Service Manual

ECOSYS P3145dn
ECOSYS P3150dn
ECOSYS P3155dn
CA-3100 / PB-325 / PF-3100 / PF-3110 / PT-320

CONFIDENTIAL
FOR AUTHORIZED KYOCERA ENGINEERS ONLY. DO NOT DISTRIBUTE TO NON-AUTHORIZED PARTIES.

CAUTION

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

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

ATTENTION

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

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

Notation of products in the manual
For the purpose of this service manual, products are identified by print speed at A4.

Product name	Print speed	100 V	120 V	220-240 V	Australia
ECOSYS P3160dn	60 ppm		-	-	-
ECOSYS P3155dn	55 ppm	-			
ECOSYS P3150dn	50 ppm	-			
ECOSYS P3145dn	45 ppm				

Revision history

Revision	Date	Pages	Revised contents
1	May 15, 2019	Page 4-28	Add important information
2	June 14, 2019	Page 7-44	Add: F60X

KYOCERA

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
- 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.

Contents

1Specifications

1 - 1 Specifications

(1) Machine

Item		Description			
		45 ppm	**50 ppm**	**55 ppm**	**60 ppm**
Type		Desktop			
Printing Method		Electrophotography by semiconductor laser			
Paper Weight	**Cassette**	60 to 120 g/m^2			
	Multi Purpose Tray	60 to 220 g/m^2			
Paper Type	**Cassette**	Plain, Rough, Recycled, Preprinted, Bond, Color (Colour), Prepunched, Letterhead, High Quality, Custom 1 to 8 (Duplex: Same as Simplex)			
	Multi Purpose Tray	Plain, Transparency (OHP film), Rough, Vellum, Labels, Recycled, Preprinted, Bond, Cardstock, Color (Colour), Prepunched, Letterhead, Envelope, Thick, High Quality, Custom 1 to 8			
Paper Size	**Cassette**	A4, A5, A5 (Landscape), B5, Letter, Legal, Statement, Executive,Oficio II, Folio, 216 × 340 mm, 16K, B5 (ISO), Envelope C5, Oufuku Custom (140 × 210 to 216 × 356 mm,	A4, A5, A5 (Landscape), A6, B5, B6, Letter, Legal, Statement, Statement (Landscape), Executive,Oficio II, Folio, 216 × 340 mm, 16K, B5 (ISO), Envelope DL, Envelope C5, Oufuku Hagaki,Custom (105 × 148 to 216 × 356 mm)		
	Multi Purpose Tray	A4, A5, A5 (Landscape), A6, B5, B6, Folio, 216 × 340 mm, Letter, Legal, Statement, Statement (Landscape), 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) Banner sheet (216 × 470.1 mm to 216 × 915 mm)			
Warm-up Time (22°C/71.6°F, 60%)	**Power on**	16 seconds or less	20 seconds or less	25 seconds or less	25 seconds or less
	Sleep	15 seconds or less	20 seconds or less	25 seconds or less	25 seconds or less
Paper Capacity	**Cassette**	500 sheets 80 g/m^2 *1			
	Multi Purpose Tray	100 sheets 80 g/m^2			
Output Tray Capacity	**Top tray**	250 sheets 80 g/m^2	500 sheets 80 g/m^2		
	Rear tray	-	250 sheets 80 g/m^2		
Photoconductor		a-Si drum (diameter 30 mm)			
Image write system		Semiconductor laser			
Charging system		Contact charger roller method			

Item		Description			
		45 ppm	**50 ppm**	**55 ppm**	**60 ppm**
Developer system		Mono component dry developing method Toner replenishing: Automatic from the toner container			
Transfer system		Transfer roller method			
Separation system		Small diameter separation, dischager needle (DC bias)			
Cleaning system		Counter blade cleaning + cleaning roller			
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		512 MB (On-Board) Maximum: 3072 MB (On-Board +2048MB DIMM)			
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)			
	Option	eKUIO: 1			
Operating Environment	**Temperature**	10 to 32.5°C/50 to 90.5°F			
	Humidity	15 to 80 %			
	Altitude	3,500 m/11,482 ft maximum			
	Brightness	1,500 lux maximum			
Dimension (W × D × H)		14.97" × 16.16" × 11.24" 380 × 410 × 285 mm	14.97" × 16.16" × 12.61" 380 × 410 × 320 mm		
Weight (without toner container)		Approx. 31.1 lb/ Approx. 14.1 kg	Approx. 33.8 lb/Approx. 15.3 kg		
Space Required (W × D) **(Using multi purpose tray)**		14.97" × 23.36" 380 × 613 mm			
Power Source	AC100V 50/60Hz	11.4A	-	-	11.9A
	AC120V 60Hz	9.5 A	10.0 A	10.0 A	-
	AC220-240V 50Hz	5.4A	5.6 A	5.6 A	-

*1   Up to upper limit height line in the cassette.

(2) Printer FunctionsItem

Item				Description	
Printing Speed				Single	Double
	45 ppm model	A4		45 sheets/min	22.5 sheets/min
		Letter		47 sheets/min	23.5 sheets/min
		Legal		38 sheets/min	19 sheets/min
		B5R		36 sheets/min	18 sheets/min
		A5R		23 sheets/min	11.5 sheets/min
		Statement-R		23 sheets/min	11.5 sheets/min
	50 ppm model	A4		50 sheets/min	35.5 sheets/min
		Letter		52 sheets/min	36.5 sheets/min
		Legal		42 sheets/min	21 sheets/min
		B5R		40 sheets/min	28 sheets/min
		A5		74 sheets/min	-
		A5R		27 sheets/min	19 sheets/min
		Statement		76 sheets/min	-
		Statement-R		27 sheets/min	19 sheets/min
		A6R		27 sheets/min	-
	55 ppm model	A4		55 sheets/min	39 sheets/min
		Letter		57 sheets/min	40 sheets/min
		Legal		46 sheets/min	23 sheets/min
		B5R		44 sheets/min	31 sheets/min
		A5		82 sheets/min	-
		A5R		29 sheets/min	20 sheets/min
		Statement		84 sheets/min	-
		Statement-R		29 sheets/min	20 sheets/min
		A6R		29 sheets/min	-
	60 ppm model	A4		60 sheets/min	42.5 sheets/min
		Letter		62 sheets/min	43.5 sheets/min
		Legal		50 sheets/min	25 sheets/min
		B5R		48 sheets/min	34 sheets/min
		A5		90 sheets/min	-
		A5R		32 sheets/min	23 sheets/min
		Statement-R		32 sheets/min	23 sheets/min
		A6R		32 sheets/min	-

Item		Description
First Print Time (A4, feed from Cassette)	45 ppm model	5.3 seconds or less
	50 ppm model	5.4 seconds or less
	55 ppm model	4.5 seconds or less
	60 ppm model	4.5 seconds or less
Resolution		Fast1200 Fine1200 600 dpi
Operating System		Windows 7, Windows 8.1, Windows 10, Windows Server 2008/R2, Windows Server 2012/R2, Windows Server 2016, Windows Server 2019, Mac OS 10.9 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 mounting) Wireless LAN (Option): 1 (For IB-36 mounting)
Page Description Language		PRESCRIBE
Emulations		PCL6 (PCL-XL, PCL5e), KPDL3, XPS, Open XPS, TIFF/JPEG, IBM Proprinter, LQ-850, LinePrint

(3) Option

(3-1)Paper Feeder (500-sheet) (Option)　PF-3110

Item	Description
Paper Supply Method	Friction roller feeder
Paper Size	A4, A5, B5, B6, Folio, Letter, Legal, Statement, Executive, Oficio II, 216 × 340 mm, 16K, B5 (ISO), Envelope #10, Envelope #9, Envelope #6 3/4, Envelope Monarch, Envelope DL, Envelope C5, Oufuku Hagaki (Return postcard), Youkei 4, Youkei 2, Custom (92 × 162 to 216 × 356 mm)
Paper capacity	500 sheets 80 g/m² ×1: Maximum: 4
Supported Paper	Paper weight: 60 to 120 g/m² Media types: Plain, Rough, Recycled, Preprinted, Bond, Color (Colour), Prepunched, Letterhead, Letter, High Quality, Custom 1 to 8
Dimensions (W) × (D) × (H)	14.97" × 16.16" × 4.77" 380 × 410 × 121 mm
Weight	8.4 lbs. or less/ 3.8 kg or lessItem
Power supply	From the machine

(3-2)Bulk Paper Feeder (2000-sheet) (Option)　PF-3100

Item	Description
Paper Size	Envelope Monarch, Envelope #10, Envelope DL, Envelope C5, Executive, Letter, A4, B5, A5, A6, B6, Envelope #9, Envelope #6, ISO B5, Custom, Hagaki, Oufuku Hagaki, 16K, Statement, Youkei 2 and Youkei 4
Supported Paper	Plain, Transparency, Preprinted, Labels, Bond, Recycled, Vellum, Rough, Letterhead, Color, Prepunched, Envelope, Cardstock, Thick, High Quality, and CUSTOM 1 (to 8)
Paper capacity	2,000 sheets　75 g/m² ×1
Dimensions (W) × (D) × (H)	13 37/64" × 13 17/32" × 14 39/64" 345 × 420 × 371 mm
Weight	7.5 kg or less (16.54 lbs or less)
Power supply	From the machine

(3-3)Printer base Attachment (PB-325)

Item	Description
Dimensions (W) × (D) × (H)	380× 706× 184mm
Weight	6.5 kg or less (14.3 lbs or less)

1 - 2 Parts names

(1) Machine Exterior
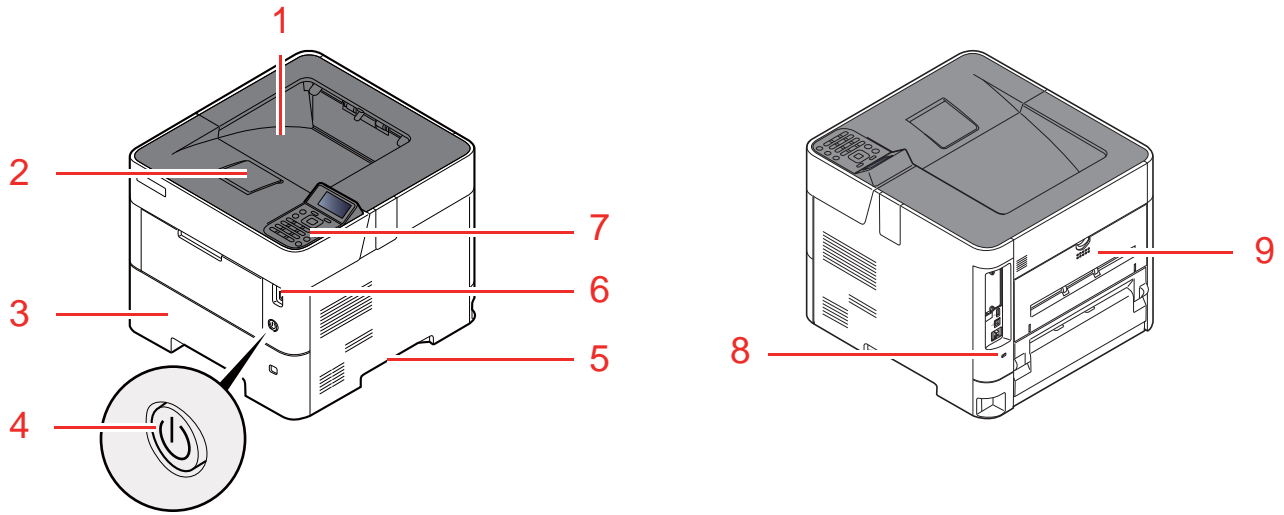
1 Top Tray

2 Paper Stopper

3 Cassette 1

4 Power Switch

5 Handles

6 USB Drive Slot

7 Operation Panel

8 Anti-theft Lock Slot

9 Rear Cover

(2) Connectors/Interior
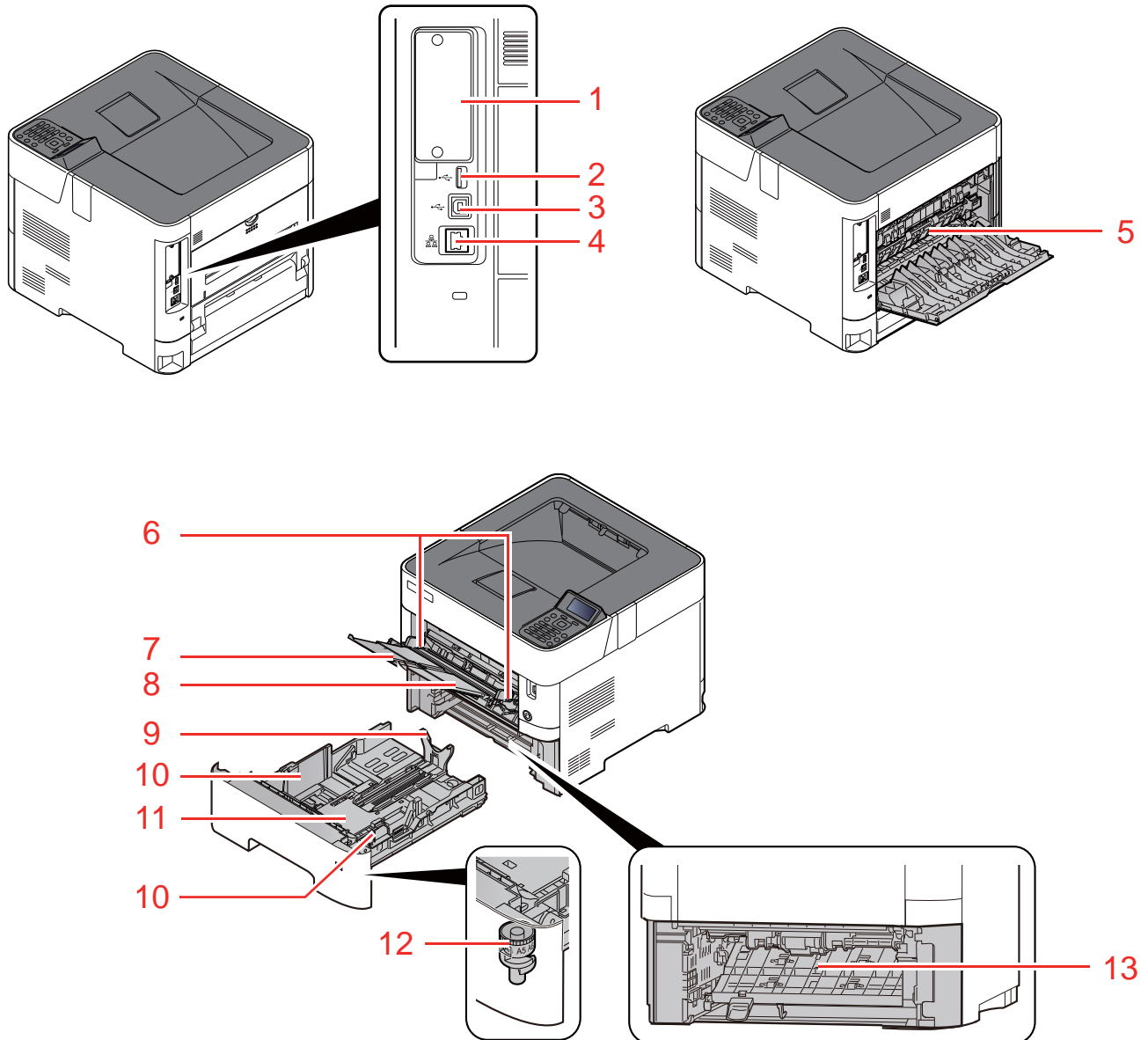
1 Option Interface

2 USB Port

3 USB Interface Connector

4 Network Interface Connector

5 Fuser Cover

6 Paper Width Guides

7 Tray Extension

8 Multi Purpose Tray

9 Paper Length Guide

10 Paper Width Guides

11 Bottom Plate

12 Size Dial

13 Duplex Cover
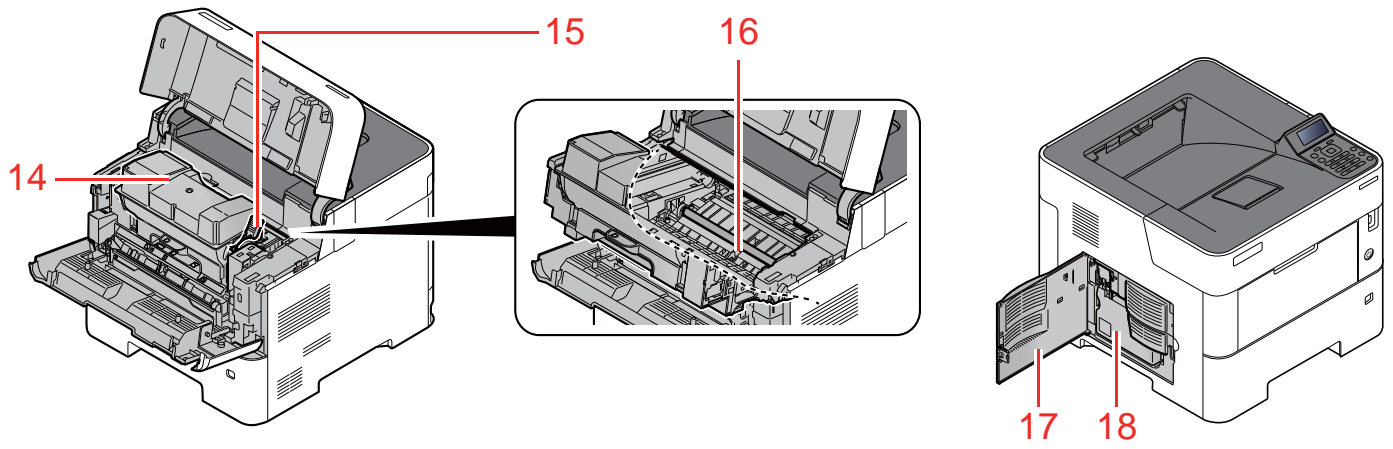
14 Toner Container

15 Toner Container Lock Lever

16 Registration Roller

17 Waste Toner Box cover

18 Waste Toner Box

(3) With Optional Equipments Attached
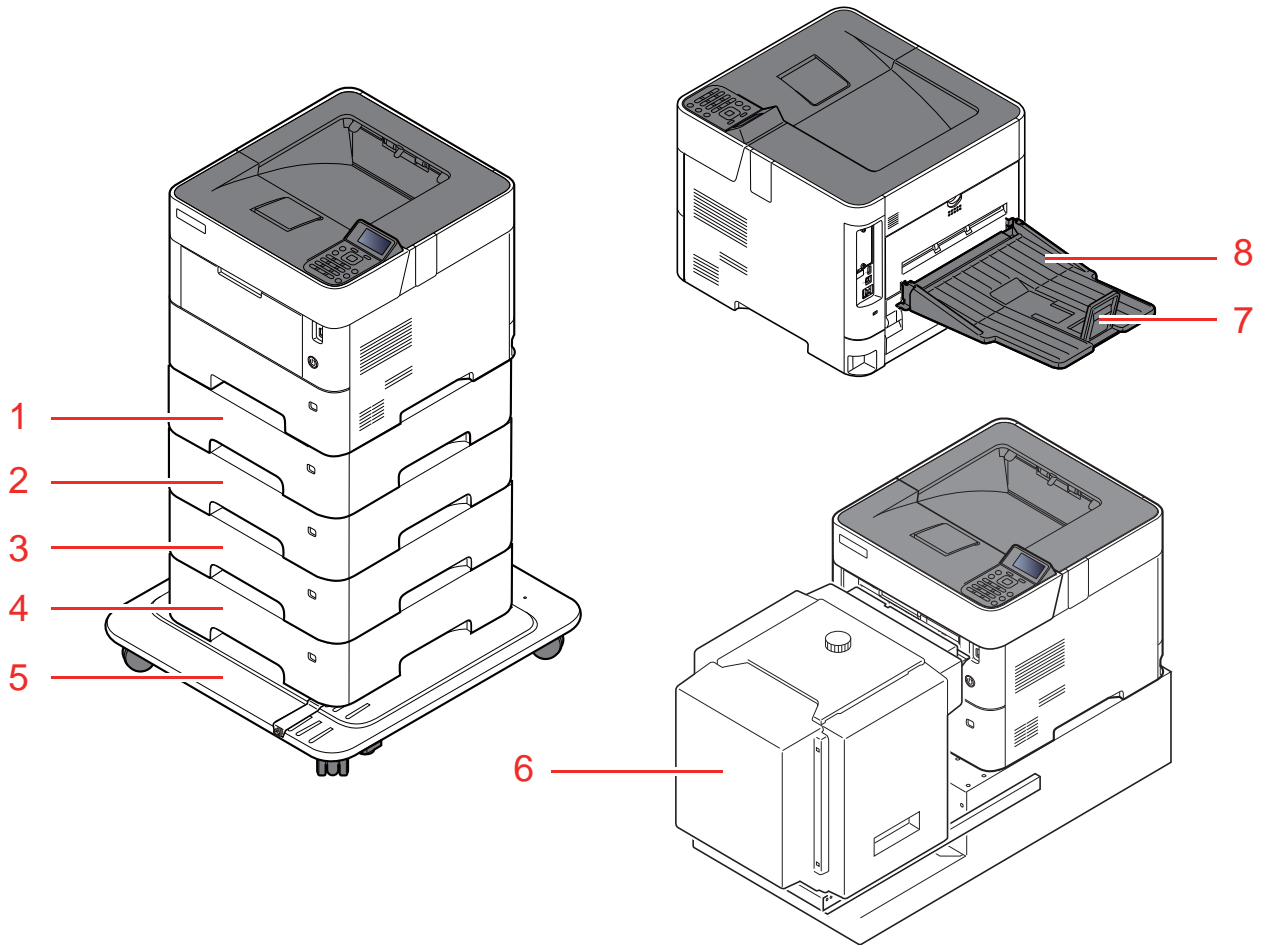
1 Cassette 2

2 Cassette 3

3 Cassette 4

4 Cassette 5
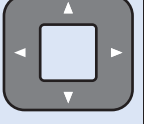
5 Castor kit

6 Bulk Paper Feeder

7 Paper Stopper

8 Rear Tray (50/ 55/60 ppm model only)

(4) Operation Panel Keys

	Displays the 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.
	Returns to the previous display.

Select Key :
Selects the menu displayed at the bottom of the message display.
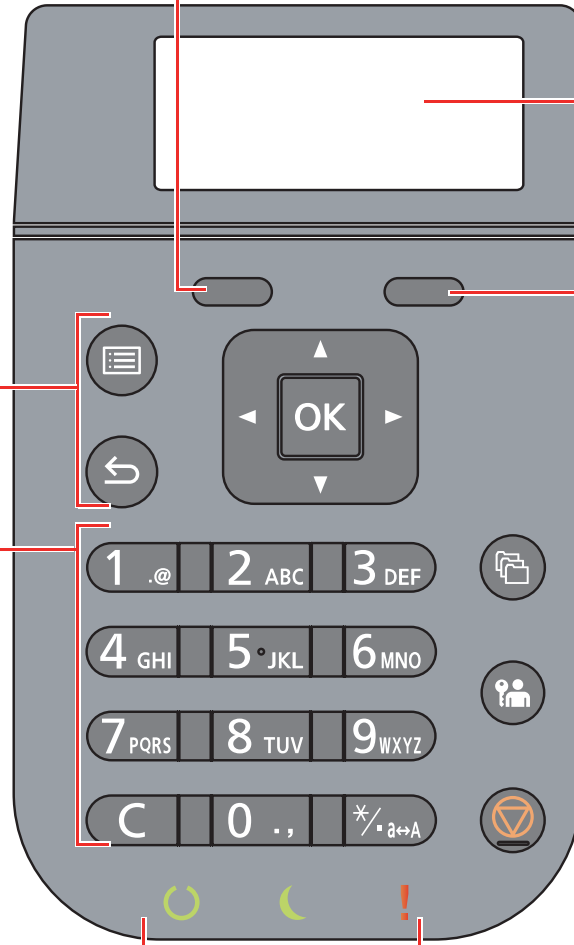
Message display :
Displays the setting menu and error messages.

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

	Numeric keys. Enter numbers and symbols.
	Displays the Document Box screen.
	Exits the operation for the current user (i.e. log out).
	Cancels or pauses the job in progress.

	Lights up in the print ready state. Blinks during print processing or when an error occurs.
	Lights up when the machine is in energy save mode.
!	Lights or blinks when an error occurs and a job is stopped.

1-9

1 - 3 Parts names (Option)

(1) PF-3110
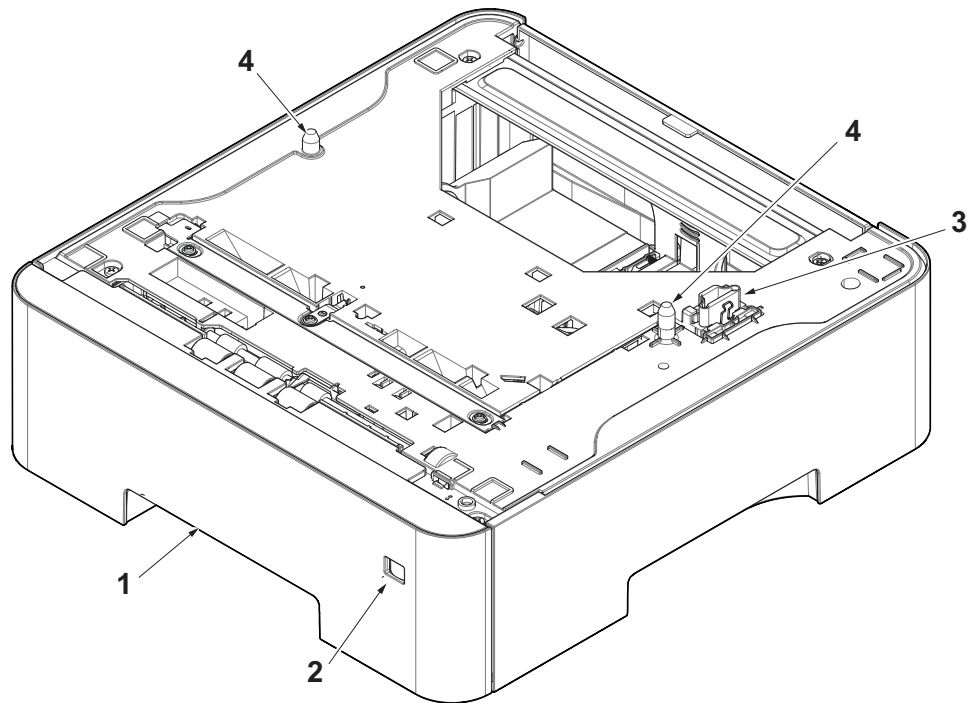
1 Cassette

2 Paper size window

3 Interface connector

4 Pins

(2) PF-3100
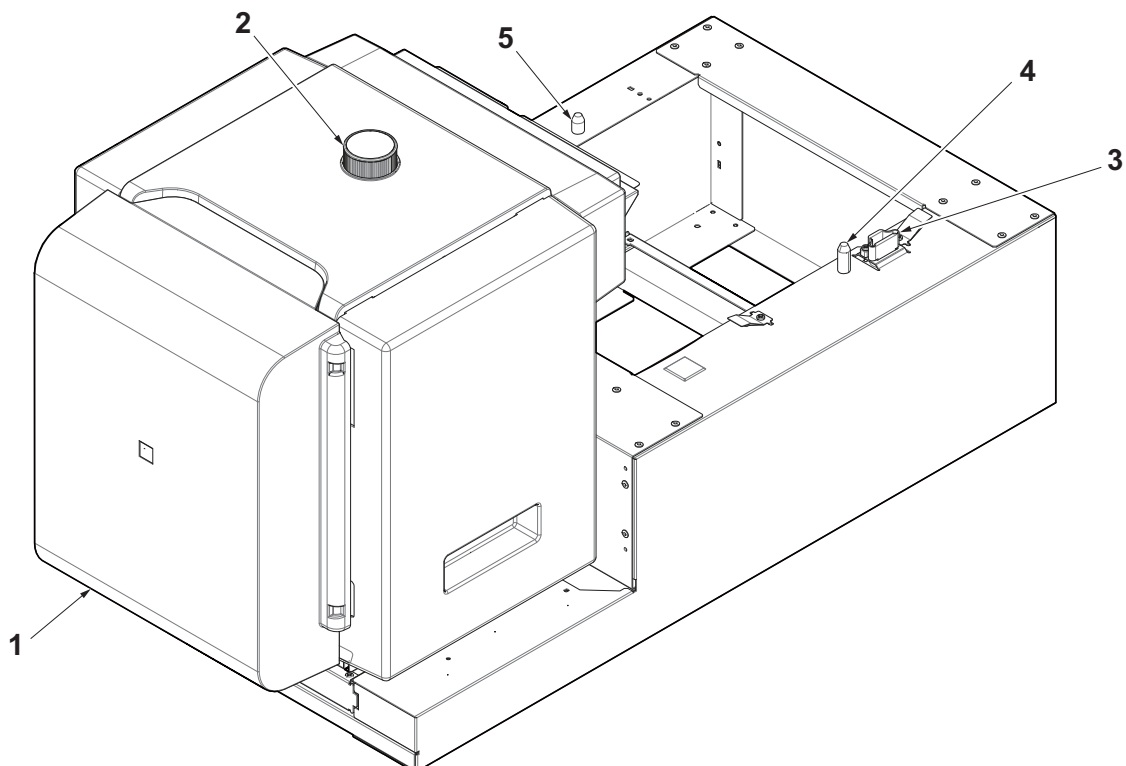
1   Tray cover

2   Paper adjuster knob

3   Interface connector

4   Pins

5   Pins

1 - 4 Overview of Optional Equipment

The following optional equipment is available for the machine.

(1) Card Authentication Kit(B)

(2) PF3110

(3) CA-3100

(4) Expansion Memory

(5) SD Memory Card SDHC Memory Card

(12) PF-3100

(11) IB-36

(10) PT-320

Software option
(13)UG-33

(14) USB Keyboard

(6) HD-6/HD-7	**(7) IB-50**	**(8) IB-51**	**(9) Parallel Interface Kit IB-32B**
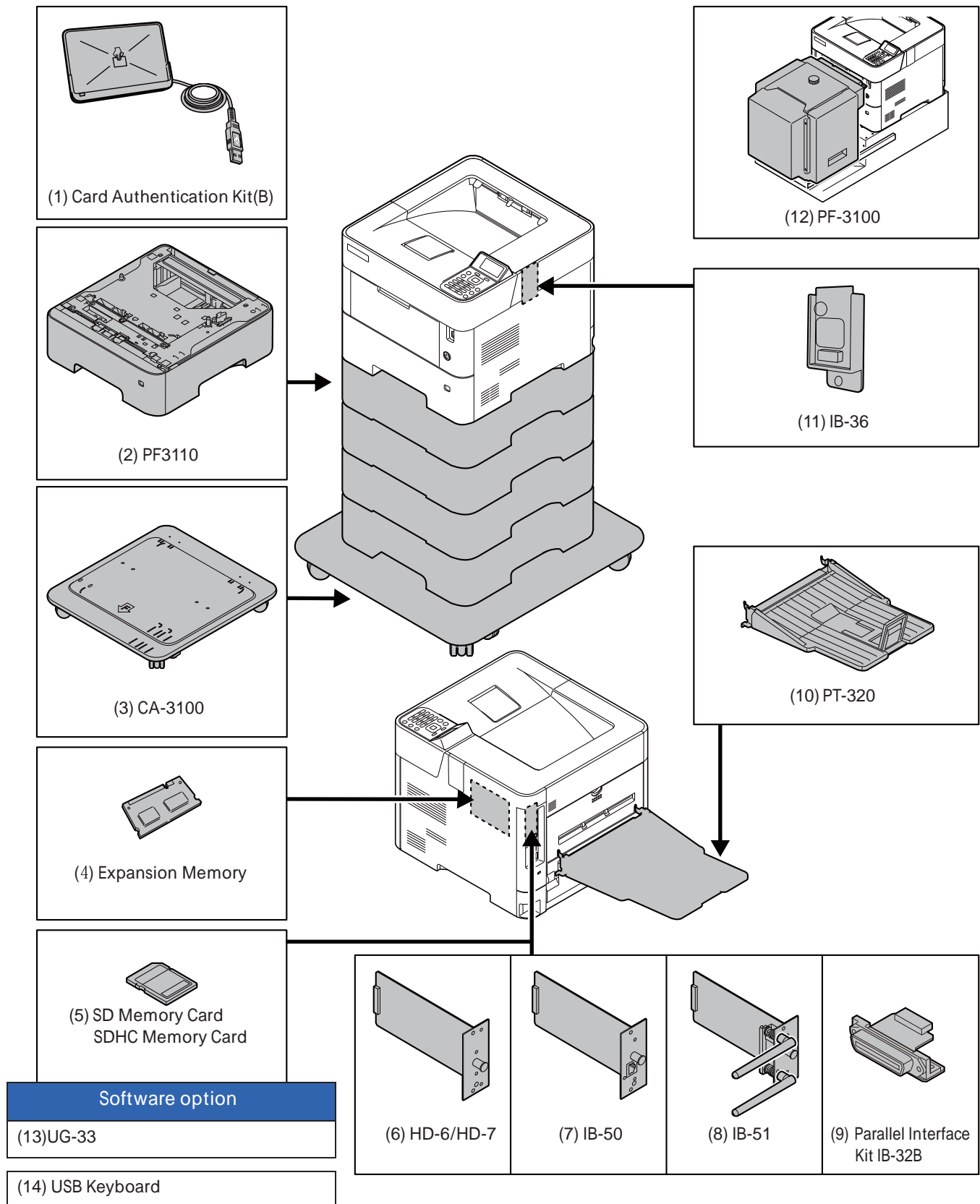
(1) Card Authentication Kit(B) "Card Authentication Kit"

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

(2))PF-3110 "Paper Feeder (500-sheet x1)"

Up to four additional cassettes identical to the machine's cassettes can be installed in the machine. Loading method are the same as the standard cassettes.

(3) CA-3100 "Castor kit"

If you are attaching Paper Feeder (500-sheet x1) to the printer and installing it on the floor, you can use the castor kit to maintain the machine's stability.

(4) "Expansion Memory"

The machine can perform the more multiple jobs simultaneously by adding more memories. You can increase the machine's memory up to 2,560 MB by plugging in the optional memory modules.
Precautions for Handling the Memory Modules.

(5) "SD/SDHC Memory Card"

An SD/SDHC memory card is useful for storing fonts, macros, and overlays. The machine is equipped with a slot for an SDHC memory card with a maximum size of 32 GB, and an SD memory card with a maximum size of 2 GB.
Reading the SD/SDHC Memory Card.

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

With SSD installed in the machine, received data can be rasterized and stored on this SSD. This enables high-speed printing of multiple copies using an electric sort function. Also, you can use the Document Box functions.

(7) IB-50 "Network Interface Kit"

The Network Interface Kit provides a high-speed connection for the Gigabit-per-second interface. Settings are possible for a variety of OS and network protocols.

(8) 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.

(9) Parallel Interface Kit (IB-32B)

The parallel interface kit supports communications speeds up to 2 Mbps. Use a parallel printer cable when this option is used.

(10) PT-320 "Rear Tray" (55 ppm model only)

Use the faceup output tray when you wish paper to be stacked with the printed side facing up (reverse order). The rear tray can only be used for printing from a PC.

(11) Wireless Network Interface Kit (IB-36)

This is a wireless LAN Interface card which supports the wireless LAN specifications IEEE802.11n (Max 65 Mbps) and 11 g/b. In addition, network printing is possible without using the wireless LAN router because Wi-Fi Direct is supported.

(12) PF-3100 Bulk Paper Feeder

Holds approximately 2,000 sheets of 76 to 216 mm × 148 to 305 mm size paper. This bulk paper feeder can be attached to the front of the printer after the MP tray has been removed.

(13) UG-33 "ThinPrint Option"

This application allows print data to be printed directly without a print driver.

(14) USB Keyboard "USB Keyboard"

A USB keyboard can be used to enter information into the text fields on the operation panel. A special mount is also available to install the keyboard on the machine. Please contact your dealer or service representative for information on keyboards that are compatible with your machine before you purchase one.

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:

		45 ppm	50/55 ppm	60 ppm
100V AC	50/60Hz	11.4 A or more	-	11.9 A or more
120V AC	60Hz	9.5 A or more	10 A or more	-
220 to 240V AC	50Hz	5.4 A or more	5.6 A 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, when this machine is moved after installation, the floor material may be damaged by the casters.
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

400 mm (15-3/4")

400 mm (15-3/4")

300 mm (11-13/16")   100 mm (3-15/16")

200 mm (7-7/8") 500 mm (19-11/16") *1   500 mm (19-11/16")
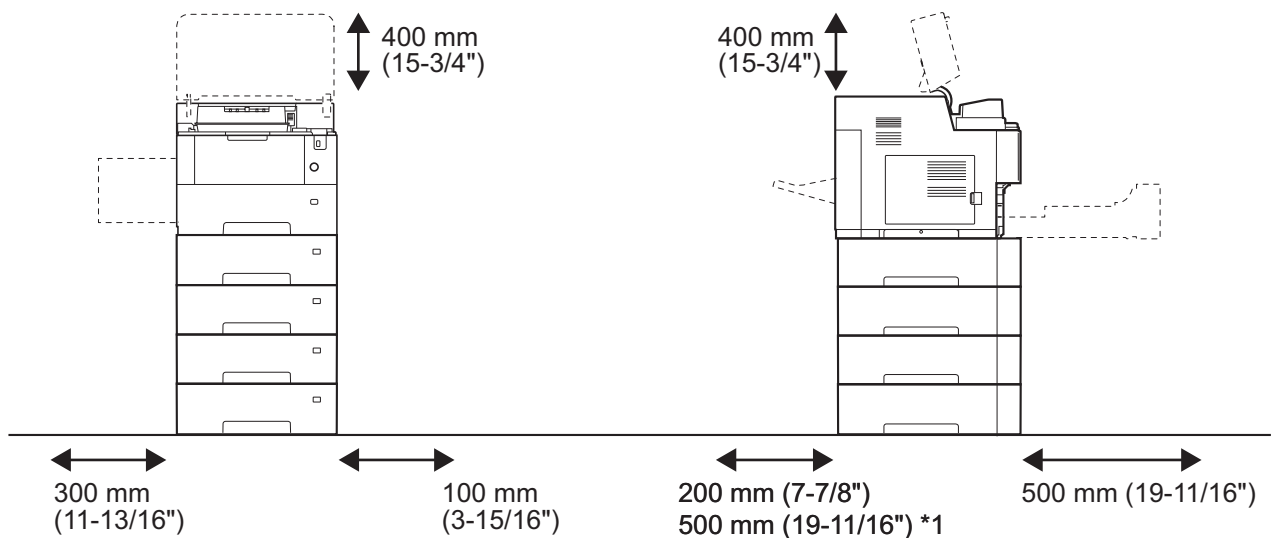
*1: The value when an optional rear tray (PT-320) is installed. (60/55/50 ppm model only)

2 - 2 Installing the main unit

Installation procedures

(1) Unpacking and checking bundled items
(2) Setup of a toner container
(3) Installing the waste toner box
(4) Connecting the cable
(5) Loading Paper
(6) Connecting the Power Cable
(7) Power On
(8) Default Setting
(9) Setting altitude adjustment
(10) Printout the status page
(11) Completion of the machine installation
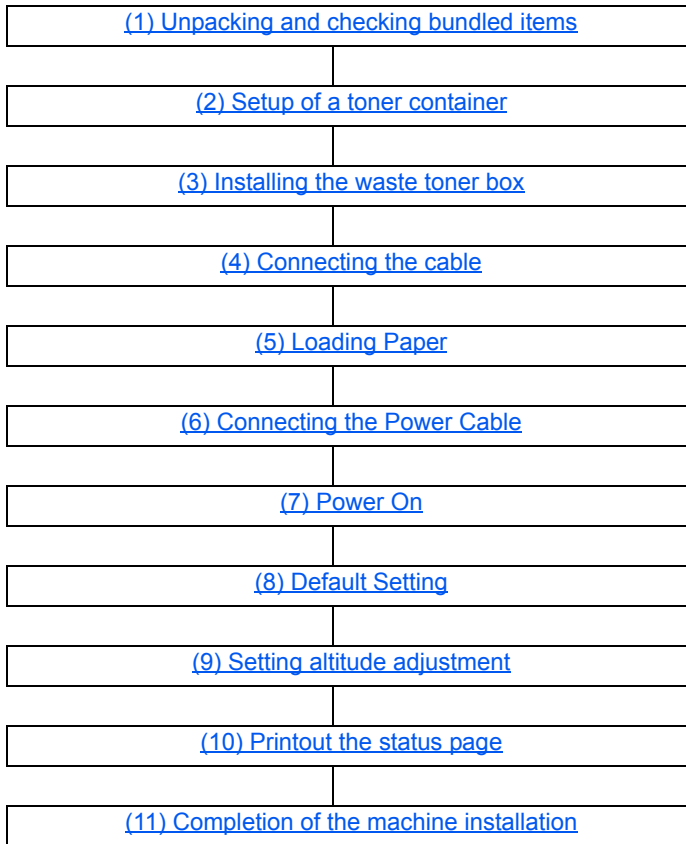
(1) Unpacking and checking bundled items

Take out the main unit and accessories from the packing case.
Remove the tape and cushioning materials for packing from the main unit.
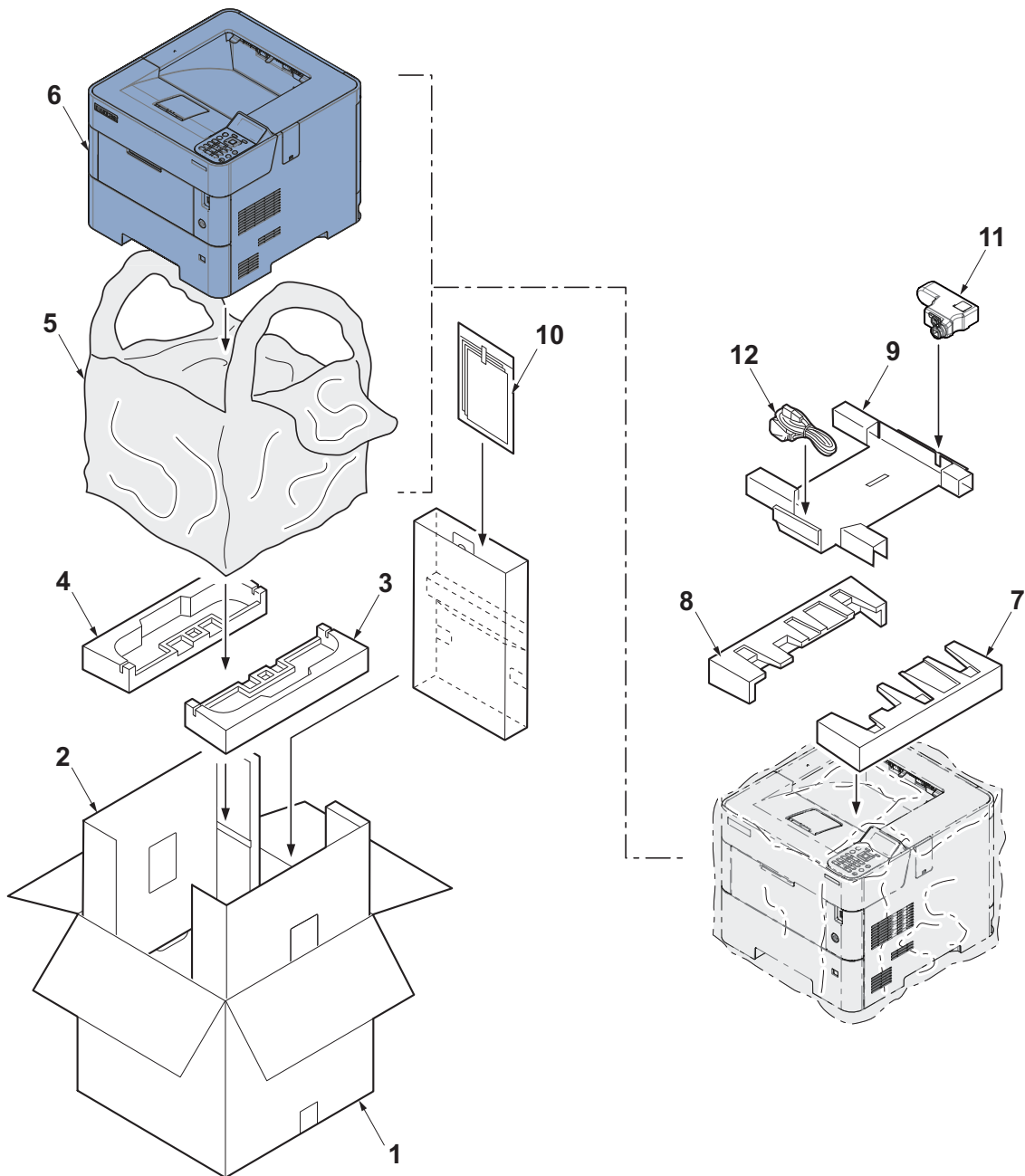
1	Outer case	4	Bottom pad L	7	Upper pad R	10 Operation guide
2	Inner case	5	Machine cover	8	Upper pad L	11 Waste toner bottle
3	Bottom pad R	6	Machine	9	Top tray	12 Power cord

⚠ **Caution**

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

Notes on main unit transportation

Be sure to hold the both side handles at the lower part of the machine when carrying it, as shown in the figure.
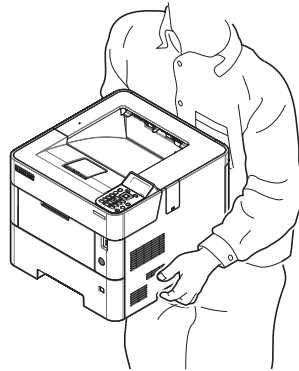
(2) Setup of a toner container

1 **Open the top cover (a) and pull the container lable (b) toward you to remove it.**
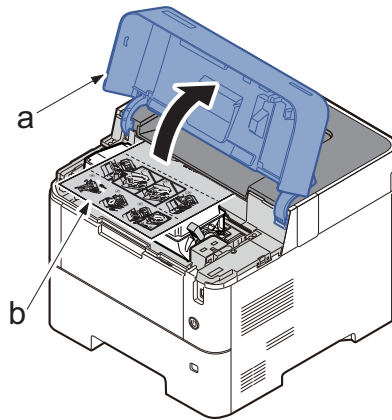
> ⚠ **Caution**
>
> Check the contents of the container label and remove a container.

2 **Detaching the toner container**

1 Rotate the toner container lock lever (a) to the lock position (b) and then back to the unlock position (c)
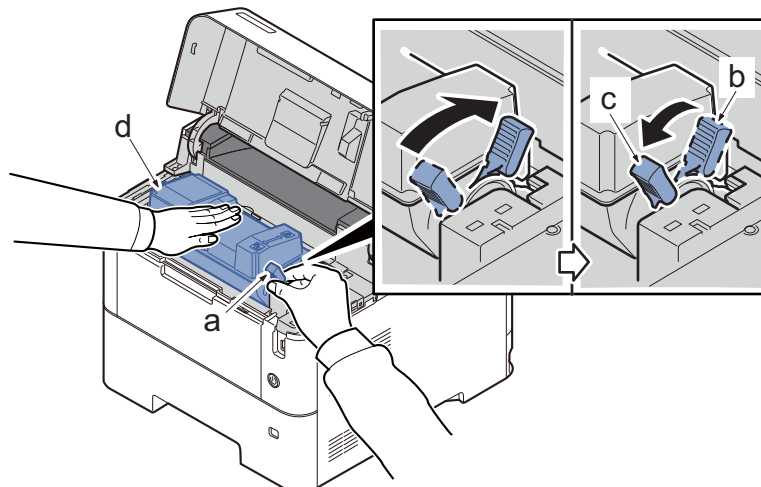
2 Remove the toner container (a) from the main unit.

- Lift up the right side first to detach the toner container from the main unit.
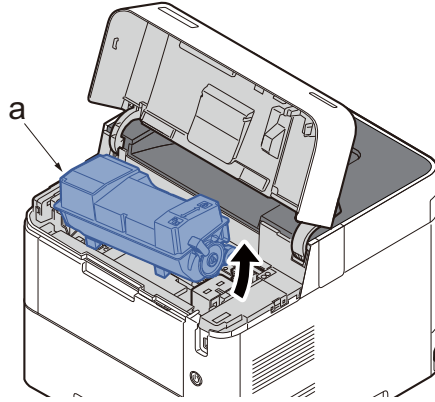
3   **Shake the turned toner container 10 times or more as shown in the figure in order to distribute the toner evenly inside the container.**
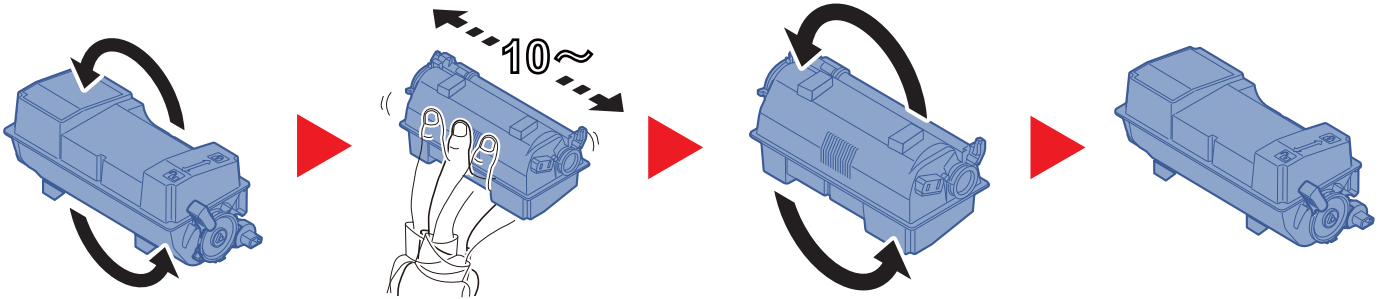
> ✓ **Important**
>
> Do not press too firmly on the center of the toner container or touch the toner feed slot (a) or the terminal parts (b).
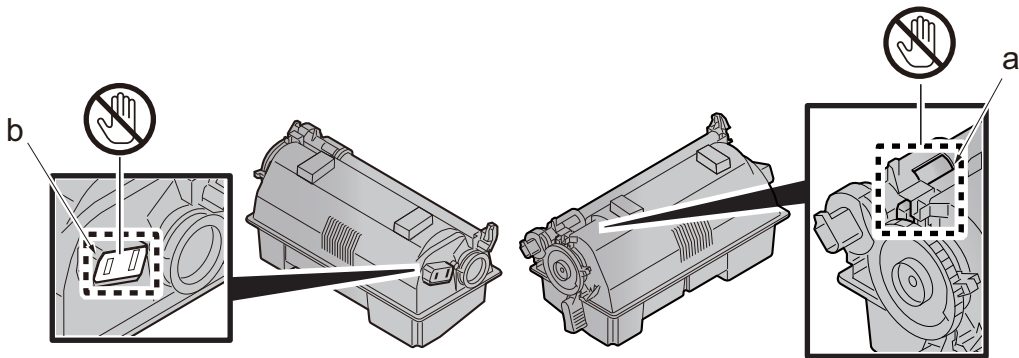
4   **Set the toner container (a) to the main unit and then rotate the toner container lock lever (b) to the lock position. Close the top cover (c).**
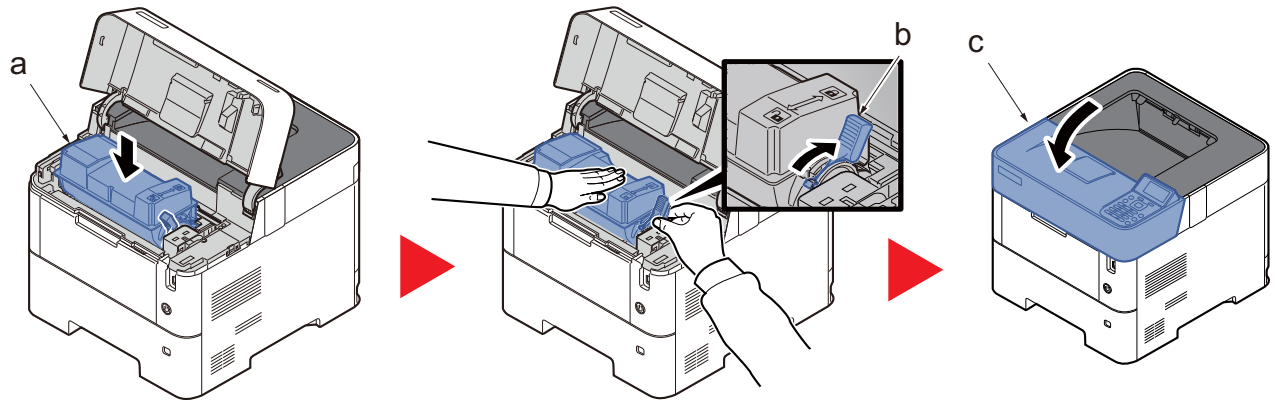
(3) Installing the waste toner box

1   **Open the waste toner box cover (a).**
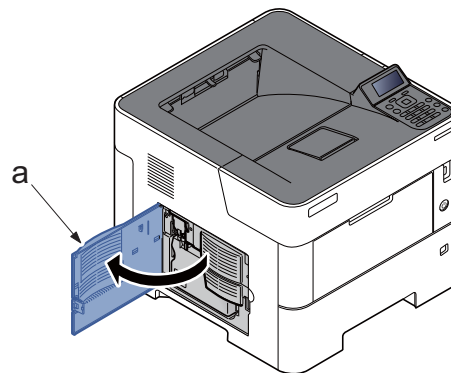
2   **Installing the waste toner box**

1   Open the cap (b) of the waste toner box (a).

2   Installing the waste toner box (a)
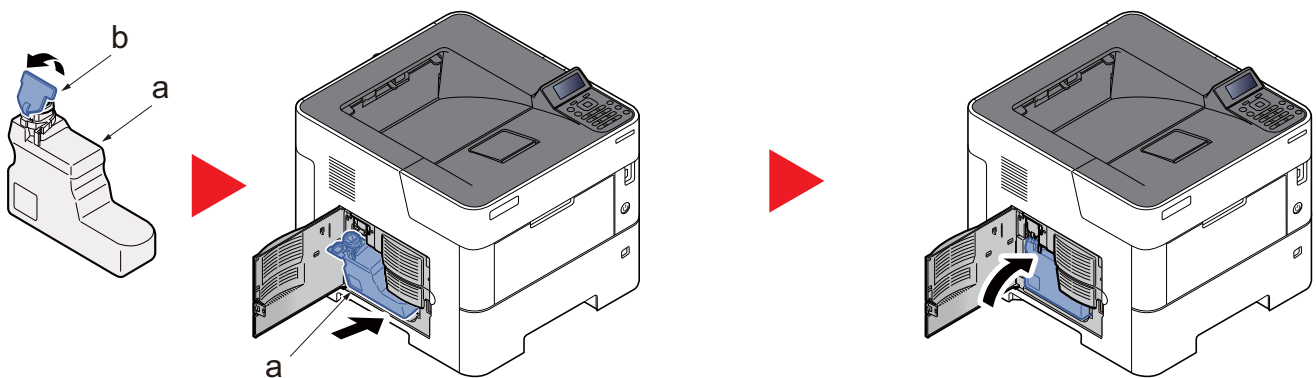
3   **Close the waste toner box (a) cover.**

a
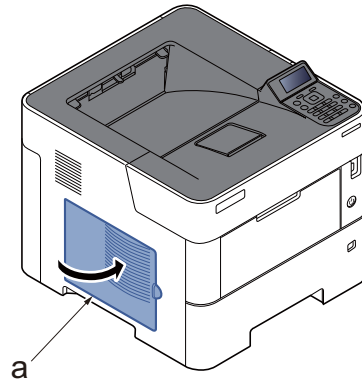
(4) Connecting the cable

(4-1)Connecting LAN Cable

> ✓ **Important**
>
> If the power is on, turn the power switch off.

1 **Connect the cable to the machine.**

1 Connect the network cable to the network interface connector located on the back side of the main unit.

2 Connect the other end of the cable to the network router.
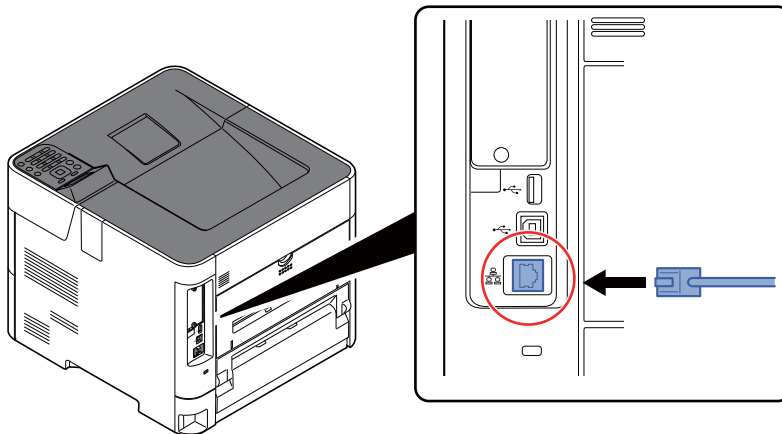
(4-2)Connecting at USB

> ✓ **Important**
>
> If the power is on, turn the power switch off.

1 **Connect the cable to the machine.**

1 Connect the USB cable to the USB interface connector located on the back side of the main unit.

2 Connect the other end of the cable to the PC.
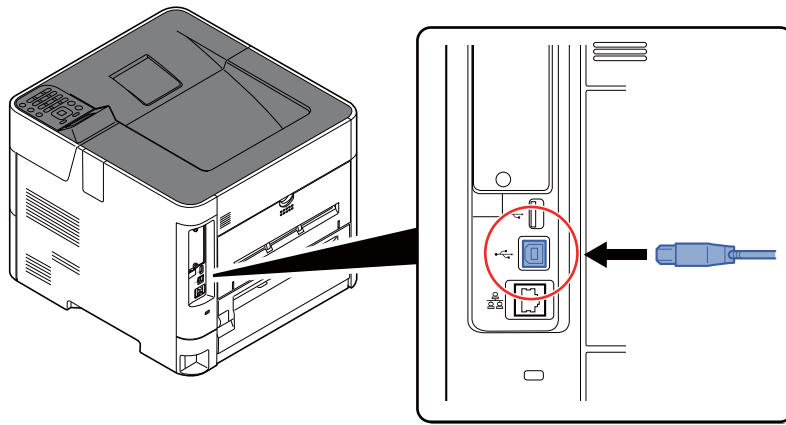
(5) Loading Paper

(5-1)Precaution for Loading Paper

Before loading paper in the cassette, fan the paper taken from a new package to separate it in the procedures below.
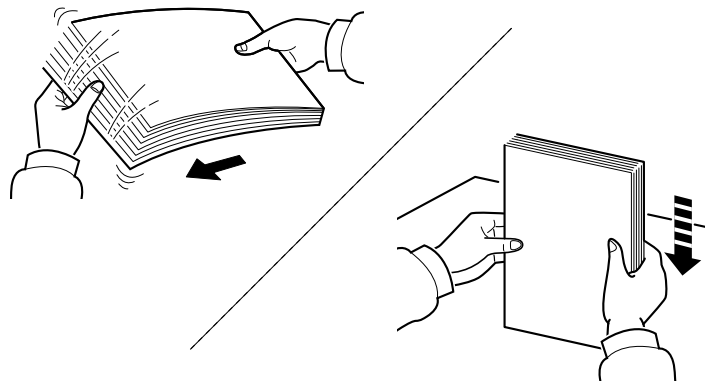
Fan the paper and align the edges at the flat place.
In addition, note the following points.

- If the paper is curled or folded, straighten it before loading. Such paper may cause a jam.

- If paper is left under high temperature and high humidity after taking it out of the package, it may cause trouble with paper absorbing moisture. After setting paper in the cassette, seal the rest of the paper in the paper storage bag. Also, seal the paper remaining on the MP tray in the paper storage bag.

- If paper is left in the cassette for a long period, heat from the cassette heater may discolor it.

- 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.

> ✓ **Important**
>
> If you reuse paper already used for printing, remove staples or clips. Do not use paper with a staple or clip. This may cause poor image quality or malfunctions.

(5-2)Set paper in the cassette

1   **Pull the cassette completely out of the machine.**
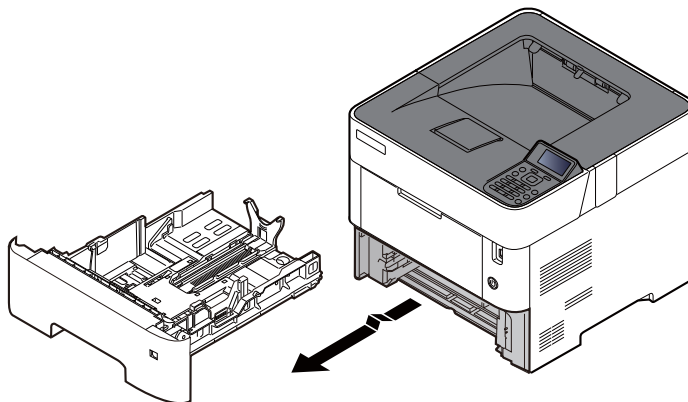
> ⚠️ **Caution**
>
> When pulling the cassette out of the machine, ensure it is supported and does not fall out.

2   **Adjust the cassette size.**

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

Paper sizes are marked on the cassette.
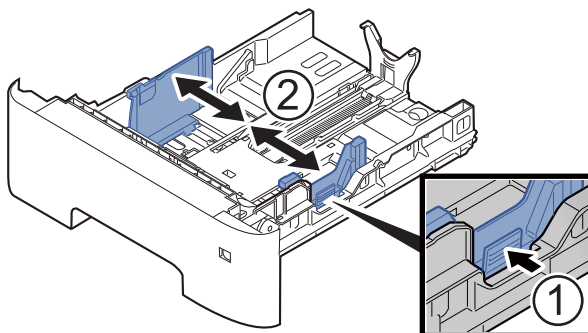
2   Adjust the paper length guide to the paper size required. Press the paper length adjusting tab and slide the guides to the paper size required.
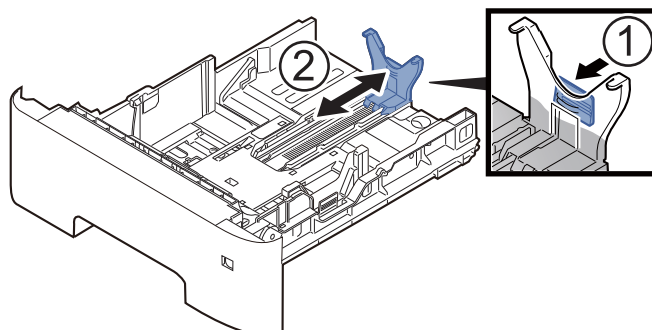
> 📖 **Note**
>
> If you are going to set paper that is longer than A4, pull out the extension cassettes pushing the lock button one by one and adjust them to the desired paper size.
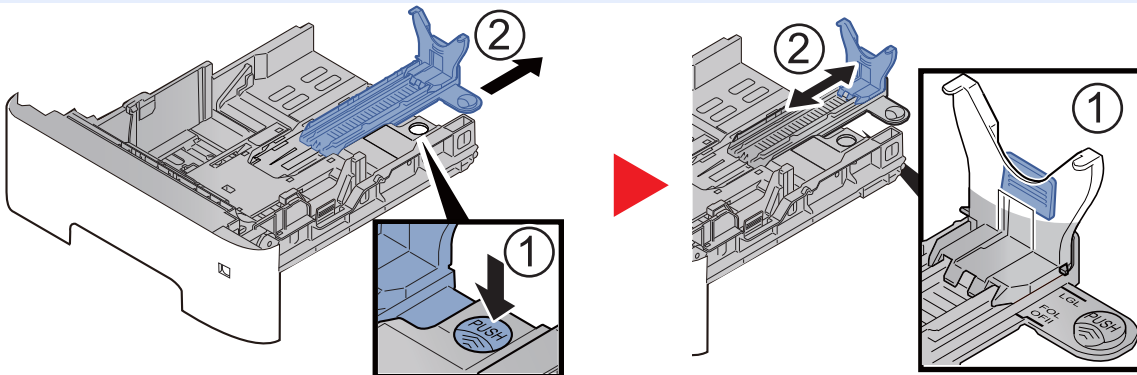
3 Turn the size dial so that the size of the paper you are going to use appears in the paper size window.
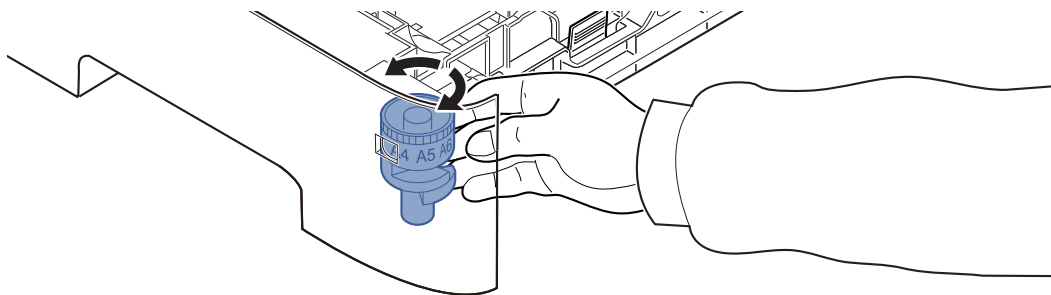
> 📖 **Note**
>
> When the size dial is set to "Other" the paper size must be set into the machine on the operation panel.

3 **Press the bottom plate down until it locks. (45ppm model only)**
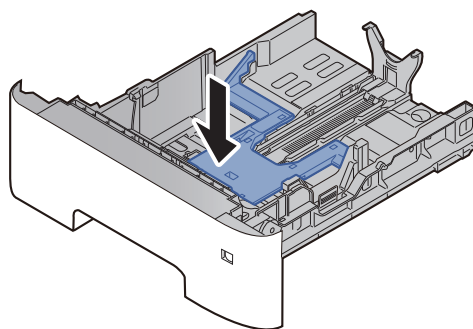
4 **Load paper.**

1 Fan the paper, then tap it on a level surface to avoid paper jams or skewed printing.

2 Load the paper in the cassette.
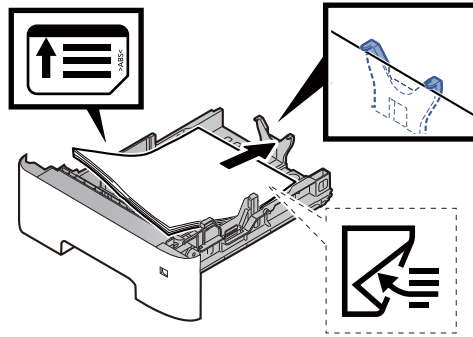
> **Note**
>
> - Load the paper with the print side facing down.
> - After removing new paper from its packaging, fan the paper before loading it in the cassette.
> - Before loading the paper, be sure that it is not curled or folded. Paper that is curled or folded may cause paper jams.
> - Ensure that the loaded paper does not exceed the level indicator (see illustration above).
> - If paper is loaded without adjusting the paper length guide and paper width guide, the paper may skew or become jammed.

5 **Gently push the cassette back in.**
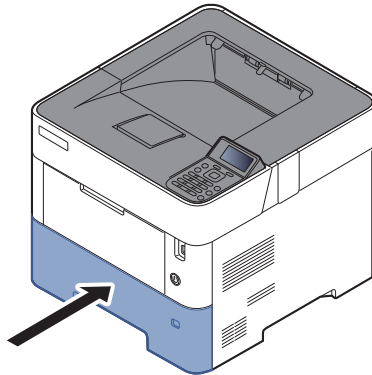
6 **Specify the type of paper loaded in the cassette using the operation panel.**

(6) Connecting the Power Cable

1 **Connect one end of the supplied power cable to the machine and the other end to a power outlet.**
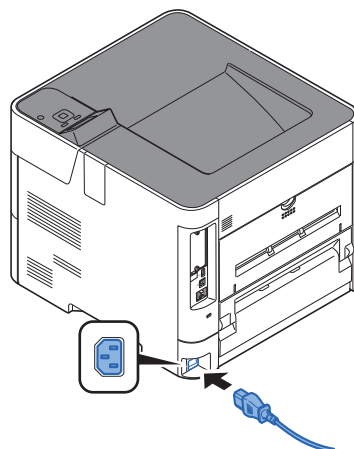
> ✓ **Important**
>
> Only use the power cable that comes with the machine.

> 💿 **Note**
>
> When the power is turned on for the first time, the toner installation operation is performed. (About 5 minutes)

(7) Power On

1   Turn the power switch (a) on. (ON)
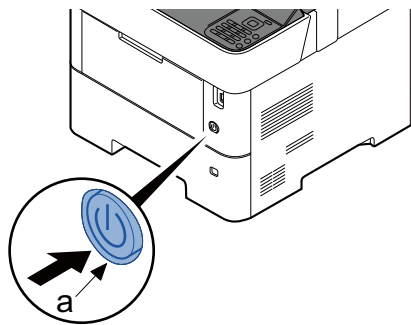
> ✓ **Important**
>
> When turning off the power switch, do not turn on the power switch again immediately. Wait more than 5 seconds, and then turn on the power switch.

(8) Default Setting

Before using this machine, configure such settings as date and time, network configuration, and energy saving functions as needed.

> 💿 **Note**
>
> The default settings of the machine can be changed in System Menu.
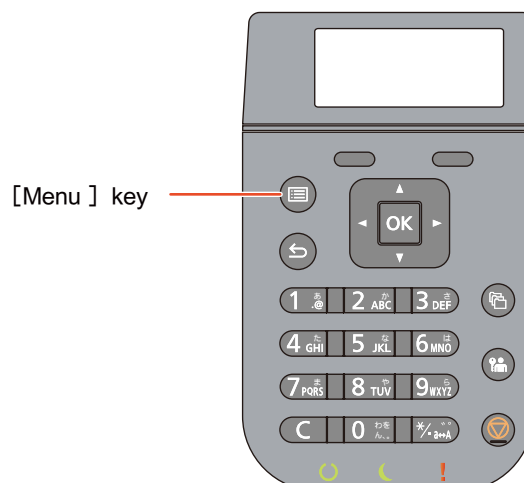
[Menu] key

(8-1)Setting Date and Time

1 **Display the screen.**

[Menu] key > [ ] [ ] key > [Device Common] > [OK] key > [ ] [ ] key > [Date Setting] > [OK] key

2 **Configure the settings.**

[ ] [ ] key > [Time Zone] > [OK] key > Select the time zone > [OK] key > [ ] [ ] key >

[Date] > [OK] key > Set the date > [OK] key > [ ] [ ] key > [Time] > [OK] key > Set the time > [OK] key > [ ]
[ ] key > [Date Format] > [OK] key > Select the Date Format > [OK] key

Item	Description
Time Zone	Set the time difference from GMT. Choose the nearest listed location from the list. If you select a region that utilizes summer time, configure settings for summer time.
Date	Set the date for the location where you use the machine. Value: Year (2000 to 2037), Month (1 to 12), Day (1 to 31)
Time	Set the time for the location where you use the machine. Value: Hour (00 to 23), Minute (00 to 59), Second (00 to 59)
Date Format	Select the display format of year, month, and date. The year is displayed in Western notation. Value: Month/Day/Year, Day/Month/Year, Year/Month/Day

(8-2)Network Setup

Configuring the Wired Network

> **Note**
>
> The machine is equipped with network interface, which is compatible with network protocols such as TCP/IP (IPv4), TCP/IP (IPv6), NetBEUI, and IPSec. It enables network printing on the Windows, Macintosh, UNIX and other platforms.

Set up TCP/IP (IPv4) to connect to the Windows network.

TCP/IP   IPv4   setting

Set up TCP/IP (IPv4) to connect to the Windows network.

The default settings are as follows.

- TCP/IP   On
- DHCP   On
- Auto-IP   On
- IP address   0.0.0.0
- Subnet Mask   0.0.0.0
- Default Gateway   0.0.0.0

1 **Display the screen.**

[Menu] key > [   ] [   ] key >[Network] > [OK] key > [   ] [   ] key > [Wired Netwk. Set] > [OK] key >

[   ] [   ] key >[TCP/IP Settings] > [OK] key > [   ] [   ] key > [IPv4 Setting] > [OK] key

2 **Configure the settings.**

When using DHCP server

1 [   ] [   ] key > [DHCP] > [OK] key > [   ] [   ] key > [On] > [OK] key

> **Note**
>
> The factory default login user name and login password are set as shown below.
> - 45 ppm model: Login User Name/ Login Password   4500 / 4500
> - 50 ppm model: Login User Name/ Login Password   5000 / 5000
> - 55 ppm model: Login User Name/ Login Password   5500 / 5500
> - 60 ppm model: Login User Name/ Login Password   6000 / 6000

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.

> **Note**
>
> 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.

> **Note**
>
> 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.

7   Select the [OK] key.

8   [   ] [   ] key > [Default Gateway] > [OK] key

9   Set the default gateway.

> **Note**
>
> 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.

10 Select the [OK] key.

11 [   ] [   ] key > [Auto-IP] > [OK] key

12 [Off] > [OK] key

When setting the DNS server

In the following cases, set the IP address of DNS (Domain Name System) server.

• When using the host name with "DHCP" setting set to [Off].

• When using the DNS server with IP address that is not assigned by DHCP automatically.

1   [   ] [   ] key > [DNS Server] > [OK] key

2   [   ] [   ] key > [Auto (DHCP)] or [Manual] > [OK] key

When [Manual] is selected.

You can enter static DNS server information in the Primary and Secondary fields provided.

> **Important**
>
> After changing the setting, restart the network from System Menu, or turn the machine OFF and then ON.

(8-3)Specifying Paper Size and Media Type

> **Note**
>
> The default paper size setting for cassette 1, for the multi purpose tray, for the optional paper feeder (cassettes 2 to 5) and optional bulk feeder is "A4" or "Letter", and the default media type setting is "Plain".
>
> To change the type of paper to be used in cassettes, specify the paper size and media type setting.

Paper Size and Media Type for the Cassettes

Item	Description
Media Type*1	Select the media type. Values Cassette 1: Plain, Preprinted, Bond, Recycled, Rough, Letterhead, Color, Prepunched, High Quality, CUSTOM 1 - 8 Cassette 2 to 5: Plain, Preprinted, Bond, Recycled, Rough, Letterhead, Color, Prepunched, Envelope, High Quality, CUSTOM 1 - 8
Other Paper Size	Available options are as follows: Values Cassette 1: Envelope DL*2, Envelope C5, Executive, Letter, Legal, A4, B5, A5, A5 (Landscape), A6*2, B6*2, ISO B5, Custom, Oufuku Hagaki*2, Oficio II, 216 × 340 mm, 16K, Statement, Statement (Landscape)*2, Folio Cassette 2 to 5: Envelope Monarch, Envelope #10, Envelope DL, Envelope C5, Executive, Letter, Legal, A4, B5, A5, B6, Envelope #9, Envelope #6, ISO B5, Custom, Oufuku Hagaki*2 Oficio II, 216 × 340 mm, 16K, Statement, Folio, Youkei 2, Youkei 4
Custom PaperSize*3	Register the custom paper size to be used in Cassettes 1 to 4. Values Cassette 1: Metric 45 ppm model X: 140 to 216 mm (in 1 mm increments) Y: 210 to 356 mm (in 1 mm increments) 60/55/50 ppm model X: 105 to 216 mm (in 1 mm increments) Y: 148 to 356 mm (in 1 mm increments) Inch 45 ppm model X: 5.50 to 8.50" (in 0.01" increments) Y: 8.25 to 14.02" (in 0.01" increments) 60/55/50 ppm model X: 4.13 to 8.50" (in 0.01" increments) Y: 5.83 to 14.02" (in 0.01" increments) Cassette 2 to 5: Metric X: 92 to 216 mm (in 1 mm increments) Y: 162 to 356 mm (in 1 mm increments) Inch X: 3.62 to 8.50" (in 0.01" increments) Y: 6.38 to 14.02" (in 0.01" increments) X=Width, Y=Length

*1: When a paper weight that cannot be loaded in the cassette is set for a media type, that media type does not appear.

*2: 60/55/50 ppm model only

*3: Appears when [Custom] is selected in Other Paper Size.

Paper Size and Media Type for the Cassettes:

If the size dial is set to one of the sizes below, set the media type.

"A4", "A5", "B5", "Letter", "Legal" or "A6" (Cassette 1 only)

If the size dial is set to "Other", configure the settings for the paper size and the media type.

1 Display the screen.

1 [Menu] key > [ ] [ ] key > [Paper Settings] > [OK] key > [ ] [ ] key >
  [Cassette 1 (to 5) Set.] > [OK] key

2 Specify the media type.

1 [ ] [ ] key > [Media Type] > [OK] key

2 Select the media type, and select the [OK] key.

3 Specify the paper size.

1 [ ] [ ] key > [Other Paper Size] > [OK] key

2 Select the paper size, and select the [OK] key.

  If you selected [Custom], use the procedure below to specify the paper length and width.

3 [ ] [ ] key > [Custom PaperSize] in "Cassette 1 (to 5) Set." > [OK] key > [ ] [ ] key > [Measurement] > [OK] key

4 Select the paper size units, and select the [OK] key.

5 [ ] [ ] key > [Size Entry(Y)] > [OK] key

6 Enter the paper length, and select the [OK] key.

> **Note**
>
> Use the numeric keys or select the [ ] or [ ] key to enter a number.

7 [ ] [ ] key > [Size Entry(X)] > [OK] key

8 Enter the paper width, and select the [OK] key.

> **Note**
>
> Use the numeric keys or select the [ ] or [ ] key to enter a number.

(9) Setting altitude adjustment

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 1000m sea level, the setting of [Altitude Adjustment] mode can recover the printing quality.

1 Enter the Service Setting menu.

2 Select [Altitude Adj.] using the cursor   keys.

3 Press the   OK   key.

4   Select [Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m] using the cursor   keys.

5   Press the OK key. The setting is set.

(10) Printout the status page

1   [Menu] key > [ ] [   ] key > [Report] > [OK] key >[   ] [   ] key > [Report] > [OK] key >

[   ] [   ] key >[Status Page] > [OK] key

(11) Completion of the machine installation

1   Turn the power switch off. OFF
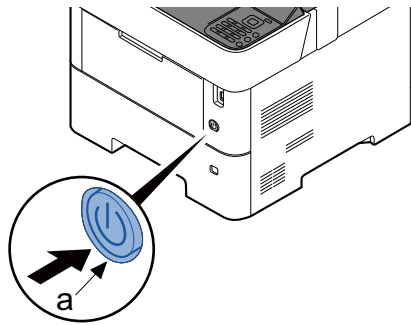
2   Select [Yes] at the confirmation screen.

•   It takes about 3 minutes for power off.

2 - 3 Installing the optional devices

(1) Unpacking and checking bundled items
Take out the optional unit and accessories from the packing case.
Remove the tape and cushioning materials for packing from the optional unit.

(2) Optional unit installation
Install necessary optional units in the main unit by referring to the installation procedures.

	Product name	Installation guide link
Network	IB-50 (Network interface)	IB-50
	IB-51 (Wireless LAN interface)	IB-51
	IB-36 (Wireless LAN interface)	Wireless Network Interface Kit (IB-36)
	IB-32B (IEEE1284 Interface)	IB-32B
Storage	HD-6/HD-7 SSD: Large capasity storage	HD-6/HD-7
PF	PF-3100 (2000-sheet x1 Paper Feeder)	PF-3100
	PF-3110 (500-sheet x1 Paper Feeder)	PF-3110
	CA-3100 (Castor kit)	CA-3100

2 - 4 Installing the optional parts

> **✓ Important**
>
> Following procedures have to be done before PWB replacement.
>
> Otherwise PWB gets broken.
>
> • Unplug power code.
>
> • Press power switch for more than 1 second. (Remove electrical charge in main unit.)

(1) Expansion memory
The machine can perform more multiple jobs simultaneously by adding more memory. The memory can increase up to maximum 2560MB by attaching the optional expansion memory (2048MB).

Precautions for Handling the Memory
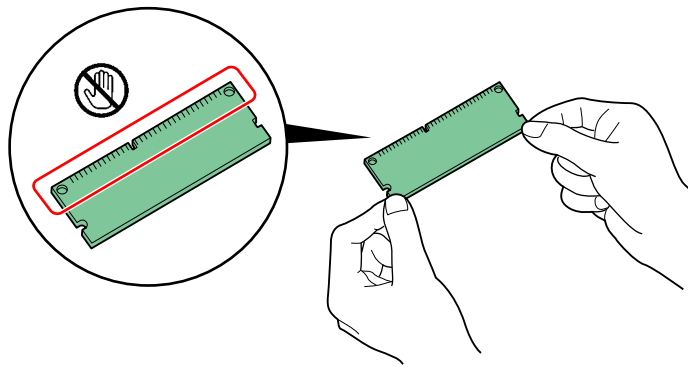
> **✓ Important**
>
> Static electricity that accumulates in your body through clothing or carpets may damage a memory. To protect a memory, discharge static electricity from your body by touching a water pipe (faucet) or other large metal object. Wear the anti-static wrist band on the wrist.

1   Remove the Interface cover.

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

> **🔍 Note**
>
> The shutdown confirmation screen is displayed. It might take about three minutes to shut down.

2   Open the rear cover (a).
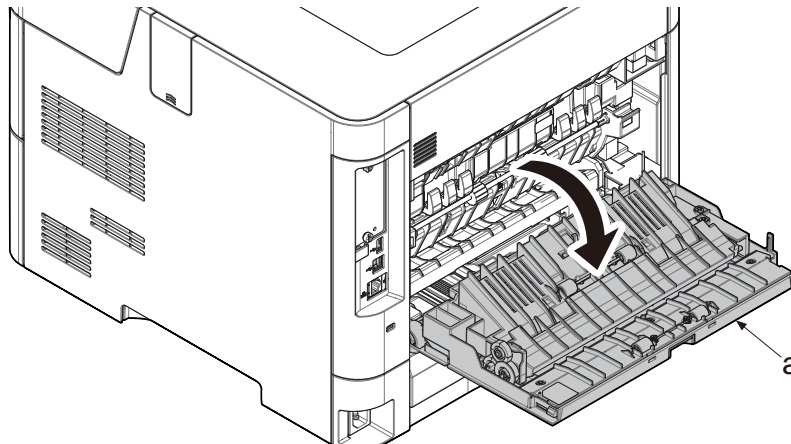
3   Release the hook (b) and detach the interface cover (a)

•   Insert two of the hook (c) first to attach
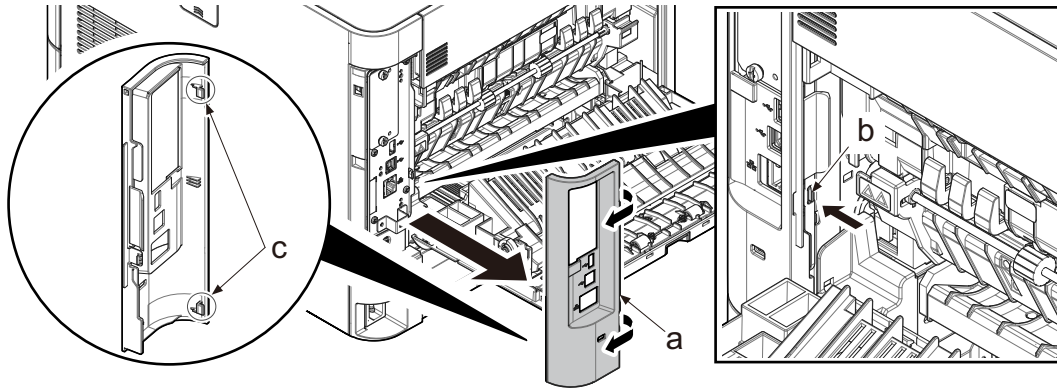
2   **Remove 4 of screws (a) (M3x8) and the pin (b) and detach the main PWB unit (c)**
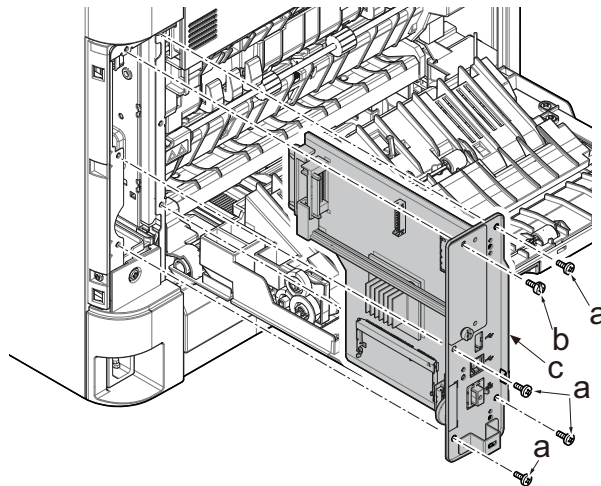
3   **Attaching the expansion memory**

1   Turn the terminal section of the expansion memory (a) to the socket (b) side and align the cut-out to the projection of the soket to insert it straight in angle.

