KYOCERA

ECOSYS P2235dn
ECOSYS P2235dw
ECOSYS P2040dn
ECOSYS P2040dw
PF-1100

SERVICE
MANUAL

Published in January 2017
842RV112
2RVSM062
Rev.2

CAUTION

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

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

ATTENTION

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

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

Notation of products in the manual

For the purpose of this service manual, products are identified by print speed.

Product name	Manual classification				KDJ	KDA	KDE	KDAU
ECOSYS P2235dn	35 ppm	Network	-	LED	×	○	○	○
ECOSYS P2235dw			Wi-Fi		×	○	○	○
ECOSYS P2040dn	40 ppm		-	LCD	×	×	○	○
ECOSYS P2040dw			Wi-Fi		○	○	○	○

Revision history

Revision	Date	Pages	Revised contents
1	2 November 2016	CONTENTS	Chenge: Page number
		2-2	Correction: Delete the procedure of the maintenance mode
		2-4	Added: Name of parts number 7
		2-9	Correction: Description of "IMPORTANT"
		3-2	Correction: Item name of 3-2/3-2(1) Added: 3. Fuser pressure release motor
		3-5, 3-8	Correction: Description of (2-1)Main/Engine PWB
		3-9	Dleated: Mein/Engine PWB for 2RT
		3-11	Correction: Description of the thermopile
		4-3, 4-4 6-22, 6-23	Correction: Maintenance kits
		4-18	Correction: Description of Precedure 6
		4-23, 4-24	Changed: Procedures of (1-4) Detaching and reattaching the right cover
		4-65	Dleated: (5-1) Detaching and reattaching the main/ engine PWB (17 to 26 of old prosedures)
		4-86	Correction: Procedures at Figure 4-157
		7-2	Correction: rear cover → cover Deleted: (1-1)Step2 to 4
		7-5	Correction: Measures of Step1 in (1-9)
		7-10	Added: J1403, J1413, J4002 to J4018
		7-14 to 51	Added: 7-2 Self diagnostic, 7-3 Image formation failure 7-4 Electric failure, 7-5 Mechanical failure
		8-5	Correction: assign of pin of YC21
2	28 December 2016	3-11	Correction: Description of 7 (right → front)
		6-23	Correction: Description of Toner Log

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Safety precautions

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

Safety warnings and precautions

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

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

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

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

Symbols

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

 General warning.

 Warning of risk of electric shock.

 Warning of high temperature.

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

 General prohibited action.

 Disassembly prohibited.

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

 General action required.

 Remove the power plug from the wall outlet.

 Always ground the copier.

1. Installation Precautions

⚠ WARNING

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

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

⚠ CAUTION:

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

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

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

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

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

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

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

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

2. Precautions for Maintenance

⚠ WARNING

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

⚠ CAUTION

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

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

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

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

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

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

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

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

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

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

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

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

3. Miscellaneous

⚠ WARNING

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

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

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CONTENTS

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1 Specifications
1-1 Specifications

(1) Common function

Item		Description			
		40 ppm model		35 ppm model	
		P2040dw	P2040dn	P2235dw	P2235dn
Type		Desktop			
Printing Method		Electrophotography by semiconductor laser			
Paper Weight	**Cassette**	60 to 163 g/m^2			
	Multi Purpose Tray	60 to 220 g/m², 209g/m² (Hagaki)			
Paper Type	**Cassette**	Plain, Rough, Recycled, Preprinted, Bond, Color, Prepunched, Letterhead, Thick, High Quality, Custom 1 to 8 (Duplex: Same as Simplex)			
	Multi Purpose Tray	Plain, Transparency (OHP film), Rough, Vellum, Labels, Recycled, Preprinted, Cardstock, Coated, Color, Prepunched, Letterhead, Envelope, Thick, High Quality, Custom 1 to 8			
Paper Size	**Cassette**	A4, A5-R, A5, A6, B5, Letter, Legal, Folio, 216 × 340 mm, Statement, Executive, Oficio II, 16K, B5(ISO), Custom (105 x 148 to 216 x 356 mm)			
	Multi Purpose Tray	A4, A5-R, A5, A6, B5, B6, Letter, Legal, Folio, 216 × 340 mm, Statement-R,Executive, Oficio II, 16K, B5(ISO), Envelope #10, Envelope #9, Envelope #6 3/4, Envelope Monarch, Envelope DL, Envelope C5, Hagaki (Cardstock), Oufukuhagaki (Return postcard), youkei 4, youkei 2, Custom (70 x 148 to 216 x 356 mm)			
Printable Area		Print margin for top, bottom and both sides is 4.2 mm.			
Warm-up Time (23°C/ 73.4°F, 60%)	**Power on**	15 seconds or less			
	Sleep	10 seconds or less			
Paper Capacity	**Cassette**	300 Sheets (64 g/m2)*1 250 Sheets (80 g/m2) *1			
	Multi Purpose Tray	120 sheets (A4/Letter or smaller) (64 g/m2) 100 sheets (A4/Letter or smaller) (80 g/m2)			
Output Tray Capacity	**Inner tray**	250 sheets (80 g/m²)			
Image Write System		Semiconductor laser and electrophotography (twin beams)			
Photoconductor		OPC drum (diameter 30 mm)			
Charging system		Positive charge scorotron system			
Developer system		Magnetic mono-component developing system Toner: magnetic toner Toner feed system: leveled toner feed			
Transfer system		Transfer roller method			

Item		Description			
		40 ppm model		35 ppm model	
		P2040dw	P2040dn	P2235dw	P2235dn
Separation system		Curvature separation + discharger needle (grounded) : except 100 V model Curvature separation + discharger needle (DC voltage impressed) : 100 V model only			
Cleaning system		Counter blade			
Charge erasing system		Exposure by cleaning lamp (LED)			
Fusing system		Sliding belt + foam press roller system Heat source: halogen heater Abnormal temperature preventing device: 2 thermocat			
Operation Panel		2-line LCD		LED	
Memory		512 MB			
Interface		USB Interface Connector: 1 (Hi-Speed USB) USB Port: 1 (Hi-Speed USB)			
	Network	Network interface: 1 (10 BASE-T/100 BASE-TX/1000 BASE-T)			
	Wireless LAN	Wireless LAN support Only	-	Wireless LAN support Only	-
Operating Environment	**Temperature**	10 to 32.5°C/50 to 90.5°F			
	Humidity	10 to 80%			
	Altitude	3,500 m/11,482 ft maximum			
	Brightness	1,500 lux maximum			
Dimension (W × D × H)		14.77" × 15.48" × 10.71" 375 × 393 × 272 mm			
Weight		(without toner container) Approx. 30.9 lb/Approx. 14 kg			
Space Required (W × D)		(Using multi purpose tray) 14.77" × 28.47" 375 × 723 mm			
Power Source		AC100 V, 50/60 Hz, 9.5A AC120 V, 60 Hz, 8.1A AC220 to 240V, 50 Hz, 4.2A			

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

(2) Printer Functions

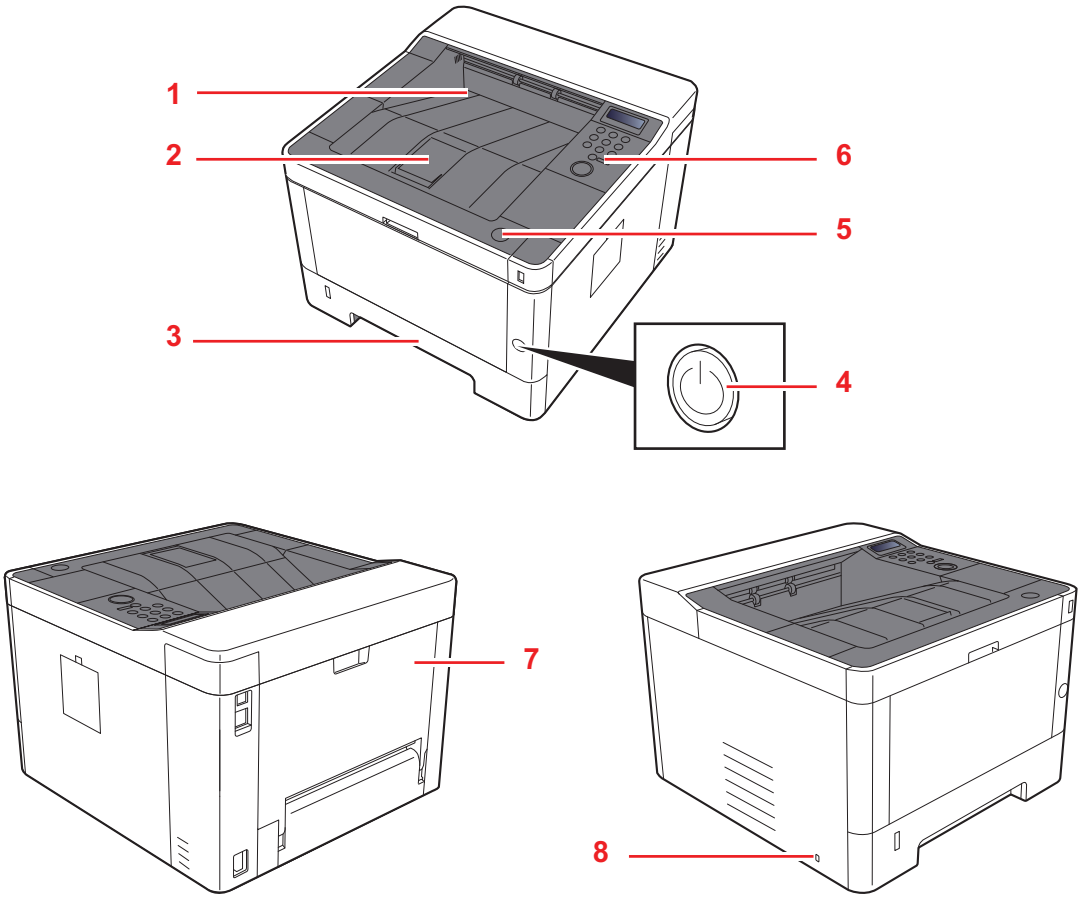
Item		Description			
		40 ppm model		35 ppm model	
		P2040dw	P2040dn	P2235dw	P2235dn
Printing Speed		A4/A5 40 sheets/min Letter 42 sheets/min Legal 34 sheets/min B5 27 sheets/min A5-R 19 sheets/min A6 19 sheets/min 16K 22 sheets/min		A4/A5 35 sheets/min Letter 37 sheets/min Legal 30 sheets/min B5 24 sheets/min A5-R 17 sheets/min A6 17 sheets/min 16K 20 sheets/min	
First Print Time (A4, feed from Cassette)		6.4 seconds or less		6.8 seconds or less	
Resolution		300 dpi × 300 dpi, 600 dpi × 600 dpi, 1200 dpi equivalent × 1200 dpi equivalent, 1800 dpi equivalent × 600 dpi			
Operating System		Windows XP, Windows Server 2003, Windows Vista, Windows 7, Windows 8, Windows 8.1, Windows 10, Windows Server 2008/R2, Windows Server 2012/R2, Mac OS X v10.5 or later			
Interface		USB Interface Connector: 1 (Hi-Speed USB) Network interface: 1 (10 BASE-T/100 BASE-TX/1000 BASE-T)			
	Wireless LAN	Wireless LAN support Only	-	Wireless LAN support Only	-
Page Description Language		PRESCRIBE			
Emulations		PCL6(PCL-XL, PCL5c) KPDL3, (PostScript3 compatible), PDF, XPS, OpenXPS			

(3) Paper Feeder (PF-1100)(Option)

Item	Description
Paper Supply Method	Friction roller feeder (No. Sheets: 250, 80 g/m2, 1 cassette)
Paper Size	A4, A5-R, A5, B5, A6, Letter, Legal, Folio, 216 × 340 mm, Statement, Executive, Oficio II, 16K, B5(ISO), Custom (105 x 148 to 216 x 356 mm)
Supported Paper	Paper weight: 60 to 163 g/m² Media types: Plain, Recycled, Material
Dimensions (W) × (D) × (H)	14.77" × 15.48" × 3.94" 375 × 393 × 100 mm
Weight	Approx. 6.4 lb/Approx. 2.9 kg

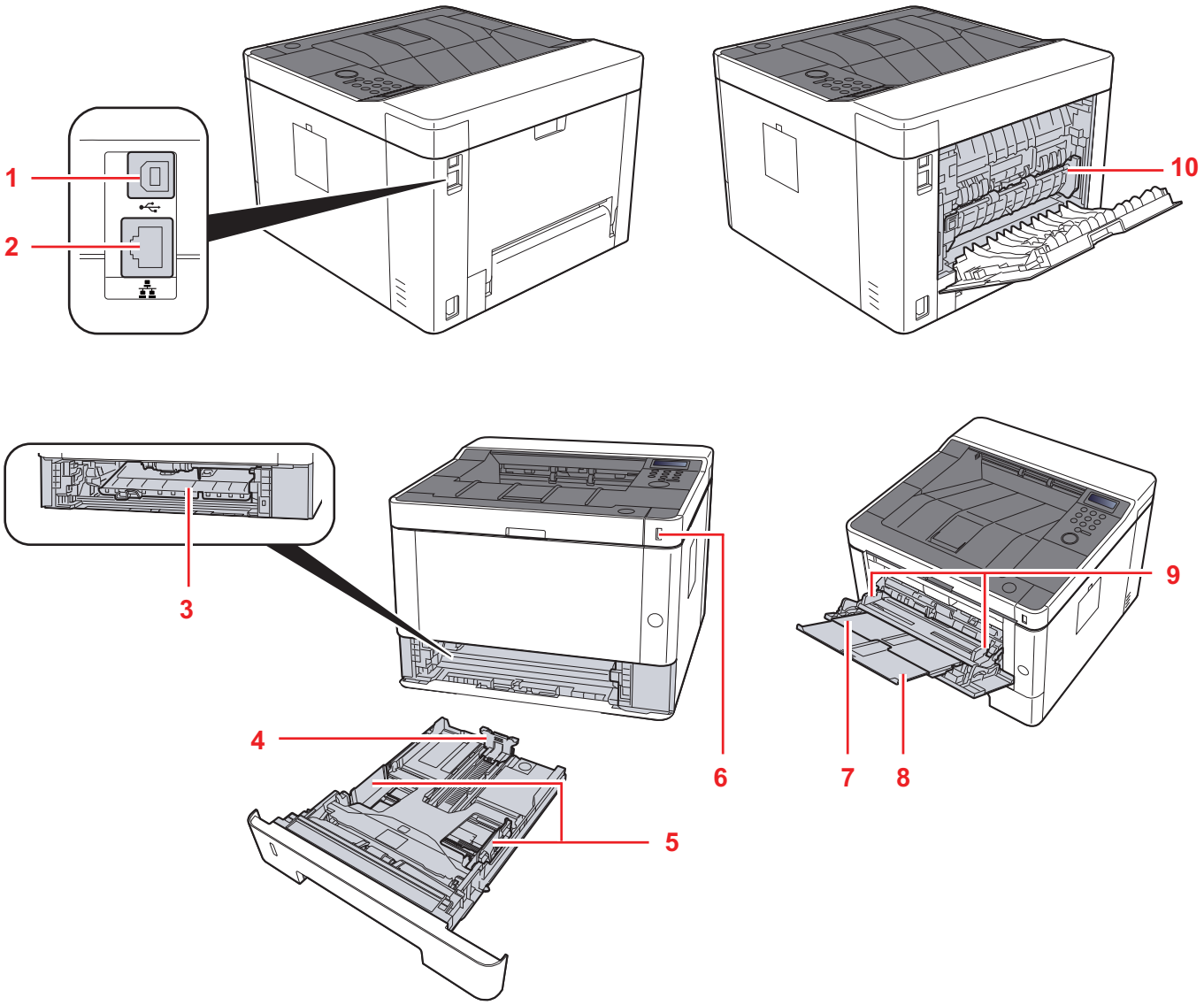
1-2 Part Names

(1) Machine Exterior

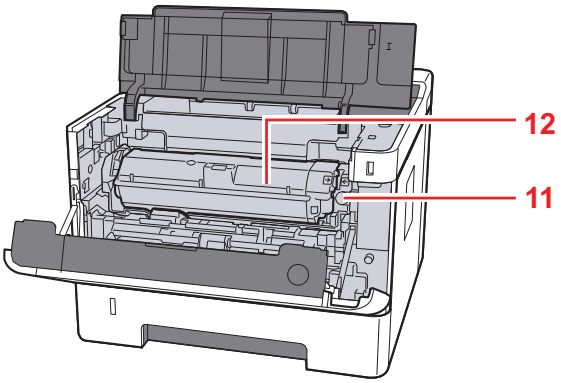


1 Top Tray
2 Eject Stopper
3 Cassette 1
4 Power Switch
5 Front Cover Open Button
6 Operation Panel
7 Rear cover
8 Anti-theft Lock Slot

(2) Connectors/Interior

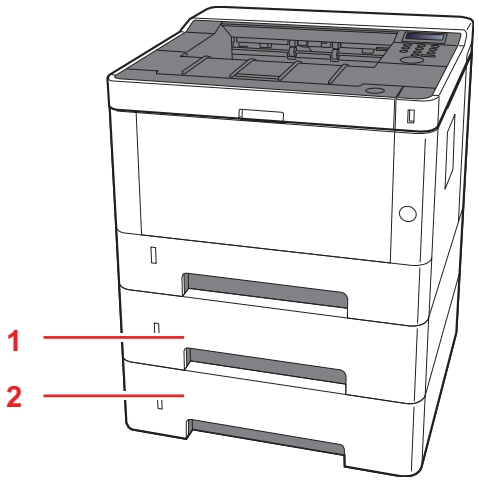


1. USB Interface Connector
2. Network Interface Connector
3. Feed Cover
4. Paper Length Guide
5. Paper Width Guides
6. USB Memory Slot
7. Multi Purpose Tray
8. Sub Tray
9. Paper Guides
10. Fuser Cover



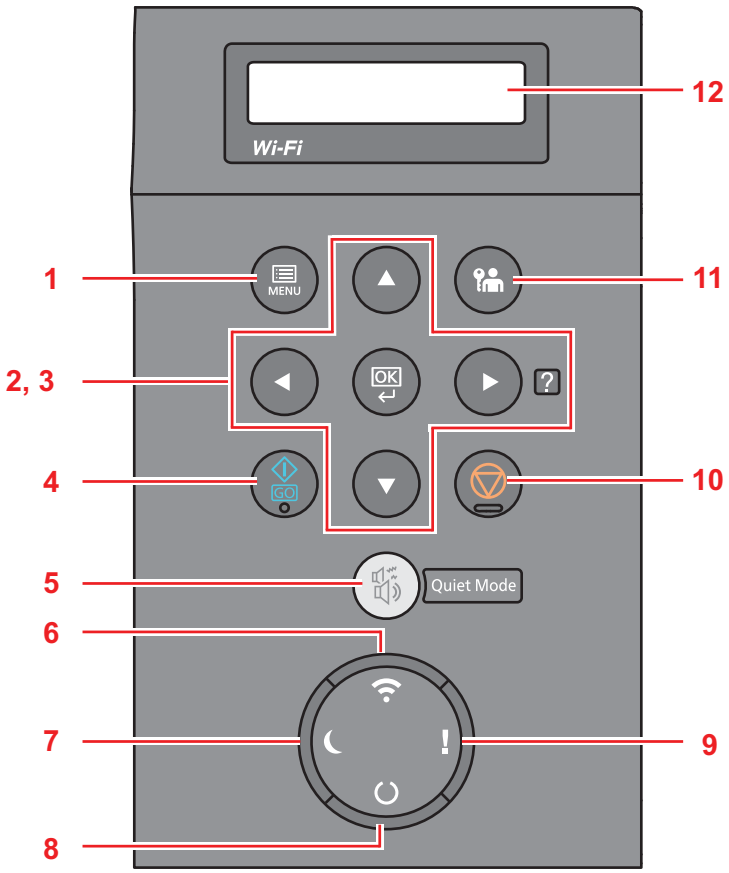
11. Toner Container Release Button
12. Toner Container

(3) With Optional Equipments Attached



1. Cassette 2
2. Cassette 3

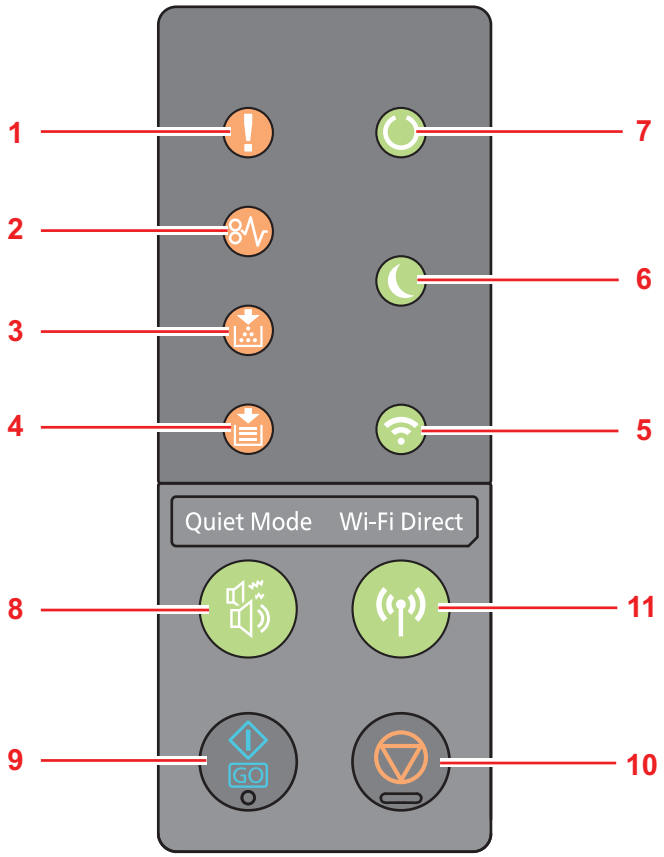
(4) Operation Panel Keys (LCD)



1. [Menu] key: Displays the Menu screen.
2. Arrow keys: Increments or decrements numbers, or selects menu in the message display. When a specific error occurs, select the [►] (?) key to show the Help screen.
3. [OK] key: Finalizes a function or menu, and numbers that have been entered.
4. [Go] key: Clears a specific error, and wakes the machine from the sleep state.
5. [Quiet Mode] key: Lower print and scan speed for quiet processing.
6. [Wi-Fi] indicator *1 : Blinks during Wi-Fi connection.
7. [Energy Saver] indicator: Lights up when the machine is in energy save mode.
8. [Ready] indicator: Lights up in the print ready state.
   Blinks during print processing or when an error occurs.
9. [Attention] indicator: Lights or blinks when an error occurs and a job is stopped.
10. [Cancel] key: Cancel a printing job.
11. [Logout] key: Exits the operation for the current user (i.e. log out).
12. Message display: Displays the setting menu and error messages.

