (11.7 × 17.7 inches) 31: Hagaki (10 × 14.8 cm) 32: Ofuku-hagaki (14.8 × 20 cm) 33: Officio II 40: 16K 42: 216x340 50: Statement 51: Folio 52: Youkei 2 53: Youkei 4	0
Default cassette	R4	0: MP tray 1: Cassette 1 2: Cassette 2 3: Cassette 3 4: Cassette 4	1
MP tray paper size	R7	Same as the R2 values except: 0	6 (U.S.A) or 8 (Euro and other)
A4/letter equation	S4	0: Off 1: On	1
Host buffer size rate	S5	0: 10kB (x H8) 1: 100kB (x H8) 2: 1024kB (x H8)	1
RAM disk size	S6	1 to 1024 MB	400
RAM disk mode	S7	0: Off 1: On	1

Item	FRPO	Setting values	Factory setting
Wide A4	T6	0: Off 1: On	0
Line spacing	U0	Lines per inch (integer value)	6
Line spacing	U1	Lines per inch (fraction value)	0
Character spacing	U2	Characters per inch (integer value)	10
Character spacing	U3	Characters per inch (fraction value)	0
Country code	U6	0: US-ASCII 1: France 2: Germany 3: UK 4: Denmark 5: Sweden 6: Italy 7: Spain 8: Japan 9: US Legal 10: IBM PC-850 (Multilingual) 11: IBM PC-860 (Portuguese) 12: IBM PC-863 (Canadian French) 13: IBM PC-865 (Norwegian) 14: Norway 15: Denmark 2 16: Spain 2 17: Latin America 21: US ASCII (U7 = 50 SET) 77: HP Roman-8 (U7 = 52 SET)	41
Code set at power up in daisy-wheel emulation	U7	0: Same as the default emulation mode (P1) 1: IBM 6: IBM PC-8 50: US ASCII (U6 = 21 SET) 52: HP Roman-8 (U6 = 77 SET)	53
Font pitch for fixed pitch scalable font	U8	Integer value in cpi: 0 to 99	10
	U9	Fraction value in 1/100 cpi: 0 to 99	0

Item	FRPO	Setting values	Factory setting
Font height for the default scalable font	V0	Integer value in 100 points: 0 to 9	0
	V1	Integer value in points: 0 to 99	12
	V2	Fraction value in 1/100 points: 0, 25, 50, 75	0
Default scalable font	V3	Name of typeface of up to 32 characters, enclosed with single or double quotation marks	Courier
Default weight (courier and letter Gothic)	V9	0: Courier = darkness Letter Gothic = darkness 1: Courier = regular Letter Gothic = darkness 4: Courier = darkness Letter Gothic = regular 5: Courier = regular Letter Gothic = regular	5
Color mode	W1	0: Monochrome 1: Color (CMYK color)	1
Gloss mode	W6	0: Low (Normal Print) 1: High	0
Paper type for the MP tray	X0	1: Plain 2: Transparency 3: Preprinted 4: Label 5: Bond 6: Recycle 7: Vellum 8: Rough 9: Letterhead 10: Color 11: Prepunched 12: Envelope 13: Cardstock 14: Coated 16: Thick 17: High quality 21: Custom1 22: Custom2 23: Custom3 24: Custom4 25: Custom5 26: Custom6 27: Custom7 28: Custom8	1

Item	FRPO	Setting values	Factory setting
Paper type for paper cassettes 1	X1	1: Plain 3: Preprinted 5: Bond 6: Recycled 7: Vellum 8: Rough 9: Letterhead 10: Color 11: Prepunched 16: Thick 17: High quality 21: Custom1 22: Custom2 23: Custom3 24: Custom4 25: Custom5 26: Custom6 27: Custom7 28: Custom8	1
Paper type for paper cassettes 2 to 4	X2 X3 X4	1: Plain 3: Preprinted 4: Label 5: Bond 6: Recycled 7: Vellum 8: Rough 9: Letterhead 10: Color 11: Prepunched 12: Envelope 14: Coated 16: Thick 17: High quality 21: Custom1 22: Custom2 23: Custom3 24: Custom4 25: Custom5 26: Custom6 27: Custom7 28: Custom8	1
PCL paper source	X9	0: Paper selection depending on an escape sequence compatible with HP-LJ5Si. 2: Paper selection depending on an escape sequence compatible with HP-LJ8000.	0
Automatic continue for ‘Press GO’	Y0	0: Off 1: On	0

Item	FRPO	Setting values	Factory setting
Automatic continue timer	Y1	Number from 0 to 99 in increments of 5 seconds	6 (30 secons)
Error message for device error	Y3	0 to 255	33
Duplex operation for specified paper type (Prepunched, Preprinted and Letterhead)	Y4	0: Off 1: On	0
Default operation for PDF direct printing	Y5	0: Enlarges or reduces the image to fit in the current paper size. Loads paper from the current paper cassette. 1: Through the image. Loads paper which is the same size as the image. 2: Enlarges or reduces the image to fit in the current paper size. Loads Letter, A4 size paper depending on the image size. 3: Through the image. Loads Letter, A4 size paper depending on the image size. 8: Through the image. Loads paper from the current paper cassette. 9: Through the image. Loads Letter, A4 size paper depending on the image size. 10: Enlarges or reduces the image to fit in the current paper size. Loads Letter, A4 size paper depending on the imagesize.	0
e-MPS error	Y6	0:Does not print the error report and display the error message. 1:Prints the error report. 2:Displays the error message. 3:Prints the error report and displays the error message.	3

(3) System Error (Fxxxx) Outline

The document is described for the outline of the factors of the Fxxx errors that are not described in the self-diagnosis error code list of Chapter 1-7. Please utilize it to refer for checking the factors.

Please utilize it as the measures when the system is not recovered after power off/on or it frequently occurs.

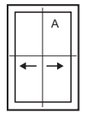
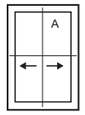
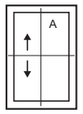
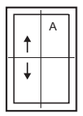
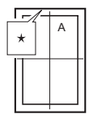
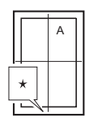
(Note) Please initially check the following when the error (Fxxx) is indicated.
- Check the DIMM (DDR memory) and neighboring parts
  : Check the contact on the control PWB by releasing and reinserting the DIMM.
  If the error repeats after that, replace the DIMM.