2   Turn the expansion memory down to the position parallel to the main PWB by taking the socket section as fulcrum and fit it to the hook.

3   Refit the main PWB assembly and the screws.

4   Refit the covers.
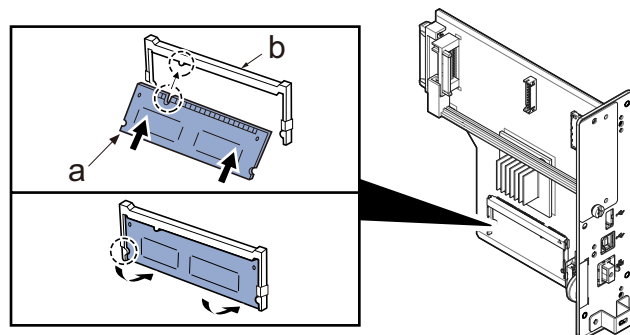
> 📀 **Note**
>
> **Removing the Memory Module**
>
> To remove the memory module, remove the right cover and the memory slot cover from the main unit. Then, carefully push the two stoppers so that the memory module pops up from the socket.
>
> **Verifying the Memory Module**
>
> To verify that the memory module is working properly, print out a status page and check its content.
>
> If memory is expanded normally, installed memory information is displayed and total memory size is increased (standard memory sise 512MB)

(2) SD/SDHC Memory Card

Reading the SD/SDHC Memory Card

- Once inserted in the machine's slot, the contents of the SD/SDHC memory card can be read from the operation panel or automatically when you power on or reset the machine.

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

> 📀 **Note**
>
> The shutdown confirmation screen is displayed. It might take about three minutes to shut down.

2 **Remove two screws (a) and remove the slot cover (b).**
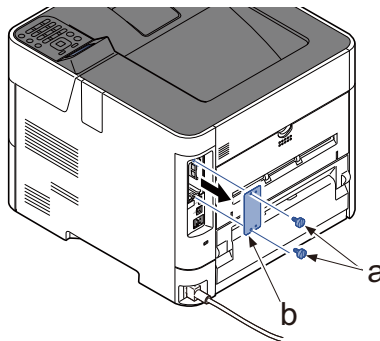
3 **Insert the SD/SDHC memory card (a) into the SD/SDHC memory card slot.**
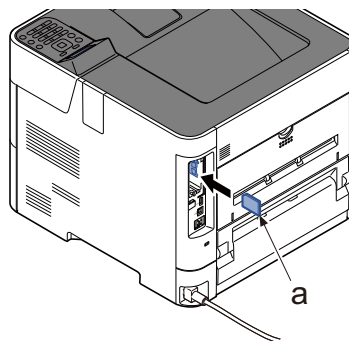
4   **Reattach the slot cover (b) once detached to the main unit with two screws (a)**
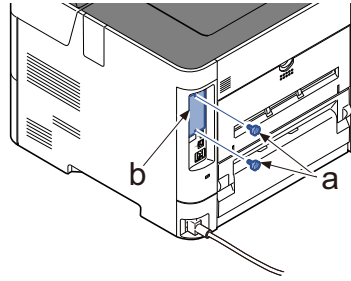
5   **Insert the power cord into the socket and turn on the power switch.**
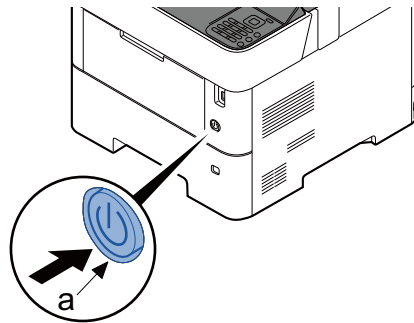
Format SD Card

To use an unused SD/SDHC memory card, you must first use the machine to format the SD/SDHC memory card.

> **⊘ Important**
> •   Formatting will destroy any existing data on a storage device including a used SD card.
> •   If you have installed application, do not format the SD card to avoid the removal of the application in the SD card.

Format procedure

1   [Menu] key > [ ] [ ] key > [Device Common] > [OK] key > [ ] [ ] key > [Format SD Card] > [OK] key

2   Format an optional SD/SDHC memory card.

> **🔍 Note**
> The factory default login user name and login password are set as shown below.
> •   45 ppm model: Login User Name/ Login Password   4500 / 4500
> •   50 ppm model: Login User Name/ Login Password   5000 / 5000
> •   55 ppm model: Login User Name/ Login Password   5500 / 5500
> •   60 ppm model: Login User Name/ Login Password   6000 / 6000

(3) SSD   HD-6/HD-7

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

> 🔍 **Note**
>
> The shutdown confirmation screen is displayed. It might take about three minutes to shut down.

1 Remove two screws (b) and the option slot cover (a).
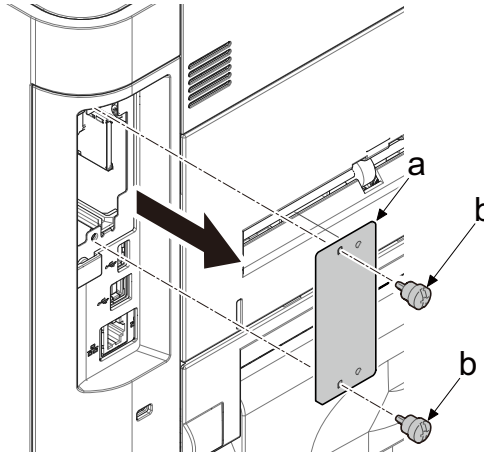
2 Attach the SSD to the main unit

1 Insert the SSD (a) in an option slot (c).

2 Fix the SSD (a) with using two screws to main unit.
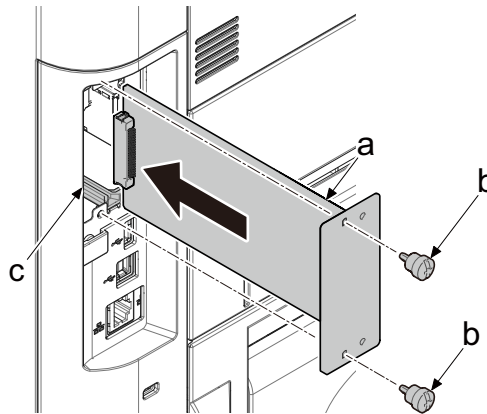
• When attaching the new SSD, display appears at the 1st start-up to induce formatting

Format SSD

When an optional SSD is inserted into the printer for the first time, it must be formatted before use.

> ✅ **Important**
>
> • Formatting will destroy any existing data on a storage device including a used SSD.

Format procedure

1 [Menu] key > [ ] [ ] key > [Device Common] > [OK] key > [ ] [ ] key > [Format SSD] > [OK] key
Format an optional SSD.

> **Note**
>
> The factory default login user name and login password are set as shown below.
>
> - 45 ppm model: Login User Name/ Login Password   4500 / 4500
> - 50 ppm model: Login User Name/ Login Password   5000 / 5000
> - 55 ppm model: Login User Name/ Login Password   5500 / 5500
> - 60 ppm model: Login User Name/ Login Password   6000 / 6000

2   Turn the power switch off and on. Wait for 5s or more to turn on after power-off.

(3-1)Wireless Network Interface Kit (IB-36)

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

> **Note**
>
> The shutdown confirmation screen is displayed. It might take about three minutes to shut down.

2 **Attaching the Wi-Fi unit**

45 ppm model

1 After twisting the Wi-Fi cover (a), remove it.

2 Insert the connector while aligning the backside connector of the Wi-Fi PWB (b) to the connector of the Main PWB.

• When attaching the WiFi PWB (b) assembly, insert it while aligning it to the guide on the top cover (c).
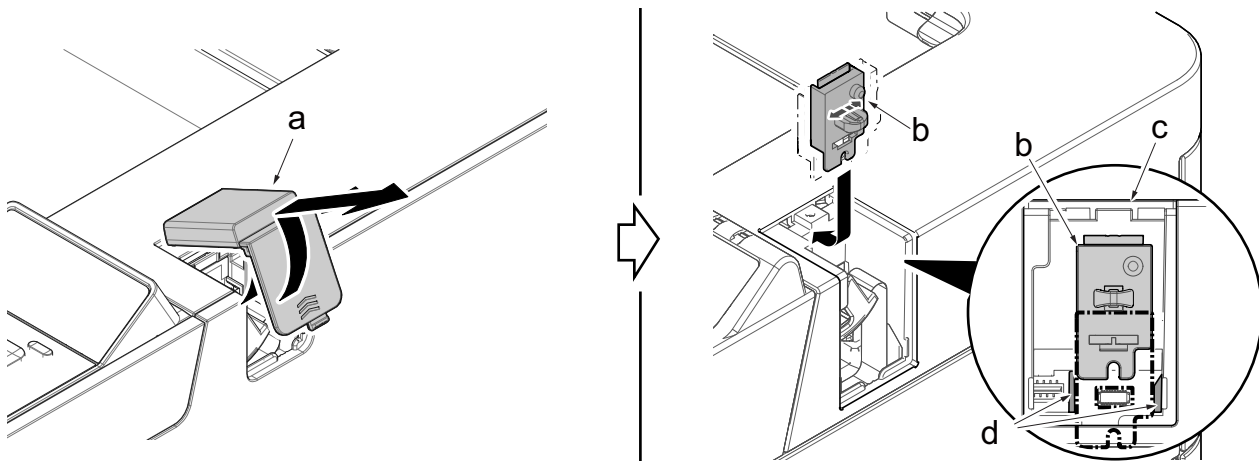
50/55/60 ppm model

1 Detach the Wi-Fi cover (a) by sliding it.

2 Insert the connector while aligning the backside connector of the Wi-Fi PWB (b) to the connector of the Main PWB.

• When attaching the WiFi PWB (b) assembly, insert it while aligning it to the guide on the top cover (c).
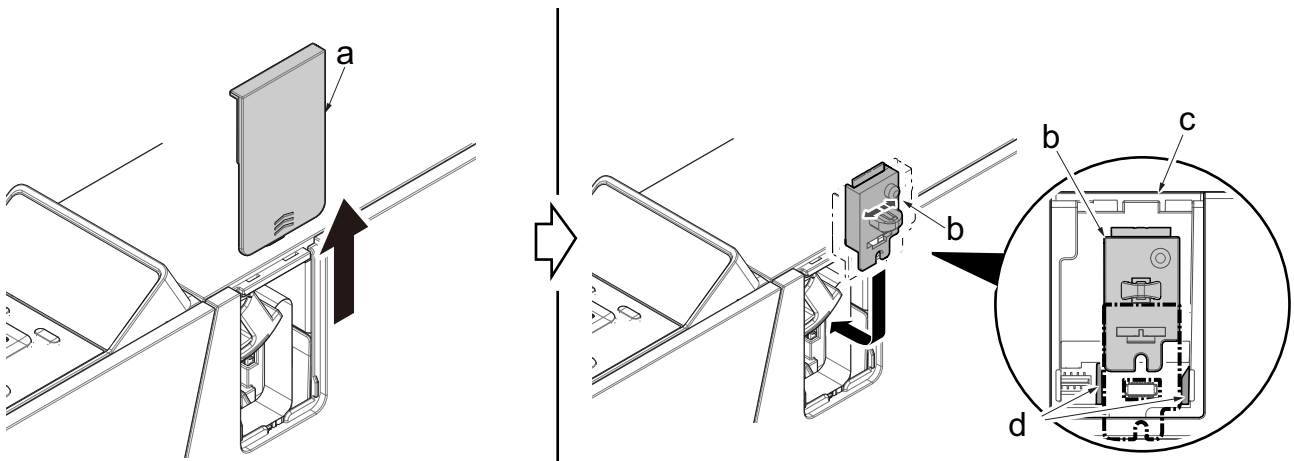
> ✅ **Important**
>
> Take care not to twist the WiFi PWB assembly in the vertical direction in order to avoid the damage when attaching and detaching it.
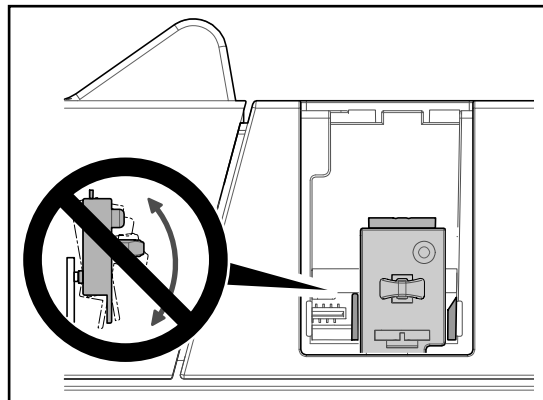
3   Reattach the Wi-Fi cover (a) in the original position.

(4) ID card reader

ID card reader installation requires the following parts.

• Double-side tape   2pcs.

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

> 🔎 **Note**
>
> The shutdown confirmation screen is displayed. It might take about three minutes to shut down.

1   Fix the card reader (a) with double-side tape (b) as indicated in the figure

2   Connect the USB connector (c) to the printer.

• A 75 mm or more

50/55/60 ppm model
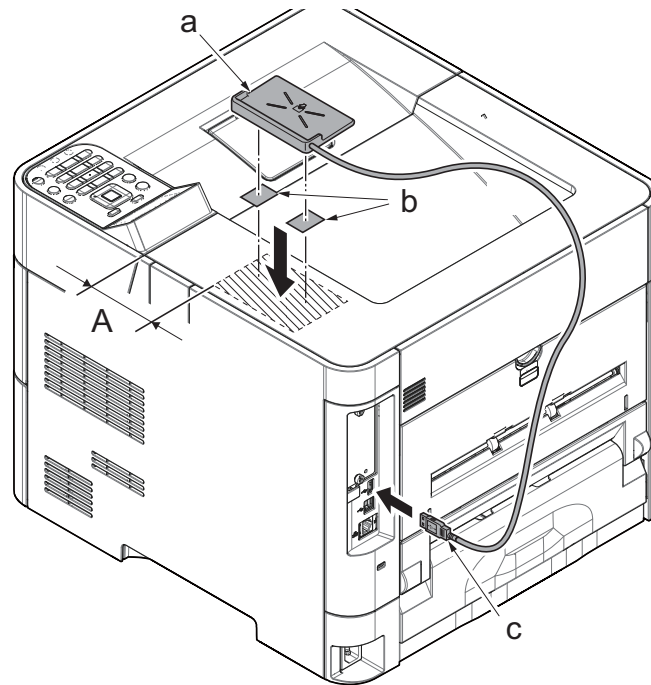
45 ppm model
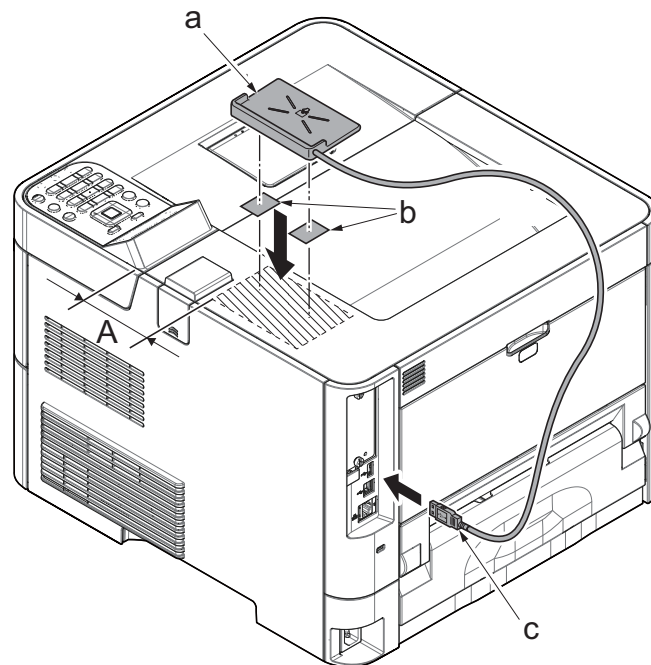
2 - 5 Optional Function

Application	
Data Encryption (Data Encryption/Overwrite)	UG-33 (ThinPrint Option)[*1]
ID Card (Card Authentication Kit)[*1]	

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

> **Note**
>
> • 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 Application Use

Use the procedure below to start using an application.

1 [Menu] key > [   ] [   ] key > [Op Functions] > [OK] key

> **Note**
>
> The factory default login user name and login password are set as shown below.
>
> • 45 ppm model: Login User Name/ Login Password   4500 / 4500
>
> • 50 ppm model: Login User Name/ Login Password   5000 / 5000
>
> • 55 ppm model: Login User Name/ Login Password   5500 / 5500
>
> • 60 ppm model: Login User Name/ Login Password   6000 / 6000

2 Select the desired application, and select the [OK] key.

3 [   ] [   ] key > [License On] > [OK] key.

> **Note**
>
> • You can view detailed information on the selected application by selecting [Detail].

4 To use the application as a trial, select [Trial] without entering the license key.

5 Enter the license key > [OK] key

Some applications do not require you to enter a license key. If the license key entry screen does not appear, go to Step 6.

6 Select [Yes].

> **Note**
>
> If you started the Data Encryption/Overwrite or Thin Print option, turn the power OFF/ON.

3 Machine Design

3 - 1 Mechanical Configuration

(1) 60/55/50 ppm model

Light path
Paper path
Paper path (option)

1	Cassette	
2	Cassette paper feed section	
3	Paper feed conveying section	
4	MP tray	
5	MP tray paper feed section	
6	Toner container	
7	Developer unit	
8	Laser scanner unit (LSU)	
9	Charger roller unit	

10 Drum unit
11 Transfer/Separation section
12 Eject tray (facedown)
13 Eject section
14 Eject conveying section
15 Fuser unit
16 Duplex conveyning section
17 Faceup tray (option)

(2) 45 ppm model

Legend:
- ---·-▶ Light path
- ──▶ Paper path
- --·-▶ Paper path (option)

1	Cassette	9	Charger roller unit
2	Cassette paper feed section	10	Drum unit
3	Paper feed conveying section	11	Transfer/Separation section
4	MP tray	12	Eject tray (facedown)
5	MP tray paper feed section	13	Eject section
6	Toner container	14	Eject conveying section
7	Developer unit	15	Fuser unit
8	Laser scanner unit (LSU)	16	Duplex conveyning section

3 - 2 Extension device construction (option)

(1) 500-sheet x1 Paper Feeder cross-section view (PF-3110)

1   Paper path (option)
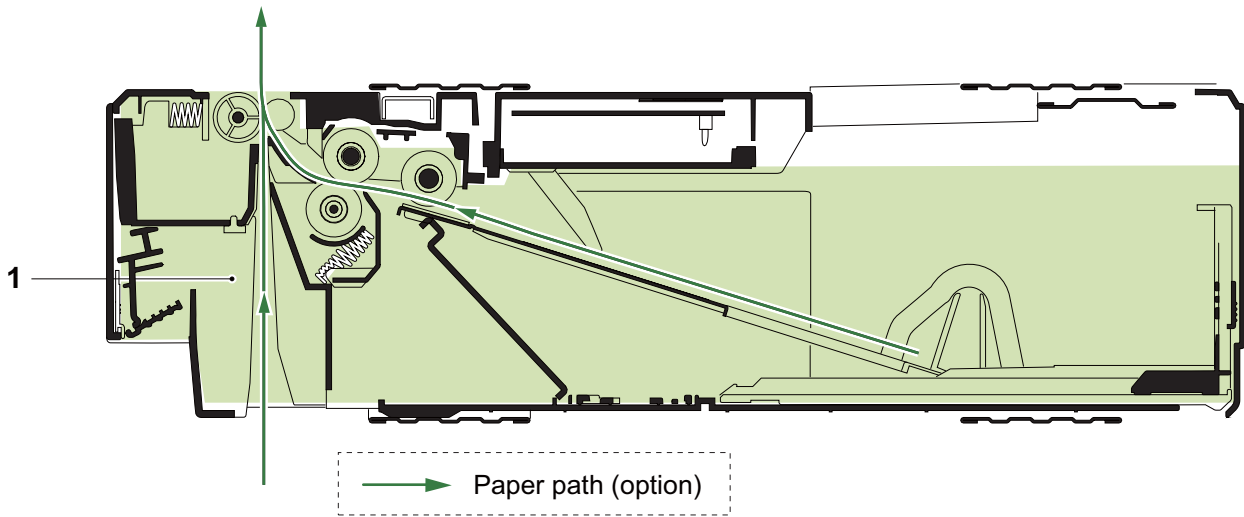
1   Cassette paper feed section (Cassette 2 to 5)

(2) 2000-sheet x1 Paper Feeder cross-section view (PF-3100)

   Paper path (option)
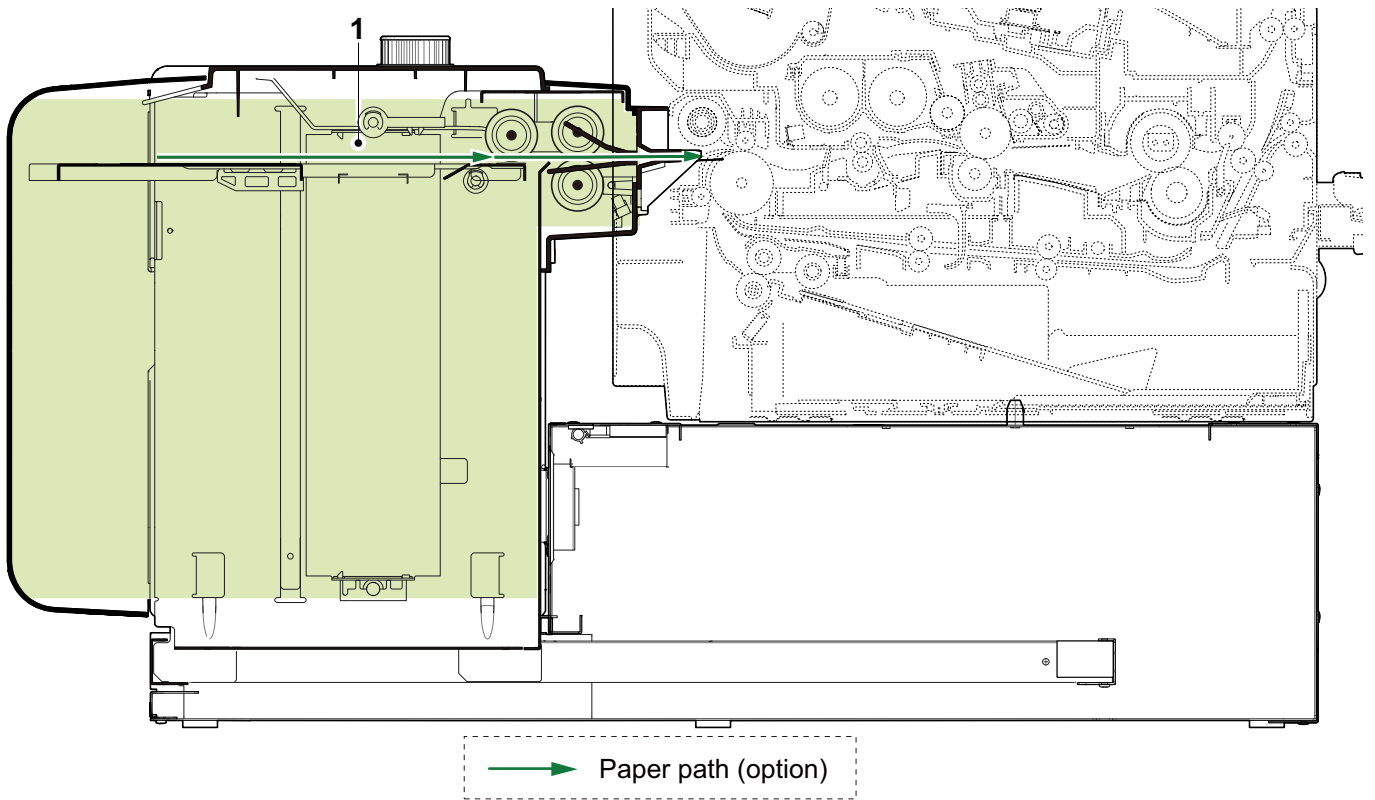
1   Cassette paper feed section (Cassette 2)

3 - 3 Electric parts

(1) Electric parts layout
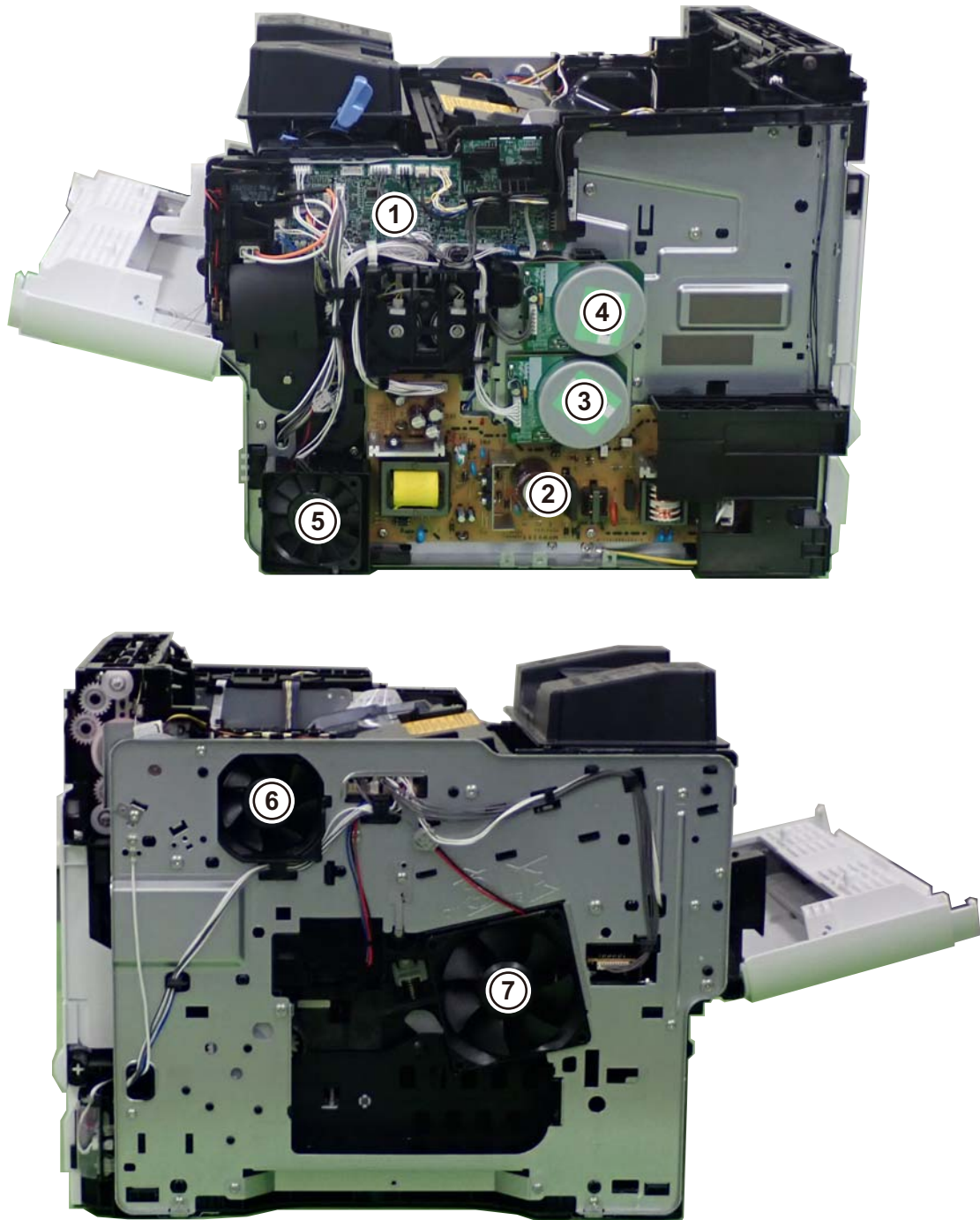
1 Engine PWB	5 Power source fan motor
2 Low voltage PWB	6 LSU fan motor
3 Main motor	7 Developer fan motor
4 Drum motor *1	

*1: 60/55/50 ppm model only

(2) Descriptions about the major PWBs

(2-1)Main PWB
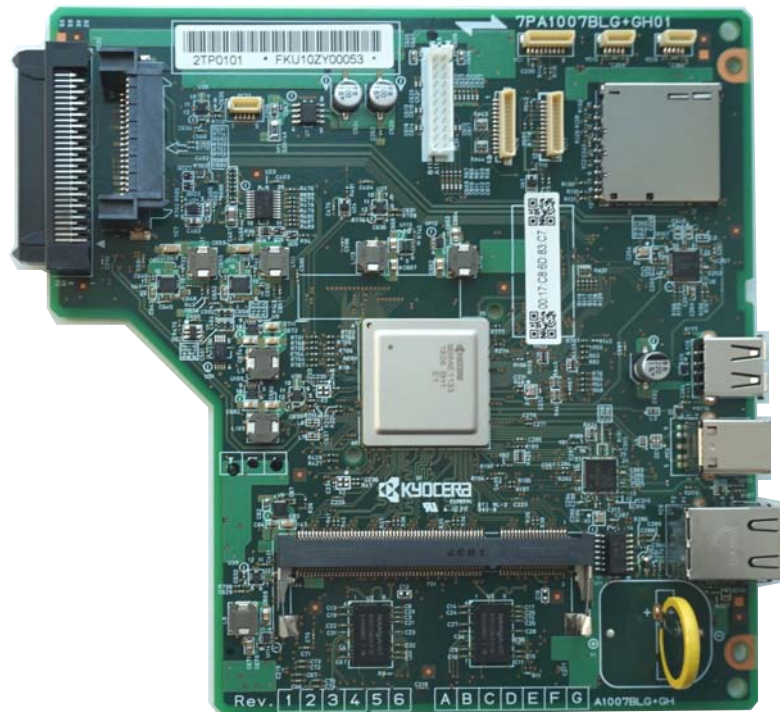
Controls the software such as the print data processing and provides the interface with computers.

(2-2)Engine PWB
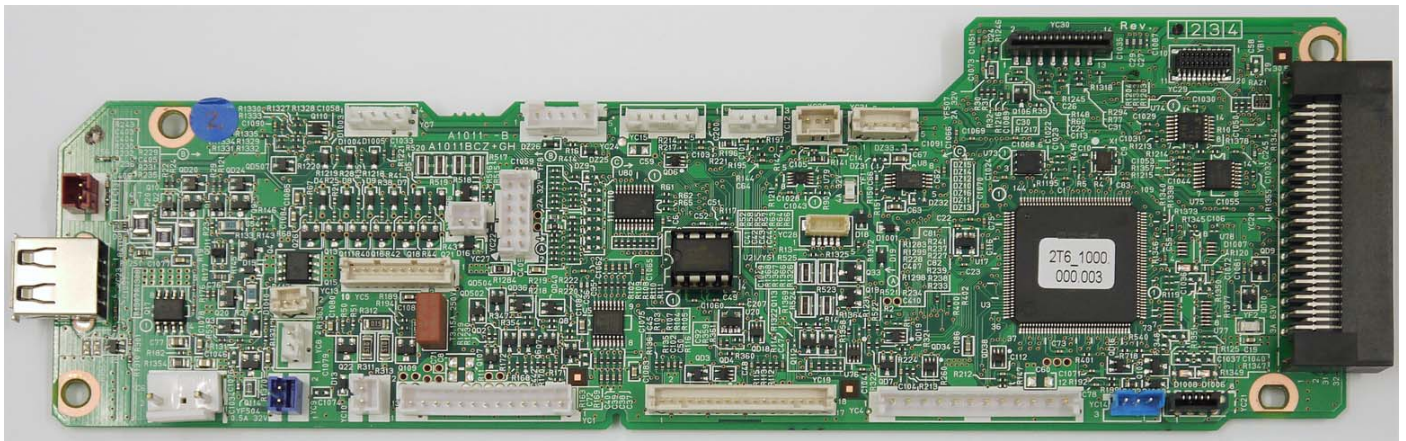
Controls printer hardware such as high voltage/bias output control, paper conveying system control, and fuser temperature control, etc.

(2-3)Power source PWB
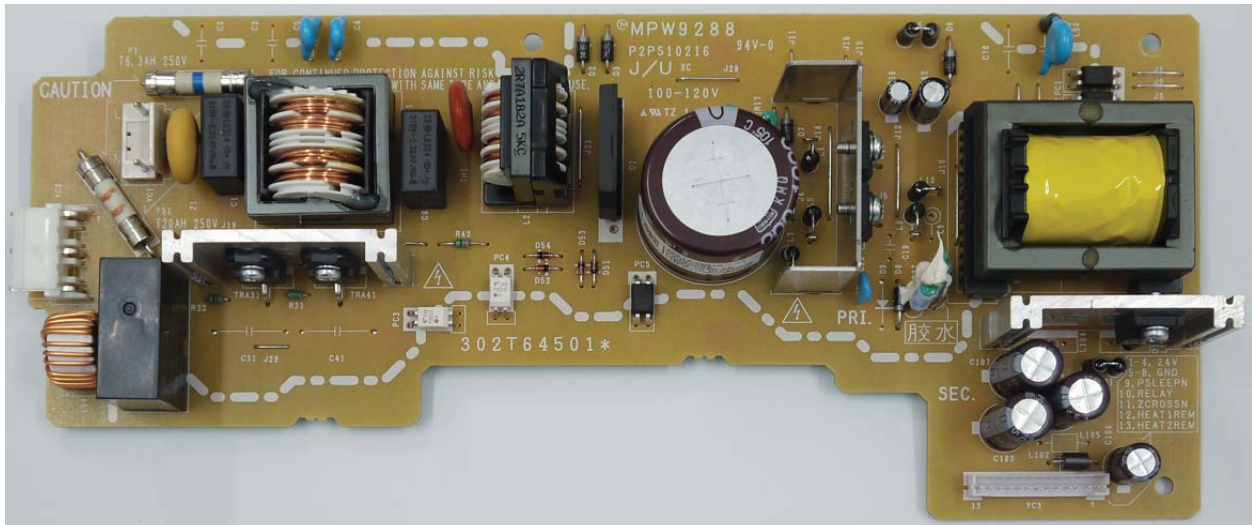
After full-wave rectification of AC power source input, switching for converting to 24 V DC for output. Controls the fuser heater.

(2-4)High voltage PWB
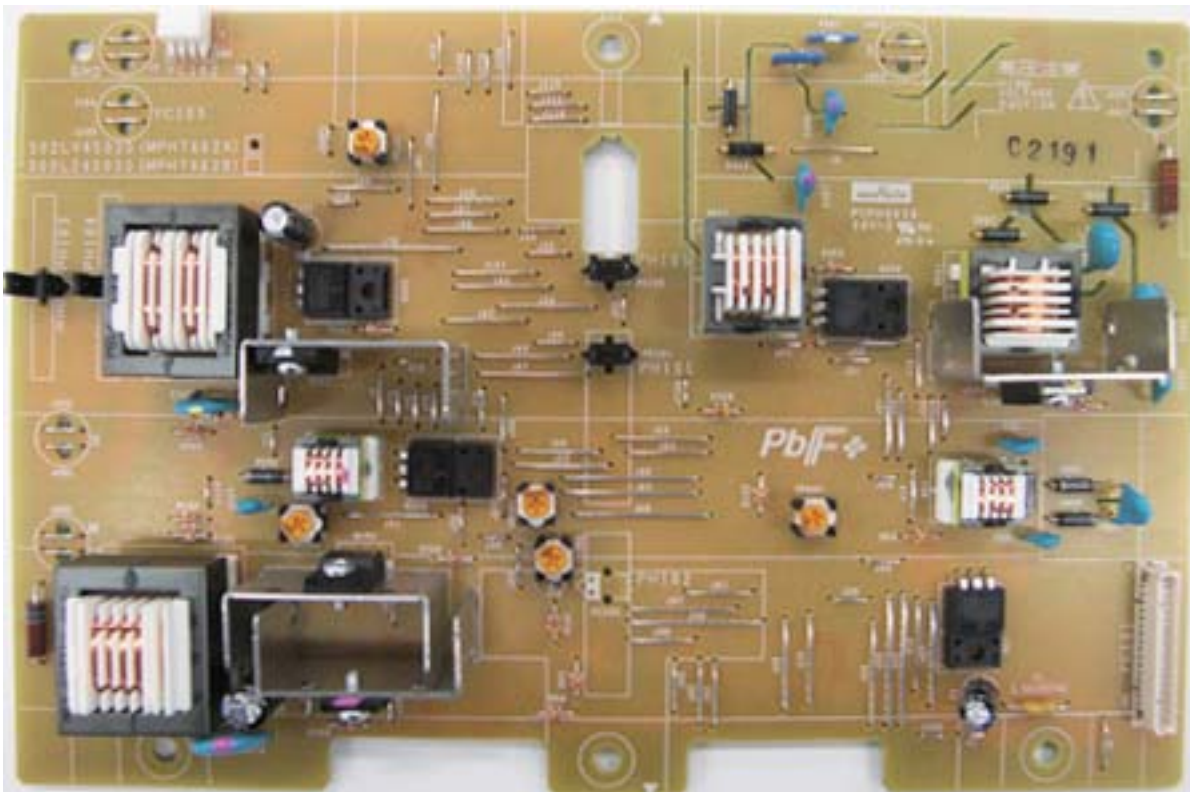
Generates main charging, developing bias, transfer bias.

(2-5)Operation PWB
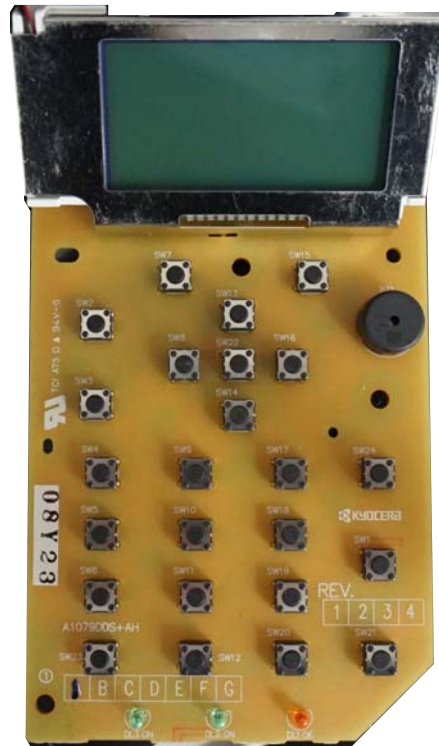
Consists the LCD, LED indicators and key switches.

(3) PWBs

(3-1)Layout
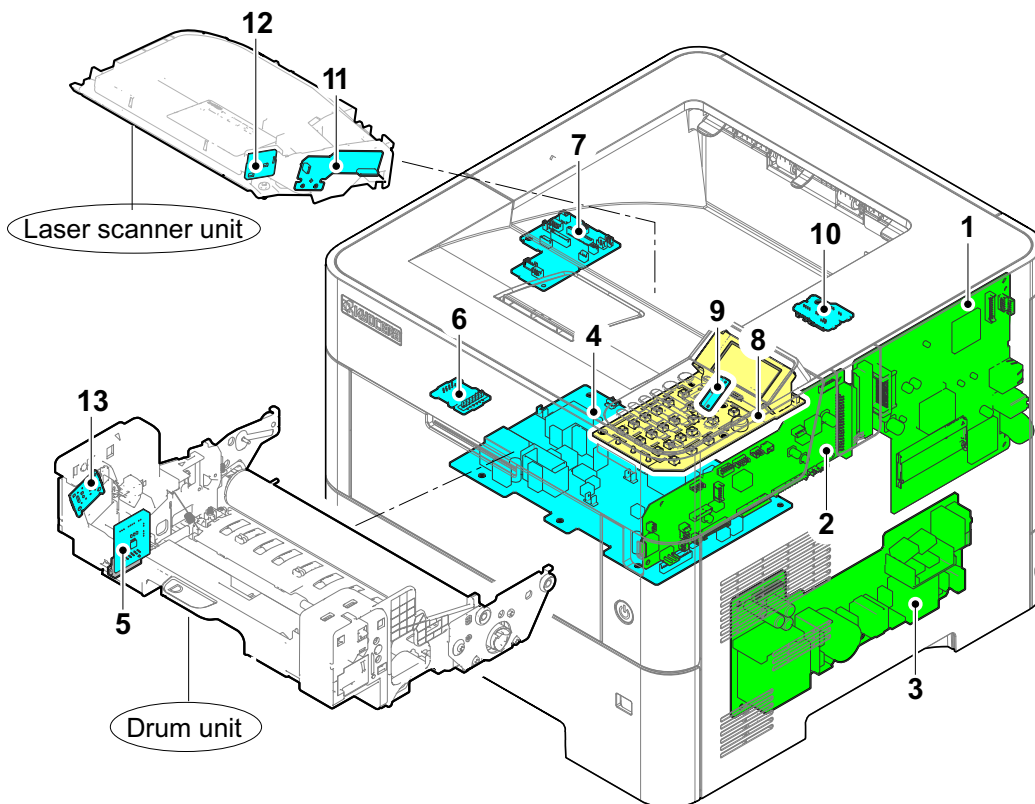
1   Main PWB   Controls the software such as the print data processing and provides the
                                      interface with computers.

2   Engine PWB   Controls printer hardware such as high voltage/bias output control, paper
                                      conveying system control, and fuser temperature control, etc.

3   Power source PWB   After full-wave rectification of AC power source input, switching for converting to
                                      24 V DC for output. Controls the fuser heater.

4   High voltage PWB   Generates main charging, developing bias, transfer bias.

5   Drum PWB   Relays wirings from electrical components on the drum unit.
                                      Drum individual information in EEPROM storage.

6   Drum relay PWB   Consists of wiring relay circuit between engine PWB and the drum unit.

7   Relay-L PWB   Consists of wiring relay circuit between engine PWB and drum connect PWB.

8   Operation PWB   Consists the LCD, LED indicators and key switches.

9   Backlight PWB   LCD lighting.

10 Fuser thermistor relay PWB   Consists of wiring relay circuit between engine PWB ,fuser thermistors and
                                      cooling fans.

11 APC PWB   Generates and controls the laser beam.

12 PD PWB   Controls horizontal synchronizing timing of laser beam.

13 Container relay PWB   Reads the container information.

(3-2)Part name table (PWB)

No.	Name used in service manual	Name used in parts list	Part. No.
1	Main PWB	PARTS PWB ASSY MAIN SP PARTS PWB ASSY MAIN SP EU	302TP9408_*1,*2 302TP9407_*3
2	Engine PWB	PARTS PWB ASSY ENGINE SP PARTS PWB ASSY ENGINE SP PARTS PWB ASSY ENGINE SP PARTS PWB ASSY ENGINE SP	302TT9403_*5 302TS9401_*6 302TR9401_*7 302TP9409_*8
3	Power source PWB	PARTS UNIT POWER SUPPLY 120 SP PARTS UNIT POWER SUPPLY 230 SP	302T69410_*1,*2 302T69411_*3
4	High voltage PWB	PARTS HIGH VOLTAGE UNIT SP PARTS HIGH VOLTAGE UNIT SP	302L29403_*1,*2 302LV9406_*3
5	Drum PWB	- (DK-3171(J)) (DK-3172(U)) (DK-3170(E)) (DK-3174(AO)) (DK-3191(J)) (DK-3192(U)) (DK-3190(E)) (DK-3194(AO))	- (302T99308_)*5,*1 (302T99307_)*5,*2 (302T99306_)*5,*3 (302T99309_)*5,*4 (302T69305_)*9,*1 (302T69304_)*9,*2 (302T69303_)*9,*3 (302T69306_)*9,*4
6	Drum relay PWB	PARTS PWB ASSY DRUM CONNECT SP	302T69408_
7	Relay-L PWB	PARTS PWB ASSY CONNECT-L SP PARTS PWB ASSY CONNECT-L SP	302T99404_*5 302T69407_*9
8	Operation PWB	PARTS PWB ASSY PANEL SP	302TP9410_
9	Backlight PWB	- (PARTS PWB ASSY PANEL SP)	- (302TP9410_)
10	Fuser thermistor relay PWB	PARTS PWB ASSY TH CONNECT SP	302LV9422_
11	APC PWB	- (LK-3170) (LK-3190)	- (302T99304_)*5*6 (302T69301_)*7*8
12	PD PWB	- (LK-3170) (LK-3190)	- (302T99304_)*5*6 (302T69301_)*7*8
13	Container relay PWB	- (DK-3171(J)) (DK-3172(U)) (DK-3170(E)) (DK-3174(AO)) (DK-3191(J)) (DK-3192(U)) (DK-3190(E)) (DK-3194(AO))	- (302T99308_)*5,*1 (302T99307_)*5,*2 (302T99306_)*5,*3 (302T99309_)*5,*4 (302T69305_)*9,*1 (302T69304_)*9,*2 (302T69303_)*9,*3 (302T69306_)*9,*4

*1: 100V *2: 120 V *3: 220-240 V *4: 240 V *5: 45 ppm model *6: 50 ppm model *7: 55 ppm model *8: 60 ppm model *9: 50/55/60 ppm model

(4) Sensors and Switches

(4-1)Layout
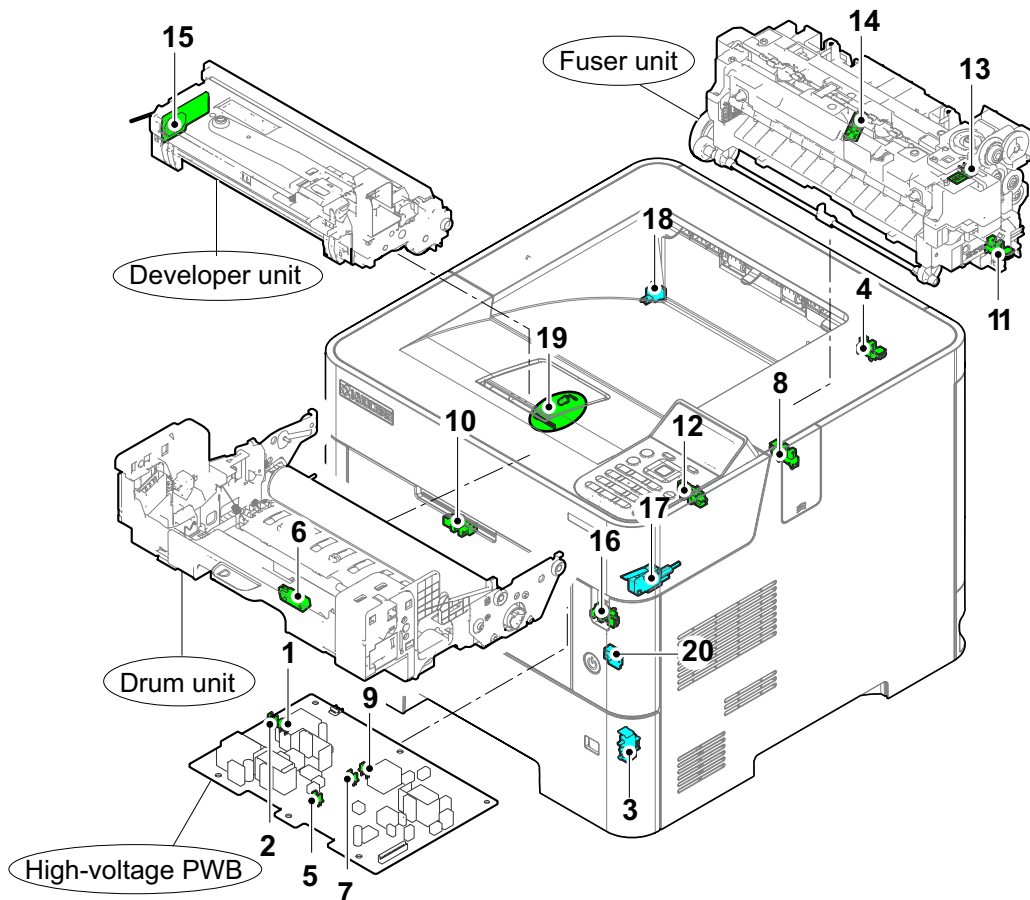
1	Paper sensor 1	Detects the presence of paper in the cassette.
2	Paper sensor 2	Detects the presence of paper in the cassette.
3	Cassette size switch	Detects the paper size dial setting of the paper setting dial.
4	Eject full sensor	Detects the paper full in the upper tray (Facedown).
5	Registration sensor 1 *2	Controls the secondary paper feed start timing.
6	Registration sensor 2 *1	Controls the secondary paper feed start timing.
7	Registration sensor 3 *1	Controls the Image data beginning timing.
8	Duplex sensor 1 *1	Detects a paper jam in the duplex section.
9	Duplex sensor 2	Detects a paper jam in the duplex section.
10	MP paper sensor	Detects the presence of paper on the MP tray.
11	Eject sensor	Detects a paper misfeed in the fuser or eject section.
12	Fuser pressure release sensor	Detects the change state of pressure in fuser unit.
13	Fuser thermistor 1	Detects the heat roller temperature at the edge position.
14	Fuser thermistor 2	Detects the heat roller temperature at the center position.
15	Toner sensor	Detects the amount of toner in the developer.
16	Lift sensor *1	Detects the top limit of the bottom plate.
17	Interlock switch	Shuts off 24 V DC power line when the top cover is opened.

18 Rear cover switch   Detects the opening and closing of the rear cover.

19 Waste toner sensor   Detects when the waste toner box is full.

20 Power source switch   Change ON/OFF the power supply of a main PWB, an operation PWB, etc.

*1:60/55/50 ppm model

*2:45 ppm model

(4-2)Part name table (Sensors and Switches)

No.	Name used in service manual	Name used in parts list	Part. No.
1	Paper sensor 1	- (PARTS HIGH VOLTAGE UNIT SP) (PARTS HIGH VOLTAGE UNIT SP)	- (302L29403_)*1,*2 (302LV9406_)*3
2	Paper sensor 2	- (PARTS HIGH VOLTAGE UNIT SP) (PARTS HIGH VOLTAGE UNIT SP)	- (302L29403_)*1,*2 (302LV9406_)*3
3	Cassette size switch	SW.PUSH	7SP03072001+H01
4	Eject full sensor	PARTS SENSOR OPT SP	302P79401_
5	Registration sensor 1 *2	- (PARTS HIGH VOLTAGE UNIT SP) (PARTS HIGH VOLTAGE UNIT SP)	- (302L29403_)*1,*2 (302LV9406_)*3
6	Registration sensor 2 *1	- (DK-3171(J)) (DK-3172(U)) (DK-3170(E)) (DK-3174(AO)) (DK-3191(J)) (DK-3192(U)) (DK-3190(E)) (DK-3194(AO))	- (302T99308_)*5,*1 (302T99307_)*5,*2 (302T99306_)*5,*3 (302T99309_)*5,*4 (302T69305_)*9,*1 (302T69304_)*9,*2 (302T69303_)*9,*3 (302T69306_)*9,*4
7	Registration sensor 3 *1	- (PARTS HIGH VOLTAGE UNIT SP) (PARTS HIGH VOLTAGE UNIT SP)	- (302L29403_)*1,*2 (302LV9406_)*3
8	Duplex sensor 1 *1	PARTS SENSOR OPT SP (PARTS COVER REAR ASSY SP JP) (PARTS COVER REAR ASSY SP)	303M89426_ (302TP9406_) (302TP9402_)
9	Duplex sensor 2	- (PARTS HIGH VOLTAGE UNIT SP) (PARTS HIGH VOLTAGE UNIT SP)	- (302L29403_)*1,*2 (302LV9406_)*3
10	MP paper sensor	PARTS SENSOR OPT SP	303M89426_

No.	Name used in service manual	Name used in parts list	Part. No.
11	Eject sensor	- (FK-3201) (FK-3202) (FK-3200) (FK-3301) (FK-3302) (FK-3300)	- (302V393050)*5,*1 (302V393060)*5,*2 (302V393040)*5,*3,*4 (302TP93020*9,*1 (302TA93050)*9,*2 (302TA93040*9,*3,*4
12	Fuser pressure release sensor	PARTS SENSOR OPT SP	303M89426_
13	Fuser thermistor 1	- (FK-3201) (FK-3202) (FK-3200) (FK-3301) (FK-3302) (FK-3300)	- (302V393050)*5,*1 (302V393060)*5,*2 (302V393040)*5,*3,*4 (302TP93020*9,*1 (302TA93050)*9,*2 (302TA93040*9,*3,*4
14	Fuser thermistor 2	- (FK-3201) (FK-3202) (FK-3200) (FK-3301) (FK-3302) (FK-3300)	- (302V393050)*5,*1 (302V393060)*5,*2 (302V393040)*5,*3,*4 (302TP93020*9,*1 (302TA93050)*9,*2 (302TA93040*9,*3,*4
15	Toner sensor	- (DV-3100)	- (302LV9308_)
16	Lift sensor *1	PARTS SENSOR OPT SP	303M89426_
17	Interlock switch	INTER LOCK SWITCH	2FB2716_
18	Rear cover switch	SW.PUSH	7SP01000001+H01
19	Waste toner sensor	PARTS TONER FULL DETECT ASSY SP	302LV9412_
20	Power source switch	PARTS PWB ASSY SWITCH SP	302LV9421_

*100V *2: 120 V *3: 220-240 V *4: 240 V *5: 45 ppm model *6: 50 ppm model *7: 55 ppm model *8: 60 ppm model *9: 50/55/60 ppm model

(5) Motors

(5-1)Layout

Laser scanner unit
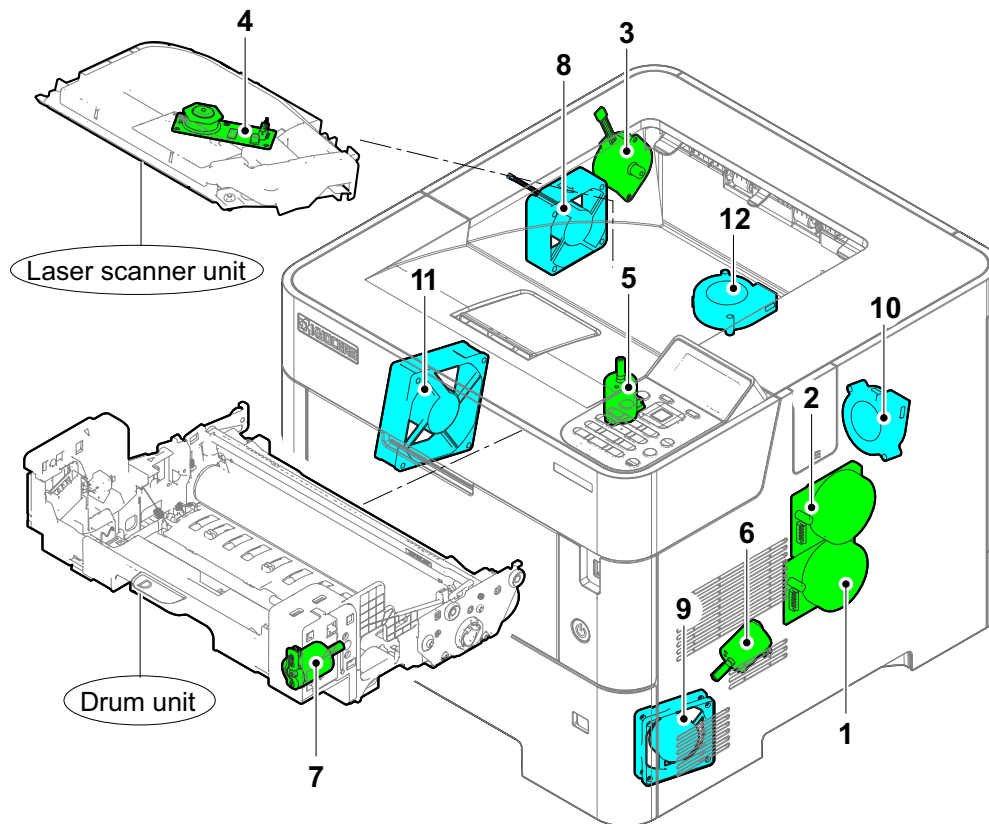
Drum unit

1	Main motor	Drives the paper feed section and conveying section.
2	Drum motor *1	Drives the drum unit and transfer roller.
3	Eject motor	Drives the eject section.
4	Polygon motor	Drives the polygon mirror.
5	Fuser pressure release motor *1	Drives the change mechanism of fixing pressure in fuser unit.
6	Lift motor*1	Operates the bottom plate in the cassette.
7	Toner motor	Replenishes toner to the developer unit.
8	LSU fan motor	Cools the LSU unit.
9	Power source fan motor	Cools the power source PWB.
10	Rear fan motor *2	Cooling the DU conveying section
11	Developer fan motor	Cools the developer unit.
12	Center fan motor *2	Dispersing steam

*1: 60/55/50 ppm model, *2: 100V model

(5-2)Part name table (motor)

No.	Name used in service manual	Name used in parts list	Part. No.
1	Main motor	PARTS MOTOR-BL W30 SP	302K39420_
2	Drum motor	PARTS MOTOR-BL W30 SP	302K39420_
3	Eject motor	PARTS MOTOR EJECT SP	302T99405_
4	Polygon motor	- (LK-3170) (LK-3190)	- (302T99304_)*5*6 (302T69301_)*7*8
5	Fuser pressure release motor	PARTS DC MOTOR ASSY SP	302LV9423_
6	Lift motor	PARTS DC MOTOR ASSY SP	302LV9423_
7	Toner motor	- (DK-3171(J)) (DK-3172(U)) (DK-3170(E)) (DK-3174(AO)) (DK-3191(J)) (DK-3192(U)) (DK-3190(E)) (DK-3194(AO))	- (302T99308_)*5,*1 (302T99307_)*5,*2 (302T99306_)*5,*3 (302T99309_)*5,*4 (302T69305_)*9,*1 (302T69304_)*9,*2 (302T69303_)*9,*3 (302T69306_)*9,*4
8	LSU fan motor	FAN LSU 60-25	302GR4408_
9	Power source fan motor	PARTS,FAN COOLING CONVEYING SP	302FZ9442_
10	Rear fan motor	PARTS,FAN IMAGE SP	302FZ9466_
11	Developer fan motor	PARTS FAN MOTOR ASSY SP	302LV9443_
12	Center fan motor	PARTS FAN MOTOR SP	302LV9435_

*100V *2: 120 V *3: 220-240 V *4: 240 V *5: 45 ppm model *6: 50 ppm model *7: 55 ppm model *8: 60 ppm model *9: 50/55/60 ppm model

(6) Other parts

(6-1)Layout
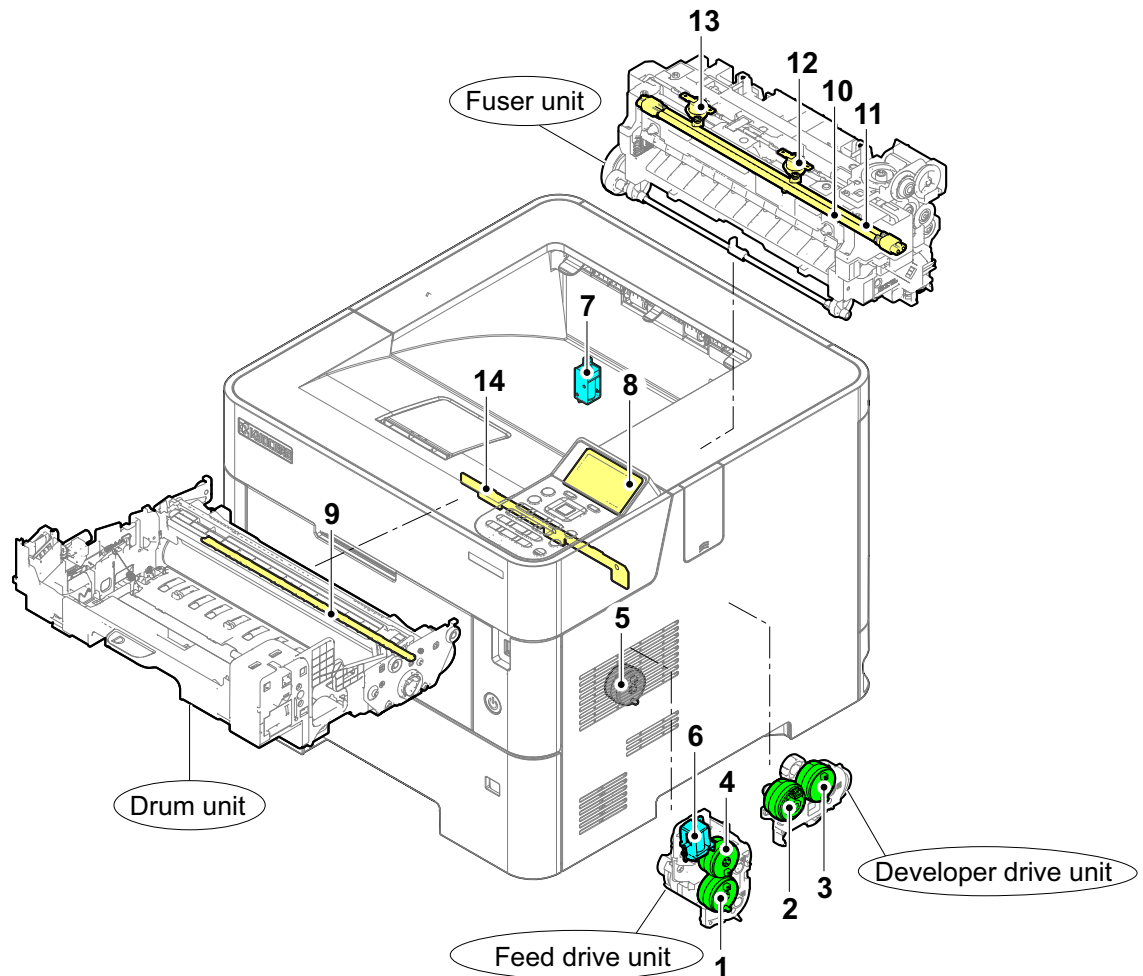
1	Paper feed clutch	Primary paper feed from cassette.
2	Registration clutch	Controls the secondary paper feed.
3	Developer clutch	Controls the drive of the developer.
4	Conveying clutch	Controls the paper conveying.
5	Duplex clutch	Controls the drive of the duplex feed roller.
6	MP solenoid	Controls the MP bottom plate.
7	Feedshift solenoid*1	Operates the feedshift guide.
8	LCD	LCD display. Displays an operating state.
9	Cleaning lamp	Eliminates the residual electrostatic charge on the drum.
10	Fuser heater 1	Heats the heat roller.
11	Fuser heater 2	Heats the heat roller.
12	Fuser thermostat 1	Prevents overheating of the heat roller.
13	Fuser thermostat 2	Prevents overheating of the heat roller.
14	Drum heater*2	Defumidifying the drum

*1:60/55/50 ppm model, *2 100V model only

(6-2)Part name table (Other parts)

No.	Name used in service manual	Name used in parts list	Part. No.
1	Paper feed clutch	PARTS CLUTCH 20-2W Z35R (PARTS DRIVE FEED ASSY SP)	302LV9416_ (302LV9425_)
2	Registration clutch	CLUTCH 50 Z35R	302KV4404_
3	Developer clutch	CLUTCH 50 Z35R	302KV4404_
4	Conveying clutch	PARTS CLUTCH 35 Z35R SP (PARTS DRIVE FEED ASSY SP)	302NR9401_ (302LV9425_)
5	Duplex clutch	PARTS CLUTCH 20-2W Z35R	302LV9416_
6	MP solenoid	- (PARTS DRIVE FEED ASSY SP)	- (302LV9425_)
7	Feedshift solenoid*1	- (PARTS HIGH VOLTAGE UNIT SP) (PARTS HIGH VOLTAGE UNIT SP)	- (302L29403_)*1 (302LV9406_)*2
8	LCD	- (PARTS PWB ASSY PANEL SP)	- (302TP9410_)
9	Cleaning lamp	- (DK-3171(J)) (DK-3172(U)) (DK-3170(E)) (DK-3174(AO)) (DK-3191(J)) (DK-3192(U)) (DK-3190(E)) (DK-3194(AO))	- (302T99308_)*5,*1 (302T99307_)*5,*2 (302T99306_)*5,*3 (302T99309_)*5,*4 (302T69305_)*9,*1 (302T69304_)*9,*2 (302T69303_)*9,*3 (302T69306_)*9,*4
10	Fuser heater 1	- (FK-3201) (FK-3202) (FK-3200) (FK-3301) (FK-3302) (FK-3300)	- (302V393050)*5,*1 (302V393060)*5,*2 (302V393040)*5,*3,*4 (302TP93020*9,*1 (302TA93050)*9,*2 (302TA93040*9,*3,*4
11	Fuser heater 2	- (FK-3201) (FK-3202) (FK-3200) (FK-3301) (FK-3302) (FK-3300)	- (302V393050)*5,*1 (302V393060)*5,*2 (302V393040)*5,*3,*4 (302TP93020*9,*1 (302TA93050)*9,*2 (302TA93040*9,*3,*4
12	Fuser thermostat 1	- (FK-3201) (FK-3202) (FK-3200) (FK-3301) (FK-3302) (FK-3300)	- (302V393050)*5,*1 (302V393060)*5,*2 (302V393040)*5,*3,*4 (302TP93020*9,*1 (302TA93050)*9,*2 (302TA93040*9,*3,*4

No.	Name used in service manual	Name used in parts list	Part. No.
13	Fuser thermostat 2	- (FK-3201) (FK-3202) (FK-3200) (FK-3301) (FK-3302) (FK-3300)	- (302V393050)*5,*1 (302V393060)*5,*2 (302V393040)*5,*3,*4 (302TP93020*9,*1 (302TA93050)*9,*2 (302TA93040*9,*3,*4
14	Drum heater*2	- (DK-3171(J)) (DK-3172(U)) (DK-3170(E)) (DK-3174(AO)) (DK-3191(J)) (DK-3192(U)) (DK-3190(E)) (DK-3194(AO))	- (302T99308_)*5,*1 (302T99307_)*5,*2 (302T99306_)*5,*3 (302T99309_)*5,*4 (302T69305_)*9,*1 (302T69304_)*9,*2 (302T69303_)*9,*3 (302T69306_)*9,*4

*100V *2: 120 V *3: 220-240 V *4: 240 V *5: 45 ppm model *6: 50 ppm model *7: 55 ppm model *8: 60 ppm model *9: 50/55/60 ppm model

3 - 4 Electric parts (Optional unit)

(1) Paper feeder (PF-3110)

(1-1)Layout
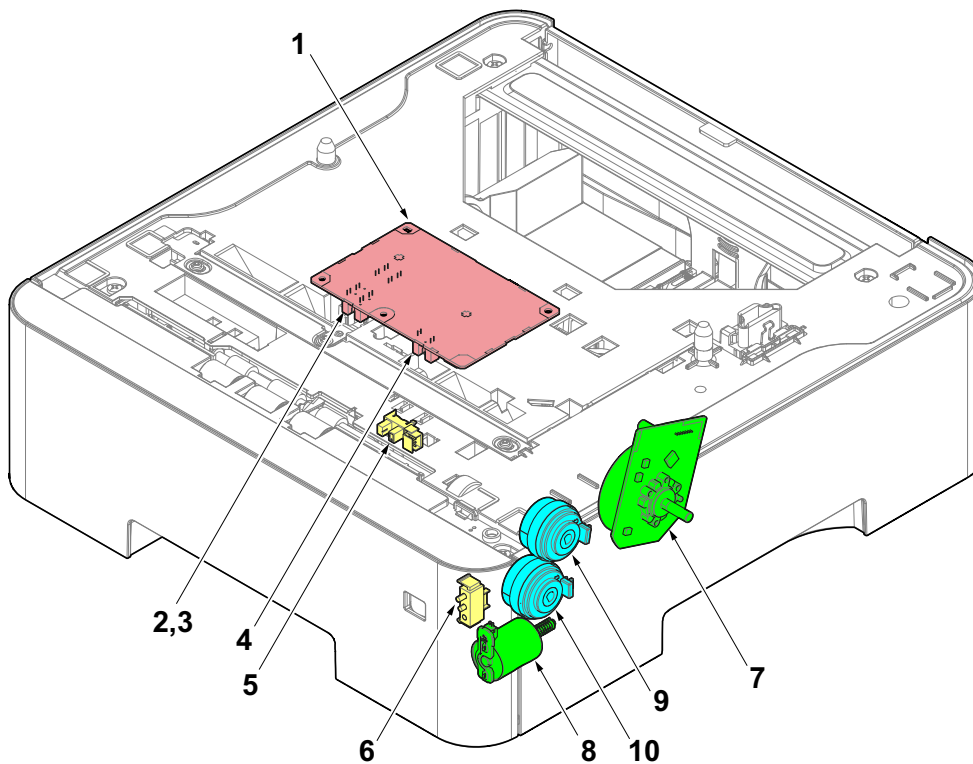
1	PF PWB	Controls electrical components in the paper feeder and communications with the printer.
2	PF paper sensor 1	Detects the paper remaining amount level.
3	PF paper sensor 2	Detects the paper remaining amount level.
4	PF lift sensor	Detects the top limit of the bottom plate.
5	PF conveying sensor	Detects paper jam in the paper feeder
6	PF cassette size switch	Detects the paper size dial setting of the paper setting dial.
7	PF feed motor	Drives the paper feed mechanism in the paper feeder.
8	PF lift motor	Operates the bottom plate in the cassette.
9	PF feed clutch	Controls the paper feed from the cassette.
10	PF conveying clutch	Controls the paper conveying.

(1-2)Part name table

No.	Name used in service manual	Name used in parts list	Part. No.
1	PF PWB	PARTS PWB ASSY PF MAIN SP	303NY9401_
2	PF paper sensor 1	- (PARTS PWB ASSY PF MAIN SP)	- (303NY9401_)
3	PF paper sensor 2	- (PARTS PWB ASSY PF MAIN SP)	- (303NY9401_)
4	PF lift sensor	- (PARTS PWB ASSY PF MAIN SP)	- (303NY9401_)
5	PF conveying sensor	SENSOR OPT.	7NXSG2A141++H01
6	PF cassette size switch	SW.PUSH	7SP03072001+H01
7	PF feed motor	PARTS MOTOR-BL W20 SP	302K99432_
8	PF lift motor	DC MOTOR ASSY	303NY0102_
9	PF feed clutch	CLUTCH 50 Z35R	302KV4404_
10	PF conveying clutch	CLUTCH 50 Z35R	302KV4404_

(2) Paper feeder (PF-3100)

(2-1)Layout
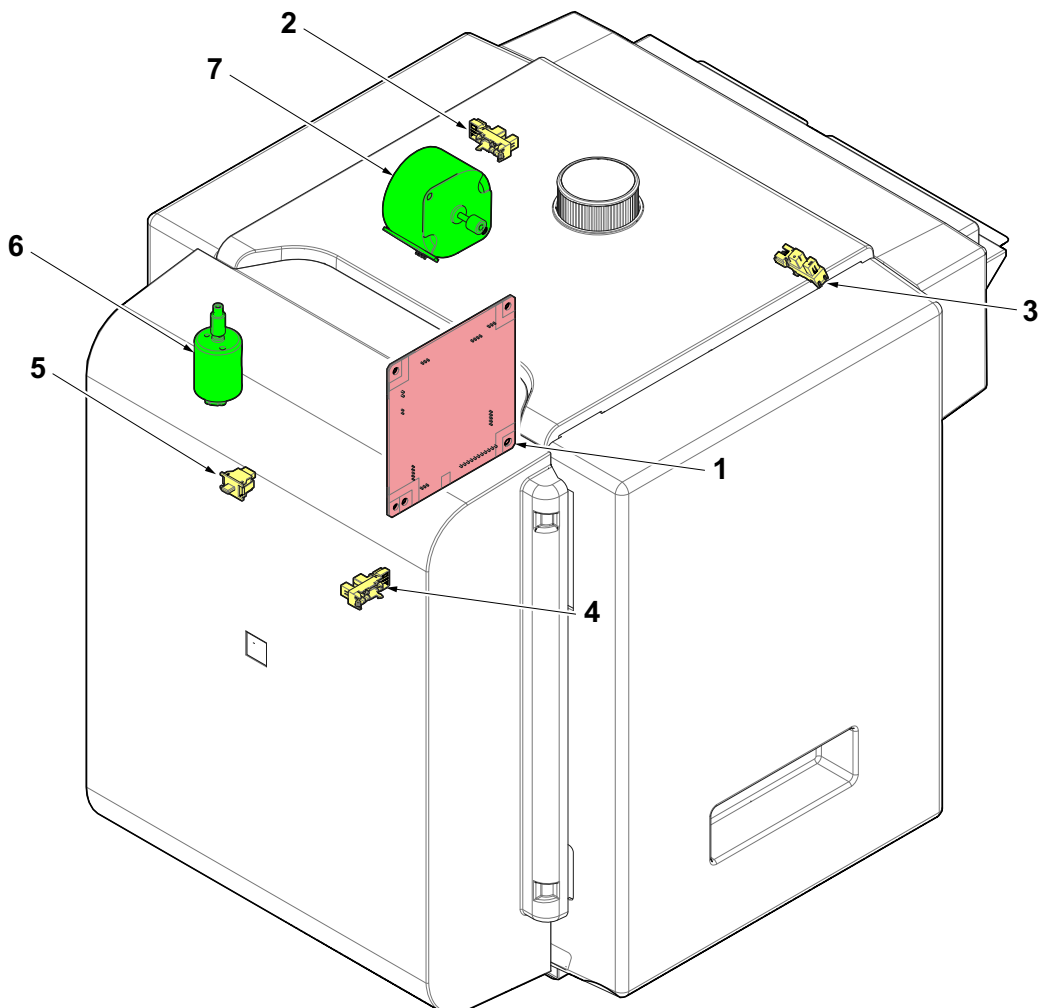
1   PF PWB   Controls electrical components in the bulk paper feeder and communications with the printer.

2   PF tray top position sensor   This sensor, when the top of the paper stack in the paper tray has reached the top most position, ready for feeding paper through the bulk paper feeder output slot.

3   PF paper feed sensor   This sensor monitors the presence of paper at the bulk paper feeder output slot.

4   PF tray bottom position sensor   This sensor, when stepped on by the paper tray as the paper tray descends.

5   PF cover switch   This switch reports CPU as to whether the tray cover is closed or open.

6   PF lift motor   This is a DC servo motor to raise or descends the paper tray.

7   PF paper feed motor   Drive the paper feed roller to pull paper out from the paper tray and feed it to the printer.

8   PF interface conector   +24V and +5V power is suppled from the printer and sends/receives the control signal of the priner engine PWB and PF main PWB.

(2-2)Part name table

No.	Name used in service manual	Name used in parts list	Part. No.
1	PF PWB	PARTS PWB PF MAIN ASSY SP	303S39403_
2	PF tray top position sensor	PARTS SENSOR OPT. SP	302P79401_
3	PF paper feed sensor	PARTS SENSOR OPT. SP	302P79401_
4	PF tray bottom position sensor	PARTS SENSOR OPT. SP	302P79401_
5	PF cover switch	SW.PUSH	7SP01000006+H01
6	PF lift motor	PARTS DC MOTOR ASSY SP	303S39402_
7	PF paper feed motor	PARTS MOTOR-PM DP SP	302S09401_
8	PF interface conector	-	-

(3) Paper feeder base (PB-325)

(3-1)Layout
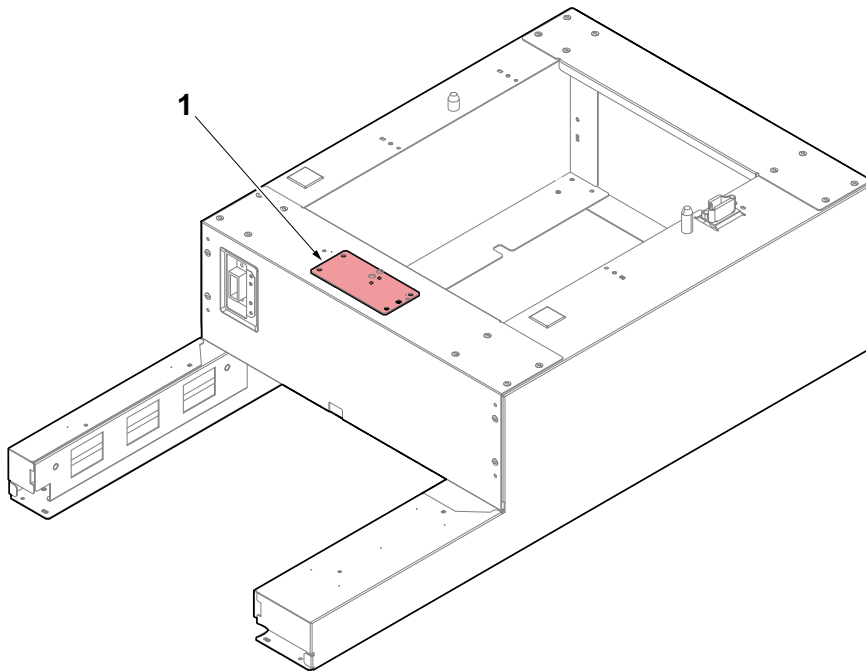
1   PB PWB   Consist of the printer engine PWB and the relay PWB to the bulk feeder PF
                                    feeder.

(3-2)Part name table

No.	Name used in service manual	Name used in parts list	Part. No.
1	PB PWB	PARTS PWB ASSY PB SP	303N19401_

3 ‑ 5 Drive system

(1) Drive configuration

Entire drive

60/55/50 ppm model
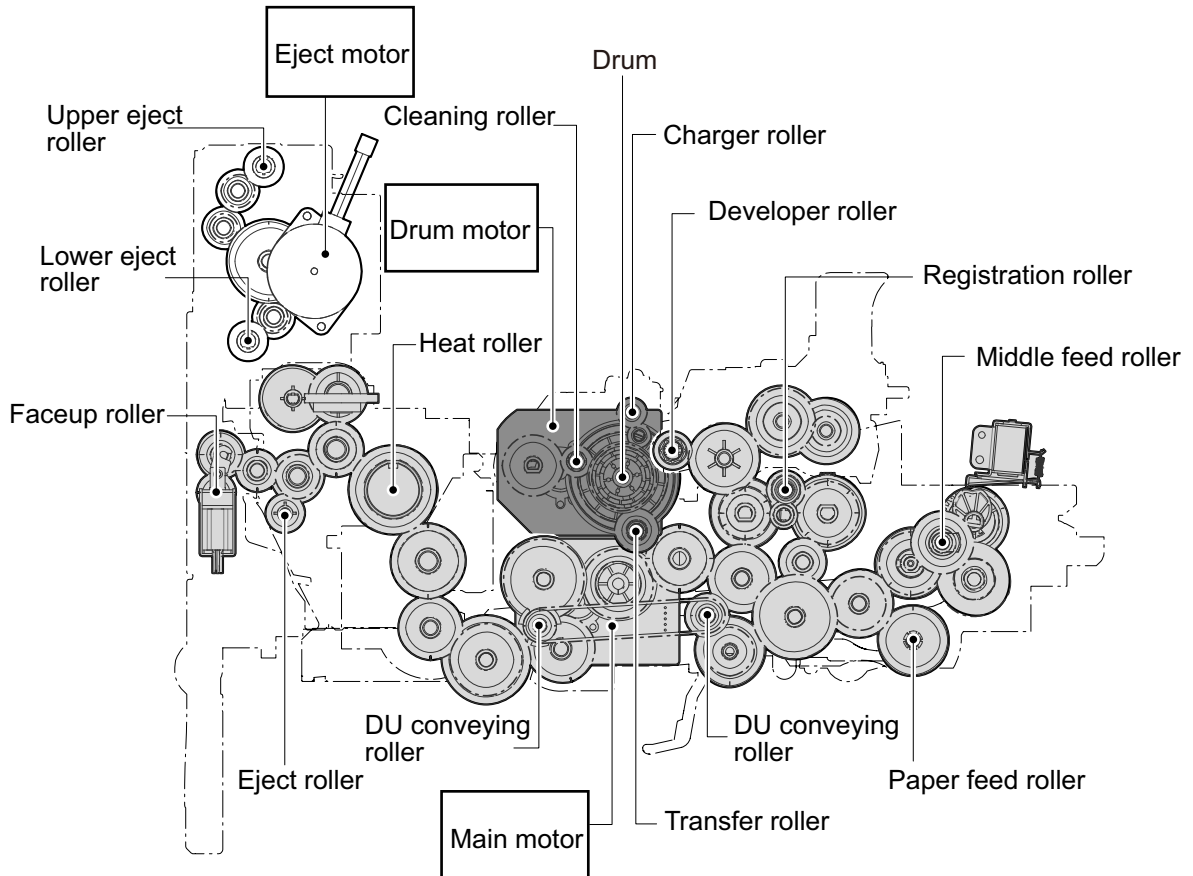
45 ppm model
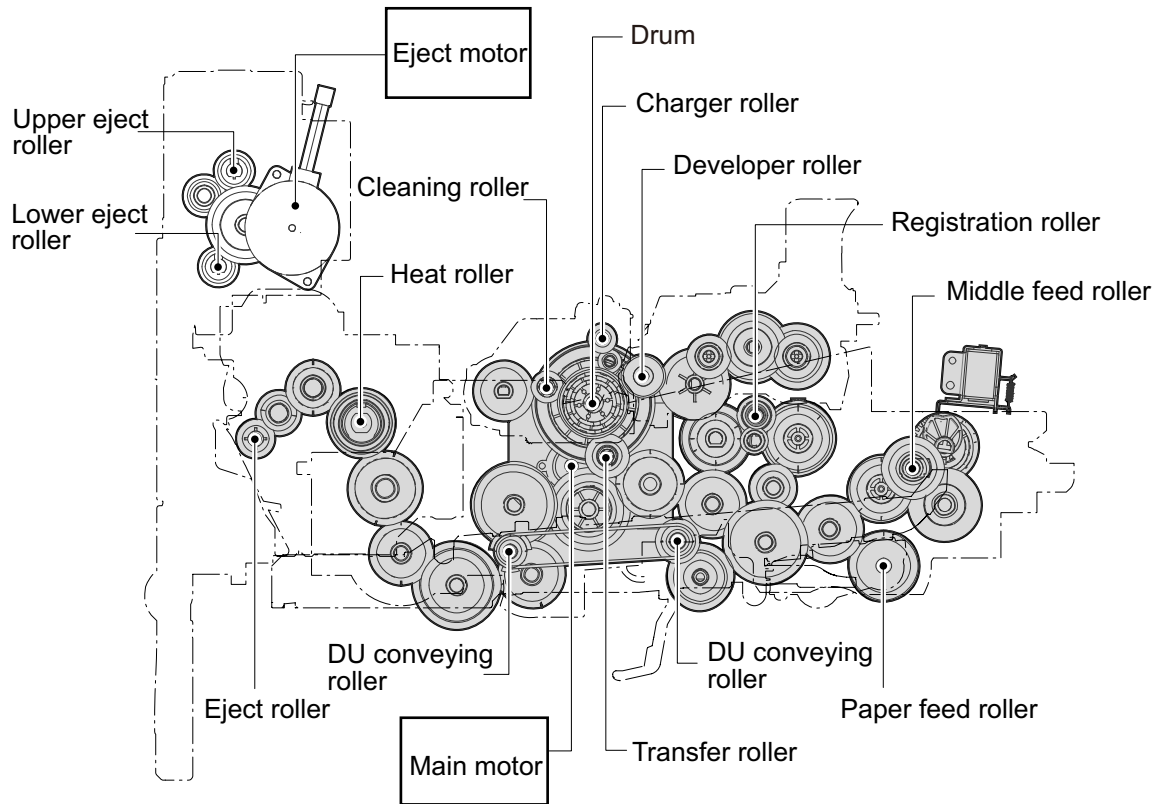
3 - 6 Mechanical construction

(1) Paper feed section

Paper feed/conveying section consists of the paper feed unit that feeds paper from the cassette and the MP tray paper feed unit that feeds paper from the MP tray.