*1: Wi-Fi model only

(5) Operation Panel Keys (LED)

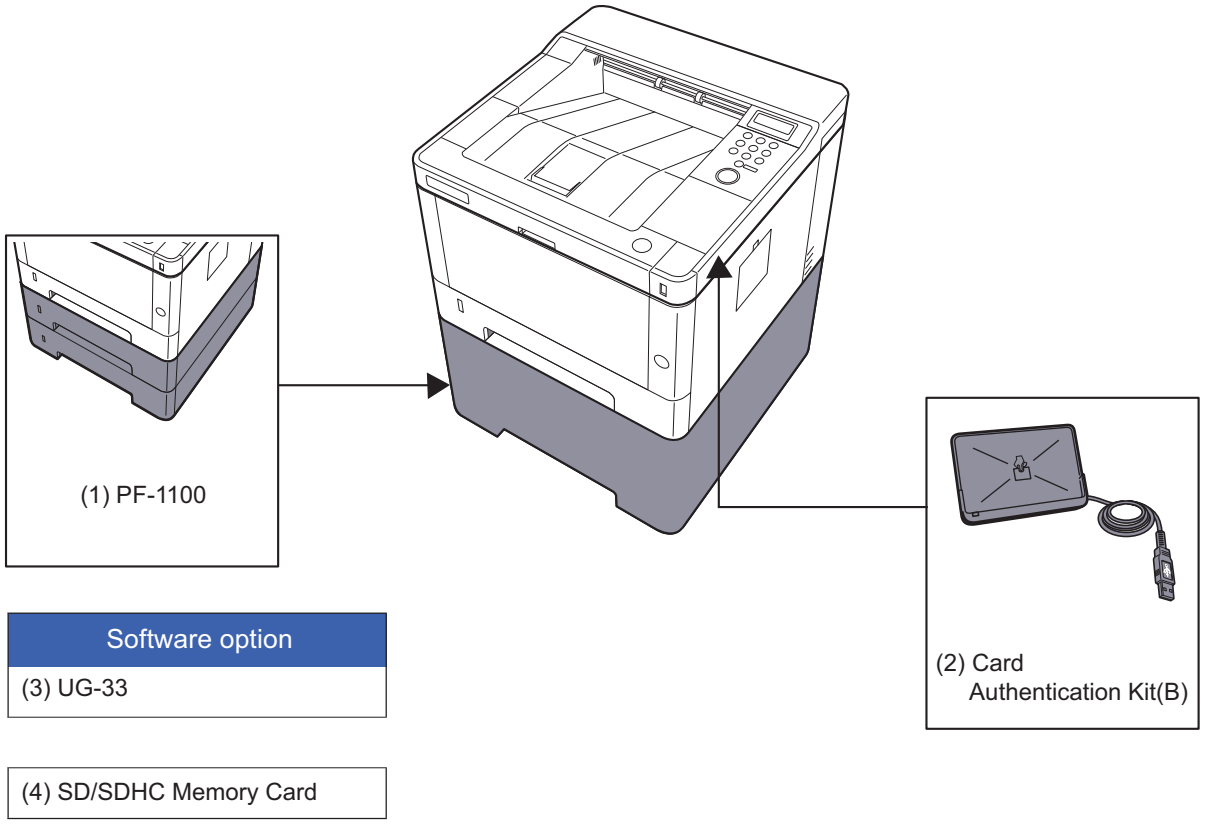


1. [Attention] indicator : (Lit/Flashing) An error has occurred.
2. [JAM] indicator : (Lit) A paper jam has occurred.
3. [Toner] indicator : (Lit) Toner is empty. (Flashing) The toner is running low.
4. [Paper] indicator : (Lit) The paper has run out when printing. (Flashing) The specified cassette or paper feeder has no paper at Ready status.
5. [Wi-Fi] indicator*1 : (Lit) The machine is connected to Wi-Fi.
6. [Energy Saver] indicator : (Lit) The printer is in sleep mode.
7. [Processing] indicator : (Lit) Indicates online status (printing is possible). (Flashing) The printer is receiving data.
8. [Quiet Mode] key: Lower print and scan speed for quiet processing.
9. [Go] key: Clears a specific error, and wakes the machine from the sleep state.
10. [Cancel] key : Pauses a job. Press for 1 second to cancel a job.
11. [Wi-Fi Direct] key*1 : Turns Wi-Fi Direct ON or OFF.

*1: Wi-Fi model only

1-3 Overview of Optional Equipment

The following optional equipment is available for the machine.



(1) PF-1100 "Paper Feeder"

Maximum two 250-sheet paper feeder can be installed.

(2) 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.

(3) UG-33 "ThinPrint Option"

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

(4) SD/SDHC Memory Card

SD/SDHC memory card is a micro chip card that can save optional fonts, macros, forms.
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

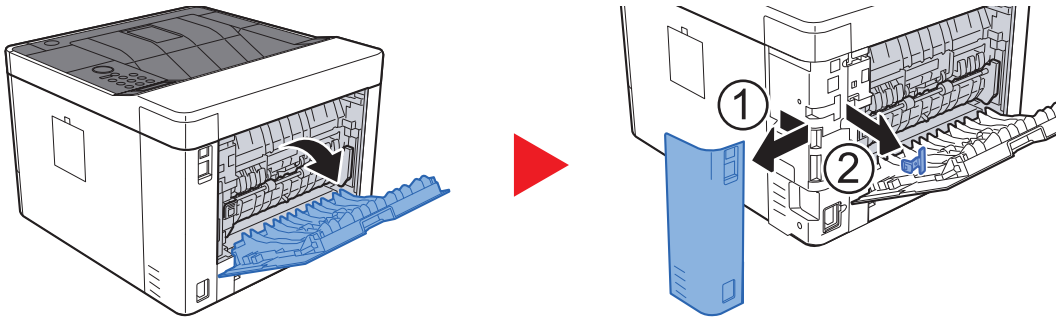
Once inserted in the machine's slot, the contents of the can be read from the operation panel or automatically when you power on or reset the machine.

Installing and Formatting the SD/SDHC Memory Card

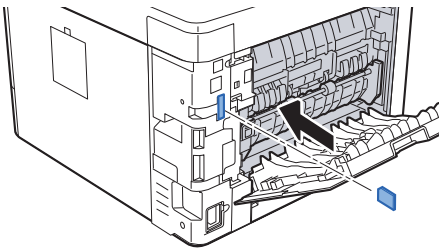
To use an unused SD/SDHC memory card, you must first use the machine to format the SD/SDHC memory card.

Installing the Memory Modules

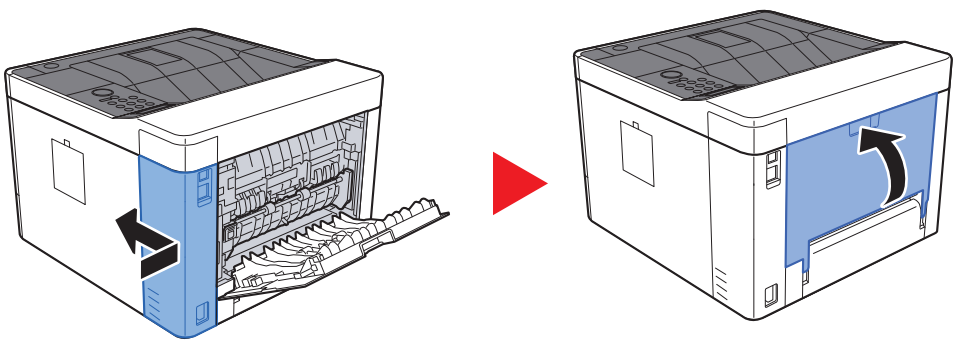
1. Turn off the machine and disconnect the power cord and interface cable.
2. Remove the cover.



3. Insert the SD/SDHC memory card into the SD/SDHC memory card slot.



4. Replace the covers.



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 AC100V 50/60Hz 8.1A or more
   AC120V 60Hz 8.1A or more
   AC220 to 240V 50HzA 4.2A 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.
However, when using for a prolonged time in a poorly ventilated room or when printing large number of copies, it may become unpleasant with smell. To maintain the appropriate environment for copy work, it is suggested that the room be properly ventilated.

Installation space

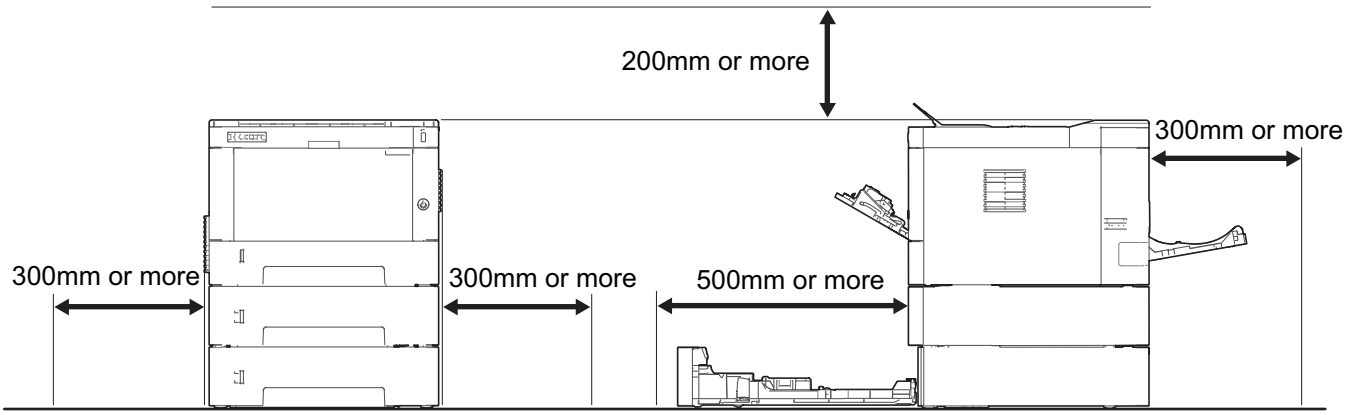
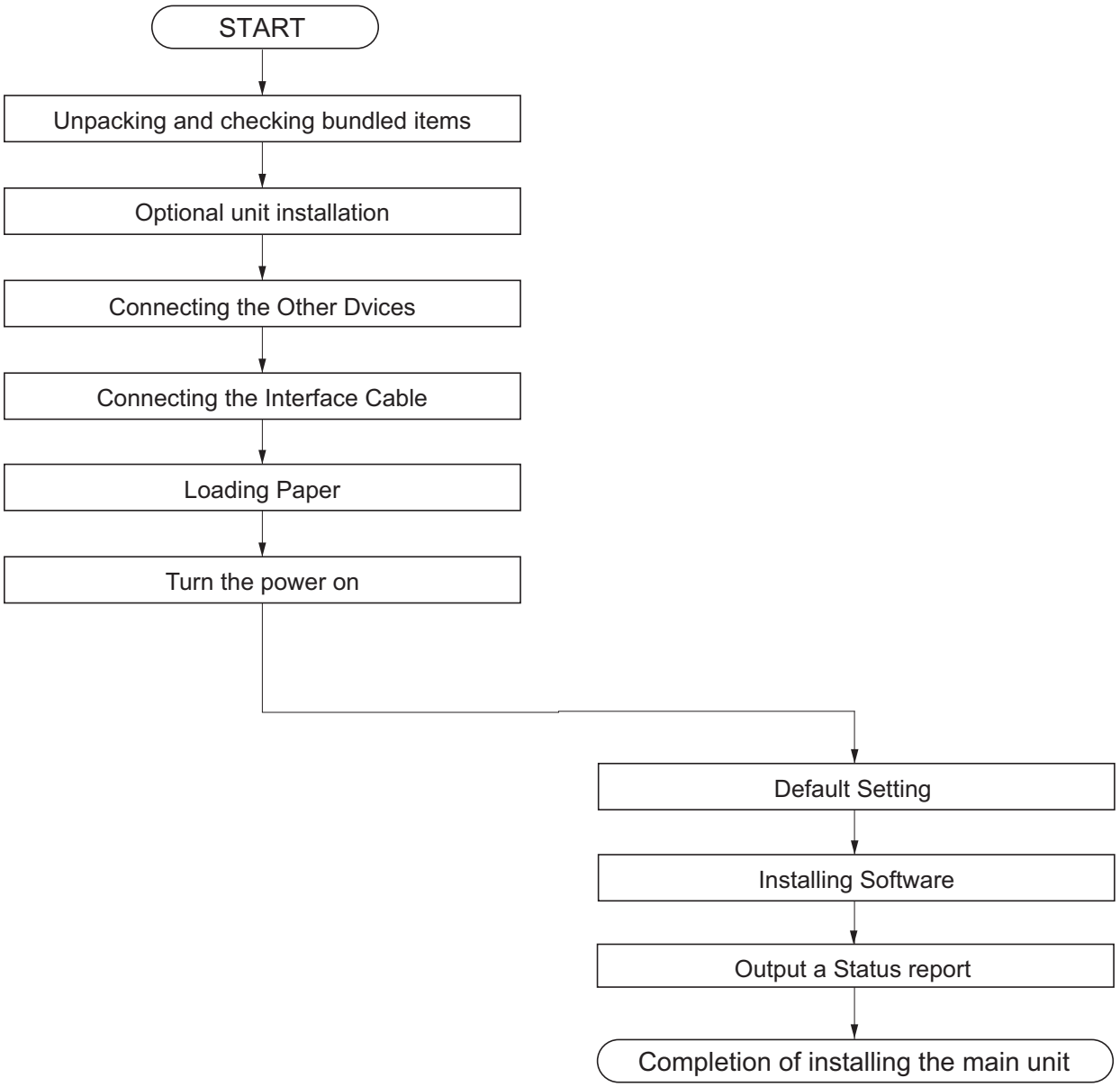


Figure 2-1

2-2 Installing the main unit

Installation procedures



IMPORTANT
Default setting will take about 10 minutes for the toner installation.

(1) Unpacking and checking bundled items

(1-1) Main unit

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

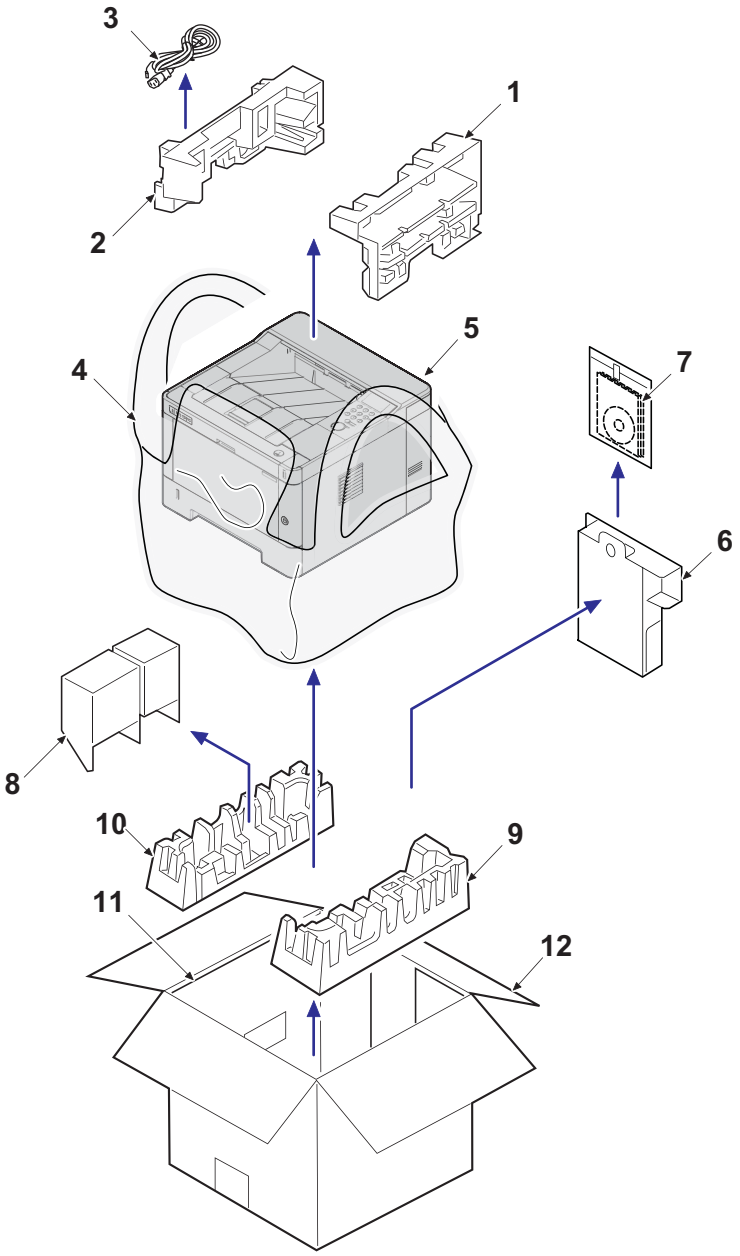


Figure 2-2

1. Right upper pad
2. Left upper pad
3. AC power cord
4. Product storage bag
5. Main unit
6. Accessories box
7. Documents
8. Left bottom pad
9. Lower right pad
10. Lower left pad
11. inner frame
12. Outer box

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

(1-2) Paper Feeder (Option)

Take the paper feeder out of the packing case.
Remove the packing tape from the paper feeder.