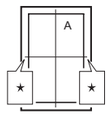
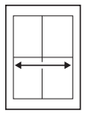
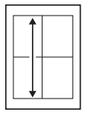
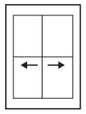
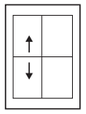
No.	Content	Check procedure & check point	Remark (Common)	M6535cidn, M6035cidn (HyPAS MFP)	M6530cdn, M6030cdn (Basic MFP)
—	Lock-up at Welcome display (KYOCERA or (KYOCERA TASKalfa/ Ecosys) (The display unchages after a certain time (Note)) (Note) HyPAS: 70 s or immediately displayed. Basic/ Printer: 60 s	1. Check the wire or connector between Operation panel PWB and Main/engine PWB and correct it if necessary. (Reconnect the connector or replace the wire) Check the operation after that. 2. Execute U021 (Init memory) and check function. 3. Replace the operation panel PWB and check function. 4. Replace the main/engine PWB and check function. 5. Retrieve the USBLOG and contact the Service Administrative Division.		[Operation panel PWB - Main/Engine PWB] (30 ppm model) Operation panel PWB: YC1 Main/Engine PWB:YC2002 (35 ppm model) Operation panel PWB: YC6, YC17 Main/Engine PWB: YC2002, YC2001	[Operation panel PWB - Main/Engine PWB] (30 ppm model) Operation panel PWB: YC1 Main/Engine PWB:YC2002 (35 ppm model) Operation panel PWB: YC6, YC17 Main/Engine PWB: YC2002, YC2001
F000	F000 appears in a certain time (Note) after the Welcome display continues Operation panel- Main board communication error (Note) HyPAS: 70 s or immediately displayed. Basic/ Printer: 60 s	1. Check the wire or connector between Operation panel PWB and Main/engine PWB and correct it if necessary. (Reconnect the connector or replace the wire) Check the operation after that. 2. Execute U021 (Init memory) and check function. 3. Replace the operation panel PWB and check function. 4. Replace the main/engine PWB and check function. 5. Retrieve the USBLOG and contact the Service Administrative Division.		[Operation panel PWB - Main/Engine PWB] (30 ppm model) Operation panel PWB: YC1 Main/Engine PWB:YC2002 (35 ppm model) Operation panel PWB: YC6, YC17 Main/Engine PWB: YC2002, YC2001 If no initial communication is establish for 70 s after turn the power on or no response is received from panel for 70s after communication between controller and panel is established, F000 error appears.	[Operation panel PWB - Main/Engine PWB] (30 ppm model) Operation panel PWB: YC1 Main/Engine PWB:YC2002 (35 ppm model) Operation panel PWB: YC6, YC17 Main/Engine PWB: YC2002, YC2001 If no initial communication is establish for 60 s after turn the power on or no response is received from panel for 70s after communication between controller and panel is established, F000 error appears.
F12X	An error is detected at scan control section	1. Check the wire or connector between Scan/DP PWB (CCD PWB or DP relay PWB) and Main/engine PWB and correct it if necessary. (Reconnect the connector or replace the wire) Check the operation after that. 2. Execute U021 (Init memory) and check function. 3.Replace the CCD PWB or DP relay PWB and check function. 4. Replace the main/engine PWB and check function. 5. Retrieve the USBLOG and contact the Service Administrative Division.		[Main/Engine PWB - CCD PWB] Main/Engine PWB:YC2014 CCD PWB:YC1 [Main/Engine PWB- DP relay PWB] Main/Engine PWB:YC22, YC23 DP relay PWB:YC3, YC1	[Main/Engine PWB - CCD PWB] Main/Engine PWB:YC2014 CCD PWB:YC1 [Main/Engine PWB- DP relay PWB] Main/Engine PWB:YC22, YC23 DP relay PWB:YC3, YC1
F14X	An error is detected at the FAX control section (MFP model only)	1. Check the wire or connector between FAX PWB, IO replay PWB and Main/engine PWB and correct it if necessary. (Reconnect the connector or replace the wire) Check the operation after that. 2. Execute U021 (Init memory) and check function. 3. Replace the FAX PWB and check function. 4. Replace the main/engine PWB and check function. 5. Retrieve the USBLOG and contact the Service Administrative Division.		[Main/Engine PWB] Main/Engine PWB:YC2012 [Check the connection of the eKUIO connector] -Check if it is inserted into the upper slot. -Check if the direction of the FAX control PWB is correct.	[Main/Engine PWB] Main/Engine PWB:YC2012 [Check the connection of the eKUIO connector] -Check if it is inserted into the upper slot. -Check if the direction of the FAX control PWB is correct.
F15X	An error is detected at the authentication device control section	1. Check the wire or connector between the authentication device and Main/engine PWB and correct it if necessary. (Reconnect the connector or replace the wire) Check the operation after that. 2. Execute U021 (Init memory) and check function. 3. Replace the main/engine PWB and check function. 4. Retrieve the USBLOG and contact the Service Administrative Division.	Authentication device: Card Reader, etc.	No remarks	No remarks
F17X	An error is detected at the print data control section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		(HyPAS MFP only) Execute 1) to 3) below before checking the items to the left. 1) Check if HOST I/F card is installed in the upper slot. 2) Check if the error disapperas when disconnecting HOIS I/F card. 3) If the error disappears as above, reinstall HOST I/F card (IB-50 etc.) or replace it.	No remarks
F18X	An error is detected at the Video control secion	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	No remarks

No.	Content	Check procedure & check point	Remark (Common)	M6535cidn, M6035cidn (HyPAS MFP)	M6530cdn, M6030cdn (Basic MFP)
F1DX	An error is detected at the Image memory management section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	No remarks
F21X F22X F23X	An error is detected at the Image processing section	1.Check contact of the DIMM by releasing and reinserting, and check the function. Replace DIMM if available, and check function. 2. Execute U021 (Init memory) and check function. 3. Replace the main/engine PWB and check function. 4. Retrieve the USBLOG and contact the Service Administrative Division.		[Check the DIMM contact] Main/Engine PWB:YS2000 A certain section of the DIMM might have some problem. The occurrence frequency differs depending on the access frequency to the bit with the problem. If the DIMM has no sensitiveness, ASIC might have problem.	[Check the DIMM contact] Main/Engine PWB:YS2000 A certain section of the DIMM might have some problem. The occurrence frequency differs depending on the access frequency to the bit with the problem. If the DIMM has no sensitiveness, ASIC might have problem.
F24X	An error is detected at the System management section	1. Check contact of the DIMM by releasing and reinserting, and check the function. Replace DIMM if available, and check function. 2. Execute U021 (Init memory) and check function. 3. Replace the main/engine PWB and check function. 4. Retrieve the USBLOG and contact the Service Administrative Division.	F248 eror is printer process error. If it repeats with a certain print data, retrieve the capture data and USBLOG.	[Check the DIMM contact] Main/Engine PWB:YS2000 A certain section of the DIMM might have some problem. The occurrence frequency differs depending on the access frequency to the bit with the problem. If the DIMM has no sensitiveness, ASIC might have problem.	[Check the DIMM contact] Main/Engine PWB:YS2000 A certain section of the DIMM might have some problem. The occurrence frequency differs depending on the access frequency to the bit with the problem. If the DIMM has no sensitiveness, ASIC might have problem.
F26X F2AX	An error is detected at the System management section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	(F2AX: Not applicable)
F33X	An error is detected at the Scan management section	1. Check the wire or connector between Scan/DP PWB (CCD PWB or DP relay PWB) and Main/engine PWB and correct it if necessary. (Reconnect the connector or replace the wire) Check the operation after that. 2. Execute U021 (Init memory) and check function. 3. Replace the operation panel PWB and check function. 4. Replace the main/engine PWB and check function. 5. Retrieve the USBLOG and contact the Service Administrative Division.		[Main/Engine PWB - CCD PWB] Main/Engine PWB:YC2014 CCD PWB:YC1 [Main/Engine PWB- DP relay PWB] Main/Engine PWB:YC22, YC23 DP relay PWB:YC3, YC1	[Main/Engine PWB - CCD PWB] Main/Engine PWB:YC2014 CCD PWB:YC1 [Main/Engine PWB- DP relay PWB] Main/Engine PWB:YC22, YC23 DP relay PWB:YC3, YC1
F34X	An error is detected at the Panel management section	1. Check the wire and the connection of the connectors between the operation panel PWB and the main/engine PWB, and check function. (For HyPAS model only) 2. Execute U021 (Init memory) and check function. 3. Replace the operation panel PWB and check function. (For HyPAS model only) 4. Replace the main/engine PWB and check function. 5. Retrieve the USBLOG and contact the Service Administrative Division.		Error in the panel processing (Timeout for waiting the response from command, etc.) As the hardware cause, it will be caused by disconnecting the connector of the wire between the main/engine PWB and the operation panel PWB.	Error in the panel processing (Timeout for waiting the response from command, etc.) 1) at the left is unnecessary because the F34X error is caused by the software.
F35X	An error is detected at the Print control section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	No remarks
F37X	An error is detected at the FAX management section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	No remarks
F38X	An error is detected at the Authentication/permit management section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	No remarks
F3AX F3BX F3CX F3DX F3EX F3FX F40X F41X F42X F43X F44X F45X	An error is detected at the Entity control section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	No remarks
F46X	An error is detected at the Print image process section	1. Replace the main/engine PWB and check function. 2. Retrieve the USBLOG and contact the Service Administrative Division. (or retrieve the print capture data by case)	F46F eror is printer process error. If it repeats with a certain print data, retrieve the capture data and USBLOG.	No remarks	No remarks

No.	Content	Check procedure & check point	Remark (Common)	M6535cidn, M6035cidn (HyPAS MFP)	M6530cdn, M6030cdn (Basic MFP)
F47X F48X F49X	An error is detected at the Image edit process control section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	No remarks
F4DX	An error is detected at the Entity control section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	No remarks
F4FX	An error is detected at the Job control section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.	The USB log is necessary for analysis. Please cooperate in retrieving it	No remarks	No remarks
F50X	An error is detected at the FAX control section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	No remarks
F51X F52X F53X F55X F56X F57X	An error is detected at the Job control section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.	The USB log is necessary for analysis. Please cooperate in retrieving it	No remarks	No remarks
F58X F59X F5AX F5BX F5CX F5DX F5EX	An error is detected at the Device control section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.	The USB log is necessary for analysis. Please cooperate in retrieving it	F5DX (especially X is 9, A, B, C or D) occurs at FAX reception and URDS process. Check data sent from PC when it occurs.	F5DX (especially X is 9, A, B, C or D) occurs at FAX reception and URDS process. Check data sent from PC when it occurs.
F5FX	Abnormality detected at service section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.	The USB log is necessary for analysis. Please cooperate in retrieving it	No remarks	No remarks
F61X	An error is detected at the Report compiling section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		The error disappears if turning the power off and on.	The error disappears if turning the power off and on.
F62X	An error is detected at service section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.	The USB log is necessary for analysis. Please cooperate in retrieving it	The USB log is necessary for analysis. Please cooperate in retrieving it	The USB log is necessary for analysis. Please cooperate in retrieving it
F63X	An error is detected at the Device control section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	No remarks
F68X	An error is detected at the Storage device control section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	No remarks
F69X F6AX F6BX F6CX	An error is detected at the HyPAS section	1. Execute U021 (Init memory) and check function. 2. Replace the main/engine PWB and check function. 3. Retrieve the USBLOG and contact the Service Administrative Division.		No remarks	Not applicable