(1-1)Cassette paper feed section

The cassette can contain 500 sheets (80 g/m2). The sheet from the cassette is pulled out by rotation of the pickup roller and sent to the paper conveying section by rotation of the paper feed roller. Also the retard roller prevents multiple feeding of paper.
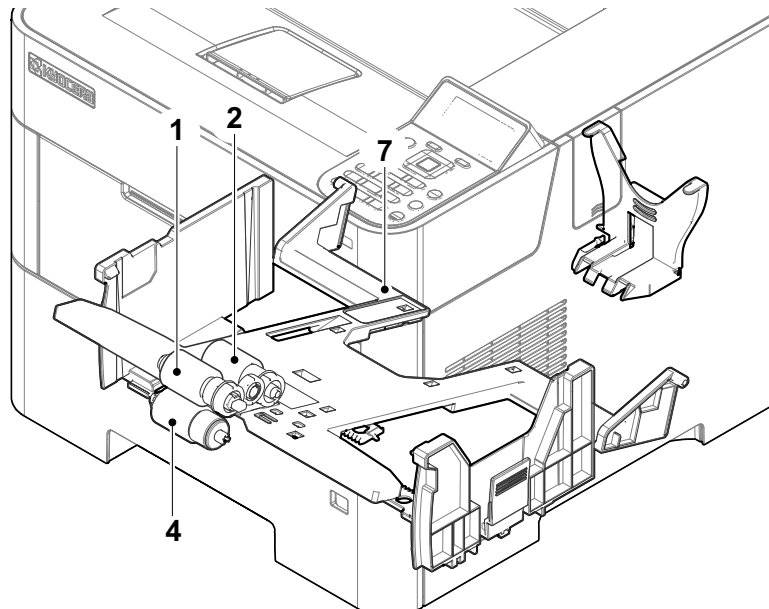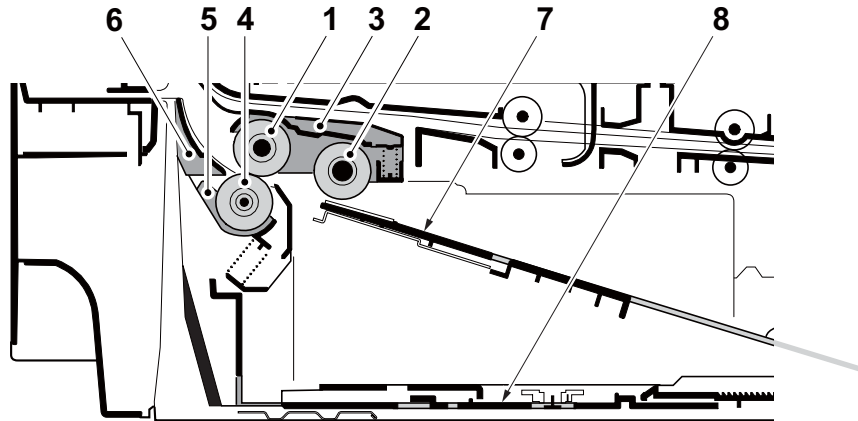
1	Paper feed roller	4	Retard roller	7 Bottom plate
2	Pickup roller	5	Retard holder	8 Cassette base
3	Feed holder	6	Retard guide	

Block diagram
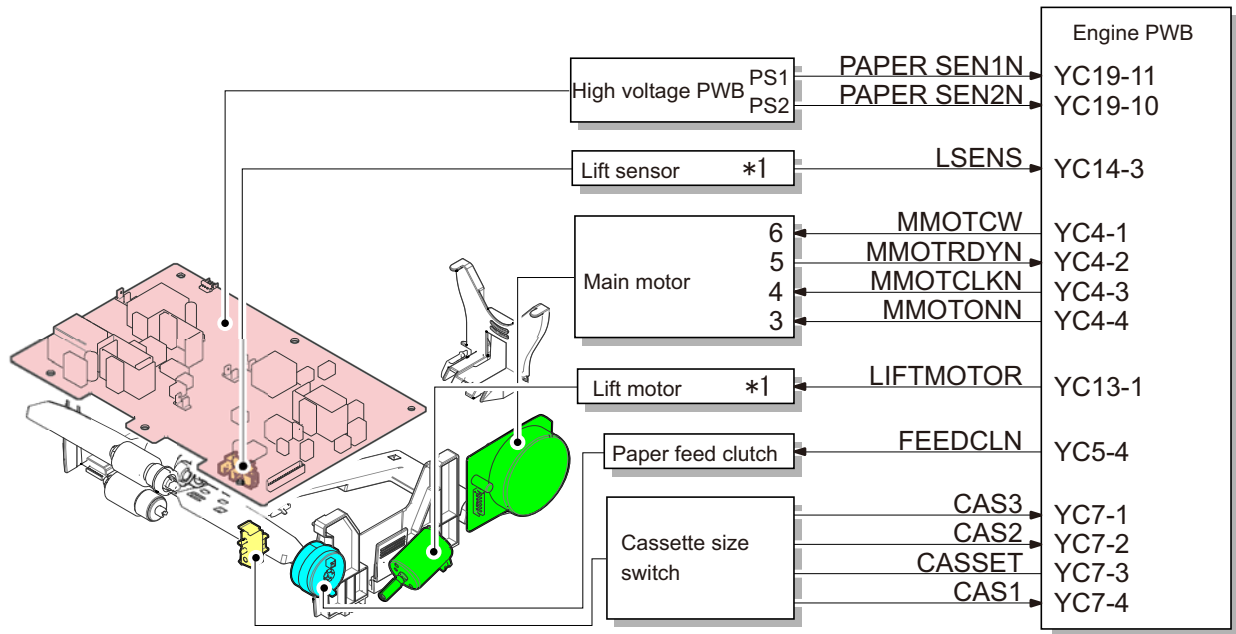
(1-2)MP tray paper feed section

The MP tray can contain 100 sheets. Feeding from the MP tray is performed by the rotation of the MP paper feed roller. Also, function of the MP separation pad prevents paper from multiple feeding.
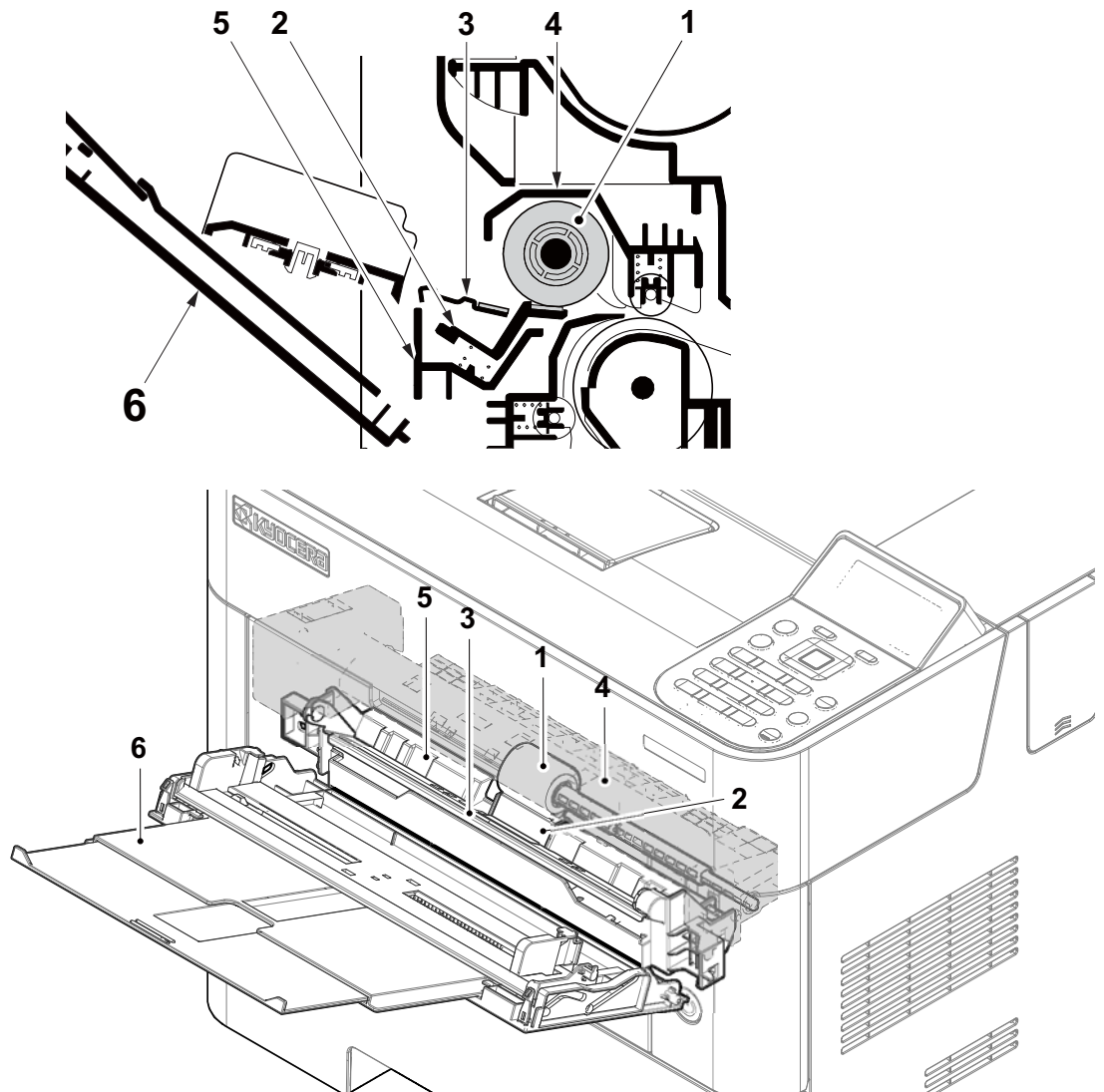
1 MP paper feed roller	3 MP bottom plate	5 MP base
2 MP separation pad	4 MP frame	6 MP (Multi purpose)tray

Block diagram
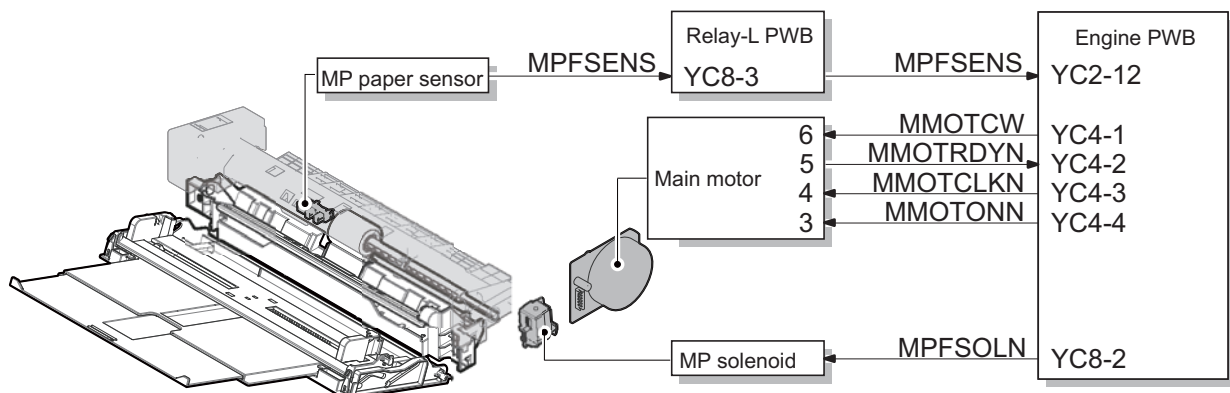
(2) Conveying section

The conveying section conveys paper to the transfer/separation section as paper feeding from the cassette or MP tray, or as paper refeeding for duplex printing. Paper by feeding is conveyed by the paper feed roller to the position where the registration sensor is turned on, and then sent to the transfer/separation section by the upper registration roller and lower registration roller.
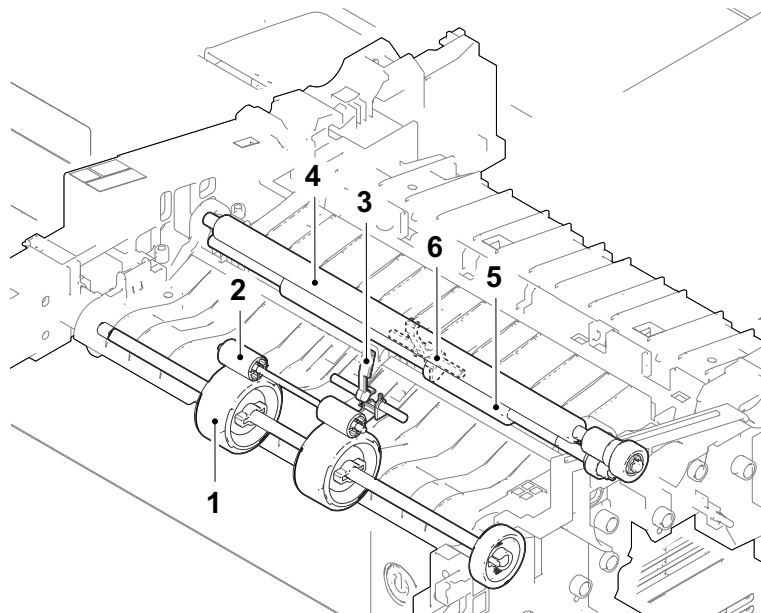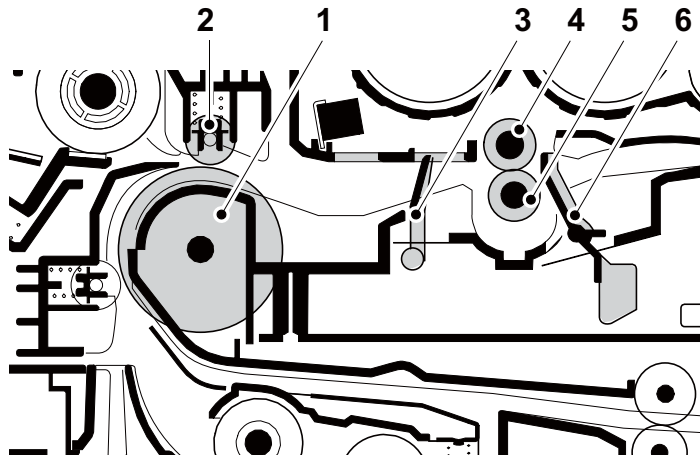
1	Middle feed roller	3	Actuator (Registration sensor 1) *1	5	Lower registration roller
2	Feed DU pulley	4	Upper registration roller	6	Actuator (Registration sensor 3) *2

Block diagram
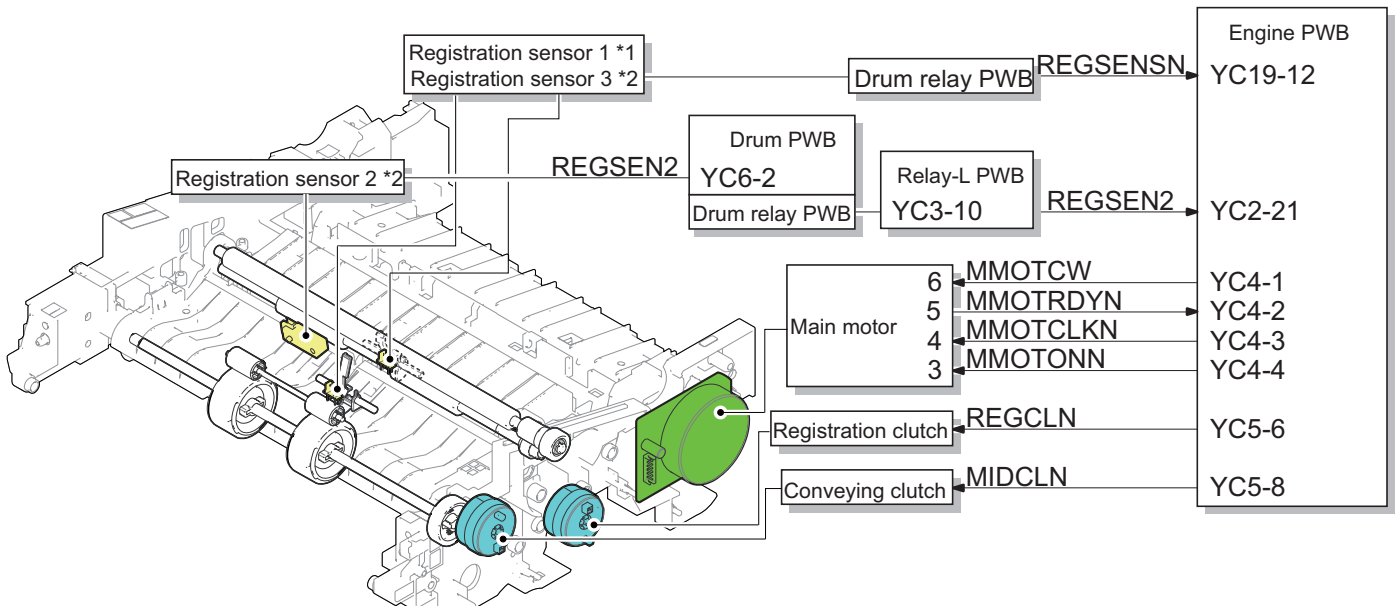
*1: 45 ppm model

*2: 60/55/50 ppm model

(3) Drum section

(3-1)Charger roller unit

In the main charger section, the main charger roller with the electric charge contacts the drum surface and rotates to charge the drum evenly.
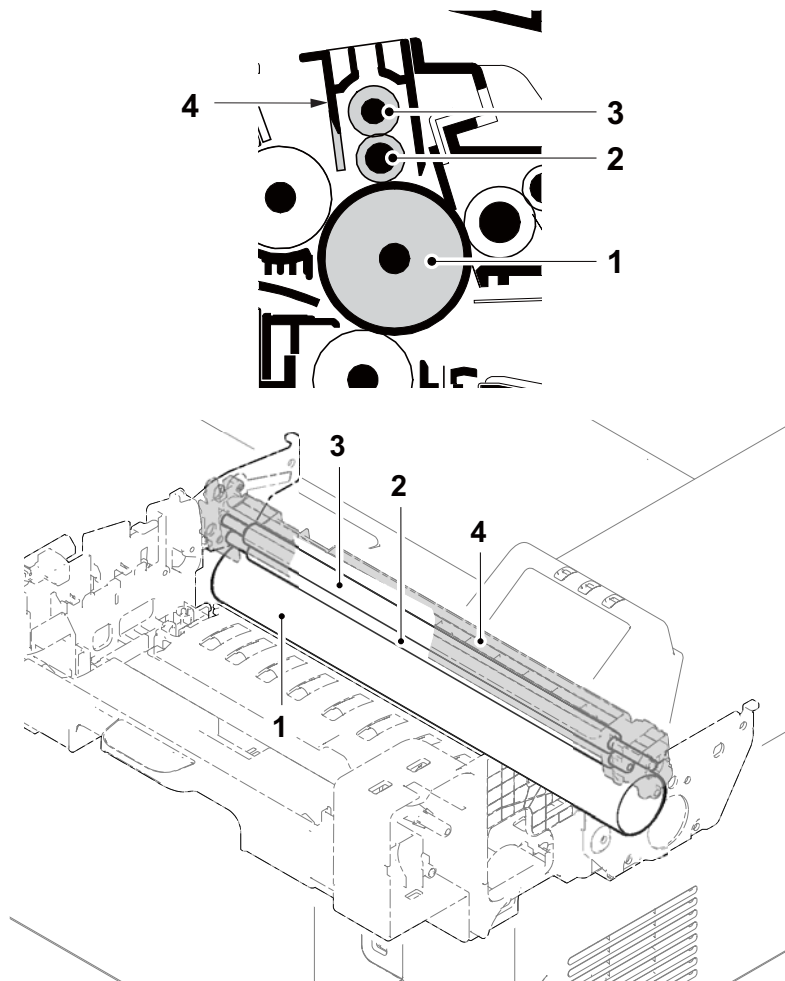
1 Drum   3 Charger cleaning roller
2 Charger roller   4 Charger case

Block diagram
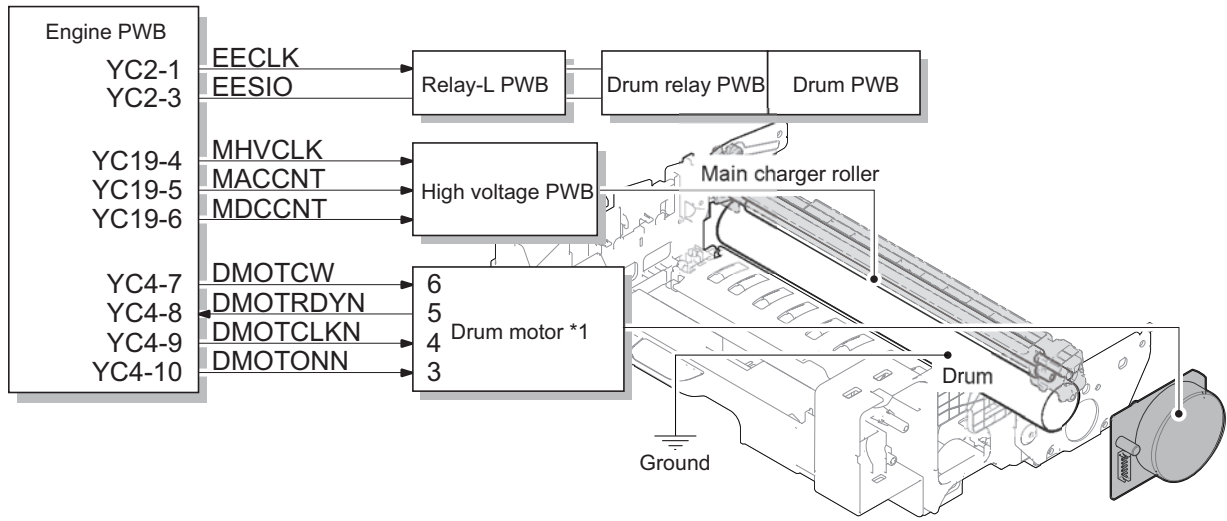
*1: 60/55/50 ppm model

(3-2)Cleaning unit

In the cleaning section, toner remaining 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 electric charge remaining on the drum before the main charge
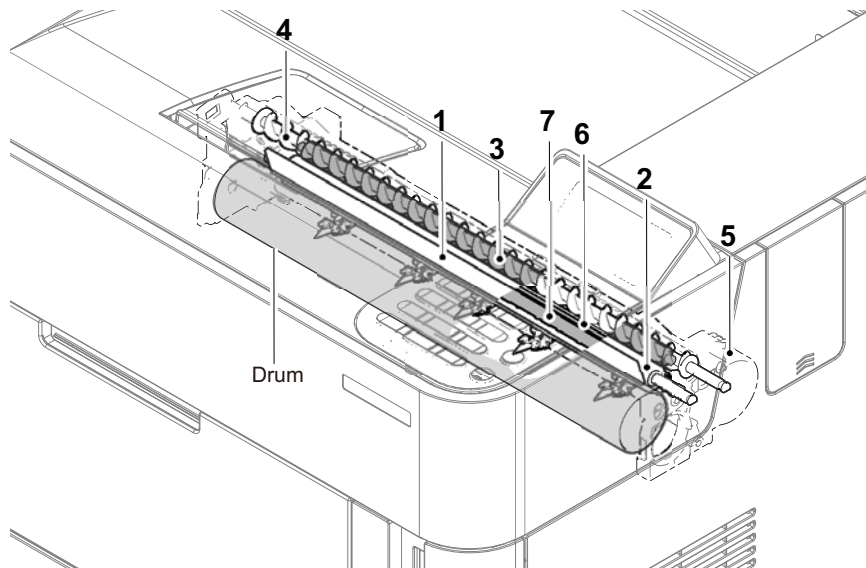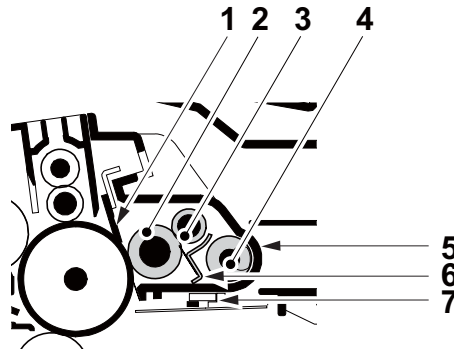
1 Cleaning blade	4 Sweep roller	7 Cleaning lamp
2 Cleaning roller	5 Drum frame	
3 Control roller	6 Scraper	

Block diagram
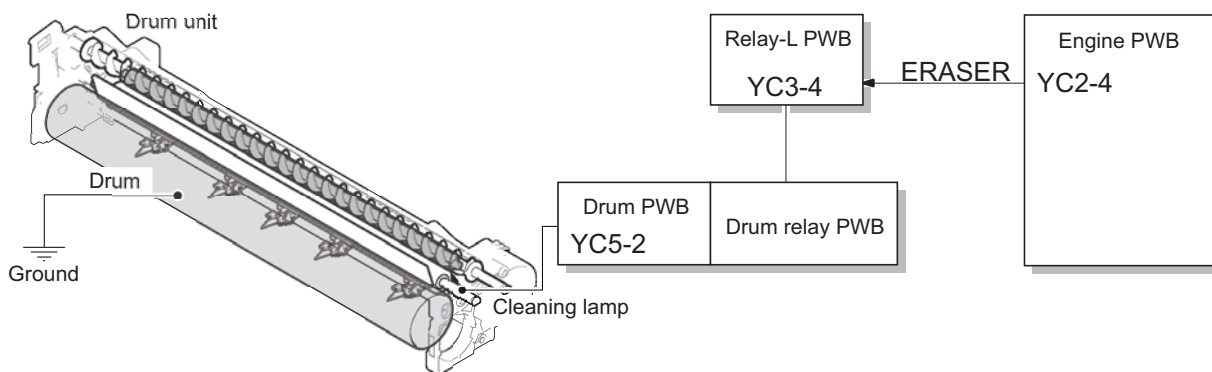
(4) Developer section

The developer unit consists of the developer roller that forms the toner layer, the developer blade and the developer screws that agitate the toner.Also, the toner sensor checks whether or not toner remains in the developer unit.
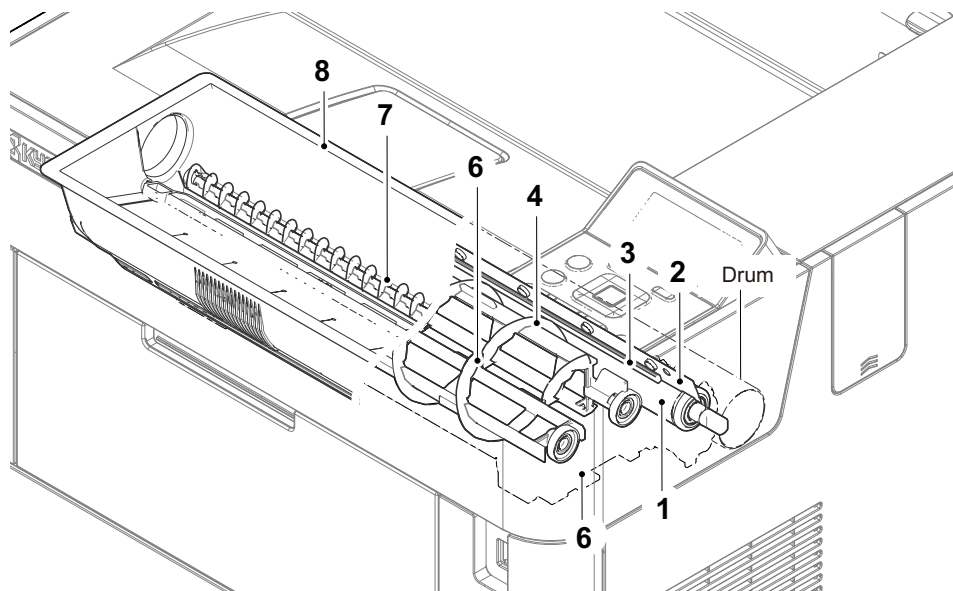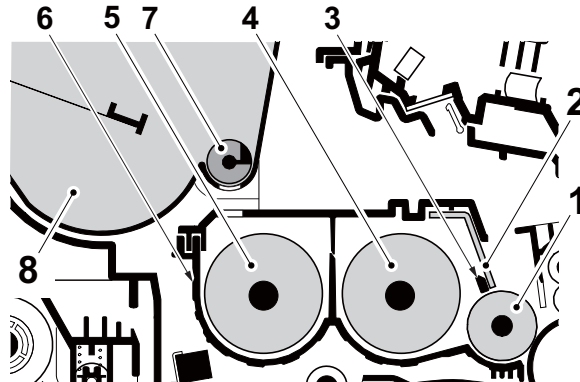
1	Developer roller	4	Developer screw A	7	Toner supply roller
2	Developer blade	5	Developer screw B	8	Toner container
3	Magnet blade	6	Developer case		

Block diagram
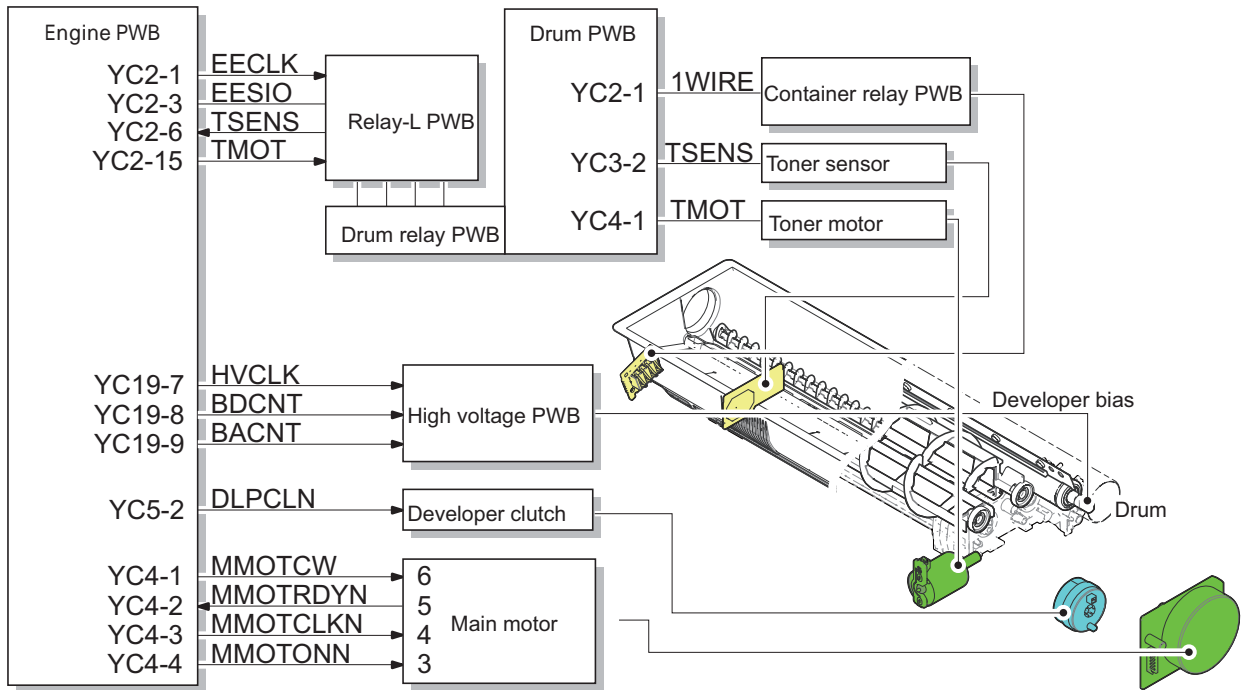
(5) Optical section

(5-1)Laser scanner section

The charged surface of the drum is then scanned by the laser beam from the laser scanner unit. The laser beam is dispersed as the polygon motor revolves to reflect the laser beam over the drum. Various lenses and mirror are housed in the laser scanner unit, adjust the diameter of the laser beam, and focalize it at the drum surface.
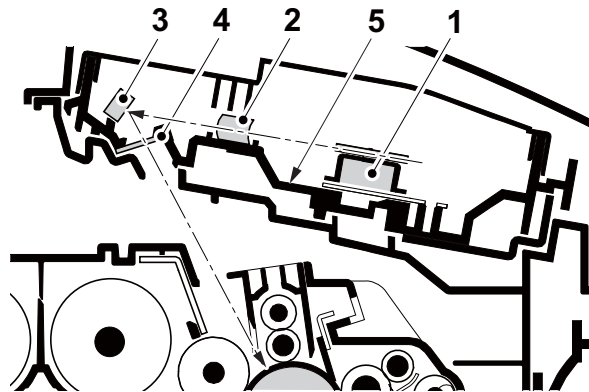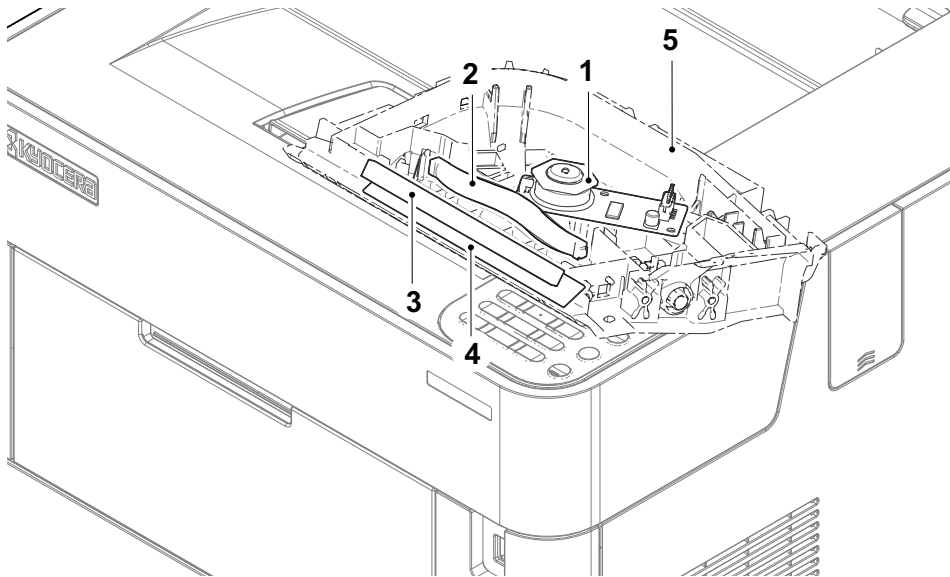
1	Polygon motor	3	Direction change mirrer	5	LSU base
2	fθ main lens	4	LSU dust shield glass		

Block diagram
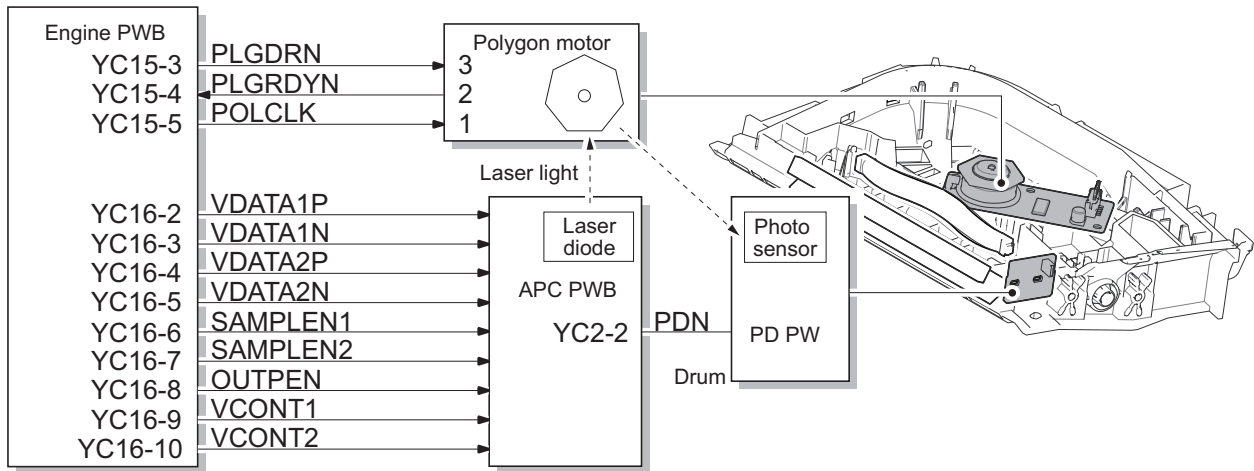
(6) Transfer/Separation section

The transfer and separation section consists mainly of the transfer roller and separation electrode.
A high voltage generated by the high voltage PWB is applied to the transfer roller for transfer charging.Paper after transfer is separated from the drum by applying separation charging that is output from the high voltage PWB to the separation electrode.
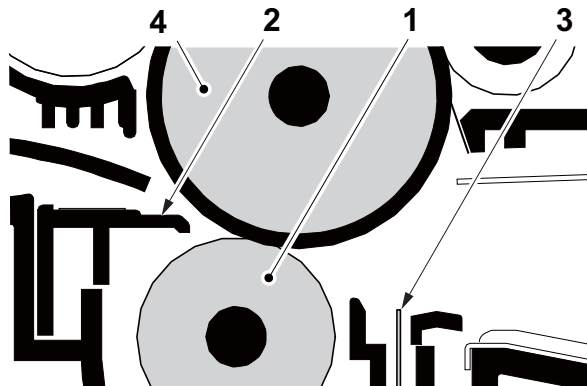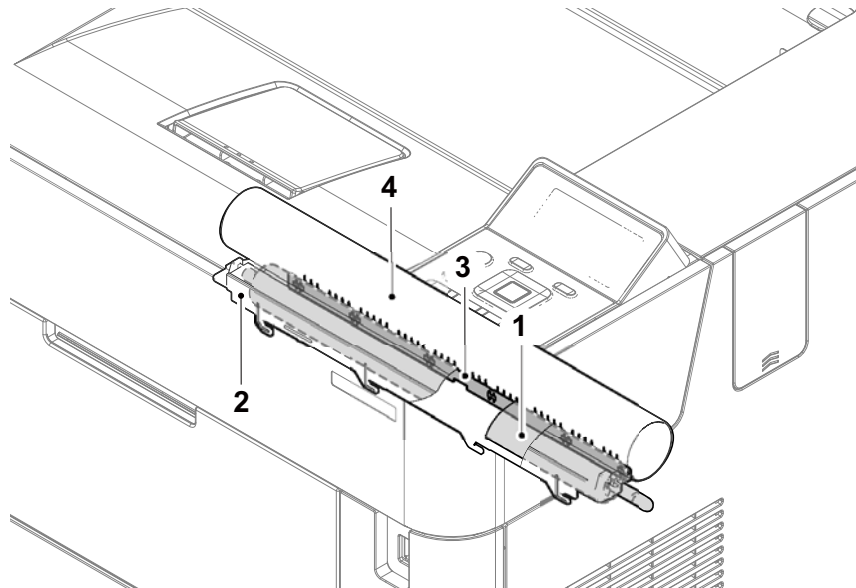
1 Transfer roller   3 Separation needle
2 Paper chute guide   4 Drum

Block diagram
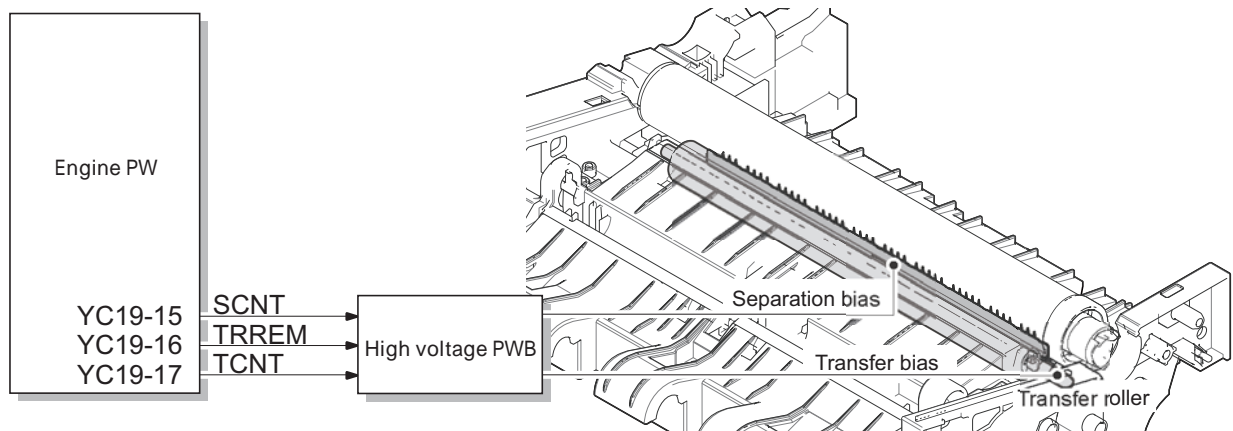
(7) Fuser section

The paper sent from the transfer/separation section is interleaved between the heat roller and the press roller. The heat roller is heated by the fuser heater, and the toner is fused by heat and pressure and fixed onto the paper because the press roller is pressed by the fuser press spring. The surface temperature of heat roller is detected by the fuser thermistor and controlled by the engine PWB. If the fuser section shows extremely high temperature, the power line will be shut off and the fuser heater is forced to turn off.
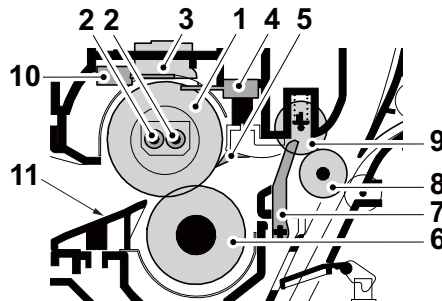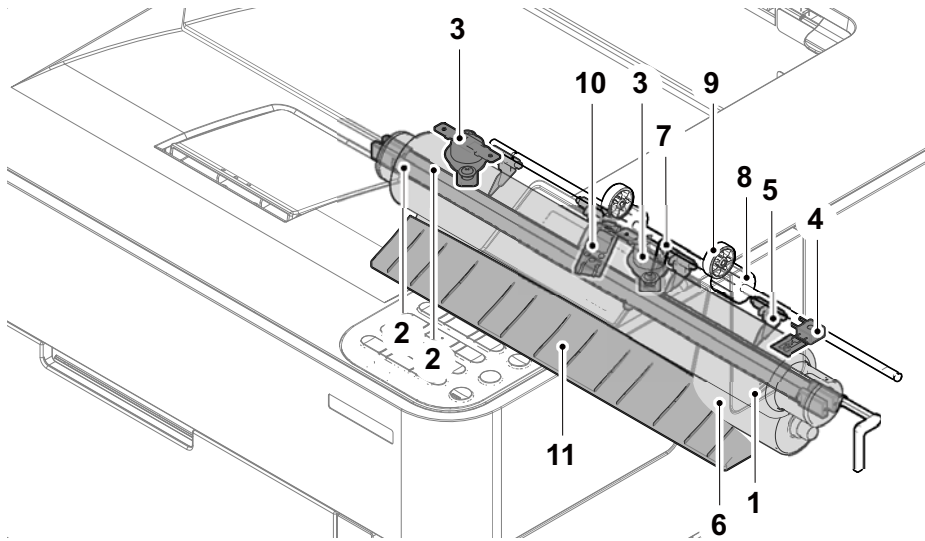
1	Heat roller	5	Separators	9	Fuser eject pulley
2	Fuser heater	6	Press roller	10	Fuser thermistor 2
3	Fuser thermostat	7	Actuater (Eject sensor)	11	Pre fuser guide
4	Fuser thermistor 1	8	Fuser eject roller		

Block diagram
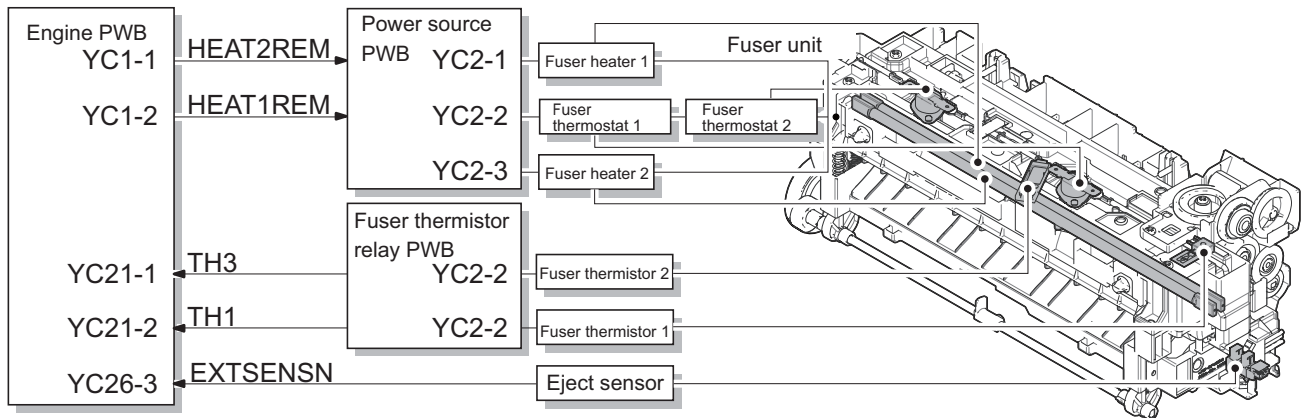
(8) Eject/Feedshift section

The paper eject/feedshift section consists of the conveying path which sends the paper that has passed the fuser section to the facedown tray, the faceup tray (60/50/45 ppm model only) or the duplex conveying section.
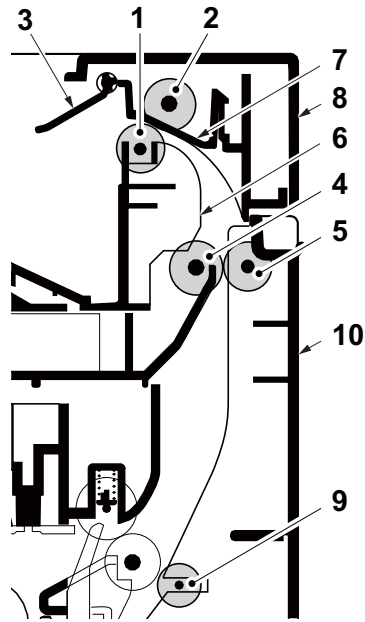
(45 ppm model)
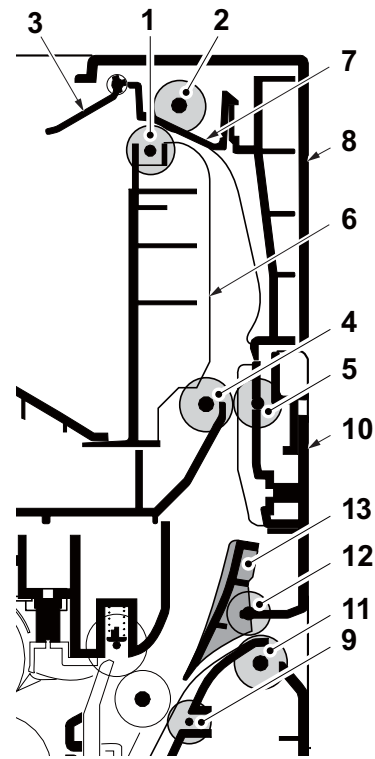
(60/55/50 ppm model)

1 Upper eject roller

2 Upper eject pulley

3 Actuator (Eject full sensor (EFS))

4 Lower eject roller

5 Lower eject pulley

6 Vertical guide

7 Paper exit guide

8 Top cover

9 DU feed pulley

10 Rear cover

11 Faceup roller *1

12 Faceup pulley *1

13 Feedshift guide *1

*1: 60/55/50 ppm model only

Block diagram

(45 ppm model)   (60/55/50 ppm model)
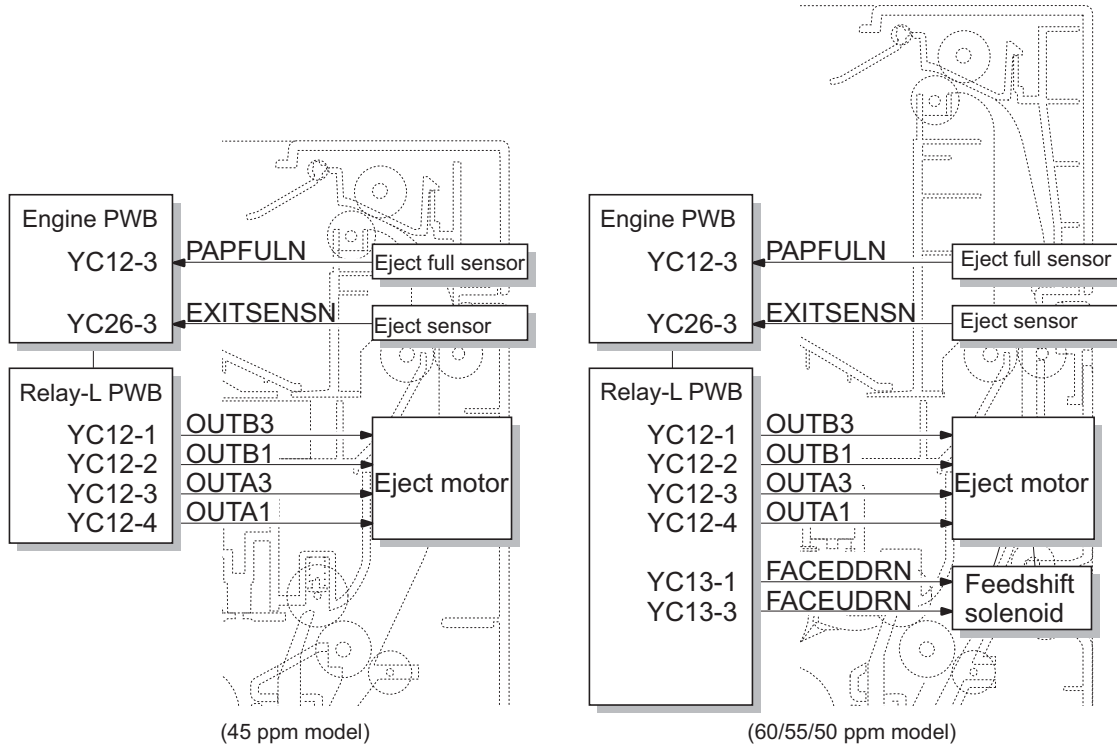
*1: 60/55/50 ppm model

(9) Duplex conveying section

The duplex conveying section consists of conveying path which sends the paper sent from the eject/feedshift section to the paper feed/conveying section when duplex printing.
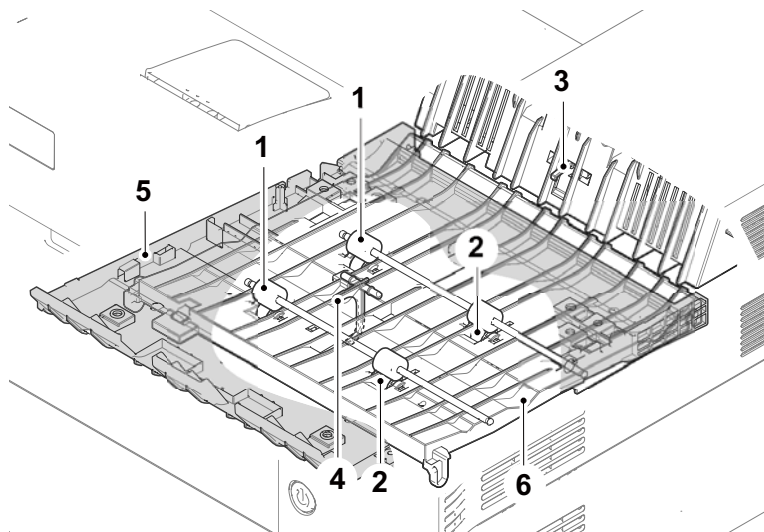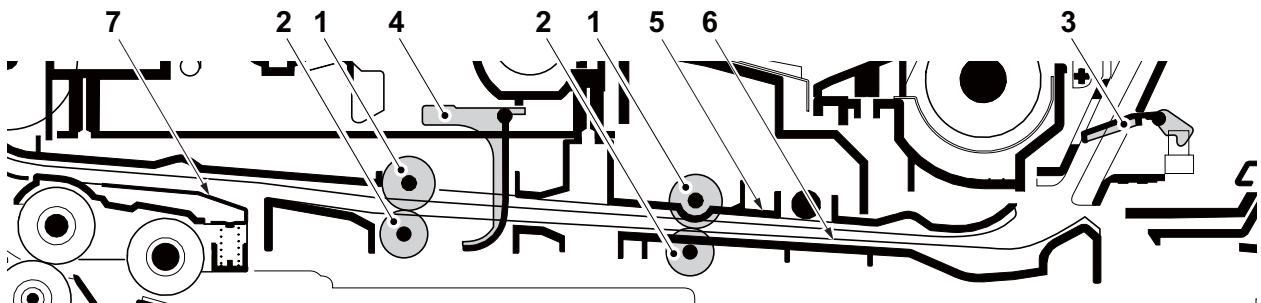
1	DU conveying roller	4	Actuater (Duplex sensor 2)	7	Upper feed guide
2	DU conveying pulley	5	DU base		
3	Actuater (Duplex sensor 1) *1	6	DU lower guide		

*1: 60/55/50 ppm model

Block diagram
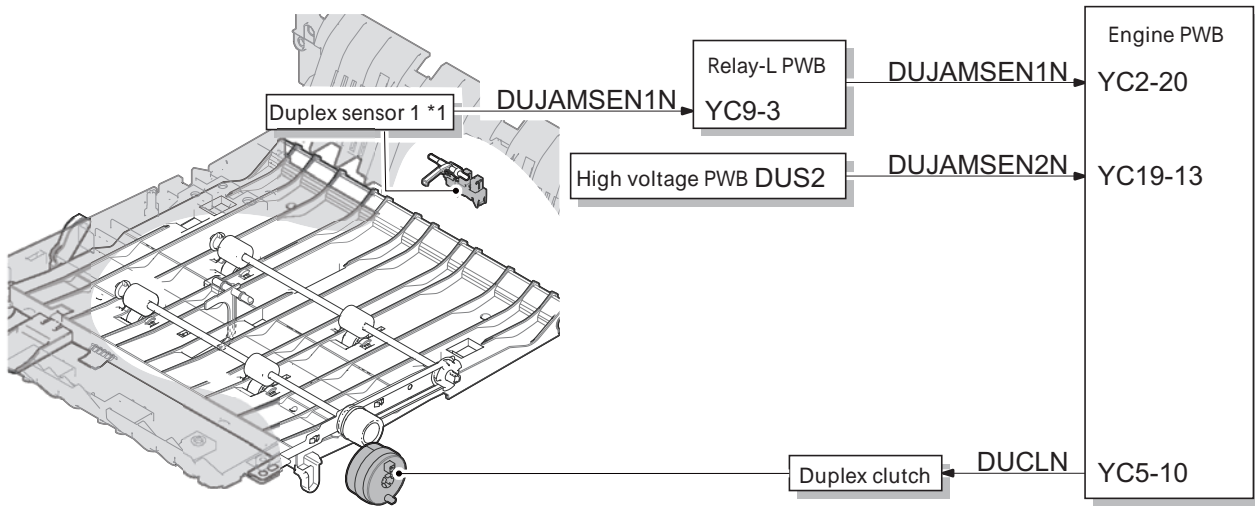
*1: 60/55/50 ppm model

3 - 7 Mechanical construction (option)

(1) Paper feeder (PF-3110)

The paper feeder conveys paper from the cassette to the printer. Cassette can hold up to 500 sheets of paper. Paper is fed from the paper feeder by the rotation of the pickup roller and paper feed roller. The retard roller prevents multiple sheets from being fed at one time, via the torque limiter.
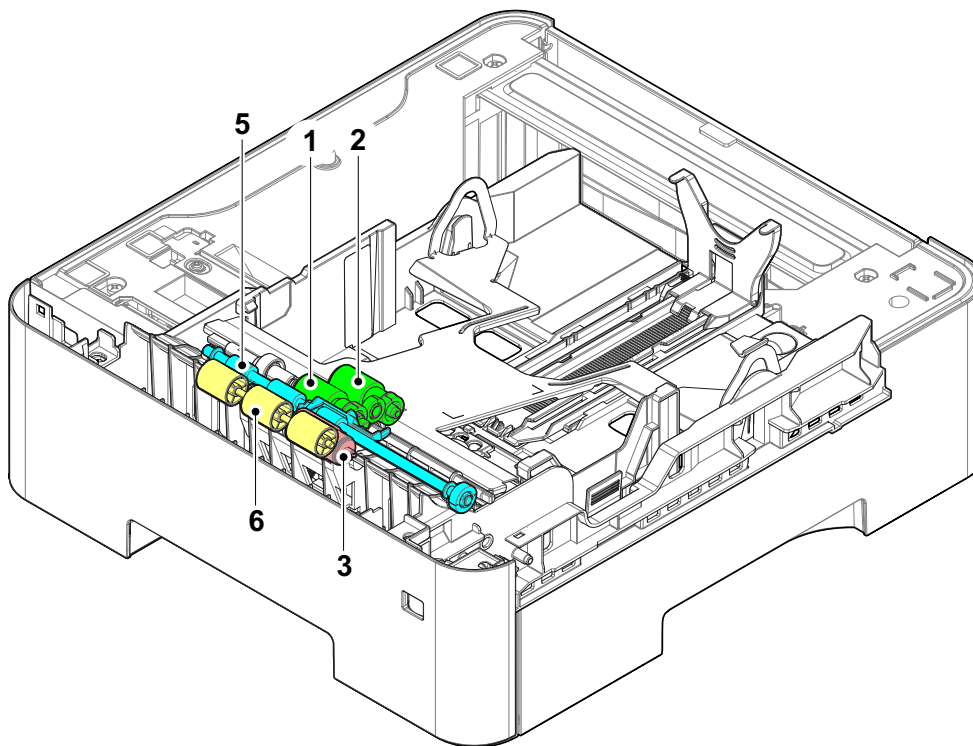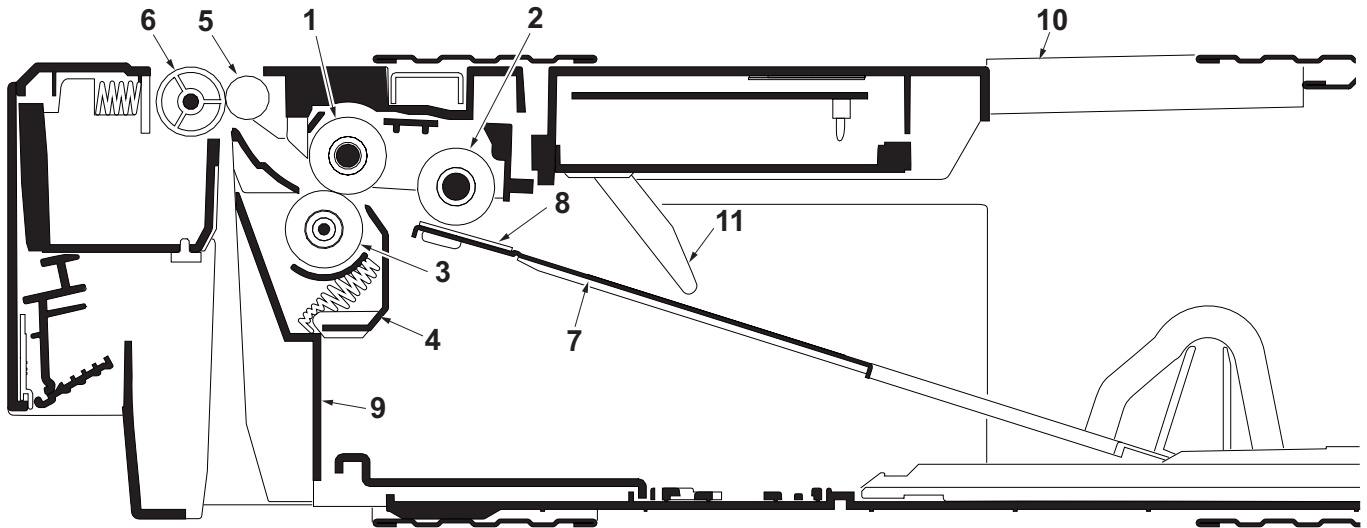
1 PF paper feed roller	5 PF conveying roller	9 Cassette base
2 PF pickup roller	6 PF conveying pulley	10 Upper cover
3 PF retard roller	7 Bottom plate	11 Actuator (Paper gauge sensor)
4 Retard roller guide	8 Bottom pad	

Block diagram

PF conveying sensor	OUT	YC1-3	
PF feed motor	TMDIR	YC6-1	
	TMLOCK	YC6-2	
	TMCLK	YC6-3	
	TMDRVN	YC6-4	
PF conveying clutch	FEEDCLN	YC8-2	
PF feed clutch	TRANSCLN	YC8-4	
PF cassette size switch	PAPSIZ0	YC2-1	
	PAPSIZ1	YC2-2	
	PAPSIZ2	YC2-4	
PF lift motor *1	LMOTOR	YC7-2	

PF PWB
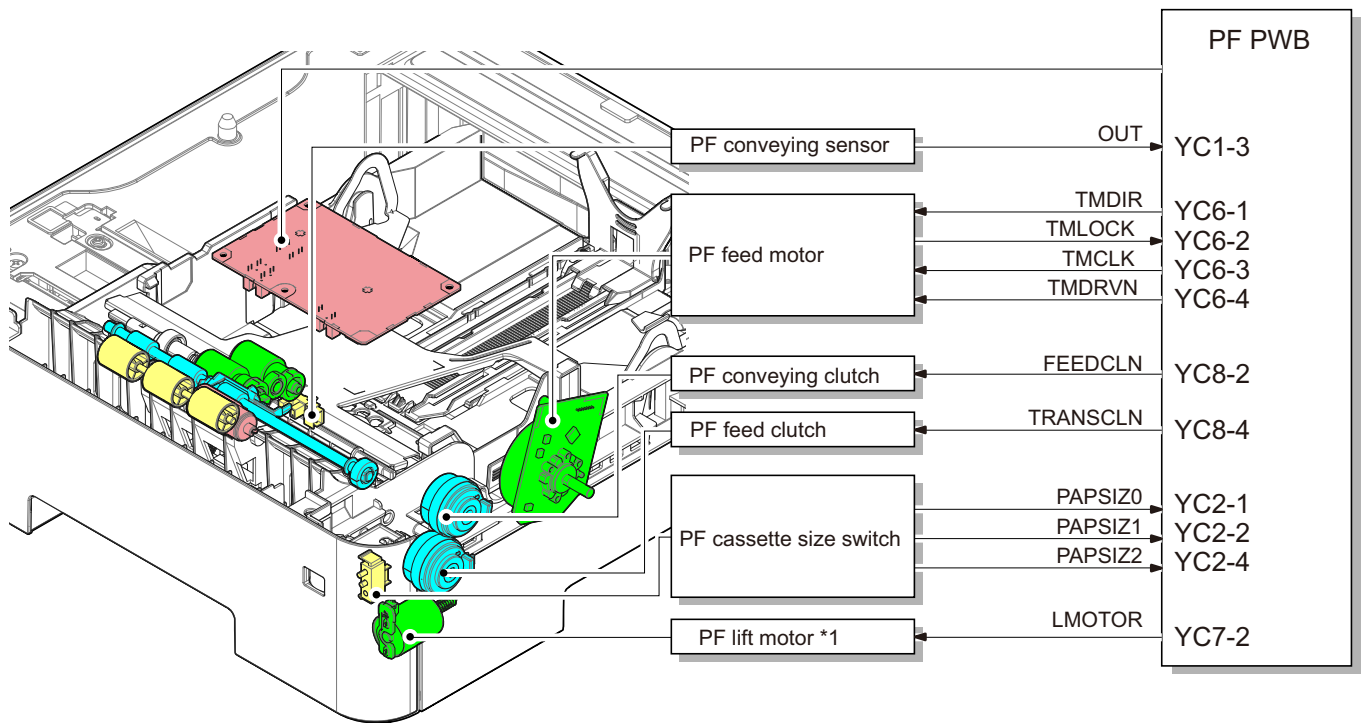
(2) Bulk Paper Feeder (PF-3100)

The cassette can load 2,000 sheets paper (80 g/m2). Feeding from cassette works as picking up paper by rotating the PF pickup roller and conveys it to main unit by rotating the PF paper feed roller. Multi-feeding is also prevented by the effect of the PF retard roller.
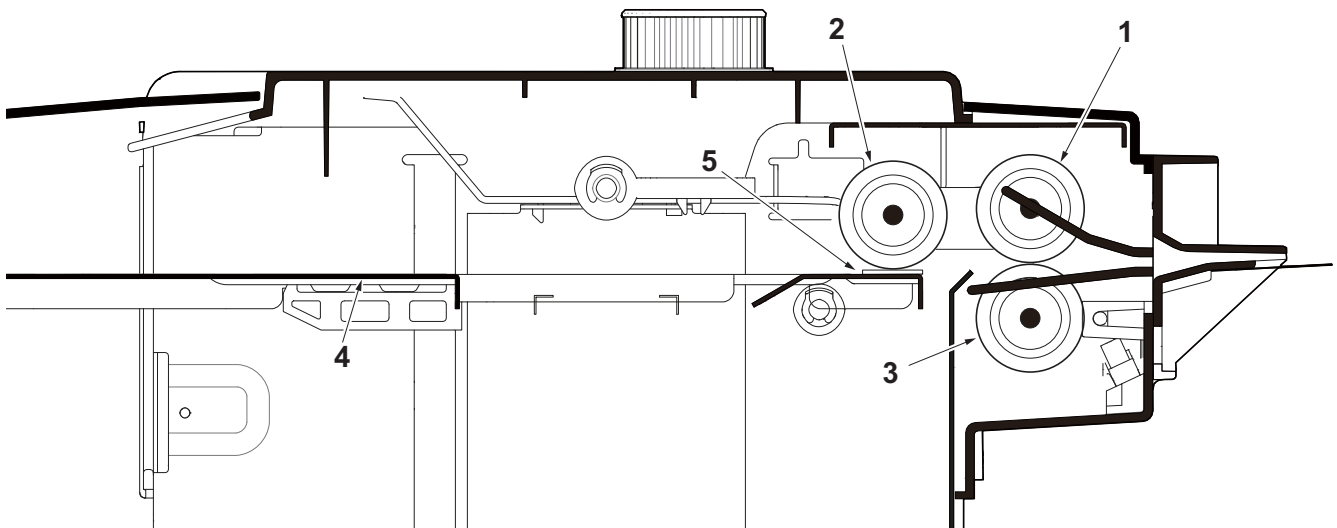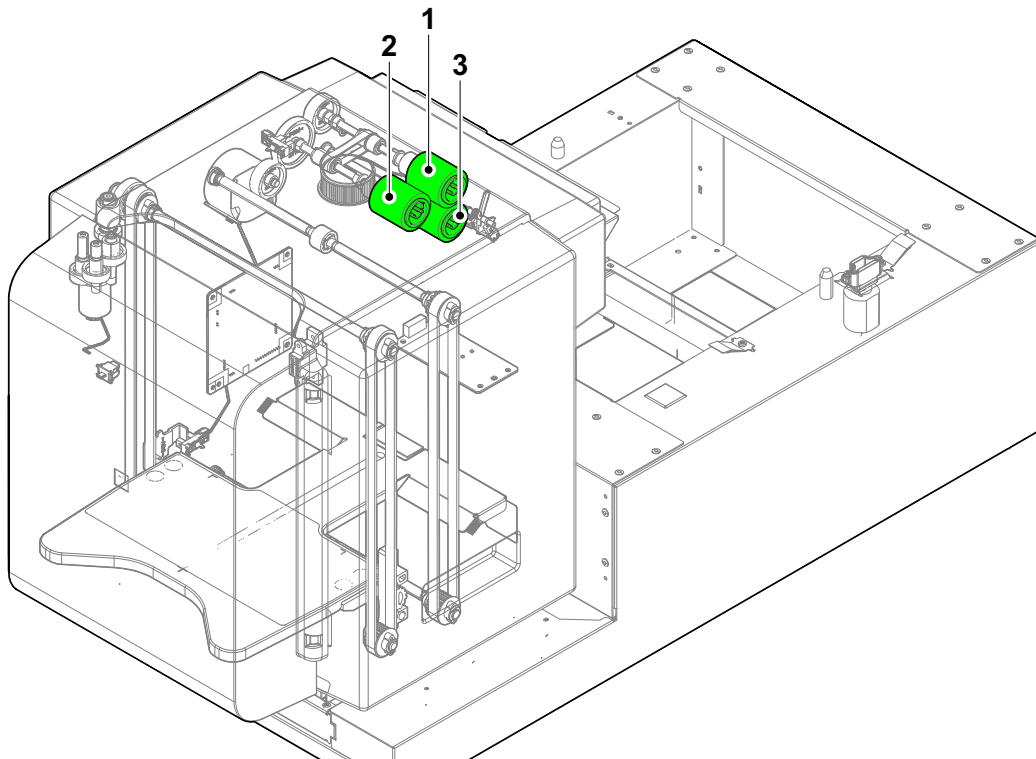
1   PF paper feed roller

2   PF pickup roller

3   PF retard roller

4   PF lift plate

5   PF friction pad

Block diagram
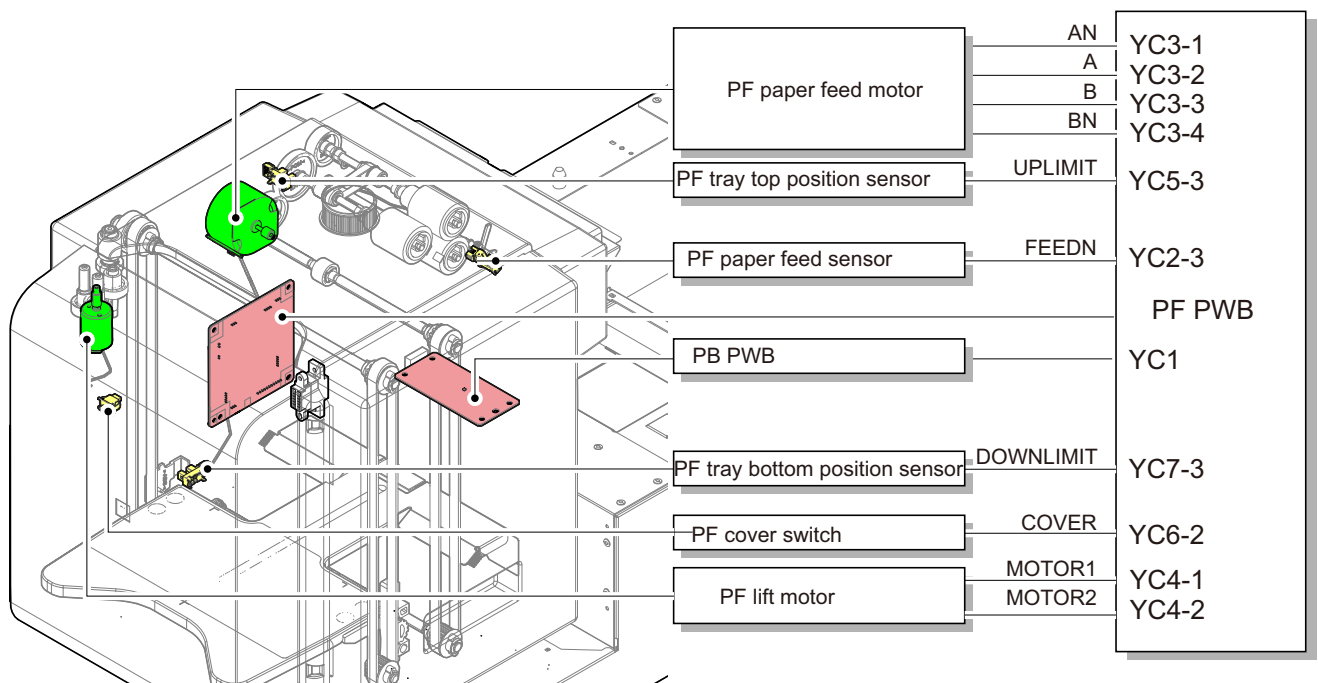
4Maintenance

4 - 1 Important Notes of Maintenance

(1) Precautions

Before starting disassembly, push the power switch to shutdown. And check the operation panel display disappears certainly. Then, unplug the power cable from the wall outlet.

Do not touch a parts on the board just after turn off or unplug, since electric charge may remain in a capacitor on power supply board. In order to discharge it, press power key for one second without power cord.

When handling PWBs (printed wiring boards), do not touch with bare hands. And pay attention not to get damaged the board.

Do not touch ICs on the PWB with bare hands or any object that have static charge.

When disconnecting the connector with hook, be sure to release the hook.

Take care not to get the cables pinched at work.

To reassemble the parts, use the original screws.

If the types and the sizes of screws are not sure, refer to the parts list.

(2) Handling and storage of the drum unit

Pay attention of following notes when handling and storing the drum unit.

When detaching the drum unit from the main unit, never expose the drum surface to strong direct light.

Keep the drum unit at a temperature between -20°C/-4°F and 40   /104°F and at a relative humidity 85% or less. Leave at least 5 seconds from OFF to ON. Avoid abrupt changes in temperature and humidity thought it is within the specified range.

Avoid exposure to any substance which is harmful to or may affect the quality of the drum unit.

Do not touch the drum surface with any object.

Do not touch by hands or gloves.

If the drum unit is touched by hands or stained with oil, clean it.

(3) Storing the toner container

Store the toner containers in a cool, dark place.

Avoid exposing the toner containers to direct light and high humidity.

(4) How to tell the genuine Kyocera toner container

The anti-counterfeit film on the screening seal affixed on the toner container is seen through each window of the validation viewer.
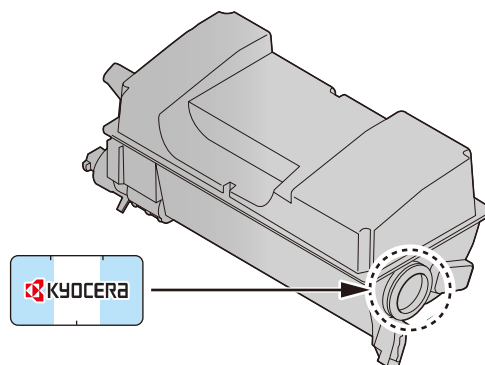
Through each window, the genuinity is judged how the anti-counterfeit film is seen.

• Black-colored when seen through the left side window (● symbol

• Gold-colored (Shiny) when seen through the right side window   ☼ symbol

The above will reveal that the toner container is a genuine Kyocera branded toner container, otherwise (both seen gold-colored, etc.), it is a counterfeit.

See through the left window
(● marking)

Validation viewer

See through the right window
(☼ marking)

Validation viewer

Brand
protection
seal

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

Brand
protection
seal

A shiny or gold-colored band when
seen through the right side window
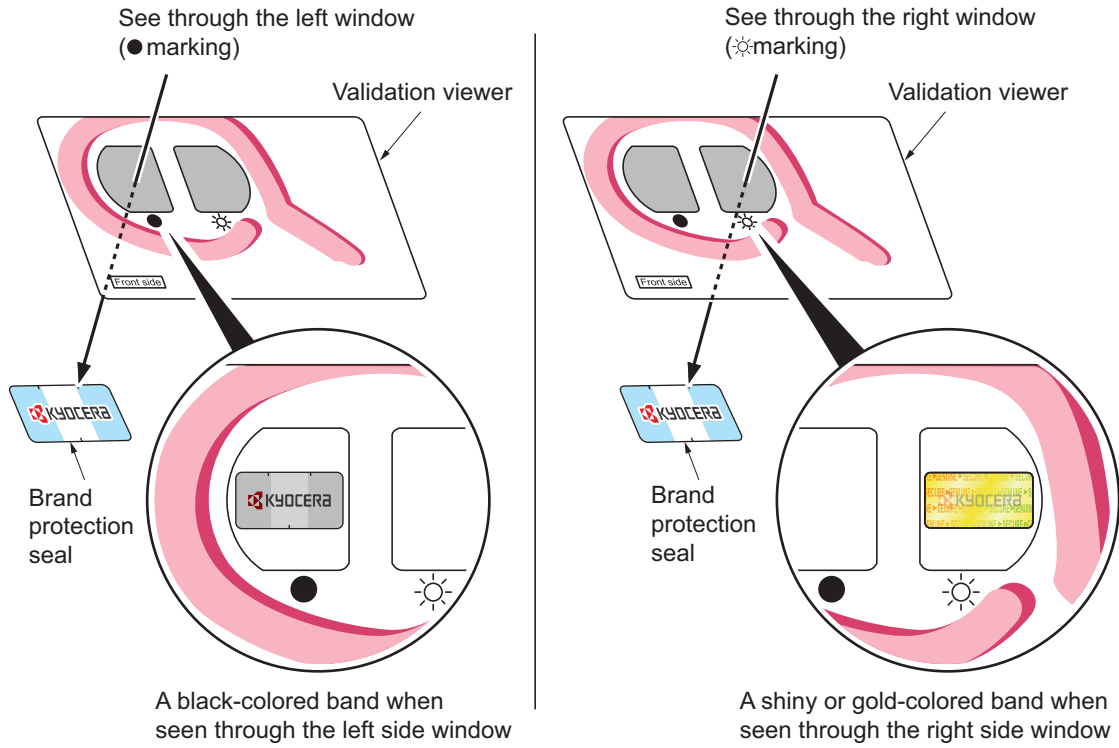
The brand protection seal has notches as shown below to prohibit reuse.

Three cut parts at the red circle section
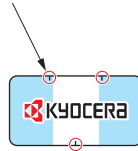
4 - 2 Maintenance Parts

(1) Maintenance Kit

[60/55/50ppm]

Service manual	Name in Parts list	Number	Parts number
MK-3301	MK-3301/MAINTENANCE KIT		1702TA9JP0 *1
MK-3300	MK-3300/MAINTENANCE KIT		1702TA8NL0 *2
MK-3302	MK-3302/MAINTENANCE KIT		1702TA7US0 *3
MK-3304	MK-3304/MAINTENANCE KIT		1702TA8AS0 *4
(500,000 images)			
Transfer roller	ROLLER TRANSFER ASSY	1	
Drum unit	DK-3191(J)*1/ DK-3190(E)*2/ DK-3192(U)*3/ DK-3194(AO) *4	1	
Developer unit	DV-3100	1	
Fuser unit	FK-3301(J)*1/ FK-3300*2*4/ FK-3302*3	1	
Paper feed roller	PARTS HOLDER FEED ASSY SP	1	
Retard roller	RETARD ROLLER ASSY	1	

45 ppm

Service manual	Name in Parts list	Number	Parts number
MK-3261	MK-3261/MAINTENANCE KIT		1702V39JP0 *1
MK-3260	MK-3260/MAINTENANCE KIT		1702TG8NL0 *2
MK-3262	MK-3262/MAINTENANCE KIT		1702V37US0 *3
MK-3264	MK-3264/MAINTENANCE KIT		1702V38AS0 *4
(300,000 images)			
Transfer roller	ROLLER TRANSFER ASSY	1	
Drum unit	DK-3171(J)*1/ DK-3170(E)*2/ DK-3172(U)*3/ DK-3174(AO) *4	1	
Developer unit	DV-3100	1	
Fuser unit	FK-3201*1/ FK-3200*2*4/ FK-3202*3	1	
Paper feed roller	PARTS HOLDER FEED ASSY SP	1	
Retard roller	RETARD ROLLER ASSY	1	

*1: 100V (KDJ)

*2: 220-240V (KDE)

*3: 120V (KDA)

*4: 240V (KDAU)

4‑3 Maintenance Parts replacement procedure

Maintenance Kit has to be replaced every 300,000 images (45 ppm) and 500,000 images (50/55/50 ppm). [Replace Maintenance kit] comes up on display when the time for replacement.
Replace the Maintenance Kit with following procedures.

(1) Paper feed section

(1-1)Detaching and refitting the paper feed roller

1 Pull out cassette.

2 Release the lock by pulling the lever (a).

3 Detach the paper feed roller assembly (b) by raising it up and slide frontward.

4 Check or replace the paper feed roller and refit all the removed parts.
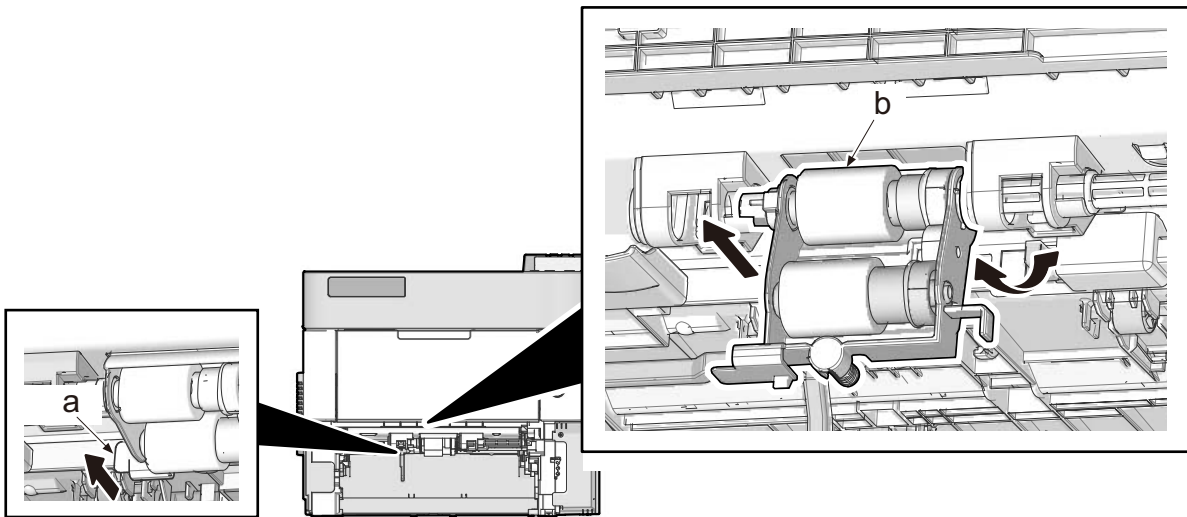
(1-2)Detaching and refitting the retard roller

1   Release two hooks (b) in backside of cassette (a) and then detach the retard roller assembly (c).
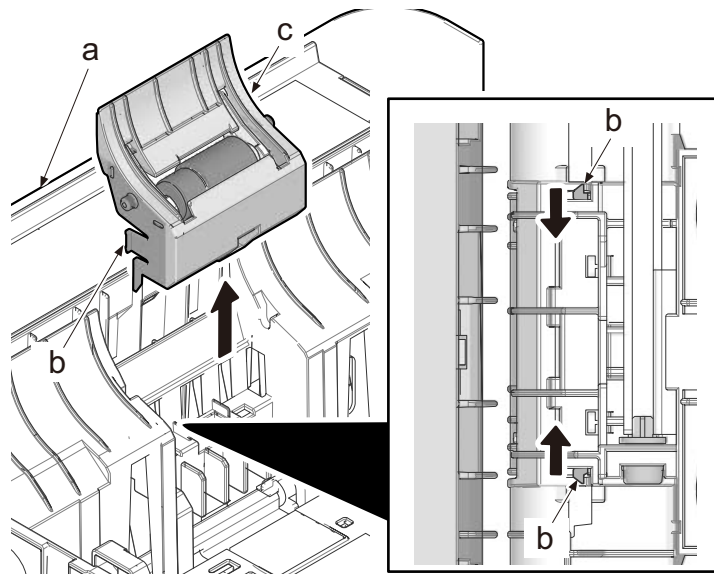
2   Remove spring (a).