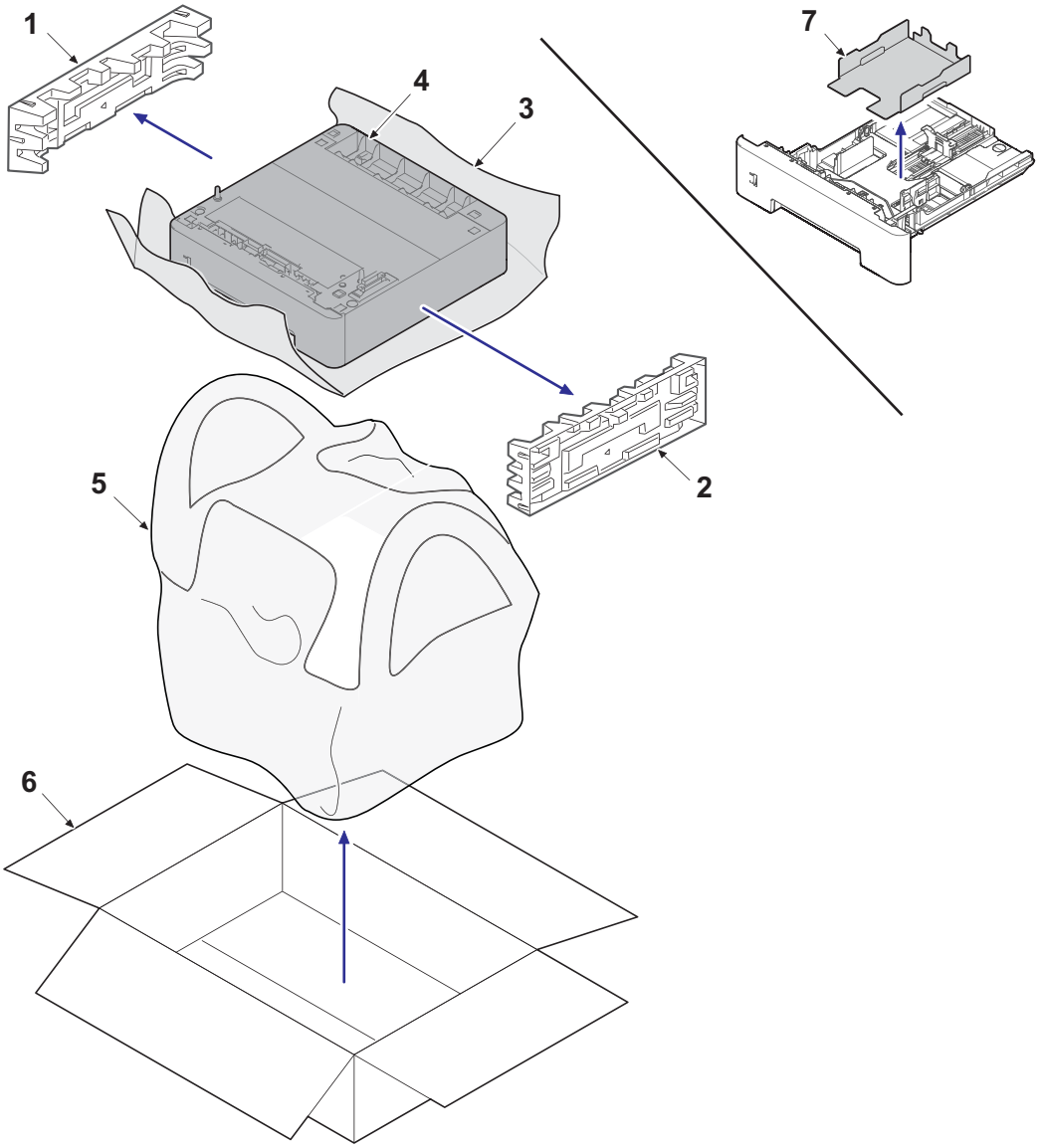


Figure 2-3

1. Left pad
2. Right pad
3. Main unit protective sheet
4. Paper Feeder
5. Main unit storage bag
6. Outer box
7. Cassette spacer

(2) Installing the optional equipment

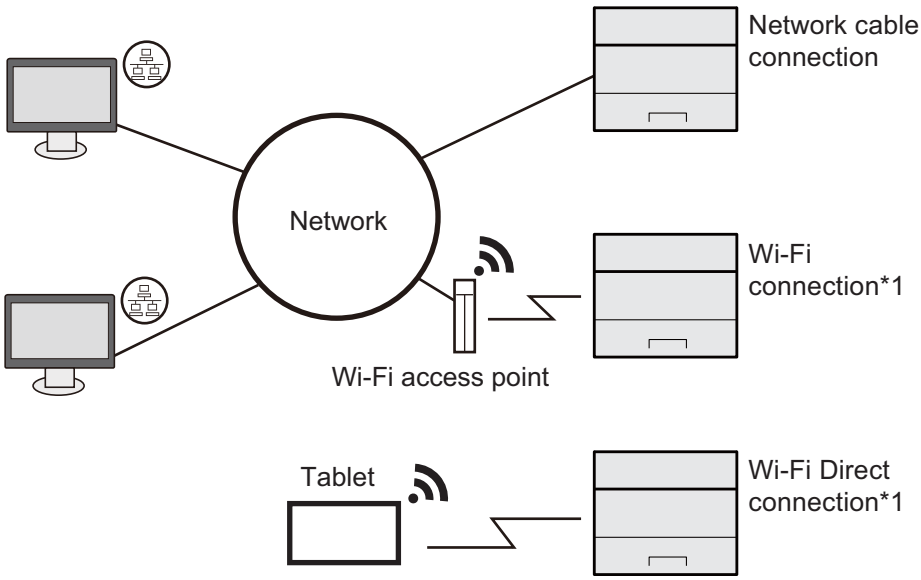
Install the necessary optional equipment in the main unit by referring to the installation procedures.

(3) Connecting to other device

Prepare the cables necessary to suit the environment and purpose of the machine use.

When Connecting the Machine to the PC via USB

When connecting the main unit, PC and Tablet with the network cable, Wi-Fi*1 or Wi-Fi Direct*1,



*1: Wi-Fi model only

NOTE

When using wireless LAN, it is not necessary to connect the network cable. It is necessary to change the initial setting of the machine unit from System Menu to use the wireless LAN.

Cables that Can Be Used

Connection environment	Function	Necessary Cable
Connect a LAN cable to the machine.	Printer	LAN Cable ?10BASE-T?100BASE-TX?1000BASE-T?
Connect a USB cable to the machine.	Printer	USB2.0 compatible cable (Hi-Speed USB conformity, Max. 5.0m or less. with shield)

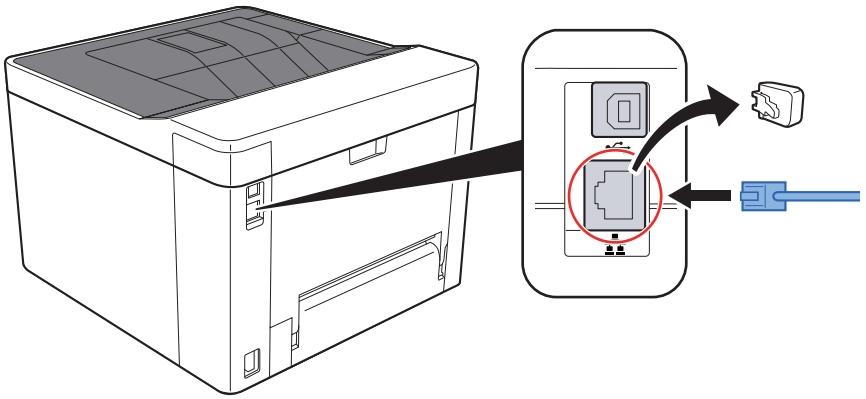
IMPORTANT

When not using the USB2.0 compatible cable, it causes a failure.

(4) Connecting to the cable

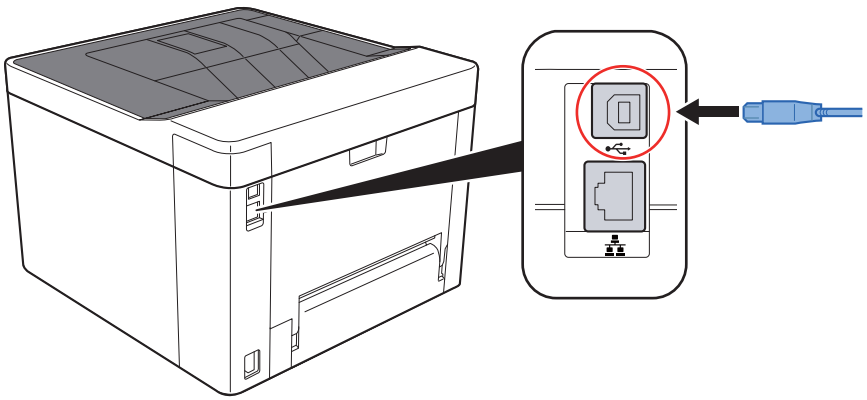
(4-1) LAN Cable

1. Connect the LAN cable to the network interface connector.
2. Connect the other end of the cable to the hub or the PC.
3. Power on the machine and set the network.



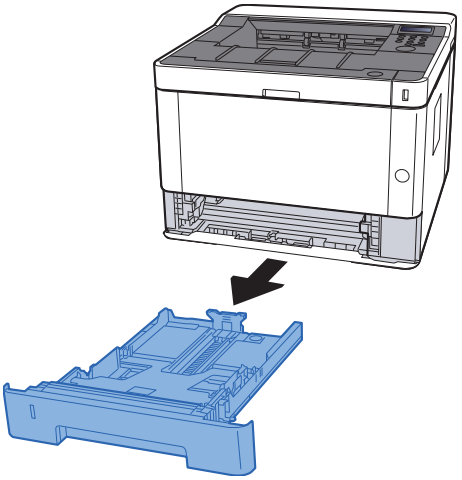
(4-2)USB cable

1. Connect the USB cable to the USB interface connector.
2. Connect the other end of the cable to the PC.
3. Turn the power switch of the main unit on.

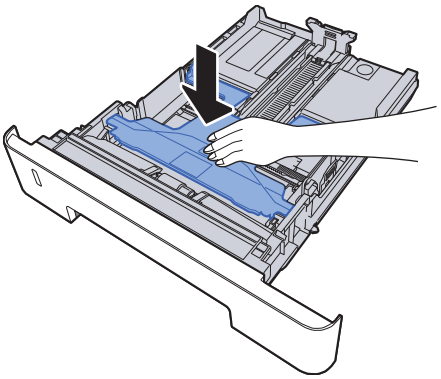


(5) Loading Paper

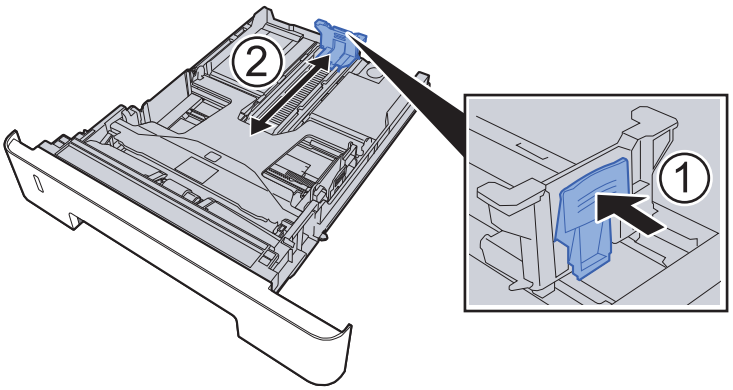
1. Pull the cassette out of the main unit.



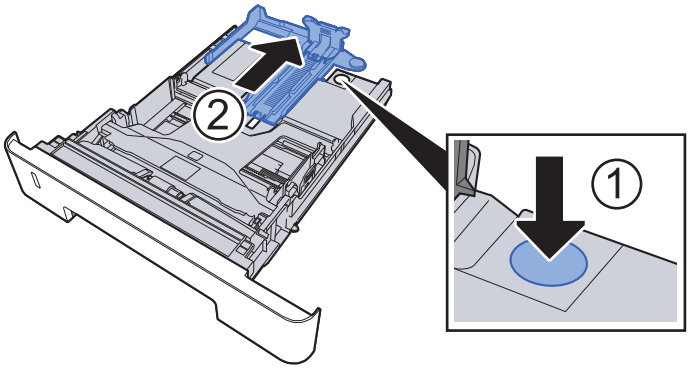
NOTE
When the bottom plate is lifted up, push it until locked.



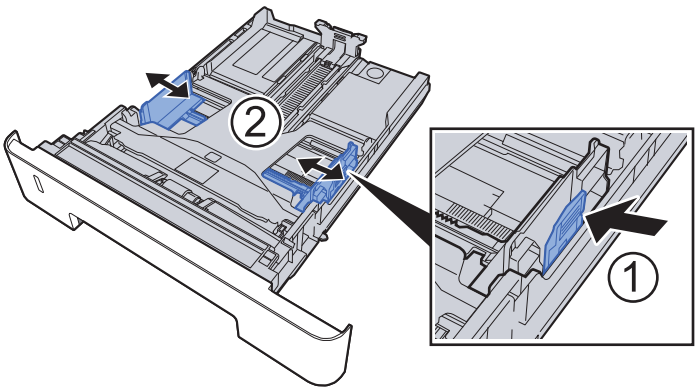
2. Adjust the paper length guide of the cassette.



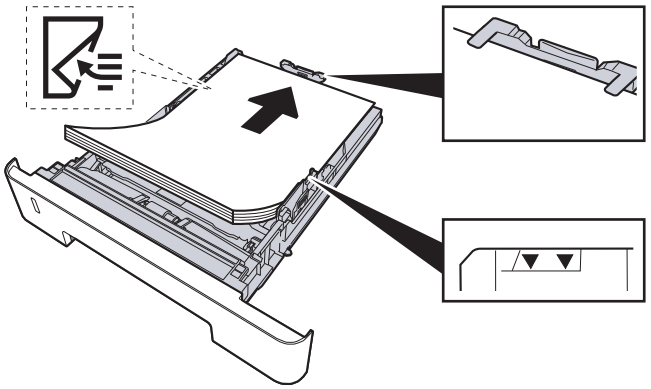
NOTE
In case of using Folio, Oficio ?or Legal



3. Adjust the paper width guides of the cassette



4. Load paper.

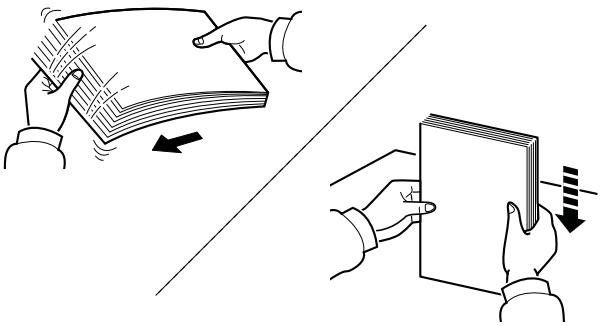


5. Insert the cassette slowly into the main unit as far as it goes.
6. Set the paper size and the paper type from the system menu.

IMPORTANT
Load it with the printing side facing down
Before loading paper in the cassette, fan the paper taken from a new package to separate it.
Before loading the paper, be sure that it is not curled or folded. Such paper may cause paper jams.
Load paper below the maximum paper level.
If the paper is loaded without adjusting the paper length guide and the paper width guides, it causes the skew paper feeding and the paper jam.

Precaution for Loading Paper

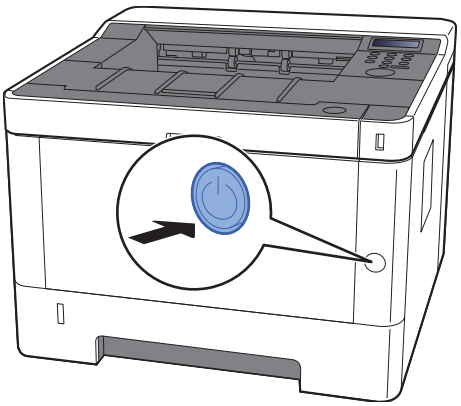
Separate the paper taken out of the package in the following procedures before loading it in the cassette.



Separate paper and align the edge of the paper in a flat place.
In addition, note the following.
In case of paper fold or curl, stretch it in a straight line. Such paper may cause a jam.
If paper is left in the high humidity environment after taking the paper out of the package, it causes a trouble with moisture. Keep paper remaining paper in the cassette into the sealed paper storage bag. Also, keep paper left on the MP tray into the sealed paper storage bag.
If the machine is not used for a prolonged period, keep paper out of the cassette in the sealed storage bag in order to protect it from humidity.

(6) Power-up

1. Turn the power switch on.



IMPORTANT
Initial Setup will take up to 10min to complete toner installation.

(7) Default (LCD model)

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.
Refer to the operation guide of the main unit about the items which can set from the system menu.

(7-1) Setting Date and Time

Follow the steps below to set the local date and time at the place of installation.
Set the date, time and time difference from GMT of the region where the machine is used.

Before setting date/time, make sure to set the time difference.
The correct time can be periodically set by obtaining the time from the network time server.

1. Displays the screen.
   [Menu] key > [▲][▼] key > [Device setting] > [►] key > [▲][▼] key > [Day and Time setting] > [►] key

NOTE
The default administrator ID and password at the factory shipment are set as follows.
Administrator ID: 4000
Administrator password: 4000

2. Configure the settings.
   [▲][▼] key > [Time Difference] > [OK] key > Select the time difference > [OK] key > [▲][▼] key > [Day and Time (Year/Month/Day)] > [OK] key > Set the date > [OK] key > [▲][▼] key > [Time(Hour/Minute/Second)] > [OK] key > Set the time > [OK] key > [▲][▼] key > [Date format] > [OK] key > Select the date > [OK] key

Item	Descriptions
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 (Year/Mon/Day)	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 (Hour:Min:Sec)	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

(7-2)Network Settings

Configuring the Wired Network

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 the network connection via TCP/IP (IPv4).
Be sure to connect the network cable before configuring the settings.

TCP/IP (IPv4) Settings

1. Displays the screen.
   [Menu] key > [▲][▼] key > [Wired Network]> [►] key > [▲][▼] key > [TCP/IP] > [OK] key

NOTE
The default administrator ID and password at the factory shipment are set as follows.
Administrator ID: 4000
Administrator password: 4000

2. Set

When setting the static IP address

1.[▲][▼] key > [On] > [OK] key
2.Select the [►] key while [TCP/IP on] is displayed.
3.[▲][▼] key > [DHCP] > [OK] key > [▲][▼] key > [Off] > [OK] key
4.[▲][▼] key > [IP address] > [OK] key
5.Enter the IP address.

NOTE

Set between 000 and 255.
Select [▲] or [▼] key, and enter the numerical values.
If you select [◄] or [►] key, the entering position moves left and right.

6.Select [OK] key.
7.[▲][▼] key > [Subnet Mask] > [OK] key
8.Enter Subnet Mask

NOTE

Set between 000 and 255.
Select [▲] or [▼] key, and enter the numerical values.
If you select [◄] or [►] key, the entering position moves left and right.

9.Select [OK] key.
10.[▲][▼] key > [Default gateway] > [OK] key
11.Enter Default Gateway.

NOTE

Set between 000 and 255.
Select [▲] or [▼] key, and enter the numerical values.
If you select [◄] or [►] key, the entering position moves left and right.

12.Select [OK] key.
13.[▲][▼] key > [Auto-IP] > [OK] key
14.[Off] > [OK] key

IMPORTANT

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

NOTE

Ask your network administrator for the IP address in advance, and have it ready when you configure this setting.
In the following cases, set the IP address of DNS server by using Command Center RX.
When using the host name with the "DHCP" set to [Off]
When using the DNS server other than the DNS server, IP address of which is assigned by the DHCP automatically,
With regard to the IP address setting of the DNS server, refer to Command Center RX operating procedures.

Wireless network setting

When setting up the connection of the model equipped with the Wi-Fi function, printing is available in a wireless network (wireless LAN) environment.

The configuration methods are as follows:

Configuration Method	Descriptions
Configuring the Connection from the Operation Panel on This Machine	Use Wi-Fi Settings or Wireless Network to configure the network in details from System menu.
Setting the Connection by Using the Wi-Fi Setup Tool	This is the tool included in the Product Library. You can configure the connection according to the instructions provided by the wizard.
Configuring Connections on the Web Page	It can be set from the Command Center RX.

NOTE

If you switch other network interface than wired, change to the appropriate setting value in [Primary Network].

(7-3)Altitude Adjustment Setting

Execute [Altitude Adjustment] from the System Menu when setting up at a high altitude place. When the usage environment is at altitudes of sea level 1,000m or more and the printing quality is declined, set the altitude adjustment mode and you can recover the print quality.

1. Press the [Menu] key.
2. Press [▲] or [▼] key, select [Adjustment/ Maintenance] and press the [OK] key.
3. Press [▲] or [▼] key, select [Service setting] and Press the [OK] key.
4. Press [▲] or [▼] key, select [High Altitude Adjustment] and press the [OK] key.
5. Press [▲] or [▼] key, select the either of [Standard], [1,001 to 2,000m], [2,001 to 3,000m], [3,001 to 3,500m], and press the [OK] key.