(4) Chart of image adjustment procedures

Adjusting order	Item	Image	Maintenance mode		Page	Setting procedure		Remarks
			Item No.	Mode		Method	Setting	
1	Adjusting the center line of the MP tray (printing adjustment) Adjusting the LSU print start timing		U034	LSU Out Left (Original:test pattern)	P.6-24	1. Press the start key. 2. Select [Lsu Out Left] to be adjusted. 3. Press the start key. 4. Press the system menu key. 5. Press the start key. (output a test pattern) 6. Press the system menu key. 7. Select [MPT] to be adjusted.	1. Change the setting value using the cursor +/- or numeric keys. 2. Press the start key. The value is set. Completion: Press the stop key.	If a preset value is raised, a picture will move to the left. To make an adjustment for duplex copying, select [Dup].
2	Adjusting the center line of the cassettes (printing adjustment) Adjusting the LSU print start timing		U034	LSU Out Left (Original:test pattern)	P.6-24	1. Press the start key. 2. Select [Lsu Out Left] to be adjusted. 3. Press the start key. 4. Press the system menu key. 5. Press the start key. (output a test pattern) 6. Press the system menu key. 7. Select the item to be adjusted. [Cassette1] to [Cassette4]	1. Change the setting value using the cursor +/- or numeric keys. 2. Press the start key. The value is set. Completion: Press the stop key.	If a preset value is raised, a picture will move to the left. To make an adjustment for duplex copying, select [Dup].
3	Adjusting the leading edge registration of the MP tray (printing adjustment) secondary paper feed start timing		U034	LSU Out Top (Original:test pattern)	P.6-24	1. Press the start key. 2. Select [Lsu Out Top] to be adjusted. 3. Press the start key. 4. Press the system menu key. 5. Press the start key. (output a test pattern) 6. Press the system menu key. 7. Select [MPT(L)] or [MPT(S)] to be adjusted.	1. Change the setting value using the cursor +/- or numeric keys. 2. Press the start key. The value is set. Completion: Press the stop key.	If a preset value is raised, a picture will move downward. To make an adjustment for duplex copying, select [Dup].
4	Adjusting the leading edge registration of the cassette (printing adjustment) secondary paper feed start timing		U034	LSU Out Top (Original:test pattern)	P.6-24	1. Press the start key. 2. Select [Lsu Out Top] to be adjusted. 3. Press the start key. 4. Press the system menu key. 5. Press the start key. (output a test pattern) 6. Press the system menu key. 7. Select [Cassette(L)] or [Caseette(S)] to be adjusted.	1. Change the setting value using the cursor +/- or numeric keys. 2. Press the start key. The value is set. Completion: Press the stop key.	If a preset value is raised, a picture will move downward. To make an adjustment for duplex copying, select [Dup].
5	Adjusting the leading edge margin (printing adjustment) LSU illumination start timing		U402	Lead (Original:test pattern)	P.6-47	1. Press the start key. 2. Press the system menu key. 3. Press the start key. (output a test pattern) 4. Press the system menu key. 5. Select [Lead] to be adjusted.	1. Change the setting value using the cursor +/- or numeric keys. 2. Press the start key. The value is set. Completion: Press the stop key.	A margin will become large if a preset value is raised.
6	Adjusting the trailing edge margin (printing adjustment) LSU illumination end timing		U402	Trail (Original:test pattern)	P.6-47	1. Press the start key. 2. Press the system menu key. 3. Press the start key. (output a test pattern) 4. Press the system menu key. 5. Select [Trail] to be adjusted.	1. Change the setting value using the cursor +/- or numeric keys. 2. Press the start key. The value is set. Completion: Press the stop key.	A margin will become large if a preset value is raised.

Adjusting order	Item	Image	Maintenance mode		Page	Setting procedure		Remarks
			Item No.	Mode		Method	Setting	
7	Adjusting the left and right margins (printing adjustment) LSU illumination start/end timing		U402 (Original:test pattern)	A Margin C Margin	P.6-47	1. Press the start key. 2. Press the system menu key. 3. Press the start key. (output a test pattern) 4. Press the system menu key. 5. Select [A Margin] or [C Margin] to be adjusted.	1. Change the setting value using the cursor +/- or numeric keys. 2. Press the start key. The value is set. Completion: Press the stop key.	A margin will become large if a preset value is raised.
8	Adjusting magnification of the scanner in the main scanning direction (scanning adjustment) Data processing		U065 U070 (Original:test pattern)	Main Scan Convey Speed	P.6-27 P.6-32	1. Press the start key. 2. Press the system menu key. 3. Set aoriginal and then press the start key. (output a test copy) 4. Press the system menu key. 5. Select [Main Scan] to be adjusted.	1. Change the setting value using the cursor +/- or numeric keys. 2. Press the start key. The value is set. Completion: Press the stop key.	U065: When using on the contact glass If a preset value is raised, a picture will spread. U070: When using document processor A picture will become long if a preset value is raised.
9	Adjusting magnification of the scanner in the auxiliary scanning direction (scanning adjustment) Original scanning speed		U065 (Original:test pattern)	Sub Scan	P.6-27	1. Press the start key. 2. Press the system menu key. 3. Set aoriginal and then press the start key. (output a test copy) 4. Press the system menu key. 5. Select [Sub Scan] to be adjusted.	1. Change the setting value using the cursor +/- or numeric keys. 2. Press the start key. The value is set. Completion: Press the stop key.	U065: When using on the contact glass If a preset value is raised, a picture will spread.
10	Adjusting the center line (scanning adjustment) Adjusting the original scan data (image adjustment)		U067 U072 (Original:test pattern)	Front Front Back	P.6-30 P.6-35	1. Press the start key. 2. Press the system menu key. 3. Set aoriginal and then press the start key. (output a test copy) 4. Press the system menu key. 5. Select the item to be adjusted. U067: [Front] U072: [Front] or [Back]	1. Change the setting value using the cursor +/- or numeric keys. 2. Press the start key. The value is set. Completion: Press the stop key.	U067: When using on the contact glass If a preset value is raised, a picture will move to the left. U072: When using document processor Back adjustment selects [Back] at the time of duplex mode. If a preset value is raised, a picture will move to the right.
11	Adjusting the leading edge registration (scanning adjustment) Original scan start timing		U066 U071 (Original:test pattern)	Front Front Head Back Head	P.6-29 P.6-33	1. Press the start key. 2. Press the system menu key. 3. Set aoriginal and then press the start key. (output a test copy) 4. Press the system menu key. 5. Select the item to be adjusted. U066: [Front] U071: [Front Head] or [Back Head]	1. Change the setting value using the cursor +/- or numeric keys. 2. Press the start key. The value is set. Completion: Press the stop key.	U066: When using on the contact glass If a preset value is raised, a picture will move forward. U071: When using document processor Back adjustment selects [Back Head] at the time of duplex mode.If a preset value is raised, a picture will move forward.

When maintenance item U411 (Automatic adjustment in the scanner) is run using the specified original (P/N 302NM94340) the following adjustments are automatically made:
Adjusting the scanner magnification (U065)
Adjusting the scanner leading edge registration (U066)
Adjusting the scanner center line (U067)