3   Remove the retard roller holder (b) by rotating it.

4   Check or replace the retard roller and refit all the removed parts.
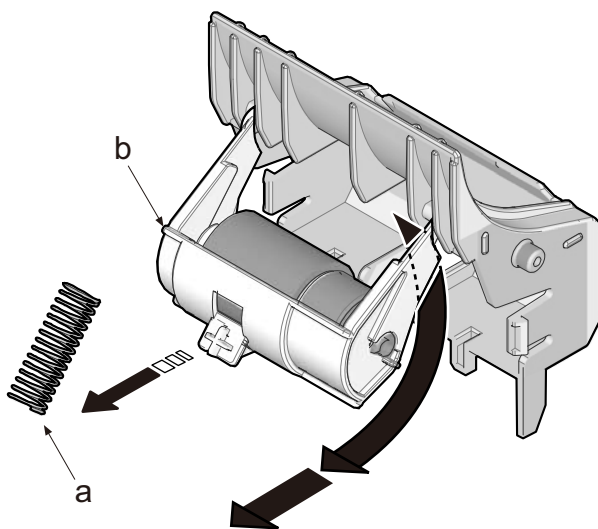
(2) Manual feed tray section

(2-1)Detaching and refitting the MP feed roller

1   **Remove the manual feed tray**

1   Open the top cover.

2   Open the front cover (a).

3   Bend the tray and remove from the printer.
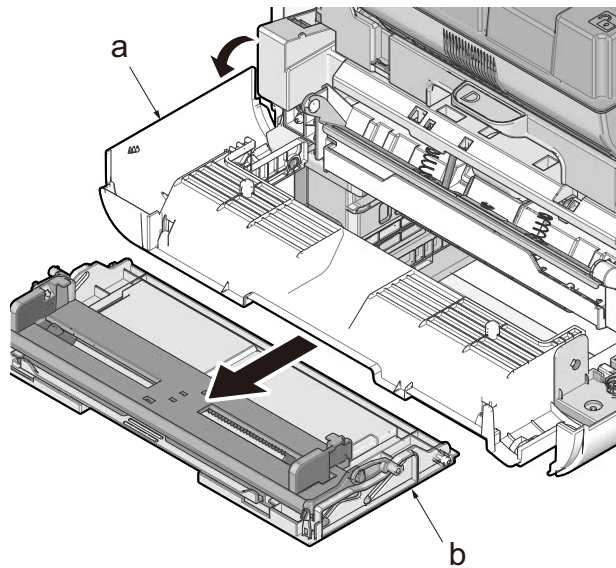
2   Detach the left upper cover.

1   Remove the fulcrum (b) of left side by extending the cover (a).

2   Twisting the cover (a) and remove the fulcrum (c) of right side.

3   Pull the front cover (a) frontward.
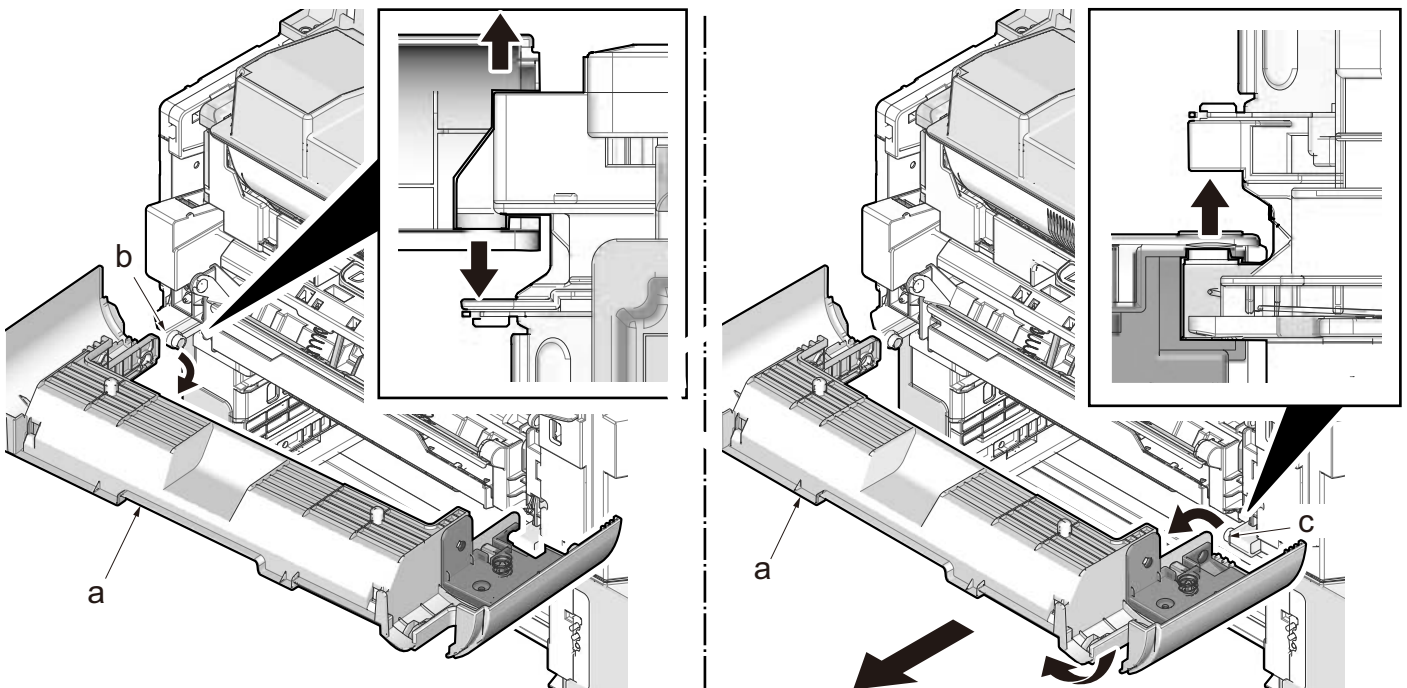
3   Remove the MP paper feed unit (a).

1   Remove two screws (b) on the MP paper feed unit (a). (M3x8)

2   Remove the MP paper feed unit (a) from the printer.
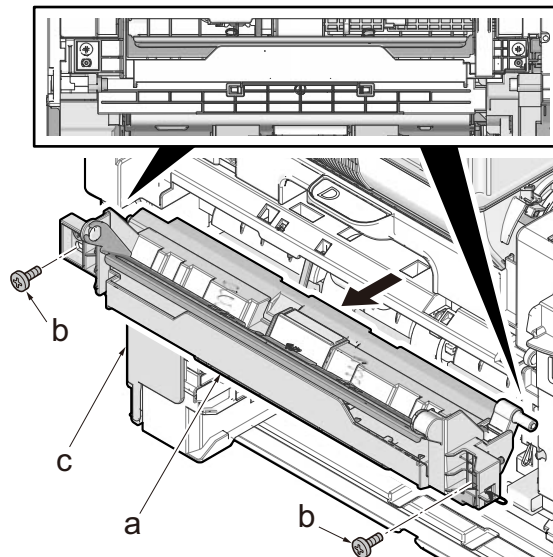
4   Detaching and refitting the paper feed roller

1   Release the lock lever (a) and then slide the MP paper feed roller shaft (b).

2   Detach the MP paper feed roller (c).

3   Check or replace the paper feed roller and refit all the removed parts.
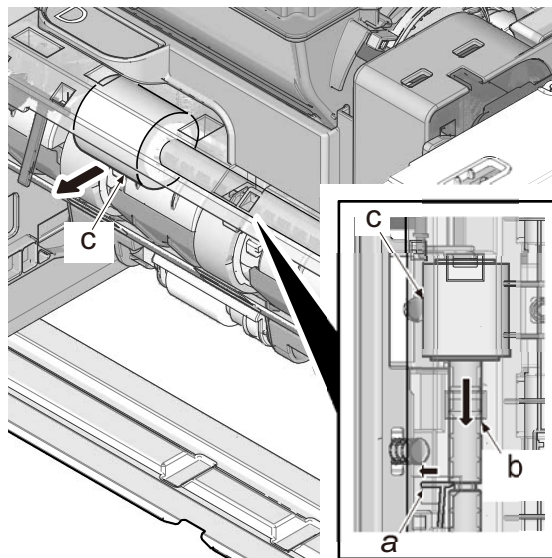
> ✓ **Important**
>
> Pay attention not to touch on surface in the new MP feed roller replacement.

(3) Developer section

(3-1)Detaching and refitting the developer unit

1   Remove toner container (a)

1   Open the top cover (b).

2   Rotate the lock lever (c) and detach the toner container (a).
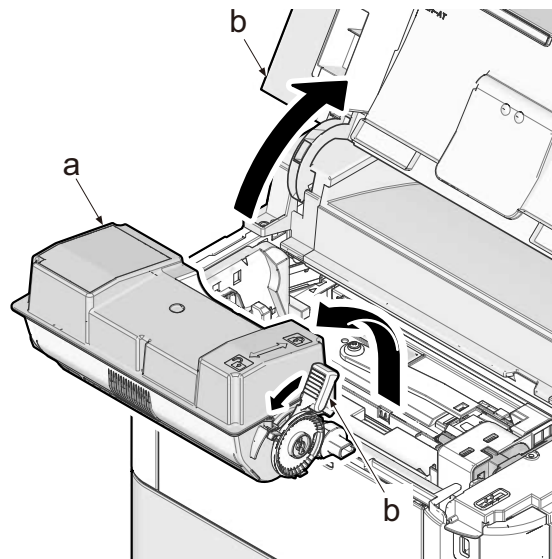
2 Remove toner container guide (e)

1 Open the front cover (b).

2 Pull the imaging unit (c) out.

3 Release the hook (d) and then remove the container guide (e) by sliding it.
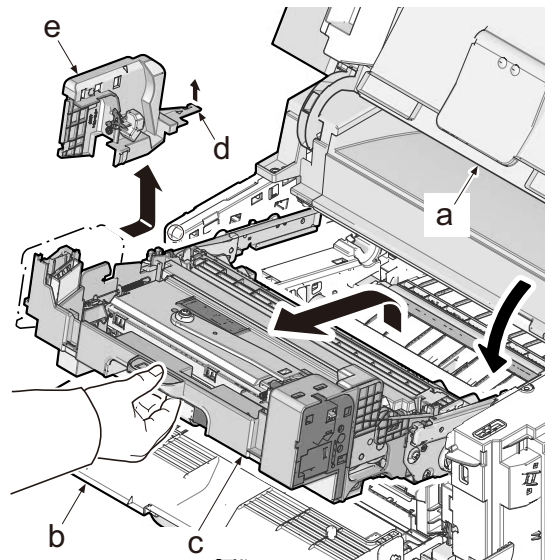
3 Detaching and refitting the developer unit (a)

1 Pull the connector (b) out.

2 Release the lock lever (c) and then detach the developer unit (a) upward.

3 Check or replace the developer unit (a) and refit all the removed parts.
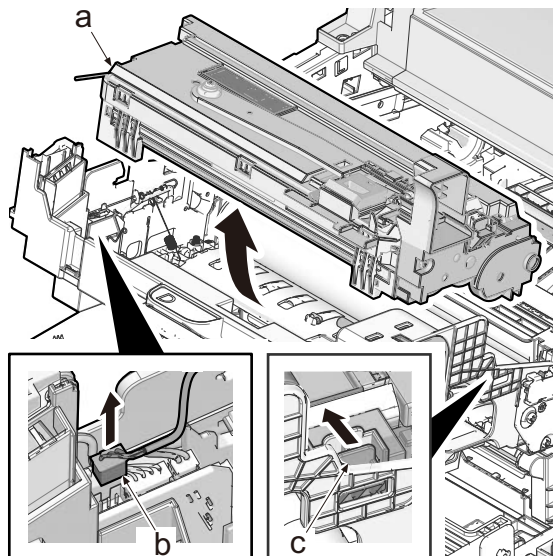
✅ Important

- Keep the unit and main unit flat when move them and do not get them vibration or impact.
- Do not store or transport them with tilted position.

(4) Drum section

(4-1)Detaching and refitting the drum unit

1. Detach the developer unit. (See)

2. Detach the lock lever L (b).

3. Remove the lock lever R (c) by sliding it.

4. Remove the drum unit (a) by sliding forward.

5. Check or replace the drum unit and refit all the removed parts.
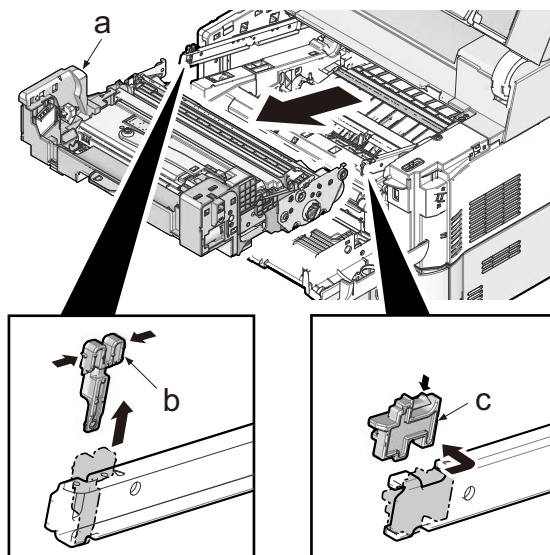
> **✓ Important**
>
> When placing the drum unit on the table, do not deform the star-wheels (b).
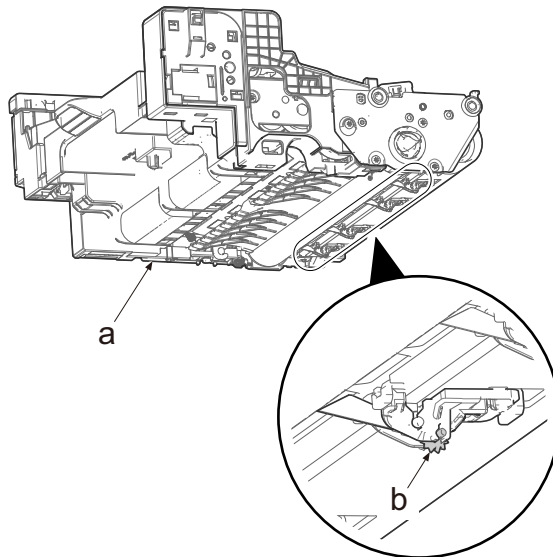
(4-2)Detaching and refitting the main charger roller unit

1   Release the lock lever (a) and then detach the main charger roller unit (b) from the drum unit (c).

2   Check or replace the main charger roller unit (b) and refit all the removed parts.
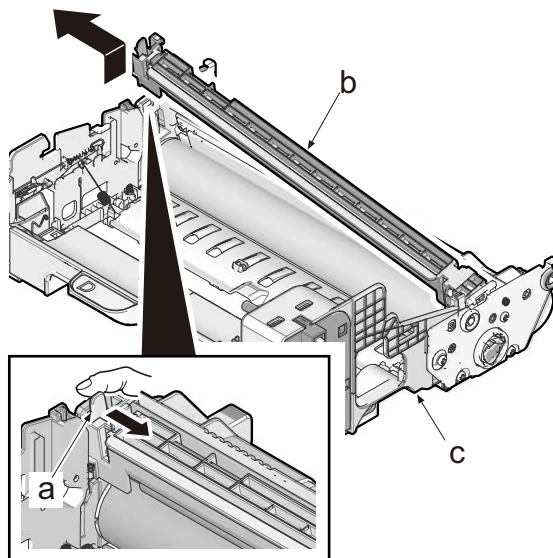
(5) Transfer/separation section

(5-1)Detaching and refitting the transfer roller assembly

1   **Detach the paper chute guide**

1   Remove the drum unit. (See)

2   Bring the paper chute guide to the left and release 4 hooks (b).

3   Detach the paper chute guide (a) upward.
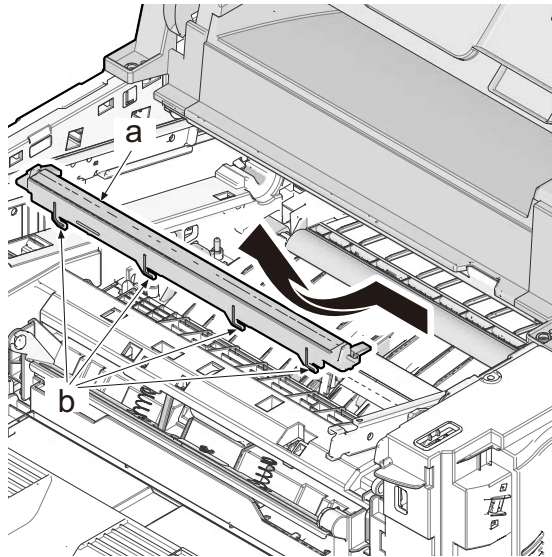
2 **Detach the transfer roller.**

1 Detach the shaft of transfer roller (a) from each bushes (b).

2 Detach the transfer roller assembly (a) upward.

3 Check or replace the transfer roller assembly and refit all the removed parts.
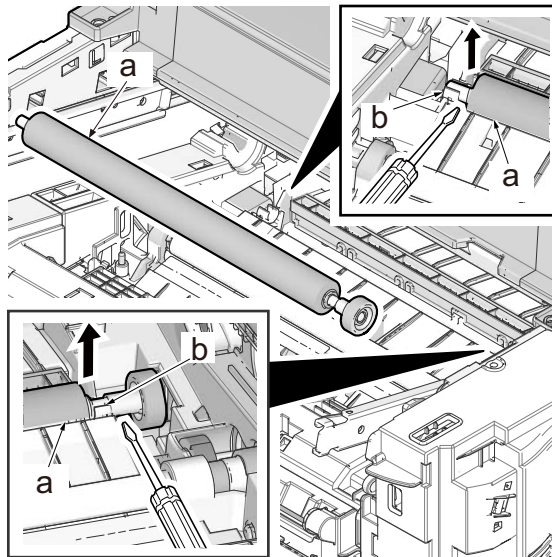
(5-2)Detaching and refitting the separation needle unit

1 Detach the transfer roller. (See)

2 Release four hooks (b) of separation needle unit (a) by rotating forward and then detach it upward.

3 Check or replace the separation needle unit and refit all the removed parts.
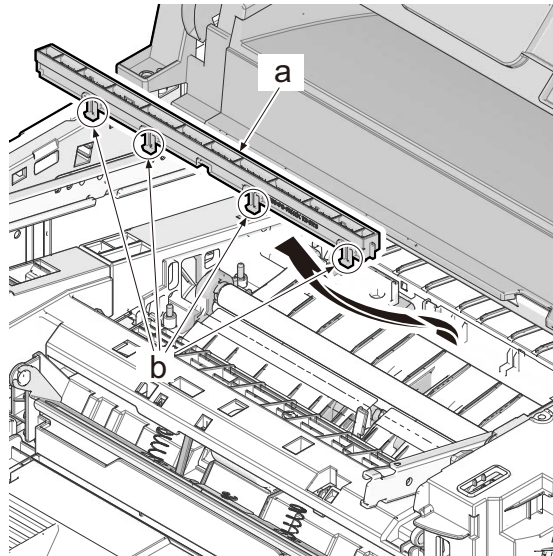
> **✓ Important**
>
> Check if the parts is fixed at the time of attachment.

(6) Fuser section

(6-1)Detaching and refitting the fuser unit

1 **Detach the inlet cover and interface cover**

(See <u>Page 4-14</u>)

2 **Detach the rear cover.**

(See <u>Page 4-21</u>)

3 **Detach the fuser unit.**

1 Remove the screw (a) and then detach the connector cover A (b). (M3x8)

2 Pull 2 connectors (c) out.
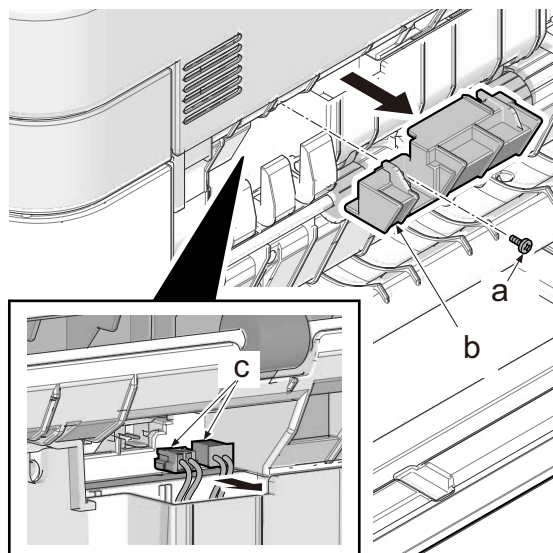
3 Rotate the connector cover B (a) and release the hook (b) and remove the cover.

4 Pull two connectors (c) out.
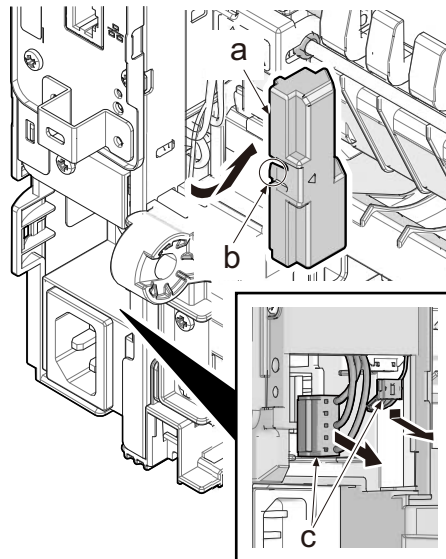
5 Remove the screw (a) and then detach the fuser unit (b) frontward.

6 Check or replace the fuser unit and refit all the removed parts.
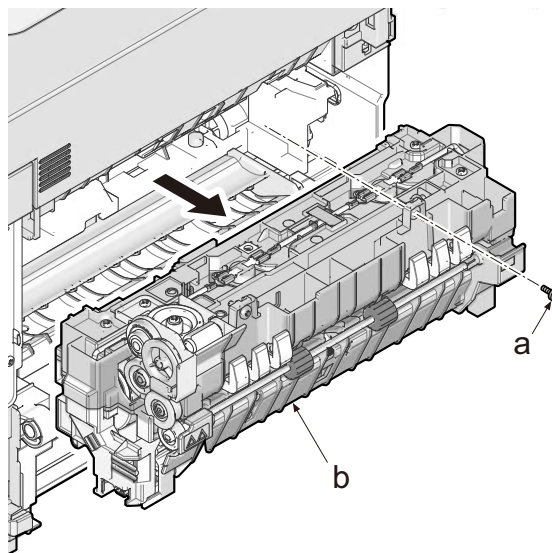
⊘ Important

• When refitting the fuser unit, perform the following procedures.

1 Turn on the power switch while opening the rear cover after removing the fuser unit.

2 Turn off the power switch in 5-second or more.　(release state of fixing pressure)

3 Refit the fuser unit.

4 - 4 Assembly and disassembly

(1) Outer covers

(1-1)Detaching and refitting the inlet cover and interface cover

1 **Open the rear cover (a).**
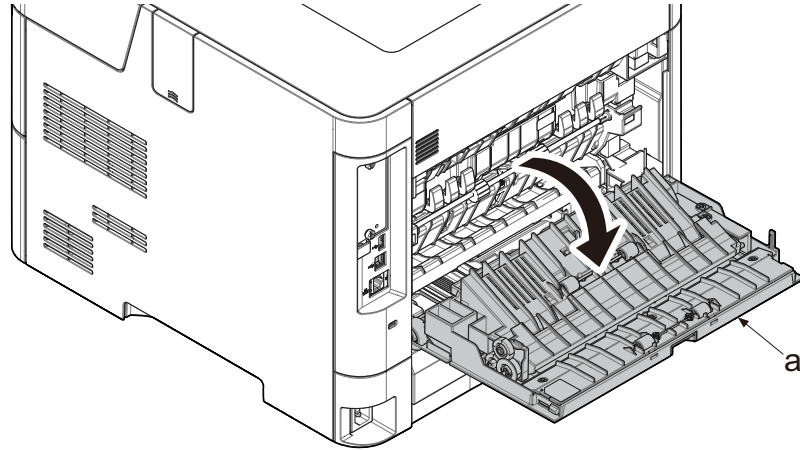
2 **Release hook (b) and detach the interface cover (a).**

- Attach 2 hooks (c) first when putting it back.
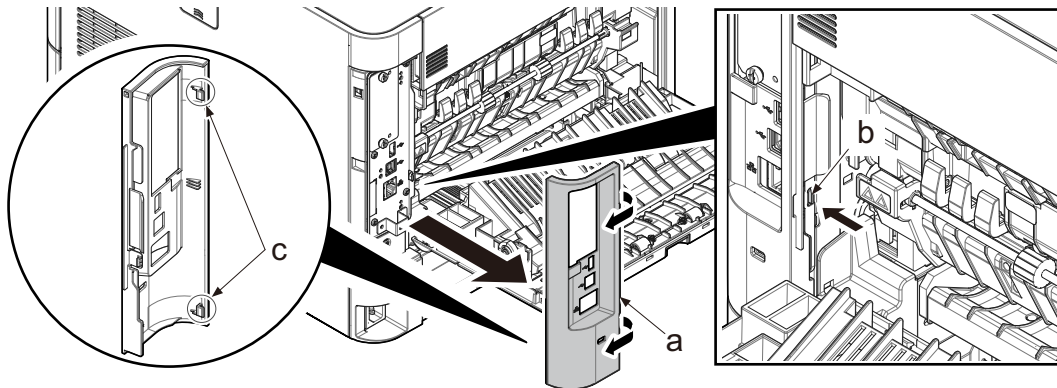
3 **Remove screw (a) and detach the inlet cover (b). (M3x8)**
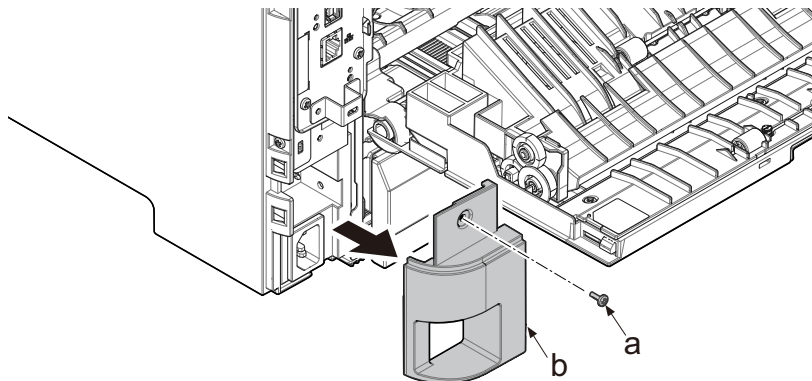
(1-2)Detaching and refitting the right cover

1   **Pull out the cassette (a).**
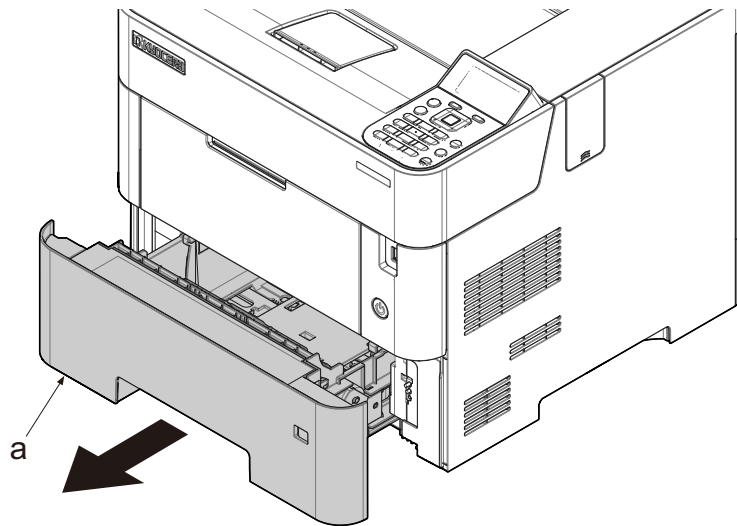
2   **Slide and remove Wi-Fi cover (a).**
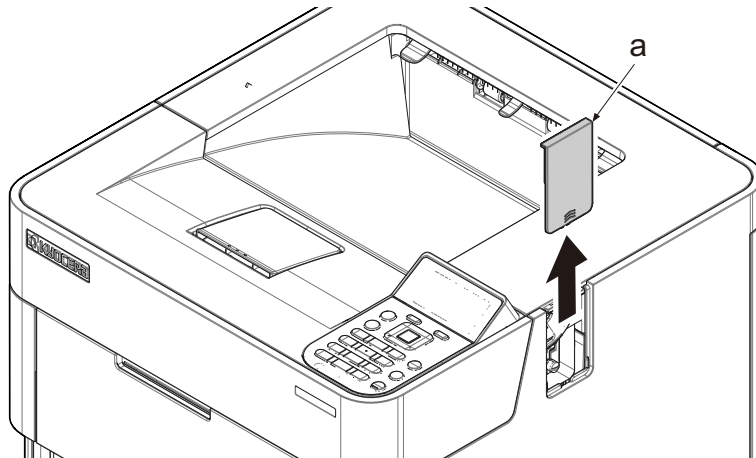
3   **Open the top cover (a).**
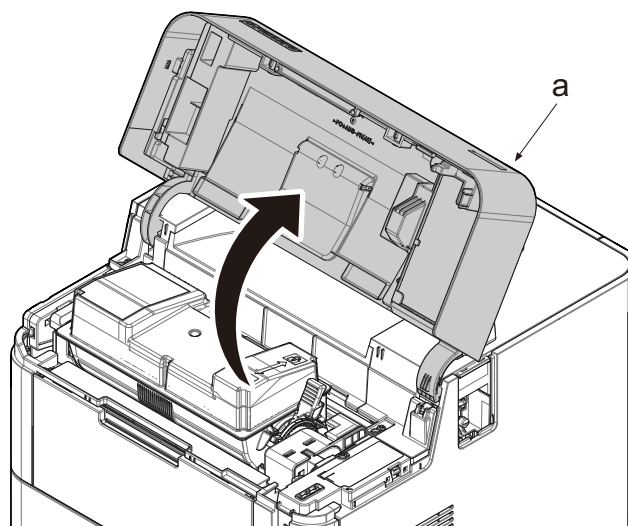
4   **Open the front cover (a).**
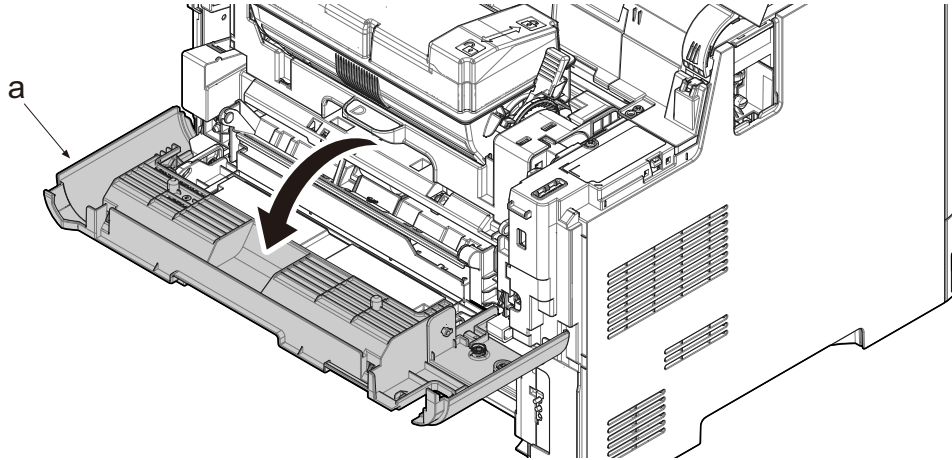
5   **Open the rear cover (a).**
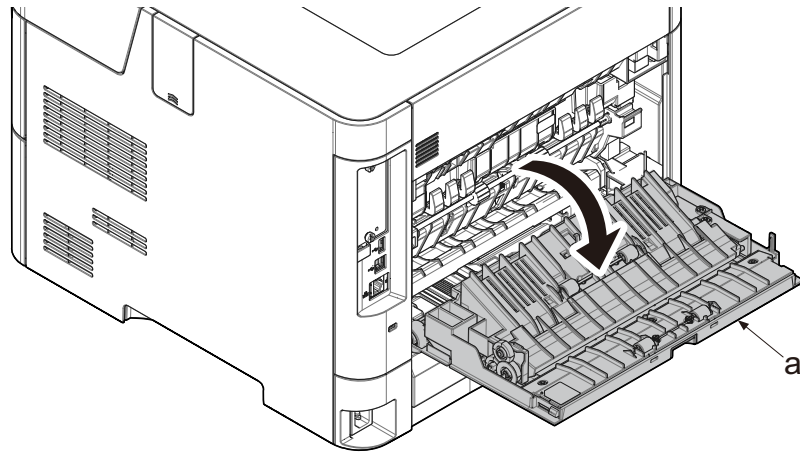
6   **Release hook (b) and detach the interface cover (a).**

• Attach 2 hooks (c) first when putting it back.
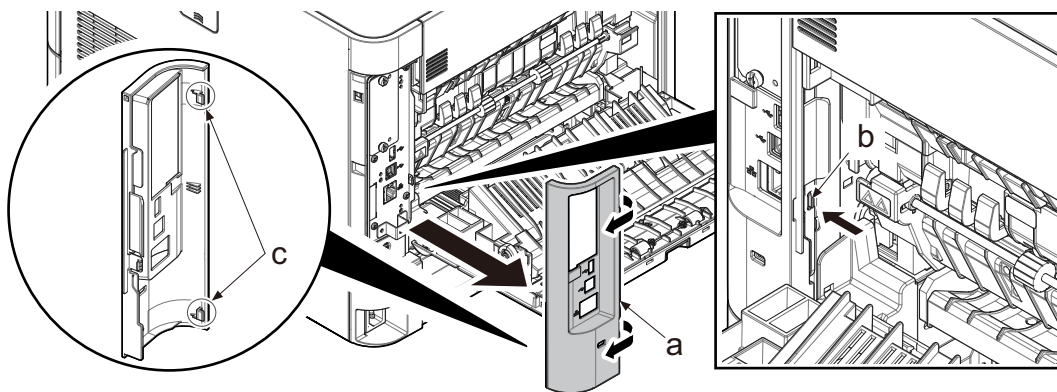
7   **Remove screw (a) and detach the inlet cover (b). (M3x8)**
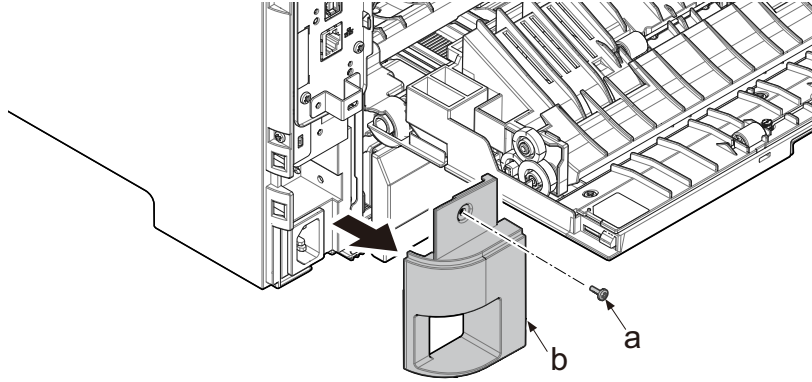
8   **Remove the right cover (a).**

1   Remove 3 screws (a) (M3x8) and (b) (M3x12).

2   Release hook (c).

3   Release 3 hooks (d).

4   Hold up the right cover and release 4 hooks (e) then remove the cover.
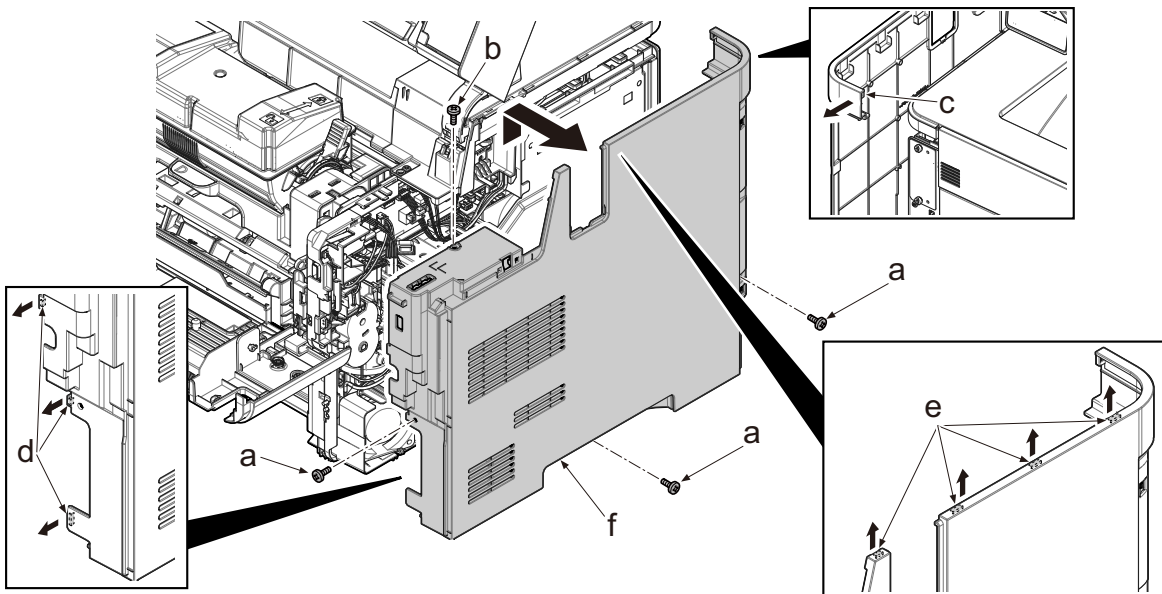
(1-3)Detaching and refitting the rear left and left cover

1 **Open the rear cover (a).**
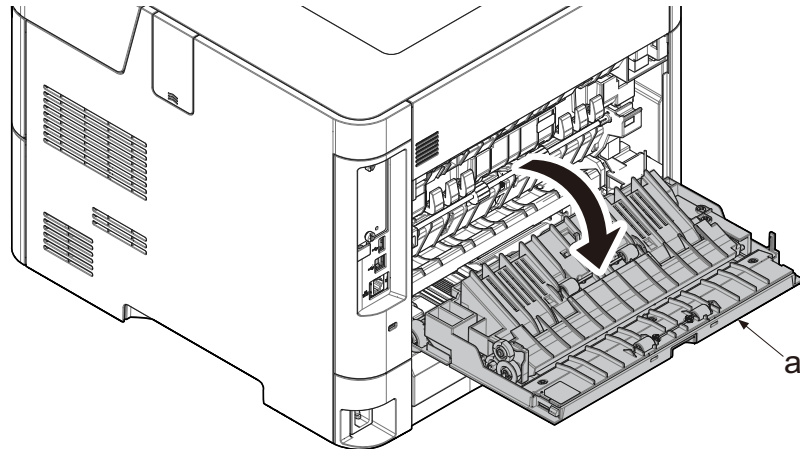
2 **Detach the rear left cover (a).**

1 Pull the cover and release hook (b).

2 Detach the rear left cover (a) by rotating it.
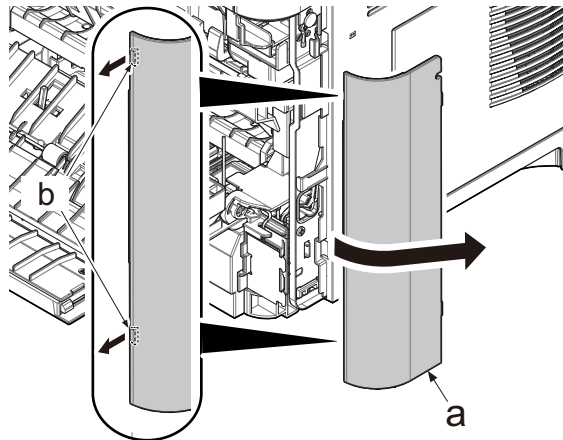
3 **Open the top cover (a).**
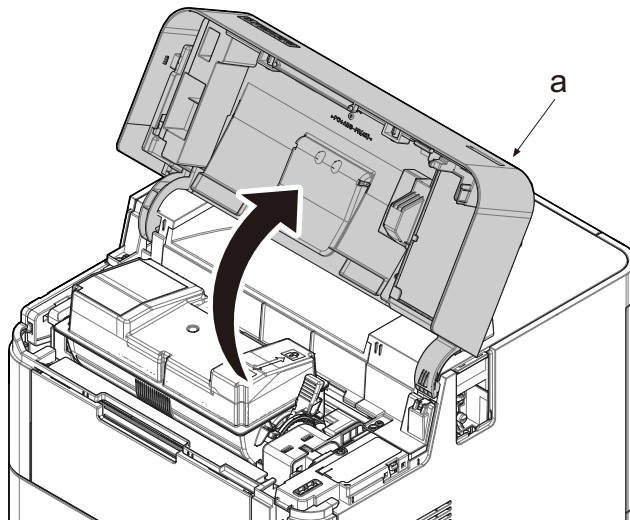
4   **Pull out the cassette (a).**
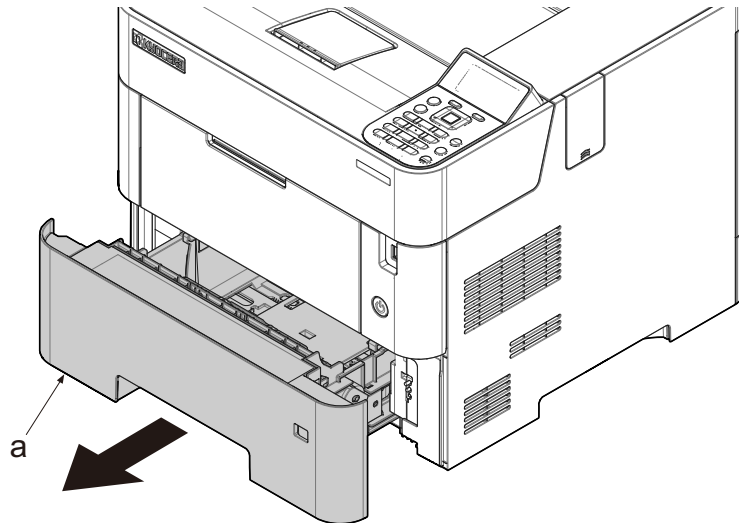
5   **Open the front cover (a).**
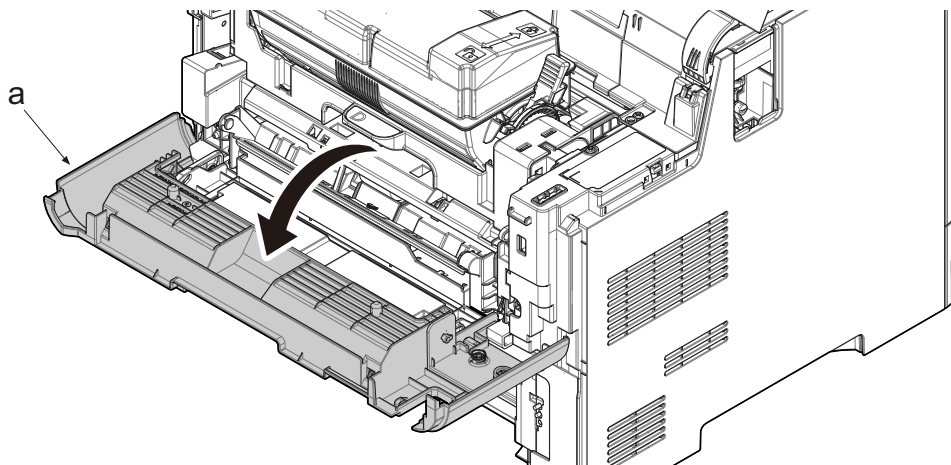
6   **Detach the left cover.**

1   Remove screw (a) for the lower left cover. (M3x8)

2   Release two hooks (c).

3   Release 2 hooks (d).

4   Hold up the left cover and release 4 hooks (e) then remove the cover.
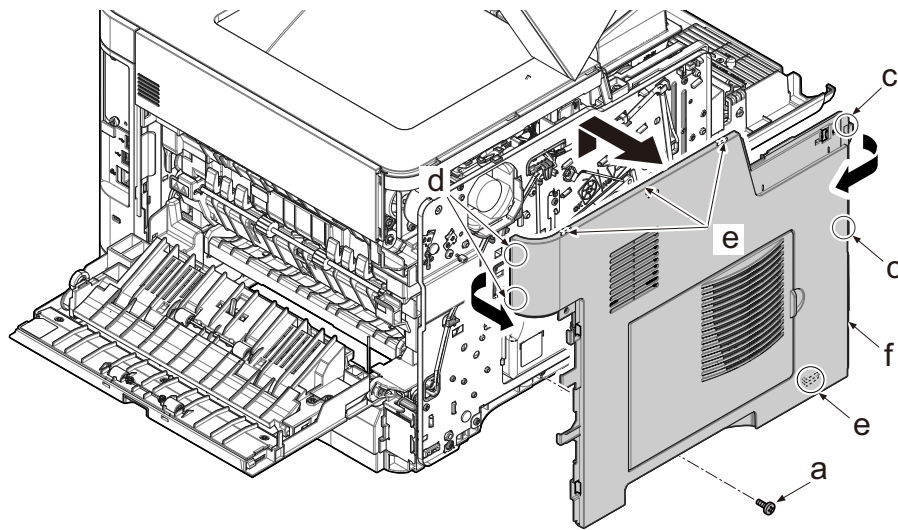
(1-4)Detaching and refitting the top cover

1 **Remove the right cover.**

(See Page 4-15)

2 **Detach the left cover.**

(See Page 4-18)

3 **Detach the top cover assembly.**

1 Remove two screws (b). (M3x8)

2 Release two hooks (c) and lift the top cover upward.

3 Pull out FFC (d) from the connector (e) and then remove the top cover assembly (f).
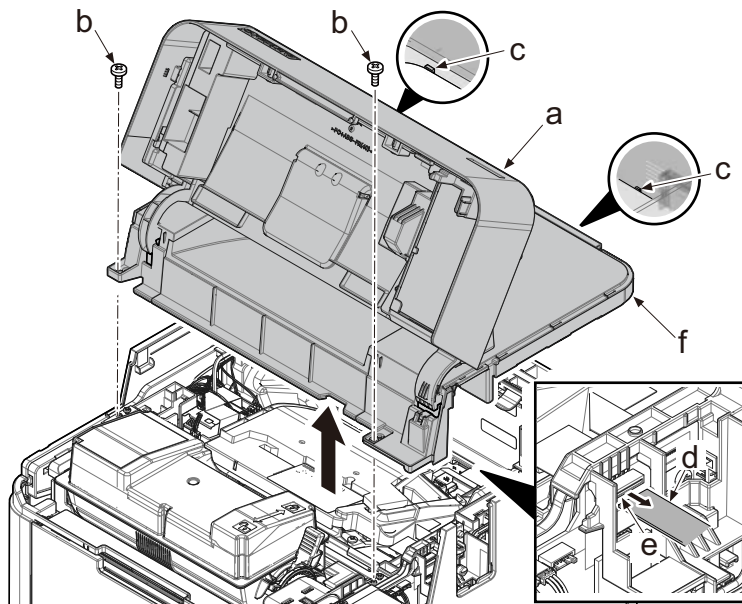
(1-5)Detach the rear cover.

1 **Open the rear cover (a).**
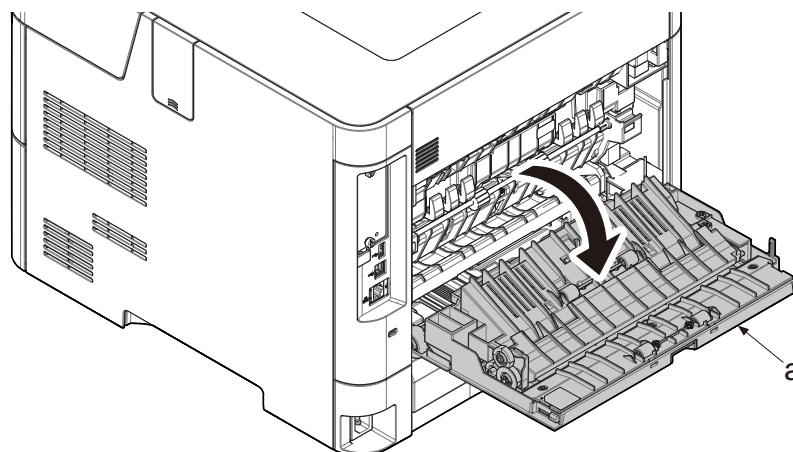
2 **Detach the rear left cover (a).**

1 Pull the cover and release hook (b).

2 Detach the rear left cover (a) by rotating it.
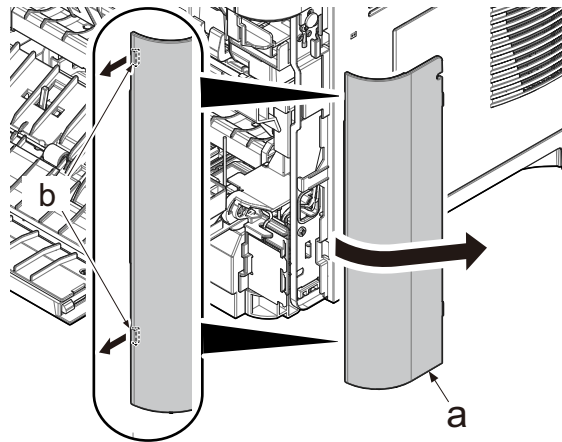
50/55/60ppm model only

3   Remove the screw (a) and the grounding wire (b). (M3x8)

4   Open the connector cover (c) and then remove three connectors (d).
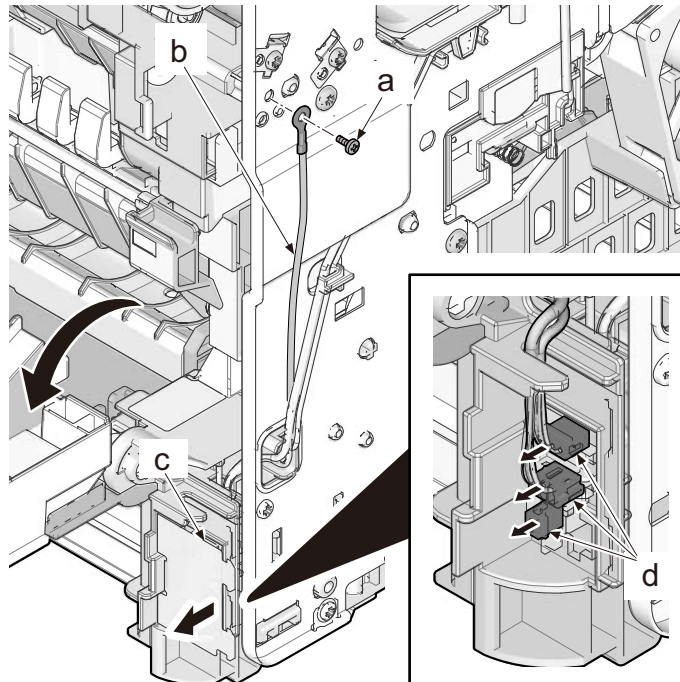
3   **Remove the shaft (b) by sliding the rear cover (a) and then detach the rear cover assembly (c).**
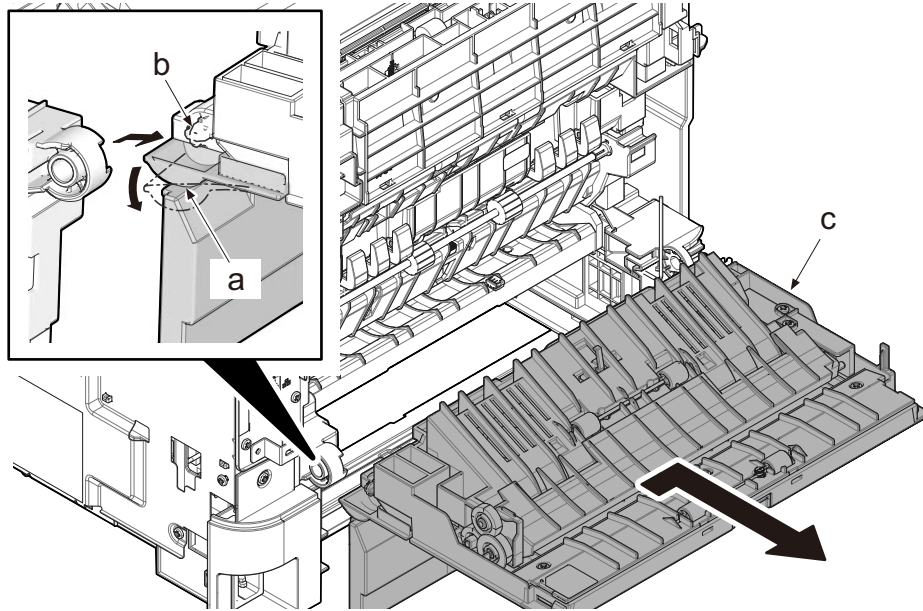
(2) Optical section

(2-1) Detaching and refitting the laser scanner unit

1   **Detach the top cover assembly.**

(See)

2   **Remove laser scanner unit.**

1   Pull out the connector (b) and FFC (c) from engine PWB (a).

2   Release the wires (d) from the wire guide (e).

3   Remove 4 screws (f) and remove the laser scanner unit (g). (M3x8)

4   Check or replace the laser scanner unit and refit all the removed parts.
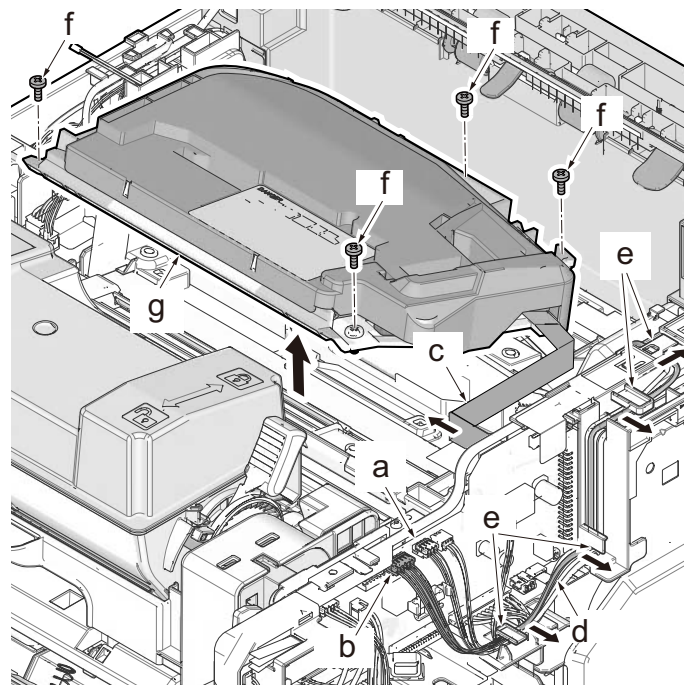
> ✅ **Important**
>
> - Wear anti-static wrist band to avoid from static shock on the laser scanner unit. Do not touch APC PWB and terminal of FCC.
> - Pay attention to insert FCC completely when connect it. If miss the connection, error comes up and takes time to fix it.

(3) Exit section

(3-1)Detaching and refitting the exit unit

1 **Remove the right cover.**

(See Page 4-15)

2 **Detach the left cover.**

(See Page 4-18)

3 **Detach the top cover assembly.**

(See Page 4-21)

4 **Detach the wire guide 1.**

(See Page 4-28)

5 **Detach the controller box cover.**

(See Page 4-32)

6 **Detach the exit unit**

1   Pull the connector (f) out.

2   Pull the connector (a) out and then release the wires (c) from hooks.

3   Remove three screws (d) and then detach the exit unit (e).

4   Check or replace the exit unit and refit all the removed parts.

[60/55/50ppm]
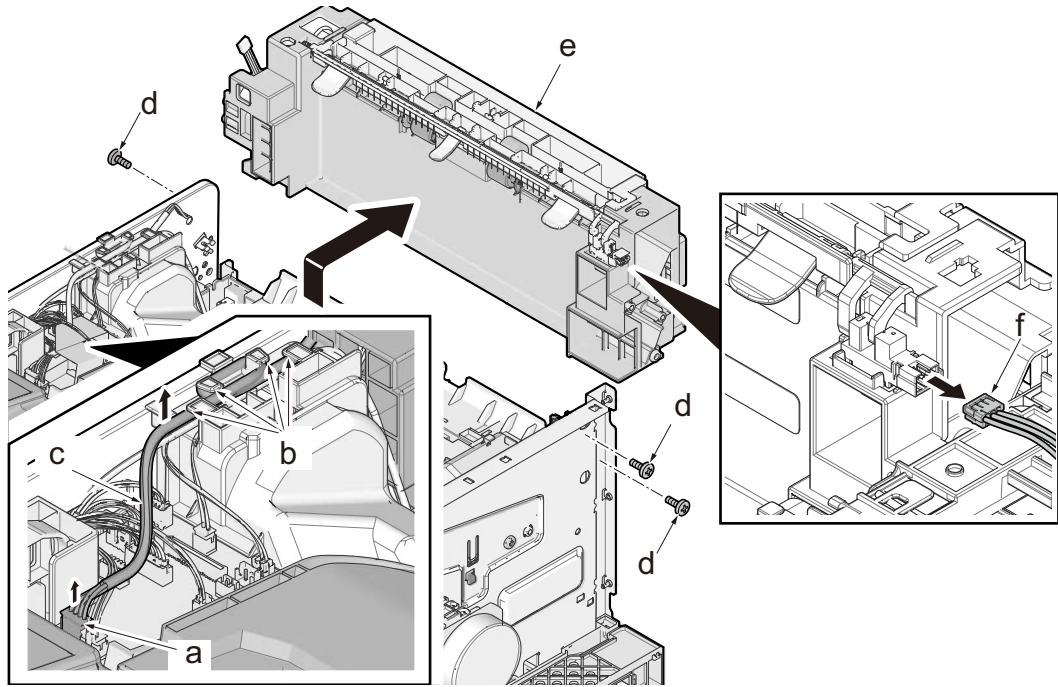
45 ppm
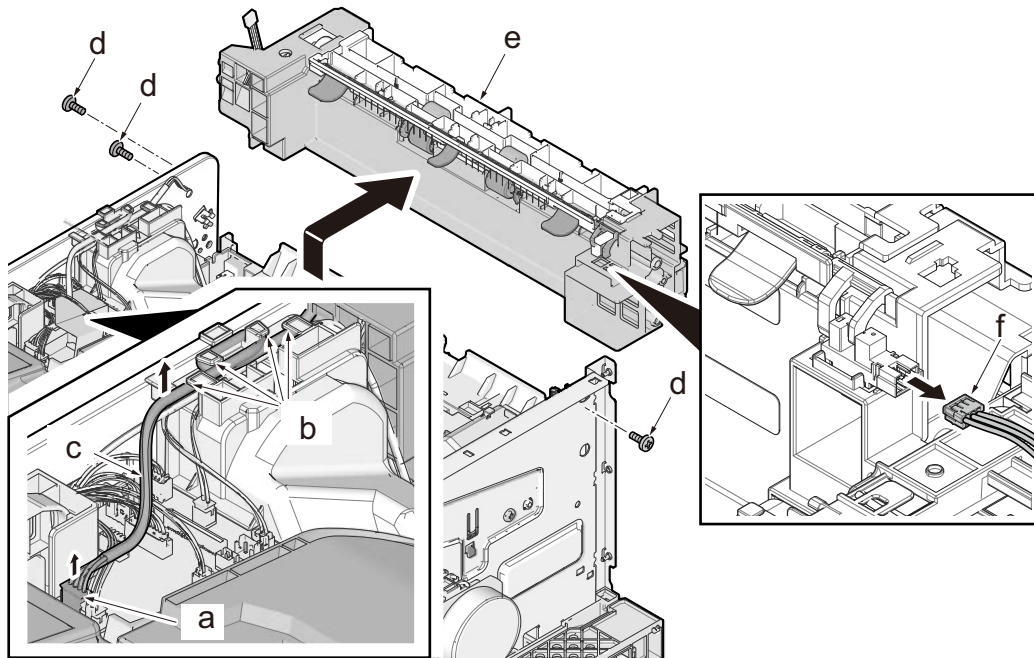
(4) PWBs

> ⚠ **Caution**
>
> Before replacing the PWB, be sure to take the following procedures. Otherwise, The PWB may get damaged.
> Disconnect the power cord.
> Press the power switch one second or more. (discharge the electric charge inside the main unit)

(4-1)Detaching and refitting the main PWB

1 **Open the rear cover (a).**
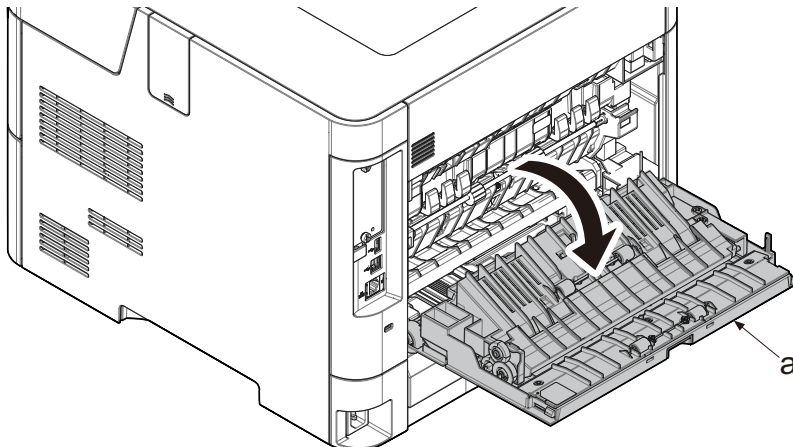
2 **Release hook (b) and detach the interface cover (a).**

- Attach 2 hooks (c) first when putting it back.
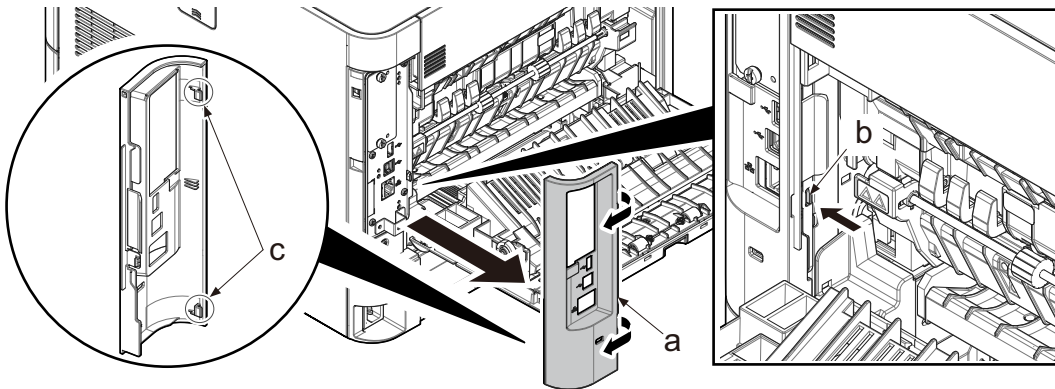
3 **Unplug the power cable.**

4 **Detach the main PWB.**

1 Remove four screws (a) and (b) then detach the main PWB unit (c).

2 Check or replace the main PWB and refit all the removed parts.
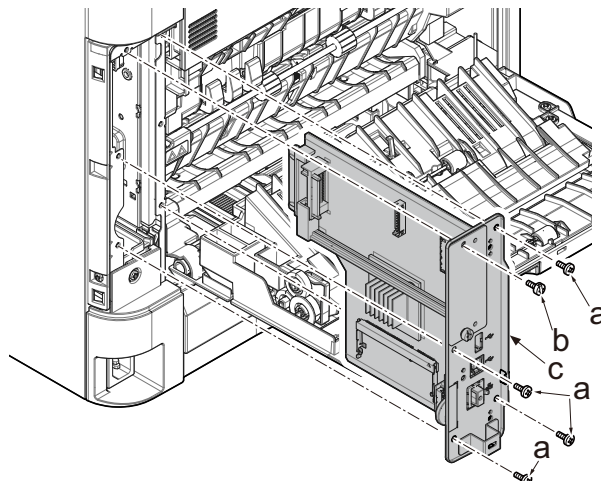
✅ **Important**

Re-activate the license if optional licensed product is installed.

    1) Card Authentication Kit(B)

    2) UG-33 (ThinPrint)

       Re-input four-digit encrypted code that was input at setup.

Reset the user initial values from the System Menu and Command Center.

(4-2)Detaching and refitting the engine PWB

1   Remove the right cover.

(See Page 4-15)

2   Detach the left cover.

(See Page 4-18)

3   Detach the top cover assembly.

(See Page 4-21)

4   Detach the wire guide 1.

1   Remove two FFCs (a) from inside of frame.

2   Release the wires (c) and FFC (d) from hooks (b).

3   Release the fixing hook (e) and then remove the wire guide 1 (f).
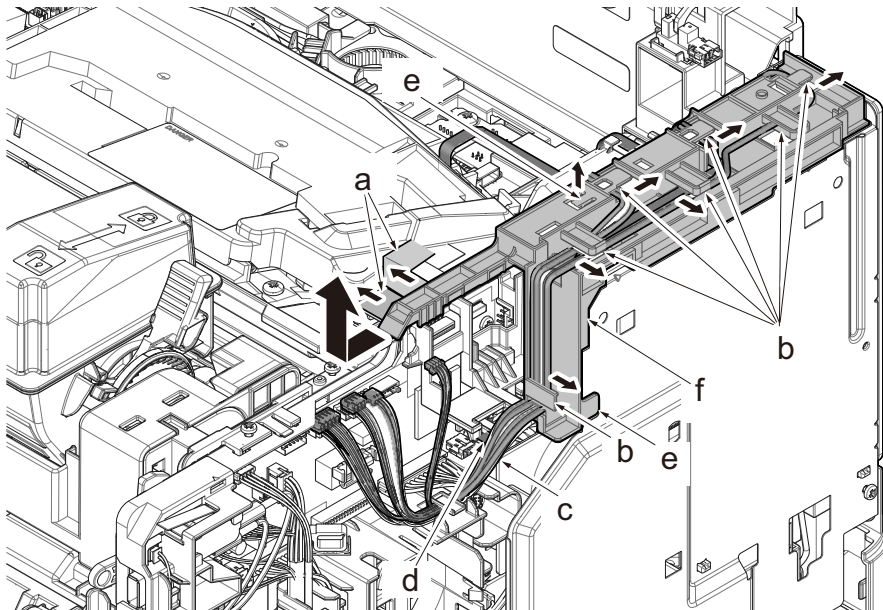
5   Detach the wire guide 2.

1   Pull the connector (a) out.

2   Remove screw (b) and release 2 hooks (c) then remove the wire guide 2. (M3x8)
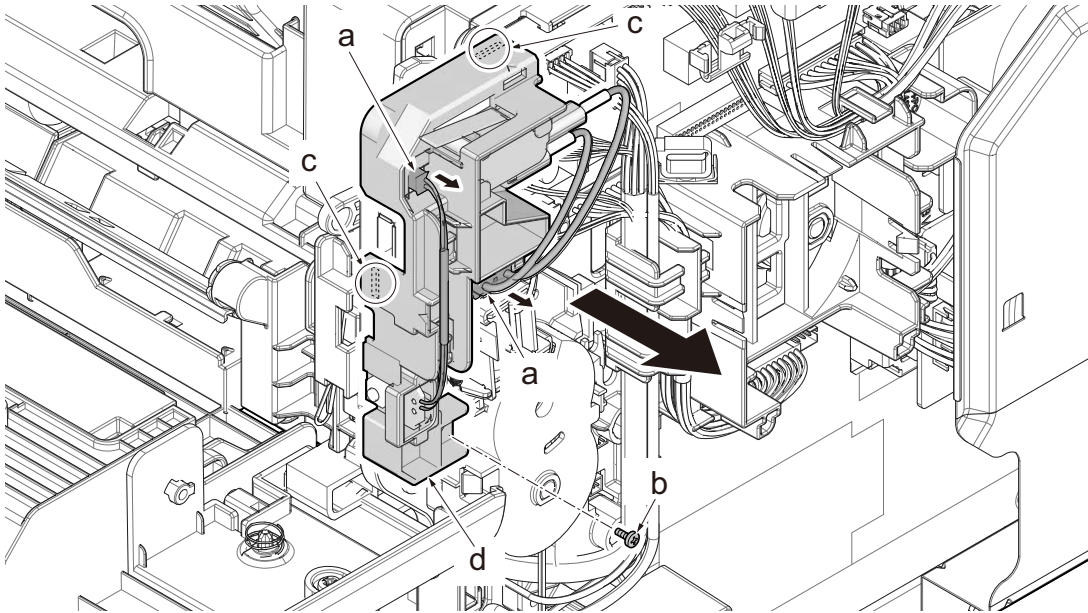
6   **Detach the engine PWB.**

1   Pull all connectors out from engine PWB (a).

2   Remove four screws (b) and then detach the engine PWB (a). (M3x8)

3   Check or replace the engine PWB and refit all the removed parts.

4-29
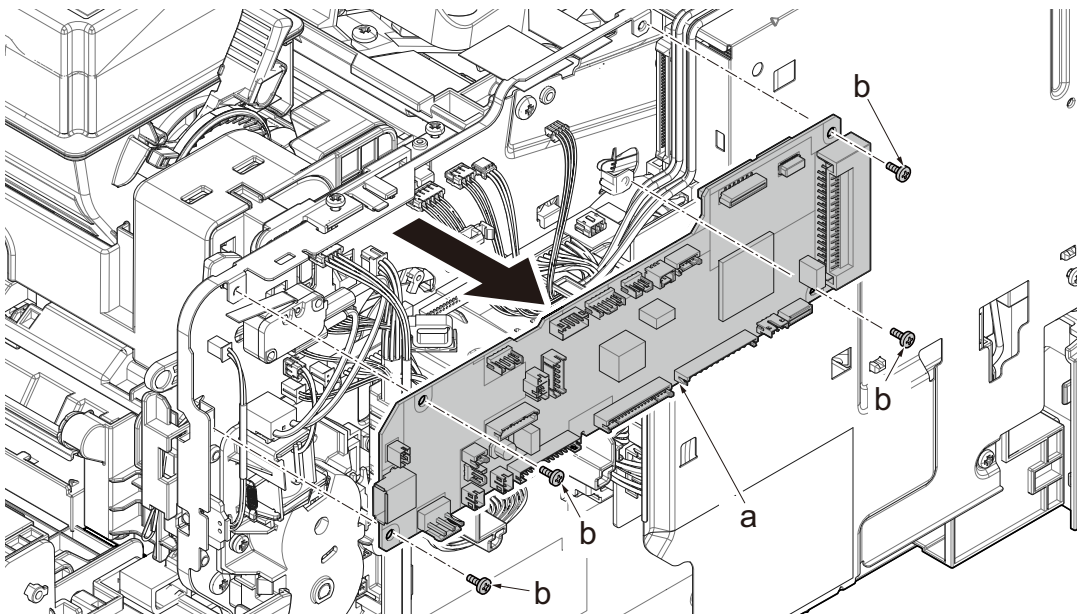
> ⊘ **Important**
>
> When replacing the engine PWB (a), remove the EEPROM (U21) from the PWB and then reattach it to the new PWB.
>
> When replacing the engine PWB, make sure to check the barcode label of the engine PWB and attach correct one.
>
> **Print speed: 55PPM**
>
> Part number: 302TR9401*, Barcode label: 2TRxxxx/*XXXxxxxxxxxx*
>
> **Print speed: 50PPM**
>
> Part number: 302TS9401*, Barcode label: 2TSxxxx/*XXXxxxxxxxxx*
>
> **Print speed: 45PPM**
>
> Part number: 302TT9403*, Barcode label: 2TTxxxx/*XXXxxxxxxxxx*
>
> Refer to the photo below.
>
>
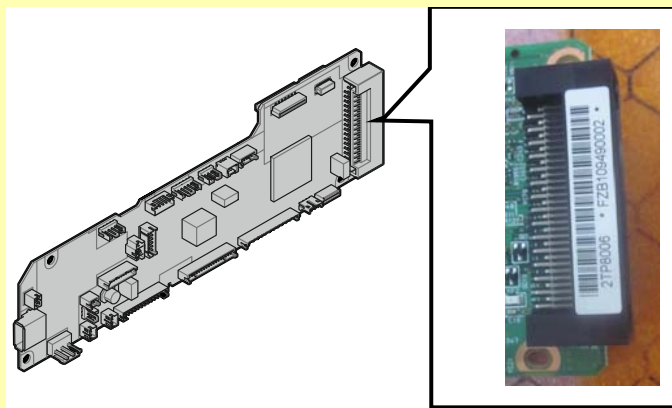
(4-3)Detaching and refitting the relay-L PWB

1 **Detach the top cover assembly.**

(See Page 4-21)

2 **Detach the LSU fan motor.**

1 Pull the connectors (a) out from relay-L PWB and then release the wires (c) from hooks (b).

2 Detach the LSU fan motor assembly (d) upward.
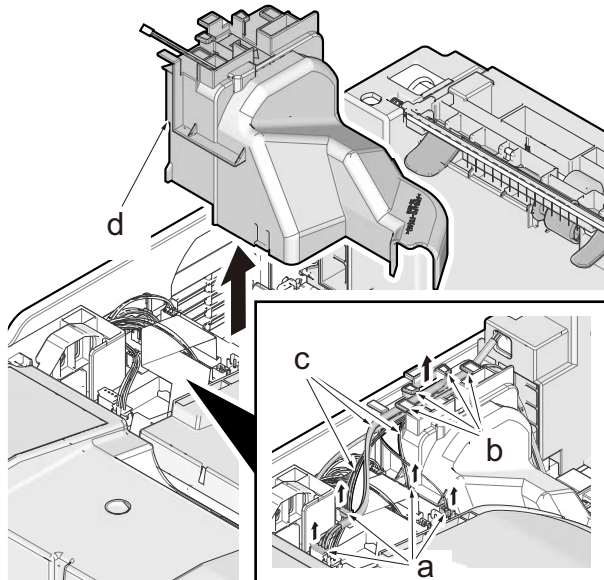
3 **Detach the relay-L PWB.**

1 Pull the connectors (a) and FFC (b) out and detach the relay-L PWB.

2 Check or replace the relay-L PWB (c) and refit all the removed parts.
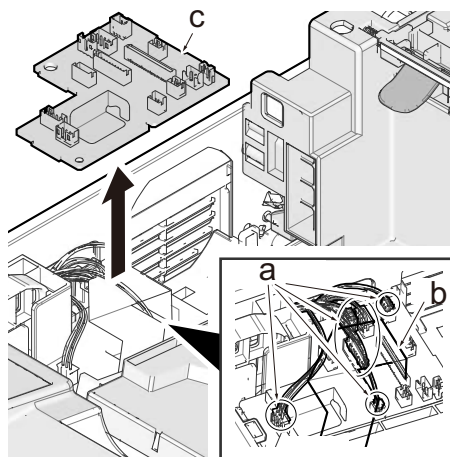
(4-4)Detaching and refitting the power source PWB

> ⚠️ **Caution**
>
> Before replacing the PWB, be sure to take the following procedures. Otherwise, The PWB may get damaged.
> Disconnect the power cord.
> Press the power switch one second or more. (discharge the electric charge inside the main unit)

1 **Remove the right cover.**

(See Page 4-15)

2 **Detach the left cover.**

(See Page 4-18)

3 **Detach the top cover assembly.**

(See Page 4-21)

4 **Detach the main PWB.**

(See Page 4-26)

5 **Detach the wire guide 1.**

(See Page 4-28)

6 **Remove three screws (a) and detach the controller box cover (b). (M3x8)**
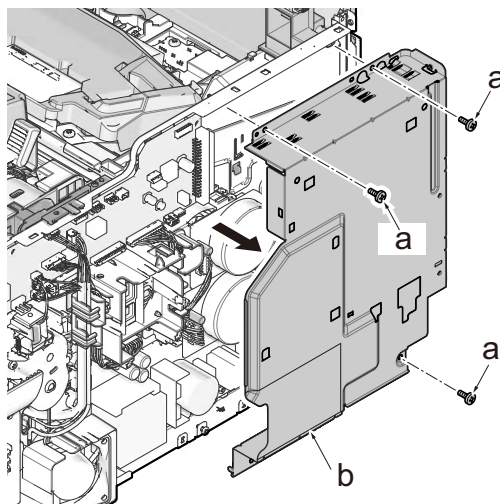
7 **Detach the power supply PWB.**

1   Remove the screw (a) and then the grounding wire (b).

2   Remove 3 screws (c) and remove the power supply PWB (d).

3   Check or replace the power supply PWB and refit all the removed parts.
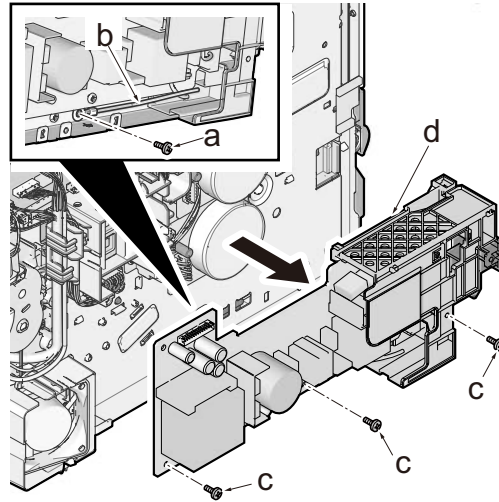
(4-5)Detach the high-voltage PWB.

1   **Detach the cassette.**

2   **Remove the right cover.**

(See Page 4-15)

3   **Detach the left cover.**

(See Page 4-18)

4   **Detach the power supply fan motor.**

(See Page 4-40)

5   **Detach the power supply PWB.**

(See Page 4-32)

6   **Place the main unit front side up.**

7   **Remove four screws (a) each and remove the bottom plate 1 (b) and the bottom plate 2 (c).**
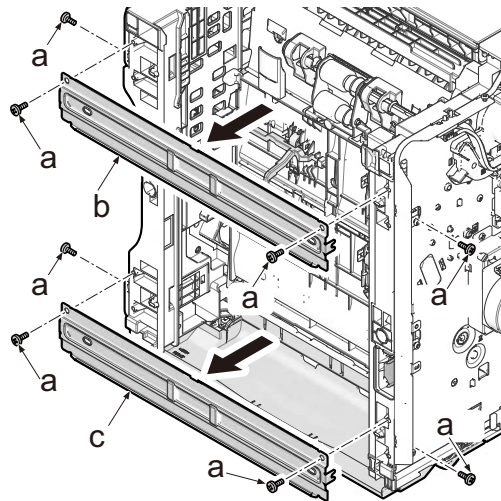
8   **[60/55/50ppm only]**

Release two hooks (a) and detach the wire cover (b).

Pull the lift sensor (c) connector (d) out.
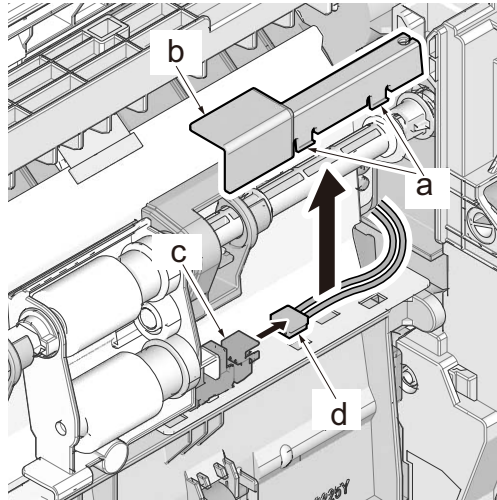
9 Detach the duplex unit.

1   Remove 7 screws (a). (M3x8)

2   Push the joint section (b) and pull out the feed roller (c).

3   Detach the duplex unit frontward.
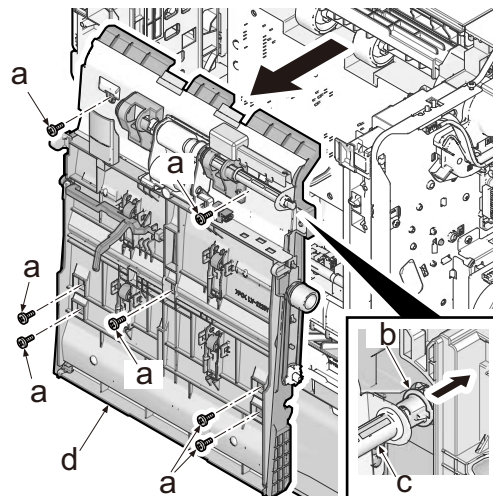
10 Detach the high voltage PWB.

1   Remove 1 screw (a). (M3x8)

2   Pull two connectors (b) out and then detach the high voltage PWB (c).

3   Check or replace the high-voltage PWB and refit all the removed parts.
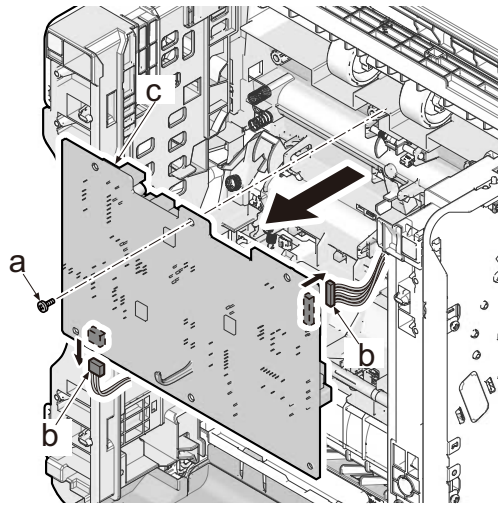
(4-6)Detaching and reattaching the operation PWB

1   **Open the top cover (a).**

2   **Remove the jam clearance procedure sheet (b).**

3   **Remove 2 screws (c). (M3x8)**
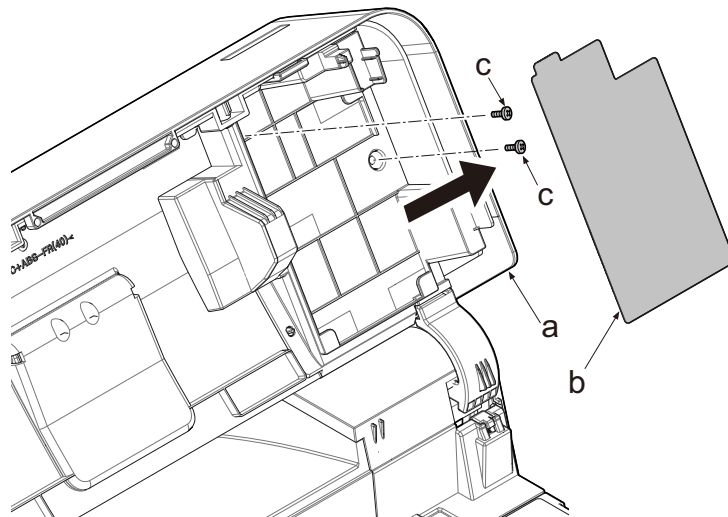
4   **Remove the operation PWB.**

1   Rotate the operation PWB cover (a).

2   Remove the screw (b) and take the operation PWB out. (M3x8)

3   Check or replace the operation PWB and refit all the removed parts.
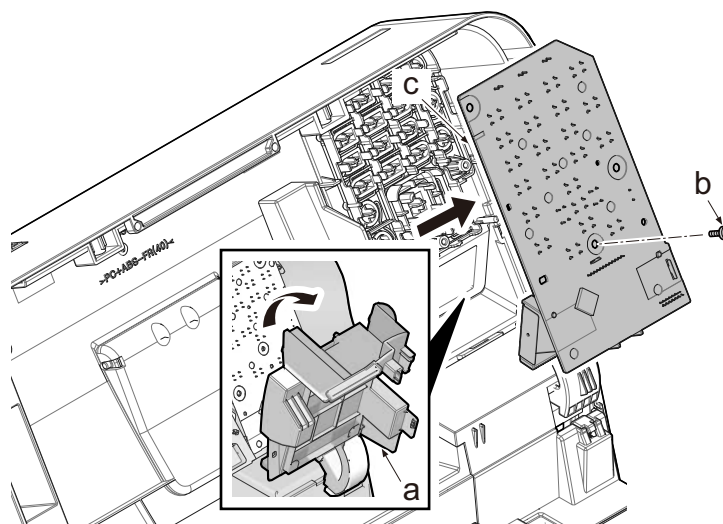
(5) Drive section

(5-1)Detaching and reattaching the main drive unit

1   **Remove the right cover.**

(See Page 4-15)

2   **Detach the left cover.**

(See Page 4-18)

3   **Detach the top cover assembly.**

(See)

4   **Detach the main PWB.**

(See)

5   **Detach the wire guide 1.**

(See)

6   **Detach the controller box cover.**

(See)

7   **Detaching main drive unit**

1   Pull the connector (a) out from the motor and then release the wires (b) from wire holder (c).

2   Remove four screws (d) and then detach the main drive unit (e). (M3x8)v

3   Check or replace the main drive unit and refit all the removed parts.

[60/55/50ppm]
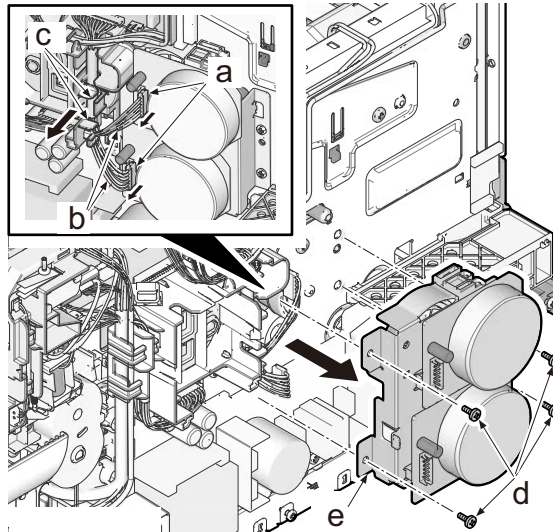
45 ppm
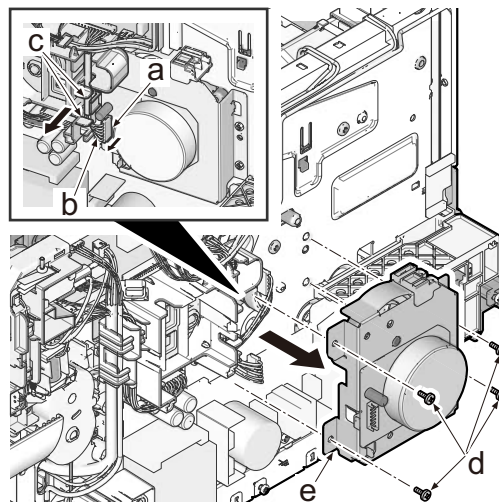
(5-2)Detaching and refitting the paper feed drive unit

1   Remove the right cover.

(See Page 4-15)

2   Remove the paper feed drive unit.

1 Pull the connector (a) out.

2 Remove 2 screws (b) and then detach the paper feed drive unit (c).

3 Check or replace the paper feed drive unit and refit all the removed parts.
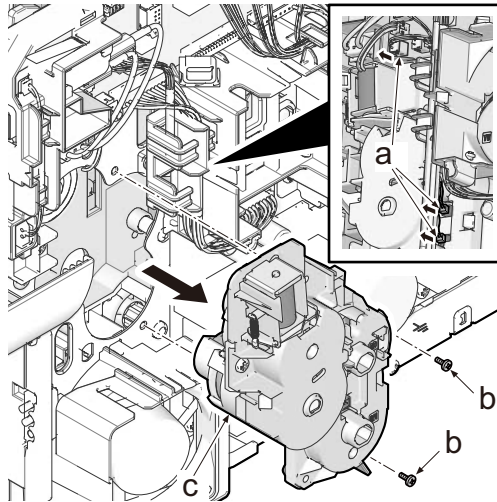
(5-3)Detaching and refitting the center fan motor (100V 60 ppm only)

1   Detach the exit unit

(See Page 4-26)

2   Detach the center fan motor (d).

1 Disconnect the connector (a) and release the wire (b) from the hook (c).

2 Detach the center fan motor (d).

3 Check or replace the center fan motor and refit all the removed parts.

4-39
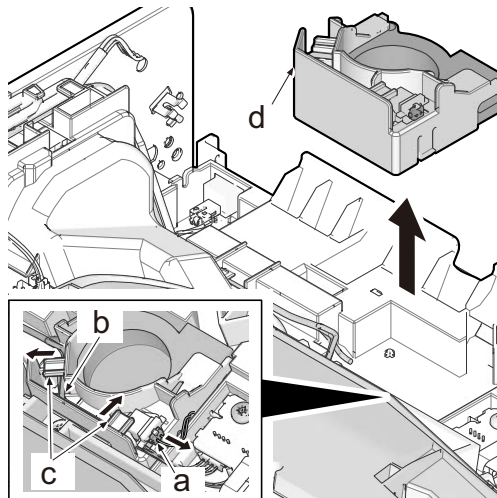
(5-4)Detaching and reattaching the power source fan motor

1 Remove the right cover.

(See)

2 Detach the power source fan motor.

1 Pull the connector (b) of the power source fan motor (a).

2 Release three hooks (c) using flat-blade screwdriver (d) and then detach the power source fan motor (a).

3 Check or replace the power source fan motor and refit all the removed parts.
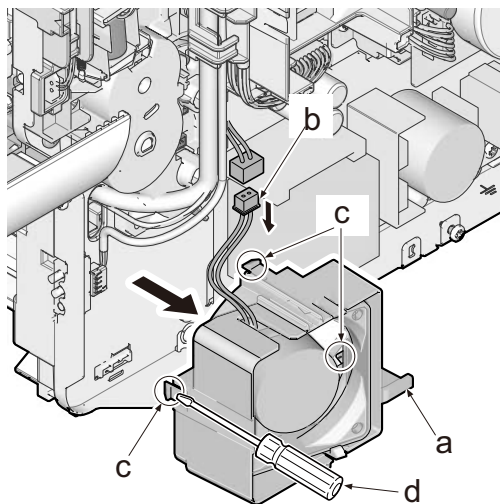
(5-5)Detaching and reattaching the rear fan motor. (100V 60/55/50ppm only)

1 Detach the rear cover assembly.

(See)

2 Release three hooks (a) and then detach the lower rear cover (c) and cassette cover (d) by pulling out three projections.
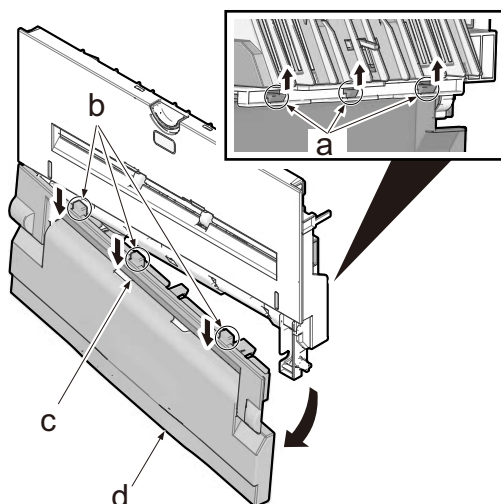
3 Detach the rear fan motor.