*: Standard: Use at altitude 0 to 1,000m

(7-4) Installing Software

In case of using the printer function, TWAIN / WIA connection and Network FAX function in the machine, install necessary software from the DVD (Product Library)

Software on DVD (Windows)

You can use either [Express Install] or [Custom Install] can be selected for the installation method. [Express Install] is the standard installation method. To install components that cannot be installed by [Express Install], use [Custom Install].

Software	Description	Express Install
KX DRIVER	This driver enables files on a computer to be printed by the machine. Multiple page description languages (PCL XL, KPDL, etc.) are supported by a single driver. This printer driver allows you to take full advantage of the features of the machine. Use this driver to create PDF files.	○
KX XPS DRIVER	This printer driver supports the XPS (XML Paper Specification) format developed by Microsoft Corporation.	-
KPDL mini-driver/PCL mini-driver	This is a Microsoft MiniDriver that supports PCL and KPDL. There are some restrictions on the machine features and option features that can be used with this driver.	-
KYOCERA Net Viewer	This is a utility that enables monitoring of the machine on the network.	-
Status Monitor	This is a utility that monitors the printer status and provides an ongoing reporting function.	○
KYOCERA Net Direct Print	This makes it possible to print a PDF file without starting Adobe Acrobat/Reader.	-
FONTS	These are display fonts that enable the machine's built-in fonts to be used in a software application.	○

NOTE

Installation on Windows must be done by a user logged on with administrator privileges.

WIA Driver and cannot be installed on Windows XP.

(7-5) Output Status Page

1. Press the [Menu] key.

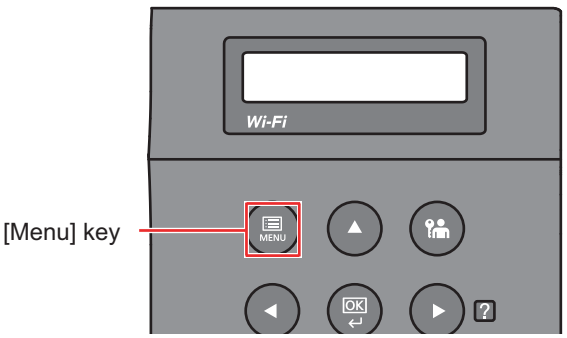


Figure 2-4

2. Select [Report Printing] and press the [►] key.
3. Select [Status Page] and press [OK] key.

Figure 2-5

4. As [?] is additionally displayed, press [OK] key.

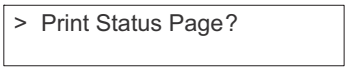


Figure 2-6

5. Status page is printed.

(7-6) Completion of installing the main unit (Turning the power off)

1. Check the [Data] lamp is turned off and turn the power switch off.
*: It takes approximately 3 minutes for power off.

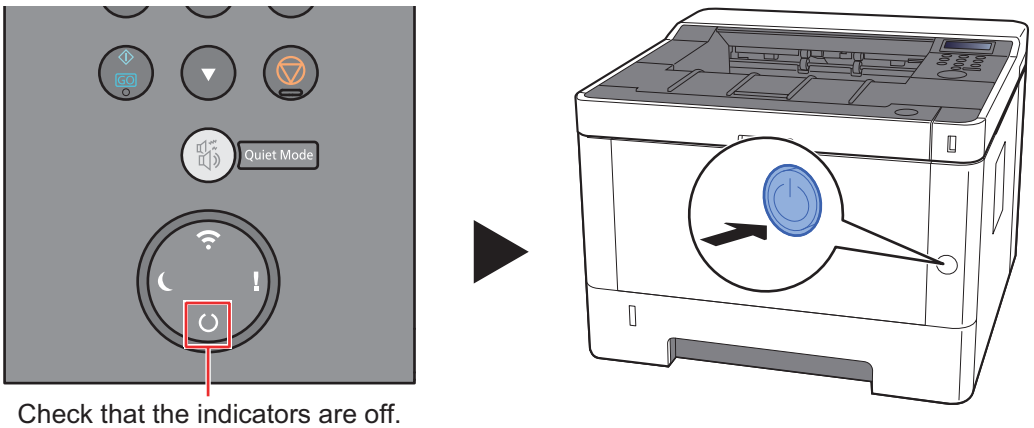


Figure 2-7

IMPORTANT
While [Data] lamp is lit, the main unit is operating. If you turn the power switch off while the main unit is operating, it may cause malfunctions.

(7) Default (LED model)

(7-1)Network Settings

Configuring the Wired Network

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 the network connection via TCP/IP (IPv4).
Be sure to connect the network cable before configuring the settings.

TCP/IP (IPv4) Settings

1. Displays the screen.
   1.Launch your Web browser.
   2.In the address or location bar, enter the machine's IP address or the host name.
   The IP address or the host name of the machine can be checked from the status page.
   Print Status Page by pressing and holding the [Go] key for 5 seconds.
   3.Log in with administrator privileges.

   NOTE

   The factory default setting for the default user with administrator privileges is shown below. (Upper case and lower case letters are distinguished (case sensitive).)
   Administrator ID: Admin
   Administrator password: Admin
   4.Click [TCP/IP] from the [Network Settings] menu.

2. Configure the settings.
   1.[DHCP/BOOTP] and [Auto-IP] are set to [Off] in "IPv4 setting (Wired network)" of "TCP/IP".
   2.Enter [IP address] and [Subnet Mask].
   3.Set [Default gateway], [DNS server], [WINS server] and [Host name] if necessary in [IPv4 setting(common)].
   4.Click [Submit].

   IMPORTANT

   Restarting the network interface card is necessary after changing the setting. Turn the power switch off/on.

   NOTE

   Ask your network administrator for the IP address in advance, and have it ready when you configure this setting.
   In the following cases, set the IP address of DNS server by using Command Center RX.
   When using the host name with the "DHCP" set to [Off]
   When using the DNS server other than the DNS server, IP address of which is assigned by the DHCP automatically,
   With regard to the IP address setting of the DNS server, refer to Command Center RX operating procedures.

Wireless network setting

When setting up the connection of the model equipped with the Wi-Fi function, printing is available in a wireless network (wireless LAN) environment.

The configuration methods are as follows:

Configuration Method	Descriptions
Setting the Connection by Using the Wi-Fi Setup Tool	This is the tool included in the Product Library. You can configure the connection according to the instructions provided by the wizard.
Configuring Connections on the Web Page	It can be set from the Command Center RX.

NOTE

If you switch other network interface than wired, change to the appropriate setting value in [Primary Network].

(7-2)Altitude Adjustment Setting

Execute [Maintenance Menu] from DVD (Product Liberty) when setting up at a high altitude place. When the usage environment is at altitudes of sea level 1,000m or more and the printing quality is declined, set the altitude adjustment mode and you can recover the print quality.

(7-3) Installing Software

In case of using the printer function, TWAIN / WIA connection and Network FAX function in the machine, install necessary software from the DVD (Product Library)

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KX XPS DRIVER	This printer driver supports the XPS (XML Paper Specification) format developed by Microsoft Corporation.	-
KPDL mini-driver/PCL mini-driver	This is a Microsoft MiniDriver that supports PCL and KPDL. There are some restrictions on the machine features and option features that can be used with this driver.	-
KYOCERA Net Viewer	This is a utility that enables monitoring of the machine on the network.	-
Status Monitor	This is a utility that monitors the printer status and provides an ongoing reporting function.	○
KYOCERA Net Direct Print	This makes it possible to print a PDF file without starting Adobe Acrobat/Reader.	-
FONTS	These are display fonts that enable the machine's built-in fonts to be used in a software application.	○

NOTE

Installation on Windows must be done by a user logged on with administrator privileges.

WIA Driver and cannot be installed on Windows XP.

(7-4) Output Status Page

1. Press and hold the [Go] key for three to nine seconds.
*: Output of the service status page by pressing and holding it 10 seconds or more.

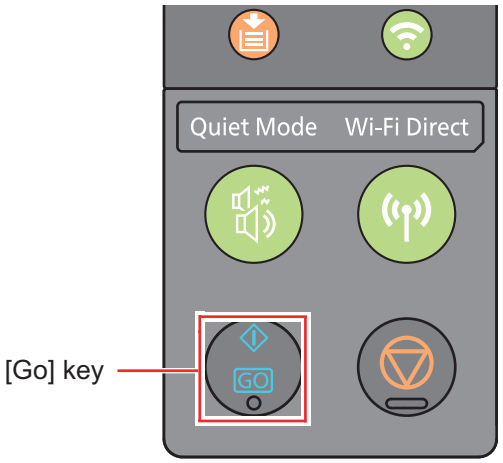


Figure 2-8

2. Status page is printed.

(7-5) Completion of installing the main unit (Turning the power off)

1. Check if the [Processing] lamp is turned off and turn the power switch off.
*: It takes approximately 3 minutes for power off.

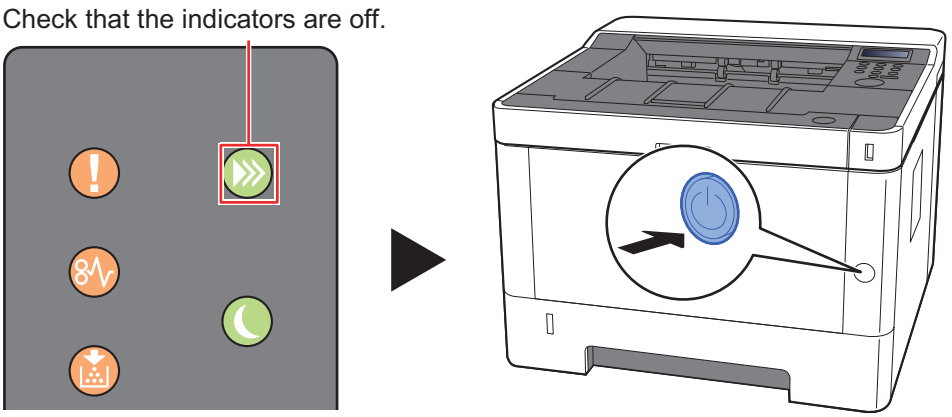


Figure 2-9

IMPORTANT

While the [Processing] lamp is lit, the main unit is operating. If you turn the power switch off while the main unit is operating, it may cause malfunctions.

3 Machine Design

3-1 Cross-section view

(1) Main unit + Paper feeder (option)

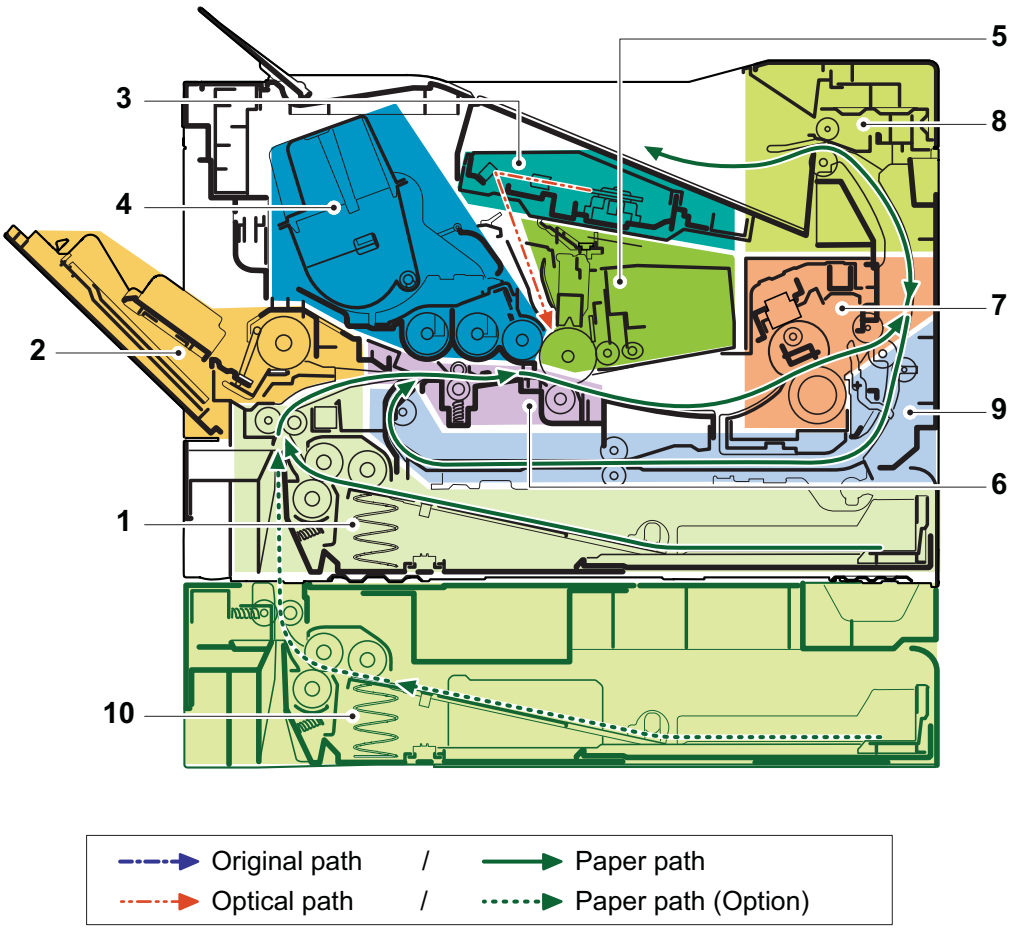


Figure 3-1

1. Cassette paper feed
2. MP paper feed section
3. Laser scanner unit
4. Developer unit
5. Drum unit
6. Conveying/Transfer section
7. Fuser section
8. Feedshift and eject section
9. Duplex conveying section
10. Paper feeder (option)

3-2 The configuration of the electrical components

(1) Electric parts

(1-1) Machine left side

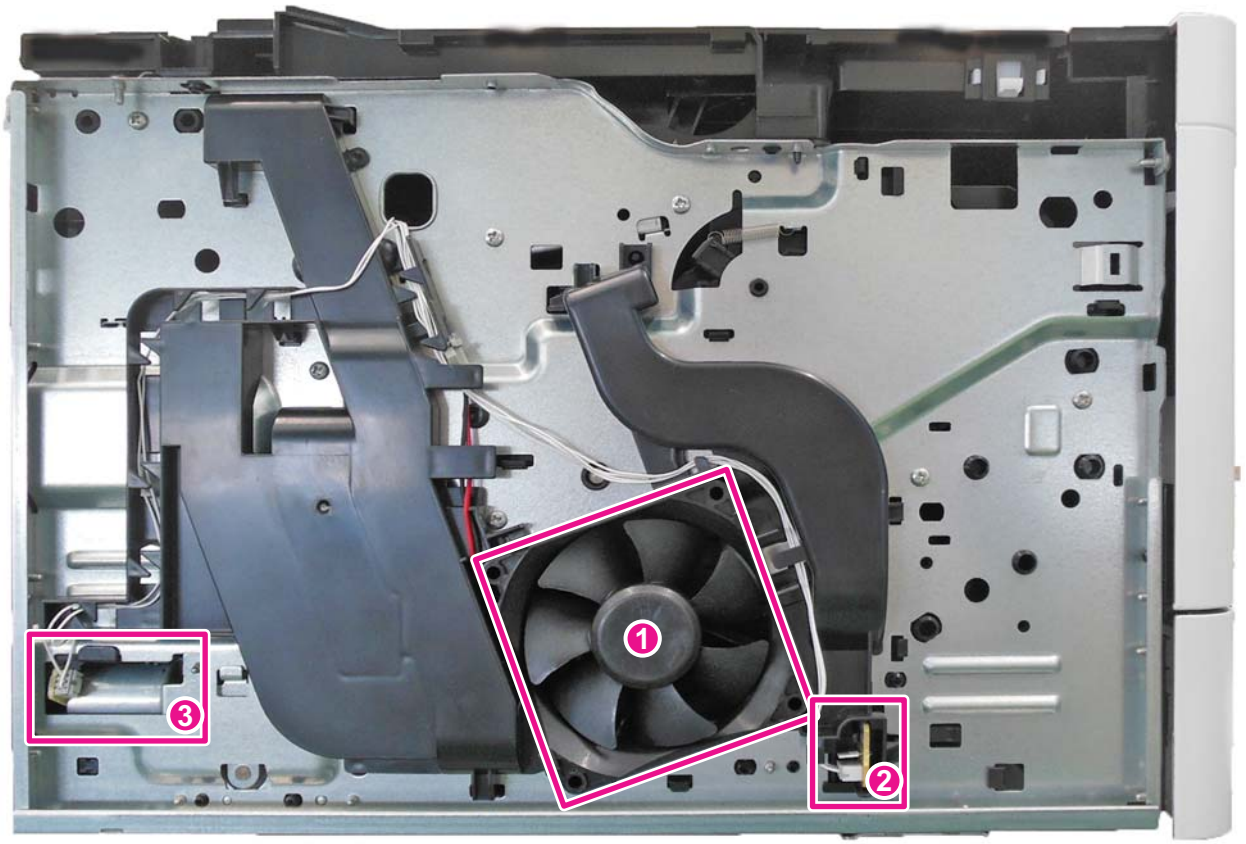


Figure 3-2

1. Left side fan motor
2. Temp/Humid sensor
3. Fuser pressure release motor

(1-2) Machine right side

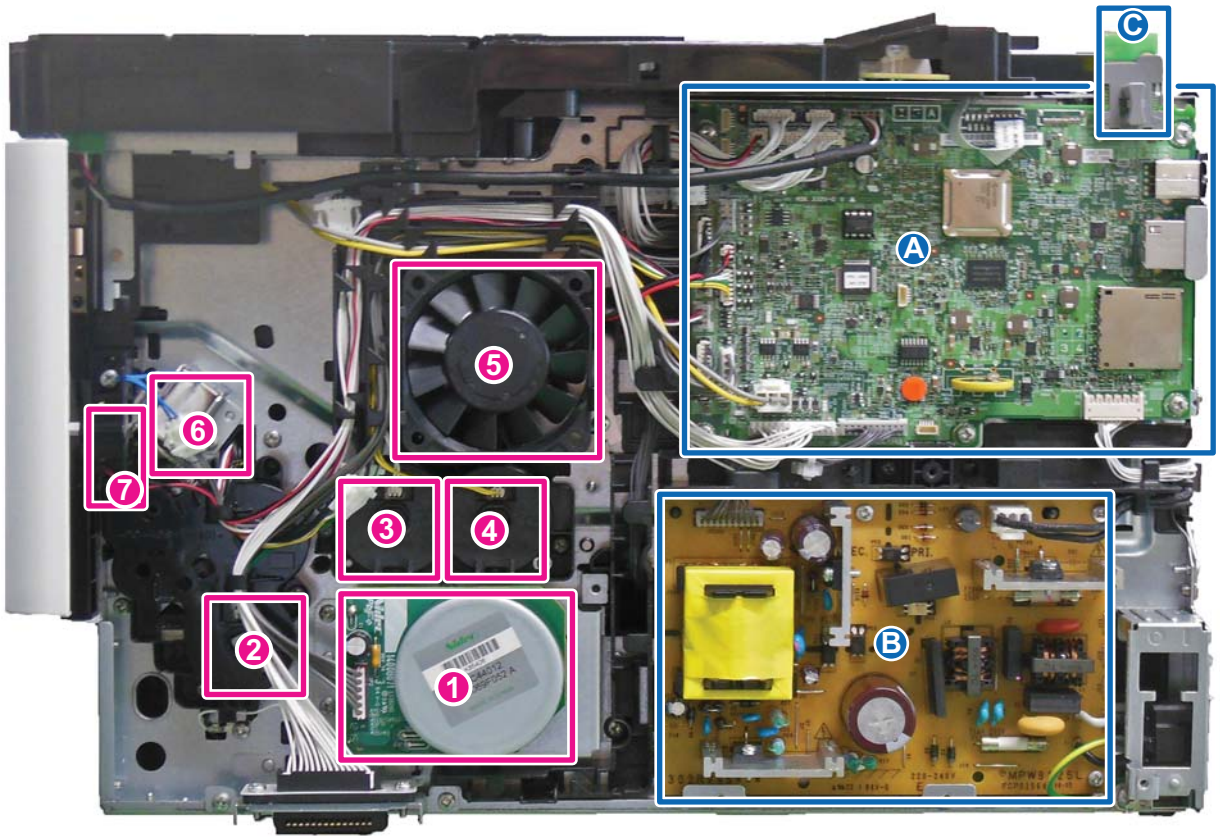


Figure 3-3

1. Paper feed motor
2. Paper feed clutch
3. Registration clutch
4. Developer clutch
5. Rit side fan motor
6. MP solenoid
7. Power switch

A. Main/Engine PWB
B. Low voltage power source PWB
C. Wi-Fi PWB

(1-3) Paper feeder (option)

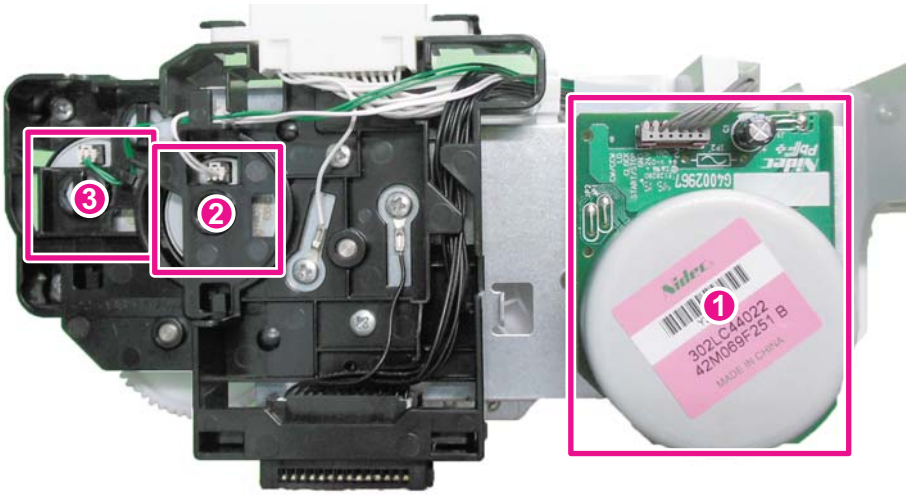


Figure 3-4

1. PF paper feed motor
2. PF paper feed clutch
3. PF feed clutch

(2) Descriptions about the major PWBs

(2-1) Main/Engine PWB

It controls the software for interface, image data processing, etc. and hardware for the operation unit, high voltage/bias output, paper conveying mechanism, etc.