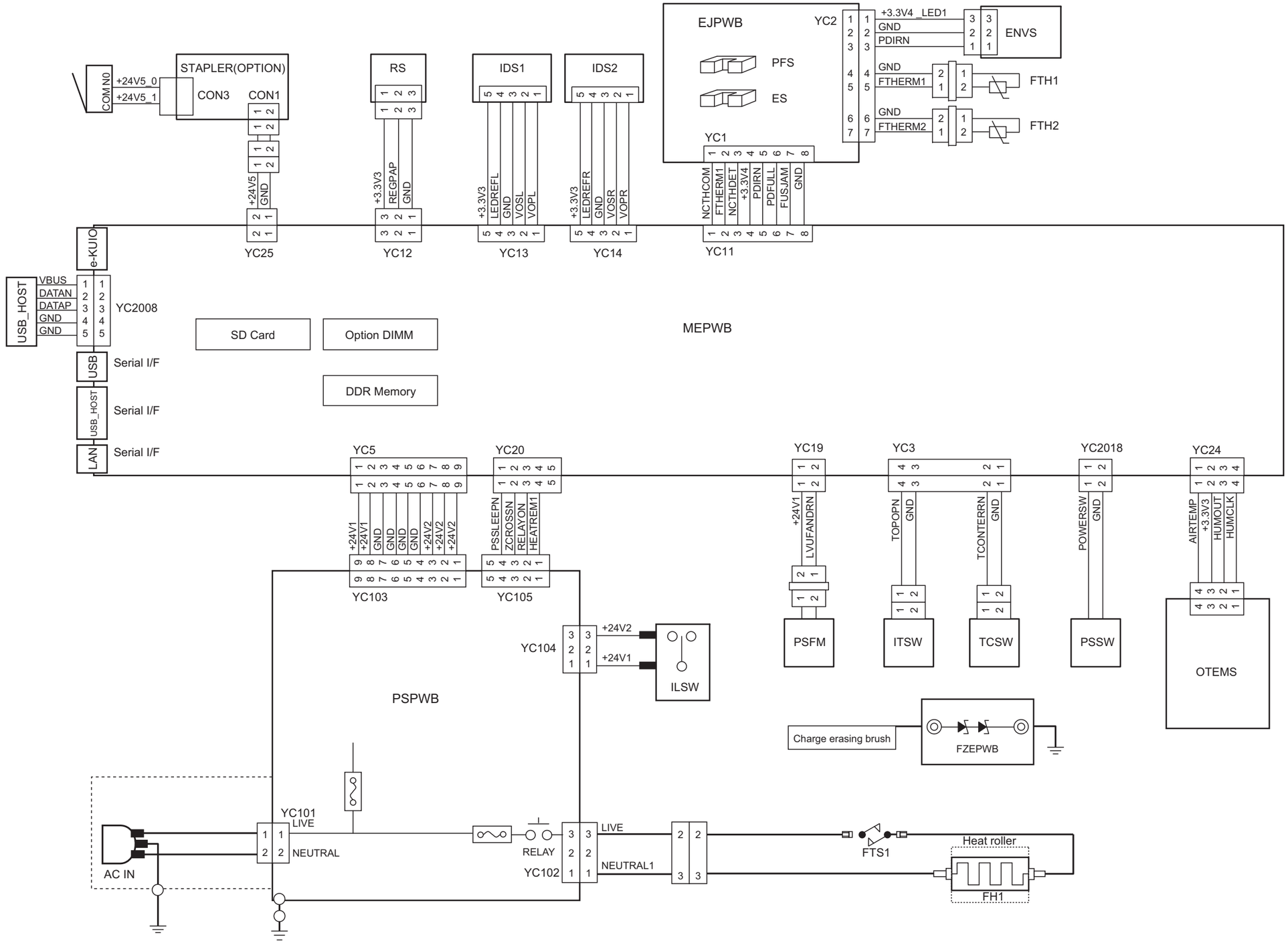
When maintenance item U411 (Automatic adjustment in the DP) is run using the specified original (P/N 302NM94330) the following adjustments are automatically made:
* : When running this test chart, you first must clean the feed rollers with alcohol and ensure the DP width guides are correctly positioned against the original.
Adjusting the DP magnification (U070)
Adjusting the DP leading edge registration (U071)
Adjusting the DP center line (U072)
)

Image quality

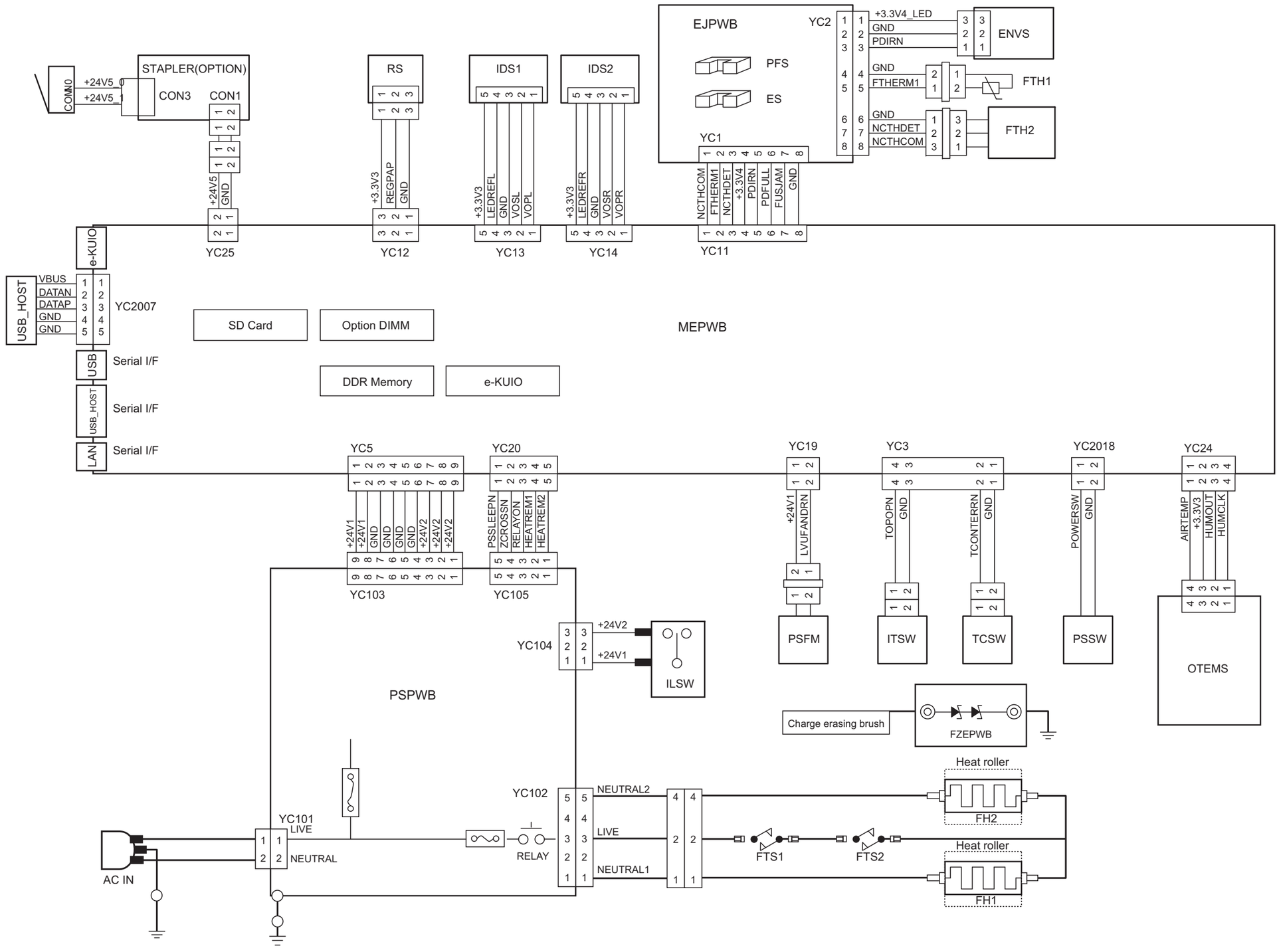
Item	Specifications
100% magnification	Print: ±0.8% Copy: ±1.5% Using DP: ±2.0%
Enlargement/reduction	Copy: ±2.0% Using DP: ±2.5%
Lateral squareness	Copy: ±2.0mm/200mm Using DP: ±2.5mm/200mm
Leading edge registration	Print: 2.0 mm or less Copy: 2.0mm or less Using DP: 2.5mm or less
Skewed paper feed (left-right difference)	Print: 1mm /100mm or less Copy: 1mm /100mm or less Using DP: 1.5mm /100mm or less
Lateral image shifting	Print: 2.0 mm or less Copy: 2.0mm or less Using DP: 2.0mm or less

(5) Wiring diagram

No.1 (30 ppm model)



No.1 (35 ppm model)