1 Remove two screws (a) and detach the upper rear cover (b).

4-40

2   Disconnect connector (d) of the fan motor wire (c).

3   Detach the rear fan motor (e).

4   Check or replace the rear fan motor and refit all the removed parts.
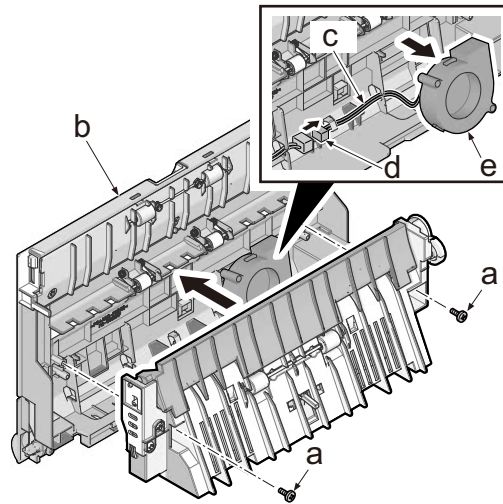
(5-6)Direction of the fan motor installation.
When detaching or refitting the fan motor, pay attention of the airflow direction (intake or exhaust).

- Center motor fan (a) *1: Exhaust (Rating label face down)

- Power source fan motor (b): Intake (Rating label face inside)

- LSU fan motor (c): Intake (Rating label face inside)

- Rear fan motor (d) *1: Exhaust (Rating label face inside)

- Developer fan motor (e): Intake (Rating label face inside)
*1: 100V model only]
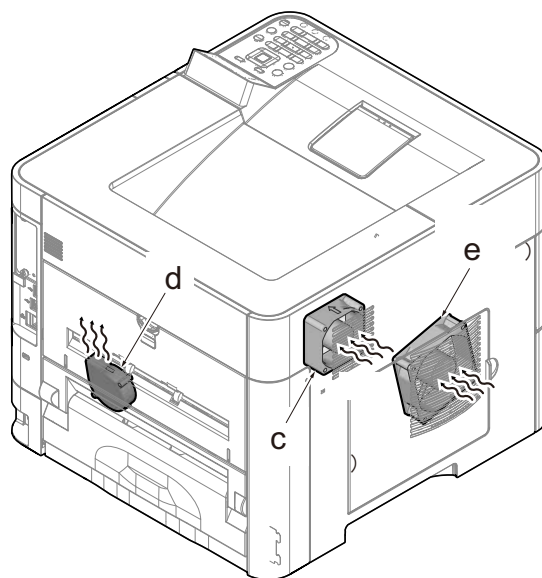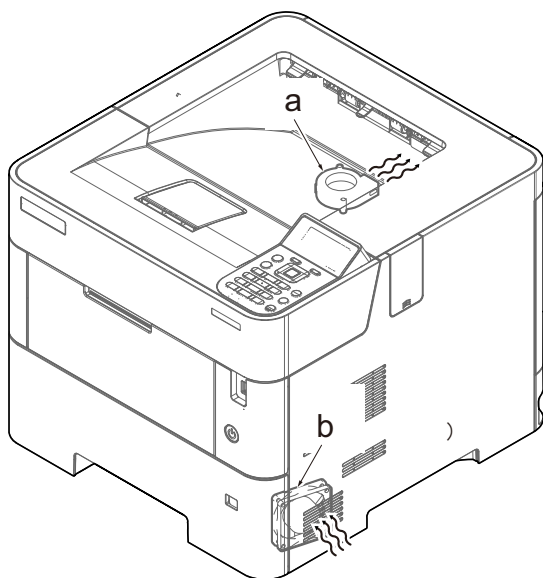
4 - 5 Assembly and disassembly (Optional items)

(1) Paper feeder (PF-3110)

(1-1)Detaching and refitting the paper feed roller

1 **Remove cassette (a) from paper feeder (b).**
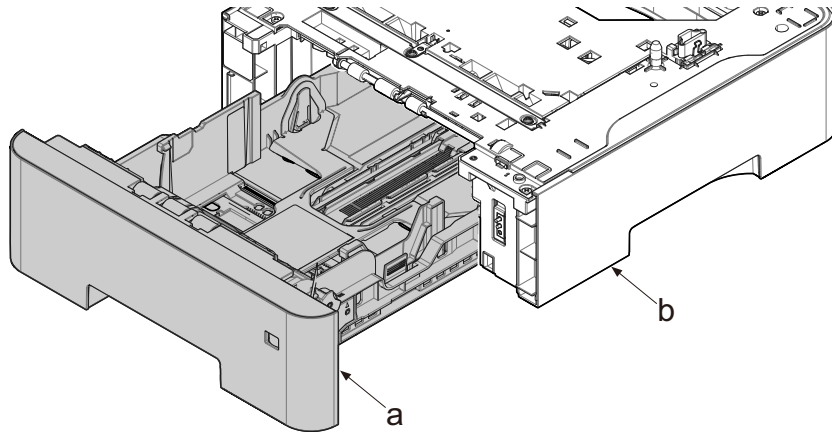
2 **Remove the paper feed roller unit.**

1 Press the lock lever (a) and slide the roller holder (b).

2 Detach the paper feed roller assembly (c).

3 Check or replace the paper feed roller or pick up roller and refit all the removed parts.
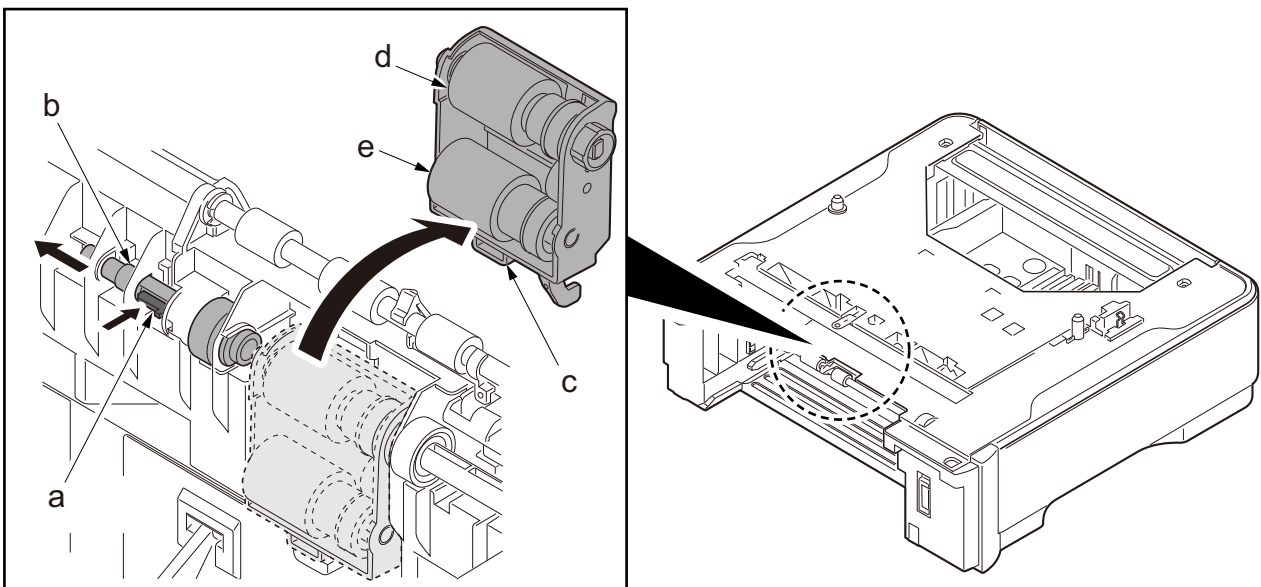
(1-2)Detaching and refitting the retard roller

1   **Remove cassette (a) from paper feeder (b).**
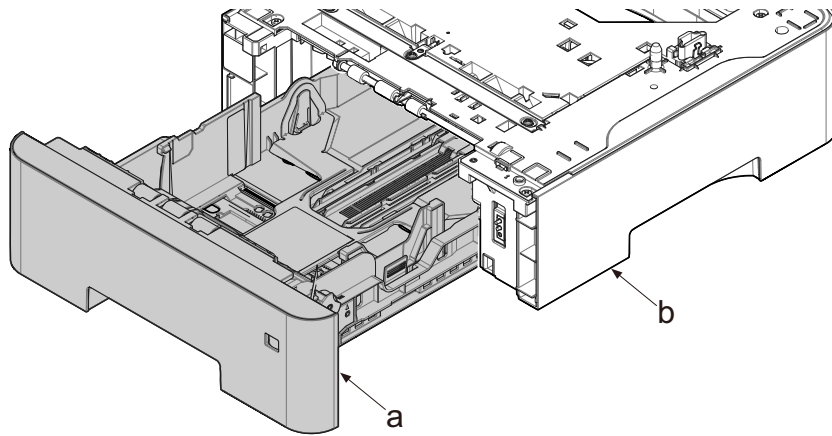
2   **Release two hooks (b) in backside of cassette (a) and then detach the retard roller assembly (c).**
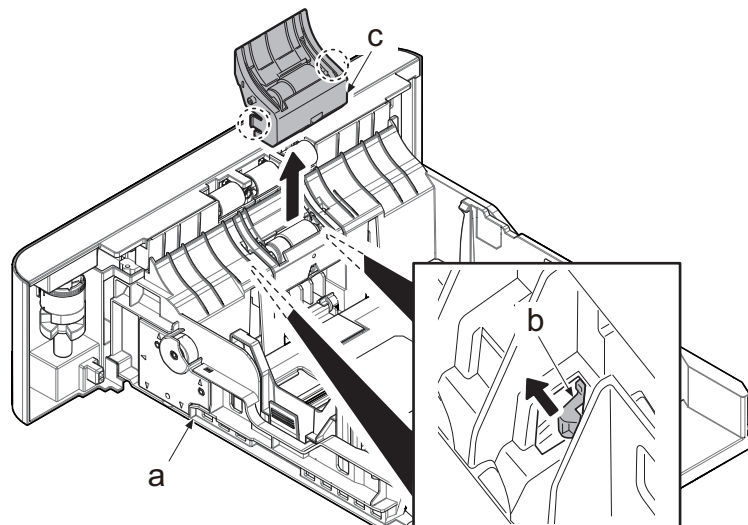
3   **Remove the retard roller.**

1   Remove spring (a).

2   Remove the retard roller holder (b) by rotating it.

3   Check or replace the retard roller and refit all the removed parts.
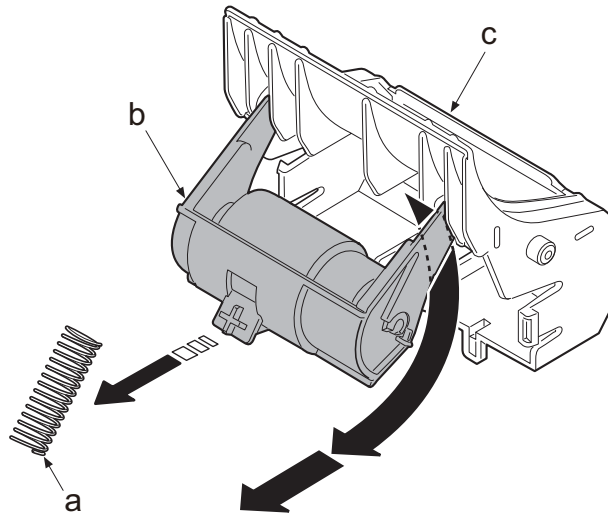
(1-3)Detaching and refitting the drive unit and PF PWB.

1 **Detach the top cover.**

   1 Remove 5 screws (a). (M3x8)

   2 Lift up rear edge if the top cover (b).

   3 Pull out cassette size switch (c) and remove top cover (b).
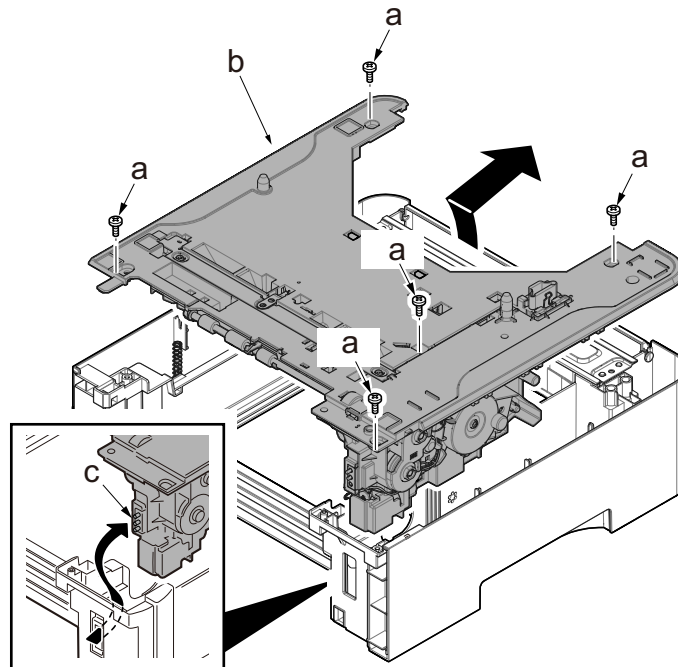
2 **Detach the PWB cover.**

   1 Release 2 hooks (b) with flat head screw driver (a).

   2 Lift up tab (d) on PWB cover (c) and remove the cover.
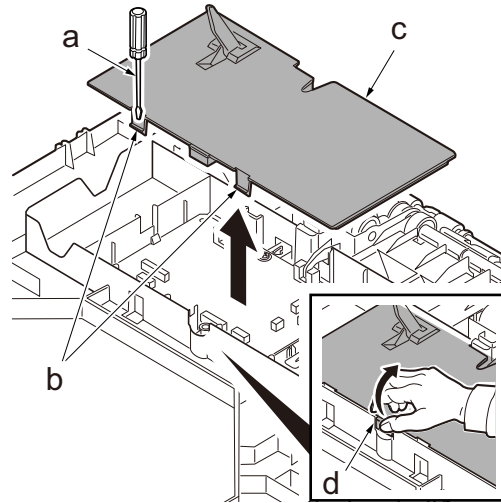
3   **Remove the drive unit.**

1   Pull the 3 connectors (a) out and release the wires (b) from wire holder (c).

2   Remove three screws (d) and detach the drive unit (e). (M3x8)
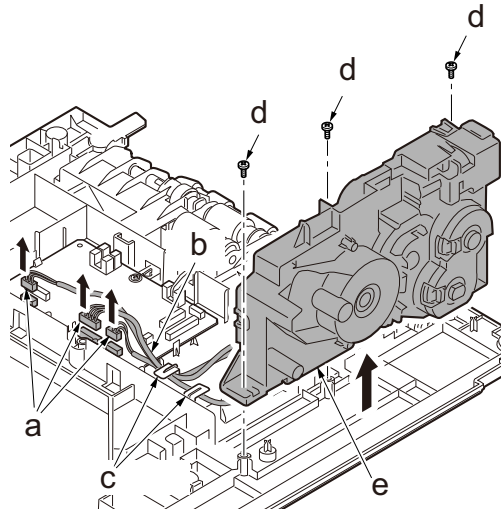
4   **Detach the PF PWB cover.**

1   Raise the feed roller assembly (a) up.

2   Pull the all connector from PF PWB out.

3   Remove the screw (c).

4   Release two hooks (d) and detach the PF PWB (b).
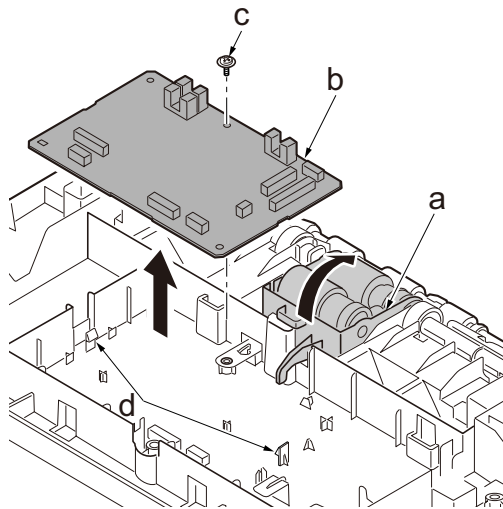
(2) Paper feeder (PF-3100)

(2-1)Remove the bulk feeder

1 **Take away the bulk feeder (b) from main unit by sliding on the mount rails (a).**

2 **Hold up the bulk feeder (b).**
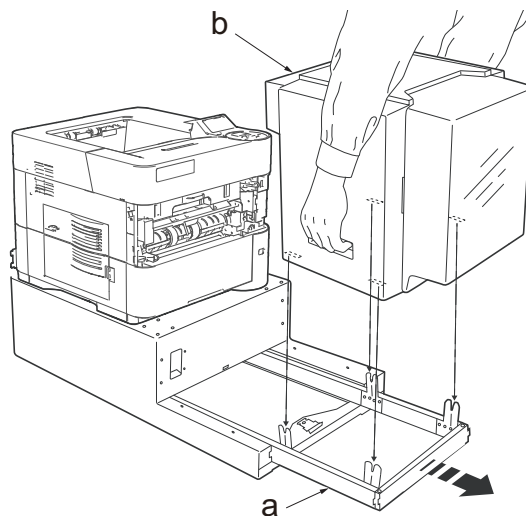
(2-2)Detach the tray cover.

• Fix the tray cover with tape not to let it open during maintenance. Or remove the tray with following procedure.

    1 Remove the screw (a) and remove lower hinge (b).

    2 lift up the tray cover (c) and remove from upper hinge (d).

4-47
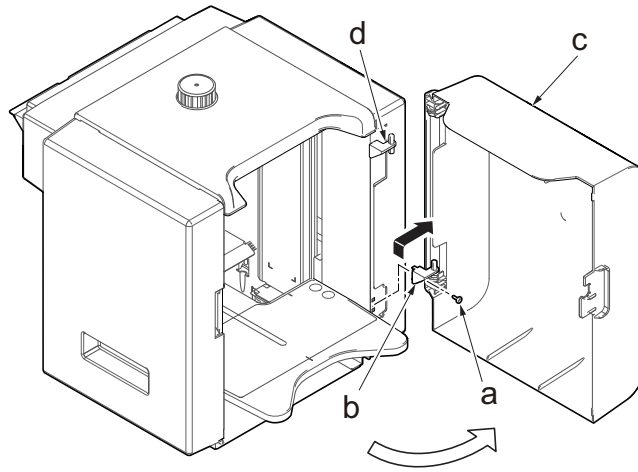
(2-3)Detach the side cover.

• Do this in case if access to parts inside.

1 Remove two screws (a) on lower side and detach the right/left side covers (b).
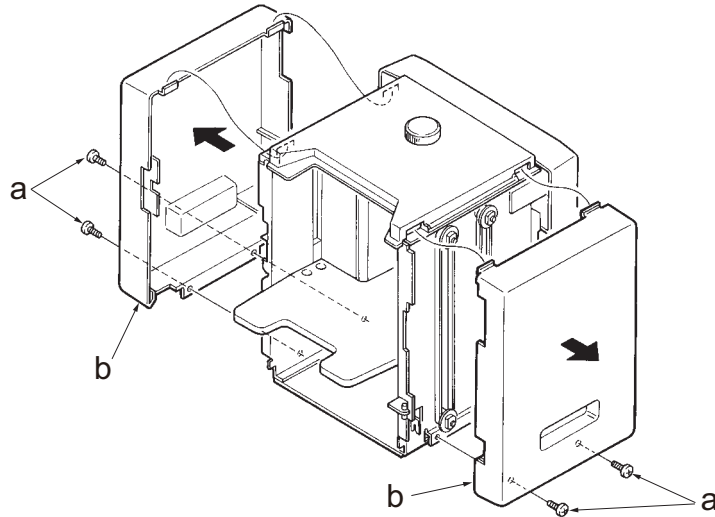
(2-4)Remove paper feed section and top cover

• In case of top cover removement, it recommends that the paper feed is removed either.

• Tray size adjust knob can not be removed unless removing top cover.

1 Remove 2 screws (a) and remove paper feed section (b).

2 Remove 4 screws (c) and detach the top cover.
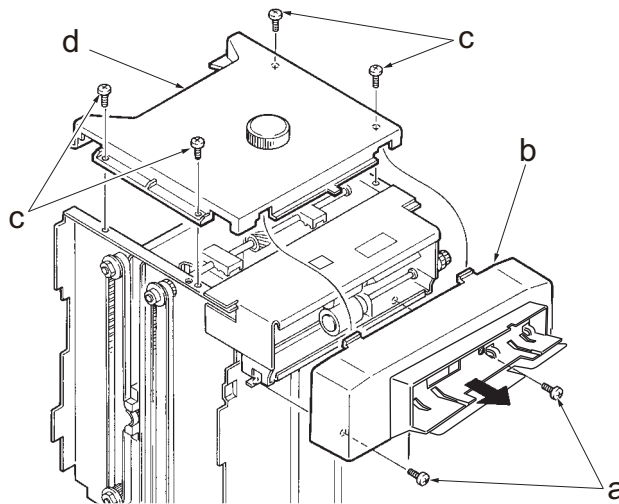
(2-5)Remove printer base mount

1 Remove 2 screws (b) on mount rail (a).

2 Pull out the mount rail (a) from printer base (c).
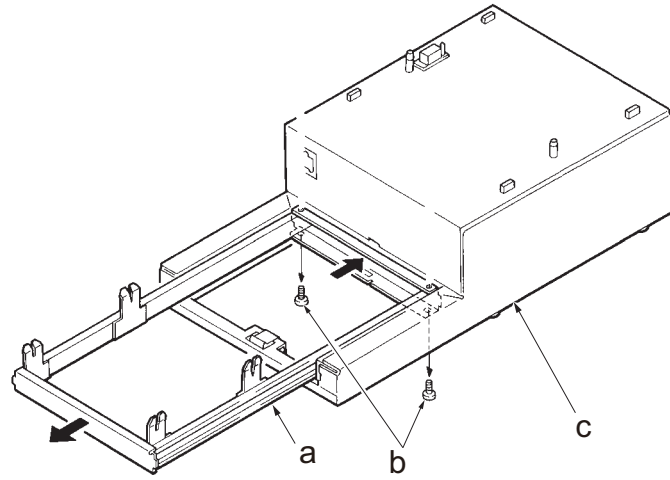
5Firmware

5 - 1 Firmware update

Execute the following to update the firmware below.

- The processing time is reduced with simultaneous processing by group.

[GROUP1 UPDATE]

UPDATE step	Target	Master file name	Message
1	Controller Package	DL_PKG_CTRL.2TP	CPKG
	Product Line Platform	DL_CTRL_PLP.2TP	PLP
	Common Basic App	DL_CTRL_STDAPP_CMN.2TP	CMN
	System Setting App	DL_CTRL_STDAPP_SST.2TP	SST
	Maintenance App	DL_CTRL_STDAPP_MNT.2TP	MNT
	Print App	DL_CTRL_STDAPP_PRT.2TP	PRT
	Box App	DL_CTRL_STDAPP_BOX.2TP	BOX
	Web Page App	DL_CTRL_STDAPP_WPG.2TP	WPG
	Auth App	DL_CTRL_STDAPP_AUTH.2TP	AUTH
	Panel Control System App	DL_CTRL_STDAPP_PCS.2TP	PCS
	Service Cooperation App	DL_CTRL_STDAPP_SCO.2TP	SCO
	Extension Service Platform	DL_CTRL_EXSP.2TP	EXSP
	Package Version Info	DL_CTRL_VINF.2TP	VINF
2	Option Language Data(1)	DL_OPT_xx.2TP *1	OPT1
	Option Language Data(2)		OPT2
	Option Language Data(3)		OPT3
	Option Language Data(4)		OPT4
	Option Language Data(5)		OPT5
	Option Language Data(Erase)	DL_OPT_ER.2TP	-

*1: Alphanumeric characters corresponding to the type of the optional language is substituted for xx.

[GROUP2 UPDATE]

[GROUP3 UPDATE]

UPDATE step	Target	Master file name	Message
1	Engine Firmware	DL_ENGN.2V2	ENGN
2	Paper Feeder	DL_03NY.2LV	PF1 4 *1

*1: Four PFs are connected at the maximum. It is updated one by one and four are displayed.

Verify the signature at firmware update

Verify the signature of the update file to prevent the firmware update with illegally falsified data.

File names of the signature and firmware certificate

Target	Signature file name	Firmware certificate file name
Product Line Platform	2TP_CTRL_PLP_sign.bin	2TP_CTRL_PLP_cert.pem
Common Basic App	2TP_CTRL_STDAPP_CMN_sign.bin	2TP_CTRL_STDAPP_CMN_cert.pem
System Setting App	2TP_CTRL_STDAPP_SST_sign.bin	2TP_CTRL_STDAPP_SST_cert.pem
Maintenance App	2TP_CTRL_STDAPP_MNT_sign.bin	2TP_CTRL_STDAPP_MNT_cert.pem
Print App	2TP_CTRL_STDAPP_PRT_sign.bin	2TP_CTRL_STDAPP_PRT_cert.pem
Box App	2TP_CTRL_STDAPP_BOX_sign.bin	2TP_CTRL_STDAPP_BOX_cert.pem
Web Page App	2TP_CTRL_STDAPP_WPG_sign.bin	2TP_CTRL_STDAPP_WPG_cert.pem
Auth App	2TP_CTRL_STDAPP_AUTH_sign.bin	2TP_CTRL_STDAPP_AUTH_cert.pem
Panel Control System App	2TP_CTRL_STDAPP_PCS_sign.bin	2TP_CTRL_STDAPP_PCS_cert.pem
Service Cooperation App	2TP_CTRL_STDAPP_SCO_sign.bin	2TP_CTRL_STDAPP_SCO_sign.bin
Extension Service Platform	2TP_CTRL_EXSP_sign.bin	2TP_CTRL_EXSP_cert.pem
Package Version Info	2TP_CTRL_VINF_sign.bin	2TP_CTRL_VINF_cert.pem
Option Language Data(1)	2TP_OPT_xx_sign.bin *1	2TP_OPT_xx_cert.pem *1
Option Language Data(2)		
Option Language Data(3)		
Option Language Data(4)		
Option Language Data(5)		
Option Language Data(Erase)	2TP_OPT_ER_sign.bin	2TP_OPT_ER_cert.pem
Engine Firmware	2V2_ENGN_sign.bin	2V2_ENGN_cert.pem
Paper Feeder	2LV_03NY_sign.bin	2LV_03NY_cert.pem

*1: 01 to 99 of a different number for each language is inserted in "xx".

Note when upgrading the firmware

When using a USB memory requiring a long time to start up, the main unit starts up before executing the firmware upgrade and entering into the firmware upgrade fails.

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.

1 **Turn ON the power switch (a) and confirm if the screen shows "Ready to print" then, turn OFF the power switch.**
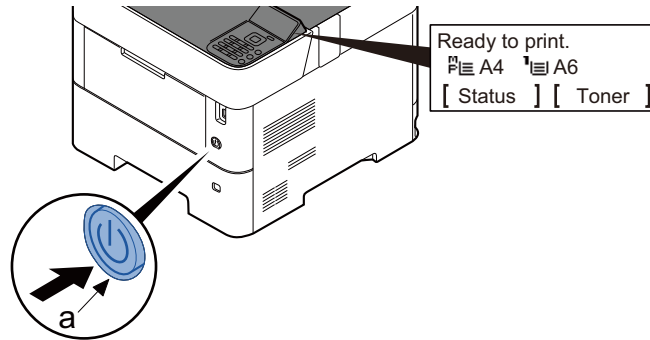
2 **Insert USB memory that has the firmware in the USB host interface slot then, turn OFF the power switch (a).**
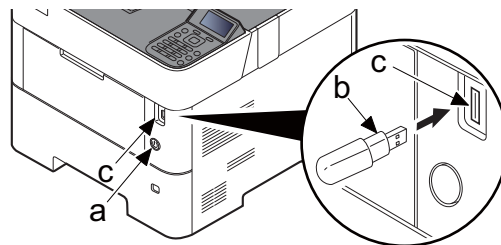
• [FW-UPDATE] and the progress indicator are displayed.

• Several kinds of firmware updates are processed simultaneously.

- When [Completed] is displayed, the firmware update is completed.

- Check if the new firmware versions are displayed.

```
┌─────────────────────────────┐
│ FW-Update          1/23 ▼   │
│                             │
│              Completed      │
│                             │
└─────────────────────────────┘
                -
                -
┌─────────────────────────────┐
│ [PLP]              2/23 ▲   │
│                          ▼  │
│ 2TX.S000.001.005            │
│                             │
└─────────────────────────────┘
                -
                -
┌─────────────────────────────┐
│ [ENGN]            24/23 ▲   │
│                             │
│ 2TX.1000.001.002            │
│                             │
└─────────────────────────────┘
```

- When there is no corresponding master file, "No Change" is displayed.
  The "*" is displayed behind the target firmware name, if when has been skipped update.

- [----------] is displayed when the optional equipment is not installed.

In case of the error completion

```
┌─────────────────────────────┐
│ FW-Update          1/23 ▼   │
│                             │
│          Error              │
│                             │
└─────────────────────────────┘
                -
                -
┌─────────────────────────────┐
│ [PLP]              2/23 ▲   │
│                          ▼  │
│ 2TX.Q000.001.005            │
│                             │
└─────────────────────────────┘
                -
                -
┌─────────────────────────────┐
│ [ENGN]            23/23 ▲   │
│                             │
│          Error     0801     │
│                             │
└─────────────────────────────┘
```

- In case of occurring an error during the firmware update, the process is immediately interrupted and the error message and error code are displayed.

Codes	Description	Codes	Description
0000	Others	S000	Other signature verification error *1
0100	There is no master file.	S001	Official signature verification file is short.
0200	Master file version discrepancy	N001	Unable to connect the network *2 (There is no target to update.)
03xx	There is no download file (No.xx).		
04xx	File (No.xx) check sum discrepancy	N002	Can not connect to the network *3 (There is the target to update.)
05xx	File (No.xx) preparation failure		
06xx	File (No.xx) preparation failure		
08xx	File (No.xx) writing failure		

*1: The expiration of the FM certification is also included.

*2: Since the normal start-up is available next time, it is restarted automatically and starts up normally.

*3: As there is a possibility that normal start-up is impossible next time, without restarting automatically, and move to USB update mode.

Indication of the signature verification result

Official signature verification file	Indicate the result
Both certificate and signature files exist and verification is successful.	Version number
Both certificate and signature files exist but verification is unsuccessful.	S000
Neither certificate nor signature files exist. Or either of them does not exist.	S001

3 **Unplug the power cord and disconnect the USB memory.**

4 **Plug in the power cord and turn the power switch (a) on.**

5 **Check that the "Ready to print" screen is displayed and then turn the power switch (a) off.**

> ⊘ **Important**
>
> Never turn the power switch (a) off or disconnect the USB memory (b) during the firmware update.

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.

6 Service mode

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

6 - 1 Executing a service mode

[Message Display]

Ready to copy

1. Press the Menu Key.

System Menu:
.
.
.
.
.
.
Adjust/Maint.

2. Select [Adjustment/Maintenance] using the [▲] [▼] keys.

3. Select [Service Setting] using the [▲] [▼] keys.

Adjust/Maint.:
.
.
Service Setting

4. Select the item to be set.

Service Setting:
 Service Status
 Network Status
 OP Network Status
 Test Page
Event Log
LLU RPT
Maintenance *1
Drum
Drum2
 New Developer
Auto DrumRefresh
Alutitude Adj.
MC
 Transfer Adj.
 Fuser Adjustment

*1: Displays only when the FAX kit is installed

6 - 2 Service settings

Items	Contents	Page
Service Status	Outputs the service status page.	Page 6-3
Network Status	Outputs the network status page.	Page 6-10
OP Network Status	Outputs the option network status page.	Page 6-10
Test Page	The test page is printed with halftones.	Page 6-11
Event log	Outputs the event log report.	Page 6-12
LLU RPT	Outputs the LLU report.	Page 6-18
Maintenance	Counter reset for the maintenance kit.	Page 6-19
Drum	The execution of the drum refresh (no paper)	Page 6-20
Drum2	The execution of the drum refresh (with paper)	Page 6-20
New Developer	Installs the toner to the developer unit.	Page 6-21
Auto Drum Refresh	Execute the drum refresh operation for the specified time	Page 6-21
Drum heater	Turn on/off the drum heater	Page 6-22
Altitude adj.	Sets the altitude adjustment mode.	Page 6-22
MC	ets the main charger output.	Page 6-23
Transfer Adj.	Sets the transfer adjustment mode.	Page 6-23
Fuser Adjustment	Sets the fuser adjustment mode.	Page 6-24

Service Status

Contents

Prints a status page for service purpose. The status page includes various settings and service cumulative.

Purpose

To acquire the current printing environmental parameters and cumulative information.

Method

1 Enter the Service Setting menu.

2 Select [Status Page] using the   keys.

3 Press the [OK] key.

4 Select the [YES] using the left select key.

• [Accepted] is displayed and two pages will be printed.

Completion

Press the [Stop] key.

Detail of service status page (1)

Service Status Page

KYOCERA

Printer
ECOSYS P3160dn

(2) Z468Z00040
(3) 2019/01/08 14:30

(1) Firmware Version 2TP_S000.003.010 2018.11.29   **(4)(5)(6)** [2V2_1000.003.002] [2T6_1100.001.001] [2TA_7000.001.001]

Controller Information

Memory Status

Standard Size	512MB		Override A4/LT	S4	01
Option Slot	0 MB		Host Buffer Size Rate	S5	01
(7) Total Size	512MB		RAM Disk Size	S6	16
			RAM Disk Mode	S7	01
Time			Wide A4	T6	00
(8) Local Time Zone			Default Line Spacing	U0+U1/100	6.00
UTC Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London			Default Character Spacing	U2+U3/100	10.00
(9) Date and Time	**17**/01/2019 01:46		Reserved	U4	01
(10) Time Server			Country Code/Symbol Set	U6/U7	41/53
			Default Pitch	U8+U9/100	10.00
Installed Options			Default Font Height	V0*100+V1+V2/100	12.00
(11) Paper Feeder 2	Installed		Default Font Name	V3	Courier
(12) Paper Feeder 3	Installed		Courier/LetterGothic	V9	05
(13) Paper Feeder 4	Installed		MP Tray Paper Type	X0	01
(14) Paper Feeder 5	Installed		Cassette 1 Paper Type	X1	01
(15) Bulk Feeder	Not Installed		Cassette 2 Paper Type	X2	01
(16) SD Card	Not Installed		Cassette 3 Paper Type	X3	01
(17) SSD	Not Installed		Cassette 3 Paper Type	X4	01
(18) Card Authentication Kit (B)	Not Installed		Cassette 3 Paper Type	X5	01
(19) UG-33	Not Installed		PCL Paper Source	X9	00
(20) USB Keyboard	Not Connected		Auto Error Clear	Y0	00
(21) USB Keyboard Type	US-English		Error Clear Timer	Y1	06
			On Demand Mode	Y2	00
(22) Print Coverage			Finishing error	Y3	64
Average (%)	/ Usage Page(A4/Letter Conversion)		Special Type Act Mode	Y4	00
(23) K: 5.45	/ 110.00		PDF mode	Y5	00
Period	(17/12/2018 - 17/02/2019 01:46)		e-MPS error control	Y6	03
(24) Last Page (%)	0.00				
(25) Last Job (%)	0.00				

RP Code
(33) 0008 01E2 3177
(34) 0008 027A C873
(35) FFFF FFFF FFFF
(36) 0008 01E2 31F5

(26) FRPO Status

User Top Margin	A1+A2/100	0.00
User Left Margin	A3+A4/100	0.00
User Page Length	A5+A6/100	13.61
User Page Width	A7+A8/100	13.61
Reserved	B0	00
Reserved	B7	01
Default Pattern Switch	B8	00
Page Orientation	C1	00
Default Font Number	C5*10000+C2*100+C3	00000
PCL Font Switch	C8	00
Print density	D4	03
Reserved	D6	03
Host Buffer Size	H8	05
FF Time Out	H9	06
Reserved	I5	01
Reserved	I6	00
KIR Mode	N0	02
Duplex mode	N4	00
Sleep Timer	N5	10
EcoPrint Mode	N6	00
Reserved	N7	00
Print Resolution	N8	01
Standard Pararel I/O	o0/o2	70/2
Default Emulation	P1	09
CR/LF Action	P2/P3	1/1
AES Mode	P4	00
Alt. Emulation	P5	06
AES Option 1/2	P7	10
Command Recognition	P9	82
Default Paper Output	R0	01
Default Paper Size	R2	00
Reserved	R3	00
Default Paper Source	R4	01
MP Tray Paper Size	R7	08

1

Detail of service status page (2)

Service Status Page
Printer
ECOSYS P3160dn

KYOCERA

Z468Z00040
2019/01/08 14:30

Firmware Version 2TP_S000.003.010 2018.11.29   [2V2_1000.003.002] [2T6_1100.001.001] [2TA_7000.001.001]

Controller Information

(32) Altitude Adjustment
Status   Normal
(33) Transfer Adjustment
Status   Normal
(34) Fuser Adjustment
Status   1

(35) System Firmware(Details)
2TP_Q000.003.027
2TP_QA00.003.027
2TP_R000.003.027
2TP_R100.003.027
2TP_R200.003.027
2TP_R400.003.027
2TP_R600.003.027
2TP_R800.003.027
2TP_R900.003.027
2TP_RB00.003.027
2TP_RD00.003.027
2TP_S100.003.027

Engine Information
(36) NVRAM Version   _Cb26630_Cb26630
(37) MAC Address   00:17:C8:16:84:04

(38)(39) 1/1
(40) 600/600
(41) 0/0/0/0/0/0/0/
(42) 0/0/0/0/0/0/0/
(43) 0/50/0/50/
(44) 0000000/0000000/0000000/0000000/0000000/0000000/0000000/0000000//
(45) 0000000/0000000/
(46) 0000000/0000000/
F00/U00/0/1/1/1/25/25/50/0/0/0/0/00//5/2/0/1/ **(47)(48)(49)(50)(51)(52)(53)(54)(55)(56)(57)(58)(59)(60)(61)(62)(63)(64)(65)**
(66) 2010/9000/4010/5000/3010/2010/4000/4010/3010/2010/5000/6000/6000/
5010/2010/2010/2010/2010/2010/2010/2010/2010/
(67) 00000000/00000000/000000000000000000000000000000000/00000000000000000000000000000000/0000/00/00/0000000000000000

(68) /0/
(69) [3NY_9000.002.001][3NY_9000.002.001][3NY_9000.002.001][3NY_9000.002.001]
(70) [2TP_81DK.001.003][2TP_81SE.001.003][2TP_81NO.001.003][2TP_81BR.001.003][2TP_81TR.001.003]

(71)(72) 0/4/
(73) 1/-/
(74)(75) 0/5/
(76) 1/
1/0/1/ **(77)(78)(79)**
(80) EZJ00Z400033/

2

6-5

No.	Description	Supplement
(1)	Firmware version	-
(2)	Machine serial number	-
(3)	System date	-
(4)	Engine soft version	-
(5)	Engine boot version	-
(6)	Operation panel mask version	-
(7)	Total memory size	-
(8)	Local time zone	-
(9)	Report output date	Day/Month/Year hour: minute
(10)	NTP server name	-
(11)	Presence or absence of the optional paper feeder 2	Installed/Not Installed
(12)	Presence or absence of the optional paper feeder 3	Installed/Not Installed
(13)	Presence or absence of the optional paper feeder 4	Installed/Not Installed
(14)	Presence or absence of the optional paper feeder 5	Installed/Not Installed
(15)	Presence or absence of the bulk paper feeder	
(16)	Presence or absence of the optional SD card	Installed/Not Installed
(17)	Presence or absence of the optional SSD	Installed/Not Installed
(18)	Presence or absence of the optional Card Authentication Kit(B)	Installed/Not Installed/Trial
(19)	Presence or absence of the optional UG-33	Installed/Not Installed
(20)	The connection state of an optional USB Keyboard	Connected/Not Connected
(21)	Displays setting of optional USB Keyboard	US English/US English with Euro/German/French
(22)	Page of relation to the A4/Letter	*: Print Coverage provides a close-matching reference of toner consumption and will not match with the actual toner consumption.
(23)	Average printer coverage	Black
(24)	Cleared date and output date	-
(25)	Coverage on the last output page	-
(26)	Last job output date	-
(27)	FRPO setting	-

No.	Description	Supplement
(28)	RP Code	Code the engine software version and the date of update.
(29)		Code the main software version and the date of update.
(30)		Code the engine software version and the date of the previous update.
(31)		Code the main software version and the date of the previous update.
(32)	High altitude adjustment set data	Normal/1001-2000m/2001-3000m/3001-3500m
(33)	Transfer Adjustment	/
(34)	Fuser Adjustment	1/2
(35)	System Firmware(Details)	-
(36)	NV RAM version	_ 1F3 1225 _ 1F3 1225 (a) (b) (c) (d) (e) (f) (a) Consistency of the present software version and the database _ (underscore): OK * (Asterisk): NG (b) Database version (c) The oldest time stamp of database version (d) Consistency of the present software version and the ME firmware version _ (underscore): OK * (Asterisk): NG (e) ME firmware version (f) The oldest time stamp of the ME database version Normal if (a) and (d) are underscored, and (b) and (e) are identical with (c) and (f).
(37)	Mac address	-
(38)	Destination information	-
(39)	Area information	-
(40)	Margin settings	Top margin/Left margin
(41)	Top offset for each paper source	MP tray/Paper feeder 1/Paper feeder 2/ Paper feeder 3/Paper feeder 4/Duplex/Page rotation
(42)	Left offset for each paper source	MP tray/Paper feeder 1/Paper feeder 2/ Paper feeder 3/Paper feeder 4/Duplex/Page rotation
(43)	L value settings	Top margin integer part / Top margin decimal part/ Left margin integer part / Left margin decimal part/
(44)	Life counter (The first line)	Machine life/MP tray/Cassette1/ Cassette2/ Cassette3/ Cassette4/ Cassette51/ Duplex/ Bulk paper feeder
(45)	Life counter (The second line)	Drum unit/ Fuser unit
(46)	Life counter (The third line)	Maintenance kit/ Maintenance kit pre-set
(47)	Panel lock information	F00: OFF F01: Partial Lock 1 F02: Partial Lock 2 F03: Partial Lock 3 F04: Full Lock

No.	Description	Supplement
(48)	USB information	U00: Not Connected U01: Full speed U02: Hi speed
(49)	Paper handling information	0: Paper source unit select/1: Paper source unit
(50)	Auto cassette change	0: OFF/ 1: ON
(51)	Color printing double count mode	0: All single counts 3: Folio (Less than 330 mm length), Single counts
(52)	Black and white printing double count mode	0: All single counts 3: Folio, Single count, Less than 330 mm (length) *: The count mode can be changed using a PRESCRIBE command. When the double count is set for the paper other than the sizes of A4, B5, A5, Folio, Legal, Letter, and Statement, the counter value is indicated as "Other 1" in the status page. When in the same way, the single count is set, the counter value is indicated as "Other 2". In the operation panel, the counter values are indicated as "Other 1" or "Other 2".
(53)	Temperature (machine inside)	-
(54)	Temperature (machine outside)	-
(55)	Relative humidity (machine outside)	-
(56)	Absolute humidity (machine outside)	-
(57)	Humidity (machine inside)	-
(58)	LSU temperature	-
(59)	LSU 2 temperature	-
(60)	DRT parameter coefficient	-
(61)	Fixed assets number	-
(62)	Job end judgment time-out time	-
(63)	Temperature (machine inside)	-
(64)	Job end detection mode	0: It is as one job even if it includes multiple jobs in the job received with network connection. 1: If it includes multiple jobs in the job received, detect the break point between jobs and divide them.
(65)	PRESCRIBE environmental reset	0: Off 1: On
(66)	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 Fuser settings 0: Light 0: High 1: Normal 1 1: Middle 2: Normal 2 2: Low 3: Normal 3 3: Vellum 4: Heavy 1 Duplex settings 5: Heavy 2 0: Disable 6: Heavy 3 1: Enable 7: Extra Heavy

No.	Description	Supplement
(67)	RFID information	-
(68)	Toner install mode information	-
(69)	Soft version of the optional paper feeder	Paper feeder 1/Paper feeder 2/Paper feeder 3 Paper feeder 4
(70)	Version of the optional message	-
(71)	Altitude Adjustment	0: Standard 1: High altitude 1 2: High altitude 2
(72)	MC correction	1 to 7
(73)	Data sanitization information	Main Memory/ HDD/ SSD/ Execute time 1: Success 0: Fail -: Not performed or Not installed
(74)	Toner Low setting	0:Invalid 1: Effective
(75)	Toner Low detection level	0 to 100 (%)
(76)	Skip Mode (Blank Page)	0:Disabled 1:Enabled
(77)	ErP applied mode setting	0: ErP non-applied mode 1: ErP applied mode
(78)	Full page printing mode	0:Normal mode (The factory default settings) 1:Full page mode
(79)	Wake-up mode	0: Off (No wake up) 1: On (Wake up)
(80)	Drum serial number	-

Network Status

Contents

Prints a status page for network.

Execution is possible only the model with network.

Purpose

To acquire the detailed network setting information.

Method

1 Enter the Service Setting menu.

2 Select [Network Status] using the   keys.

3 Press the [OK] key.

4 Select the [YES] using the left select key.

5 [Accepted] is displayed and Network status page will be printed.

Completion

Press the [Stop] key.

OP Network Status (When Optional NIC is installed)

Contents

Prints a status page for optional network.

Execution is possible only the model with optional network.

Purpose

To acquire the detailed network setting information.

Method

1 Enter the Service Setting menu.

2 Select [OP Network Status] using the   keys.

3 Press the [OK] key.

4 Select the [YES] using the left select key.

5 [Accepted] is displayed and Option Network status page will be printed.

Completion

Press the [Stop] key.

Test Page

Contents

The test page is printed with halftones.

Purpose

To check the activation of the developer and drum units.

Method

1 Enter the Service Setting menu.

2 Select [Test Page] using the   keys.

3 Press the [OK] key.

4 Select the [YES] using the left select key.

5 [Accepted] is displayed and Test page will be printed.

Completion

Press the [Stop] key.

```
TEST PAGE
Time:2019/0106 02:01:49
Model:ECOSYS p3155dn  Serial No:Z4B8Z00010
Life Count:1135
Dev Serial No.:N/A
Drum Serial No.:F2X118Z11465
Trans Serial No.:N/A
Fuser Serial No.:N/A
Toner Serial No.:0000001361428721
Boot Count:81
```
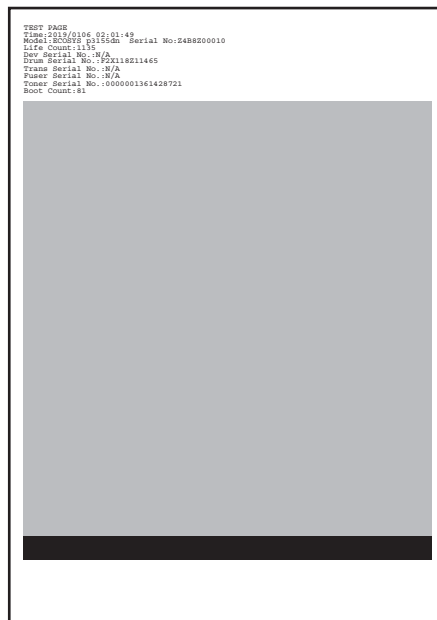
Event log

Contents

Prints a history list of occurrences of paper jam, self-diagnostics, toner replacements, etc.

Purpose

To allow machine malfunction analysis based on the frequency of paper misfeeds, self diagnostic errors and replacements.

Method

1   Enter the Service Setting menu.

2   Select [Event Log] using the   keys.

3   Press the [OK] key.

4   Select the [YES] using the left select key.

5   [Accepted] is displayed and Test page will be printed.

Completion

Press the [Stop] key.

Detail of event log

Event Log
Printer
ECOSYS P3160dn

⟪ KYOCERA

Z468Z00040

(2) 2019/01/08 14:30

(1) Firmware Version 2TP_S000.003.010 2018.11.29   **(3)(4)(5)** [2V2_1000.003.002] [2T6_1100.001.001] [2TA_7000.001.001]

(6) Machine No.:Z2C5Y00100   **(7)** Life Count:100000

(8) Paper Jam Log

#	Count.	Event Descriprions	Date and Time
12	55555(5558)	0501.01.08.01.00	2014/02/12 17:30
11	44444(4448)	4002.01.08.01.00	2014/02/12 17:30
10	33333(3338)	0501.01.08.01.00	2014/02/12 17:30
9	22222(2228)	4002.01.08.01.00	2014/02/12 17:30
8	111111(1118)	0501.01.08.01.00	2014/02/12 17:30
7	9999(998)	4002.01.08.01.00	2014/02/12 17:30
6	8888(88	0501.01.08.01.00	2014/02/12 17:30
5	7777(7		2014/02/12 17:30
4	6666(6		2014/02/12 17:30
3	5555(5		2014/02/12 17:30
2	4444(448)	0501.01.08.01.00	2014/02/12 17:30
1	3333(338)	4002.01.08.01.00	2014/02/12 17:30

0501.01.08.01.00
(a)   (b) (c) (d) (e)

(9) Service Call Log

#	Count.	Service Code	Data and Time
8	111111(1118)	01.00.6000	2014/02/12 17:30
7	9999(998)	01.01.2100	2014/02/12 17:30
6	8888(888)	01.01.0000	2014/02/12 17:30
5	7777(778)	01.00.6000	2014/02/12 17:30
4	6666(668)	01.00.2100	2014/02/12 17:30
3	5555(558)	01.01.4000	2014/02/12 17:30
2	4444(448)	01.00.6000	2014/02/12 17:30
1	3333(338)	01.00.2100	2014/02/12 17:30

(10) Maintenance Log

#	Count.	Item.	Data and Time
2	5555(558)	02.01	2014/02/12 17:30
1	4444(448)	02.02	2014/02/12 17:30

(11) Toner Log

#	Count.	Item.	Serial Number	Data and Time	Detail
4	66666(6668)	01.00	0123456789ABCDEF	2014/02/12 17:30	A.000
3	55555(5558)	01.00	0123456789ABCDEF	2014/02/12 17:30	B.010
2	44444(4448)	01.00	0123456789ABCDEF	2014/02/12 17:30	B.100
1	33333(3338)	01.00	0123456789ABCDEF	2014/02/12 17:30	C.029

1

Event Log
Printer
ECOSYS P3160dn
Firmware Version 2TP_S000.003.010 2018.11.29

KYOCERA

Z468Z00040
2019/01/08 14:30

[2V2_1000.003.002] [2T6_1100.001.001] [2TA_7000.001.001]

Machine No.:Z2C5Y00100   Life Count:100000

(12) Counter Log

(f) J0000: 0	J4201: 1	
J0100: 1	J4202: 0	
J0101: 11	J4203: 1	
J0104: 222	J4204: 1	
J0105: 1	J4205: 1	
J0106: 1	J4208: 0	
J0107: 1	J4209: 1	
J0110: 1	J4211: 11	
J0111: 1	J4212: 222	
J0120: 1	J4213: 1	
J0121: 1	J4214: 2	
J0211: 1	J4215: 1	
J0212: 1	J4218: 0	
J0213: 999	J4219: 1	
J0501: 1	J4301: 0	
J0502: 1	J4302: 0	
J0503: 1	J4303: 1	
J0504: 1	J4304: 1	
J0505: 1	J4305: 2	
J0508: 1	J4309: 2	
J0509: 1	J4301: 0	
J0511: 1	J4302: 0	
J0512: 1	J4303: 1	
J0513: 1	J4304: 11	
J0514: 1	J4305: 2	
J0515: 1	J4309: 2	
J0518: 1	**(g)** C0000: 0	
J0519: 1	C0001: 1	
J0529: 1	C0002: 2	
J0539: 1	C0003: 3	
J1403: 1	C0004: 4	
J1404: 1	C0005: 5	
J1405: 1	C0006: 6	
J1413: 1	C0007: 7	
J1414: 1	C0008: 8	
J1415: 1	C0009: 9	
J1604: 1	C0010: 10	
J1605: 1	CF245: 11(0)	
J1614: 1	CF248: 12(0)	
J1615: 1	CF345: 13(0)	
J1805: 1	**(h)** T00: 10	
J1815: 1	M00: 20	
J4002: 1		
J4003: 1		
J4004: 1		
J4005: 1		
J4009: 1		
J4012: 1		
J4013: 1		
J4014: 1		
J4015: 1		
J4019: 1		
J4101: 1		
J4102: 0		
J4103: 1		
J4104: 1		
J4108: 0		
J4109: 1		
J4111: 11		
J4112: 222		
J4113: 1		
J4114: 2		
J4115: 2		
J4118: 1		
J4119: 1		

2

6-14

Description of event log

No.	Description
(1)	System version
(2)	System date
(3)	Engine soft version
(4)	Engine boot version
(5)	Operation panel mask version
(6)	Machine serial number
(7)	LIfe Counter
(8)	Paper Jam Log

#	Count.	Event Descriptions	Date and Time
Remembers 1 to 16 of occurrence. If the past paper jam occurrence is less than 16 all of them are indicated. The oldest log is deleted when exceeding 16 events.	The total page count at the time of the paper jam.	Log code (hexadecimal, 5 categories) (a) Cause of a paper jam (b) Paper source (c) Paper size (d) Paper type (e) Paper eject	Date and time of occurrence

(a) Detail of Cause of paper jam (Hexadecimal)

- Refer to "7-3 Paper Misfeed Detection",for the detail of Cause of paper jam. (See page)

(b) Detail of paper source (Hexadecimal)

00: MP tray
01: Cassette 1
02: Cassette 2 (paper feeder)
03: Cassette 3 (paper feeder)
04: Cassette 4 (paper feeder)
05: Cassette 5 (paper feeder)
08: Bulk feeder (paper feeder)
 *: 06, 07, 09: Reserved

(c) Detail of paper size (Hexadecimal)

00: (Not specified)	0B: B4	22: Special 1
01: Monarch	0C: Ledger	23: Special 2
02: Business	0D: A5R	24: A3 wide
03: International DL	0E: A6	25: Ledger wide
04: International C5	0F: B6	26: Full bleed paper
05: Executive	10: Commercial #9	(12 x 8)
06: Letter-R	11: Commercial #6	27: 8K
86: Letter-E	12: ISO B5	28: 16K-R
07: Legal	13: Custom size	A8: 16K-E
08: A4R	1E: C4	32: Statement-R
88: A4E	1F: Postcard	B2: Statement-E
09: B5R	20: Reply-paid postcard	33: Folio
89: B5E	21: Oficio II	34: Western type 2
0A: A3		35: Western type 4

No.	Description			
(8) cont.	Paper Jam Log			
	(d) Detail of paper type (Hexadecimal)			
	01: Plain 02: Transparency 03: Preprinted 04: Labels 05: Bond 06: Recycled 07: Vellum 08: Rough 09: Letterhead	0A: Color 0B: Prepunched 0C: Envelope 0D: Cardstock 0E: Coated 0F: 2nd side 10: Thick 11: High quality	15: Custom 1 16: Custom 2 17: Custom 3 18: Custom 4 19: Custom 5 1A: Custom 6 1B: Custom 7 1C: Custom 8	
	(e) Detail of paper eject location (Hexadecimal)			
	01: Face down (FD) 02: Face up (FU) (60/55/50 ppm model only)			

No.	Description			
(9)	Service Call Log			
	#	Count.	Service Code	Date and Time
	Remembers 1 to 8 of occurrence of self diagnostics error. If the occurrence of the previous diagnostics error is less than 8, all of the diagnostics errors are logged.	The total page count at the time of the self diagnostics error.	The first two digits (Identification) 01: Service call/System error 02: Unit replacement Next two digits (Auto reboot information) 00: No auto reboot 01: Auto reboot Last four digits Self diagnostic error code (See page 7-32) (Example) 01.00.6000 01 for Self diagnostic error, 00 for no auto reboot and 6000 for Self diagnostic error code.	Date and time of occurrence

(10)	Maintenance Log			
	#	Count.	item	Date and Time
	Remembers 1 to 8 of occurrence of replacement. If the occurrence of the previous replacement of toner container is less than 8, all of the occurrences of replacement are logged.	The total page count at the time of the replacement of the toner container.	Item code for the maintenance replace (2 items for 1 byte value) First byte (Replacing item) 02: Maintenance kit Second 1 byte (replacement item type) 01: MK-3301/3261 　　MK-3300/3260 　　MK-3302/3262 　　MK-3304/3264	Date and time of occurrence

No.	Description			
(11)	Toner Log			
	#	Count.	Item./ Serial Number	Date and Time
	UP to 32 times are recorded. All occurrences are recorded in case of less than 32 times.	The total page count at the time of toner container replacement. (both genuine and non-genuine toner) Number in ( ) is the color total page counter. If installing the same toner container twice or used toner container, all of them are counted.	log code First 1 byte (Replacing item) 01: Genuine product 02: Non-genuine product Next 1 byte (type of replacement item) 00: Black Last 16 digits Display the serial number of the toner container. •　When detecting non-genuine toner, no serial number is displayed.	Date and time of occurrence
	Detail			
	Further information of toner replacement •　The first letter A: Start B: Replace with the new toner C: Replaced with the used or non-genuine toner •　Next 3 digits Toner remaining (%)			

No.	Description			
(12)	Counter Log			
	(f) Paper jam	(g) Self diagnostic error	(h) Replacement for maintenance Item	
	Indicate the log counter of paper jams by causes. See Paper Jam Log. • All causes are displayed even no record.	Indicate the log counter of self diagnostics errors by causes. Service call/System error includes a number of auto reboots either. (Example) CF245: 4 (2) System Error 245 occurred four times and auto reboot twice.	Indicate the log counter by the maintenance replacing items. T: Toner container 00: Black M: Maintenance kit 00: MK-3301/3261 MK-3300/3260 MK-3302/3262 MK-3304/3264 Example: T00: 1 The toner container (Black) replaced once. *: The toner replacement log is triggered by toner empty. This record may contain such a reference as the toner container is inserted twice or a used toner container is inserted. (genuine toner only)	Consist of three log counters, paper jams, self diagnostics errors, and maintenance replacement items.

LLU RPT

Contents

Event log, Service status page and test page are printed.

Purpose

Output the data for applying LLU.

Method

1   Enter the Service Setting menu.

2   Select [LLU RPT] using the   keys.

3   Press the [OK] key.

4   Select the [YES] using the left select key.

5   [Accepted] is displayed and Test page will be printed.

Completion

Press the [Stop] key.

Maintenance

Contents

Counter reset for the maintenance kit.

The "Install MK" message means that maintenance kit should be replaced at fixed pages of printing. The interval counter must be manually reset using this service item.

Maintenance kit

MK-3260/3261/3262/3264 (45 ppm)   :300,000 images

MK-3300/3301/3302/3304 (60/55/50 ppm)   :500,000 images

Maintenance kit includes the following units:

- Drum unit
- Developer unit
- Transfer roller assembly
- Fuser unit
- Paper feed roller assembly
- Retard roller assembly

Purpose

To reset the life counter for maintenance kit.

Method

Drum unit

Developer unit

Transfer roller assembly

Fuser unit

Paper feed roller assembly

Retard roller assembly

Method

1 Enter the Service Setting menu.

2 Select [Maintenance] using the   keys.

3 Press the [OK] key.

4 Select the [YES] using the left select key.

5 [Accepted] is displayed and Test page will be printed.

Completion

Press the [Stop] key.

> ✓ **Important**
>
> Occurrences of resetting the maintenance kits are recorded on the service status page or event log in number of pages at which the maintenance kit was replaced (See page 6-3, 6-12). This may be used to determine the possibility that the counter was errorneously or unintentionally reset.

Drum

Contents

The execution of the drum refresh (no paper)

Rotates the drum approximately 3 minutes with toner lightly on the overall drum using the high-voltage output control. 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   Select [Drum] using the   keys.

3   Press the [OK] key.

4   Select the [YES] using the left select key.

5   Drum surface refreshing will start.

Completion

Press the [Stop] key.

Drum2

Contents

The execution of the drum refresh (with paper)

Drum surface refreshing be done by being rubed to the paper that was fed from MP.

Purpose

To clean the drum surface when image failure occurs due to the drum. This mode is effective when dash-mark on the drum occurs.

Method

1   Load paper on the MP tray.

2   Enter the Service Setting menu.

3   Select [Drum2] using the   keys.

4   Press the [OK] key.

5   Select the [YES] using the left select key.

6   Drum surface refreshing will start.

Completion

Press the [Stop] key.

New Developer

Contents

The new developing unit is shipped from the factory with no toner contained. The developing unit can be automatically replete with toner when a toner container is installed onto it and the printer is turned on. However, because the toner reservoir in the developing unit has a large capacity, it requires a lengthy period of time until a substantial amount of toner has been fed to get the printer ready. (A new developing unit needs approximately 200 g for triggering the sensor inside.)

Purpose

To execute when the developing unit has been replaced.

Method

1 Enter the Service Setting menu.

2 Select [New Developer] using the   keys.

3 Press the [OK] key.

4 Select the [YES] using the left select key.

5 [Accepted] is displayed.

6 The toner installation is performed when power is turned on and off.

• Toner supply is stopped when toner installation mode is performing.

Completion

Press the [Stop] key.

Auto Drum Refresh

Contents

The drum surface refreshing operation is normally performed when the power is turned on to the printer or during warm-up when the printer is recovering from the Sleep mode, but even then only at those times that the temperature/humidity sensor detects the drum surface to be in a state of dew condensation. By using this mode, it is possible to force the drum surface refreshing operation to be performed automatically at a predetermined period of time, regardless of the status detected by the temperature/humidity sensor.

Purpose

To prevent bleeding of the output image when the printer's operating environment is one of high humidity.

Method

1 Enter the Service Setting menu.

1 Select [Auto Drum Refresh] using the   keys.

2 Press the [OK] key.

3 Select the desire mode (Off/Short/Standard/Long) using the   keys.

4 Press the [OK] key. The new value is set.

Completion

Press the [Stop] key.

Drum heater

Contents

"On/Off" of a drum heater is set up.

If it sets to "ON",drum refresh time will become short.

Purpose

In order to improve the picture blot by high humidity.

Method

1   Enter the Service Setting menu.

2   Select [Drum heater] using the   keys.

3   Press the [OK] key.

4   Select [Off] or [On] using the   keys.

5   Press the [OK] key. The setting is set.

Completion

Press the [Stop] key.

Altitude adj.

Contents

Sets the altitude adjustment mode.

Purpose

Used when print quality deteriorates in an installation at the altitude of 1,500 meters or higher.

Method

1   Enter the Service Setting menu.

2   Select [Altitude Adj.] using the   keys.

3   Press the [OK] key.

4   Select [Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m] using the cursor up/down keys.

5   Press the [OK] key. The setting is set.

Completion

Press the [Stop] key.

MC

Contents

Sets the main charger output.

Execution is possible only when the altitude adjustment mode is set to [Normal].

Purpose

Execute when the image density declines, dirt of a background or an offset has occurred.

Method

1   Enter the Service Setting menu.

2   Select [MC] using the   keys.

3   Press the [OK] key.

4   Select [1] to [7] using the cursor up/down keys.

5   Press the [OK] key. The setting is set.

Completion

Press the [Stop] key.

Transfer Adj.

Contents

Set the transfer current (when the carrier leaking occurs).

Purpose

If you select line text priority, the transfer current is set high and the carrier leaking is improved.

Method

1   Enter the Service Setting menu.

2   Select [Transfer Adj.] using the   keys.

3   Press the [OK] key.

4   Select [Standard] or [Line text priority] using the   keys.

5   Press the [OK] key.

Completion

Press the [Stop] key.

Fuser Adjustment

Contents

Change fixing temperature.

Purpose

Increase fixing temperature when fixability is poor.

Method

1 Enter the Service Setting menu.

2 Select [Fuser Adjustment] using the   keys.

3 Press the [OK] key.

4 Select [1] or [2] using the   keys.
• 2 is selected, the fixing temperature becomes high.

5 Press the [OK] key.

Completion
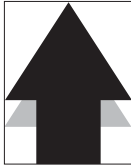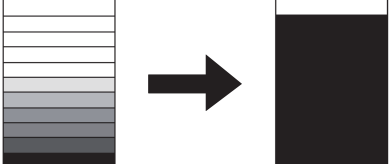
Press the [Stop] key.
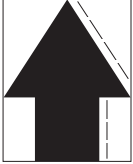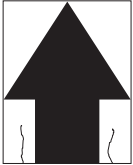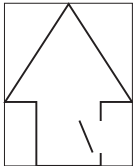
7Troubleshooting

7－1 Image formation problems

(1) Poor image (Image rendering problems: printer engine)

No.	Contents	Image sample
(1-1)	No image appears (entirely white) 7-4 page	
(1-2)	No image appears (entirely black) 7-5 page	
(1-3)	Image is too light 7-6 page	
(1-4)	The background is colored 7-7 page	
(1-5)	White streaks are printed vertically 7-8 page	
(1-6)	Black streaks appear longitudinally 7-9 page	
(1-7)	Black or white streaks appear horizontally 7-10 page	

No.	Contents	Image sample
(1-8)	Uneven density longitudinally 7-11 page	
(1-9)	Uneven density horizontally 7-12 page	
(1-10)	Black dots appear on the image 7-13 page	
(1-11)	Offset occurs 7-14 page	
(1-12)	Image is partly missing. 7-15 page	
(1-13)	Image is out of focus 7-16 page	
(1-14)	Poor grayscale reproducibility 7-16 page	
(1-15)	Unevenly repeating horizontal streaks in the printed objects. Spots in the printed objects 7-17 page	

No.	Contents	Image sample
(1-16)	mage is blurred (Shifted transferring)_7-17 page	7-3
(1-17)	Paper is wrinkled_7-18 page	
(1-18)	Fusing is loose_7-18 page	
(1-19)	paper edges with toner_7-19 page	
(1-20)	reverse side of paper_7-19 page	
(1-21)	Carrier leaking occurs_7-20 page	

(1-1)No image appears (entirely white)

Print example	Cause of trouble
	1 No or defective developing bias output.
	2 Failure of the rotation of the developing roller.
	3 Defective transfer.
	4 Laser is not dispersed from the laser scanner unit (LSU).

	Defective part	Check description	Corrective Action
1	Developing unit	Generate PGs by service mode and check the following :	
		Check whether the developer drive gear is damaged.	If the gear is damaged, replace the developer unit.
		Check the developing roller is rotated by hand.	If the developer unit is in fault, replace the developer unit.
		Check contamination and deformation on the terminals of developer unit or the high-voltage PWB1.	If the connecting terminals are dirty, clean. If the connecting terminals are deformed, correct for a proper conduction.
2	High voltage PWB	Check the connection of the connector(s) and the high voltage PWB. Or, verify conduction of the wires.	Reinsert the connector if it its connection is loose. Replace the cable if it has no conduction. High voltage PWB (YC101) and control PWB (YC19)
3	Laser scanner unit (LSU)	Check the connection of the connectors. Or, verify conduction of the wires.	1. Reinsert the FFC wire if it its connection is loose. Replace the cable if it has no conduction. 2. Replace the LSU.
4	Control PWB	A control signal is not derived from the control PWB.	Replace the control PWB.

(1-2)No image appears (entirely black)

Print example	Cause of trouble
	1 No main charging. 2 The laser from the LSU is activated simultaneously.
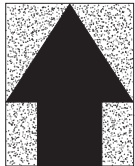
	Defective part	Check description	Corrective Action
1	Charging roller	Check whether the charging roller is properly mounted.	If the charging roller is not fixed properly, fix the roller properly.
		Check whether the connecting terminals of the charging roller and high-voltage PWB are deformed.	If the connecting terminals are deformed, correct for a proper conduction.
2	High voltage PWB	Check the connection of the connectors. Or, verify conduction of the wires.	Reinsert the connector if its connection is loose. Replace the cable if it has no conduction. High voltage PWB (YC101) and control PWB (YC19):Charger
		Main charging current supplied by the high voltage PWB is faulty.	Replace the high voltage PWB.
3	Laser scanner unit (LSU)	Switching on and off the laser diode on the LSU PWB is out of control.	Replace the LSU.
4	Control PWB	The control PWB is detective.	Replace the control PWB.

(1-3)Image is too light

Print example	Cause of trouble
	1 Variance in environments (dew formation).
	2 Toner is under supplied, or deteriorated in quality.(Under charged)
	3 The volatage of the developing bias is too low.
	4 The volatage of the transfer current is too low.
	5 The power of LSU laser is too low.
	6 The surface potential of the drum is too high.
	7 The contact pressure at the trasnfer roller and the drum is too low.

	Defective part	Check description	Corrective Action
1	Paper	Check that the paper has moisture absorbed. Check that the paper has stored in a humid place.	If the paper is damp, replace.Choose a dry place to store paper.
2	Drum unit	Check that the drum has dew condensation.	If a dew condensation is observed, perform drum refreshing. (System Menu >Adjustment / Maintenance)
		1. Check if the cleaning lamp is dirty. 2. Check whether it is lit.	1. If the cleaning lamp is dirty, clean. 2. If not cured, or it does not light, replace the drum unit.
3	Developer unit	1. Generate PGs by service mode and check the following	
		2. Check if the connecting terminals for developer bias are deformed.	If the connecting terminals are deformed, correct for a proper conduction.
4	Toner container	Shake the toner container up and down approx. 10 times, and check the following: 1. Check remaining toner by the indicator. 2. Check whether the toner supply inlet is open.	If the message prompting toner replenishing is shown, the toner inlet is not open, replace the toner container.
5	High voltage PWB		Replace the high voltage PWB.
6	Transfer roller unit	1. Check whether the connecting terminals.	1. If the connecting terminals are deformed, correct for a proper conduction. 2. Replace transfer roller unit.
		2. Check if the contact between the transfer roller and durm is correct.	Re-mount the transfer roller.
7	LSU	1. The laser diode on the LSU APC PWB is out of control. 2. Check whether the internal mirrors are contaminated.	Replace the LSU.
8	Control PWB	The control PWB is detective.	Replace the control PWB.

(1-4)The background is colored

Print example	Cause of trouble
	1 Toner is deteriorated in quality (under-charged). 2 Toner is over-supplied. 3 Developing bias is too high. 4 The layer of toner is too thick on the developing roller (too much toner). 5 The surface potential of the drum is too low (under low temperature environment).

	Defective part	Check description	Corrective Action
1	Developer unit	Generate PGs by service mode and check the following	
		1. Check contamination and deformation on the connecting terminals for developer bias.	If the connecting terminals for developer bias are dirty, clean.If the connecting terminals are deformed, correct for a proper conduction.
2	Toner supply motor	Check the toner supply motor is continuously rotating.Check wires for shortcircuiting.	If the harnesses are short-circuited and the toner motor is continuously rotating, replace the toner supply motor.
3	Drum unit	1. Check that the ground terminal is not contaminated or the conductive grease is not applied with the connecting terminals.	If the connecting terminals are dirty, clean. If the amount of the grease applied is too small, apply conductive grease to the bearing on the receiver side of the drum drive axle. Replace the drum unit. (Performs U119)
		2. Check if the charging roller is dirty.	If the charging roller is dirty, clean.Or replace it.
4	High voltage PWB	The developing bias and charging current supplied by the high voltage PWB is faulty.	Replace the high voltage PWB.
5	Control PWB	The control PWB is detective.	Replace the control PWB.

(1-5)White streaks are printed vertically

Print example	Cause of trouble
	1 Dirty LSU slit glass.
	2 Foreign objects inside the developer unit.
	3 Internal contamination
	4 Dirty drum inside.

	Defective part	Check description	Corrective Action
1	Developer unit	Generate PGs by service mode.	Replace the developer unit.
2	Light path between the LSU and the drum	Check if there are dusts, dirts, or toner obstructing the light paths.	If a foreign object exists on the frame or the sealings between the developer unit and the chager unit, remove.
3	Drum unit	Check if the charging roller is dirty.	If the charging roller is dirty,clean. Or replace it.
		Check if the cleaning lamp is dirty.	If the cleaning lamp is dirty,clean.
4	LSU	Check if the LSU slit glass is dirty.	If the LSU slit glass is dirty, perform cleaning it.

(1-6)Black streaks appear longitudinally

Print example	Cause of trouble
	1 Dirty charging roller 2 Flawed or dirty drum unit 3 Damaged or paper dust bitten cleaning blade

	Defective part	Check description	Corrective Action
1	Drum unit	Check if drum is dirty on its surface.	Execute drum refreshing. (System Menu >Adjustment / Maintenance)
		1. Check if the drum has scratches. 2. Check whether the edge of the cleaning blade is damaged. 3. Check whether it is abraded or paper dusts are accumulated. 4. Check whether toner is accumulated in the cleaning section.	Replace the drum unit.
2	Charging roller unit	Check if there is no toner streaks on the surface of the charging roller.	If the charging roller has streaks on its surface, clean the charging roller. Replace the charging roller, if necessary.
3	Fuser unit	1. Check if the fuser roller is contaminated with toner.	If the paper separation puddle is dirty, clean the paper separation puddle.
		2. Check the device is adjusted for a correct paper weight that matches the paper in use.	If the settings for paper weight and the paper being used do not match, make a proper configuration.
4	Eject guide	The Rib is contaminated with toner.	If it is duty,clean.

(1-7)Black or white streaks appear horizontally

Print example	Cause of trouble
	1 Dirty developer unit or terminals
	2 Flawed or dirty drum unit Improper grounding
	3 Dirty transfer roller terminals

	Defective part	Check description	Corrective Action
1	Developer unit	1. Check the print image on paper has a problem at an interval equivalent to the circumference of the developing roller. 2. Check that the developing roller is dirty at its ends or at the developing bias tab.	1. If the ends of the developing roller and the connecting terminals for developer bias are dirty, clean. 2. Replace the developer unit.
2	Drum unit	1. Check the print image on paper has a problem at an interval equivalent to the circumference of the drum .	Execute drum refreshing. (System Menu >Adjustment / Maintenance)
		2. Check if the drum has scratches.	Replace the drum unit.
		3. Check the grounding tab of the drum or the drum drive shaft.	1. Check how the drive unit is mounted, and correct, if necessary. 2. Replace the drum unit.
3	Transfer roller unit	1. Check the print image that implies dirt, deformation, or scratches on the transfer roller, which will be appearing at an interval equal to its circumference .	If the print image has a problem, clean the transfer roller by a soft cloth.
		2. Check contamination and deformation on the terminals .	1. If the connecting terminals are deformed, correct for a proper conduction 2. Replace transfer roller unit.
4	Fuser unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the fuser roller.	If the fuser roller is dirty, cleaning the fuser roller or replace the fuser unit.
5	High voltage PWB	The bias voltage output supplied by the high voltage PWB is not even.	Replace the high voltage PWB.

(1-8)Uneven density longitudinally

Print example	Cause of trouble
	1 Dirty LSU inside 2 The transfer roller is not pressed against the drum properly. 3 Drum condensation.

	Defective part	Check description	Corrective Action
1	Transfer roller unit	Check that the transfer roller unit is properly fit.	1. If it is not fixed properly, fix it properly. 2. Replace the transfer roller unit.
2	Drum unit	1. Check toner is evenly layered on its surface. 2. Check whether the device has been operated under a highly humid environment.	1. Execute drum refreshing. 2. Install a cassette heater. 3. Replace the drum unit.
3	Developer unit	Check that toner is evenly layered on the developer roller.	Replace the developer unit.
4	LSU	The emission of laser dispersed from the LSU is not even. (Mirror is dropped off inside.)	Replace the LSU.

(1-9)Uneven density horizontally

Print example	Cause of trouble
	1. Defective laser scanner unit. 2. Improper charging roller rotation. 1 Improper contact on the developer unit terminals.

	Defective part	Check description	Corrective Action
1	LSU	Check the emission of laser is even.	Replace the LSU.
2	Charging roller	Check if the charing roller is improperly mounted.	1. Fix the charging roller properly. 2. Replace the charging roller.
3	Developer unit	Check If the connecting terminals of the developer bias is contaminated by toner.	1. If the connecting terminals is dirty. 2. Replace the developer unit.
4	Transfer roller unit.	1. Check if the transfer roller is contaminated on its surface or damaged.	1. Replace the transfer roller unit.
		2. Check if the connecting terminals of high voltage are dirty or deformed.	1. If the connector or terminals are dirty, clean.If the connecting terminals are deformed, correct for a proper conduction. 2. Replace the high voltage PWB.
5	Fuser unit	Check that the roller, its driving unit, or the fusing pressure release mechanism is deformed, abraded, or damaged.	If the roller, its driving unit, or the fusing pressure release mechanism is deformed, abraded, or damaged, replace the fuser unit.

(1-10)Black dots appear on the image

Print example	Cause of trouble
	1. Dirty charging roller 2. Flawed or dirty drum unit 1 Damaged or paper dust bitten cleaning blade

	Defective part	Check description	Corrective Action
1	Drum unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the drum (94.2mm).	If the drum has scratches, replace the drum unit.
2	Charging roller	Check the print image on paper has a problem at an interval equivalent to the circumference of the charging roller (29.9mm).	A problem is observed at a constant interval of the charging roller (29.9 mm), replace the charging roller.
3	Developer unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the developing roller (44.9mm).	1. If the print image on paper has a problem at an interval equivalent to the circumference of the developer roller, clean the developer unit. 2. Replace the developer unit.
4	Transfer roller unit.	1. Check if the transfer roller is contaminated on its surface or damaged.	Replace the transfer roller unit.
5	Fuser unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the fuser roller.	1. If the print image has a problem, clean the fuser roller. 2. If cleaning does not help improve the symptom, replace the fuser unit.
		Check the fuser temperature	Change fixing temperature with service setting (System Menu > Adjustment/Maintenance > Service setting).Chenge the setting value to 2.

(1-11)Offset occurs

Print example	Cause of trouble
	1　Flawed or dirty drum unit 2　Developing bias leakage.

	Defective part	Check description	Corrective Action
1	Paper	Check that the type of the paper used falls within the range of specifications. Check the settings of the type and weight of the paper.	1. If the type of the paper being used falls outside the requirements, replace and use a suitable type of paper. 2. If the settings made for the paper being used is inadequate, configure the settings according to the paper being used.
2	Drum unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the drum (94.2 mm).	If the print image on paper has a problem at an interval equivalent to the circumference of the drum, replace the drum unit.
3	Developer unit	Check if offsets are observed at an constant interval of 44.9 mm, which is equivalent to the circumference of the developing roller.	If offsets are observed at an constant interval of 44.9 mm, which is equivalent to the circumference of the developing roller, replace the developer unit. (Waste toner is not properly swept from the developing roller.)
4	Transfer roller unit	Check if offsets are occurred at a pitch of the outer circumference of the transfer roller. (58mm)	If an offset happens at a pitch of the outer circumference, clean the transfer roller.
5	Fuser unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the fuser roller.	If the fuser unit roller is dirty, replace the unit.
		Check the fuser temperature	Change fixing temperature with service setting (System Menu > Adjustment/Maintenance > Service setting).Chenge the setting value to 2.

(1-12)Image is partly missing.

Print example	Cause of trouble
	1. Flawed or dirty drum unit. 1 Deformed or dirty transfer roller on its surface.
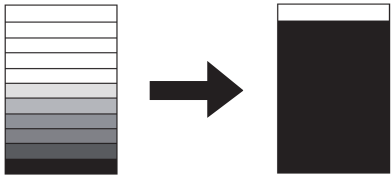
	Defective part	Check description	Corrective Action
1	Paper	1. Check that the paper has mois-ture absorbed. 2. Check that the paper has stored in a humid place.	If the paper is damp, replace.Choose a dry place to store paper.
2	Drum unit	Check the print image on paper has a problem at an interval equivalent to the circumference of the drum (94mm)	If the print image on paper has a problem at an interval equivalent to the circumference of the drum, exexcute drum refreshing (System Menu > Adjustment/Maintenance).
3	Transfer roller unit	Check if the transfer roller is deformed or contaiminated on its surface.	If the transfer roller unit is deformed or contami-nated, replace the transfer roller unit.

(1-13)Image is out of focus

Print example	Cause of trouble
	1. Drum condensation. 1 Dirty LSU slit glass.
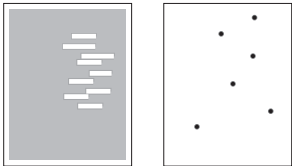
	Defective part	Check description	Corrective Action
1	Paper	1. Check that the paper has moisture absorbed. 2. Check that the paper has stored in a humid place.	If the paper is damp, replace.Choose a dry place to store paper.
2	Drum unit	Check that the surface of the drum has dew condensation.	Execute Drum refreshing. System Menu > Adjustment/ Maintenance
3	LSU	Check whether the LSU slit glass is contaminated in its entirety.	1. If the LSU slit glass is dirty, execute Laser scanner cleaning. 2. Replace the LSU.

(1-14)Poor grayscale reproducibility

Print example	Cause of trouble
	1 Poor image adjustment.
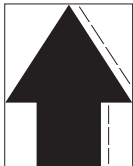
	Defective part	Check description	Corrective Action
1	Image adjustmen	Check if halftone adjustment is insufficient.	

(1-15)Unevenly repeating horizontal streaks in the printed objects. Spots in the printed objects

Print example	Cause of trouble
	1 Installation at a high altitude.
	2 Using the paper with high surface resistance.

	Defective part	Check description	Corrective Action
1	Developer unit	The device is installed in an altitude higher than 1500 m sea level.	If the device is installed in an altitude greater than 1500 m sea level, perform altitude setting. (System menu > Adjustment/Maintenance)
2	Paper	Check if paper is of high surface resistance.	Change the paper to another.

(1-16)mage is blurred (Shifted transferring)

Print example	Cause of trouble
	1 The paper used does not conform to the requirement.
	2 Imbalanced fuser unit pressures.