Figure 3-5

(2-2) High-voltage PWB

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

Figure 3-6

(2-3) Power source PWB

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

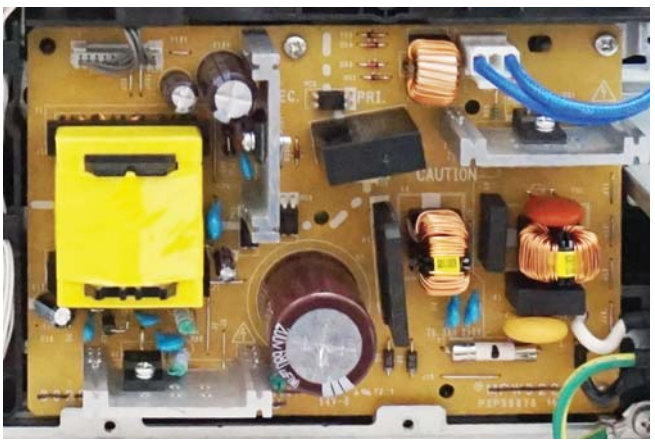


Figure 3-7

(2-4) Operation panel PWB (LCD)

It consists of the LCD, LED indicators, the key switches.

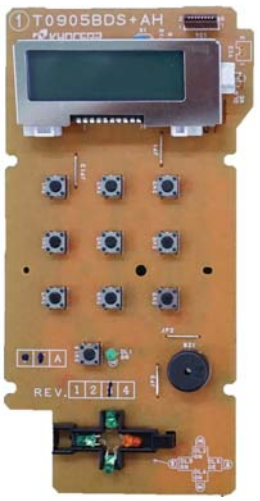


Figure 3-8

(2-5) Operation panel PWB (LED)

It consists of the LED indicators, the key switches.

Figure 3-9

(3) Electric parts layout

(3-1) PWBs

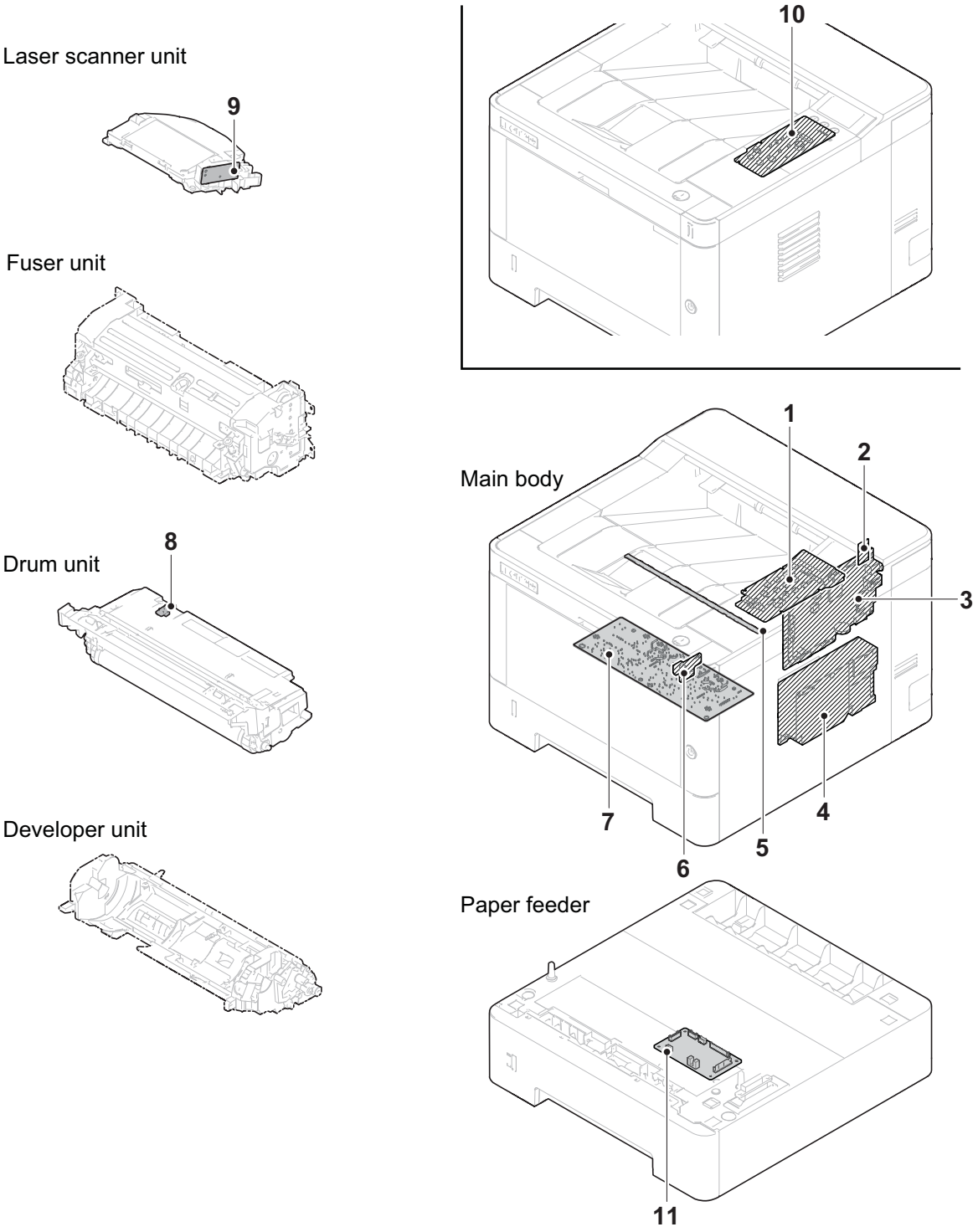


Figure 3-10

1. Operation panel PWB *2 ..... It consists of LCD, LED indicators, key switches.
2. Wi-Fi PWB *1 ..... It communicates wireless data.
3. Main/Engine PWB ..... It controls the software for the interface and image data processing, and controls the hardware such as the operation section, high voltage/bias output, paper conveying mechanism, etc.
4. Lower voltage power source PWB ..... The input voltage (AC) from the AC power supply is changed and output to DC such as DC24V. It also controls the fuser heater.
5. Eraser PWB ..... Removing the remaining electric charge on the drum.
6. USB PWB ..... Distribution of USB connector
7. High voltage PWB ..... Output the main charger high-voltage and the developer bias, the transfer bias, separation bias and the transfer cleaning bias.
8. Grid PWB ..... Controlling the grid currency
9. APC PWB ..... Emitting and controlling the laser beam.
10. Operation panel PWB *3 ..... It consists of LED indicators, key switches.
11. PF main PWB ..... Controlling the drive of each electric parts in the PF.

*1:Wi-Fi model only, *2:LCD model only, *3:LED model only

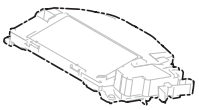
Part name table

No.	Name used in service manual	Name used in parts list	Part. No.
2	Main/Engine PWB	PARTS PWB MAIN ENGINE ASSY SP PARTS PWB MAIN ENGINE ASSY EU SP PARTS PWB MAIN ENGINE ASSY SP PARTS PWB MAIN ENGINE ASSY EU SP PARTS PWB MAIN ENGINE ASSY SP PARTS PWB MAIN ENGINE ASSY EU SP PARTS PWB MAIN ENGINE ASSY SP PARTS PWB MAIN ENGINE ASSY EU SP	302RV94080 302RV94090 302RW94010 302RW94020 302RX94010 302RX94020 302RY94010 302RY94020
3	Wi-Fi PWB *1	PARTS WiFi UNIT SP	302R794010
4	Power source PWB	PARTS UNIT LOW VOLTAGE 100V SP PARTS UNIT LOW VOLTAGE 230V SP	302RV94210 302RV94220
5	Eraser PWB	PARTS PWB ERASER ASSY SP	302RV94110
6	USB PWB	PARTS PWB FRONT PWB ASSY SP	302RV94120
7	High-voltage PWB	PARTS UNIT HIGH VOLTAGE SP PARTS UNIT HIGH VOLTAGE J SP	302RV94190 302RV94200
9	Operation panel PWB *2	PARTS PWB P PANEL ASSY SP	302RX94030
11	Grid PWB	(DK-1150)	(302RV93010)
12	APC PWB	(LK-1150)	(302RV93070)
13	Operation panel PWB *3	PARTS PWB L PANEL ASSY SP	302RV94100
14	PF main PWB	PARTS PWB PF CONT ASSY SP	303RA94010

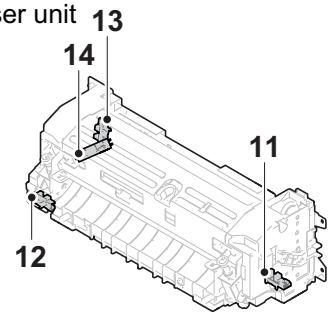
*1:Wi-Fi model only, *2:LCD model only, *3:LED model only

(3-2) Sensors and Switches

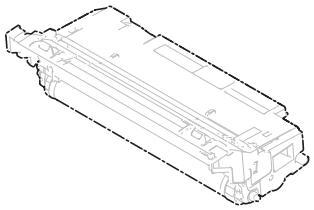
Laser scanner unit



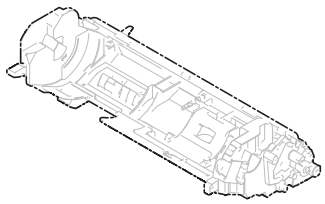
Fuser unit



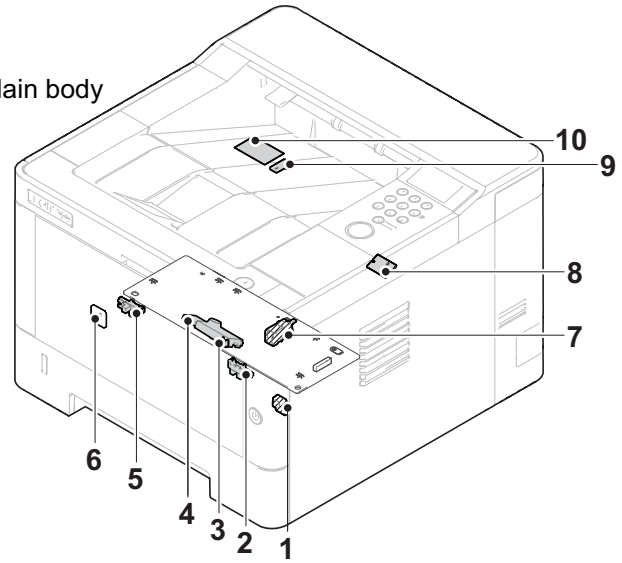
Drum unit



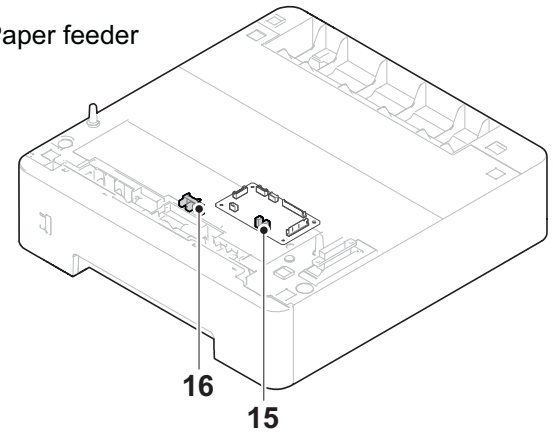
Developer unit



Main body



Paper feeder



Machine left side / Machine inside / Machine right side

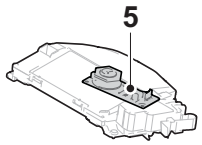
1. Power switch ..... Switching on and off the main/engine PWB and the operation panel PWB, etc.
2. Paper sensor ..... Detecting the presence of paper on the cassette.
3. Registration sensor ..... Controlling the timing to start the secondary paper feeding.
4. Toner sensor ..... Detecting the toner amount inside the developer unit.
5. MP paper sensor ..... Detecting the presence of paper on the MP tray.
6. Temp/Humid sensor ..... Detecting the external temperature and humidity
7. Interlock switch ..... Shutting off the 24V power line when the front cover is opened.
8. Thermopile ..... Detecting a surface temperature of the fuser belt.
9. In-machine temperature sensor ..... Detecting in-machine temperature.
10. Waste toner sensor ..... Detecting the toner amount inside the waste toner box.
11. Eject sensor ..... Detecting the paper jam at the fuser section.
12. Press-release sensor ..... Detecting the mode of the fuser pressure.
13. Fuser edge thermistor ..... Detecting the heat roller temperature (Edge).
14. Rotation detecting sensor ..... Detecting the fuser rotation position
15. Paper sensor ..... Detecting the presence of paper on the PF cassette.
16. PF feed sensor ..... Detecting the conveying timing of PF paper

Part name table

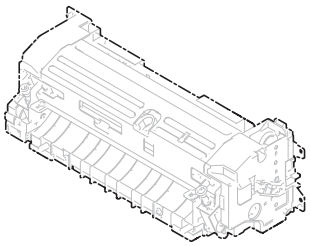
No.	Name used in service manual	Name used in parts list	Part. No.
1	Power switch	PARTS PWB SWITCH ASSY SP	302RV94130
2	Paper sensor	PARTS SENSOR OPT. SP	302P794010
3	Registration sensor	PARTS UNIT HIGH VOLTAGE SP PARTS UNIT HIGH VOLTAGE J SP	302RV94190 302RV94200
4	Toner sensor	PARTS PWB ASSY EMPTY SENSOR SP	302RV94170
5	MP paper sensor	PARTS SENSOR OPT. SP	302P794010
6	Temp/Humid sensor	P.W.BOARD ASSY THERMISTOR	3V2M201100
7	Interlock switch	SW.MICRO	7SM010104+++H01
8	Thermopile	PARTS THERMOPILE ASSY SP	302RH94110
9	In-machine temperature sensor	PARTS PWB THERMISTOR ASSY SP	302RV94150
10	Waste toner sensor	PARTS PWB ASSY FULL SENSOR SP	302RV94140
11	Eject sensor	(FK-1150) (FK-1152) (FK-1151)	(302RV93050) (302RV93060) (302RY93020)
12	Fuser pressure release sensor		
13	Fuser edge thermistor		
14	Rotation detecting sensor		
15	PF paper sensor	PARTS PWB PF CONT ASSY SP	303RA94010
16	PF feed sensor	PARTS SENSOR OPT. SP	302P794010

(3-3) Motors

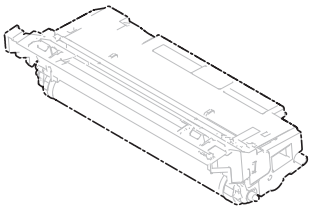
Laser scanner unit



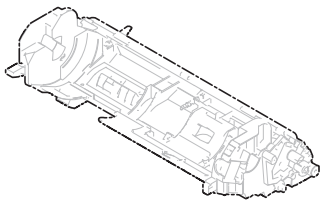
Fuser unit



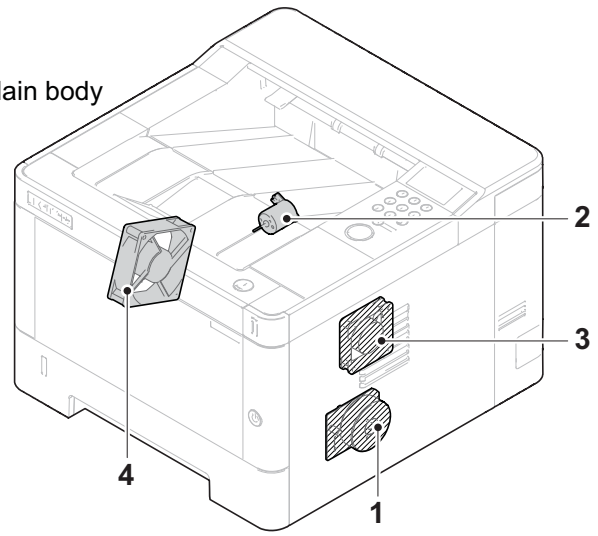
Drum unit



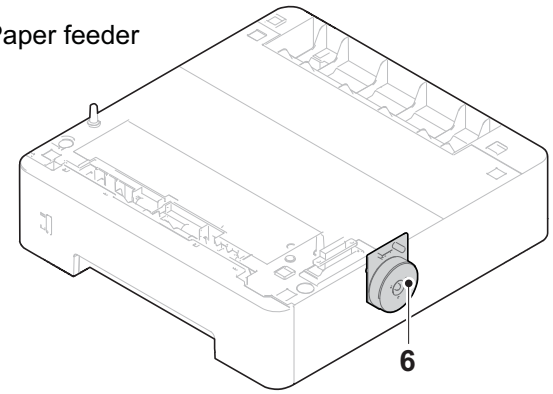
Developer unit



Main body



Paper feeder



Machine left side / Machine inside / Machine right side

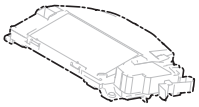
1. Main motor ..... The paper feed and conveying mechanism drive
2. Fuser pressure release motor ..... Fuser pressure release drive
3. Rght side fan ..... Cooling inside the machine (right side)
4. Left side fan motor ..... Cooling inside the machine (left side)
5. Polygon motor..... Drive for polygon mirror.
6. PF paper feed motor The paper feed drive of PF paper

Part name table

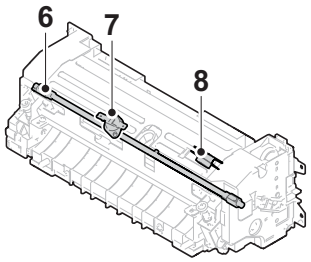
No.	Name used in service manual	Name used in parts list	Part. No.
1	Main motor	PARTS MOTOR-BL W40 SP	302LC94283
2	Fuser pressure release sensor	PARTS DC MOTOR ASSY SP (PARTS DRIVE PRESS RELEASE ASSY SP)	302RV94180 (302RV94030)
3	Right side fan motor	PARTS,FAN COOLING CONVEYING SP	302FZ94420
4	Left side fan motor	PARTS FAN MOTOR SP	302NG94220
5	Polygon motor	(LK-1150)	(302RV93070)
6	PF paper feed motor	PARTS MOTOR-BL W10 SP	302LC94292