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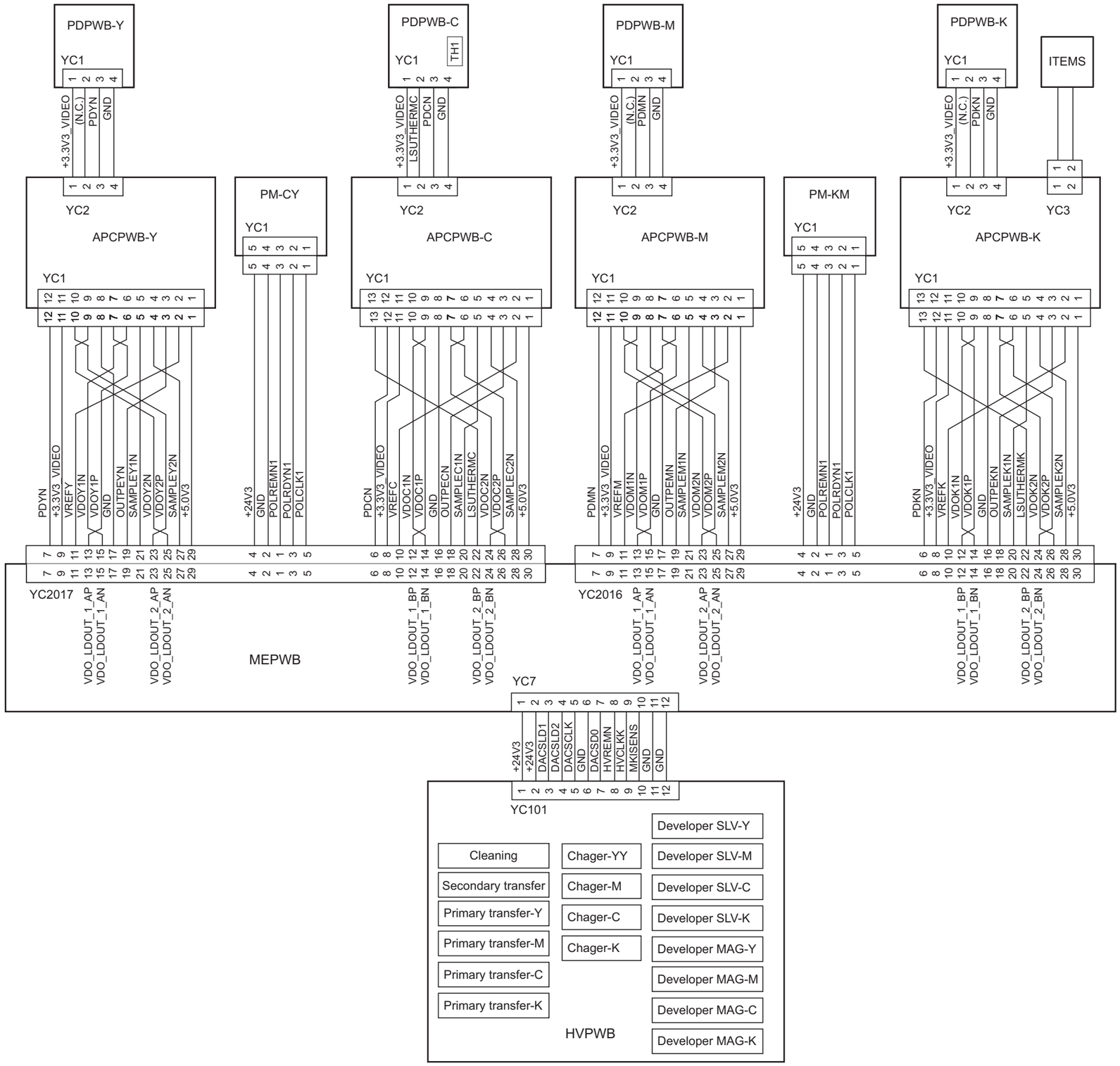
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+3.3V3_VIDEO
(N.C.)
PDYN
GND
YC2
APCPWB-Y
PDYN
+3.3V3_VIDEO
VREFY
VDOY1N
VDOY1P
GND
OUTPEYN
SAMPLEY1N
VDOY2N
VDOY2P
SAMPLEY2N
+5.0V3
PM-CY
YC1
+24V3
GND
POLREMN1
POLRDYN1
POLCLK1
PDPWB-C
YC1
TH1
+3.3V3_VIDEO
LSUTHERMC
PDCN
GND
YC2
APCPWB-C
PDCN
+3.3V3_VIDEO
VREFC
VDOC1N
VDOC1P
GND
OUTPECN
SAMPLEC1N
LSUTHERMC
VDOC2N
VDOC2P
SAMPLEC2N
+5.0V3
PDPWB-M
YC1
+3.3V3_VIDEO
(N.C.)
PDMN
GND
YC2
APCPWB-M
PDMN
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VREFM
VDOM1N
VDOM1P
GND
OUTPEMN
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VDOM2N
VDOM2P
SAMPLEM2N
+5.0V3
PM-KM
YC1
+24V3
GND
POLREMN1
POLRDYN1
POLCLK1
PDPWB-K
YC1
+3.3V3_VIDEO
(N.C.)
PDKN
GND
ITEMS
YC2
YC3
APCPWB-K
PDKN
+3.3V3_VIDEO
VREFK
VDOK1N
VDOK1P
GND
OUTPEKN
SAMPLEK1N
LSUTHERMK
VDOK2N
VDOK2P
SAMPLEK2N
+5.0V3
YC2017
YC2016
VDO_LDOUT_1_AP
VDO_LDOUT_1_AN
VDO_LDOUT_2_AP
VDO_LDOUT_2_AN
VDO_LDOUT_1_BP
VDO_LDOUT_1_BN
VDO_LDOUT_2_BP
VDO_LDOUT_2_BN
MEPWB
YC7
+24V3
+24V3
DACSLD1
DACSLD2
DACSCLK
GND
DACSD0
HVREMN
HVCLKK
MKISENS
GND
GND
YC101
Cleaning
Secondary transfer
Primary transfer-Y
Primary transfer-M
Primary transfer-C
Primary transfer-K
Chager-YY
Chager-M
Chager-C
Chager-K
HVPWB
Developer SLV-Y
Developer SLV-M
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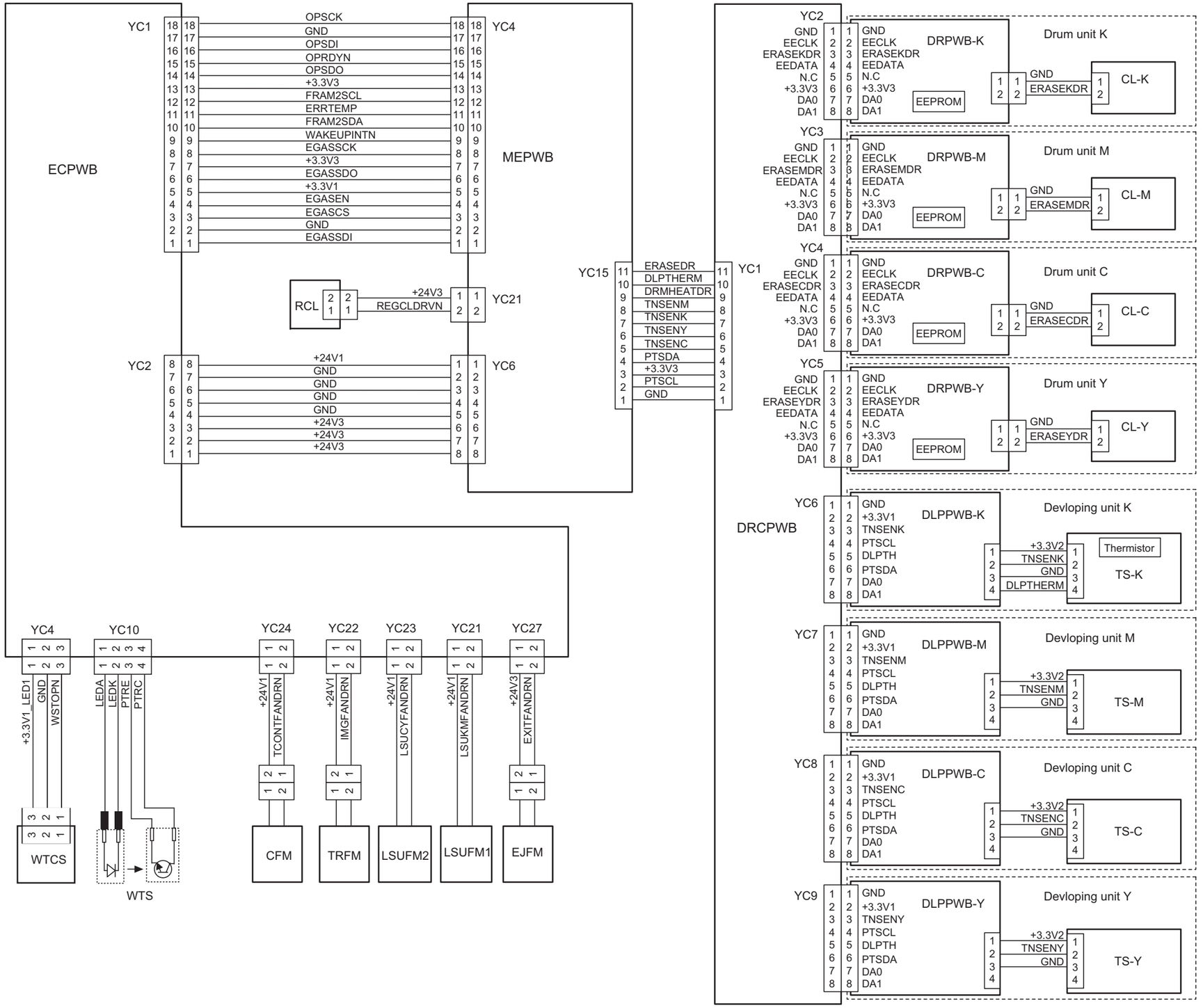
Developer MAG-M
Developer MAG-C
Developer MAG-K