	Defective part	Check description	Corrective Action
1	Paper	1. Check that the type of the paper used falls within the range of specifications. 2. Check the settings of the type and weight of the paper.	1. If the type of the paper being used falls outside the requirements, replace and use a suitable type of paper. 2. If the settings made for the paper being used is inadequate, configure the settings according to the paper being used.
2	Fuser unit	1. Check the fuser pressure balance. 2. Check if the fuser paper-inserting guide is deformed.	1. If the pressures at the front and rear are unbalanced, replace the fuser unit.If the fuser unit is deformed, replace.
3	Paper conveying motor	Check to see if the driving mechanism for paper conveying is operative without a hinderance.	If the drive does not operate normally, apply grease.
4	Paper conveying guide	The paper conveying guide is deformed.	If the paper conveying guide is deformed, replace the paper conveying guide.

(1-17)Paper is wrinkled

Print example
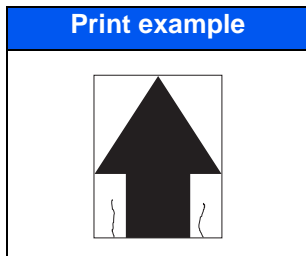
	Defective part	Check description	Corrective Action
1	Paper-width guides	Check the paper-width guides are flush with the paper.	If the width adjuster cursors are not flush with paper, set them correctly.
2	Paper	1. Check if paper is curled or wavy. 2. Check if paper is stored in a humid place.	1. If the paper is curled or wavy, replace. 2. Choose a dry place to store paper.
3	Regist ration roller	The pressures at the right and left springs are unbalanced.	Replace the spring with the one having a correct pressure.
4	Fuser unit	The pressuring spring of the fuser unit is defective.	Replace the fuser unit.

(1-18)Fusing is loose
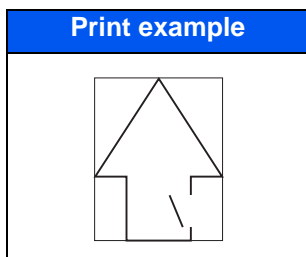
Print example

	Print example	Cause of trouble	Print example
1	Paper	1. Check that the type of the paper used falls within the range of specifications. 2. Check the settings of the type and weight of the paper.	1. If the type of the paper being used falls outside the requirements, replace and use a suitable type of paper. 2. If the settings made for the paper being used is inadequate, configure the settings according to the paper being used.
2	Paper weight setting	Check If the weight of the paper is correctly set.	If the weight of the paper is not correctly set, choose the correct weight that matches the paper being used.
3	Fuser unit	Check the fuser pressure setting.	Replace the fuser unit.
		Check the fuser temperature	Change fixing temperature with service setting (System Menu > Adjustment/Maintenance > Service setting).Chenge the setting value to 2.

(1-19)paper edges with toner

Print example	Cause of trouble
	1 Toner scattering due to an internal temperature increase.(Developer unit)

	Defective part	Check description	Corrective Action
1	Conveying guide	Check if the conveying guide is dirty with toner.	If the conveying guide is dirty with toner, clean the conveying guide, the developer unit and the cooling ducts.
2	Internal temprature increase (Developer unit)	Check the device has been used for printing a large amount of data or for printing in duplex mode with a high density.	If the device has been used for printing a large amout of data or for printing in duplex mode with a high density, clean the developer unit.

(1-20)reverse side of paper

Print example

	Defective part	Check description	Corrective Action
1	Conveying guide	Check if the conveying guide is dirty with toner.	If the conveying guide is dirty with toner, clean the conveying guide, the developer unit and the cooling ducts.
2	Fuser pressure roller	Check that a foreign object is stuck on the fuser pressure roller.	1. If a foreign object exists, clean the fuser pressure roller. 2. If the paper and the paper weight setting do not match, choose the proper paper weight setting.
3	Transfer roller unit	Check if the transfer roller is dirty with toner on its surface.	Clean the transfer roller.

(1-21)Carrier leaking occurs

Print example
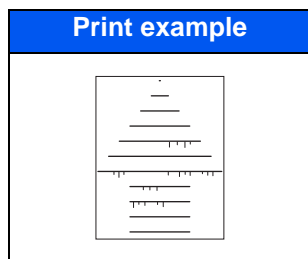
	Defective part	Check description	Corrective Action
1	Paper creased.	Check the state of the paper.	Replace the paper.
		Check the transfer current.	Change transfer setting with service setting (System Menu > Adjustment/Maintenance > Service setting > Transfer adjustment). Select the [line text priority].

7 - 2 Feeding/Conveying Failures

(1) First check items

If the paper is fed askew, jammed, curled, or leading-edge dog-eared, first perform to check the following items.

Check items	Check description	Corrective measures
Paper	1 Check the paper delivered is dog-eared, skewed or rumpled.	If a dog-ear has happened, check there are no objects existing in the conveying paths and, if any, fix. If the paper is fed askew or crumpled, perform the following No.2.
	2 Check how paper is loaded in the cassette (paper feeder). Check that the paper has been properly aligned with width adjuster cursor and the rear guide; it has been loaded without skewing; or it is not damaged. (Crumpled 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 cumpled 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 damp, wavy, or curled.	1. Load the paper bundle in the cassette upside down. 2. Load the paper bundle after rotating it 180°and reload. 3. Change the paper.
	5 Check if the paper loaded 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 requirements.	Isolate the cause of the problem by replacing the paper with the recommended paper.
Settings/Detection	7 Check the panel if the paper size is correctly detected and the cassette size is not fixed.	If the paper size is incorrectly displayed, adjust the positions of the paper set guide cursors in accordance with the paper size, making sure that the paper is not askew to activate the size detector switch.
	8 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	9 Check the rear cover of the main unit are slightly strained and closed.	To open, first open the rear cover and close firmly. (Check the position of the safery switch)

Check items	Check description	Corrective measures
Conveying guide, approaching guide, feed-shift guide	10 Check that the foreign objects including scrips, paper clips, etc., do not exist in the paper conveying paths.	If foreign objects such as scrips, etc., remain in the paper conveying path, remove.
	11 Check that the paper conveying guide and the separation needles are not contaminated with toner, paper dusts, etc.	If dirty, clean the guide, ribs (by a cloth), and the separation needles (by a cleaning brush).If the ribs of the conveying guides were broken or deposited with toner, replace.
	12 Check that the paper conveying guide has no barrs, deformations, or abrasions; and it is properly mounted without being floated.	Clean the conveying guide or the paper approaching guide.Remove any protrusions including barrs.If floated, fix it properly.If deformation or abrasion is observed, replace.
	13 Check that the guide. Check that the guide is smoothly operative when manipulated.	If the guide is inoperative or won't operate smoothly, replace the guide or the unit.
	14 Check the action of the guide.	If the guide is inoperative or won't operate smoothly, re-assemble the guide or replace the solenoid or the unit.
Conveying roller, feed roller	15 Check the conveying rollers have no paper dusts, toner, or foreign objects stucked.Check a 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.
	16 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. If stained, replace the clutch. If the clutch is kept turned on due to a tensioned wire, reroute wires.
	17 Check the conveying roller rotates without overloading. Check the axle holder or the roller shaft are not contaminated. Check that the spring has not fallen off and is mounted so that it is properly applying pressure against the rollers or pulleys.	Clean the roller axle or the axle holder.Re-assemble it while checking the pressure of the spring.
Sensor	18 Check if it does not operate with smoothness due to an abnormal move or dropping off of the actuator of the coveying switch.	Re-assemble the actuator or the return spring.
	19 Check that the surface of the sensor and the recveptor black felt pieces are not contaminated with toner, paper dusts, etc.	If dirty, clean the sensor or the black felt piece.
	20 Check the sensors are operated normally.	If the sensor is inoperative, replace the switch.
Static	21 Check if the location is susceptible to build static discharge at the conveying guide during printing.	Re-assemble and re-wire the static discharge sheet at the ejection unit or the metal guide at the tranfer unit so that they are properly grounded.

7‑3 Paper misfeed detection

(1) Paper misfeed indication

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

The positions are displayed on the operation panel when a paper jam has occurred.

Jam lacation indicators
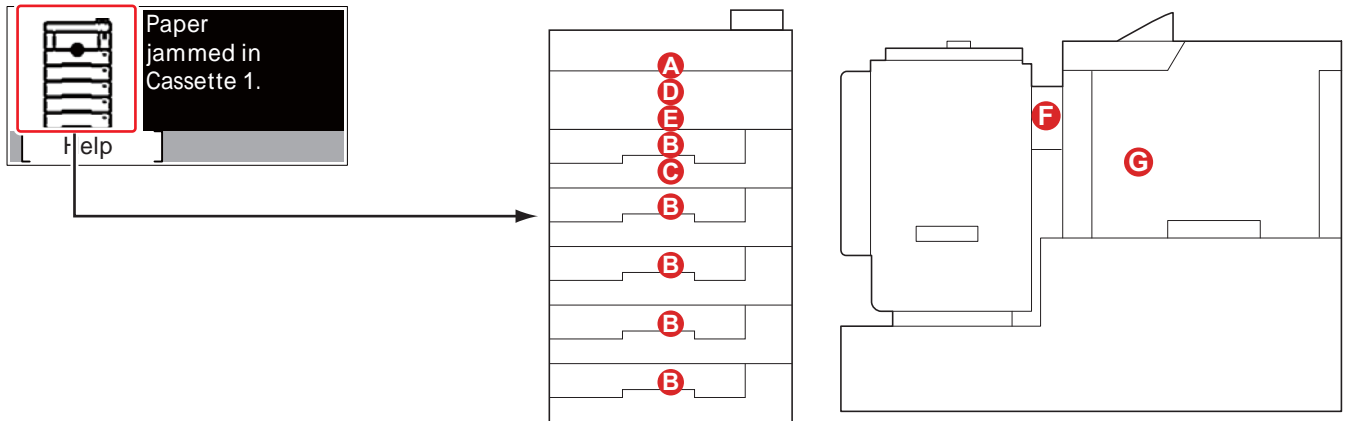
A   Misfeed in Multi Purpose Tray

B   Misfeed in the Cassettes 1 to 5

C   Misfeed in the Duplex Unit

D   Misfeed inside the machine

E   Misfeed inside the rear cover or the inner tray

F   Misfeed in the Bulk Feeder

G   Misfeed in the Duplex Unit (when Bulk Feeder is installed)

(2) Paper misfeed detection condition

Machine + Paper Feeder, Bulk Paper Feeder (Option)
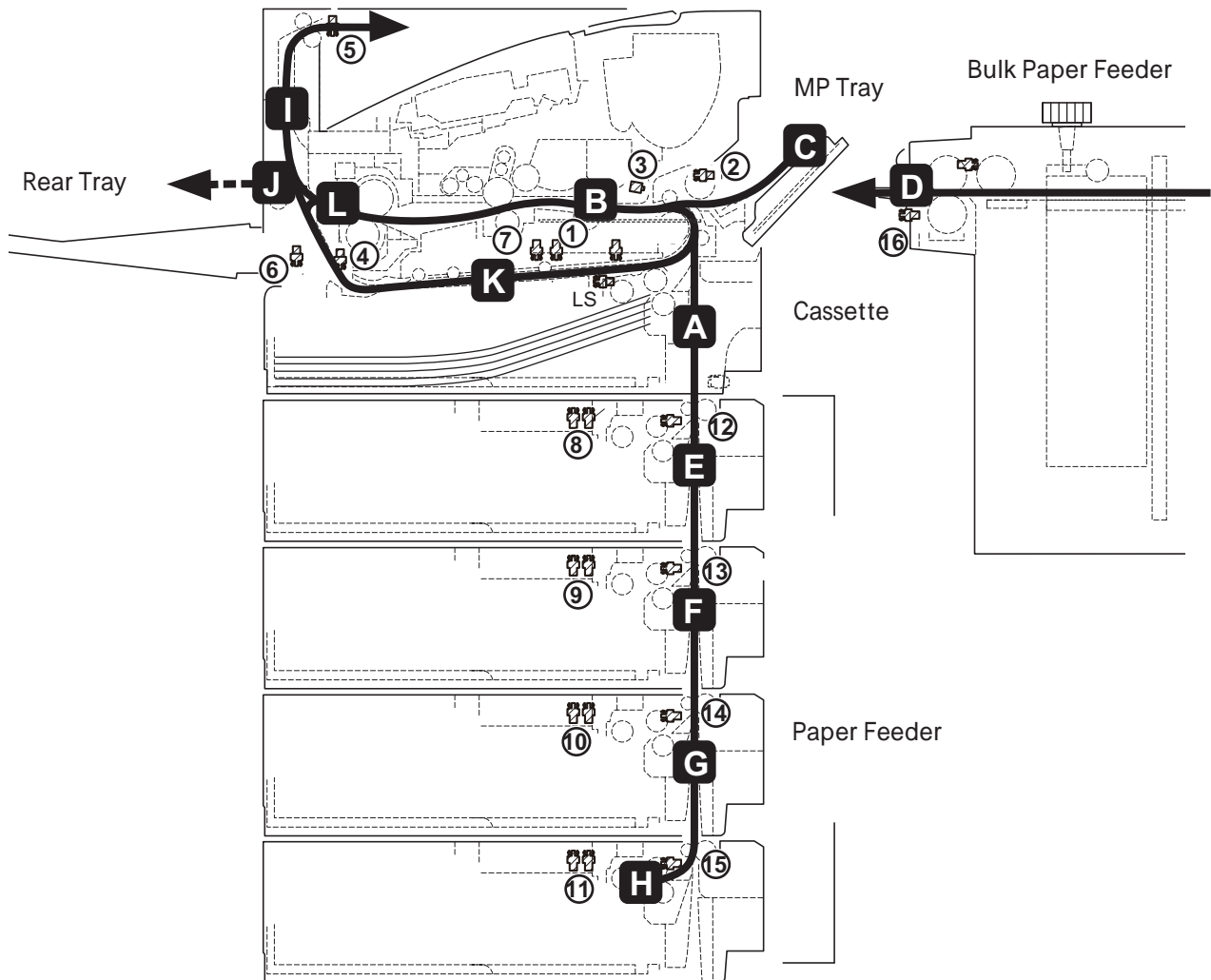
Sensor name

1 Paper sensor	7 Duplex sensor 2	13 PF paper feed sensor 2
2 MP paper sensor	8 PF paper sensor 1	14 PF paper feed sensor 3
3 Registration sensor 3	9 PF paper sensor 2	15 PF paper feed sensor 4
4 Eject sensor	10 PF paper sensor 3	16 PF paper feed sensor 5
5 Eject full sensor	11 PF paper sensor 4	
6 Duplex sensor 1	12 PF paper feed sensor 1	

(3) Jam Codes

Code	Contents	Conditions	Jam location*
0000	Initial jam	The power is turned on when a sensor in the conveying system is on.	-
0100	Secondary paper feed request time out	Secondary paper feed request given by the controller is unreachable.	-
0101	Waiting for process package to be ready	Process package won't be ready.	-
0104	Waiting for conveying package to be ready	Conveying package won't be ready.	-
0105	Drive intrerrupt 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	Waiting for fuser package to be ready	Fuser package won't be ready.	-
0110	Rear cover 1 open	The rear cover is opened during printing.	-
0111	Top cover open Bulk feeder cover open	The top cover or the bulk feeder cover is opened during printing.	-
0120	Receiving a duplex paper feeding request while paper is empty	Paper feed request was received from the duplex section despite the absence of paper in the duplex section.	-
0121	Exceeding number of duplex pages circulated	The controller issued the duplex section a request for more pages than the duplex print cycle contains.	-
0501	No paper feed of jam	The registration sensor 2 does not turn on during paper feed from cassette 1.	A
0502		PF feed sensor 1 does not turn on during paper feed from cassette 2.	E
0503		PF feed sensor 2 does not turn on during paper feed from cassette 3.	F
0504		PF feed sensor 3 does not turn on during paper feed from cassette 4.	G
0505		PF feed sensor 4 does not turn on during paper feed from cassette 5.	H
0508		The registration sensor 2 does not turn on during paper feed from duplex section.	B
0509		The registration sensor 2 does not turn on during paper feed from MP tray.	C
0511	Multiple sheets of jam	The registration sensor 2 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
0515		PF feed sensor 4 does not turn off during paper feed from cassette 5.	B
0518		The registration sensor 2 does not turn off during paper feed from duplex section.	B
0519		The registration sensor 2 does not turn off during paper feed from MP tray.	B
0529	No paper feed of jam (Bulk feeder)	The registration sensor 2 does not turn on during paper feed from bulk feeder.	D

Code	Contents	Conditions	Jam location*
0539	Multiple sheets of jam (Bulk feeder)	The registration sensor 2 does not turn off during paper feed from bulk feeder.	B
1403	PF feed sensor 1 non arrival jam	PF feed sensor 1 does not turn on during paper feed from cassette 3.	E
1404		PF feed sensor 1 does not turn on during paper feed from cassette 4.	E
1405		PF feed sensor 1 does not turn on during paper feed from cassette 5.	E
1413	PF feed sensor 1 stay jam	PF feed sensor 1 does not turn off during paper feed from cassette 3.	E
1414		PF feed sensor 1 does not turn off during paper feed from cassette 4.	E
1415		PF feed sensor 1 does not turn off during paper feed from cassette 5.	E
1604	PF feed sensor 2 non arrival jam	PF feed sensor 2 does not turn on during paper feed from cassette 4.	F
1605		PF feed sensor 2 does not turn on during paper feed from cassette 5.	F
1614	PF feed sensor 2 stay jam	PF feed sensor 2 does not turn off during paper feed from cassette 4.	F
1615		PF feed sensor 2 does not turn off during paper feed from cassette 5.	F
1805	PF feed sensor 3 non arrival jam	PF feed sensor 3 does not turn on during paper feed from cassette 5.	G
1815	PF feed sensor 3 stay jam	PF feed sensor 3 does not turn off during paper feed from cassette 5.	G
4002	Registration sensor 2 non arrival jam	The registration sensor 2 does not turn on during paper feed from cassette 2.	B
4003		The registration sensor 2 does not turn on during paper feed from cassette 3.	B
4004		The registration sensor 2 does not turn on during paper feed from cassette 4.	B
4005		The registration sensor 2 does not turn on during paper feed from cassette 5.	B
4012	Registration sensor 2 stay jam	The registration sensor 2 does not turn off during paper feed from cassette 2.	B
4013		The registration sensor 2 does not turn off during paper feed from cassette 3.	B
4014		The registration sensor 2 does not turn off during paper feed from cassette 4.	B
4015		The registration sensor 2 does not turn off during paper feed from cassette 5.	B

Code	Contents	Conditions	Jam location*
4101	Registration sensor 3 non arrival jam	The registration sensor 3 does not turn on during paper feed from cassette 1.	B
4102		The registration sensor 3 does not turn on during paper feed from cassette 2.	B
4103		The registration sensor 3 does not turn on during paper feed from cassette 3.	B
4104		The registration sensor 3 does not turn on during paper feed from cassette 4.	B
4105		The registration sensor 3 does not turn on during paper feed from cassette 5.	B
4108		The registration sensor 3 does not turn on during paper feed from duplex section.	B
4109		The registration sensor 3 does not turn on during paper feed from MP tray.	B
4111	Registration sensor 3 stay jam	The registration sensor 3 does not turn off during paper feed from cassette 1.	B
4112		The registration sensor 3 does not turn off during paper feed from cassette 2.	B
4113		The registration sensor 3 does not turn off during paper feed from cassette 3.	B
4114		The registration sensor 3 does not turn off during paper feed from cassette 4.	B
4115		The registration sensor 3 does not turn off during paper feed from cassette 5.	B
4118		The registration sensor 3 does not turn off during paper feed from duplex section.	B
4119		The registration sensor 3 does not turn off during paper feed from MP tray.	B
4201	Ejetct sensor non arrival jam	The eject sensor does not turn on during paper feed from cassette 1.	I
4202		The eject sensor does not turn on during paper feed from cassette 2.	I
4203		The eject sensor does not turn on during paper feed from cassette 3.	I
4204		The eject sensor does not turn on during paper feed from cassette 4.	I
4205		The eject sensor does not turn on during paper feed from cassette 5.	I
4208		The eject sensor does not turn on during paper feed from duplex section.	I
4209		The eject sensor does not turn on during paper feed from MP tray.	I

Code	Contents	Conditions	Jam location*
4211	Ejetct sensor stay jam	The eject sensor does not turn off during paper feed from cassette 1.	I or L
4212		The eject sensor does not turn off during paper feed from cassette 2.	I or L
4213		The eject sensor does not turn off during paper feed from cassette 3.	I or L
4214		The eject sensor does not turn off during paper feed from cassette 4.	I or L
4215		The eject sensor does not turn off during paper feed from cassette 5.	I or L
4218		The eject sensor does not turn off during paper feed from duplex section.	I or L
4219		The eject sensor does not turn off during paper feed from MP tray.	I or L
4301	Duplex sensor 1 non arrival jam	The duplex sensor 1 does not turn on during paper feed from cassette 1.	J
4302		The duplex sensor 1 does not turn on during paper feed from cassette 2.	J
4303		The duplex sensor 1 does not turn on during paper feed from cassette 3.	J
4304		The duplex sensor 1 does not turn on during paper feed from cassette 4.	J
4305		The duplex sensor 1 does not turn on during paper feed from cassette 5.	J
4309		The duplex sensor 1 does not turn on during paper feed from MP tray or bulk feeder.	J
4401	Duplex sensor 2 non arrival jam	The duplex sensor 2 does not turn on during paper feed from cassette 1.	K
4402		The duplex sensor 2 does not turn on during paper feed from cassette 2.	K
4403		The duplex sensor 2 does not turn on during paper feed from cassette 3.	K
4404		The duplex sensor 2 does not turn on during paper feed from cassette 4.	K
4405		The duplex sensor 2 does not turn on during paper feed from cassette 5.	K
4409		The duplex sensor 2 does not turn on during paper feed from MP tray or bulk feeder.	K
4418	Duplex sensor 2 stay jam	The duplex sensor 2 does not turn off during paper feed from duplex section.	K

*: Refer to figure 7-3 for paper jam location (see page).

(4) Items and corrective actions relating to the device that will cause paper jam

Jam types	Check description	Corrective measures
No-paper-feed jam or the leading edge of paper is curled back at the position of the roller (J0501, J0502, J0503, J0504, J0505, J0509)	1. Check if the jammed paper or the printed paper has a tear caused by the roller at its leading edge.	Replace the paper feed roller.(Service life of rubber roller is 300000 images *1) Increase the spring pressure to pinch the separation rollers if the component is undue to its expected life.Replace the spring.
	2. Check abrasion and paper dusts on the feed roller and forward rollers.	Clean the paper feed roller and the pickup roller. Or, if not amended, replace.
	3. Check the pickup roller and paper feed roller are rotating.	If disconnected or or stained, replace the primary paper feed clutch.
	4. Check that the conveying force of the pickup roller is sufficient.	Increase the conveying force during paper pickup by increasing the spring load of the pickup roller.

Jam types	Check description	Corrective measures
Multiple-feed Jam (J0511, J0512, J0513, J0514, J0515, J0519)	1 Check if the cutting edge of the paper bundle is crumpled or the cassette is loaded with multiple times of replenishing paper.	If the cutting edge of the paper bundle is crumpled or the cassette is loaded with multiple times of replenishing 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 agree. 1 If the cassette cursors are open against the paper, set it properly. 2 Insert the cassette until the cassette size detector switch is turned on. If the size is not detectable while automatic sizing is enabled, replace the size detection switch.
		If the paper size agrees 1 If paper other than complying the requirements such as coated paper, inkjet paper, etc., is used, replace the paper. 2 RE-assemble the retard roller in the primary paper feed unit if it is mounted to the oppisite direction. 3 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. 4 Replace the primary paper feed unit.
	3 Check if paper dusts and abrasion are observed on the paper fanning roller and retard roller.	If the paper fanning roller is dirty, clean. If abrasion is observed, replace.
	4 Check the clutch that are rotating following the other component when the motor is turned on.	If the clutch rotates following the other component and its stain is observed, replace the clutch.
Duplex No-paper-feed Jam (J0508)/Duplex Multiple-feed Jam (J0518)	Check if the registration sensor is detected.	1 Clean the sensor and paper dust on the opposite side. 2 If the registration sensor is not working, replace the registration sensor.

Jam types	Check description	Corrective measures
PF conveying sensor stay jam (J1413, J1414, J1415, J1614, J1615, J1815)	1 Check to see if the actuator is operative without hinderance.	If it won't operate without hinderance, re-assemble or replace the actuator's return spring.
	2 Check the operation of the sensor.	If the sensor is inoperative, replace.
	3 Check if the PF paper feed clutch rotates following the 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 twisted to be mounted.(If the mounting parts of the guide is floated, the actuator won't protrude sufficiently.)	If the bracket is twisted to be mounted, remove the screw fixing the conveying guide and properly mount the bracket in the right position and fix again.
	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, J1405, J1604, J1605, J1805)	1 Check to see if the actuator is operative without hinderance.	Re-assemble or replace the actuator's return spring.
	2 Check the operation of the motor. Check the transmission of the gear drive . * : Check the conveying roller rotates and is movable in the direction of thrust without hinderance.	If the roller won't rotate without hinderance, 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.
Fuser eject sensor stay jam (J421X)	1 If paper jam occurrs at the feedshift guide in the rear cover assembly, check if the guide is operative without hinderance.	If the distance between the housing and the feedshift guide is too small for the guide to move without hinderance, replace the rear cover assembly.
	2 Check if the eject sensor does not show a false detection.	Replace the defective eject sensor or the fuserunit.

7 - 4 Self-diagnostic function

(1) Self-diagnostic function

This machine is equipped with self-diagnostic function. When a problem is detected, the machine stops printing and display an error message on the operation panel. An error message consists of a message prompting a contact to service personnel 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.

⚠ **Caution**

Before attempting to check the power supply and the fuser unit and PWB, be sure to turn the power switch off and unplug the machine from power.
After disconnect the power cord, press the power switch one second or more to discharge the electric charge inside the main unit.

Code	Contents	Causes	Check procedures/ corrective measures
0100	Backup memory device error	Defective flash memory.	Replace the main PWB and check for correct operation.
		Defective main PWB.	
0120	MAC address data error	Defective flash memory.	Replace the main PWB and check for correct operation.
	For data in which the MAC address is invalid.	Defective main PWB.	Replace the main PWB and check for correct operation.
0130	Backup memory read/write error (main PWB)	Defective flash memory.	Replace the main PWB and check for correct operation.
		Defective main PWB.	
0140	Backup memory data error (main PWB)	Defective flash memory.	Replace the main PWB and check for correct operation.
		Defective main PWB.	
0150	Backup memory read/write error (engine PWB)	Improper installation engine PWB EEPROM.	Check the installation of the EEPROM and remedy if necessary.
	Detecting engine PWB EEPROM communication error.	Defective engine PWB.	Replace the engine PWB and check for correct operation.
		Device damage of EEPROM.	Contact the Service Administrative Division.
0160	Backup memory data error (engine PWB)	Defective EEPROM.	Replace the engine PWB and check for correct operation.
		Defective engine PWB.	
0170	Billing counting error	Data damage of EEPROM.	Contact the Service Administrative Division.
	A checksum error is detected in the main and engine backup memories for the billing counters.	Defective PWB.	Replace the main PWB or the engine PWB and check for correct operation.
0190	Backup memory device error (engine PWB)	Defective engine PWB.	Replace the engine PWB and check for correct operation.

Code	Contents	Causes	Check procedures/ corrective measures
0800	Image processing error JAM010x is detected twice.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Fuser thermistor 1/2 and fuser thermistor connect PWB(YC1/2) Fuser thermistor connect PWB(YC3) and engine PWB (YC21)
		Defective fuser thermistor.	Replace the fuser thermistor connect PWB.
			Replace the fuser unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
		Defective main PWB.	Replace the main PWB and check for correct operations.
0840	Faults of RTC Unable to communicate with the RTC device normally. The RTC data is mismatched due to dead battery or short-circuit with the metal part.	Other RTC device failure due to dead battery or short-circuit with the metal part.	Restart the main unit and set the correct time from the operation panel. Repair it if the battery comes off from the main PWB.
		Defective main PWB.	Replace the main PWB and check for correct operation.
1010	Lift motor error (60/55/50 ppm model only) After cassette 1 is inserted, lift sensor does not turn on within 10 s. This error is detected five times successively.	Defective bottom plate elevation mechanism in the cassette.	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Lift motor and engine PWB (YC13)
		Defective drive transmission system of the lift motor.	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective lift motor.	Replace the lift motor.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
1020	PF lift motor 1 error (paper feeder) After cassette 2 is inserted, PF lift sensor 1 does not turn on. This error is detected four times successively.	Defective bottom plate elevation mechanism in the cassette.	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF lift motor 1 and PF main PWB (YC7)
		Defective drive transmission system of the PF lift motor.	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective PF lift motor.	Replace the PF lift motor 1.
		Defective PF main PWB.	Replace the PF main PWB.
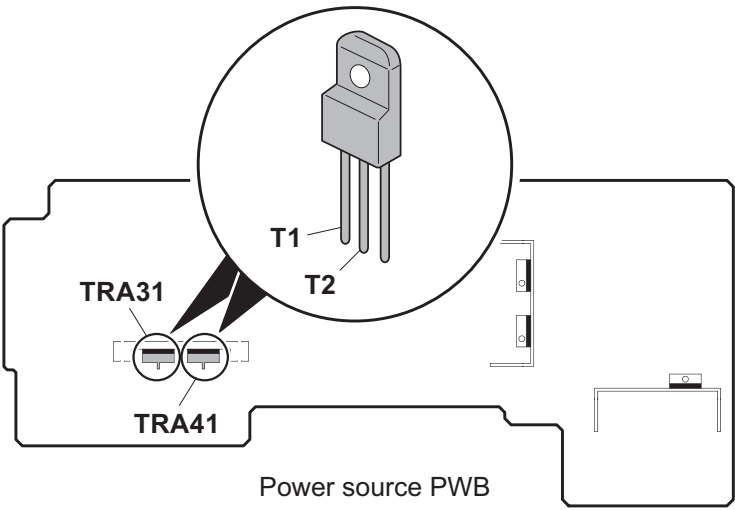
Code	Contents	Causes	Check procedures/ corrective measures
1030	PF lift motor 2 error (paper feeder) After cassette 3 is inserted, PF lift sensor 2 does not turn on. This error is detected four times successively.	Defective bottom plate elevation mechanism in the cassette.	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF lift motor 2 and PF main PWB (YC7)
		Defective drive transmission system of the PF lift motor.	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective PF lift motor.	Replace the PF lift motor 2.
		Defective PF main PWB.	Replace the PF main PWB.
1040	PF lift motor 3 error (paper feeder) After cassette 4 is inserted, PF lift sensor 3 does not turn on. This error is detected four times successively.	Defective bottom plate elevation mechanism in the cassette.	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF lift motor 3 and PF main PWB (YC7)
		Defective drive transmission system of the PF lift motor.	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective PF lift motor.	Replace the PF lift motor 3.
		Defective PF main PWB.	Replace the PF main PWB.
1050	PF lift motor 4 error (paper feeder) After cassette 5 is inserted, PF lift sensor 4 does not turn on. This error is detected four times successively.	Defective bottom plate elevation mechanism in the cassette.	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF lift motor 4 and PF main PWB (YC7)
		Defective drive transmission system of the PF lift motor.	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective PF lift motor.	Replace the PF lift motor 4.
		Defective PF main PWB.	Replace the PF main PWB.
1140	BPF lift motor upward error (Bulk paper feeder) BPF lift maximum sensor does not turn on. The lock signal of the motor is detected continuously three times.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. BPF lift motor and BPF main PWB (YC4)
		Defective drive transmission system of the motor.	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective BPF lift motor.	Replace the BPF lift motor.
		Defective BPF main PWB.	Replace the BPF main PWB.

Code	Contents	Causes	Check procedures/ corrective measures
1150	BPF lift motor downward error (Bulk paper feeder) BPF lift minimum sensor does not turn on. The lock signal of the motor is detected continuously three times. When detecting an overcurrent detection signal.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. BPF lift motor and BPF main PWB (YC4)
		Defective drive transmission system of the motor.	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective BPF lift motor.	Replace the BPF lift motor.
		Defective BPF main PWB.	Replace the BPF main PWB.
1800	Paper feeder 1 communication error A communication error is detected 10 times in succession.	Improper installation paper feeder.	Follow installation instruction carefully again.
		Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF main PWB (YC3) and engine PWB (YC22)
		Defective engine PWB.	Replace the engine PWB and check for correct operation (see page 4-28).
		Defective PF main PWB.	Replace the PF main PWB.
1810	Paper feeder 2 communication error A communication error is detected 10 times in succession.	Improper installation paper feeder.	Follow installation instruction carefully again.
		Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF main PWB (YC3) and engine PWB (YC22)
		Defective PF main PWB.	Replace the PF main PWB.
1820	Paper feeder 3 communication error A communication error is detected 10 times in succession.	Improper installation paper feeder.	Follow installation instruction carefully again.
		Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF main PWB (YC3) and engine PWB (YC22)
		Defective PF main PWB.	Replace the PF main PWB.
1830	Paper feeder 4 communication error A communication error is detected 10 times in succession.	Improper installation paper feeder.	Follow installation instruction carefully again.
		Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF main PWB (YC3) and engine PWB (YC22)
		Defective PF main PWB.	Replace the PF main PWB.
1900	Paper feeder 1/BPF paper feeder EEPROM error When writing the data, the write data and the read data is not in agreement.	Defective PF main PWB.	Replace the PF main PWB or the BPF main PWB.
		Device damage of EEPROM.	
1910	Paper feeder 2 EEPROM error When writing the data, the write data and the read data is not in agreement.	Defective PF main PWB.	Replace the PF main PWB.
		Device damage of EEPROM.	

Code	Contents	Causes	Check procedures/ corrective measures
1920	Paper feeder 3 EEPROM error When writing the data, the write data and the read data is not in agreement.	Defective PF main PWB.	Replace the PF main PWB.
		Device damage of EEPROM.	
1930	Paper feeder 4 EEPROM error When writing the data, the write data and the read data is not in agreement.	Defective PF main PWB.	Replace the PF main PWB.
		Device damage of EEPROM.	
2000	Main motor drive error The main motor is not stabilized within 2 s after driving starts.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Main motor and engine PWB (YC4)
		Defective drive transmission system of the main motor.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective main motor.	Replace the main motor.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
2010	Main motor steady-state error Stable OFF is detected for 2 s continuously after main motor stabilized.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Main motor and engine PWB (YC4)
		Defective drive transmission system of the main motor.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective main motor.	Replace the main motor.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
2200	Drum motor drive error (60/55/50 ppm model only) The drum motor is not stabilized within 2 s after driving starts.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Drum motor and engine PWB (YC4)
		Defective drive transmission system of the drum motor.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective drum motor.	Replace the drum motor.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
2210	Drum motor steady-state error (60/55/50 ppm model only) Stable OFF is detected for 2 s continuously after drum motor stabilized.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Drum motor and engine PWB (YC4)
		Defective drive transmission system of the drum motor.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective drum motor.	Replace the drum motor.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.

Code	Contents	Causes	Check procedures/ corrective measures
2330	Fuser pressure release motor error (Over-current) The over-current detection signal of the motor is detected continuously twenty times.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Fuser pressure release motor and relay-L PWB(YC11) Relay-L PWB(YC3) and engine PWB(YC2)
		Defective drive transmission system of the fuser pressure release motor.	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective fuser pressure release motor.	Replace the fuser pressure release motor.
		Defective PWB.	Replace the relay-L PWB or engine PWB.
2340	Fuser pressure release motor error (Timeout) The position detection sensor is not detected continuously for 30 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Fuser pressure release motor and relay-L PWB(YC11) Relay-L PWB(YC1) and engine PWB(YC2)
		Defective drive transmission system of the fuser pressure release motor.	Check if the gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective fuser pressure release motor.	Replace the fuser pressure release motor.
		Defective PWB.	Replace the relay-L PWB or engine PWB.
2600	PF drive motor 1 error (paper feeder 1) When the PF drive motor is driven, error signal is detected continuously for 2 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF drive motor 1 and PF main PWB (YC6)
		Defective drive transmission system of the PF drive motor.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective PF drive motor.	Replace the PF drive motor 1.
		Defective PF main PWB.	Replace the PF main PWB.
2610	PF drive motor 2 error (paper feeder 2) When the PF drive motor is driven, error signal is detected continuously for 2 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF drive motor 2 and PF main PWB (YC6)
		Defective drive transmission system of the PF drive motor.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective PF drive motor.	Replace the PF drive motor 2.
		Defective PF main PWB.	Replace the PF main PWB.
2620	PF drive motor 3 error (paper feeder 3) When the PF drive motor is driven, error signal is detected continuously for 2 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF drive motor 3 and PF main PWB (YC6)
		Defective drive transmission system of the PF drive motor.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective PF drive motor.	Replace the PF drive motor 3.
		Defective PF main PWB.	Replace the PF main PWB.

Code	Contents	Causes	Check procedures/ corrective measures
2630	PF drive motor 4 error (paper feeder 4) When the PF drive motor is driven, error signal is detected continuously for 2 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. PF drive motor 4 and PF main PWB (YC6)
		Defective drive transmission system of the PF drive motor.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
		Defective PF drive motor.	Replace the PF drive motor 4.
		Defective PF main PWB.	Replace the PF main PWB.
4000	Polygon motor synchronization error The polygon motor is not stabilized within 20 s after driving starts.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Polygon motor and engine PWB (YC15)
		Defective polygon motor.	Replace the laser scanner unit (see page 4-23).
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
4101	BD steady-state error When the value of Register BDSET is 1 after setting Register BDSET as one and passing by BD1 cycle.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. APC PWB(YC1) and engine PWB (YC16) APC PWB(YC2) and PD PWB(YC1)
		Defective PD PWB.	Replace the laser scanner unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
5100	Chager current error When the current value measured at the time of potential adjustment is less than 20 μA.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Chager unit and high voltage PWB High voltage PWB (YC101) and engine PWB (YC19)
		Defective high voltage PWB.	Replace the high voltage PWB and check for correct operation.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
6000	Broken fuser heater wire The detection temperature of fuser thermistor 2 is 100 °C/212°F or less after the fuser heater lamp has been turned on continuously for 30 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Fuser heater and power source PWB (YC2) Fuser thermistor and Fuser thermistor connect PWB(YC1 and YC2) Fuser thermistor connect PWB(YC3) and engine PWB (YC21)
		Deformed connector pin.	See page 7-39.
		Defective triac.	See page 7-39.
		Fuser thermostat triggered.	Reinsert the fuser unit.
		Broken fuser heater wire.	
		Defective engine PWB.	Replace the engine PWB and check for correct operation.

Code	Contents	Causes	Check procedures/ corrective measures
6020	Abnormally high fuser thermistor 2 temperature The detection temperature of fuser thermistor 2 is higher than 235°C/455°F. In a heater-off state, the detection temperature of fuser thermistor 2 is higher than 195°C/383°F after the detection temperature of fuser thermistor 2 was 155°C/311°F or less.	Deformed connector pin.	See page 7-39.
		Defective triac.	See page 7-39.
		Shorted fuser thermistor.	Replace the fuser unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
6030	Broken fuser thermistor 2 wire A/D value of the fuser thermistor 2 exceeds 1019 bit continuously for 4 s during warming up.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Fuser thermistor and fuser thermistor connect PWB(YC2) Fuser thermistor connect PWB(YC3) and engine PWB (YC21)
		Deformed connector pin.	See page 7-39.
		Defective triac.	See page 7-39.
		Defective fuser thermistor.	Replace the fuser unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
6000/ 6020/ 6030/ 6120/ 6130/ Combined	Broken fuser heater wire Abnormally high fuser thermistor 2 temperature Broken fuser thermistor 2 wire Abnormally high fuser thermistor 1 temperature Broken fuser thermistor 1 wire	Deformed connector pin.	If the I/F connector pins of the fuser unit and the main unit are deformed owing to foreign matters, replace the connectors or the units including the connectors.
		Defective triac.	Remove the power cord and check that the resistance between terminals T1 and T2 of the triac TRA31 and triac TRA41 are of several Mega-Ohms and not shorted. If failed, replace the power source PWB.

Power source PWB

Code	Contents	Causes	Check procedures/ corrective measures
6120	Abnormally high fuser thermistor 1 temperature The detection temperature of fuser thermistor 1 is higher than 245°C/473°F. In a heater-off state, the detection temperature of fuser thermistor 1 is higher than 195°C/383°F after the detection temperature of fuser thermistor 1 was 155°C/311°F or less.	Deformed connector pin.	See page 7-39.
		Defective triac.	See page 7-39.
		Shorted fuser thermistor.	Replace the fuser unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
6130	Broken fuser thermistor 1 wire A/D value of the fuser thermistor 1 exceeds 1019 bit continuously for 4 s during warming up.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Fuser thermistor and fuser thermistor connect PWB(YC1) Fuser thermistor connect PWB(YC3) and engine PWB (YC21)
		Deformed connector pin.	See page 7-39.
		Defective triac.	See page 7-39.
		Defective fuser thermistor.	Replace the fuser unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
6400	Zero-cross signal error While fuser heater control is performed, the zero-cross signal is not input within 2 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Power source PWB (YC3) and engine PWB (YC1)
		Defective power source PWB or engine PWB.	Replace the power source PWB or the engine PWB and check for correct operation.
7100	Toner sensor error Sensor output value of 930 or more continuously for 5 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Toner sensor and drum PWB (YC3) Drum connect PWB(YC2) and relay-L PWB (YC3) Relay-L PWB(YC1) and engine PWB (YC2)
		Defective toner sensor.	Replace the developer unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
7400	Developer unit non-installing error Sensor output value of 31 or less continuously for 5 s.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Toner sensor and drum PWB (YC3) Drum connect PWB(YC2) and relay-L PWB (YC3) Relay-L PWB(YC1) and engine PWB (YC2)
		Defective toner sensor.	Replace the developer unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.

Code	Contents	Causes	Check procedures/ corrective measures
7410	Drum unit type mismatch error The drum PWB EEPROM does not communicate normally. Absence of the drum unit is detected.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Drum unit and drum connect PWB (YC1) Drum connect PWB(YC2) and relay-L PWB (YC3) Relay-L PWB(YC1) and engine PWB (YC2)
		Defective toner sensor.	Replace the drum unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
7800	Broken external thermistor wire The average of thermistor output value of 93 or less.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Operation PWB (YC1) and engine PWB (YC17)
		Defective temperature sensor.	Replace the operation PWB.
7810	Short-circuited external thermistor wire The average of thermistor output value of 930 or more.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Operation PWB (YC1) and engine PWB (YC17)
		Defective temperature sensor.	Replace the operation PWB.
7900	Drum unit EEPROM error No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated five times successively. Mismatch of reading data from two locations occurs eight times successively. Mismatch between writing data and reading data occurs eight times successively.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Drum unit and drum connect PWB (YC1) Drum connect PWB(YC2) and relay-L PWB (YC3) Relay-L PWB(YC1) and engine PWB (YC2)
		Defective drum unit.	Replace the drum unit.
F000	Main PWB - operation PWB communication error	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Operation PWB(YC1) and engine PWB (YC17)
		Defective main PWB.	Turn the main power switch off/on to restart the machine. If the error is not resolved, replace main PWB.
		Defective operation PWB.	Replace the operation PWB and check for correct operation.
F010	Main PWB checksum error	Defective main PWB.	Turn the main power switch off/on to restart the machine. If the error is not resolved, replace main PWB.
F020	Main PWB RAM checksum error	Defective main memory (RAM) in main PWB	Turn the main power switch off/on to restart the machine. If the error is not resolved, replace main PWB.
		Defective expended memory (DIMM)	Replace the expansion memory (DIMM). Also in the case of the capacity besides specification, it displays.

Code	Contents	Causes	Check procedures/ corrective measures
F040	Main PWB - print engine communication error	Defective main PWB.	Turn the main power switch off/on to restart the machine. If the error is not resolved, replace main PWB.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
F050	Print engine ROM checksum error	Defective engine PWB.	Turn the main power switch off/on to restart the machine. If the error is not resolved, replace engine PWB.

(2-1)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.
Please utilize it as the measures when the system is not recovered after power off/on or it frequently occurs.

> **⊘ Important**
>
> • 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.
>
> • Power is partially supplied to this machine when the power is turned off.
>
> Unplug the power plug and check if the F-code error is not released when passing one minute or more after turning the power off and then on.

Number	Contents	Verification procedure & check point	Remarks
-	It locks on a Welcome screen.It locks on a starting logo (Ecosys) screen.(Even if time passes for a definite period of time * in more than a screen does not change) *: 60[s]	(1) Check the harness, and the connection state of a connector between Panel<=>Main boards, and perform an operation check. (2) Check contact of a DDR memory (extracting) and perform an operation check. If exchangeable, it will exchange and will perform an operation check. (3) Exchange a PanelMain board and perform an operation check. (4) Exchange a Main board and perform an operation check. (5) It will get, if USBLOG is obtainable, and contact service headquarters.	1. Panel <=> Main IF (Engine PWB Relay) Main PWB: YC2 Engine PWB: YC20,YC30 Panel PWB: YC1 2. DDR memory Main PWB: YS1
F000	CF000 will be displayed if progress is carried out for a definite period of time * with a Welcome screen. The communication fault between Panel-Controller boards. *: 60[s]	(1) Check the harness, and the connection state of a connector between Panel<=>Main boards, and perform an operation check. (2) Check contact of a DDR memory (extracting) and perform an operation check. If exchangeable, it will exchange and will perform an operation check. (3) Exchange a Main board and perform an operation check. (4) Exchange a PanelMain board and perform an operation check. (5) It will get, if USBLOG is obtainable, and contact service headquarters.	1. Panel <=> Main IF (Engine PWB Relay) Main PWB: YC2 Engine PWB: YC20,YC30 Panel PWB: YC1 2. DDR memory Main PWB: YS1

Number	Contents	Verification procedure & check point	Remarks
F15X	Abnormality detecting in an authentication device control section	(1) Check the harness between authentication device <=>Main boards, and the connection situation of a connector, and perform an operation check. (2) Exchange a Main board and perform an operation check. (3) Get USBLOG and contact service headquarters.	1.Authentication device <=> Main IF Main PWB: YC6 Authentication device: IC card reader etc.
F17X	Abnormality detecting in a printer data control part	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	
F18X	Abnormality detecting in a Video control sec-tion	(1) Check the harness between Engine<=>Main boards, and the connection state of a connector, and perform an operation check. (2) Exchange an Engine board and perform an operation check. (3) Exchange a Main board and perform an operation check. (4) Get USBLOG and contact service headquarters.	
F1DX	Abnormality detecting of the image memory Management Department	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	*
F21X F23X	Abnormality detecting in an image-processing part	(1) Check contact of a DDR memory and perform an operation check. (2) Exchange a Main board and perform an operation check. (3) Get USBLOG and contact service headquarters.	
F24X	Abnormality detecting in the system Management Department	(1) Check contact of a DDR memory and perform an operation check. (2) Exchange a Main board and perform an operation check. (3) Get USBLOG and contact service headquarters.	* F248 is the abnormalities of a printer process.In recurring by specific printer data, please give me cooperation at acquisition of capture data and USBLOG.
F25X	Abnormality detecting in a network management department	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	* It may occur according to a visitor's network environment.
F26X F27X F28X F29X F2AX	Abnormality detecting in the system Management Department	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	
F2BX F2CX F2DX F2EX F2FX F30X F31X F32X	Abnormality detecting in a network control part	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters. (Depending on an analysis result, it is packet capture acquisition)	[Main body <=> External network] Ethernet network
F35X	Abnormality detecting in the printing controlling Management Department	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	

Number	Contents	Verification procedure & check point	Remarks
F38X	Abnormality detecting in the printing controlling Management Department	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	
F3AX F3BX F3CX F3DX F3EX F3FX F40X F41X F43X F44X F45X	Abnormality detecting in the Entity Management Department	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	
F46X	Abnormality detecting of a printer rendering part	(1) Exchange boards and perform an operation check. (2) The acquisition wish of USBLOG -- carry out (Depending on the (2) case, it is print capture data acquisition)	* F46F is the abnormalities of a printer process.In recurring by specific printer data, please give me cooperation at acquisition of capture data and USBLOG.
F4DX F4EX	Abnormality detecting in the Entity Management Department	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	
F4FX	Abnormality detecting in the JOB Management Department	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log at the time of occurrence is needed for analysis, please give me cooperation of acquisition.
F52X F53X F55X F56X F57X	Abnormality detecting in a JOB execution part	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log at the time of occurrence is needed for analysis, please give me cooperation of acquisition.
F60X	Abnormality detecting in the maintenance mode/ Remote Service Management Department	(1) Initialize HDD and perform an operation check. (FULL of U024) * (2) Carry out U021 Main backup initialization and perform an operation check. (3) Exchange a Main board and perform an operation check. (4) Exchange HDD and perform an operation check. * (5) Get USBLOG and contact service headquarters. * Only HDD standard model	In case of F60A: 60A is occurred when device registered Remote Service detects off-line status with external system. Please check device Network Settings and Network environment which device is used (include Disconnection rule/ status in night time and on weekends.)
F63X	Abnormality detecting in a device control section	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	
F68X	Abnormality detecting in a storage device control section	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	

Number	Contents	Verification procedure & check point	Remarks
F90X	Abnormality detecting in the extension application service part	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log at the time of occurrence is needed for analysis, please give me cooperation of acquisition.
F93X	Abnormality detecting in the extension application management part	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log at the time of occurrence is needed for analysis, please give me cooperation of acquisition.
FC0X	Abnormality detecting in system application	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log at the time of occurrence is needed for analysis, please give me cooperation of acquisition.
FCAX	Abnormality detecting in Print application	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log at the time of occurrence is needed for analysis, please give me cooperation of acquisition.
FD4X	Abnormality detecting in Box application	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log at the time of occurrence is needed for analysis, please give me cooperation of acquisition.
FDEX	Abnormality detecting in maintenance application	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log at the time of occurrence is needed for analysis, please give me cooperation of acquisition.
FF7X	Abnormality detecting in a report creation part	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log at the time of occurrence is needed for analysis, please give me cooperation of acquisition. [Controller failure] Clearance by turning the power off and on only.
FE9X	Abnormality detecting in the Application System Management Department	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log at the time of occurrence is needed for analysis, please give me cooperation of acquisition.
FF9X	Abnormality detecting in Service Cooperation	(1) Exchange a Main board and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log at the time of occurrence is needed for analysis, please give me cooperation of acquisition.

7 - 5 Electric problems

If the part causing the problem was not supplied, use the unit including the part for replacement.
 Troubleshooting to each failure must be in the order of the numbered symptoms.

Problem	Causes	Check procedures/corrective measures
1 The machine does not operate when the power switch is turned on.	No electricity at the power outlet.	Measure the input voltage.
	The power cord is not plugged in properly.	Check the contact between the power plug and the outlet.
	Broken power cord.	Check for continuity. If none, replace the cord.
	Defective power switch.	Check for continuity across the contacts. If none, replace the power switch.
	Defective interlock switch.	Check for continuity across the contacts of interlock switch. If none, replace the power source PWB.
	Defective power source PWB.	Replace the power source PWB or engine PWB.
2 Eject motor does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Eject motor and relay-L PWB (YC12) Relay-L PWB and engine PWB (YC2/YC31)
	Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushes and gears. Check for broken gears and replace if any.
	Defective motor.	Replace the eject motor.
	Defective PWB.	Replace the engine PWB or the relay-L PWB and check for correct operation.
3 Power source fan motor does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Power source fan motor and engine PWB (YC10)
	Defective motor.	Replace the power source fan motor.
	Defective PWB.	Replace the engine PWB and check for correct operation.
4 LSU fan motor does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. LSU fan motor and relay-L PWB (YC4) Relay-L PWB and engine PWB (YC2/YC31)
	Defective motor.	Replace the LSU fan motor.
	Defective PWB.	Replace the engine PWB or the relay-L PWB and check for correct operation.
5 Developer fan motor does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Developer fan motor and engine PWB (YC27)
	Defective motor.	Replace the developer fan motor.
	Defective PWB.	Replace the engine PWB and check for correct operation.
6 Paper feed clutch does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Paper feed clutch and engine PWB (YC5)
	Defective clutch.	Replace the paper feed clutch.
	Defective PWB.	Replace the engine PWB and check for correct operation.
7 Registration clutch does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Registration clutch and engine PWB (YC5)
	Defective clutch.	Replace the registration clutch.
	Defective PWB.	Replace the engine PWB and check for correct operation.

Problem	Causes	Check procedures/corrective measures
8 Duplex clutch does not operate. 9	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Duplex clutch and engine PWB (YC5)
	Defective clutch.	Replace the duplex clutch.
	Defective PWB.	Replace the engine PWB and check for correct operation.
10 Developer clutch does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Developer clutch and engine PWB (YC5)
	Defective clutch.	Replace the developer clutch.
	Defective PWB.	Replace the engine PWB and check for correct operation.
11 Conveying clutch does not operate. 12	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Conveying clutch and engine PWB (YC5)
	Defective clutch.	Replace the Conveying clutch.
	Defective PWB.	Replace the engine PWB and check for correct operation.
13 MP solenoid does not operate.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. MP solenoid and engine PWB (YC8)
	Defective solenoid.	Replace the MP solenoid.
	Defective PWB.	Replace the engine PWB and check for correct operation.
14 Feedshift solenoid does not operate. 15 (60/55/50 ppm model only)	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Feedshift solenoid and relay-L PWB (YC13) Relay-L PWB and engine PWB (YC2/YC31)
	Defective solenoid.	Replace the Feedshift solenoid.
	Defective PWB.	Replace the engine PWB or the relay-L PWB and check for correct operation.
16 The message requesting paper to be loaded is shown when paper is present on the cassette.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. High voltage PWB and engine PWB (YC19)
	Deformed actuator of the paper sensor.	Check visually and replace if necessary.
	Defective paper sensor.	Replace the engine PWB or the high voltage PWB and check for correct operation.
	Defective PWB.	
17 The message requesting paper to be loaded is shown when paper is present on the MP tray.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. MP paper sensor and relay-L PWB (YC8) Relay-L PWB and engine PWB (YC2)
	Deformed actuator of the MP paper sensor.	Check visually and replace if necessary.
	Defective MP paper sensor.	Replace the MP paper sensor.
	Defective PWB.	Replace the engine PWB or the relay-L PWB and check for correct operation.
18 The size of paper on the cassette is not displayed correctly.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Cassette size switch and engine PWB (YC7)
	Defective cassette size switch.	Replace the cassette size switch.
	Defective PWB.	Replace the engine PWB and check for correct operation.

Problem	Causes	Check procedures/corrective measures
19 A paper jam in the paper feed, paper conveying or eject section is indicated when the main power switch is turned on.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Regist sensor 2 and Drum PWB (YC6) DU sensor 1 and Relay-L PWB (YC9) PF feed sensor and PF main PWB Eject full sensor and engine PWB (YC12) Eject sensor and Engine PWB (YC26)
	A piece of paper torn from paper is caught around registration sensor, duplex sensor, PF feed sensor, eject full sensor or eject sensor.	Check visually and remove it, if any.
	Defective sensor.	Replace the registration sensor, duplex sensor, PF feed sensor, eject full sensor or eject sensor.
	Defective PWB.	Replace the engine PWB and check for correct operation.
20 A message indicating cover open is displayed when the top cover is closed.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Interlock switch and engine PWB (YC6)
	Defective interlock switch.	Check and replace if necessary.
	Defective PWB.	Replace the engine PWB and check for correct operation.
21 A message indicating cover open is displayed when the rear cover is closed.	Defective connector cable or poor contact in the connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. Rear cover switch and relay-L PWB (YC10) Relay-L PWB and engine PWB (YC2/YC31)
	Defective rear cover switch.	Check and replace if necessary.
	Defective PWB.	Replace the engine PWB or the relay-L PWB and check for correct operation.

7 - 6 Mechanical problems

If the part causing the problem was not supplied, use the unit including the part for replacement.

Problem	Causes/check procedures	Corrective measures
1 No primary paper feed.	Check if the surfaces of the following rollers are dirty with paper powder. Pickup roller Paper feed roller MP paper feed pulley	Clean with isopropyl alcohol.
	Check if the following rollers is deformed. Pickup roller Paper feed roller MP paper feed pulley	Check visually and replace any deformed .
	Defective paper feed clutch installation.	Check visually and remedy if necessary.
2 No secondary paper feed.	Check if the surfaces of the following rollers are dirty with paper powder. Upper registration roller Lower registration roller	Clean with isopropyl alcohol.
	Defective registration clutch installation.	Check visually and remedy if necessary.
3 Skewed paper feed.	Paper width guide in a cassette installed incorrectly.	Check the paper width guide visually and remedy or replace if necessary.
4 Multiple sheets of paper are fed.	Check if the paper is excessively curled.	Change the paper.
	Paper is loaded incorrectly.	Load the paper correctly.
	Check if the retard roller is worn.	Replace the retard roller if it is worn.
5 Paper jams.	Check if the paper is excessively curled.	Change the paper.
	Check if the contact between the upper and lower registration rollers is correct.	Check visually and remedy if necessary.
	Check if the heat roller or press roller is extremely dirty or deformed.	Check visually and replace the fuser unit.
6 Toner drops on the paper conveying path.	Check if the drum unit or developer unit is extremely dirty.	Clean the drum unit or developer unit.
7 Abnormal noise is heard.	Check if the rollers, pulleys and gears operate smoothly.	Grease the bushes and gears.
	Check if the following clutches are installed correctly. Paper feed clutch Registration clutch Duplex clutch	Check visually and remedy if necessary.

8PWBs

8 - 1 Description for PWB

(1) Main PWB

(1-1)PWB photograph
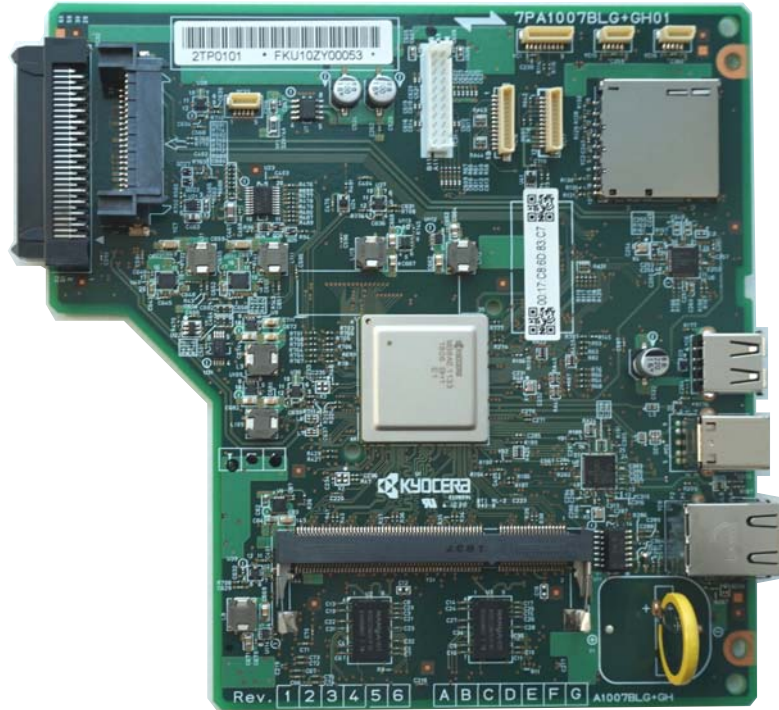
(1-2)Connector position
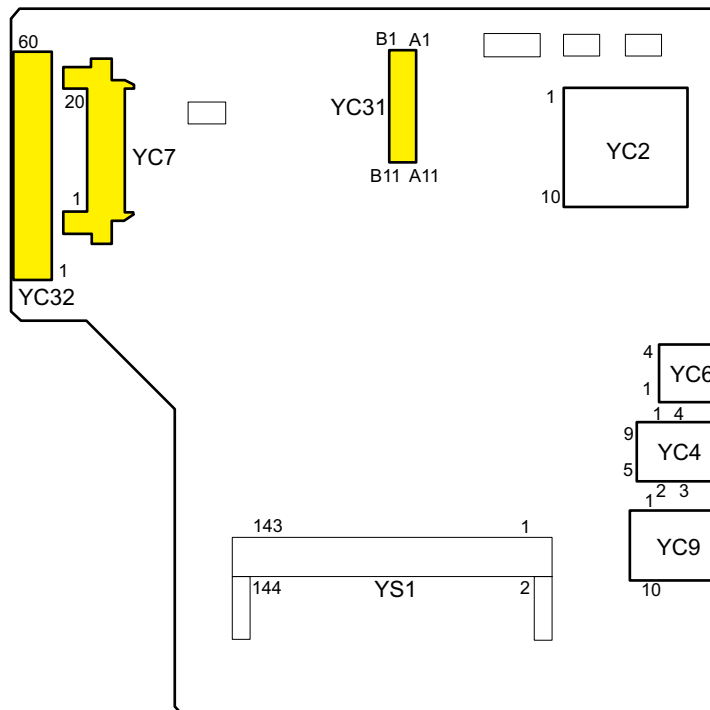
(1-3)Connector lists

Destination

- YC2: SD card
- YC4: USB Device
- YC6: USB HOST
- YC7: eKUIO PWB
- YC9: Ethernet
- YC31: IEEE1284
- YC32: Engine PWB

Connector	Pins	Signal	I/O	Voltage	Description
YC2	1	DAT3	I/O	DC0V/3.3V	Control signal
	2	CMD	I/O	DC0V/3.3V	Command control signal
	3	VSS	-	-	Ground
	4	VDD	O	DC3.3V	Power source
	5	CLK	O	DC0V/3.3V	Clock
	6	VSS	-	-	Ground
	7	DAT0	I/O	DC0V/3.3V	Data bus signal
	8	DAT1	I/O	DC0V/3.3V	Data bus signal
	9	DAT2	I/O	DC0V/3.3V	Data bus signal
	10	Delective_Card_Switch	I	DC0V/3.3V	Control signal
	11	Common_Contact	-	-	Ground
	12	WPSwitch	I	DC0V/3.3V	Write protect input signal
YC4	1	VBUS	I	DC0V/5.0V	VBUS signal
	2	D-	I/O	Analog	USB data signal
	3	D+	I/O	Analog	USB data signal
	4	GND	-	-	Ground
YC6	1	VBUS	O	DC0V/5.0V	VBUS signal
	2	D-	I/O	Analog	USB data signal
	3	D+	I/O	Analog	USB data signal
	4	GND	-	-	Ground
YC7	1	+5.0V1_C1	O	DC5.0V	Power source
	2	GND	-	-	Ground
	3	RESET	O	DC0V/3.3V	Reset signal
	4	+5.0V2_C	O	DC5.0V	Power source
	5	GND	-	-	Ground
	6	IRQ	I	DC0V/3.3V	Interrupt signal
	7	OPEN	-	-	NC
	8	OPEN	-	-	NC
	9	OPEN	-	-	NC
	10	OPEN	-	-	NC
	11	GND	-	-	Ground
	12	OPEN	-	-	NC
	13	OPEN	-	-	NC
	14	GND	-	-	Ground

Connector	Pins	Signal	I/O	Voltage	Description
YC7	15	OPEN	-	-	NC
	16	OPEN	-	-	NC
	17	GND	-	-	Ground
	18	DP	I/O	Analog	USB data signal
	19	DN	I/O	Analog	USB data signal
	20	VBUS	O	DC0V/3.3V	VBUS signal
YC9	P1	TD1+	I/O	Analog	Send data
	P2	TD1-	I/O	Analog	Send data
	P3	TD2+	I/O	Analog	Send data
	P4	TD2-	I/O	Analog	Send data
	P5	CT1	I		Center tap
	P6	CT2	I		Center tap
	P7	TD3+	I/O	Analog	Send data
	P8	TD3-	I/O	Analog	Send data
	P9	TD4+	I/O	Analog	Send data
	P10	TD4-	I/O	Analog	Send data
YC31	1	+3.3V2	O	DC3.3V	Power source
	2	+5.0V2	O	DC5.0V	Power source
	3	P1284DIR	O	DC0V/3.3V	Direction input signal
	4	NACK	O	DC0V/3.3V	Acknowledge input signal
	5	BUSY	O	DC0V/3.3V	Busy input
	6	PERROR	O	DC0V/3.3V	Errer signal
	7	SELECT	O	DC0V/3.3V	Select signal
	8	NFAULT	O	DC0V/3.3V	Errer signal
	9	PDATA1	I/O	DC0V/3.3V	Data signal
	10	PDATA2	I/O	DC0V/3.3V	Data signal
	11	PDATA3	I/O	DC0V/3.3V	Data signal
	12	PDATA4	I/O	DC0V/3.3V	Data signal
	13	PDATA5	I/O	DC0V/3.3V	Data signal
	14	PDATA6	I/O	DC0V/3.3V	Data signal
	15	PDATA7	I/O	DC0V/3.3V	Data signal
	16	PDATA8	I/O	DC0V/3.3V	Data signal
	17	NSELECTIN	I	DC0V/3.3V	Select signal
	18	NSTROBE	I	DC0V/3.3V	Output signal
	19	NAUTOFD	I	DC0V/3.3V	AUTO-FEED signal
	20	NINIT	I	DC0V/3.3V	Reset signal
	21	PDATECT	I	DC0V/3.3V	OP detection signal
	22	GND	-	-	Ground
YC32	1	+24V0	I	DC24V	Power input
	2	+24V0	I	DC24V	Power input
	3	+24V0	I	DC24V	Power input
	4	+3.3V0_PM	O	DC3.3V	Power source
	5	+3.3V3_E	O	DC3.3V	Power source
	6	+3.3V3_E	O	DC3.3V	Power source
	7	+5.0V1_C1	O	DC5.0V	Power source
	8	+3.3V1_C	O	DC3.3V	Power source
	9	LEDPWM_EN	O	DC0V/3.3V(pulse)	PI / Sensor intermittent control signal

Connector	Pins	Signal	I/O	Voltage	Description
YC32	10	E2C_SDAT	I	DC0V/3.3V	Serial communication data output
	11	C2E_SDAT	O	DC0V/3.3V	Serial communication data input
	12	C2E_SCK	O	DC0V/3.3V	Serial communication clock signal
	13	E2C_SDIR	I	DC0V/3.3V	Serial communication direction signal
	14	E2C_SBSY	I	DC0V/3.3V	System busy signal
	15	GND	-	-	Ground
	16	VBUS_USBH_3	O	DC0V/5.0V	VBUS signal
	17	GND	-	-	Ground
	18	USBH_DP3	I/O	Analog	USB data signal
	19	USBH_DN3	I/O	Analog	USB data signal
	20	GND	-	-	Ground
	21	SDIF_DAT0	I/O	DC0V/3.3V	WiFi input and output data
	22	SDIF_DAT1	I/O	DC0V/3.3V	WiFi input and output data
	23	SDIF_DAT2	I/O	DC0V/3.3V	WiFi input and output data
	24	SDIF_DAT3	I/O	DC0V/3.3V	WiFi input and output data
	25	SDIF_SDCLK	O	DC0V/3.3V	WiFi input and output data
	26	GND	-	-	Ground
	27	SH1D	O	DC0V/3.3V	Sample-and-hold signal
	28	GND	-	-	Ground
	29	LDOUT_1_DN	O	LVDS	Video data
	30	LDOUT_1_DP	O	LVDS	Video data
	31	GND	-	-	Ground
	32	GND	-	-	Ground
	33	GND	-	-	Ground
	34	GND	-	-	Ground
	35	GND	-	-	Ground
	36	GND	-	-	Ground
	37	GND	-	-	Ground
	38	GND	-	-	Ground
	39	LVU_SLEEP_N	O	DC0V/3.3V	LVU energy-saving control signal
	40	POWER_SW	I	DC0V/3.3V	PowerSW
	41	E2C_IRN	I	DC0V/3.3V	G6 interrupt signal
	42	E2C_WKUP_BGD_N	I	DC0V/3.3V	Engine BGM return trigger
	43	ENG_HLDN	O	DC0V/3.3V	Engine Hold signal
	44	C2E_QUICK_START	O	DC0V/3.3V	Speed priority return notification signal
	45	PVSYNC	I	DC0V/3.3V	VSYNC
	46	GND	-	-	Ground
	47	P2C_WKUP_RDY	I	DC0V/3.3V	Ready return trigger signal
	48	ENERGYSAVERKEY_N	I	DC0V/3.3V	Key input
	49	C2P_RST_N	O	DC0V/3.3V	Panel reset signal
	50	P2C_SDAT	I	DC0V/3.3V	Panel received data sjgnal
	51	C2P_SDAT	O	DC0V/3.3V	Panel transmitted data signal
	52	GND	-	-	Ground
	53	SDIF_SDCD	I	DC0V/3.3V	Card detect signal
	54	SDIF_INTA	I	DC0V/3.3V	Interrupt signal
	55	SDIF_CMD	I/O	DC0V/3.3V	Command signal
YC32	56	BDN_D	I	DC0V/3.3V	BD signal

Connector	Pins	Signal	I/O	Voltage	Description
YC32	57	SH2D	O	DC0V/3.3V	Sample hold signal
	58	GND	-	-	Ground
	59	LDOUT_2_DN	O	LVDS	Video signal
	60	LDOUT_2_DP	O	LVDS	Video signal

(2) Engine PWB

(2-1)PWB photograph
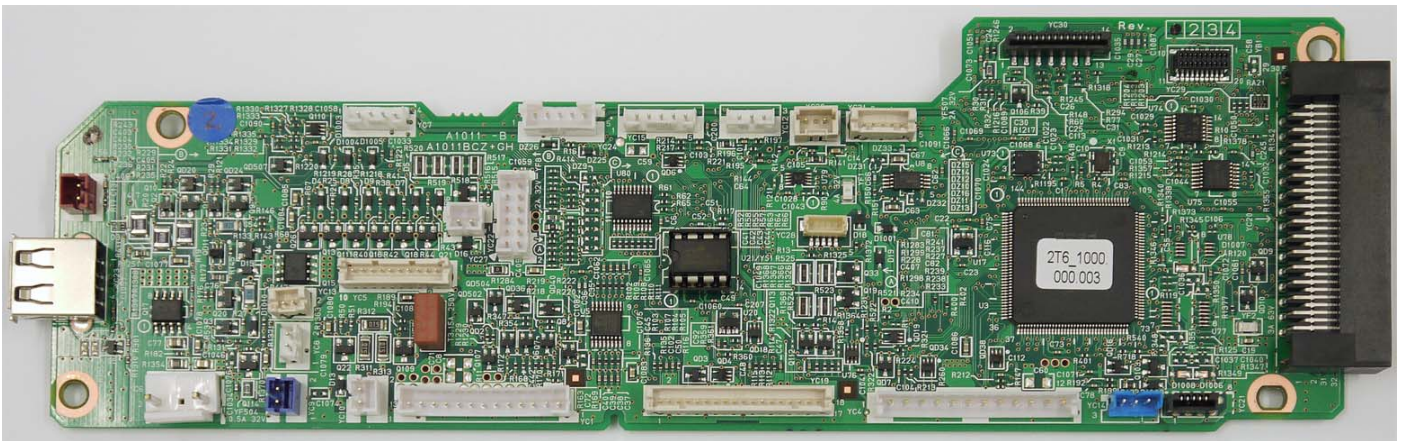
(2-2)Connector position
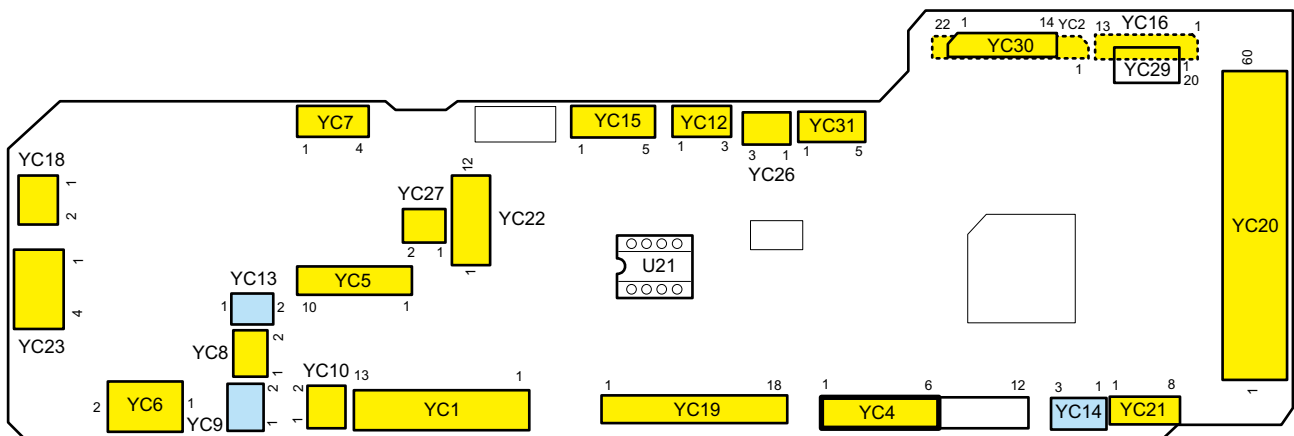
(2-3)Connector lists

Destination

- YC1: Power source PWB

- YC2: Relay-L PWB

- YC4: Drum motor*1, Main motor

- YC5: Duplex clutch, Conveying clutch, Registration clutch, Paper feed clutch, Developer clutch

- YC6: Interlock switch

- YC7: Cassette size switch

- YC8: MP solenoid

- YC9: Drum heater *2

- YC10: Power source fan motor

- YC12: Eject full sensor

- YC13*1: Lift motor

- YC14*1: Lift sensor

- YC15: Polygon motor

- YC16: APC PWB

- YC18: Power source switch

- YC19: High voltage PWB

- YC20: Main PWB

- YC21: Thermistor relay PWB

- YC22: Paper feeder (Option)

- YC23: USB host

- YC26: Eject sensor

- YC27: Developer fan motor, Center fan motor*2

- YC29: Wi-Fi PWB

- YC30: Operation PWB

- YC31: Relay-L PWB
*1: 50/55/60 ppm model
*2: 100V model

Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	HEAT2REM	O	DC0V/3.3V	TH2 remote signal
	2	HEAT1REM	O	DC0V/3.3V	TH1 remote signal
	3	ZCROSSN	I	DC0V/3.3V	Zero crossing detection signal
	4	RELAY	O	DC0V/3.3V	Relay driving signal
	5	PSLEEPN	O	DC0V/3.3V	Sleep signal
	6	GND	-	-	Ground
	7	GND	-	-	Ground
	8	GND	-	-	Ground
	9	GND	-	-	Ground
	10	+24V0	I	DC24V	Power input
YC1	11	+24V0	I	DC24V	Power input

Connector	Pins	Signal	I/O	Voltage	Description
	12	+24V0	I	DC24V	Power input
	13	+24V0	I	DC24V	Power input
YC2	1	EECLK	O	DC0V/3.3V	Clock signal
	2	GND	-	-	Ground
	3	EESIO	I/O	DC0V/3.3V (pulse)	Communication data
	4	ERASER	O	DC0V/3.3V	Cleaning lamp: On/Off
	5	+3.3V3_F2	O	DC3.3V	Power source
	6	TSENS	I	Analog	Toner sensor output signal
	7	SBMDIR	O	DC0V/3.3V	Eject motor: On/Off
	8	WTSENS	I	Analog	WTS output signal
	9	SBMENBLN	O	DC0V/3.3V	Enable signal
	10	WTLED	O	DC0V/3.3V	LED: On/Off
	11	SBMSTEP	O	DC0V/3.3V (pulse)	Clock signal
	12	MPFSENS	I	DC0V/3.3V	MP paper sensor: On/Off
	13	SBMMODE	O	DC0V/3.3V	Mode signal
	14	+3.3V1_PWM_F2	O	DC3.3V	Power source
	15	TMOT	O	DC0V/3.3V	Toner motor: On/Off
	16	LFANN	O	DC0V/3.3V	Center fan motor: On/Off
	17	FUDR	O	DC0V/3.3V	Feedshift solenoid: On/Off
	18	ENVMOT	O	DC0V/3.3V	Fuser pressure release motor: On/Off
	19	FDDR	O	DC0V/3.3V	Feedshift solenoid: On/Off
	20	DUJAMSEN1N	I	DC0V/3.3V	Duplex sensor: On/Off
	21	REGSEN2	I	DC0V/3.3V	Registration sensor 2: On/Off
	22	REARSWN	I	DC0V/3.3V	Rear cover switch: On/Off
YC4	1	MMOTCW	O	DC0V/5V	Main motor drive shift signal
	2	MMOTRDYN	I	DC0V/3.3V	Main motor ready signal
	3	MMOTCLKN	O	DC0V/5V (pulse)	Main motor clock signal
	4	MMOTONN	O	DC0V/5V	Main motor: On/Off
	5	GND	-	-	Ground
	6*1	+24V3_IL	O	DC24V	Power source
	7*1	DMOTCW	O	DC0V/5V	Drum motor rotation direction
	8*1	DMOTRDYN	I	DC0V/3.3V	Drum motor ready signal
	9*1	DMOTCLKN	O	DC0V/5V (pulse)	Drum motor clock signal
	10*1	DMOTONN	O	DC0V/5V	Drum motor: On/Off
	11*1	GND	-	-	Ground
	12*1	+24V3_IL	O	DC24V	Power source
YC5	1	+24V3_IL	O	DC24V	Power source
	2	DLPCLN	O	DC0V/3.3V	Developer clutch: On/Off
	3	+24V3_IL	O	DC24V	Power source
	4	FEEDCLN	O	DC0V/24V	Paper feed clutch: On/Off
	5	+24V3_IL	O	DC24V	Power source
	6	REGCLN	O	DC0V/24V	Registration clutch: On/Off
	7	+24V3_IL	O	DC24V	Power source
	8	MIDCLN	O	DC0V/24V	Conveying clutch: On/Off
	9	+24V3_IL	O	DC24V	Power source
	10	DUCLN	I/O	DC0V/24V	Duplex clutch: On/Off
YC6	1	+24V0	O	DC24V	Power source

Connector	Pins	Signal	I/O	Voltage	Description
	2	+24V0_IL	O	DC24V	Power source
YC7	1	CAS3	I	DC0V/24V	Cassette size switch: On/Off
	2	CAS2	I	DC0V/3.3V	Cassette size switch: On/Off
	3	CASSET	-	-	Cassette size switch common signal
	4	CAS1	I	DC0V/3.3V	Cassette size switch: On/Off
YC8	1	+24V3_IL	O	DC24V	Power source
	2	MPFSOLN	O	DC0V/24V	MP solenoid: On/Off
YC9	1	+24V0_F1	O	DC24V	Power source
	2	DHEATER	O		Drum heater: On/Off
YC10	1	+24V0	O	DC24V	Power source
	2	FANRN	O	DC0V/24V	Power source fan motor: On/Off
YC12	1	+3.3V3_F2	O	DC3.3V	Power source
	2	GND	-	-	Ground
	3	PAPFULN	I	DC0V/3.3V	Eject full sensor: On/Off
YC13	1	LIFTMOTOR	O	DC0V/5V	Lift motor: On/Off
	2	GND	-	-	Ground
YC14	1	+3.3V_F2	O	DC3.3V	Power source
	2	GND	-	-	Ground
	3	LSENS	I	DC0V/3.3V	Lift sensor: On/Off
YC15	1	+24V3_IL_F5	O	DC24V	Power source
	2	GND	-	-	Ground
	3	PLGDRN	O	DC0V/5V	Polygon motor: On/Off
	4	PLGRDYN	I	DC0V/3.3V	Ready signal
	5	POLCLK	O	DC0V/3.3V (pulse)	Clock signal
YC16	1	+5.0V3_F1	O	DC5V	Power source
	2	VDATA1P	O	LVDS	Video data 1 signal (+)
	3	VDATA1N	O	LVDS	Video data 1 signal (-)
	4	VDATA2P	O	LVDS	Video data 2 signal (+)
	5	VDATA2N	O	LVDS	Video data 2 signal (-)
	6	SAMPLEN1	O	DC0V/3.3V	Sample / hold signal 1
	7	SAMPLEN2	O	DC0V/3.3V	Sample / hold signal 2
	8	OUTPEN	O	DC0V/3.3V	Laser enable
	9	VCONT1	O	Analog	LD-1 Light volume adjustment
	10	VCONT2	O	Analog	LD-2 Light volume adjustment
	11	GND	-	-	Ground
	12	PDN	I	DC0V/3.3V (pulse)	Main scanning synchronizing signal
	13	+3.3V3_F2	O	DC3.3V	Power source
YC18	1	GND	-	-	Ground
	2	POWERSW	I	DC0V/3.3V	Power source switch: On/Off
YC19	1	ENVSENSN	I	DC0V/3.3V	Fuser pressure release sensor: On/Off
	2	GND	-	-	Ground
	3	MISENS	I	Analog	MC output signal
	4	MHVCLK	O	DC0V/3.3V (pulse)	MC clock signal
	5	MACCNT	O	Analog	MC AC control signal
	6	MDCCNT	O	Analog	MC DC control signal
	7	HVCLK	I/O	DC0V/3.3V (pulse)	DEV clock signal
YC19	8	BDCNT	O	Analog	DEV DC control signal

Connector	Pins	Signal	I/O	Voltage	Description
	9	BACNT	O	Analog	DEV AC control signal
	10	PAPERSEN2N	I	DC0V/3.3V	Paper sensor 2: On/Off
	11	PAPERSEN1N	I	DC0V/3.3V	Paper sensor 1: On/Off
	12	REGSENSN	I	DC0V/3.3V	Registration sensor: On/Off
	13	DUJAMSEN2N	I	DC0V/3.3V	Duplex sensor: On/Off
	14	+3.3V3_F2	O	DC3.3V	Power source
	15	SCNT	O	DC0V/3.3V	Separation output control signal
	16	TRREM	O	DC0V/3.3V	TC remote signal
	17	TCNT	O	Analog	TC control signal
	18	+24V3_IL	O	DC24V	Power source
YC20	1	+24V0	O	DC24V	Power source
	2	+24V0	O	DC24V	Power source
	3	+24V0	O	DC24V	Power source
	4	+3.3V0_PM	I	DC3.3V	Power source
	5	+3.3V3_E	I	DC3.3V	Power source
	6	+3.3V3_E	I	DC3.3V	Power source
	7	+5.0V1_C	I	DC5.0V	Power source
	8	+3.3V1_C	I	DC3.3V	Power source
	9	LEDPWM_EN	I	LVCMOS33	Duty control of the PI power supply
	10	E2C_SDAT	O	LVCMOS33	Serial communication data input
	11	C2E_SDAT	I	LVCMOS33	Serial communication data output
	12	C2E_SCK	I	LVCMOS33	Serial communication clock signal
	13	E2C_SDIR	O	LVCMOS33	Serial communication direction signal
	14	E2C_SBSY	O	LVCMOS33	System busy signal
	15	GND	-	-	Ground
	16	VBUS_USBH_3	I	3.3V CMOS	Front USB　HOST VBUS
	17	GND	-	-	Ground
	18	USBH_DP3	I/O	LVDS	Front USB HOST data
	19	USBH_DN3	I/O	LVDS	Front USB HOST data
	20	GND	-	-	Ground
	21	SDIF_DATA0	I/O	DC0V/3.3V	WiFi input and output data
	22	SDIF_DATA1	I/O	DC0V/3.3V	WiFi input and output data
	23	SDIF_DATA2	I/O	DC0V/3.3V	WiFi input and output data
	24	SDIF_DATA3	I/O	DC0V/3.3V	WiFi input and output data
	25	SDIF_SDCLK	I	DC0V/3.3V	WiFi input and output data
	26	GND	-	-	Ground
	27	SH1D	I	3.3V CMOS	Sample / hold signal 1
	28	GND	-	-	Ground
	29	LDOUT_1_DN	I	LVDS	Video data 1
	30	LDOUT_1_DP	I	LVDS	Video data 1
	31	GND	-	-	Ground
	32	GND	-	-	Ground
	33	GND	-	-	Ground
	34	GND	-	-	Ground
	35	GND	-	-	Ground
	36	GND	-	-	Ground
YC20	37	GND	-	-	Ground