(3-4) Others

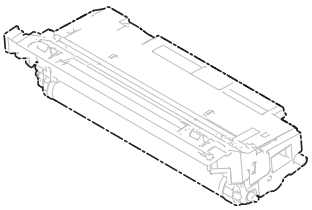
Laser scanner unit



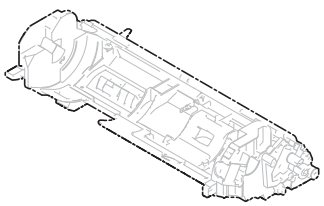
Fuser unit



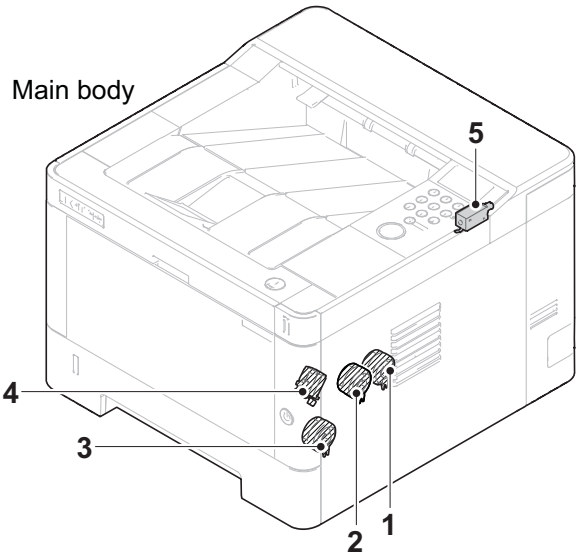
Drum unit



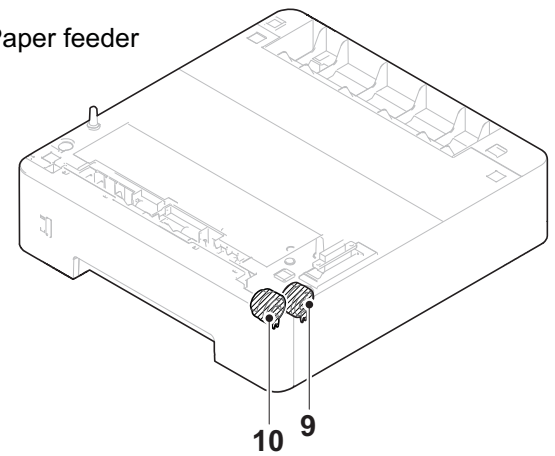
Developer unit



Main body



Paper feeder



Machine left side / Machine inside / Machine right side

1. Developer clutch ..... Controlling the drive to developer unit.
2. Registration clutch ..... Registration roller drive control
3. Paper feed clutch ..... Controlling the drive of cassette paper feed
4. MP solenoid ..... Controlling the drive of MP lift guide
5. Eject solenoid ..... Switching the reverse guide
6. Fuser heater ..... Heating the fuser belt
7. Thermal cut (center) ..... Shutting off the fuser heater power supply when the heat roller is abnormally high (edge).
8. Thermal cut (edge) ..... Shutting off the fuser heater power supply when the heat roller is abnormally high (edge).
9. PF paper feed clutch ..... Controlling the drive of PF cassette paper feed
10. PF feed clutch ..... Controlling the conveying drive of PF paper

Part name table

No.	Name used in service manual	Name used in parts list	Part. No.
1	Developer clutch	PARTS CLUTCH 35 Z35R SP	302NR94010
2	Registration clutch	PARTS CLUTCH 35 Z35R SP	302NR94010
3	Paper feed clutch	PARTS CLUTCH 35 Z35R SP	302NR94010
4	MP solenoid	SOLENOID MPF	302HN44160
5	Eject solenoid	SOLENOID FD ASSY SP	302HN94140
6	Fuser heater	(FK-1150) (FK-1152) (FK-1151)	(302RV93050) (302RV93060) (302RY93020)
7	Thermal cut (center)		
8	Thermal cut (edge)		
9	PF paper feed clutch	PARTS CLUTCH 35 Z35R SP	302NR94010
10	PF feed roller	PARTS CLUTCH 35 Z35R SP	302NR94010

3-3 Drive system

(1) Drive system for the paper conveying

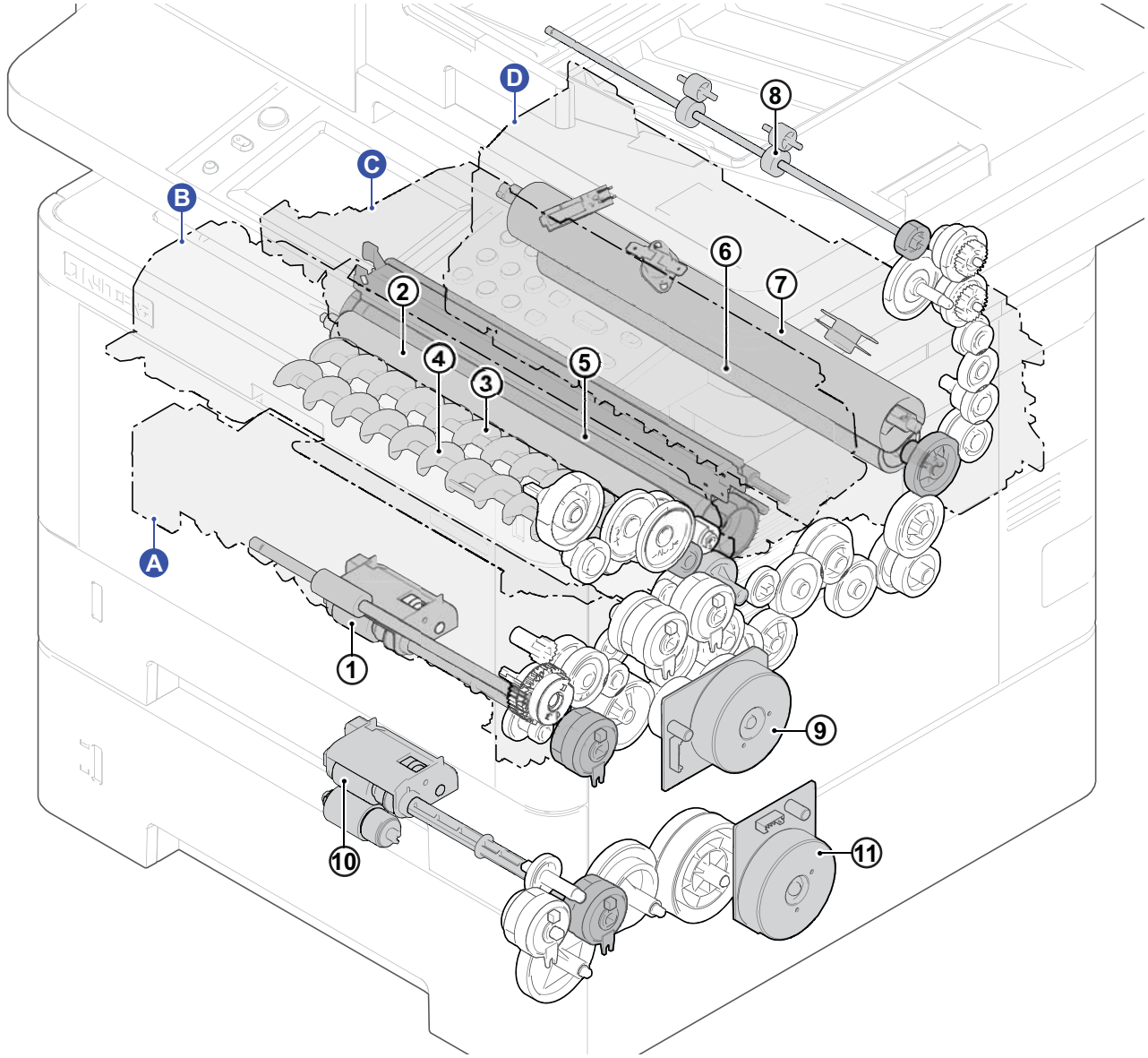


Figure 3-11

A. Primary paper feed
1. Paper feed roller

B. Developer unit
2. Developer roller
3. Screw roller a
4. Screw roller b

C. Drum unit
5. Drum

D. Fuser unit
6. Press roller
7. Belt roller
8. Eject roller
9. Main motor
10. PF paper feed roller
11. PF conveying motor

(2) Each section drive

(2-1) Primary paper feed drive

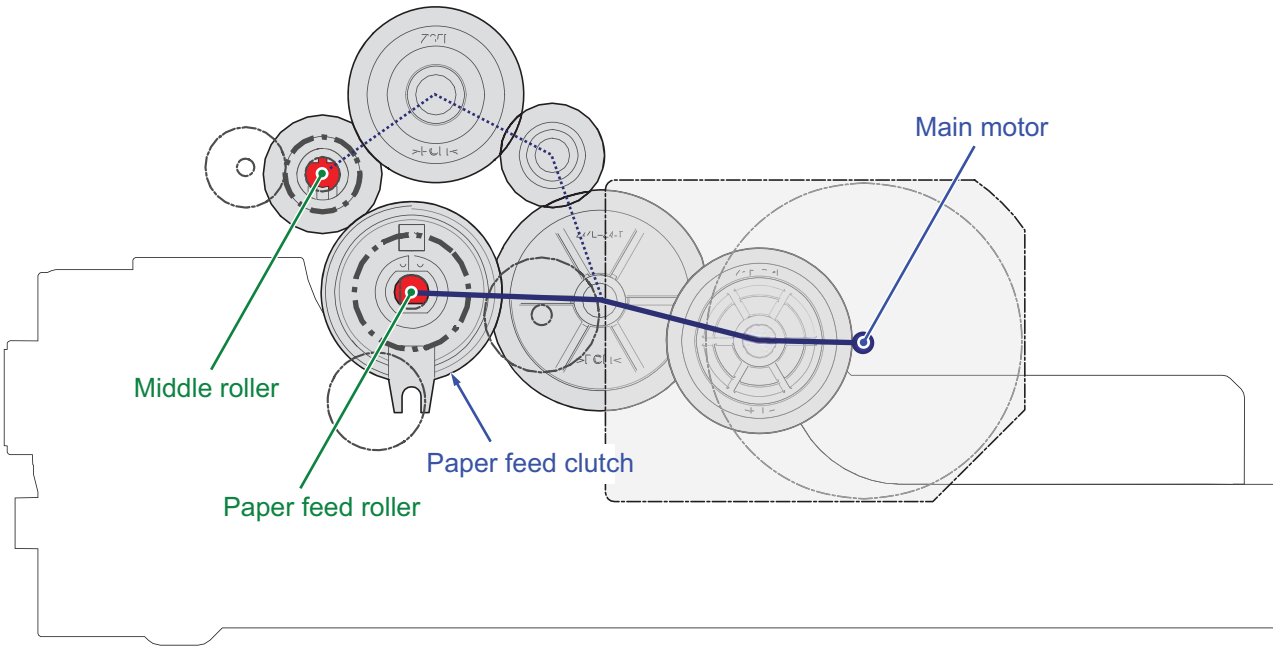


Figure 3-12

(2-2) Drum drive

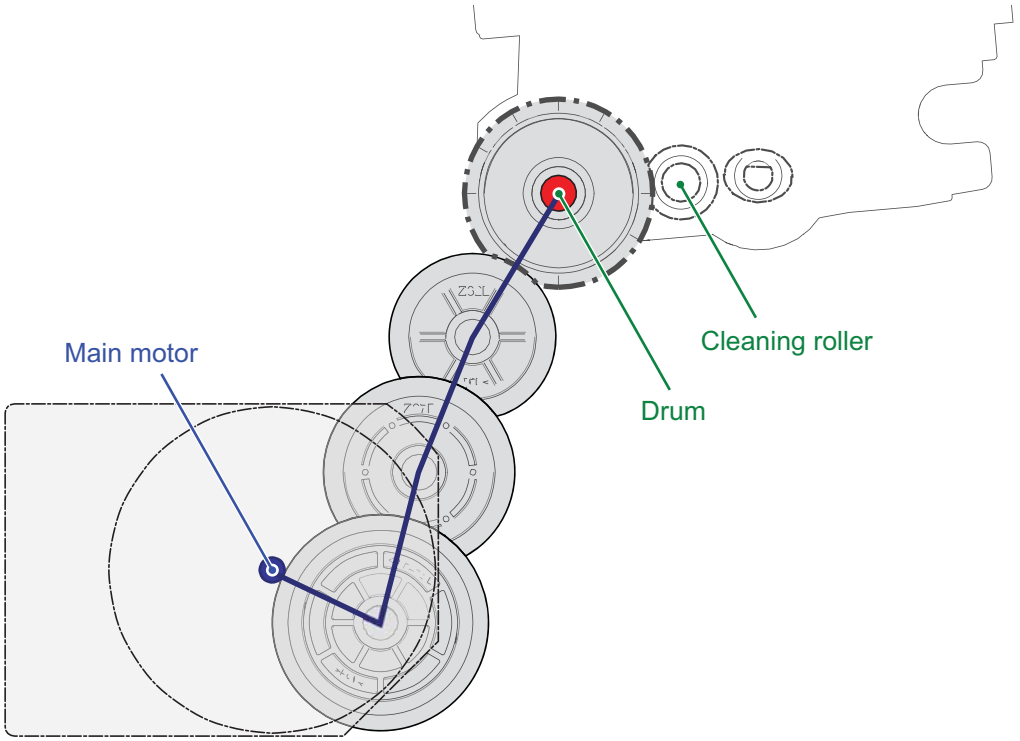


Figure 3-13

(2-3) Developer drive

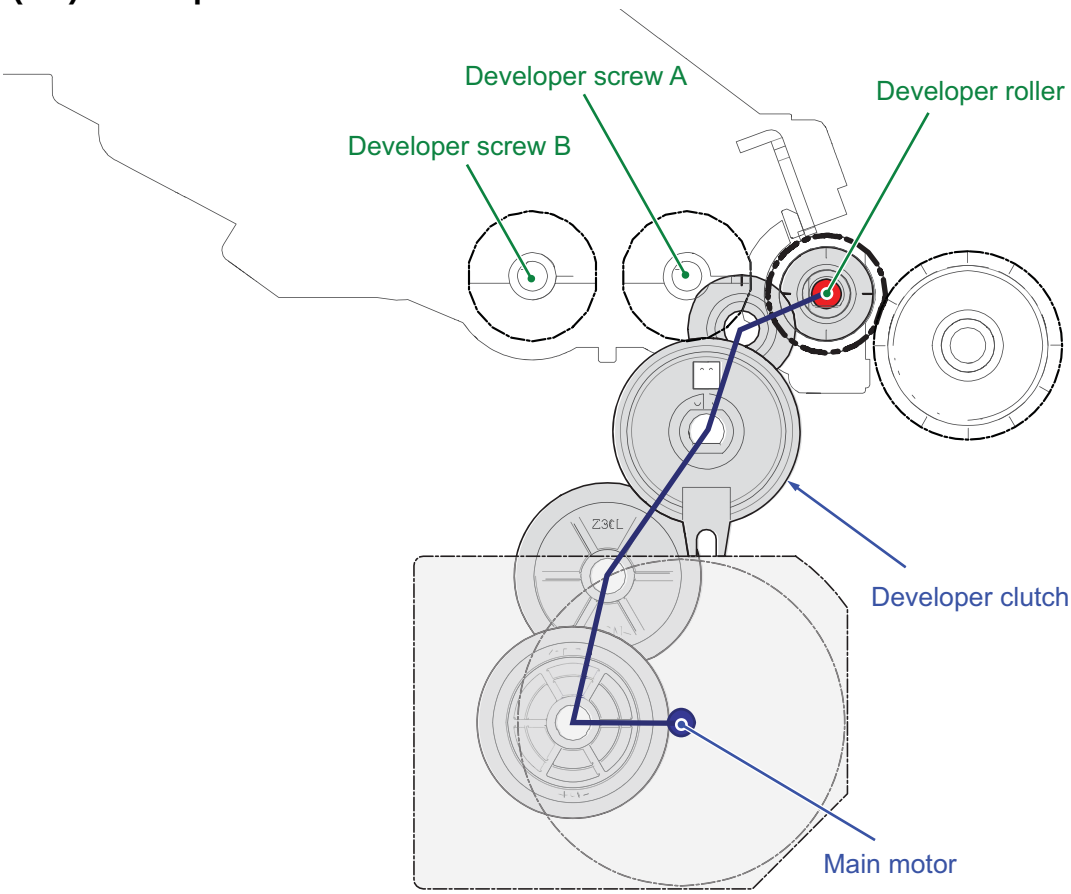


Figure 3-14

(2-4) Fuser unit drive

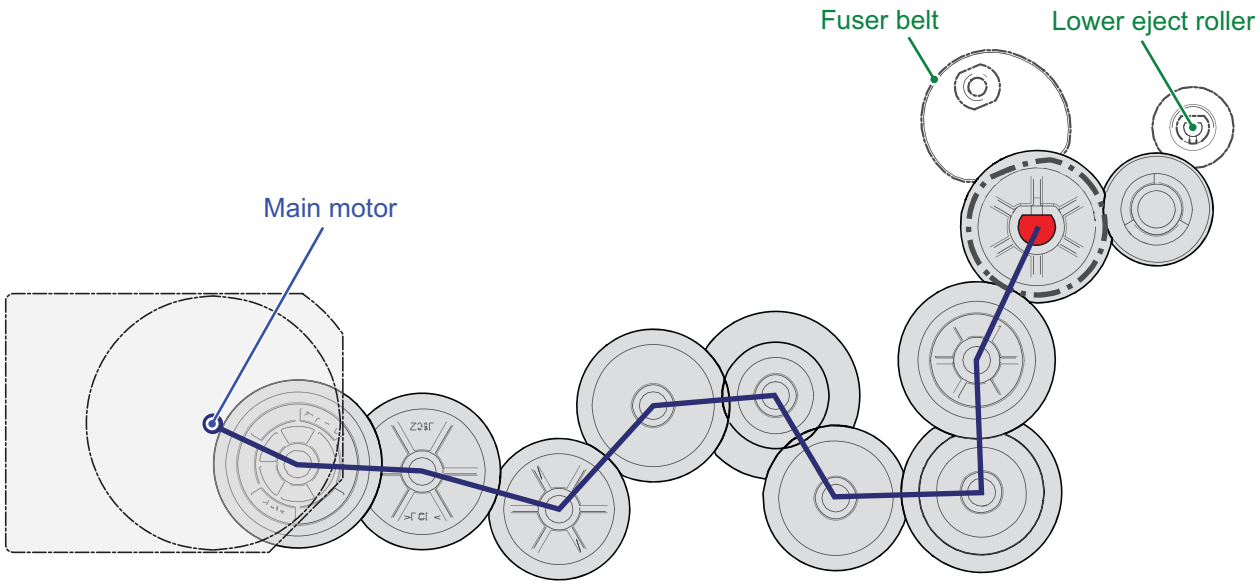


Figure 3-15

3-4 Mechanical construction

(1) Paper feed section

The paper feed section consists of the cassette feed section which feeds from the paper cassette and the MP tray feed section which feeds from the MP tray.

(1-1) Cassette paper feed section

The cassette can 300 sheets paper (64g/m2) or 250 sheets paper (80g/m2). As for the paper feed from the cassette, paper is pulled out by the pickup roller rotation and conveyed to the paper conveying section by the feed roller rotation. Multi-feeding is also prevented by the effect of the retard roller.
The fed paper is conveyed by the middle roller to the position where it turns the registration sensor on.