No.3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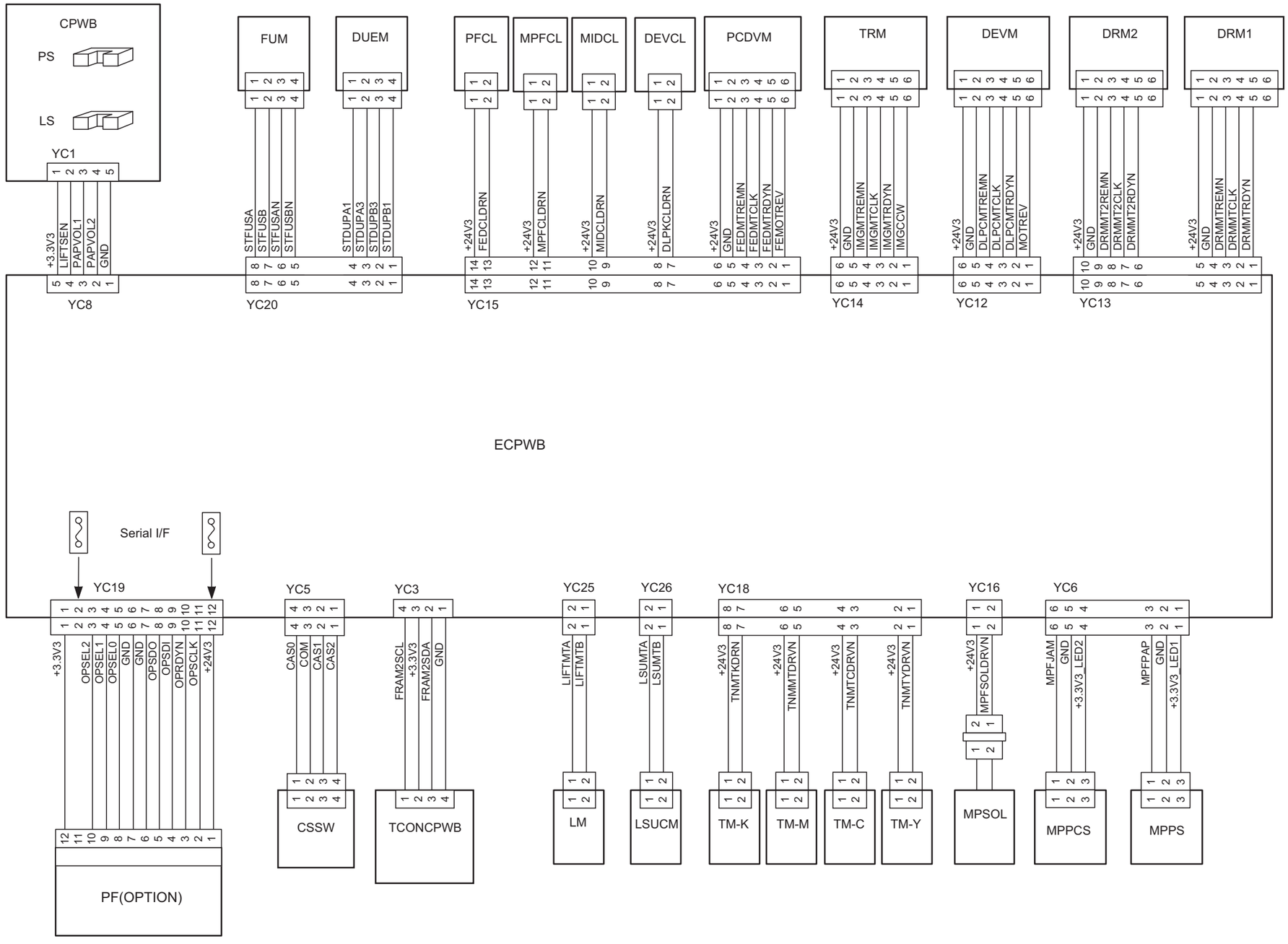
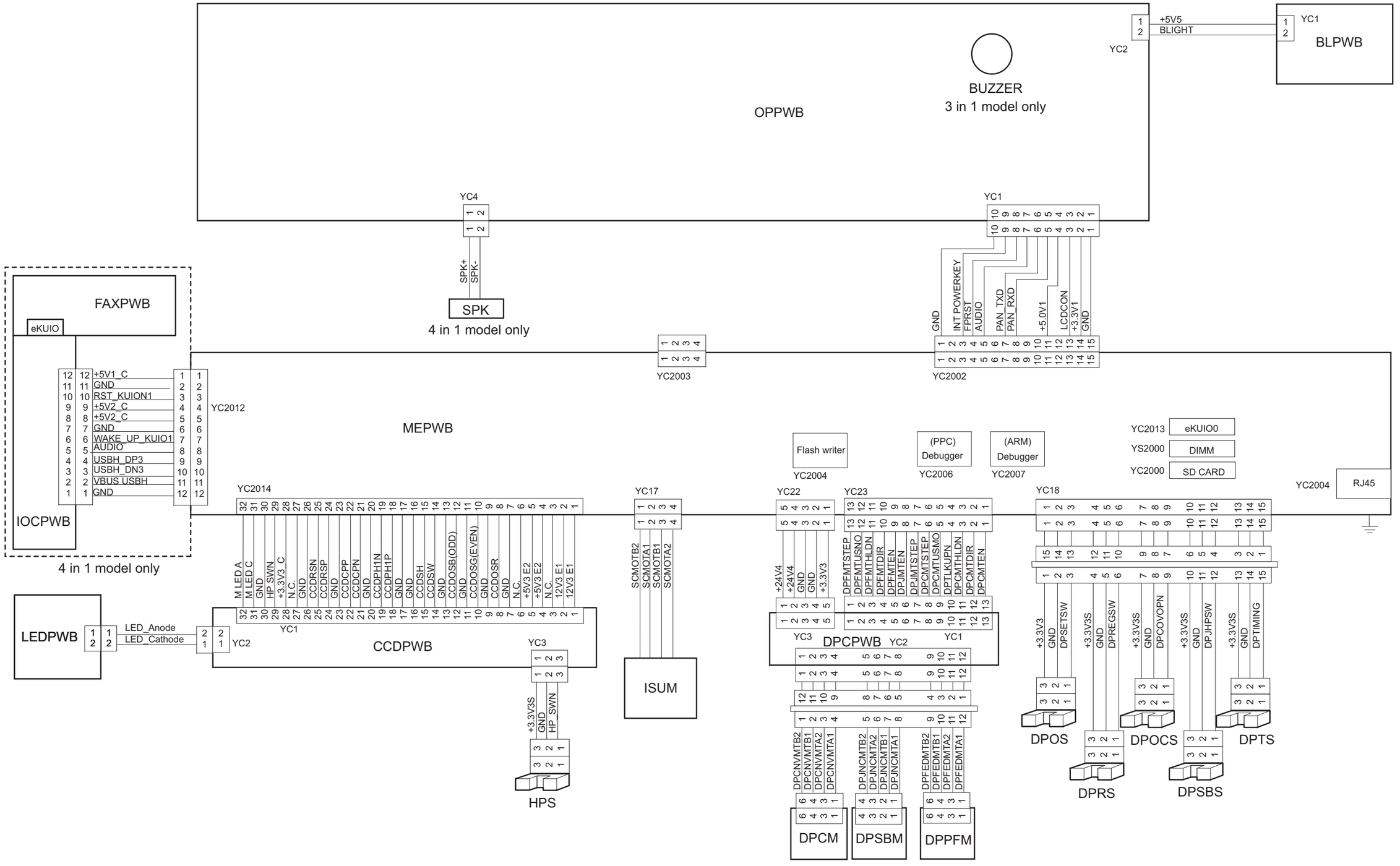
YC1
OPSCK
GND
OPSDI
OPRDYN
OPSDO
+3.3V3
FRAM2SCL
ERRTEMP
FRAM2SDA
WAKEUPINTN
EGASSCK
+3.3V3
EGASSDO
+3.3V1
EGASEN
EGASCS
GND
EGASSDI
YC4
MEPWB
RCL
+24V3
REGCLDRVN
YC21
YC2
+24V1
GND
GND
GND
GND
+24V3
+24V3
+24V3
YC6
YC15
ERASEDR
DLPTHERM
DRMHEATDR
TNSENM
TNSENK
TNSENY
TNSENC
PTSDA
+3.3V3
PTSCL
GND
YC1
DRCPWB
YC2
GND
EECLK
ERASEKDR
EEDATA
N.C
+3.3V3
DA0
DA1
DRPWB-K
EEPROM
Drum unit K
GND
ERASEKDR
CL-K
YC3
ERASEMDR
DRPWB-M
Drum unit M
CL-M
YC4
ERASECDR
DRPWB-C
Drum unit C
CL-C
YC5
ERASEYDR
DRPWB-Y
Drum unit Y
CL-Y
YC6
+3.3V1
TNSENK
PTSCL
DLPTH
DLPPWB-K
Devloping unit K
Thermistor
TS-K
YC7
TNSENM
DLPPWB-M
Devloping unit M
TS-M
YC8
TNSENC
DLPPWB-C
Devloping unit C
TS-C
YC9
TNSENY
DLPPWB-Y
Devloping unit Y
TS-Y
YC4
YC10
YC24
YC22
YC23
YC21
YC27
+3.3V1_LED1
GND
WSTOPN
LEDA
LEDK
PTRE
PTRC
+24V1
TCONTFANDRN
IMGFANDRN
LSUCYFANDRN
LSUKMFANDRN
+24V3
EXITFANDRN
WTCS
WTS
CFM
TRFM
LSUFM2
LSUFM1
EJFM