Connector	Pins	Signal	I/O	Voltage	Description
	38	GND	-	-	Ground
	39	LVU_SLEEP_N	I	DC0V/3.3V	LVU energy-saving control
	40	POWER_SW	O	DC0V/3.3V	Detecting the power switch pressed
	41	E2C_IRN	O	LVCMOS33	Engine Interrupt
	42	E2C_WKUP_BGD_N	O	LVCMOS33	Engine BGD return trigger
	43	ENG_HLDN	I	3.3V CMOS	Hold to the engine
	44	C2E_QUICK_START	I	LVCMOS33	Speed priority return notification
	45	PVSYNC	O	LVCMOS33	VSYNC
	46	GND	-	-	Ground
	47	P2C_WKUP_RDY	O	LVCMOS33	Detecting the panel key pressed
	48	ENERGYSAVERKEY_N	O	LVCMOS33	OK key on the operation panel
	49	C2P_RST_N	I		Panel reset signal
	50	P2C_SDAT	O	LVCMOS33	Panel received data sjgnal
	51	C2P_SDAT	I	LVCMOS33	Panel transmitted data signal
	52	GND	-	-	Ground
	53	SDIF_SDCD	O	DC0V/3.3V	Card detect signal
	54	SDIF_INTA	O	DC0V/3.3V	Interrupt signal
	55	SDIF_CMD	I	DC0V/3.3V	Command signal
	56	BDN_D	O	3.3V CMOS	Beam Detect
	57	SH2D	I	3.3V CMOS	Sample / hold signal 2
	58	GND	-	-	Ground
	59	LDOUT_2_DN	I	LVDS	Video data 2
	60	LDOUT_2_DP	I	LVDS	Video data 2
YC21	1	TH3	I	Analog	FUTH2 output signal
	2	TH1	I	Analog	FUTH2 output signal
	3	GND	-	-	Ground
	4	REARFANN	O	DC24V	Rear fan motor On/Off
	5	+24V0_F3	O	DC24V	Power source
YC22	1	+24V3_F2	O	DC24V	Power source
	2	OPSDO	O	DC0V/3.3V (pulse)	PF communication serial data signal
	3	OPSDI	I	DC0V/3.3V (pulse)	PF communication serial data signal
	4	OPCLK	O	DC0V/3.3V (pulse)	PF communication serial clock signal
	5	OPRDYN	I	DC0V/3.3V	Option communication ready signal
	6	+3.3V3_F1	O	DC3.3V	Power source
	7	GND	-	-	Ground
	8	OPSEL2	O	DC0V/3.3V	PF select signal
	9	OPSEL1	O	DC0V/3.3V	PF select signal
	10	OPSEL0	O	DC0V/3.3V	PF select signal
	11	OPPAUSEN	O	DC0V/3.3V	Paper stop signal
	12	GND	-	-	Ground
YC23	1	VBUS	O	DC5V	Power source
	2	UDATAN	I/O	LVDS	USB data signal (-)
	3	UDATAP	I/O	LVDS	USB data signal (+)
	4	GND	-	-	Ground
YC26	1	+3.3V3_F2	O	DC3.3V	Power source

Connector	Pins	Signal	I/O	Voltage	Description
	2	GND	-	-	Ground
	3	EXITSENSN	I	DC0V/3.3V	Eject sensor: On/Off
YC27	1	DFANRN	O	DC0V/24V	Developer fan motor: On/Off
	2	+24V0_F3	O	DC24V	Power source
	3	CFANN	O	DC0V/24V	Center fan motor: On/Off
	4	+24V0_F3	O	DC24V	Power source
YC29	1	SD_D3	I/O	DC3.3V (pulse)	Data [3]
	2	SD_D2	I/O	DC3.3V (pulse)	Data [2]
	3	SD_CMD	I/O	DC3.3V (pulse)	Command signal
	4	GND	O		Ground
	5	SD_CLK	O	DC3.3V (pulse)	Transfer clock
	6	GND	O		Ground
	7	SD_D1	I/O	DC3.3V (pulse)	Data [1]
	8	SD_D0	I/O	DC3.3V (pulse)	Data [0]
	9	GND	O		Ground
	10	VIO	O	DC3.3V	Power source
	11	VBAT	O	DC3.3V	Power source
	12	GND	O		Ground
	13	PAVDD	O	DC3.3V	Power source
	14	GND	O		Ground
	15	HOSTWAKE	I	DC0V/3.3V	Interrupt signal
	16	GND	O		Ground
	17	RESET	O		Not used
	18	SDIF_SDCD	I	DC0V/3.3V	Card Detect
	19	USB_+	O		Not used (Ground)
	20	USB_-	O		Not used (Ground)
YC30	1	+3.3V1_F1	O	DC3.3V	Power source
	2	FPRSTN	O	DC0V/3.3V	Reset signal
	3	GND	-	-	Ground
	4	INT_OK_N	I	DC0V/3.3V	Pressing the OK key on the operation panel (Return)
	5	AIRTEMP	I	Analog	Temperature sensor input signal
	6	INT_MENU	I	DC0V/3.3V	Pressing the Menu key on the operation panel (Return)
	7	+5.0V1_F1	O	DC5V	Power source
	8	P2C_SDAT	I	DC0V/3.3V	Data signal
	9	AIRWET	I	Analog	Humid sensor input signal
	10	C2P_SDAT	O	DC0V/3.3V	The data signal between panel main
	11	WETCLK	O	DC0V/3.3V (pulse)	Humid sensor clock signal
	12	FG	-	-	Ground
YC31	1	+24V0_F3	O	DC24V	Power source
	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	+24V3_IL_F5	O	DC24V	Power source
	5	1WIRE	-	-	-

*1: 50/55/60 ppm model

(3) Power source PWB

(3-1)PWB photograph
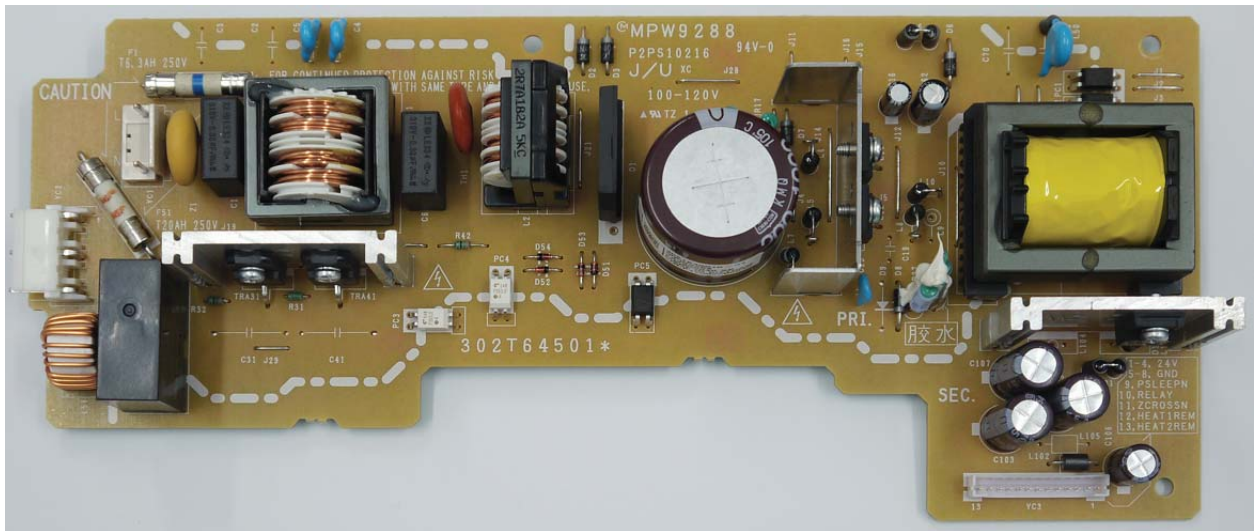
(3-2)Connector position
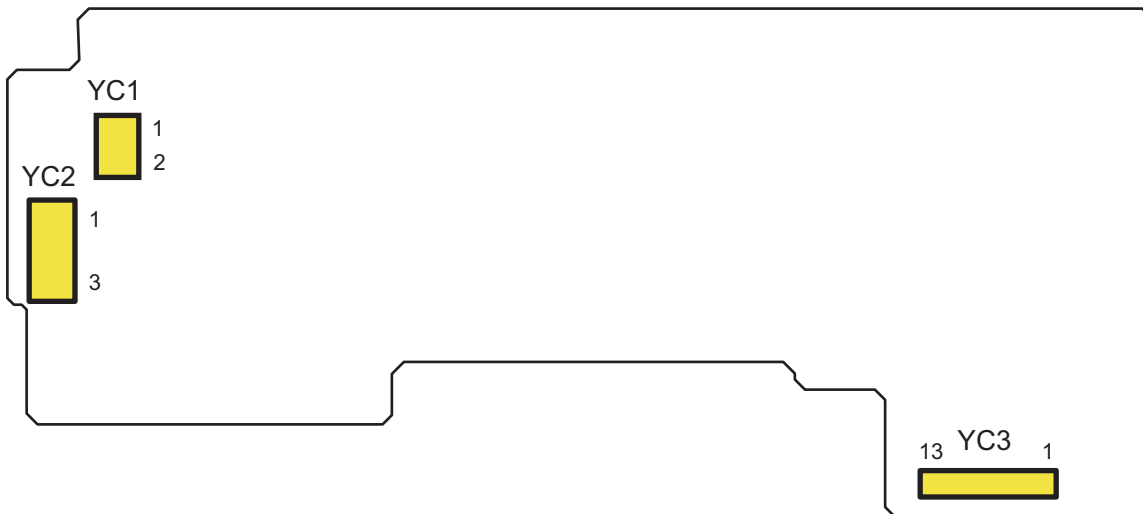
(3-3)Connector lists

Destination

- YC1: Inlet
- YC2: Fuser unit
- YC3: Engine PWB

Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	LIVE	I	AC100V or 230V	AC power input
	2	NEUTRAL	I	AC100V or 230V	AC power input
YC2	1	NEUTRAL1	I	AC100V or 230V	Fuser heater
	2	LIVE	O	AC100V or 230V	ACPower source
	3	NEUTRAL2	I	AC100V or 230V	Fuser heater
YC3	1	+24V0	O	DC24V	Power source
	2	+24V0	O	DC24V	Power source
	3	+24V0	O	DC24V	Power source
	4	+24V0	O	DC24V	Power source
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	GND	-	-	Ground
	8	GND	-	-	Ground
	9	PSLEEPN	I	DC0V/5V	Sleep mode signal
	10	RELAY	I	DC0V/5V	Relay control
	11	ZCROSSN	O	DC0V/5V (pulse)	Zero crossing signal
	12	HEAT1REM	I	DC0V/24V	Fuser heater control
	13	HEAT2REM	I	DC0V/24V	Fuser heater control

(4) High voltage PWB

(4-1)PWB photograph
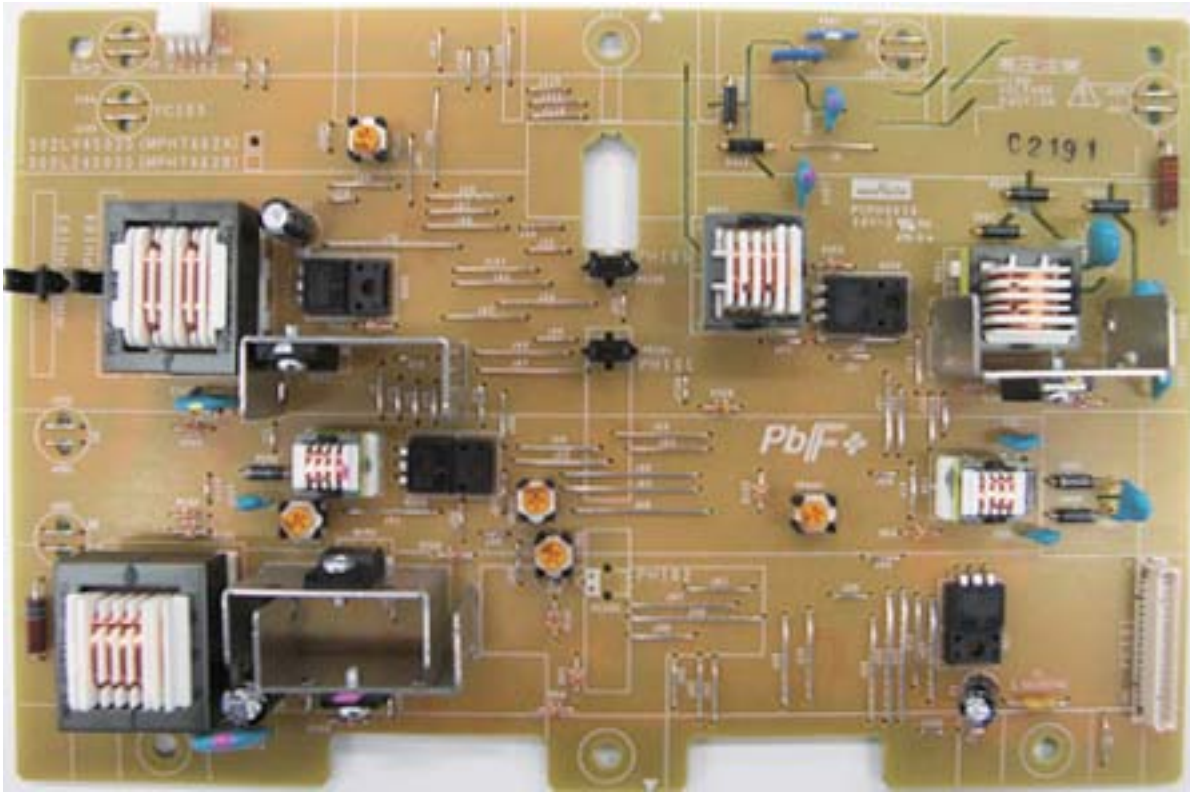
(4-2)Connector position
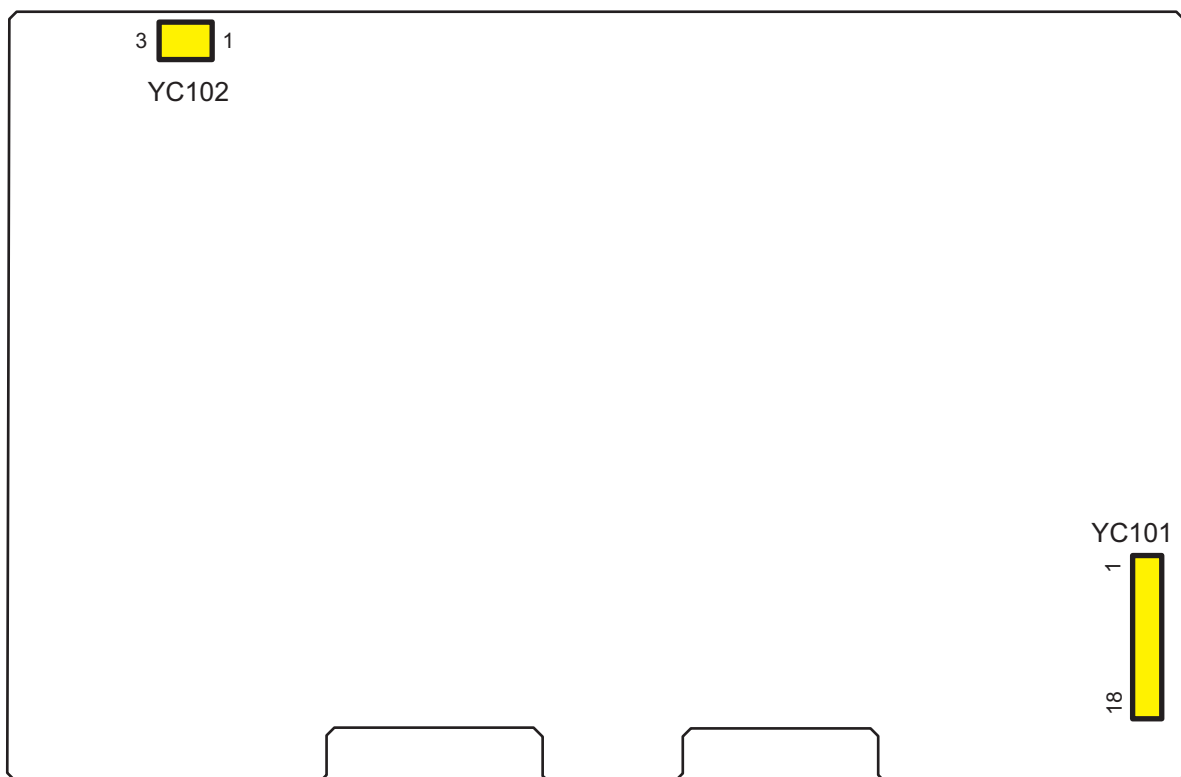
(4-3)Connector lists

Destination

- CN1: Engine PWB
- CN2: Fuser pressure release sensor

Connector	Pins	Signal	I/O	Voltage	Description
YC101	1	+24V3_IL	O	DC24V	Power source
	2	TCNT	O	AnalogV	Transfer control
	3	TRREM	O	DC0V/3.3V	Transfer remote signal
	4	SCNT	O	Analog	Separation control
	5	+3.3V3_F2	O	DC3.3V	Power source
	6	DUJAMSEN2N	I	DC0V/3.3V	Duplex sensor 2: On/Off
	7	REGSENSN	I	DC0V/3.3V	Registration sensor: On/Off
	8	PAPERSEN1N	I	DC0V/3.3V	Paper sensor 1: On/Off
	9	PAPERSEN2N	I	DC0V/3.3V	Paper sensor 2: On/Off
	10	BACNT	I	Analog	Developer AC control
	11	BDCNT	I	Analog	Developer DC control
	12	HVCLK	O	DC0V/3.3V	Developer clock signal
	13	MDCCNT	I	Analog	Charger DC control
	14	MACCNT	I	Analog	Charger AC control
	15	MHVCLK	O	DC0V/3.3V	Charger clock signal
	16	MISENS	O	Analog	Charger current detection
	17	GND	-	-	Ground
	18	ENVSENSN	I	DC0V/3.3V	Eject sensor: On/Off
YC102	1	+3.3V14	O	DC3.3V	Power source
	2	GND	-	-	Ground
	3	ENVSENSN	I	DC0V/3.3V	Fuser pressure release sensor: On/Off

(5) Operation PWB

(5-1)PWB photograph
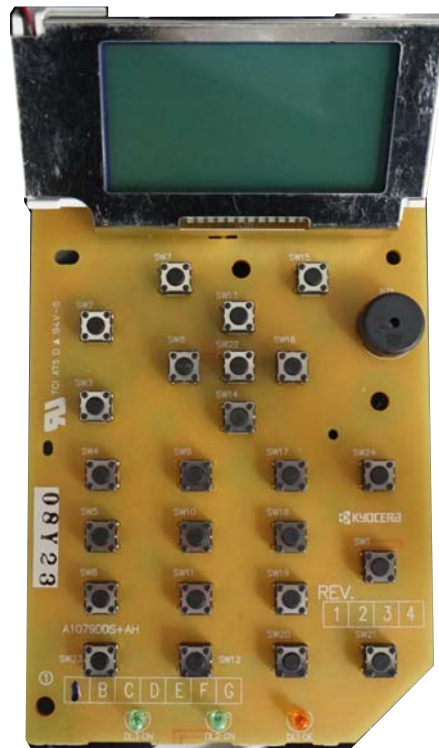
(5-2)Connector position
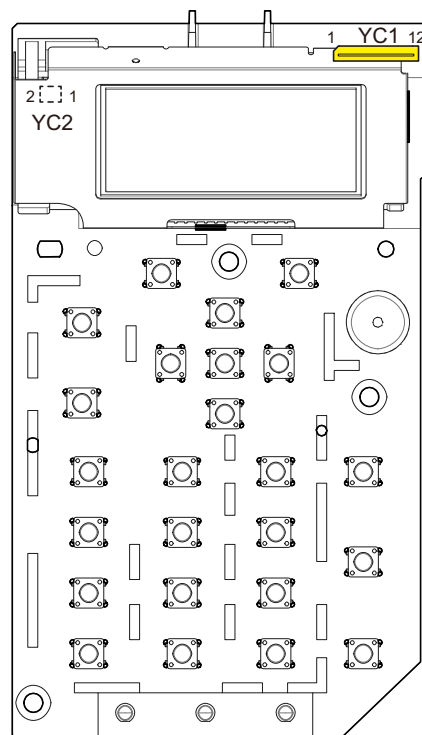
(5-3)Connector lists

Destination

- YC1: Engine PWB
- YC2: Backlight PWB

Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	+3.3V1_F1	I	DC3.3V	Power source
	2	FPRSTN	I	DC0V/3.3V	Reset signal
	3	GND	-	-	Ground
	4	INT_OK_N	O	DC0V/3.3V	Pressing the OK key on the operation panel (Return)
	5	AIRTEMP	O	Analog	Temperature sensor input signal
	6	INT_MENU	O	DC0V/5V	Pressing the Menu key on the operation panel (Return)
	7	+5.0V1_F1	I	DC5V	Power source
	8	P2C_SDAT	O	DC0V/3.3V	Data signal
	9	AIRWET	O	Analog	Humid sensor output signal
	10	C2P_SDAT	I	DC0V/3.3V	The data signal between panel main
	11	WETCLK	I	DC0V/3.3V (pulse)	Humid sensor clock signal
	12	FG	-	-	Ground
YC2	1	+5V5	I	DC5V	Power input
	2	BLIGHT	O	DC0V/5V	Backlight: On/Off

(6) Relay-L PWB

(6-1)PWB photograph
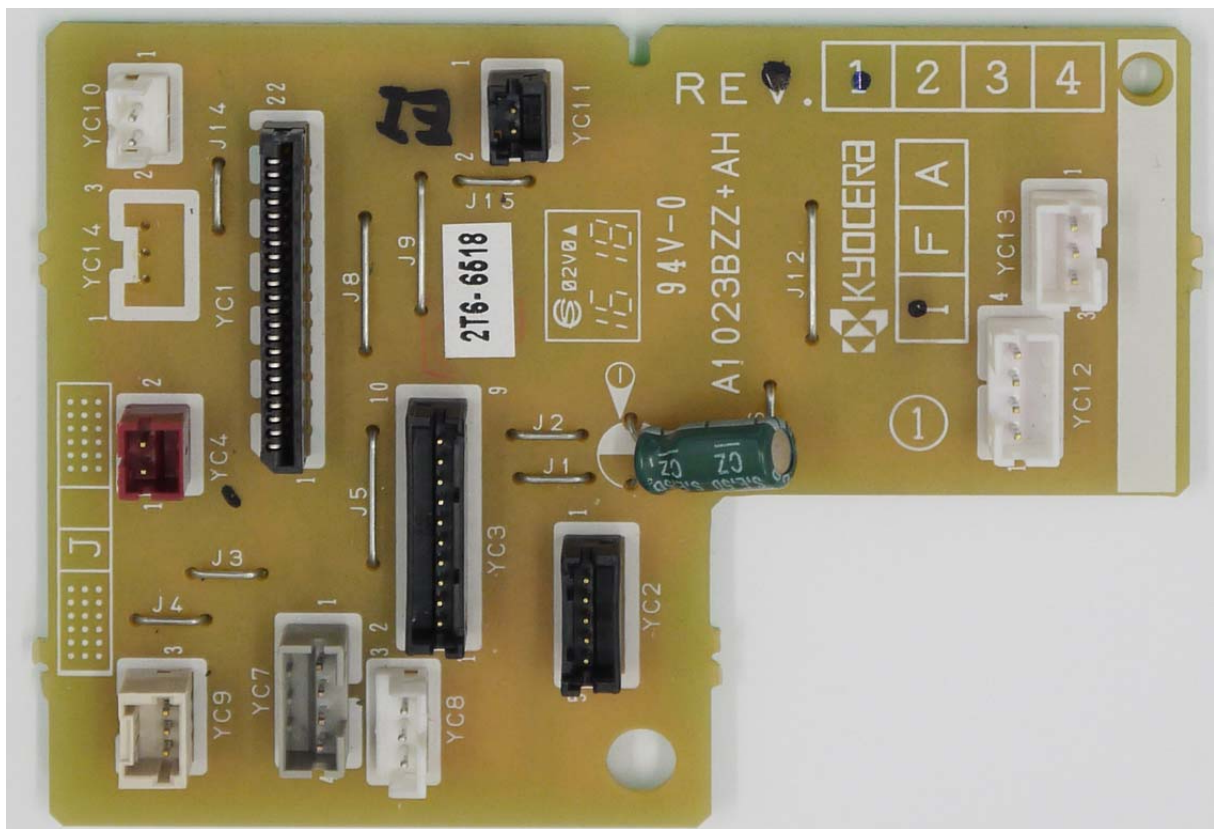
(6-2)Connector position
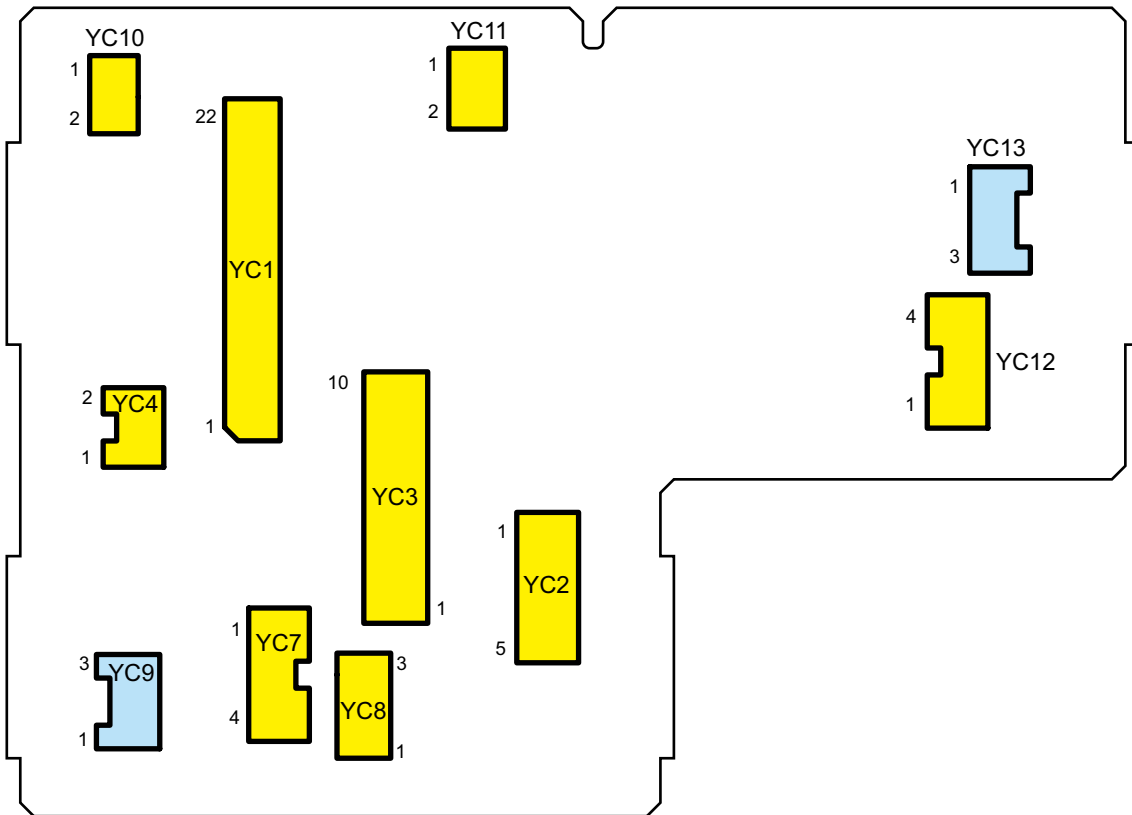
(6-3)Connector lists

Destination

- YC1: Engine PWB
- YC2: Engine PWB
- YC3: Drum connect PWB
- YC4: LSU fan motor
- YC7: Waste toner sensor
- YC8: MP paper sensor
- YC9*1: Duplex sensor 1
- YC10: Rear cover switch
- YC11: Fuser pressure release motor
- YC12: Eject motor
- YC13*1: Feed shift solenoid

*1: 50/55/60 ppm model

Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	EECLK	I	DC0V/3.3V (pulse)	Clock signal
	2	GND	-	-	Ground
	3	EESIO	I/O	DC0V/3.3V	Data signal
	4	ERASER	I	DC0V/3.3V	CL control signal
	5	+3.3V3_F2	I	DC3.3V	Power input
	6	TSENS	O	Analog	Toner sensor output signal
	7	SBMDIR	I	DC0V/5V	Eject motor: On/Off
	8	WTSENS	O	Analog	Waste toner sensor output signal
	9	SBMENBLN	I	DC0V/3.3V	Output control signal
	10	WTLED	I	DC0V/3.3V	Waste toner LED control
	11	SBMSTEP	I	DC0V/3.3V	Step signal
	12	MPFSENS	O	DC0V/3.3V	MP paper sensor: On/Off
	13	SBMMODE	I	DC0V/3.3V	Mode control signal
	14	+3.3V1_PWM_F2	I	DC3.3V	Power input
	15	TMOT	I	DC0V/3.3V	Toner motor: On/Off
	16	LFANN	I	DC0V/24V	LSU fan motor: On/Off
	17	FUDR	I	DC0V/24V	Feedshift solenoid: On/Off
	18	ENVMOT	I	DC0V/5V	Fuser pressure release motor: On/Off
	19	FDDR	I	DC0V/24V	Feedshift solenoid: On/Off
	20	DUJAMSEN1N	O	DC0V/3.3V	Duplex sensor 1: On/Off
	21	REGSEN2	O	DC0V/3.3V	Registration sensor 2: On/ Off
	22	REARSWN	O	DC0V/3.3V	Rear cover switch: On/Off
YC2	1	1WIRE	-	-	-
	2	+24V3_IL_F5	I	DC24V	Power input
	3	GND		-	Ground
	4	GND		-	Ground
	5	+24V0_F3	I	DC24V	Power input
YC3	1	1WIRE	-	-	-
	2	TSENS	I	Analog	TS output signal

Connector	Pins	Signal	I/O	Voltage	Description
YC3	2	+24V3_IL_F5	O	DC24V	Power source
	3	ERASERN	O	DC0V/24V	Cleaning lamp: On/Off
	4	EECLK	O	DC0V/24V (pulse)	Clock signal
	5	EESIO	I/O	DC0V/3.3V	Data signal
	6	TMOT	O	DC0V/5V	Toner motor control signal
	7	+3.3V3_E	O	DC3.3V	Power source
	8	GND	-	-	Ground
	9	REGSEN2	I	DC0V/3.3V	Registration sensor 2: On/Off
YC4	1	LFANN	-	DC0V/24V	LSU fan motor: On/Off
	2	+24V0_F3	O	DC24V	Power source
YC7	1	+3.3V12	O	DC3.3V	Power source
	2	WTLEDN	I	DC0V/3.3V	Waste toner sensor (LED): On/Off
	3	WTSENS	I	Analog	Output signal
	4	+3.3V3_F2	O	DC3.3V	Power source
YC8	1	+3.3V1_PWM	O	DC3.3V	Power source
	2	GND	-	-	Ground
	3	MPFSENS	I	DC0V/3.3V	MP paper sensor: On/Off
YC9*1	1	+3.3V3_E	O	DC3.3V	Power source
	2	GND	-	-	Ground
	3	DUJAMSEN1N	I	DC0V/3.3V	Duplex sensor 1: On/Off
YC10	1	REARSWN	I	DC0V/3.3V	Rear cover switch: On/Off
	2	GND	-	-	Ground
YC11	1	ENVMOT	O	DC0V/5V	Fuser pressure release motor: On/Off
	2	GND	-	-	Ground
YC12	1	OUTB3	O	DC0V/3.3V	B3 drive control signal
	2	OUTB1	O	DC0V/3.3V	B1 drive control signal
	3	OUTA3	O	DC0V/3.3V	A3 drive control signal
	4	OUTA1	O	DC0V/3.3V	A1 drive control signal
YC13*1	1	FACEUDRN	O	DC0V/24V	Feedshift solenoid: On/Off
	2	+24V6	O	DC24V	Power source
	3	FACEUDRN	O	DC0V/24V	Feedshift solenoid: On/Off

*1: 50/55/60 ppm model

8 - 2 Description for PWB (OPTION)

(1) PF PWB (PF-3110)

(1-1)PWB photograph
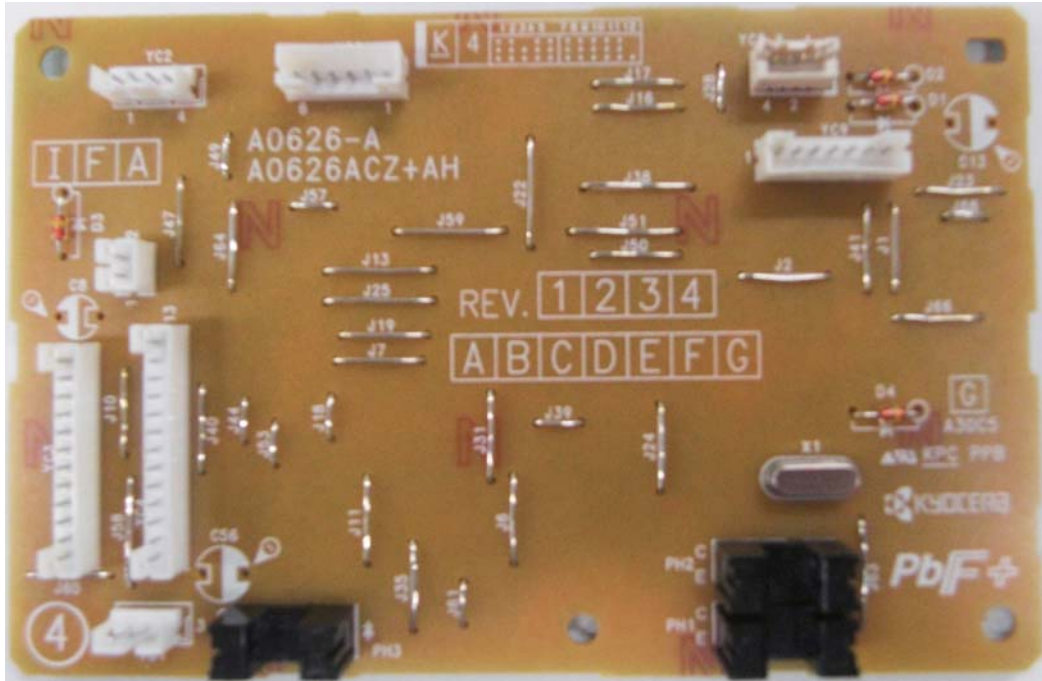
(1-2)Connector position
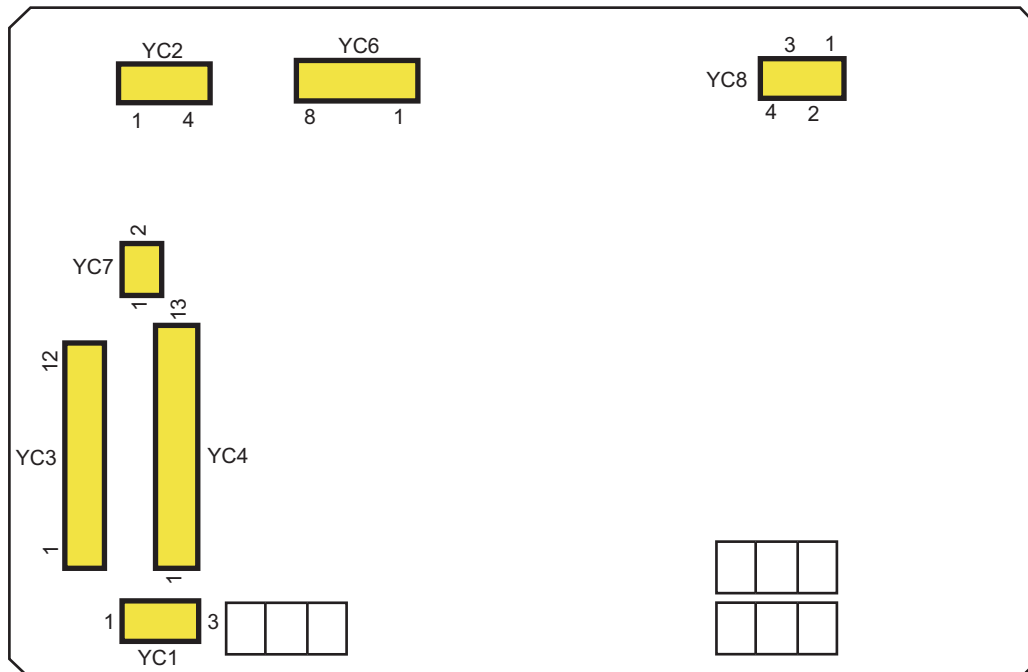
(1-3)Connector lists

Destination

- YC1: PF conveying sensor

- YC2: PF cassette size switch

- YC3: Printer or upper paper feeder

- YC4: Lower paper feeder

- YC6: PF feed motor

- YC7: PF lift motor

- YC8: PF feed clutch, PF conveying clutch

Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	+3.3V2	-	DC3.3V	Power source
	2	GND	-	-	Ground
	3	OUT	I	DC0V/3.3V	PF conveying sensor: On/Off
YC2	1	PAPSIZ0	I	DC0V/3.3V	PF cassette size switch 0: On/Off
	2	PAPSIZ1	I	DC0V/3.3V	PF cassette size switch 1: On/Off
	3	GND	-	-	Ground
	4	PAPSIZ2	I	DC0V/3.3V	PF cassette size switch 2: On/Off
YC3	1	+24V1	O	DC24V	Power source
	2	OPSDO	O	DC0V/3.3V (pulse)	Synchronous serial receiving data
	3	OPSDI	O	DC0V/3.3V (pulse)	Synchronous serial send data
	4	OPSCLK	O	DC0V/3.3V (pulse)	Synchronous serial clock signal
	5	OPRDYN	-	DC0V/3.3V	SPI ready signal
	6	+3.3V1	O	DC3.3V	Power source
	7	GND	-	-	Ground
	8	OPSEL2	I	DC0V/3.3V	SPI_SEL 2
	9	OPSEL1	I	DC0V/3.3V	SPI_SEL 1
	10	OPSEL0	I	DC0V/3.3V	SPI_SEL 0
	11	OPPAUSEN	O	DC0V/3.3V	PF operation stop signal
	12	GND	I	-	Ground
YC4	1	+24V1	O	DC24V	Power source
	2	OPSDO	O	DC0V/3.3V (pulse)	Synchronous serial receiving data
	3	OPSDI	I	DC0V/3.3V (pulse)	Synchronous serial send data
	4	OPSCLK	O	DC0V/3.3V (pulse)	Synchronous serial clock signal
	5	OPRDYN	I	DC0V/3.3V	SPI ready signal
	6	+3.3V1	O	DC3.3V	Power source
	7	GND	-	-	Ground
	8	OPSEL2	O	DC0V/3.3V	SPI_SEL 2
	9	OPSEL1	O	DC0V/3.3V	SPI_SEL 1
	10	OPSEL0	O	DC0V/3.3V	SPI_SEL 0
	11	OPPAUSEN	O	DC0V/3.3V	PF operation stop signal
	12	GND	-	-	Ground
YC6	1	TMDIR	O	DC0V/3.3V	Rotation direction signal
	2	TMLOCK	I	DC0V/3.3V	Rotation stable signal

Connector	Pins	Signal	I/O	Voltage	Description
YC6	3	TMCLK	O	DC0V/3.3V (pulse)	Clock signal
	4	TMDRVN	O	DC0V/3.3V	Control signal
	5	GND	-	-	Ground
	6	+24V2	-	DC24V	Power source
YC7	1	GND	-	-	Ground
	2	LMOTOR	O	DC0V/3.3V	PF lift motor control signal
YC8	1	+24V2	-	DC24V	Power source
	2	FEEDCLN	O	DC0V/3.3V	PF conveying clutch control signal
	3	+24V2	-	DC24V	Power source
	4	TRANSCLN	O	DC0V/3.3V	PF feed clutch control signal

(2) PF PWB (PF-3100)

(2-1)Connector position
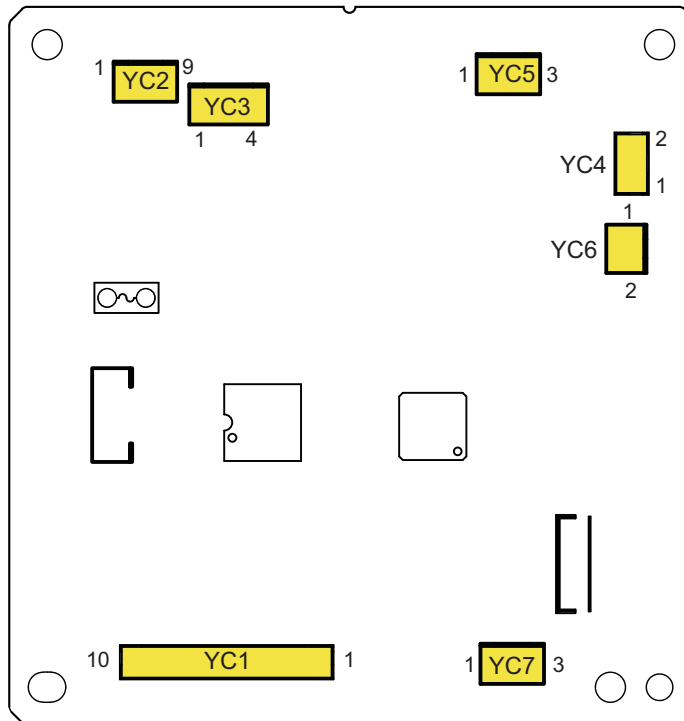
(2-2)Connector lists

Destination

YC1: Printer
YC2: PF paper feed sensor
YC3: PF paper feed motor
YC4: PF lift motor
YC5: PF tray top position sensor
YC6: PF cover switch
YC7: PF tray bottom position sensor

Connector	Pins	Signal	I/O	Voltage	Description
YC1	1	+5V	I	DC5V	Power input
	2	PFSEL2	I	DC0V/3.3V	PF Select2 signal
	3	PFSEL1	I	DC0V/3.3V	PF Select1 signal
	4	PFSEL0	I	DC0V/3.3V	PF Select0 signal
	5	PFRDYN	O	DC0V/3.3V	Serial comunication signal_Ready
	6	PFTxD	I	DC0V/3.3V	Serial comunication signal_Data
	7	PFRxD	O	DC0V/3.3V	Serial comunication signal_Data
	8	PFCLK	I	DC0V/3.3V(Pulse)	Serial comunication signal_Clock
	9	GND	I	-	Ground
	10	+24V	I	DC24V	Power input
YC2	1	FELED	O	DC3.3V	Power source
	2	GND	O	-	Ground
	3	FEEDN	I	DC0V/3.3V	FEED signal
YC3	1	FEED AN	O	DC0V/24V	Paper feed motor drive output
	2	FEED A	O	DC0V/24V	Paper feed motor drive output

Connector	Pins	Signal	I/O	Voltage	Description
	3	FEED B	O	DC0V/24V	Paper feed motor drive output
	4	FEED BN	O	DC0V/24V	Paper feed motor drive output
YC4	1	MOTOR2	O	DC0V/24V	PF lift motor drive output
	2	MOTOR1	O	DC0V/24V	PF lift motor drive output
YC5	1	UPLED	O	DC3.3V	Power source
	2	GND	O	-	Ground
	3	UPLIMIT	I	DC0V/3.3V	UPLIMIT signal
YC6	1	GND/3.3V	O	-	Power output
	2	COVER	I	DC0V/3.3V	COVER signal
YC7	1	DOWNLED	O	DC3.3V	Power source
	2	GND	O	-	Ground
	3	DOWNLIMIT	I	DC0V/3.3V	DWNLIMIT signal

9Appendixes

9 - 1 Repetitive defects gauge

9-1

—————————————————————————— ◀—— First occurrence of defect

—————————————————————————— ◀—— 29.9 mm/1 3/16" Chager roller

—————————————————————————— ◀—— 36.8 mm/1 7/16" Registration roller

—————————————————————————— ◀—— 44.9 mm/1 3/4" Developer roller

—————————————————————————— ┌—— 61.2 mm/2 7/16" Transfer roller

—————————————————————————— ◀—— 94.2 mm/3 11/16" Drum/Press roller

—————————————————————————— ◀—— 109.9 mm/4 5/16" Heat roller
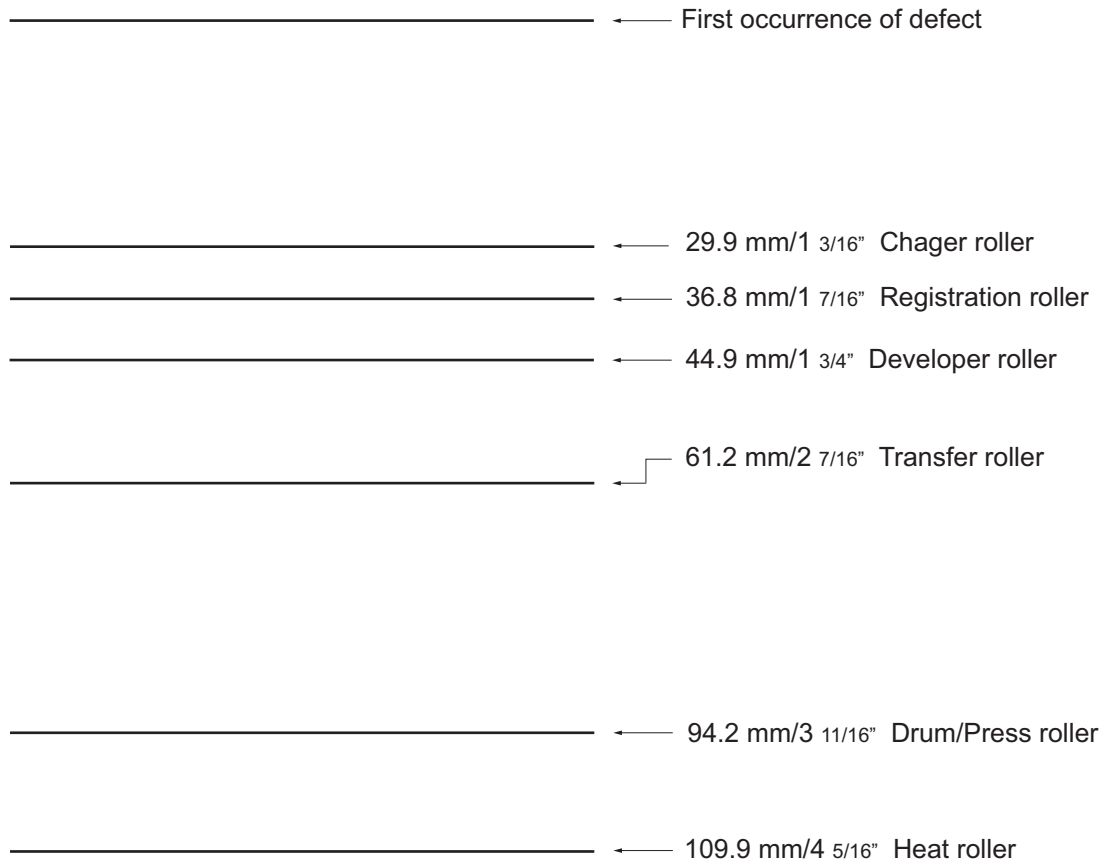
*The repetitive marks interval may vary depending on operating conditions.

9 - 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 parametervalues before the changes are made.
> FRPO INIT command can reset all the FRPO parameters to the default settings of the printer.
>
> (!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 PCL6
!R! FRPO P1, 6; EXIT;

FRPO parameters

Items	FRPO	Setting value	Factory setting
Default pattern resolution	B8	0: 300 dpi	0
		1: 600 dpi	
Default copy number	C0	1 to 999	1
Page orientation	C1	0: Portrait	0
		1: Landscape	
Default font *1	C2	Middle two digits of power-up font	0
	C3	Last two digits of power-up font	0
	C5	First two digits of power-up font	0
PCL font switch	C8	0: HP compatibility mode (Characters higher than 127 are not printed.)	0
		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]*	
		*: 128 or more of the high code section can be printed with any C8 value. But, when setting C8 value to 0, character code 160 is not printed.	
Print density control	D4	1: Light	3
		2: Slightly light	
		3: Standard	
		4: Slightly dark	
		5: Dark	
Total host buffer size	H8	0 to 99 in units of the size defined by FRPO S5	5

Items	FRPO	Setting value	Factory setting
Form feed time-out value	H9	Value in units of 5 seconds (0 to 99).	6 1(KDJ)
Reduction rate	J0	0: 100% 5: 70 % 6: 81 % 7: 86 % 8: 94 % 9: 98 %	0
Auto linefeed (LF) mode *2	J7	0: Auto linefeed 1: No auto linefeed	0
Integer section of User horizontal offset *2	K0	-7 to +7 cm	0
Decimal section of User User horizontal offset *2	K1	-99 to +99 (1/100 cm)	0
Integer section of User vertical offset *2	K2	-7 to +7 cm	0
Decimal section of User vertical offset *2	K3	-99 to +99 (1/100 cm)	0
Kanji font number *2	K4	0: Same as V7 1: Mincho 9.6 pt. 2: Gothic 9.6 pt. 5: Mincho 12 pt. 6: Gothic 12 pt.	0
New/old JIS code switching *2	K6	0 JIS X 0208:1990 1 JIS X 0208:1978 8 JIS X 0213:2004	0
KIR	N0	0: OFF 2: ON	2
Duplex printing mode selection	N4	0: OFF 1: Long-edge mode (long-edge bind) 2: Short-edge mode (Short-edge bind)	0
Sleep timer time-out time	N5	1 to 120 minutes [0: OFF]	1
Eco Print mode	N6	0: OFF 2: ON	0
Resolution	N8	0: 300dpi 1: 600dpi 3: 1200dpi	1
Default emulation mode	P1	6: PCL6 (except PCL XL) 9: KPDL 11: PC-PR201 12: IBM 5577 13: VP-1000	6 9(KDA)
Carriage-return action *1	P2	0: Ignores 1: CR 2: CR+LF	1

Items	FRPO	Setting value	Factory setting
Linefeed action *1	P3	0: Ignores 1: LF 2: CR+LF	1
KPDL auto switching	P4	0: None 1: Auto switching	0 1(KDA)
AES option 1-After AES is started, the data neither applicable to KPDL nor auto switching (alternate) emulation is processed in KPDL	P7	After AES is started, the data neither applicable to KPDL nor auto switching (alternate) emulation is processed in KPDL. 0: AES activated by all the page exit commands. 1: None 2: AES activated by all the page exit commands and Prescribe EXIT command. 3: AES activated by Prescribe EXIT command only. 4: AES activated by ^L command only. 6: AES activated by Prescribe EXIT command and ^L command. After AES is started, the data neither applicable to KPDL nor auto switching (alternate) emulation is processed in KPDL. 10: AES activated by all the page exit commands and Prescribe EXIT command.	10 11(KDA)
Command recognition character	P9	ASCII code of 33 to 126	82(R)

Items	FRPO	Setting value	Factory setting
Paper Size	R2	0: Size of the default paper cassette (See R4.)	0
		1: Envelope Monarch	
		2: Envelope #10	
		3: Envelope DL	
		4: Envelope C5	
		5: Executive	
		6: Letter	
		7: Legal	
		8: ISO A4	
		9: JIS B5	
		10: ISO A3	
		11: JIS B4	
		12: Ledger	
		13: ISO A5	
		14: ISO A6	
		15: JIS B6	
		16: Envelope #9	
		17: Envelope #6-3/4	
		18: ISO B5	
		19 Custom	
		22: A4 A4 98%	
		30: C4	
		31: Cardstock	
		32: 20: Oufuku Hagaki	
		33: Oficio II	
		39: 8K	
		40: 16K	
		42: 8.5x13.5	
		50: Statement	
		51: Folio	
		52: Youkei type 2 (Envelope)	
		53: Youkei type 4 (Envelope)	
Default paper source	R4	0: Multi Purpose Tray	1
		1: Cassette 1	
		2: Cassette 2	
		3: Cassette 3	
		4: Cassette 4	
		5: Cassette 5	
MP tray paper size	R7	Same as the R2 values except: 0	8
			6(KDA)
A4/Letter override	S4	0: OFF	1
		1: ON	0(KDJ)
Host buffer size rate (H8 value and integration)	S5	0: 10 KB	1
		1: 100 KB	
		2: 1 MB	
RAM disk size	S6	1 to 1024 MB	400
RAM disk mode	S7	0: OFF	1
		1: ON	

Items	FRPO	Setting value	Factory setting
Wide A4	T6	0: OFF	0
		1: ON	
Line spacing *1	U0	Lines per inch (integer value)	6
Line spacing *1	U1	Lines per inch (fraction value)	0
Character spacing *1	U2	Characters per inch (integer value)	10
Character spacing *1	U3	Characters per inch (fraction value)	0
Country code of the resident fonts	U6	0: US	41
		1: France	0(KDJ)
		2: Germany	
		3: U.K.	
		4: Denmark	
		5: Sweden	
		6: Italy	
		7: Spain	
		8: Japan	
		9: US legal	
		10: IBM PC-850 (Multi-lingual)	
		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 (U4 = 52 SET)	
Supported symbol sets	U7	0: Same as the default emulation mode (P1)	53
		1: IBM	0(KDJ)
		6: IBM PC-8	
		50: US ASCII (U6 = 21 SET)	
		52: HP Roman-8 (U6 = 77 SET)	
Default font pitch *1	U8	Integer section of Default font pitch: 0 to 99	10
	U9	Decimal section of Default font pitch: 0 to 99	0
ANK outline font size at start-up*1	V0	Integer value of ANK outline font size at power-up Upper 2-digit/valid value: 00 to 09	0
	V1	Integer value of ANK outline font size at power-up Lower 2-digit/valid value: 00 to 99	12
	V2	Decimal value of ANK outline font size at power-up Valid value: 00, 25, 50, 75	0

Items	FRPO	Setting value	Factory setting
ANK outline font name at start-up *1	V3	ANK outline font name at power-up	Courier
Initial Kanji outline font size *1,2	V4	Upper 2-digit integer value of Kanji outline font size at start-up Valid value range: 00 to 09	0
	V5	2-digit integer value of the Kanji outline font size at start-up Valid value range: 00 to 99	10
	V6	2-digit decimal value of the Kanji outline font size at start-up Valid value: 00, 25, 50, 75	0
Initial Kanji outline font name *1,2	V7	Kanji outline font name at start-up	MTHSMINCHO-W3

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

Media type (MP tray)	X0	1: Plain 2: Transparency 3: Preprinted 4: Labels 5: Bond 6: Recycled 7: Vellum 9: Letterhead 10: Color 11: Prepunched 12: Envelope 13: Cardstock 16: Thick 17: High quality 21 to 28: Custom 1 to Custom 8	1

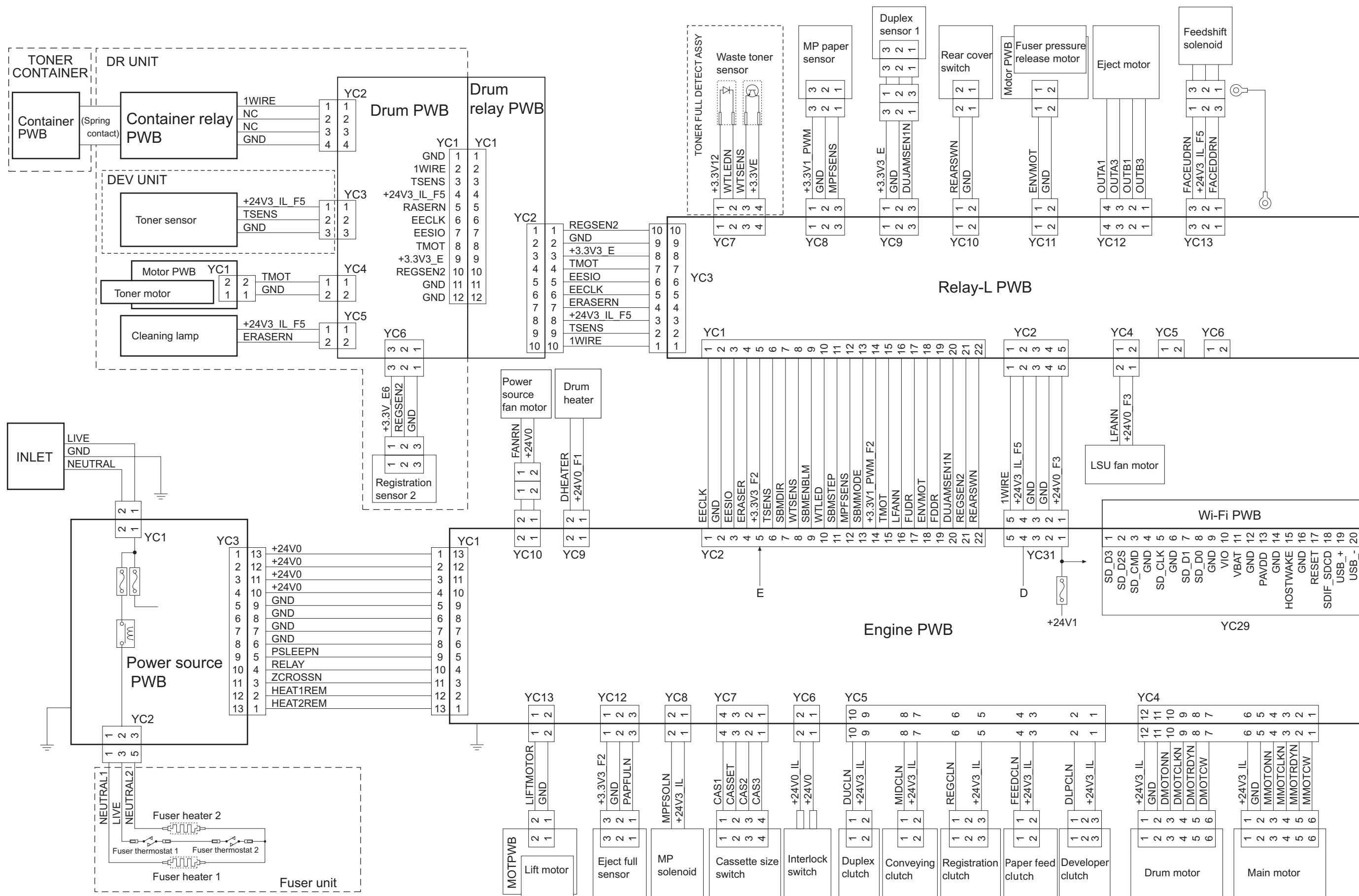| Items	FRPO	Setting value	Factory setting
Media type (Paper cassettes 1)	X1	1: Plain 3: Preprinted 5: Bond 6: Recycled 9: Letterhead 10: Color 11: Prepunched 17: High quality 21 to 28: Custom 1 to Custom 8	1
Media type (Cassette 2, 3, 4, 5)	X2 X3 X4 X5	1: Plain 3: Preprinted 5: Bond 6: Recycled 8: Letterhead 9: Letterhead 10: Color 11: Prepunched 12: Envelope 17: High quality 21 to 28: Custom 1 to Custom 8	1
Cassette selection mode (PCL)	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
Auto error clear at an error (For errors to clear by pressing [Go] key only)	Y0	0: OFF 1: ON	0
Auto error clear timeout time	Y1	Value in units of 5 seconds (0 to 99).	6 (30 sec)
Paper error detection at duplex printing	Y3	0 to 255	127

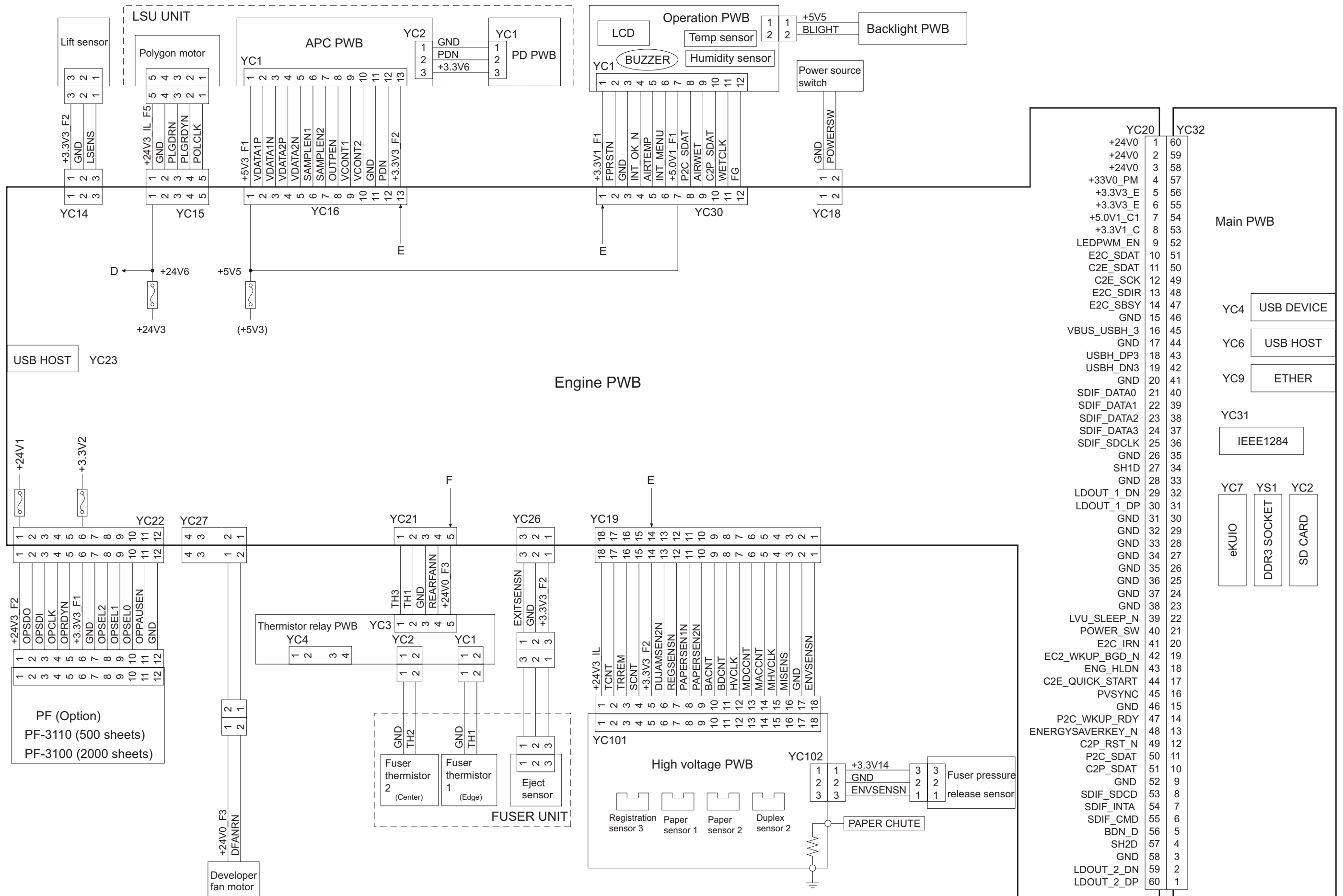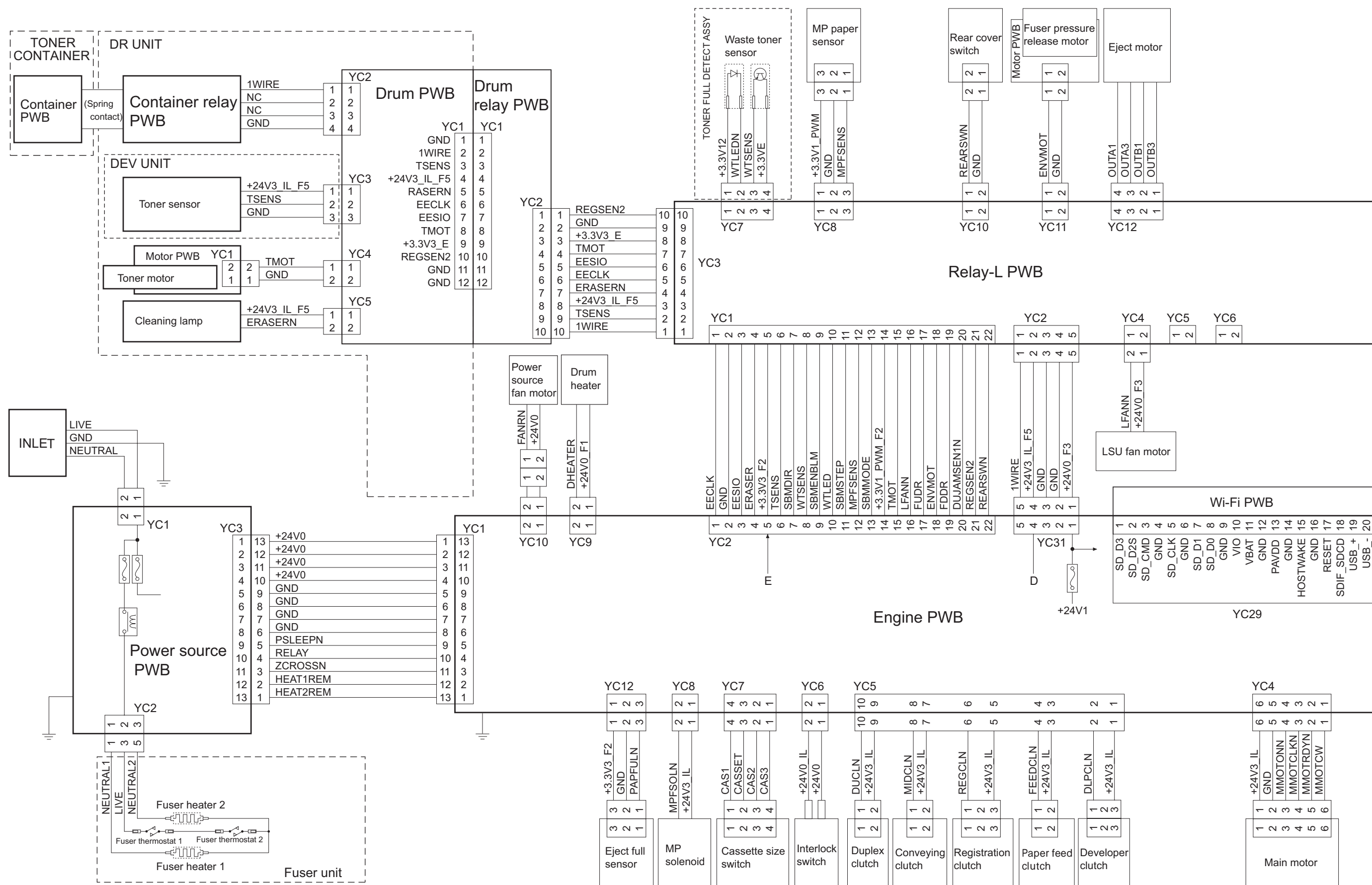| Items	FRPO	Setting value	Factory setting
Forced duplex printing setting (Media type is Preprinted, Prepunched and Letterhead only)	Y4	0: OFF 1: ON	0
PDF direct printing	Y5	0: Zoom depending on paper size 1: Loads paper which is the same size as the image 2: Loads Letter, A4 size paper depending on the image sizeEnlarges or reduces the image to fit in the current paper size 3: Loads Letter, A4 size paper depending on the image size 8: Printed in full magnification 9: Loads Letter, A4 size paper depending on the image size 10: Loads Letter, A4 size paper depending on the image sizeEnlarges or reduces the image to fit in the current paper size 13-99: The same operation as default value (0).	0
e-MPS error	Y6	0: No error control 1: Output the error list 2: Displays the error 3: Displays the error and prints the error report	3

*1: Ignored depending on emulation
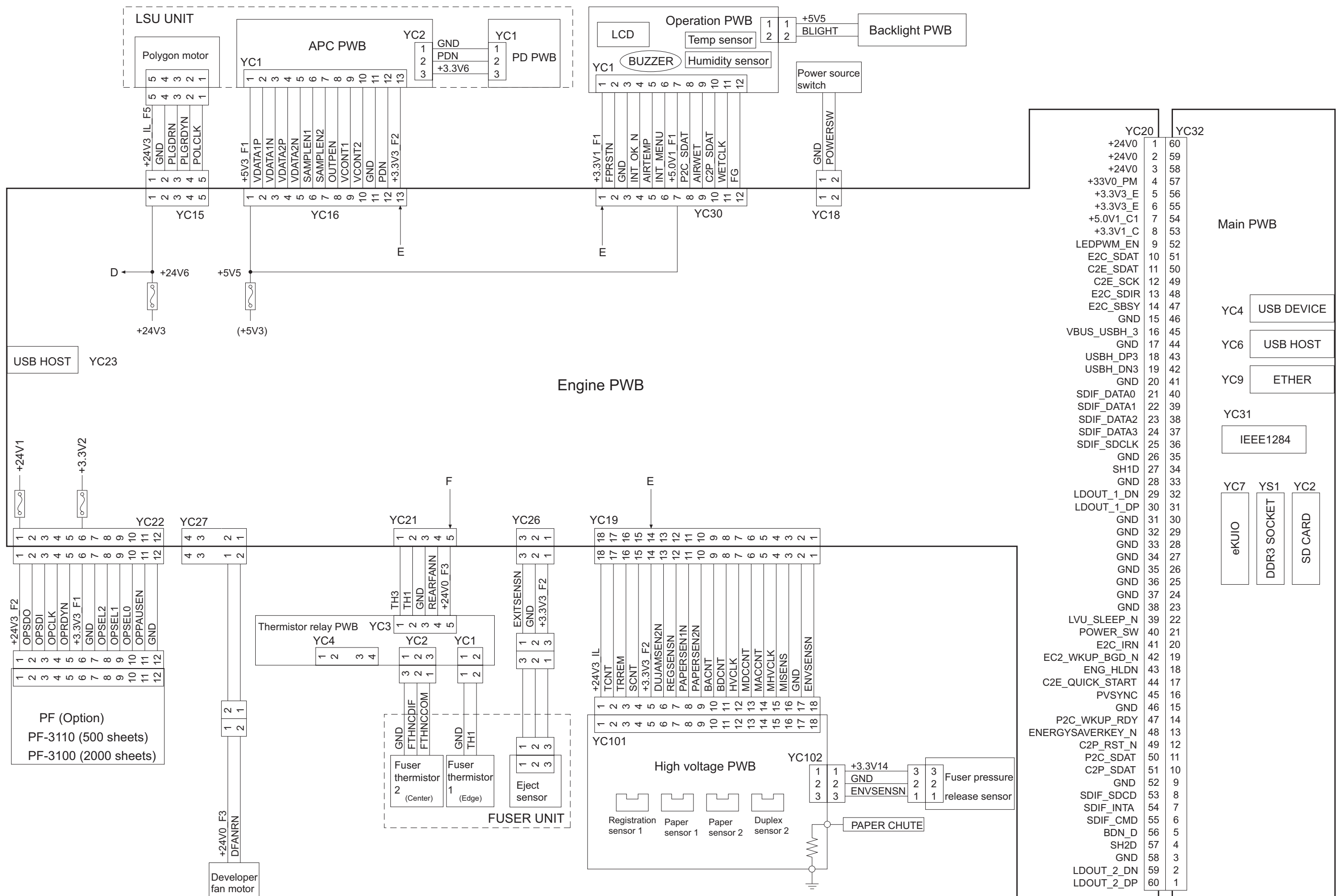
*2: KDJ only

9 - 3 Wiring diagram

(1) Wiring diagram (60/55/50 ppm model)

(2) Wiring diagram (45ppm model)

9 - 4 Wiring diagram (Options)

(1) Paper feeder (PF-3110)

PF PWB

YC1
PF lift motor

YC7
GND
LMOTOR

PF lift sensor

PF paper sensor1

PF paper sensor 2

YC6
+24V2
GND
TMDRVN
TMCLK
TMLOCK
TMDIR

PF feed motor

YC4
For
Lower PF

GND
OPPAUSEN
OPSEL0
OPSEL1
OPSEL2
GND
+3.3V1
OPRDYN
OPSCLK
OPSDI
OPSDO
+24V1

YC3
GND
OPPAUSEN
OPSEL0
OPSEL1
OPSEL2
GND
+3.3V1
OPRDYN
OPSCLK
OPSDI
OPSDO
+24V1

For
PRINTER
/
Upper PF

YC9
7 GND
6 RESETN
5 N.C.
4 TXD
3 RXD
2 MODE
1 +3.3V1

YC2
PAPSIZ0
PAPSIZ1
GND
PAPSIZ2

PF cassette
size switch

PF conveying clutch
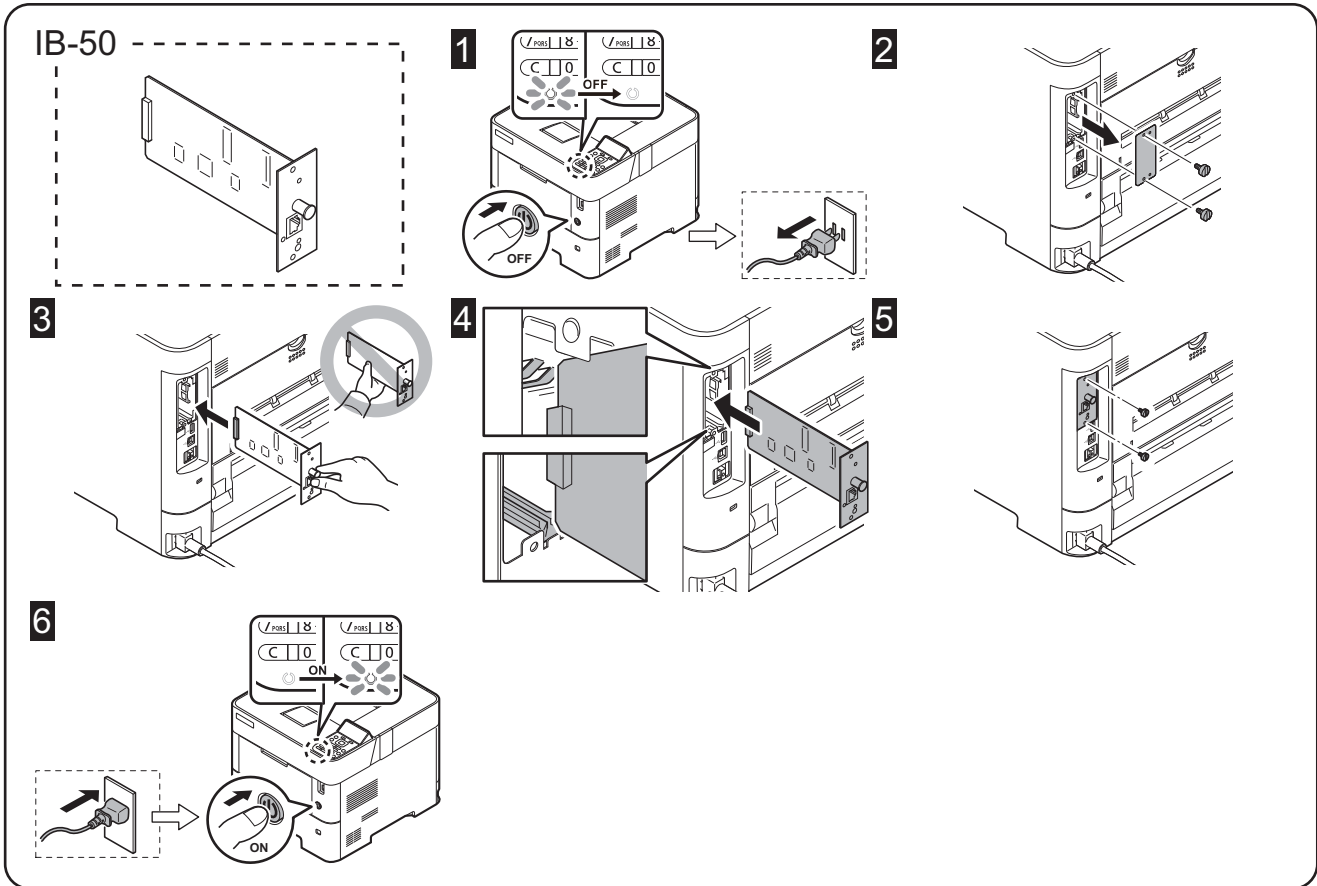
PF feed clutch

YC8
+24V2
FEEDCLN
+24V2
TRANSCLN

YC1
OUT
GND
+3.3V2

PF conveying sensor

9-14

(2) Paper feeder (PF-3100)

9 - 5 Installation guide

(1) IB-50

IB-50

(Network interface)

INSTALLATION GUIDE

9 - 5 Installation guide

(1) IB-50

IB-50

Optional Network Interface Kit IB-50
Installation Guide

Introduction

The IB-50 is an optional network interface kit for use with the MFPs and the page printers. Please read this Installation Guide thoroughly so that you understand the correct installation method.

This network interface kit can be installed in other models using the same installation procedure.

Packing List

IB-50 1
Installation Guide (this guide)...1
Setup Guide 1
CD-ROM...1

Precautions for Handling the Network Interface Kit

When handling the network interface kit, adhere to the following precautions.
• The network interface kit is delivered in an antistatic bag. To prevent any damage, briefly touch a large metal object to ensure discharge of static electricity before removing the network interface kit from the bag.
• Never touch the network interface kit's connector section directly with hands.
• When holding the network interface kit, avoid contact with the surface of the circuit board. Hold it at the edges.
• Do not apply undue force when installing.

Installing the Network Interface Kit
CAUTION
Before installing (or removing) the network interface kit, be sure to turn off the machine's power and disconnect the power cord plug from the AC outlet.

Verifying Installation of the Network Interface Kit
To verify that the network interface kit has been correctly installed, try to print out the status page.
Refer to the Operation Guide for the method for printing a status page.

Network settings
Refer to the Operation guide for the network settings.

Kit d'interface réseau IB-50 en option
Guide d'installation

Introduction

L'IB-50 est un kit d'interface réseau en option destiné à être utilisé avec les imprimantes multifonctions et les imprimantes par page. Veuillez lire entièrement ce guide d'installation et vous assurer que vous comprenez bien les méthodes d'installation.

Ce kit d'interface réseau peut être installé dans d'autres modèles à l'aide de la même procédure d'installation.

Contenu de l'emballage

IB-50 1
Guide d'installation (ce manuel) 1
Guide de mise en service...1
CD-ROM...1

Précautions de manipulation du kit d'interface réseau
Lorsque vous manipulez le kit d'interface réseau, observez les précautions suivantes.
• Le kit d'interface réseau est livré dans un sac antistatique. Avant de le retirer du sac, touchez brièvement un grand objet métallique pour vous décharger de toute électricité statique.Vous éviterez ainsi d'endommager le kit d'interface réseau.
• Ne touchez jamais directement la partie du connecteur du kit d'interface réseau avec les mains.
• Lorsque vous tenez le kit d'interface réseau, ne touchez pas la surface de la carte de circuits imprimés. Saisissez-le par les bords.
• N'appliquez aucune force inutile en l'installant.

Installation du kit d'interface réseau
ATTENTION
Avant d'installer (ou de retirer) le kit d'interface réseau, mettez toujours l'imprimante hors tension et débranchez la fiche du cordon d'alimentation de la prise de courant.

Vérification de l'installation du kit d'interface réseau
Pour vous assurer que le kit d'interface réseau a été correctement installé, essayez d'imprimer la page d'état de l'imprimante.
Pour connaître la méthode d'impression de la page d'état, consultez le manuel d'utilisation.

Réglages réseau
Pour connaître les réglages réseau, consultez le manuel d'utilisation.

Kit de interfaz de red IB-50 opcional
Guía de instalación

Introducción

El IB-50 es un kit de interfaz de red opcional para utilizar con la copiadora e impresora de hojas. Lea completamente esta Guía de instalación de forma que pueda entender los métodos de instalación y operación correctos.

Este kit de interfaz de red puede instalarse en otros modelos utilizando el mismo procedimiento de instalación.

Lista del contenido del paquete

IB-50 1
Guía de instalación (este folleto)..1
Guía de configuración 1
CD-ROM...1

Precauciones para el manejo del kit de interfaz de red
Cuando maneje el kit de interfaz de red, tenga en cuenta las siguientes precauciones.
• El kit de interfaz de red se entrega en una bolsa antiestática. Para evitar cualquier daño, antes de sacar el kit de interfaz de red de la bolsa, toque un objeto metálico grande para descargar la electricidad estática de su cuerpo.
• Nunca toque la sección del conector del kit de interfaz de red directamente con las manos.
• Cuando sostenga el kit de interfaz de red, no toque con las manos la superficie de la placa del circuito impreso. Sujétela por los bordes.
• No aplique demasiada fuerza al realizar la instalación.

Instalación del kit de interfaz de red
PRECAUCIÓN
Antes de instalar (o desmontar) el kit de interfaz de red, asegúrese de desconectar la alimentación de la impresora y de desenchufar el cable de alimentación de la toma de corriente de CA.

Verificación de la instalación del kit de interfaz de red
Para verificar que el kit de interfaz de red ha sido instalado correctamente, trate de imprimir la página de estado de la impresora.
Consulte la Guía de uso para obtener información sobre la impresión de la página de estado de la impresora.

Configuración de la red
Consulte la Guía de uso para obtener información sobre la configuración de la red.

Deutsch

Optionales Network Interface Kit IB-50
Installationsanleitung

Einführung
Das IB-50 ist ein optionales Network Interface Kit zur Verwendung mit den MFPs und den Seitendruckern. Bitte lesen Sie sich diese Installationsanleitung sorgfältig durch, damit Sie das Gerät korrekt installieren.
Dieses Network Interface Kit kann mithilfe des selben Installationsvorgangs in anderen Modellen eingebaut werden.

Verpackungsinhalt
IB-50 1
Installationsanleitung (diese Anleitung)..1
Einrichtungsleitfaden 1
CD-ROM 1

Vorsichtsmaßnahmen bei der Handhabung des Network Interface Kits
Bitte beachten Sie die folgenden Vorsichtshinweise beim Umgang mit dem Network Interface Kit.

• Das Network Interface Kit wird in einem Antistatikbeutel geliefert. Um eine Beschädigung des Network Interface Kits zu vermeiden, sollten Sie kurz einen großen Gegenstand aus Metall berühren, um sich von statischer Elektrizität zu entladen, bevor Sie das Network Interface Kit aus der Verpackung entfernen.
• Berühren Sie auf keinen Fall die Steckleiste des Network Interface Kits mit bloßen Händen.
• Achten Sie beim Halten des Network Interface Kits darauf, eine Berührung der Platinenoberfläche zu vermeiden. Halten Sie das Network Interface Kit stets an den Kanten der Platine.
• Vermeiden Sie übermäßige Kraftanwendung beim Installieren.

Installation des Network Interface Kits
VORSICHT
Achten Sie vor dem Installieren (bzw. Entfernen) des Network Interface Kits unbedingt darauf, den Drucker auszuschalten und das Netzkabel von der Netzsteckdose zu trennen.

Überprüfung der Installation des Network Interface Kits
Um eine korrekte Installation des Network Interface Kits zu überprüfen, drucken Sie die Statusseite aus.
Die Vorgehensweise für das Ausdrucken einer Statusseite finden Sie in der Bedienungsanleitung.

Netzwerkeinstellungen
Die Netzwerkeinstellungen finden Sie in der Bedienungsanleitung.

Italiano

Kit interfaccia di rete IB-50 opzionale
Guida all'installazione

Introduzione
IB-50 è un kit interfaccia di rete opzionale per utilizzi con stampanti multifunzione (MFP) e con stampanti a pagine. Si prega di leggere attentamente la presente Guida all'installazione per comprendere il corretto metodo di installazione.
Questo kit interfaccia di rete può essere installato in altri modelli che utilizzano la stessa procedura di installazione.

Contenuto della confezione
IB-50 1
Guida all'installazione (la presente guida)..1
Guida alla configurazione..1
CD-ROM 1

Precauzioni d'uso del kit interfaccia di rete
Durante l'utilizzo del kit interfaccia di rete, adottare le precauzioni che seguono.
• Il kit interfaccia di rete è spedito in una custodia antistatica. Per evitare eventuali danni, toccare per pochi istanti un oggetto metallico di grandi dimensioni per assicurarsi di scaricare l'elettricità statica prima di rimuovere il kit interfaccia di rete dalla custodia.
• Non toccare la sezione del connettore del kit interfaccia di rete direttamente con le mani.
• Nell'afferrare il kit interfaccia di rete, evitare il contatto con la superficie della scheda a circuito. Afferrarlo alle estremità.
• Non esercitare una forza eccessiva durante l'installazione.

Istallazione del kit interfaccia di rete
ATTENZIONE:
prima di installare (o di rimuovere) il kit interfaccia di rete, assicurarsi di aver spento l'alimentazione della macchina e di aver disconnesso la spina del cavo di alimentazione dalla presa CA.

Verifica dell'installazione del kit interfaccia di rete
Per verificare che il kit interfaccia di rete sia stato installato correttamente, stampare la pagina di stato.
Per scoprire le modalità di stampa della pagina di stato, consultare la Guida alle funzioni.

Impostazioni di rete
Per le impostazioni di rete, consultare la Guida alle funzioni.