Components parts

1. Pickup roller
2. Paper feed roller
3. Retard roller
4. Cassette bottom plate
5. Friction pad
6. Paper width guides
7. Paper length guide
8. Middle roller
9. Middle pulley
10. Actuator (Paper sensor)
11. Cassette base
12. Extension tray button
13. Extension tray

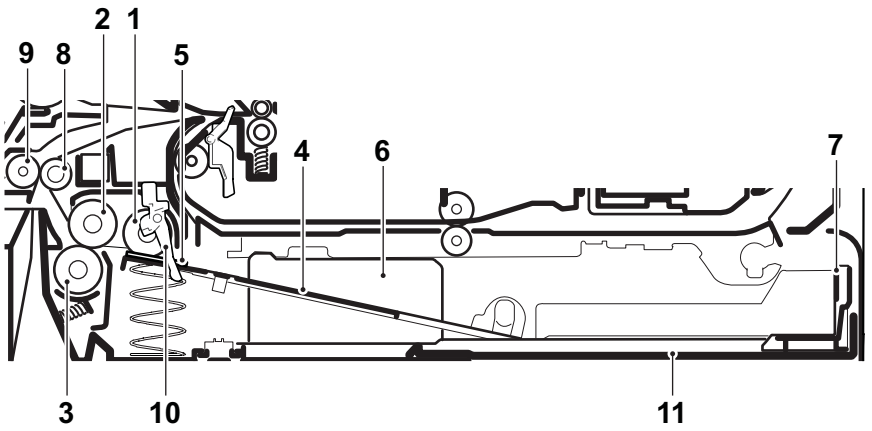


Figure 3-16

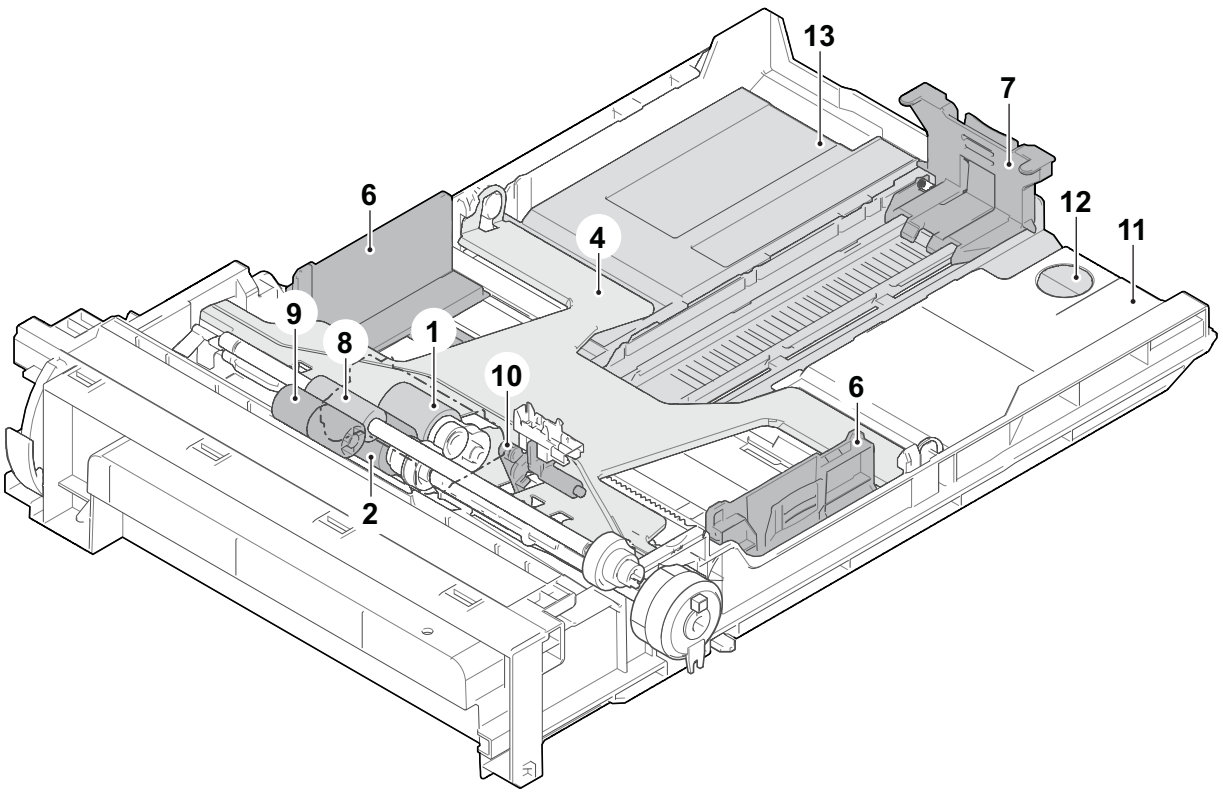


Figure 3-17

Block diagram

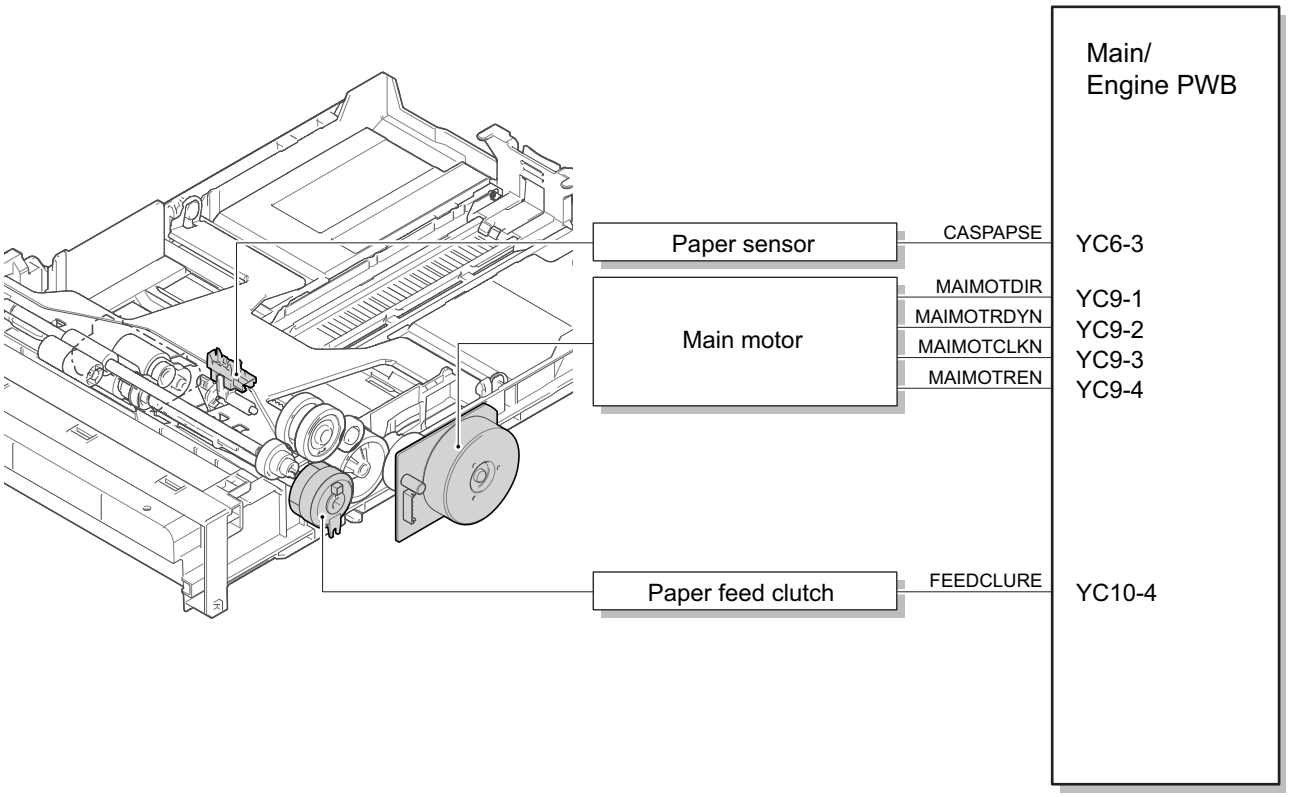


Figure 3-18

(1-2) MP tray paper feed section

The MP tray can load 60 sheets paper (64 g/m^2) or 50 sheets (80 g/m^2). The paper on the MP tray is fed by rotating the MP paper feed roller while lifting up the MP bottom plate by the MP solenoid. Multi-feeding is also prevented by the effect of the MP separation pad.
The fed paper is conveyed by the MP feed roller to the position where it turns the registration sensor on.

Components parts

1. MP paper feed roller
2. MP separation pad
3. MP friction plate
4. MP bottom plate
5. MP paper width guides
6. MP tray
7. MP tray sub
8. MP actuator
   (MP paper sensor)

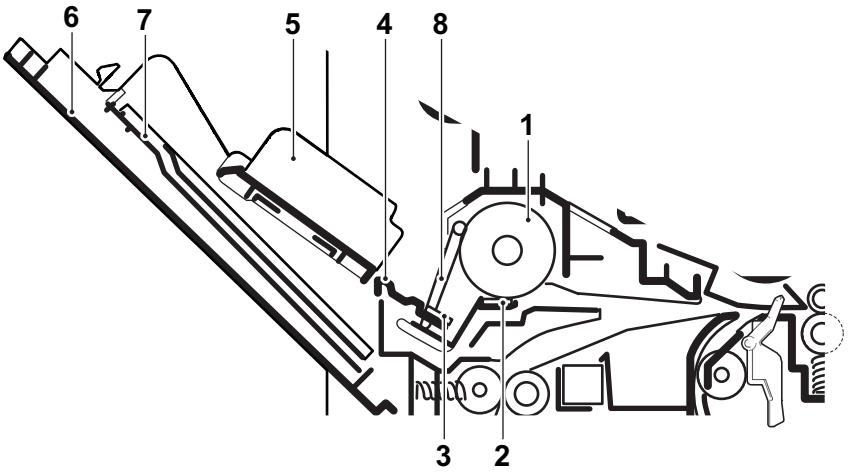


Figure 3-19

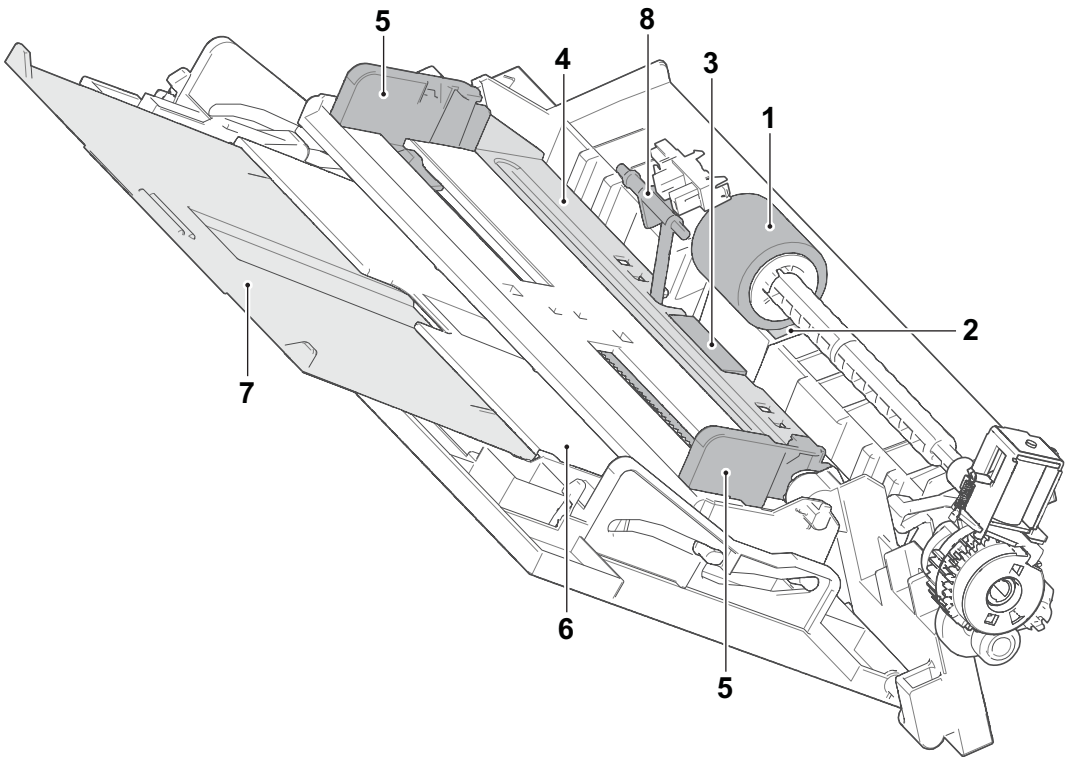


Figure 3-20

Block diagram

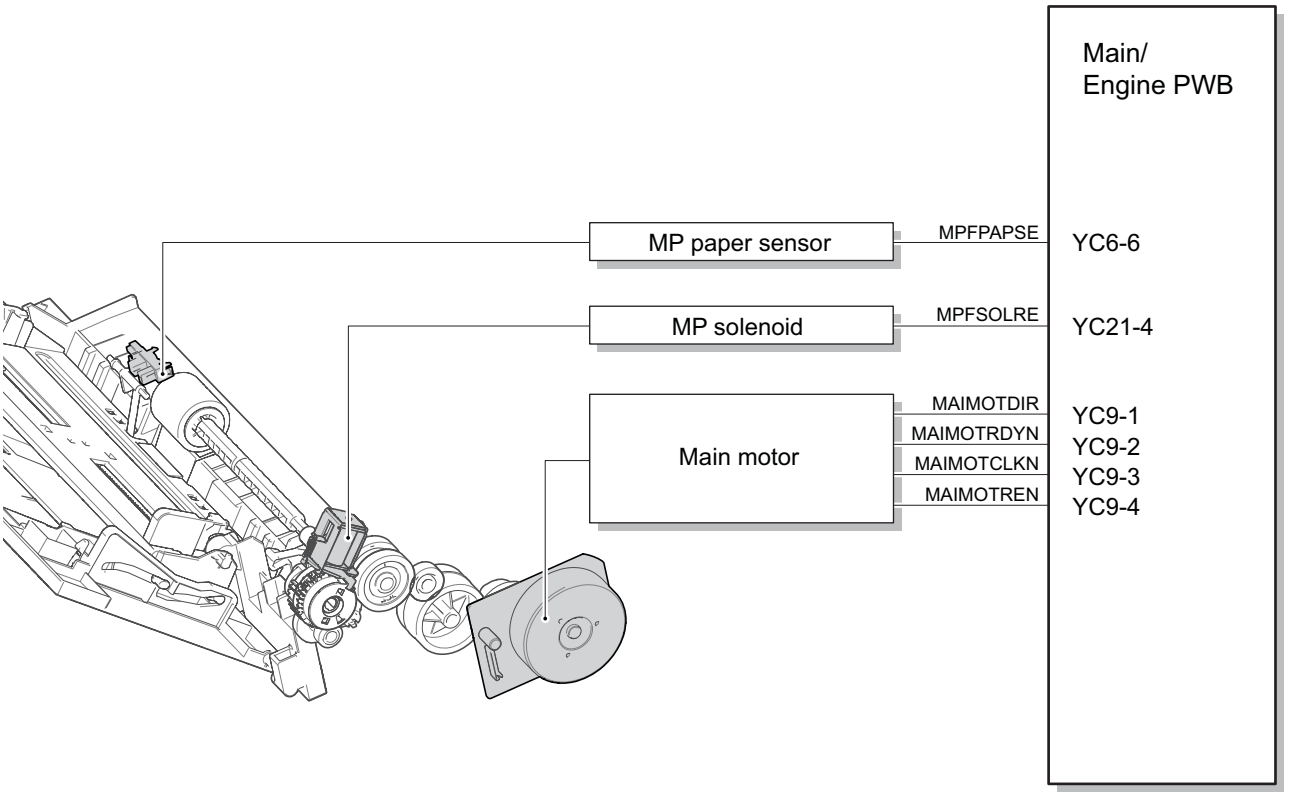


Figure 3-21

(2) Optical section

(2-1) Laser scanner unit

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

Components parts

1. Polygon motor
2. fθ lens
3. Mirror
4. Laser scanner frame
5. Collimate lens
6. Cylindrical lens
7. Laser bracket
8. Drum

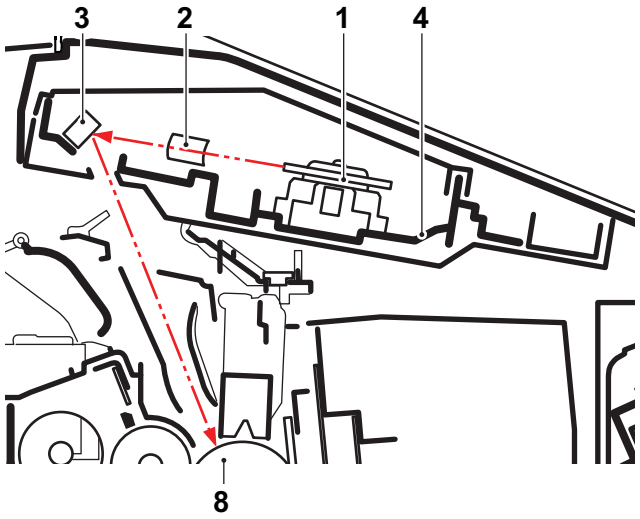


Figure 3-22

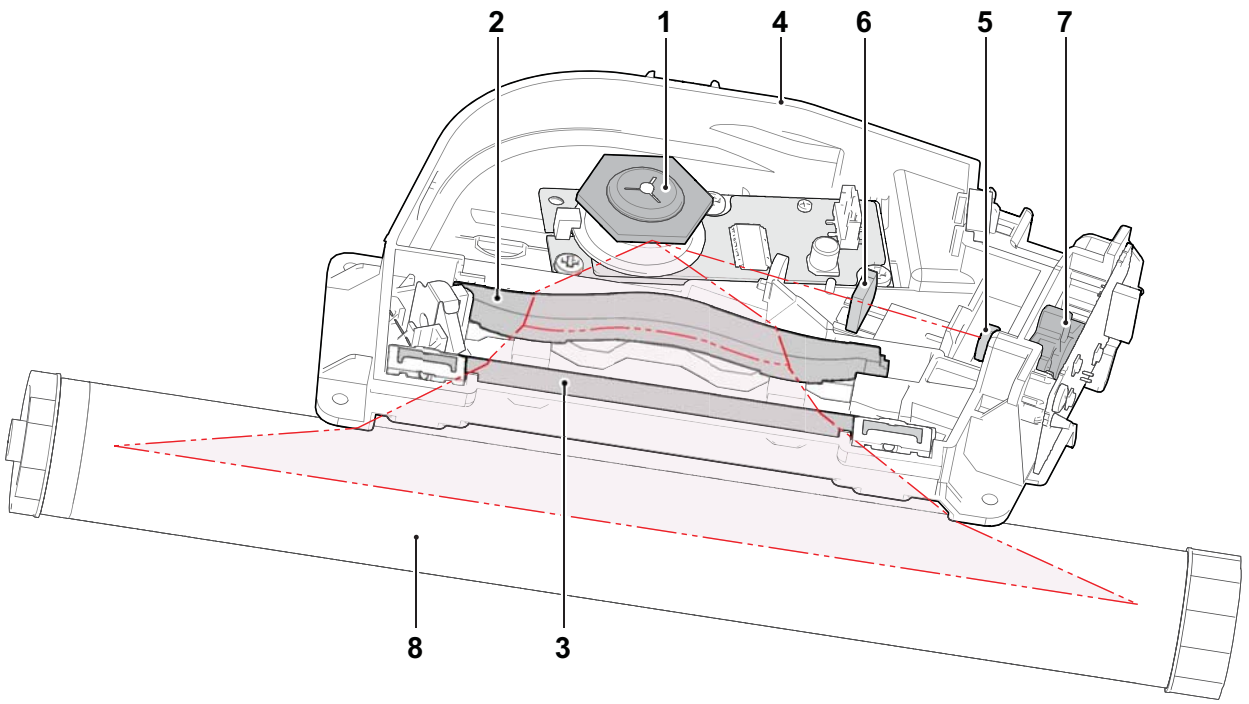


Figure 3-23

Block diagram

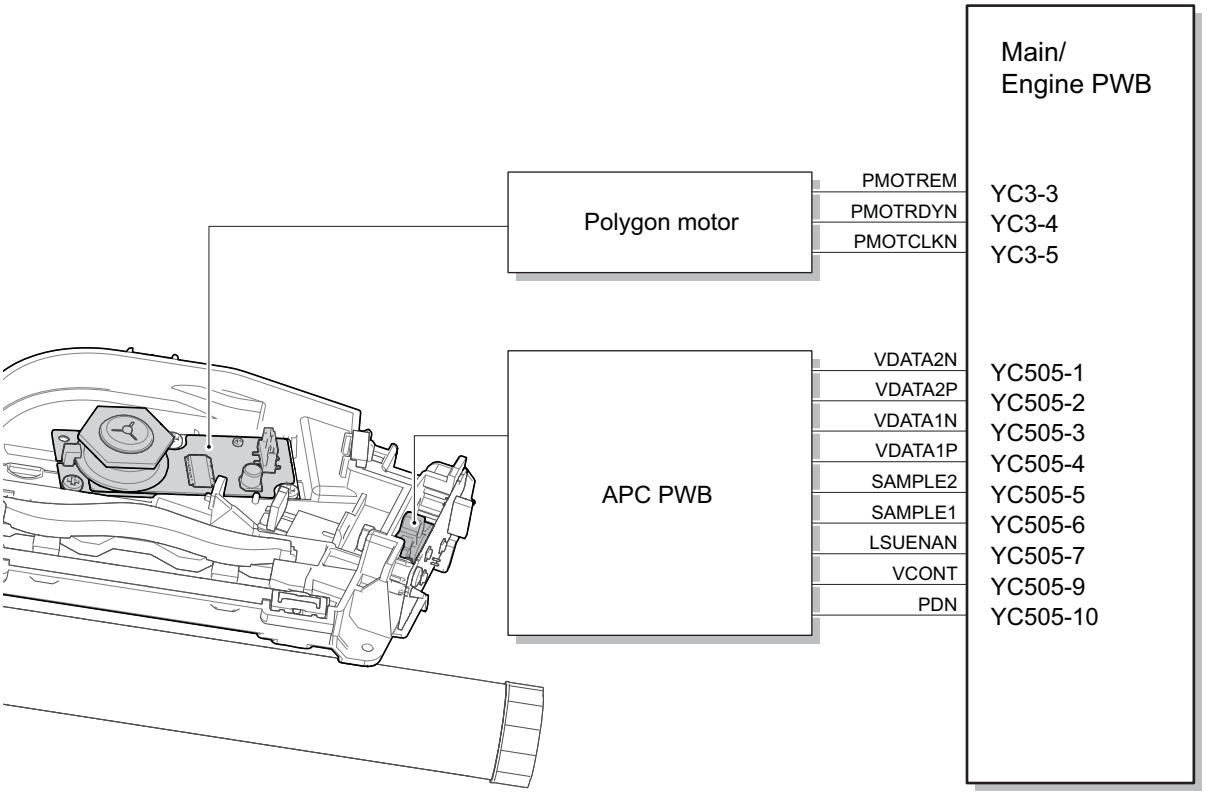


Figure 3-24

(3) Developer section

(3-1) Developer unit

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

Components parts

1. Developer roller
2. Developer blade
3. Blade magnet
4. Developer screw A
5. Developer screw B
6. Developer case
7. Toner container release button
8. Toner sensor
9. Developer shutter
10. Drum
11. Toner container