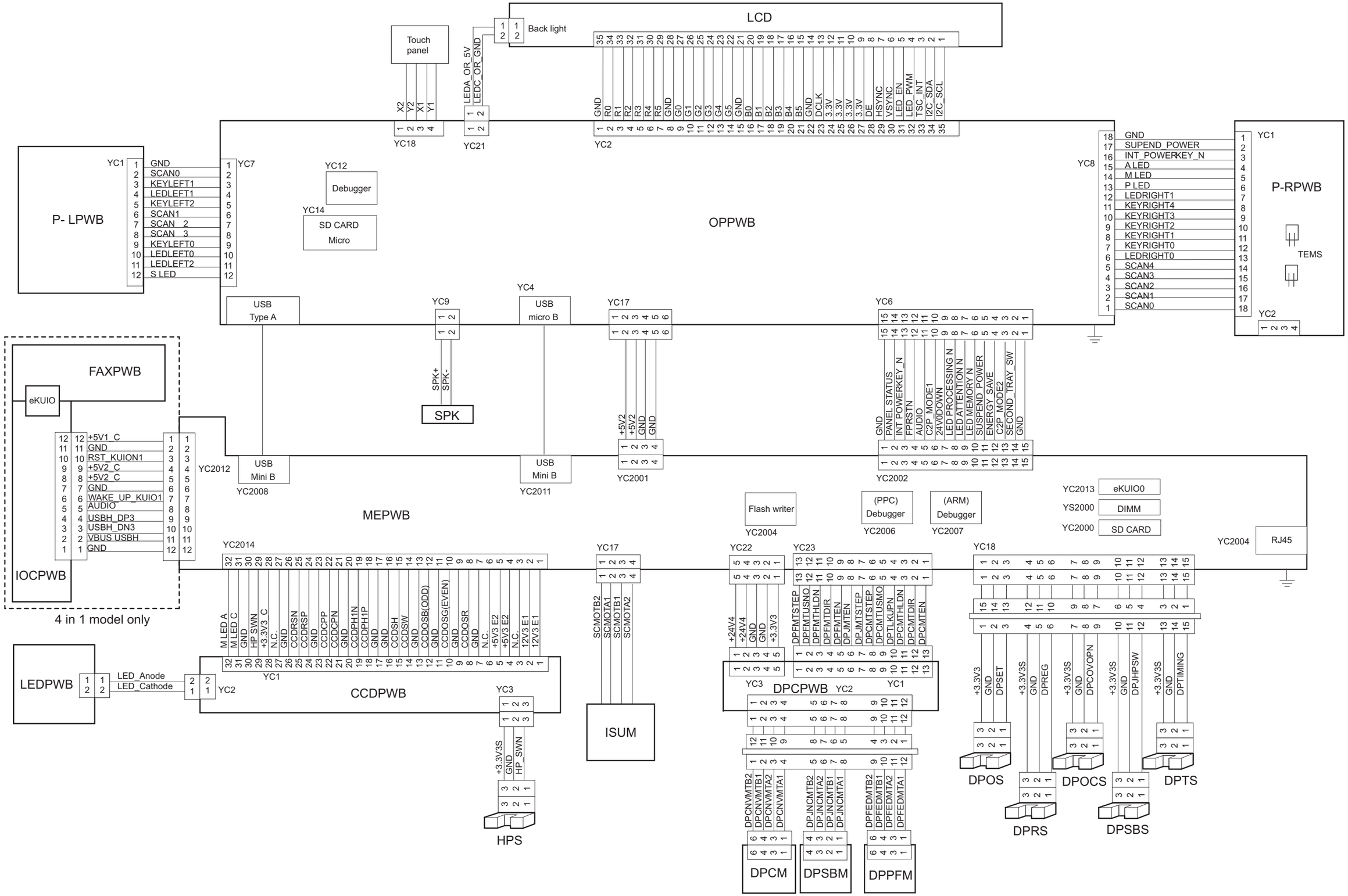
No.4


CPWB
PS
LS
YC1
+3.3V3
LIFTSEN
PAPVOL1
PAPVOL2
GND
YC8
FUM
STFUSA
STFUSB
STFUSAN
STFUSBN
YC20
DUEM
STDUPA1
STDUPA3
STDUPB3
STDUPB1
PFCL
+24V3
FEDCLDRN
MPFCL
+24V3
MPFCLDRN
MIDCL
+24V3
MIDCLDRN
DEVCL
+24V3
DLPKCLDRN
PCDVM
+24V3
GND
FEDMTREMN
FEDMTCLK
FEDMTRDYN
FEMOTREV
YC15
TRM
+24V3
GND
IMGMTREMN
IMGMTCLK
IMGMTRDYN
IMGCCW
YC14
DEVM
+24V3
GND
DLPCMTREMN
DLPCMTCLK
DLPCMTRDYN
MOTREV
YC12
DRM2
+24V3
GND
DRMMT2REMN
DRMMT2CLK
DRMMT2RDYN
YC13
DRM1
+24V3
GND
DRMMTREMN
DRMMTCLK
DRMMTRDYN
ECPWB
Serial I/F
YC19
+3.3V3
OPSEL2
OPSEL1
OPSEL0
GND
GND
OPSDO
OPSDI
OPRDYN
OPSCLK
+24V3
PF(OPTION)
YC5
CAS0
COM
CAS1
CAS2
CSSW
YC3
FRAM2SCL
+3.3V3
FRAM2SDA
GND
TCONCPWB
YC25
LIFTMTA
LIFTMTB
LM
YC26
LSUMTA
LSUMTB
LSUCM
YC18
+24V3
TNMTKDRN
TM-K
+24V3
TNMMTDRVN
TM-M
+24V3
TNMTCDRVN
TM-C
+24V3
TNMTYDRVN
TM-Y
YC16
+24V3
MPFSOLDRVN
MPSOL
YC6
MPFJAM
GND
+3.3V3_LED2
MPPCS
MPFPAP
GND
+3.3V3_LED1
MPPS