简体中文

选装网络接口套件 IB-50
安装手册

前言
IB-50 是一款适用于 MFP 和页式打印机的选装网络接口套件。为了解正确的安装方法，请仔细通读本《安装手册》。
本网络接口套件可通过同样的安装步骤安装到其他机型上去。

包装内容列表
IB-50 1
安装手册（本手册）.. 1
设置手册 1
CD-ROM 1

使用本网络接口套件的注意事项
使用本网络接口套件时，请遵守以下注意事项。
• 本网络接口套件被包装在防静电袋中。将网络接口套件从包装袋中取出之前，请短暂触摸大件金属物体以消除静电，以免造成损坏。
• 请勿直接用手触摸网络接口套件的连接器部分。
• 拿握网络接口套件时，请勿接触到电路板的表面。请拿握其边缘。
• 安装时请不要过于用力。

安装本网络接口套件
注意：
安装（或拆卸）本网络接口套件前，请务必关掉机器的电源并将电源线插头从 AC 插座上断开。

确认本网络接口套件安装正确
为确认本网络接口套件已经正确安装，请尝试打印状态页。
有关打印状态页的方法，请参阅《操作手册》。

网络设置
有关网络设置的相关信息，请参阅《操作手册》。

동봉물

IB-50

IB-50은 MFP와 페이지 프린터에 사용되는 옵션 네트워크 인터페이스 키트입니다. 본 토너 설치 안내서를 주의 깊게 읽고 올바른 설치 방법을 숙지하시기 바랍니다. 본 네트워크 인터페이스 키트는 같은 설치 절차를 적용하여 다른 모델에 설치할 수 있습니다.

IB-50 1
토너 설치 안내서 (본 안내서) 1
설정 안내서 1
CD-ROM 1

네트워크 인터페이스 키트 취급 시, 다음과 같은 주의사항을 지켜주시기 바랍니다.
• 네트워크 인터페이스 키트는 정전기 방지 봉투에 포장되어 있습니다. 네트워크 인터페이스 키트를 꺼내기 전에 손상을 예방하기 위해 큰 금속 물체를 잠시 만져서 정전기를 방지하시기 바랍니다.
• 네트워크 인터페이스 키트의 연결부를 직접 손으로 만지지 마십시오.
• 네트워크 인터페이스 키트를 잡을 때는, 회로판 표면에 닿지 않도록 끝부분을 잡으십시오.
• 설치 시 과도한 힘을 가하지 마십시오.

( ) , AC
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네트워크 인터페이스 키트가 올바르게 설치되었는지 확인하려면 상태 페이지를 출력해보십시오. 상태 페이지를 출력하는 방법에 관해서는 사용설명서를 참고하시기 바랍니다.

네트워크 설정에 관련된 정보는 사용설명서를 참고하시기 바랍니다.

日本語

オプションネットワークインターフェイスキット IB-50
インストールガイド

はじめに
IB-50 は弊社複合機およびプリンター用増設ネットワークです。本書をよくお読みいただき、正しく装着してください。なお、本オプションはその他の機種でも同様の手順で装着できます。

梱包内容の確認
IB-50 本体 1
インストールガイド(本書) 1
セットアップガイド 1
CD-ROM 1

取扱い上の注意
本オプションの取り扱いには、以下のことにご注意ください。
▪ 本品は静電気防止対策済みの袋に入っています。袋の中から取り出す際は、念のため大きな金属物に触れて身体の静電気を取り除いてください。
▪ 本品のコネクター部分には手を触れないでください。
▪ 本品を持つ際は基板の表面に手を触れずに、基板の端を持ってください。
▪ 装着時は無理な力を加えないでください。

ネットワークインターフェイスキットの装着
注意
本オプションの装着（または取り外し）は、複合機またはプリンターの電源を切り、電源プラグをコンセントから抜いた状態で行ってください。

装着の確認
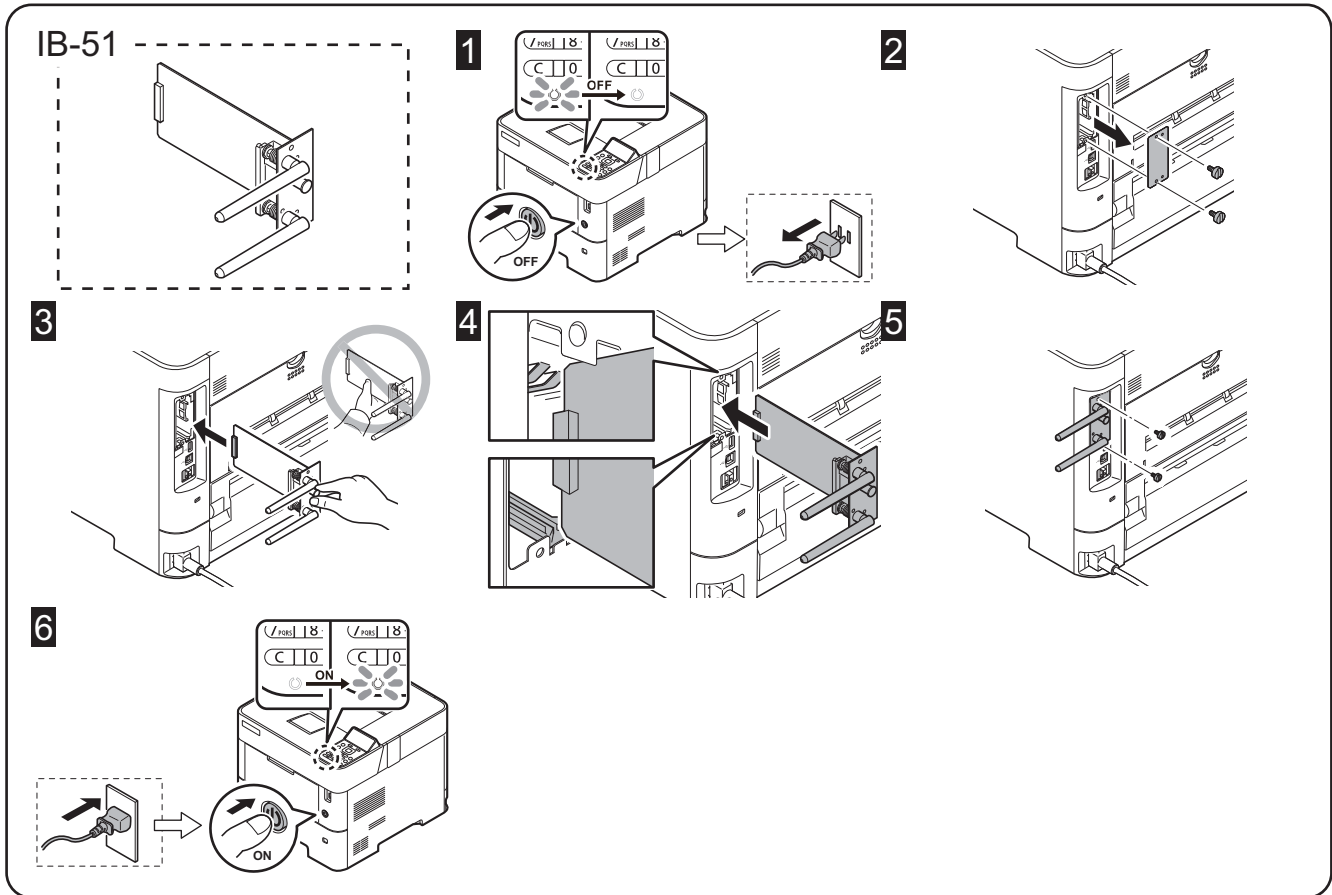ステータスページを印刷して、本オプションが正しく装着されたかを確認できます。
ステータスページの印刷方法は、使用説明書を参照してください。

ネットワークの設定
ネットワークの設定については、使用説明書を参照してください。

IB-51

(Wireless Interface)

INSTALLATION GUIDE

Optional Wireless Network Interface Kit IB-51 Installation Guide

Introduction
The IB-51 is an optional wireless network interface kit for use with the MFPs and the page printers. Please read this Installation Guide thoroughly so that you understand the correct installation method.
This wireless network interface kit can be installed in other models using the same installation procedure.

Packing List
IB-51 1
Installation Guide (this guide)...1
CD-ROM...1

Precautions for Handling the Wireless Network Interface Kit
When handling the wireless network interface kit, adhere to the following precautions.
• The wireless network interface kit is delivered in an antistatic bag. To prevent any damage, briefly touch a large metal object to ensure discharge of static electricity before removing the wireless network interface kit from the bag.
• Never touch the wireless network interface kit's connector section directly with hands.
• When holding the wireless network interface kit, avoid contact with the surface of the circuit board. Hold it at the edges.
• Do not apply undue force when installing.

Installing the Wireless Network Interface Kit
CAUTION
Before installing (or removing) the wireless network interface kit, be sure to turn off the machine's power and disconnect the power cord plug from the AC outlet.

Verifying Installation of the Wireless Network Interface Kit
To verify that the wireless network interface kit has been correctly installed, try to print out the status page.
Refer to the Operation Guide for the method for printing a status page.

Network settings
For the network settings and operation procedure, refer to the printer's Operation Guide and the wireless network interface manual.

オプションワイヤレスネットワーク インターフェイスキット IB-51 インストールガイド

はじめに
IB-51 は弊社複合機およびプリンター用ワイヤレスネットワークインターフェイスキットです。本書をよくお読みいただき、正しく装着してください。なお、本オプションはその他の機種でも同様の手順で装着できます。

梱包内容の確認
ワイヤレスネットワークインターフェイス本体 1
インストールガイド（本書）.. 1
CD-ROM 1

取扱い上の注意
本オプションの取り扱いには、以下のことにご注意ください。
▪ 本品は静電気防止対策済みの袋に入っています。袋の中から取り出す際は、念のため大きな金属物に触れて身体の静電気を取り除いてください。
▪ 本品のコネクター部分には手を触れないでください。
▪ 本品を持つ際は基板の表面に手を触れずに、基板の端を持ってください。
▪ 装着時は無理な力を加えないでください。

ワイヤレスネットワークインターフェイスキットの装着
注意
本オプションの装着（または取り外し）は、複合機またはプリンターの電源を切り、電源プラグをコンセントから抜いた状態で行ってください。

装着の確認
ステータスページを印刷して、本オプションが正しく装着されたかを確認できます。
ステータスページの印刷方法は、使用説明書を参照してください。

ネットワークの設定
ネットワークの設定、操作手順については、プリンターの使用説明書とワイヤレスネットワークインターフェイスのマニュアルを参照してください。

Deutsch

Optionales Wireless Network Interface Kit IB-51 Installationsanleitung

Einführung

Das IB-51 ist ein optionales Wireless Network Interface Kit zur Verwendung mit den MFPs und den Seitendruckern. Bitte lesen Sie sich diese Installationsanleitung sorgfältig durch, damit Sie das Gerät korrekt installieren.
Dieses Wireless Network Interface Kit kann mithilfe des selben Installationsvorgangs in anderen Modellen eingebaut werden.

Verpackungsinhalt

IB-51...1
Installationsanleitung (diese Anleitung)...1
CD-ROM...1

Vorsichtsmaßnahmen bei der Handhabung des Wireless Network Interface Kits

Bitte beachten Sie die folgenden Vorsichtshinweise beim Umgang mit dem Wireless Network Interface Kit.
• Das Wireless Network Interface Kit wird in einem Antistatikbeutel geliefert. Um eine Beschädigung des Wireless Network Interface Kits zu vermeiden, sollten Sie kurz einen großen Gegenstand aus Metall berühren, um sich von statischer Elektrizität zu entladen, bevor Sie das Wireless Network Interface Kit aus der Verpackung entfernen.
• Berühren Sie auf keinen Fall die Steckleiste des Wireless Network Interface Kits mit bloßen Händen.
• Achten Sie beim Halten des Wireless Network Interface Kits darauf, eine Berührung der Platinenoberfläche zu vermeiden. Halten Sie das Wireless Network Interface Kit stets an den Kanten der Platine.
• Vermeiden Sie übermäßige Kraftanwendung beim Installieren.

Installation des Wireless Network Interface Kits
VORSICHT

Achten Sie vor dem Installieren (bzw. Entfernen) des Wireless Network Interface Kits unbedingt darauf, den Drucker auszuschalten und das Netzkabel von der Netzsteckdose zu trennen.

Überprüfung der Installation des Wireless Network Interface Kits

Um eine korrekte Installation des Wireless Network Interface Kits zu überprüfen, drucken Sie die Statusseite aus.
Die Vorgehensweise für das Ausdrucken einer Statusseite finden Sie in der Bedienungsanleitung.

Netzwerkeinstellungen

Netzwerkeinstellungen und Betriebsverfahren finden Sie in Bedienungsanleitung und Anleitung vom Wireless Network Interface.

Italiano

Kit interfaccia di rete wireless IB-51 opzionale Guida all'installazione

Introduzione

IB-51 è un kit interfaccia di rete wireless opzionale per utilizzi con stampanti multifunzione (MFP) e con stampanti a pagine. Si prega di leggere attentamente la presente Guida all'installazione per comprendere il corretto metodo di installazione.
Questo kit interfaccia di rete wireless può essere installato in altri modelli che utilizzano la stessa procedura di installazione.

Contenuto della confezione

IB-51...1
Guida all'installazione (la presente guida).......................................1
CD-ROM...1

Precauzioni d'uso del kit interfaccia di rete wireless

Durante l'utilizzo del kit interfaccia di rete wireless, adottare le precauzioni che seguono.
• Il kit interfaccia di rete wireless è spedito in una custodia antistatica. Per evitare eventuali danni, toccare per pochi istanti un oggetto metallico di grandi dimensioni per assicurarsi di scaricare l'elettricità statica prima di rimuovere la il kit interfaccia di rete wireless dalla custodia.
• Non toccare la sezione del connettore del kit interfaccia di rete wireless direttamente con le mani.
• Nell'afferrare il kit interfaccia di rete wireless, evitare il contatto con la superficie della scheda a circuito. Afferrarlo alle estremità.
• Non esercitare una forza eccessiva durante l'installazione.

Istallazione del kit interfaccia di rete wireless
ATTENZIONE:

prima di installare (o di rimuovere) il kit interfaccia di rete wireless, assicurarsi di aver spento l'alimentazione della macchina e di aver disconnesso la spina del cavo di alimentazione dalla presa CA.

Verifica dell'installazione del kit interfaccia di rete wireless

Per verificare che il kit interfaccia di rete wireless sia stato installato correttamente, stampare la pagina di stato.
Per scoprire le modalità di stampa della pagina di stato, consultare la Guida alle funzioni.

Impostazioni di rete

Per le impostazioni di rete e la procedura operativa, consultare la Guida alle funzioni della stampante e il manuale dell'interfaccia di rete wireless.

简体中文

选装无线网络接口套件 IB-51
安装手册

前言

IB-51 是一款适用于 MFP 和页式打印机的选装无线网络接口套件。为了解正确的安装方法，请仔细通读本《安装手册》。
本无线网络接口套件可通过同样的安装步骤安装到其他机型上去。

包装内容列表

IB-51 1
安装手册（本手册）.. 1
CD-ROM 1

使用本无线网络接口套件的注意事项

使用本无线网络接口套件时，请遵守以下注意事项。
• 本无线网络接口套件被包装在防静电袋中。将无线网络接口套件从包装袋中取出之前，请短暂触摸大件金属物体以消除静电，以免造成损坏。
• 请勿直接用手触摸无线网络接口套件的连接器部分。
• 拿握无线网络接口套件时，请勿接触到电路板的表面。请拿握其边缘。
• 安装时请不要过于用力。

安装本无线网络接口套件
注意：

安装（或拆卸）本无线网络接口套件前，请务必关掉机器的电源并将电源线插头从 AC 插座上断开。

确认本无线网络接口套件安装正确

为确认本无线网络接口套件已经正确安装，请尝试打印状态页。
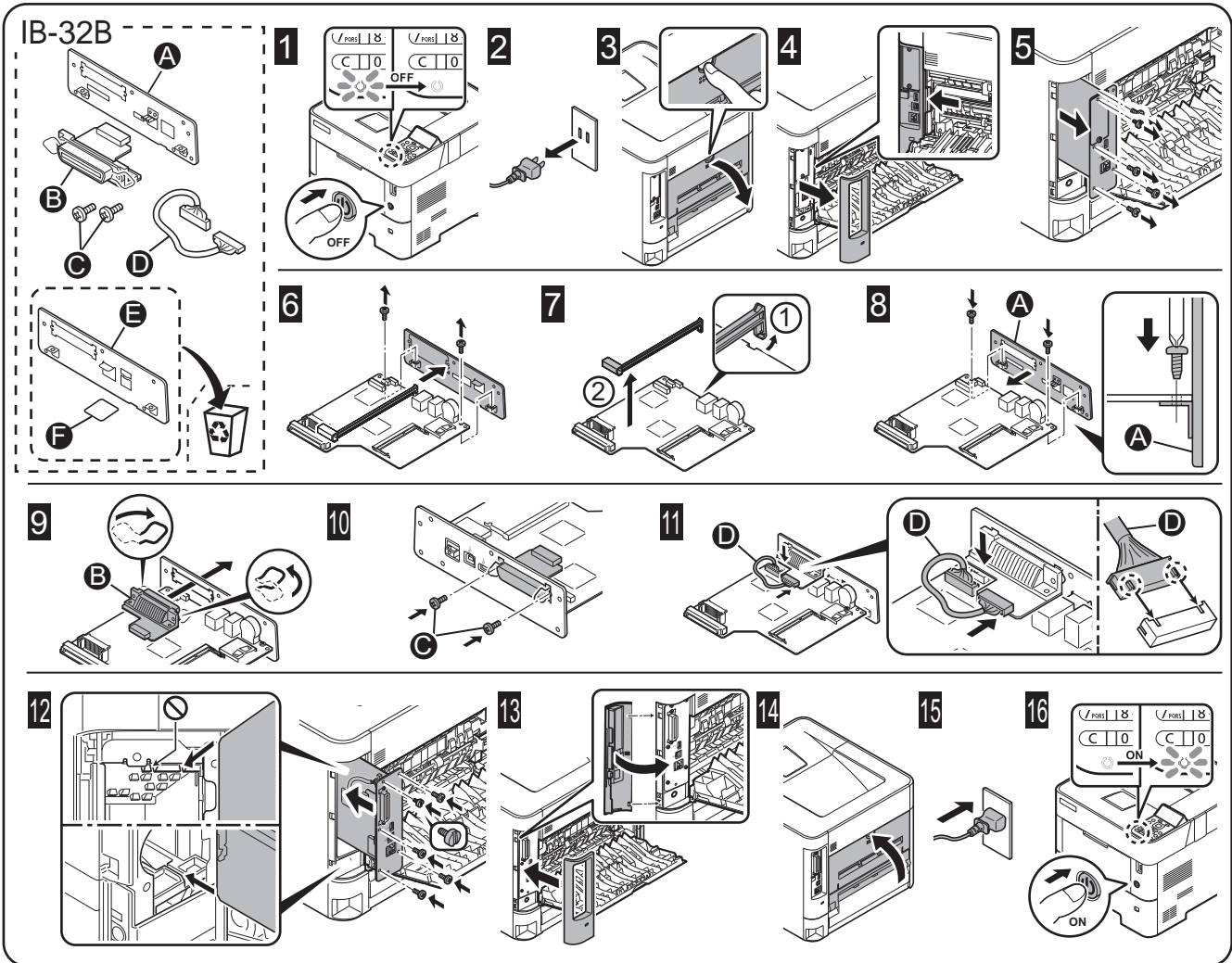有关打印状态页的方法，请参阅《操作手册》。

网络设置

有关网络设置的操作方法和步骤，请参阅打印机的《操作手册》和无线网络接口手册。

동봉물

IB-51

IB-51은 MFP와 페이지 프린터에 사용되는 옵션 무선 네트워크 인터페이스 키트입니다. 본 토너 설치 안내서를 주의 깊게 읽고 올바른 설치 방법을 숙지하시기 바랍니다. 본 무선 네트워크 인터페이스 키트는 같은 설치 절차를 적용하여 다른 모델에 설치할 수 있습니다.

IB-51 1
토너 설치 안내서 (본 안내서) 1
CD-ROM롬 1

무선 네트워크 인터페이스 키트 취급 시, 다음과 같은 주의사항을 지켜주시기 바랍니다.
• 무선 네트워크 인터페이스 키트는 정전기 방지 봉투에 포장되어 있습니다. 무선 네트워크 인터페이스 키트를 꺼내기 전에 손상을 예방하기 위해 큰 금속 물체를 잠시 만져서 정전기를 방지하시기 바랍니다.
• 무선 네트워크 인터페이스 키트의 연결부를 직접 손으로 만지지 마십시오.
• 무선 네트워크 인터페이스 키트를 잡을 때는 회로판 표면에 닿지 않도록 끝부분을 잡으십시오.
• 설치 시 과도한 힘을 가하지 마십시오.

( ) , AC
.

무선 네트워크 인터페이스 키트가 올바르게 설치되었는지 확인하려면 상태 페이지를 출력해보십시오. 상태 페이지를 출력하는 방법에 관해서는 사용설명서를 참고하시기 바랍니다.

네트워크 설정 및 사용 절차에 관련된 정보는 프린터의 사용설명서와 무선 네트워크 인터페이스 매뉴얼을 참고하시기 바랍니다.

日本語

オプションワイヤレスネットワーク インターフェイスキット IB-51 インストールガイド

はじめに

IB-51 は弊社複合機およびプリンター用ワイヤレスネットワークインターフェイスキットです。本書をよくお読みいただき、正しく装着してください。なお、本オプションはその他の機種でも同様の手順で装着できます。

梱包内容の確認

ワイヤレスネットワークインターフェイス本体 1
インストールガイド(本書) 1
CD-ROM 1

取扱い上の注意

本オプションの取り扱いには、以下のことにご注意ください。
• 本品は静電気防止対策済みの袋に入っています。袋の中から取り出す際は、念のため大きな金属物に触れて身体の静電気を取り除いてください。
• 本品のコネクター部分には手を触れないでください。
• 本品を持つ際は基板の表面に手を触れずに、基板の端を持ってください。
• 装着時は無理な力を加えないでください。

ワイヤレスネットワークインターフェイスキットの装着
注意

本オプションの装着（または取り外し）は、複合機またはプリンターの電源を切り、電源プラグをコンセントから抜いた状態で行ってください。

装着の確認

ステータスページを印刷して、本オプションが正しく装着されたかを確認できます。
ステータスページの印刷方法は、使用説明書を参照してください。

ネットワークの設定

ネットワークの設定、操作手順については、プリンターの使用説明書とワイヤレスネットワークインターフェイスのマニュアルを参照してください。

(3) IB-32B

IB-32B
(IEEE1284 Interface)

INSTALLATION GUIDE

For European countries and Australia :

CE N 74

English

Optional Parallel Interface Kit IB-32B Installation Guide

Introduction

The IB-32B is an optional parallel interface kit for use with the page printers. Please read this Installation Guide thoroughly so that you understand the correct installation method.

This parallel interface kit can be installed in other models using the same installation procedure.

Packing List

IB-32B	1
Plate	2
Screw	2
Relay cable	1
Seal	1
Installation Guide (this guide)	1

Select a plate and a seal according to the board type of the machine.

Precautions for Handling the Parallel Interface Kit

When handling the parallel interface kit, adhere to the following precautions.
• The parallel interface kit is delivered in an antistatic bag. To prevent any damage, briefly touch a large metal object to ensure discharge of static electricity before removing the parallel interface kit from the bag.
• Never touch the parallel interface kit's connector section directly with hands.
• When holding the parallel interface kit, avoid contact with the surface of the circuit board. Hold it at the edges.
• Do not apply undue force when installing.

Installing the Parallel Interface Kit
CAUTION
Before installing (or removing) the parallel interface kit, be sure to turn off the machine's power and disconnect the power cord plug from the AC outlet.

Verifying Installation of the Parallel Interface Kit

To verify that the parallel interface kit has been correctly installed, try to print out the status page.
Refer to the Operation Guide for the method for printing a status page.
The machine may differ from the illustration depending on the type of your machine but installation procedure is same for every machine.

Français

Kit d'interface parallèle IB-32B en option Guide d'installation

Introduction

L'IB-32B est un kit d'interface parallèle en option destiné à être utilisé avec les imprimantes par page. Veuillez lire entièrement ce guide d'installation et vous assurer que vous comprenez bien les méthodes d'installation.
Ce kit d'interface parallèle peut être installé dans d'autres modèles à l'aide de la même procédure d'installation.

Contenu de l'emballage

IB-32B	1
Plaque	2
Vis	2
Câble de relais	1
Obturateur	1
Guide d'installation (ce manuel)	1

Sélectionner une plaque et un joint en fonction du type de la carte machine.

Précautions de manipulation du kit d'interface parallèle

Lorsque vous manipulez le kit d'interface parallèle, observez les précautions suivantes.
• Le kit d'interface parallèle est livré dans un sac antistatique. Avant de le retirer du sac, touchez brièvement un grand objet métallique pour vous décharger de toute électricité statique.Vous éviterez ainsi d'endommager le kit d'interface parallèle.
• Ne touchez jamais directement la partie du connecteur du kit d'interface parallèle avec les mains.
• Lorsque vous tenez le kit d'interface parallèle, ne touchez pas la surface de la carte de circuits imprimés. Saisissez-le par les bords.
• N'appliquez aucune force inutile lors de l'installant.

Installation du kit d'interface parallèle
ATTENTION
Avant d'installer (ou de retirer) le kit d'interface parallèle, mettez toujours l'imprimante hors tension et débranchez la fiche du cordon d'alimentation de la prise de courant.

Vérification de l'installation du kit d'interface parallèle

Pour vous assurer que le kit d'interface parallèle a été correctement installé, essayez d'imprimer la page d'état de l'imprimante.
Pour connaître la méthode d'impression de la page d'état, consultez le manuel d'utilisation.
La machine peut différer de l'illustration en fonction du type de votre machine, mais la procédure d'installation est la même pour toutes les machines.

Español

Kit de interfaz en paralelo IB-32B opcional Guía de instalación

Introducción

El IB-32B es un kit de interfaz en paralelo opcional para utilizar con la impresora de hojas. Lea completamente esta Guía de instalación de forma que pueda entender los métodos de instalación y operación correctos.
Este kit de interfaz en paralelo puede instalarse en otros modelos utilizando el mismo procedimiento de instalación.

Lista del contenido del paquete

IB-32B	1
Placa	2
Tornillo	2
Cable de relé	1
Sello	1
Guía de instalación (este folleto)	1

Seleccione una placa y un precinto de acuerdo con el tipo de tarjeta de la máquina.

Precauciones para el manejo del kit de interfaz en paralelo

Cuando maneje el kit de interfaz en paralelo, tenga en cuenta las siguientes precauciones.
• El kit de interfaz en paralelo se entrega en una bolsa antiestática. Para evitar cualquier daño, antes de sacar el kit de interfaz en paralelo de la bolsa, toque un objeto metálico grande para descargar la electricidad estática de su cuerpo.
• Nunca toque la sección del conector del kit de interfaz en paralelo directamente con las manos.
• Cuando sostenga el kit de interfaz en paralelo, no toque con las manos la superficie de la placa del circuito impreso. Sujétela por los bordes.
• No aplique demasiada fuerza al realizar la instalación.

Instalación del kit de interfaz en paralelo
PRECAUCIÓN
Antes de instalar (o desmontar) el kit de interfaz en paralelo, asegúrese de desconectar la alimentación de la impresora y de desenchufar el cable de alimentación de la toma de corriente de CA.

Verificación de la instalación del kit de interfaz en paralelo

Para verificar que el kit de interfaz en paralelo ha sido instalado correctamente, trate de imprimir la página de estado de la impresora.
Consulte la Guía de uso para obtener información sobre la impresión de la página de estado de la impresora.
La máquina puede ser distinta de la mostrada en la ilustración según el tipo de máquina, pero el procedimiento de instalación es el mismo para todas las máquinas.

Deutsch

Optionales Parallel Interface Kit IB-32B
Installationsanleitung

Einführung
Das IB-32B ist ein optionales Parallel Interface Kit zur Verwendung mit Seitendruckern. Bitte lesen Sie sich diese Installationsanleitung sorgfältig durch, damit Sie das Gerät korrekt installieren.
Dieses Parallel Interface Kit kann mithilfe des selben Installationsvorgangs in anderen Modellen eingebaut werden.

Verpackungsinhalt

Wählen Sie eine Platte und eine Dichtung gemäß der Platinenausführung des Geräts.

Vorsichtsmaßnahmen bei der Handhabung des Parallel Interface Kits
Bitte beachten Sie die folgenden Vorsichtshinweise beim Umgang mit dem Parallel Interface Kit.
• Das Parallel Interface Kit wird in einem Antistatikbeutel geliefert. Um eine Beschädigung zu vermeiden, sollten Sie kurz einen großen Gegenstand aus Metall berühren, um sich von statischer Elektrizität zu entladen, bevor Sie das Parallel Interface Kit aus der Verpackung entfernen.
• Berühren Sie auf keinen Fall die Steckleiste des Parallel Interface Kits mit bloßen Händen.
• Achten Sie beim Halten des Parallel Interface Kits darauf, eine Berührung der Platinenoberfläche zu vermeiden. Halten Sie das Parallel Interface Kit stets an den Kanten der Platine.
• Vermeiden Sie übermäßige Kraftanwendung beim Installieren.

Installation des Parallel Interface Kits
VORSICHT
Achten Sie vor dem Installieren (bzw. Entfernen) des Parallel Interface Kits unbedingt darauf, den Drucker auszuschalten und das Netzkabel von der Netzsteckdose zu trennen.

Überprüfung der Installation des Parallel Interface Kits
Um eine korrekte Installation des Parallel Interface Kits zu überprüfen, drucken Sie die Statusseite aus.
Die Vorgehensweise für das Ausdrucken einer Statusseite finden Sie in der Bedienungsanleitung.
Je nach verwendetem Modell kann das Aussehen geringfügig abweichen, jedoch ist die Vorgehensweise zur Installation für jedes Modell gleich.

Italiano

Kit interfaccia parallela IB-32B opzionale
Guida all'installazione

Introduzione
IB-32B è un kit interfaccia parallela opzionale per utilizzi con stampanti a pagine. Si prega di leggere attentamente la presente Guida all'installazione per comprendere il corretto metodo di installazione.
Questo kit interfaccia parallela può essere installato in altri modelli che utilizzano la stessa procedura di installazione.

Contenuto della confezione

Selezionare una piastra e un sigillo in base al tipo di scheda della macchina.

Precauzioni d'uso del kit interfaccia parallela
Durante l'utilizzo del kit interfaccia parallela, adottare le precauzioni che seguono.
• Il kit interfaccia parallela è spedito in una custodia antistatica. Per evitare eventuali danni, toccare per pochi istanti un oggetto metallico di grandi dimensioni per assicurarsi di scaricare l'elettricità statica prima di rimuovere il kit interfaccia parallela dalla custodia.
• Non toccare la sezione del connettore del kit interfaccia parallela direttamente con le mani.
• Nell'afferrare il kit interfaccia parallela, evitare il contatto con la superficie della scheda a circuito. Afferrarlo alle estremità.
• Non esercitare una forza eccessiva durante l'installazione.

Istallazione del kit interfaccia parallela
ATTENZIONE:
prima di installare (o di rimuovere) il kit interfaccia parallela, assicurarsi di aver spento l'alimentazione della macchina e di aver disconnesso la spina del cavo di alimentazione dalla presa CA.

Verifica dell'installazione del kit interfaccia parallela
Per verificare che il kit interfaccia parallela sia stato installato correttamente, stampare la pagina di stato.
Per scoprire le modalità di stampa della pagina di stato, consultare la Guida alle funzioni.
La periferica può essere diversa da quella riprodotta in figura in funzione del tipo di periferica in uso; tuttavia, la procedura di installazione è identica per tutte le periferiche.

简体中文

选装并行接口套件 IB-32B
安装手册

前言
IB-32B 是一款适用于页式打印机的选装并行接口套件。为了解正确的安装方法，请仔细通读本《安装手册》。
本并行接口套件可通过同样的安装步骤安装到其他机型上去。

包装内容列表

根据机器的电路板类型选择板和密封件。

使用本并行接口套件的注意事项
使用本并行接口套件时，请遵守以下注意事项。
• 本并行接口套件被包装在防静电袋中。将并行接口套件从包装袋中取出之前，请短暂触摸大件金属物体以消除静电，以免造成损坏。
• 请勿直接用手触摸并行接口套件的连接器部分。
• 拿握并行接口套件时，请勿接触到电路板的表面。请拿握其边缘。
• 安装时请不要过于用力。

安装本并行接口套件
注意：
安装（或拆卸）本并行接口套件前，请务必关掉机器的电源并将电源线插头从 AC 插座上断开。

确认本并行接口套件安装正确
为确认本并行接口套件已经正确安装，请尝试打印状态页。
有关打印状态页的方法，请参阅《操作手册》。
视机器类型而异，机器可能会与图例有所不同，但每台机器的安装步骤相同。

동봉물

옵션 병렬 인터페이스 키트 IB-32B
토너 설치 안내서

소개
IB-32B는 페이지 프린터에 사용되는 옵션 병렬 인터페이스 키트입니다.
본 토너 설치 안내서를 주의 깊게 읽고 올바른 설치 방법을 숙지하시기 바랍니다.
본 병렬 인터페이스 키트는 같은 설치 절차를 적용하여 다른 모델에 설치될 수 있습니다.

포장 내용물

접시와 기계의 보드의 종류에 따라 인강을 선택합니다.

병렬 인터페이스 키트 취급 시 주의사항
병렬 인터페이스 키트 취급 시, 다음과 같은 주의사항을 지켜주시기 바랍니다.
• 병렬 인터페이스 키트는 정전기 방지 봉투에 포장되어 있습니다. 병렬 인터페이스 키트를 꺼내기 전에 손상을 예방하기 위해 큰 금속 물체를 잠시 만져서 정전기를 방지하시기 바랍니다.
• 병렬 인터페이스 키트의 연결부를 직접 손으로 만지지 마십시오.
• 병렬 인터페이스 키트를 잡을 때는 회로판 표면에 닿지 않도록 끝부분을 잡으십시오.
• 설치 시 과도한 힘을 가하지 마십시오.

병렬 인터페이스 키트 설치
주의사항
병렬 인터페이스 키트를 설치(또는 제거)하기 전, 기기의 전원을 끄고 /AC 아웃렛에서 전원선을 분리하십시오.

병렬 인터페이스 키트 설치 확인
병렬 인터페이스 키트가 올바르게 설치되었는지 확인하려면 상태 페이지를 출력해 보십시오. 상태 페이지를 출력하는 방법에 관해서는 사용설명서를 참고하시기 바랍니다.
본체는 종류에 따라 그림과 다를 수도 있지만 모든 기기의 설치 절차는 동일합니다.

日本語

オプションパラレルインターフェイスキット IB-32B
インストールガイド

はじめに
IB-32B は弊社プリンター用パラレルインターフェイスキットです。本書をよくお読みいただき、正しく装着してください。なお、本オプションはその他の機種でも同様の手順で装着できます。

梱包内容の確認

基板の形状に応じてプレートおよびシールを選択してください。

取扱い上の注意
本オプションの取り扱いには、以下のことにご注意ください。
• 本品は静電気防止対策済みの袋に入っています。袋の中から取り出す際は、念のため大きな金属物に触れて身体の静電気を取り除いてください。
• 本品のコネクター部分には手を触れないでください。
• 本品を持つ際は基板の表面に手を触れずに、基板の端を持ってください。
• 装着時は無理な力を加えないでください。

パラレルインターフェイスキットの装着
注意
本オプションの装着（または取り外し）は、プリンターの電源を切り、電源プラグをコンセントから抜いた状態で行ってください。

装着の確認
ステータスページを印刷して、本オプションが正しく装着されたかを確認できます。
ステータスページの印刷方法は、使用説明書を参照してください。
使用される機種によって、イラストと外観が異なることがありますが、交換手順は全機種で同じです。

(4) PF-3110

PF-3110
(500 sheet×1 Paper feeder)

INSTALLATION GUIDE

PF-3110

303SA5614001

Installation Guide
Installationsanleitung
Guide d'installation

Guida all'installazione
Guía de instalación

安装手册
설치안내서
インストールガイド

For Canada:
CAN ICES-3B/NMB-3B

Installation of PF-3110
Installation von PF-3110
Installation de PF-3110

Installazione di PF-3110
Instalación de PF-3110

PF-3110 的安装
PF-3110 설치
PF-3110の設置

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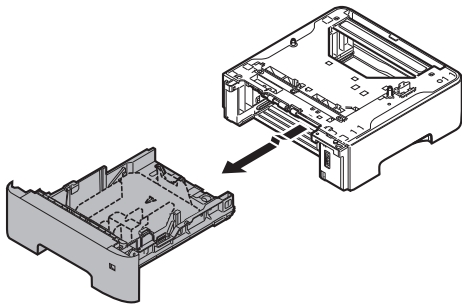
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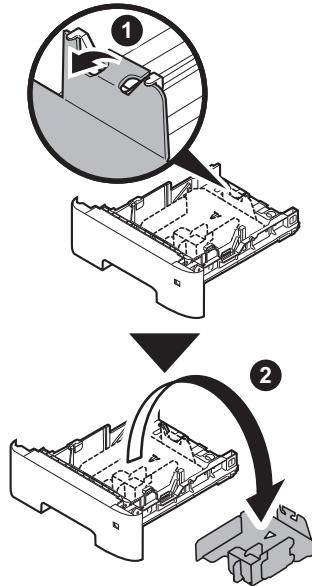
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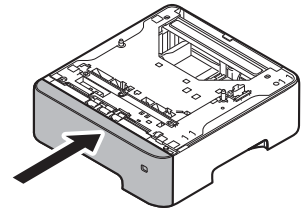
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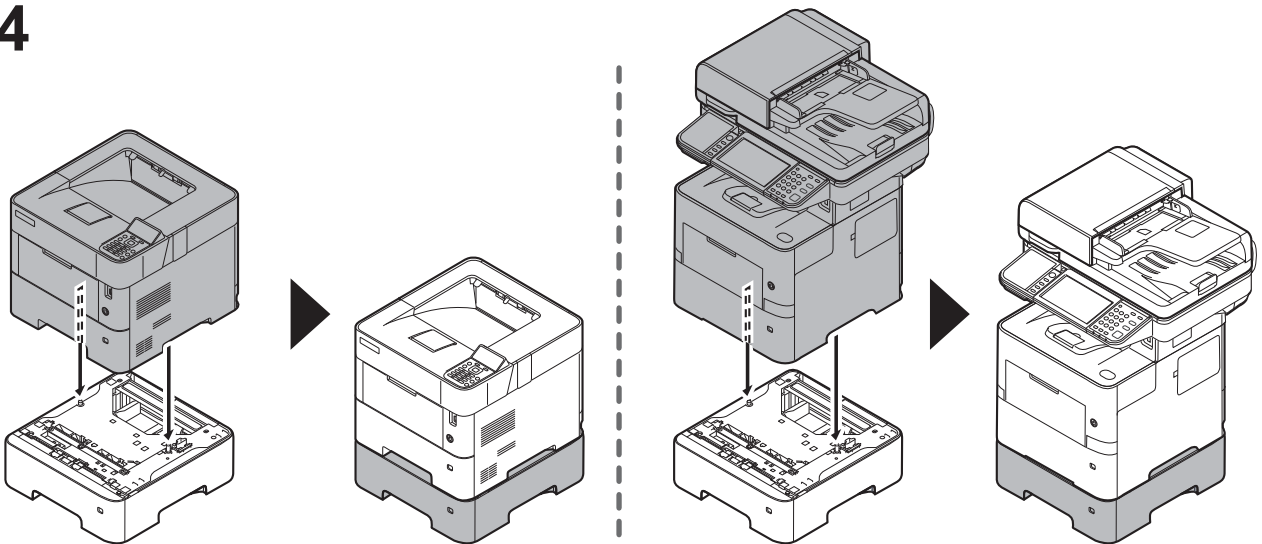
Adjustment of paper size
Justage des Papierformats
Ajustement de format papier

Registrazione del formato carta
Ajuste del tamaño del papel

纸张大小的调整
용지 크기의 조정
用紙サイズの調整

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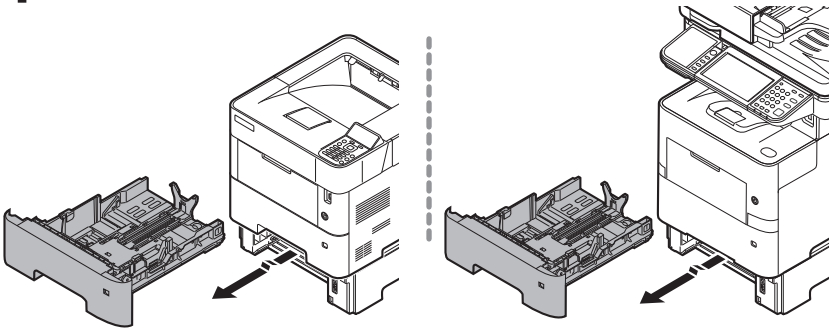
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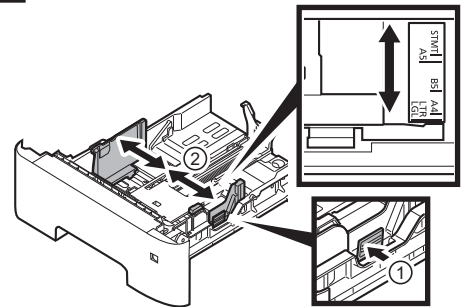
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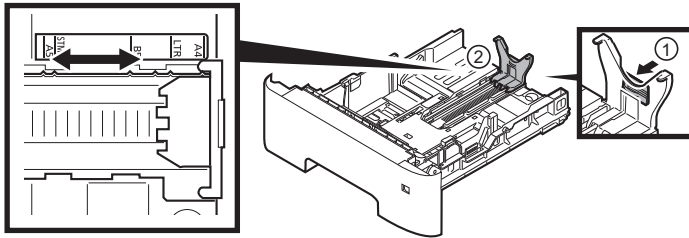
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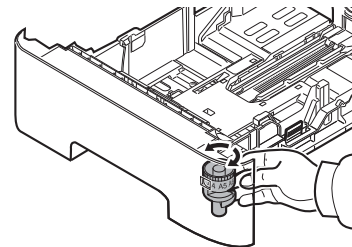
(For Legal/Folio/OficioII)
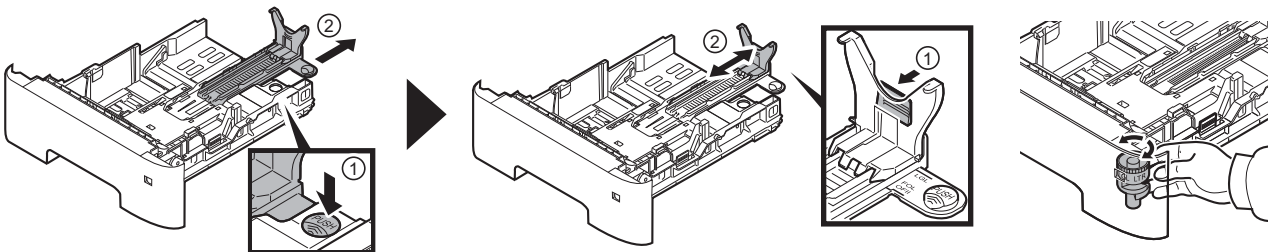
Loading paper
Ladenpapier
Papier de chargement

Carta da caricamento
Papel del cargamento

装纸
용지 적재
用紙のセット

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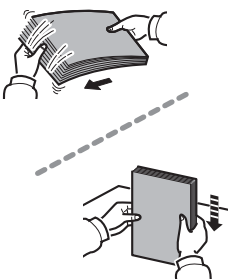
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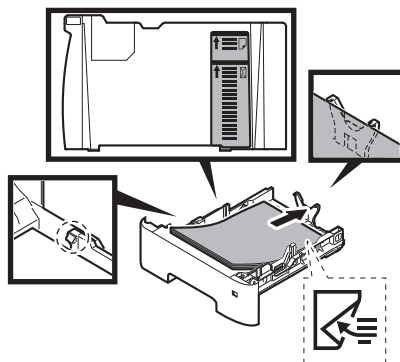
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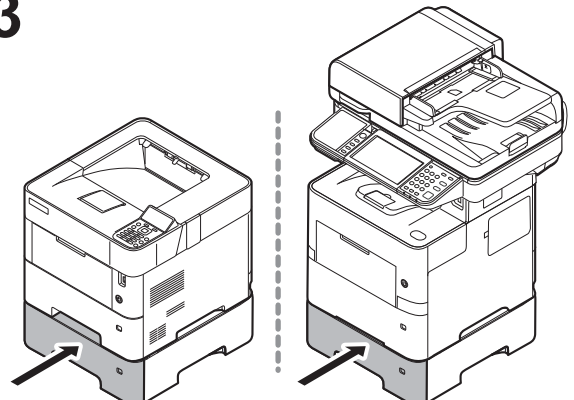
(5) PF-3100

PF-3100
(2000 sheets×1 bulk feeder)

INSTALLATION
GUIDE

PF-3100

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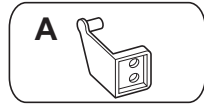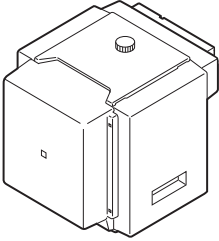
Installation of PF-3100
Installation von PF-3100
Installation de PF-3100
Installazione di PF-3100
Instalación de PF-3100
PF-3100的安裝
PF-3100 설치
PF-3100の設置
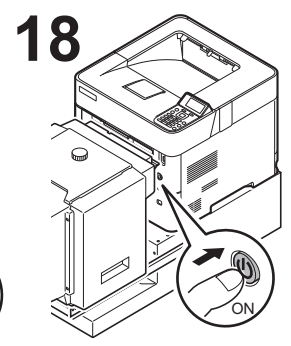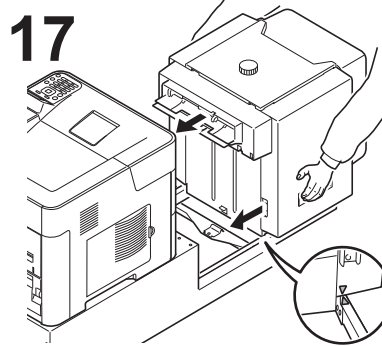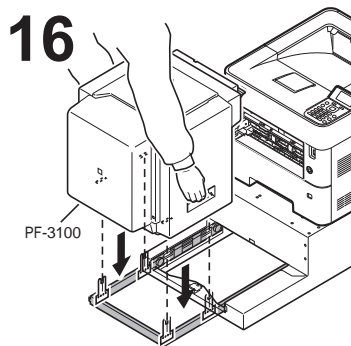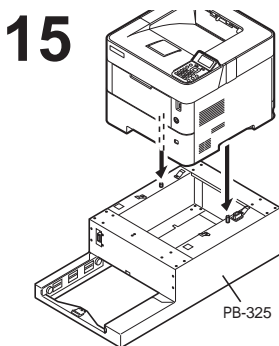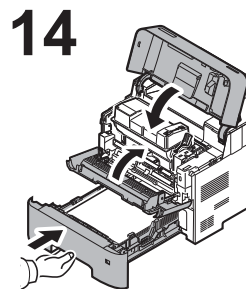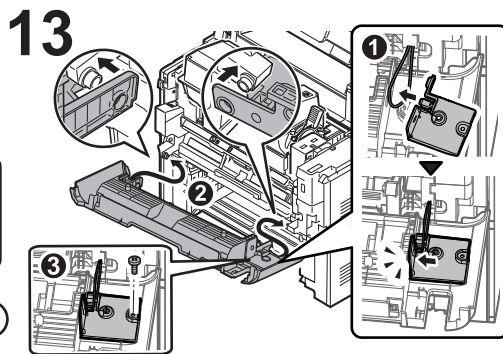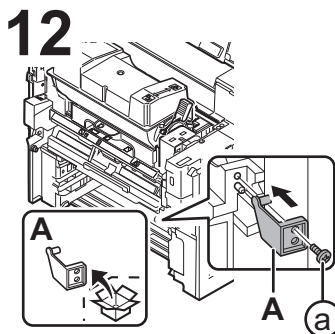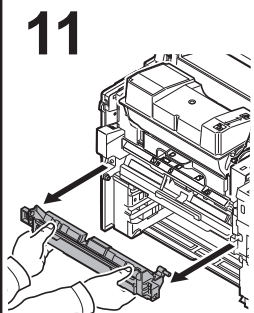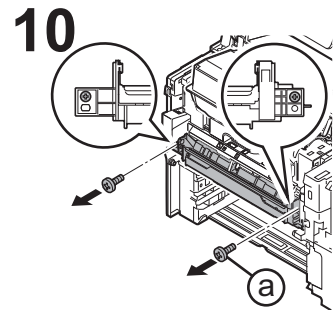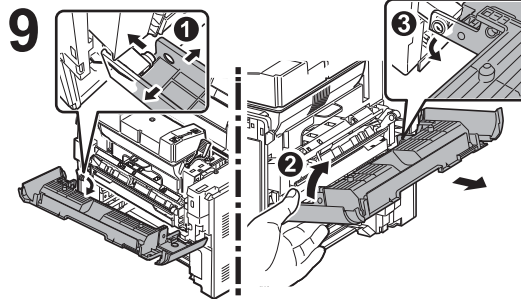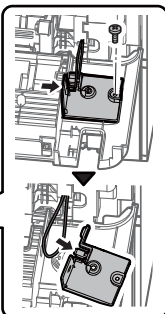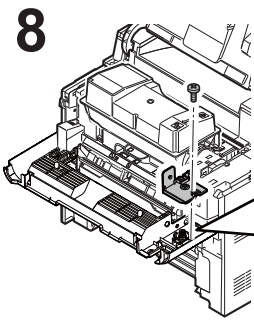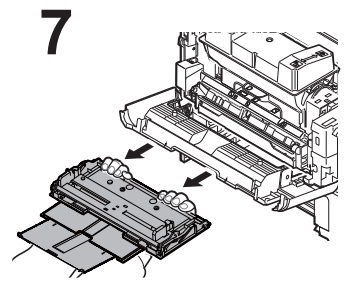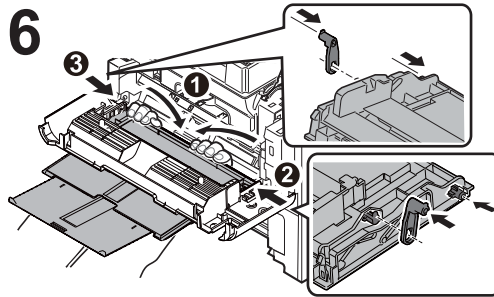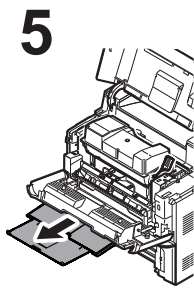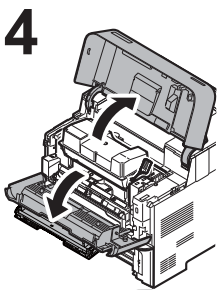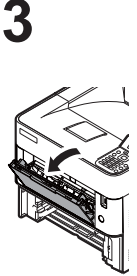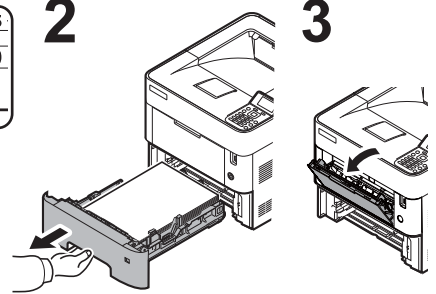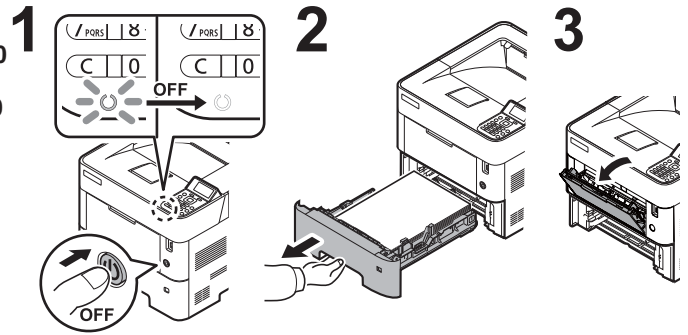
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OFF

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PB-325

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PF-3100

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ON

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

1 **2** **3**

1mm
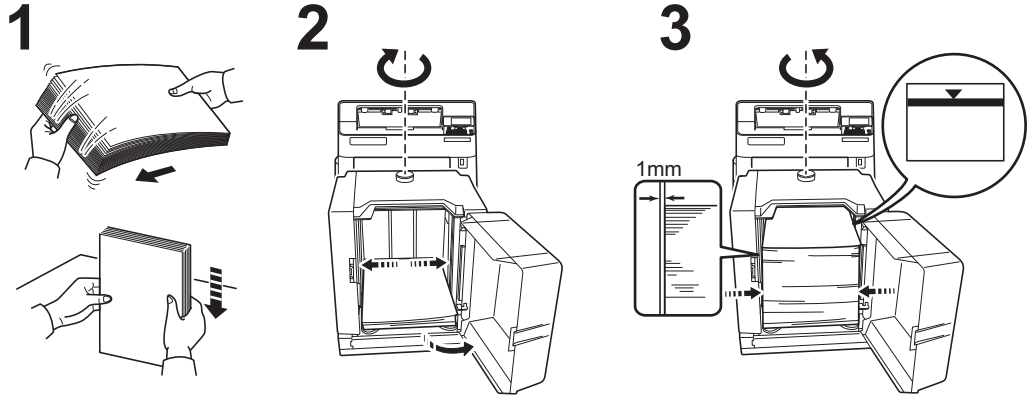
Removing Paper Jams
Entfernen von Papierstaus
Solution pour les bourrages papier

Rimozione degli inceppamenti carta
Eliminación de los atascos de papel
取出卡纸
종이 짬 제거
紙づまりの処理

1 PF-3100 **2**
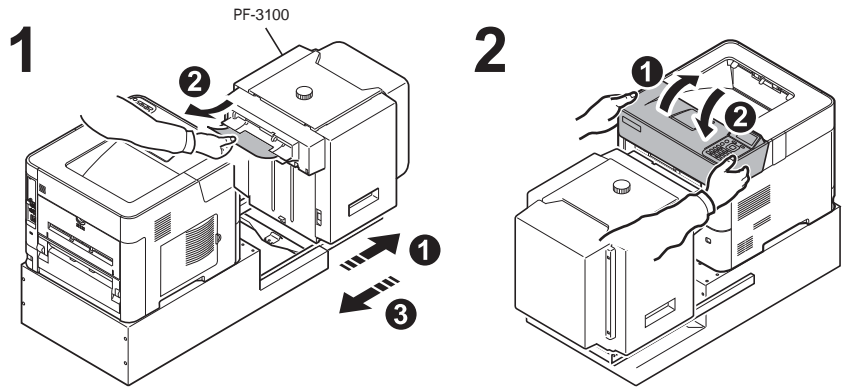
Duplex unit
Duplex Einheit
Unité recto verso
Unità fronte/retro
Unidad dúplex
双面器
양면 장치
両面ユニット

1 **2** **3**

4 **5** **6**
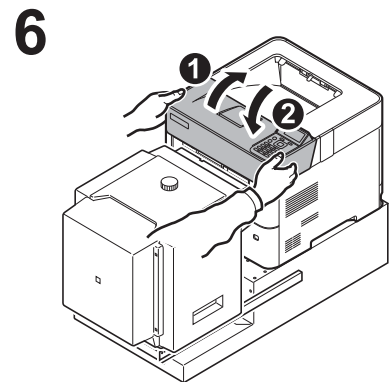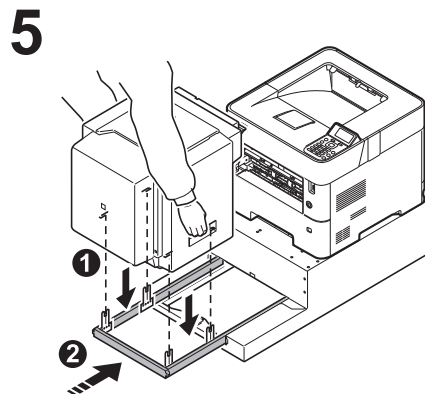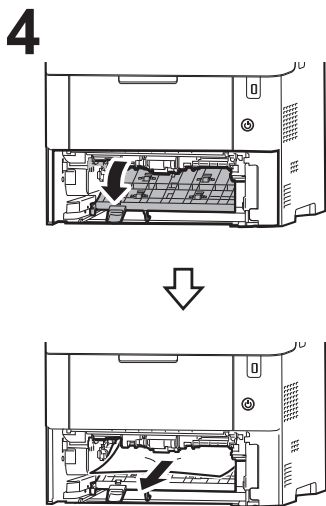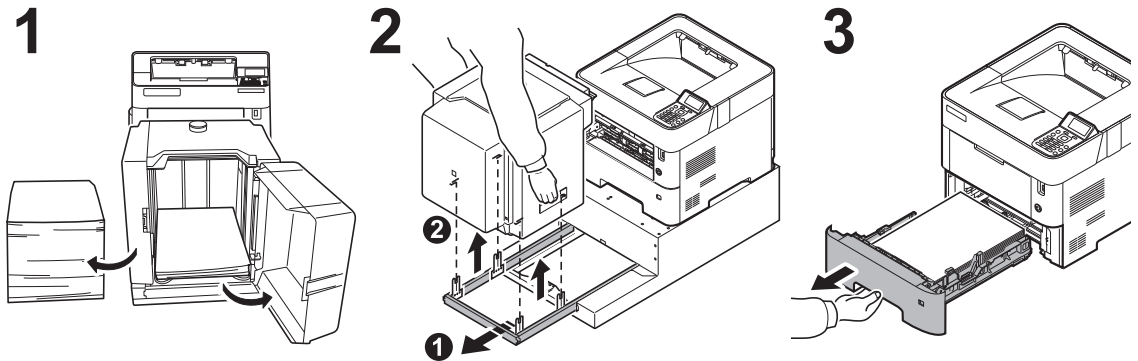
(6) HD-6/HD-7

HD-6/HD-7

INSTALLATION GUIDE
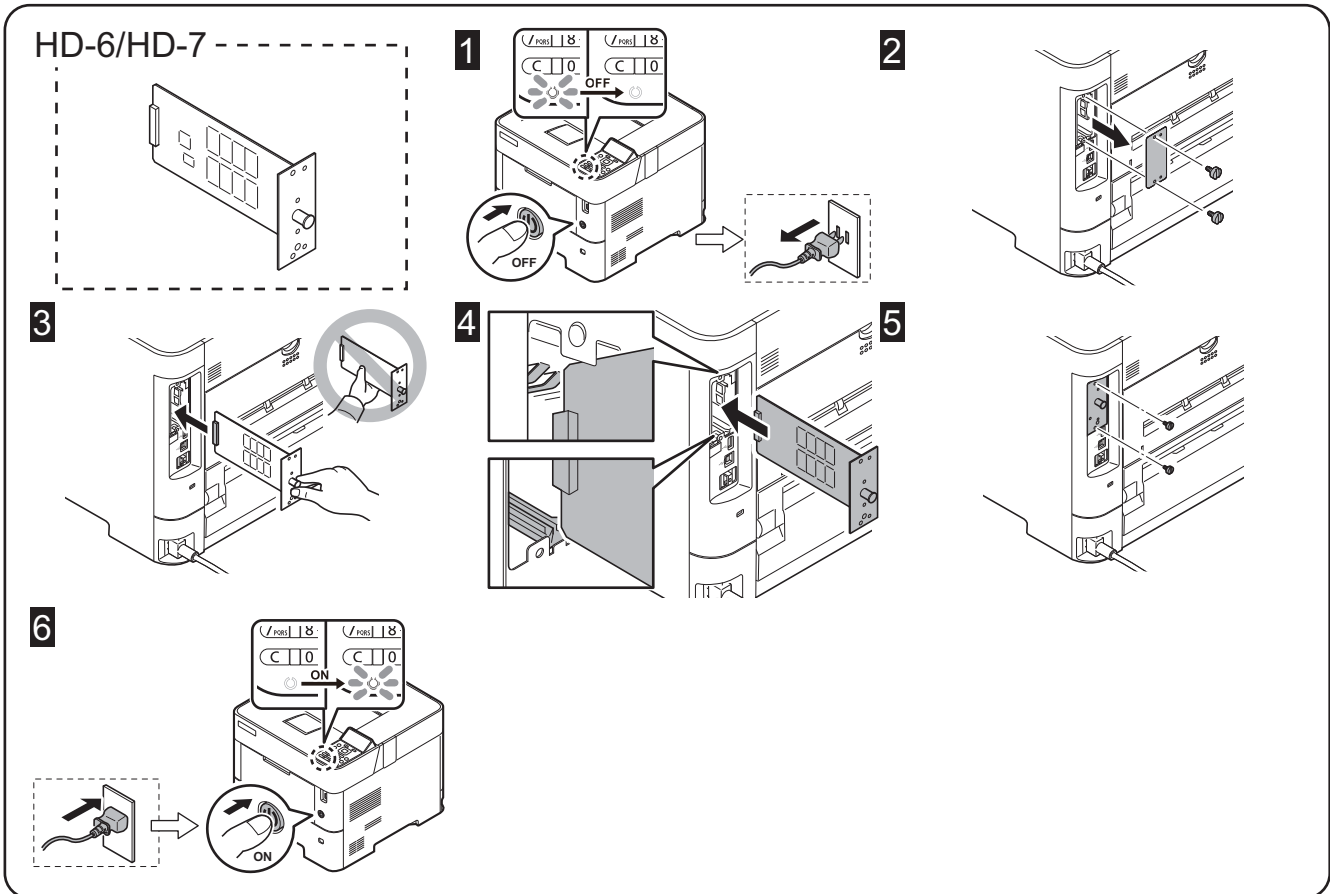
English

Optional SSD HD-6
Installation Guide

Introduction
The HD-6 is an optional SSD for use with the MFPs and the page printers. Please read this Installation Guide thoroughly so that you understand the correct installation method. This SSD can be installed in other models using the same installation procedure.

Packing List
HD-6...1
Installation Guide (this guide)...1

Precautions for Handling the SSD
When handling the SSD, adhere to the following precautions.
• The SSD is delivered in an antistatic bag. To prevent any damage, briefly touch a large metal object to ensure discharge of static electricity before removing the SSD from the bag.
• Never touch the SSD's connector section directly with hands.
• When holding the SSD, avoid contact with the surface of the circuit board. Hold it at the edges.
• Do not apply undue force when installing.

Installing the SSD
CAUTION
Before installing (or removing) the SSD, be sure to turn off the machine's power and disconnect the power cord plug from the AC outlet.

Formatting the SSD
After installing the SSD in the machine, the SSD must to be formatted before used. Formatting is performed from the machine's operation panel.
Refer to the Operation Guide for the formatting of the SSD.

Verifying Installation of the SSD
To verify that the SSD has been correctly installed, try to print out the status page.
Refer to the Operation Guide for the method for printing a status page.

日本語

オプションSSD HD−6
インストールガイド

はじめに
HD−6 は弊社複合機およびプリンター用 SSD ユニットです。本書をよくお読みいただき、正しく装着してください。なお、本オプションはその他の機種でも同様の手順で装着できます。

梱包内容の確認
HD−6 本体 1
インストールガイド(本書) 1

取扱い上の注意
本オプションの取り扱いには、以下のことにご注意ください。
▪ 本品は静電気防止対策済みの袋に入っています。袋の中から取り出す際は、念のため大きな金属物に触れて身体の静電気を取り除いてください。
▪ 本品のコネクター部分には手を触れないでください。
▪ 本品を持つ際は基板の表面に手を触れずに、基板の端を持ってください。
▪ 装着時は無理な力を加えないでください。

SSD ユニットの装着
注意
本オプションの装着（または取り外し）は、複合機またはプリンターの電源を切り、電源プラグをコンセントから抜いた状態で行ってください。

SSD のフォーマット
本オプション装着後は、使用する前に操作パネルからフォーマットをする必要があります。
SSD のフォーマットは、使用説明書を参照してください。

装着の確認
ステータスページを印刷して、本オプションが正しく装着されたかを確認します。
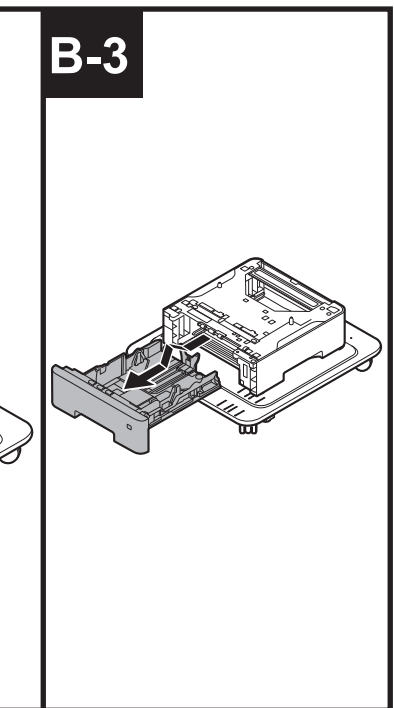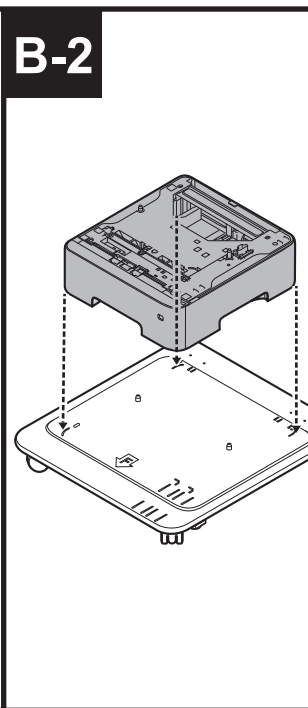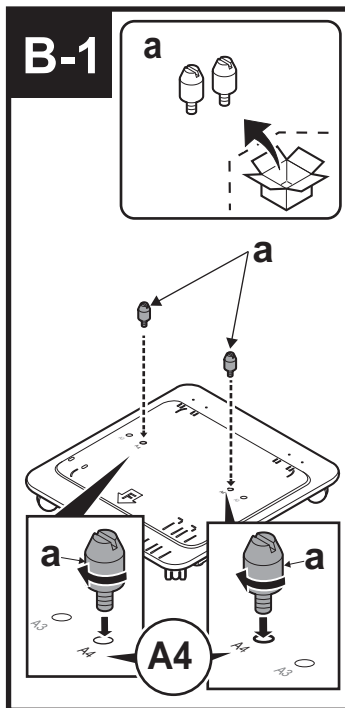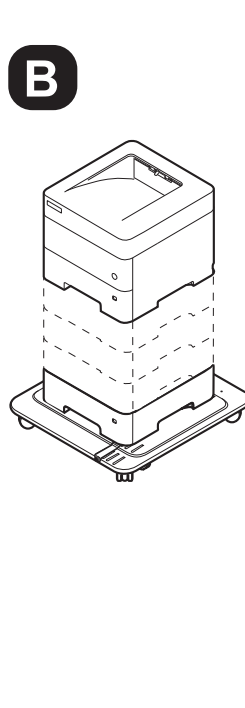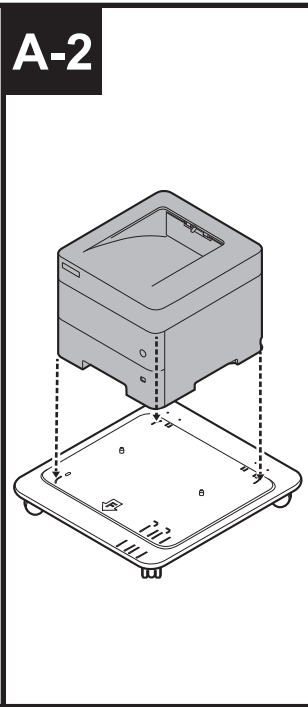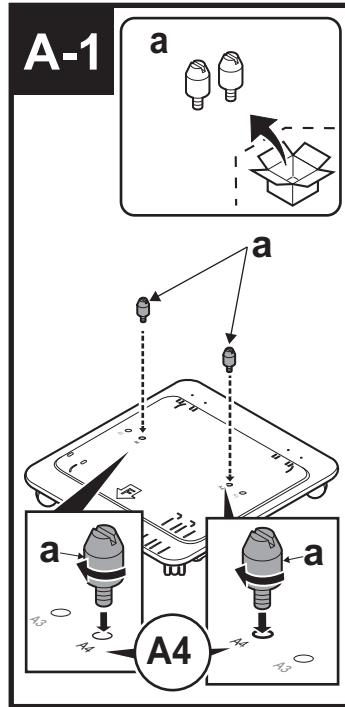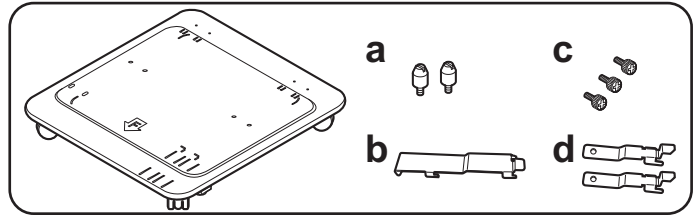ステータスページの印刷方法は、使用説明書を参照してください。

(7) CA-3100

CA-3100

INSTALLATION GUIDE

CA-3100

INSTALLATION GUIDE
GUIDE D INSTALLATION
GUÍA DE INSTALACION
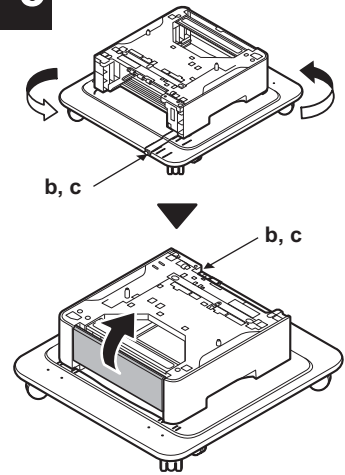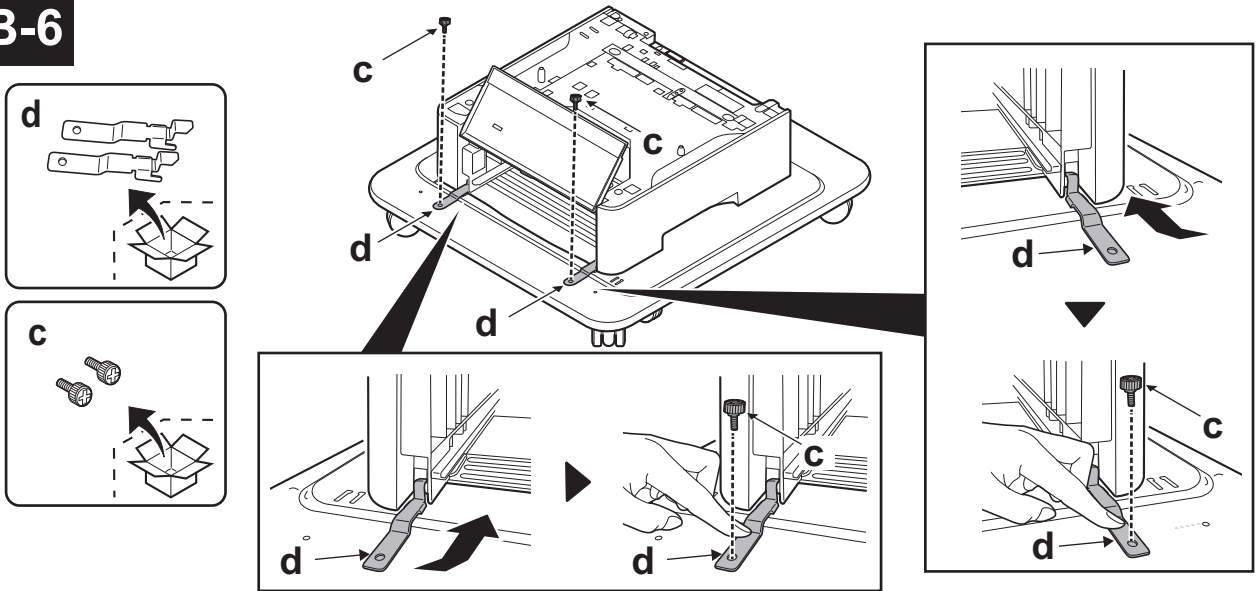**INSTALLATIONSANLEITUNG**
GUIDA ALL INSTALLAZIONE

303T55671001

a   c
b   d

A

b
c
d

A-1 a
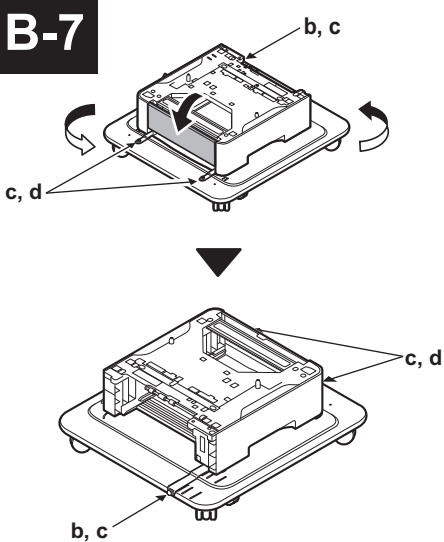
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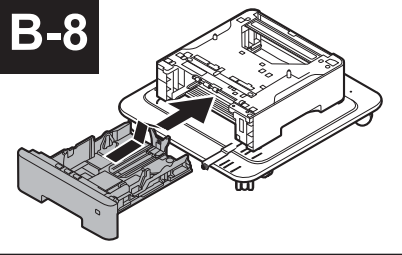A4

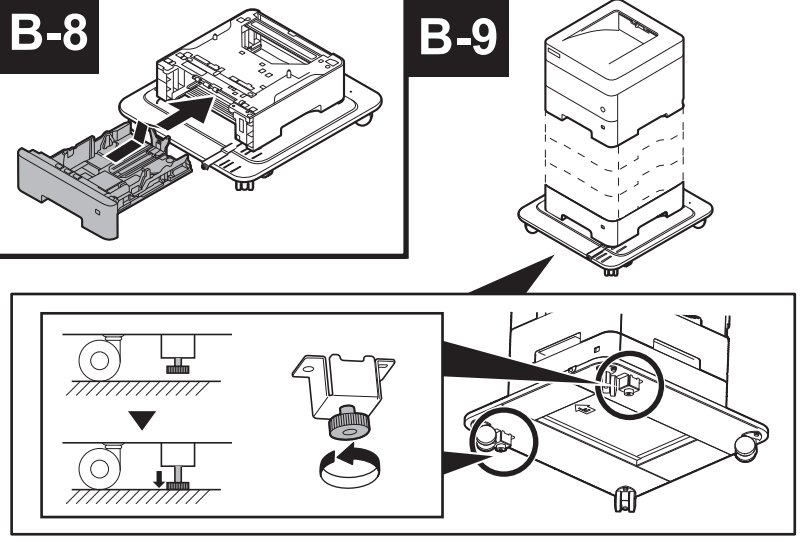**A-2**

A-3

B

B-1 a

a

A4

B-2

B-3
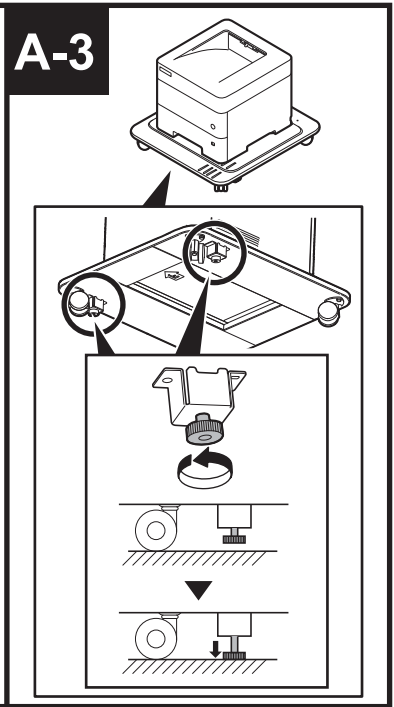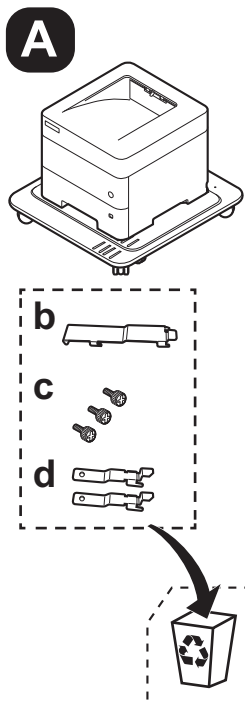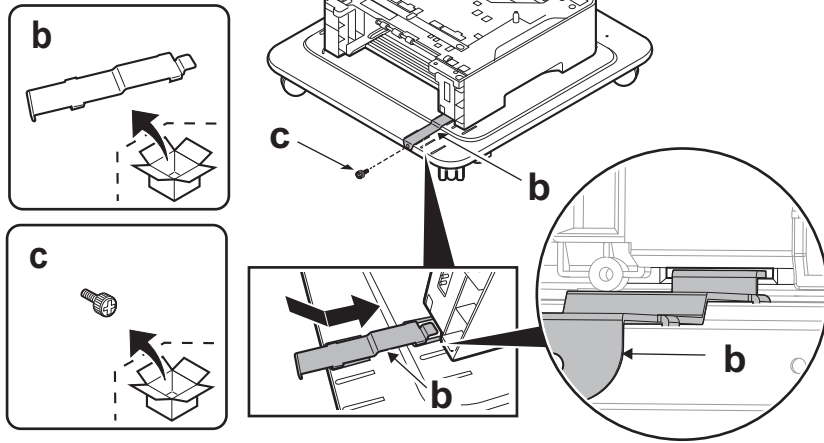
KYOCERA Document Solutions America, Inc.

Headquarters
225 Sand Road,
Fairfield, New Jersey 07004-0008, USA
Phone: +1-973-808-8444
Fax: +1-973-882-6000

Latin America
8240 NW 52nd Terrace, Suite 301
Miami, Florida 33166, USA
Phone: +1-305-421-6640
Fax: +1-305-421-6666

KYOCERA Document Solutions Canada, Ltd.

6120 Kestrel Rd., Mississauga, ON L5T 1S8,
Canada
Phone: +1-905-670-4425
Fax: +1-905-670-8116

KYOCERA Document Solutions
Mexico, S.A. de C.V.

Calle Arquimedes No. 130, 4 Piso, Colonia Polanco
Chapultepec, Delegacion Miguel Hidalgo,
Distrito Federal, C.P. 11560, México
Phone: +52-555-383-2741
Fax: +52-555-383-7804

KYOCERA Document Solutions Brazil, Ltda.

Alameda África, 545, Pólo Empresarial Consbrás,
Tamboré, Santana de Parnaíba, State of São Paulo, CEP
06543-306, Brazil
Phone: +55-11-2424-5353
Fax: +55-11-2424-5304

KYOCERA Document Solutions Chile SpA

Jose Ananias 505, Macul. Santiago, Chile
Phone: +56-2-2670-1900
Fax: +56-2-2350-7150

KYOCERA Document Solutions
Australia Pty. Ltd.

Level 3, 6-10 Talavera Road North Ryde N.S.W, 2113,
Australia
Phone: +61-2-9888-9999
Fax: +61-2-9888-9588

KYOCERA Document Solutions
New Zealand Ltd.

Ground Floor, 19 Byron Avenue, Takapuna, Auckland,
New Zealand
Phone: +64-9-415-4517
Fax: +64-9-415-4597

KYOCERA Document Solutions Asia Limited

13/F.,Mita Centre, 552-566, Castle Peak Road Tsuen Wan,
New Territories, Hong Kong
Phone: +852-2496-5678
Fax: +852-2610-2063

KYOCERA Document Solutions
(China) Corporation

8F, No. 288 Nanjing Road West, Huangpu District,
Shanghai,200003, China
Phone: +86-21-5301-1777
Fax: +86-21-5302-8300

KYOCERA Document Solutions
(Thailand) Corp., Ltd.

335 Ratchadapisek Road, Wongsawang, Bangsue,
Bangkok 10800,
Thailand
Phone: +66-2-586-0333
Fax: +66-2-586-0278

KYOCERA Document Solutions
Singapore Pte. Ltd.

12 Tai Seng Street #04-01A,
Luxasia Building, Singapore 534118
Phone: +65-6741-8733
Fax: +65-6748-3788

KYOCERA Document Solutions
Hong Kong Limited

16/F.,Mita Centre, 552-566, Castle Peak Road Tsuen Wan,
New Territories, Hong Kong
Phone: +852-3582-4000
Fax: +852-3185-1399

KYOCERA Document Solutions
Taiwan Corporation

6F., No.37, Sec. 3, Minquan E. Rd.,
Zhongshan Dist., Taipei 104, Taiwan R.O.C.
Phone: +886-2-2507-6709
Fax: +886-2-2507-8432

KYOCERA Document Solutions Korea Co., Ltd.

#10F Daewoo Foundation Bldg 18, Toegye-ro, Jung-gu,
Seoul, Korea
Phone: +822-6933-4050
Fax: +822-747-0084

KYOCERA Document Solutions
India Private Limited

Second Floor, Centrum Plaza, Golf Course Road,
Sector-53, Gurgaon, Haryana 122002, India
Phone: +91-0124-4671000
Fax: +91-0124-4671001

KYOCERA Document Solutions Europe B.V.

Bloemlaan 4, 2132 NP Hoofddorp,
The Netherlands
Phone: +31-20-654-0000
Fax: +31-20-653-1256

KYOCERA Document Solutions Nederland B.V.

Beechavenue 25, 1119 RA Schiphol-Rijk,
The Netherlands
Phone: +31-20-5877200
Fax: +31-20-5877260

KYOCERA Document Solutions (U.K.) Limited

Eldon Court, 75-77 London Road,
Reading, Berkshire RG1 5BS,
United Kingdom
Phone: +44-118-931-1500
Fax: +44-118-931-1108

KYOCERA Document Solutions Italia S.p.A.

Via Monfalcone 15, 20132, Milano, Italy,
Phone: +39-02-921791
Fax: +39-02-92179-600

KYOCERA Document Solutions Belgium N.V.

Sint-Martinusweg 199-201 1930 Zaventem,
Belgium
Phone: +32-2-7209270
Fax: +32-2-7208748

KYOCERA Document Solutions France S.A.S.

Espace Technologique de St Aubin
Route de l'Orme 91195 Gif-sur-Yvette CEDEX,
France
Phone: +33-1-69852600
Fax: +33-1-69853409

KYOCERA Document Solutions Espana, S.A.

Edificio Kyocera, Avda. de Manacor No.2,
28290 Las Matas (Madrid), Spain
Phone: +34-91-6318392
Fax: +34-91-6318219

KYOCERA Document Solutions Finland Oy

Atomitie 5C, 00370 Helsinki,
Finland
Phone: +358-9-47805200
Fax: +358-9-47805212

**KYOCERA Document Solutions
Europe B.V., Amsterdam (NL) Zürich Branch**

Hohlstrasse 614, 8048 Zürich,
Switzerland
Phone: +41-44-9084949
Fax: +41-44-9084950

**KYOCERA Bilgitas Document Solutions
Turkey A.S.**

Altunizade Mah. Prof. Fahrettin Kerim Gökay Cad. No:45
34662 ÜSKÜDAR İSTANBUL, TURKEY
Phone: +90-216-339-0020
Fax: +90-216-339-0070

**KYOCERA Document Solutions
Deutschland GmbH**

Otto-Hahn-Strasse 12, 40670 Meerbusch,
Germany
Phone: +49-2159-9180
Fax: +49-2159-918100

KYOCERA Document Solutions Austria GmbH

Wienerbergstraße 11, Turm A, 18. OG, 1100 Wien,
Austria
Phone: +43-1-863380
Fax: +43-1-86338-400

KYOCERA Document Solutions Nordic AB

Esbogatan 16B 164 75 Kista, Sweden
Phone: +46-8-546-550-00
Fax: +46-8-546-550-10

KYOCERA Document Solutions Norge Nuf

Olaf Helsetsv. 6, 0619 Oslo, Norway
Phone: +47-22-62-73-00
Fax: +47-22-62-72-00

KYOCERA Document Solutions Danmark A/S

Ejby Industrivej 60, DK-2600 Glostrup,
Denmark
Phone: +45-70223880
Fax: +45-45765850

KYOCERA Document Solutions Portugal Lda.

Rua do Centro Cultural, 41 (Alvalade) 1700-106 Lisboa,
Portugal
Phone: +351-21-843-6780
Fax: +351-21-849-3312

**KYOCERA Document Solutions
South Africa (Pty) Ltd.**

KYOCERA House, Hertford Office Park,
90 Bekker Road (Cnr. Allandale), Midrand, South Africa
Phone: +27-11-540-2600
Fax: +27-11-466-3050

KYOCERA Document Solutions Russia LLC.

Building 2, 51/4, Schepkina St., 129110, Moscow,
Russia
Phone: +7(495)741-0004
Fax: +7(495)741-0018

KYOCERA Document Solutions Middle East

Dubai Internet City, Bldg. 17,
Office 157 P.O. Box 500817, Dubai,
United Arab Emirates
Phone: +971-04-433-0412

KYOCERA Document Solutions Inc.

2-28, 1-chome, Tamatsukuri, Chuo-ku
Osaka 540-8585, Japan
Phone: +81-6-6764-3555
http://www.kyoceradocumentsolutions.com