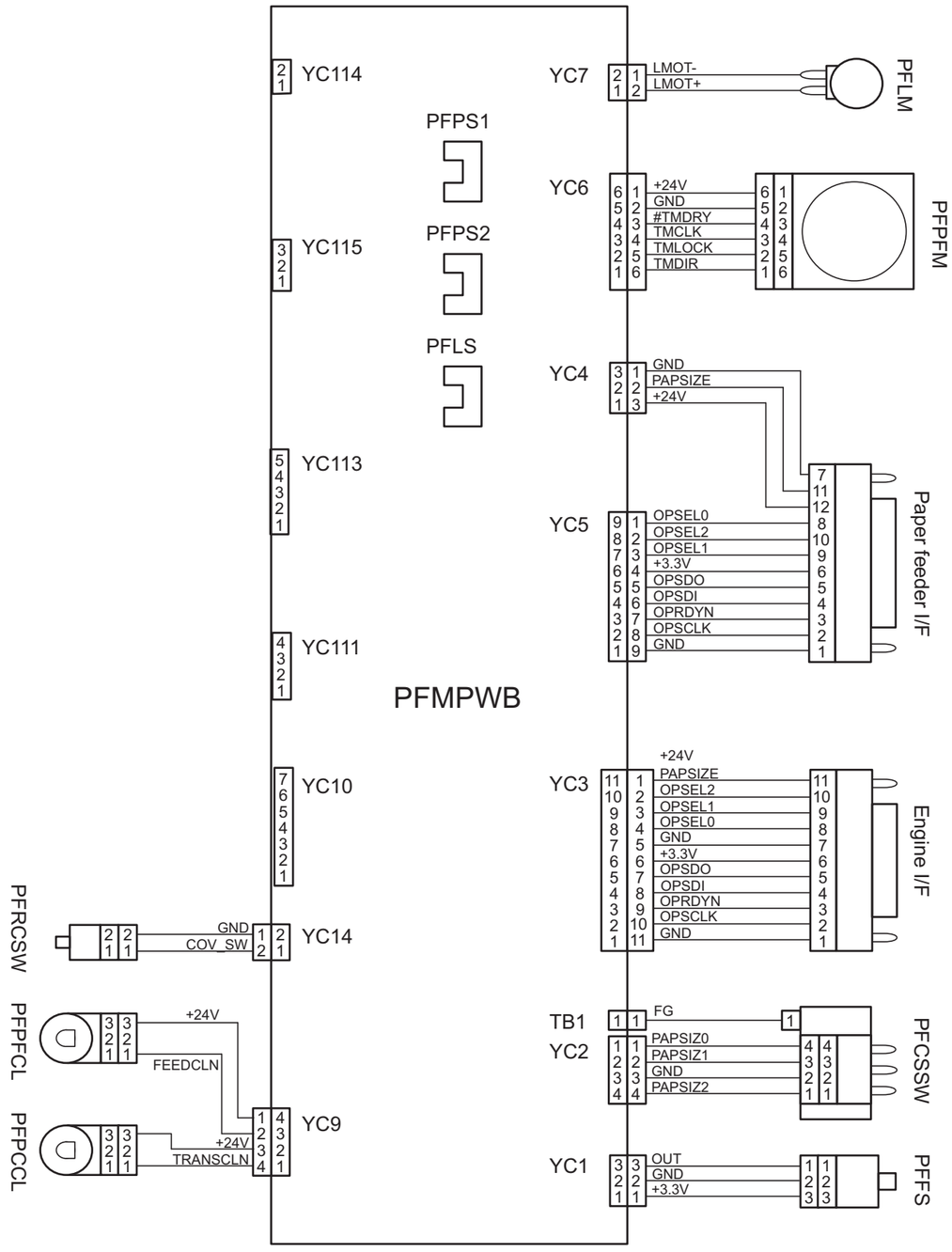
No.5 (30 ppm model)



No.5 (35 ppm model)



Paper Feeder (Option)



PF-5100 (Paper Feeder)

Installation Guide

PF-5100

303PK5631001

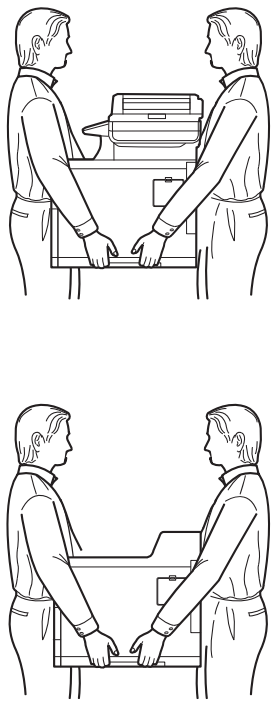
Installation Guide
Installationsanleitung
Guide d'installation
Guida all'installazione
Guía de instalación
Руководство по установке
安裝手冊
설치안내서
インストールガイド

For U.S.A.:
To install the optional paper feeder unit, contact your service representative.
This unit is for use only with Models ECOSYS M6035cidn, ECOSYS M6535cidn, ECOSYS M6030cdn, ECOSYS M6530cdn, ECOSYS P6035cdn, ECOSYS P7040cdn and ECOSYS P6130cdn.

For Canada:
CAN ICES-3B/NMB-3B

Installation of PF-5100 安裝PF-5100
Installation von PF-5100 PF-5100설치
Installation de PF-5100 PF-5100の設置
Installazione di PF-5100
Instalación de PF-5100
Установка PF-5100

1



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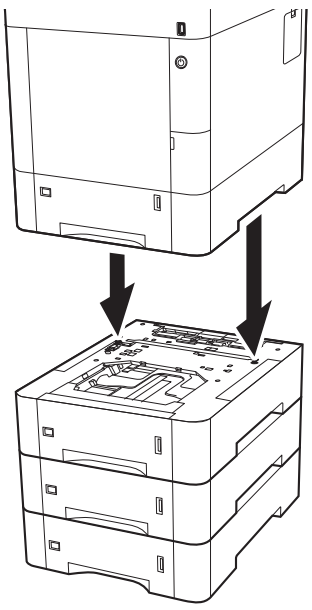
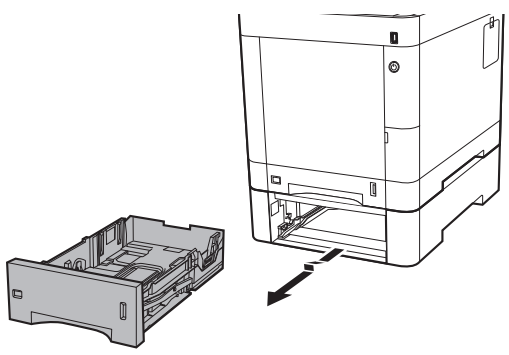


Adjustment of paper size
Justage des Papierformats
Ajustement de format papier
Registrazione del formato carta
Ajuste del tamaño del papel
Регулировка размера бумаги
調整紙張尺寸
용지 크기의 조정
用紙サイズの調整

1



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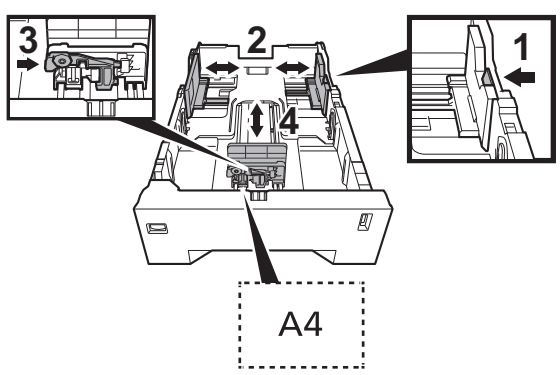

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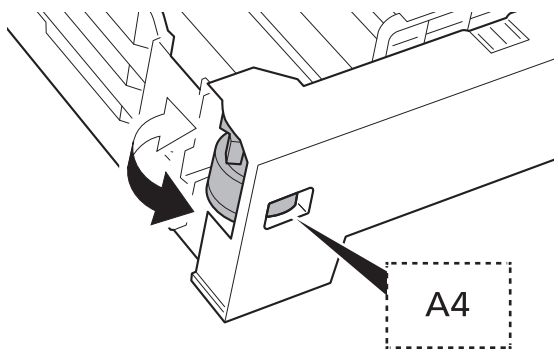
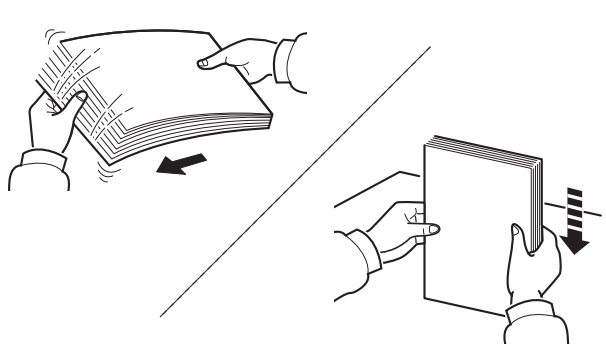


Loading paper
Ladenpapier
Papier de chargement
Carta da caricamento
Papel del cargamento
Загрузка бумаги
裝入紙張
용지 적재
用紙のセット

1



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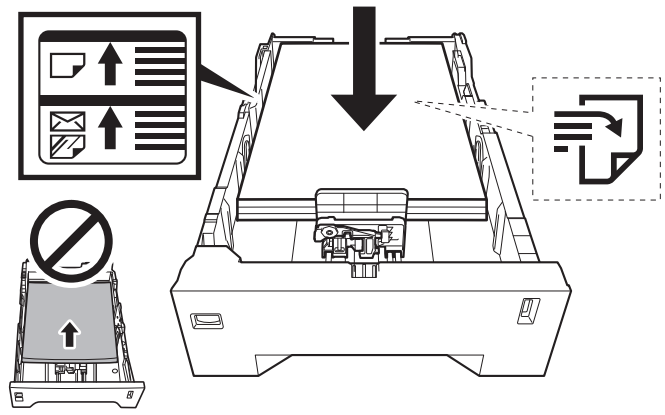

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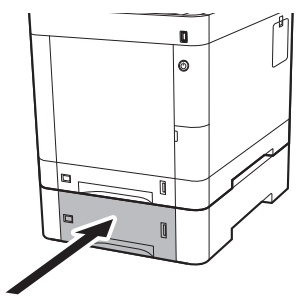

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