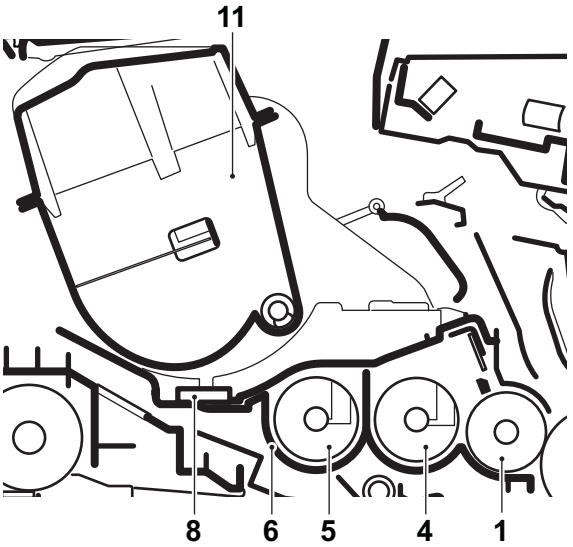


Figure 3-25

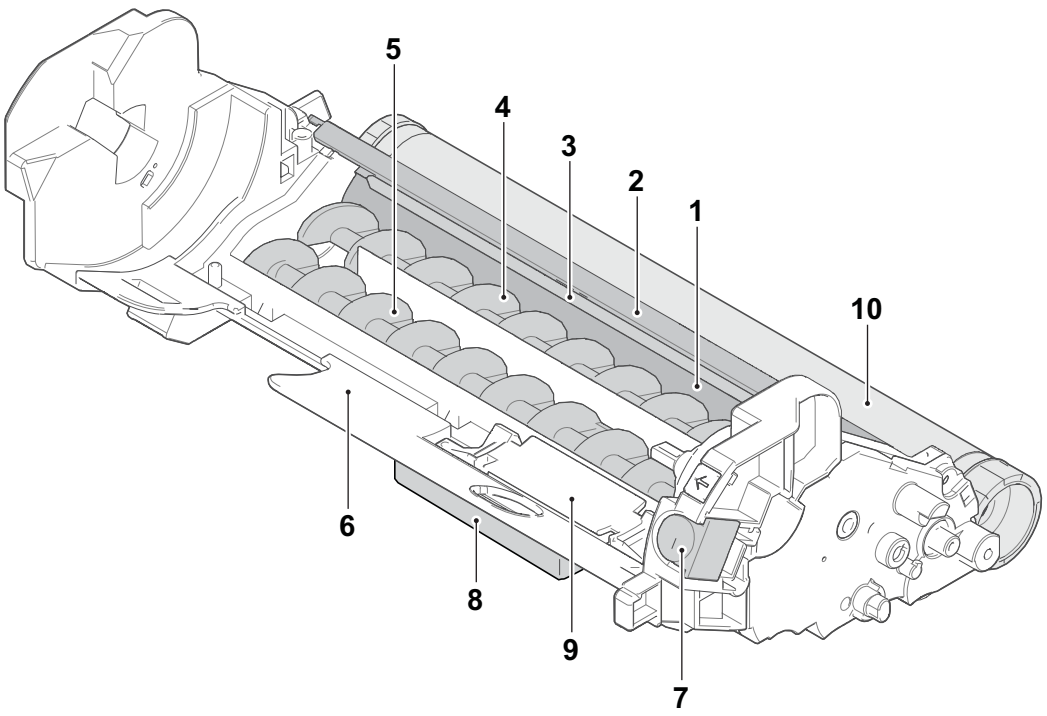


Figure 3-26

Block diagram

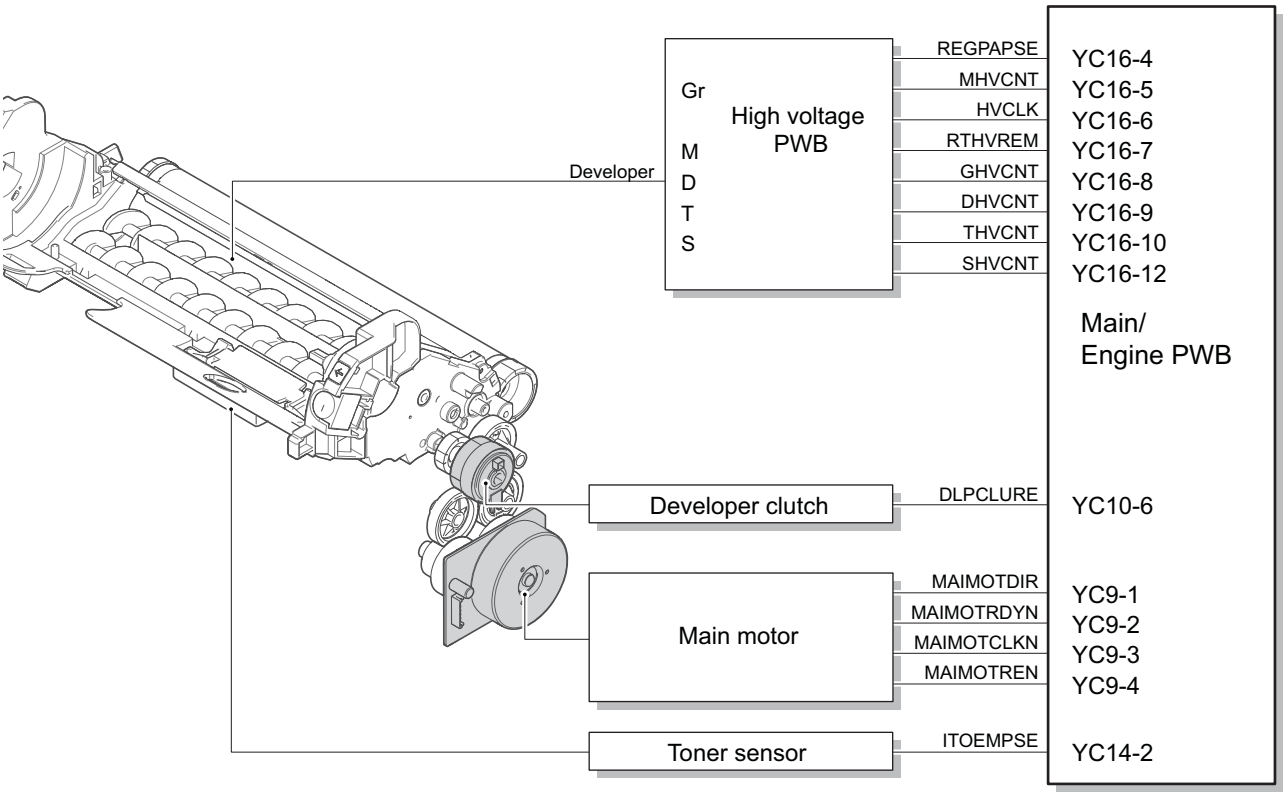


Figure 3-27

(4) Drum section

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

(4-1) Main charger unit

The drum surface is evenly charged by the shield grid attached to the bottom of the unit.

(4-2) Cleaning

Remaining toner on the drum surface after transferring is removed by the cleaning blade, and collected to the toner container by the collecting roller. The eraser PWB consists of LED lamp, and it removes the remaining electric charge on the drum before the main charge.

[Components parts]

1. Drum
2. Main charger unit
3. Shield grid
4. Collecting roller
5. Cleaning blade
6. Cleaning roller
7. Eraser PWB
8. Flicker plate
9. Drum unit frame

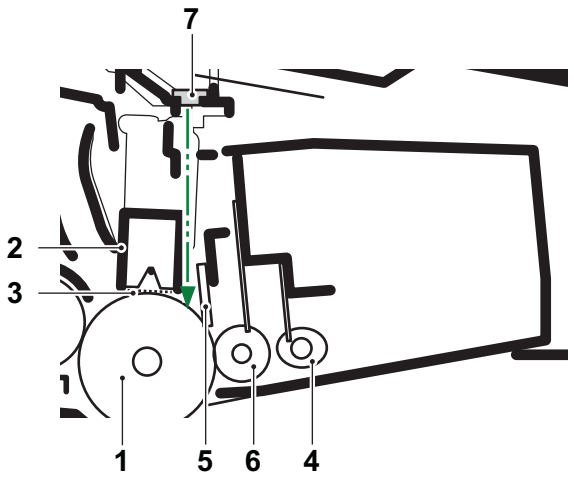


Figure 3-28

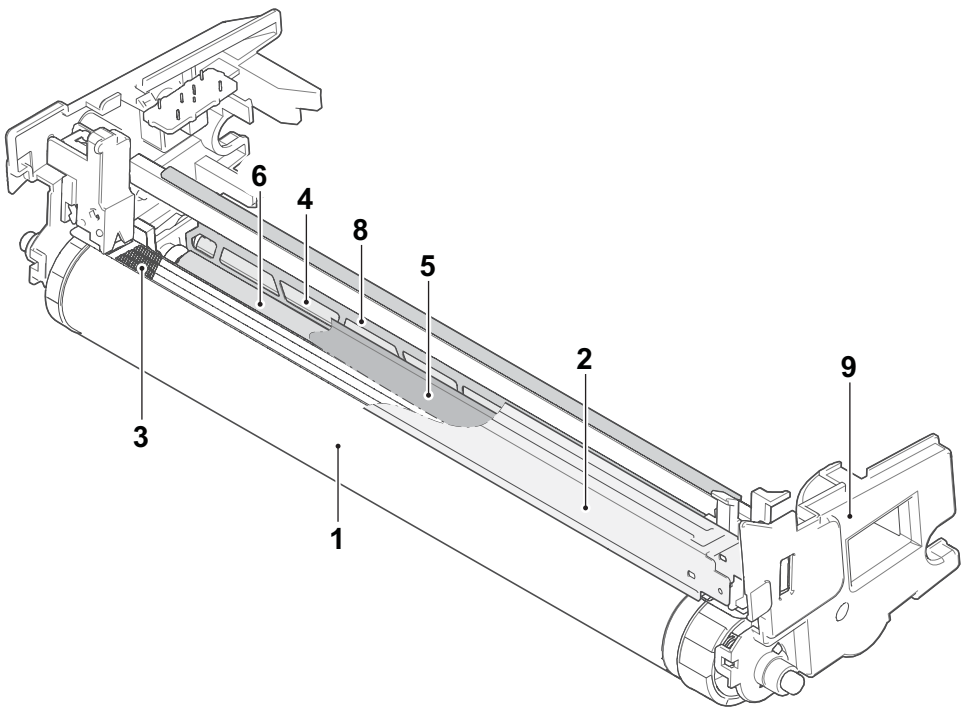


Figure 3-29

Block diagram

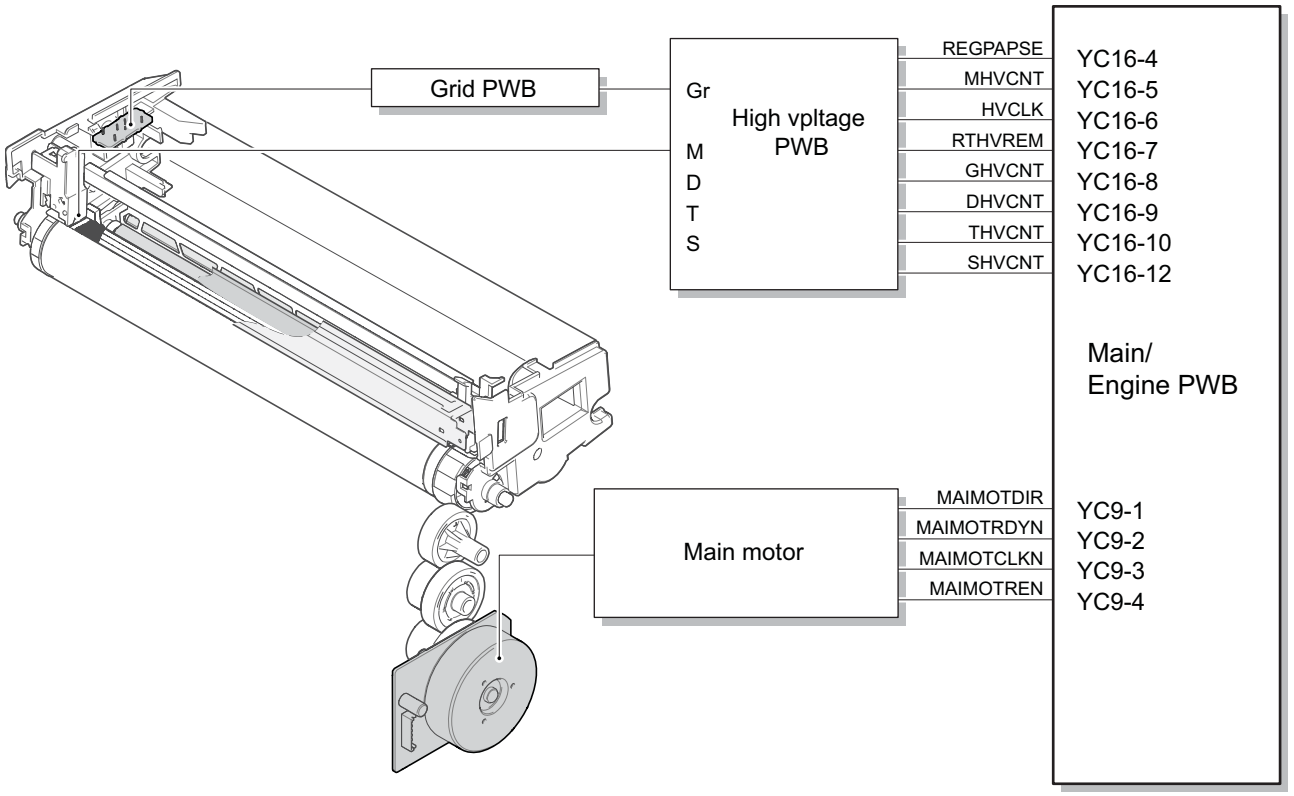


Figure 3-30

(5) Conveying/Transfer and Separation section

Conveying section conveys paper to the transfer and separation section after adjusting the paper position at the registration rollers.
The transfer and separation section consists of the transfer roller and separation needles attached to the paper conveying unit. The DC bias is impressed to the transfer roller by the high-voltage PWB (HVPWB), and the toner image formed on the drum is transferred to the paper by the potential gap. Then,, the paper is separated by the drum curvature separation. and discharged by the grounded separation brush *1
*1: 100V model applies DC voltage.

Components parts

1. registration roller
2. Registration pulley
3. Actuator (Registration sensor)
4. Transfer front guide
5. Transfer roller
6. Separation brush
7. Conveying guide
8. Drum

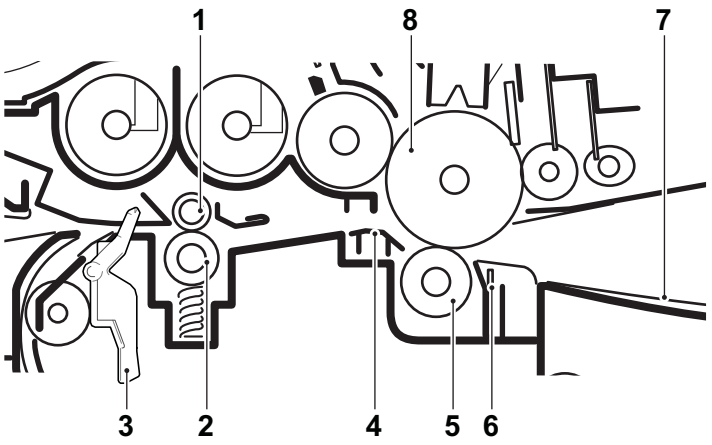


Figure 3-31

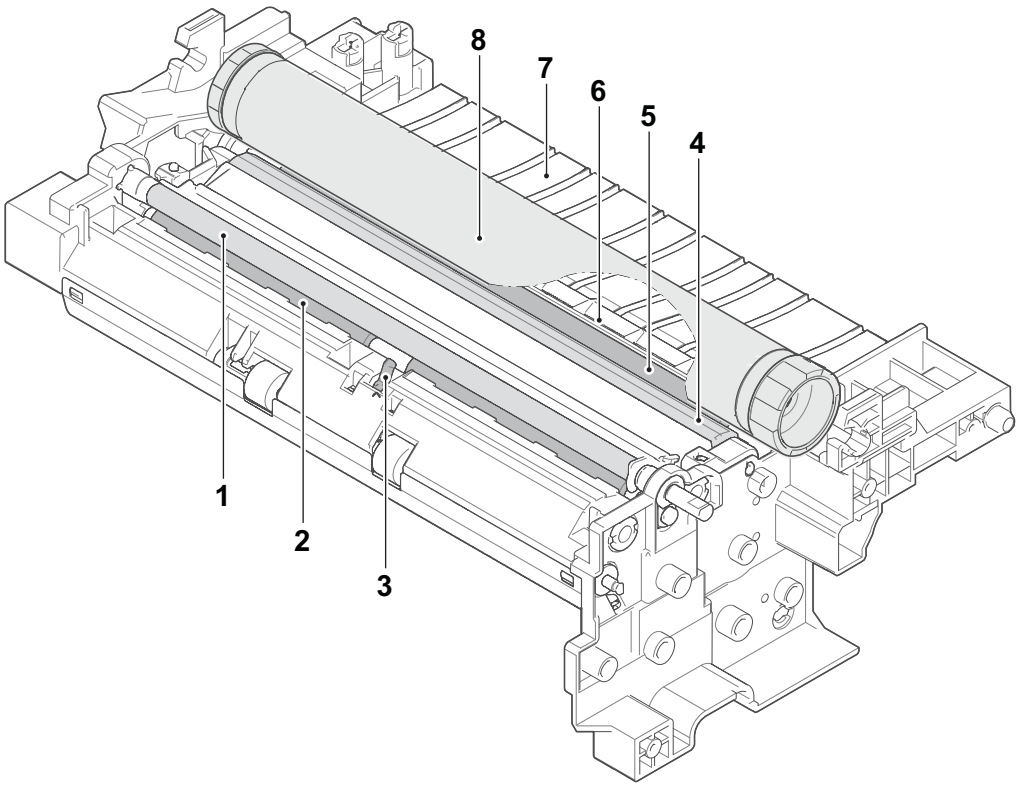


Figure 3-32

Block diagram

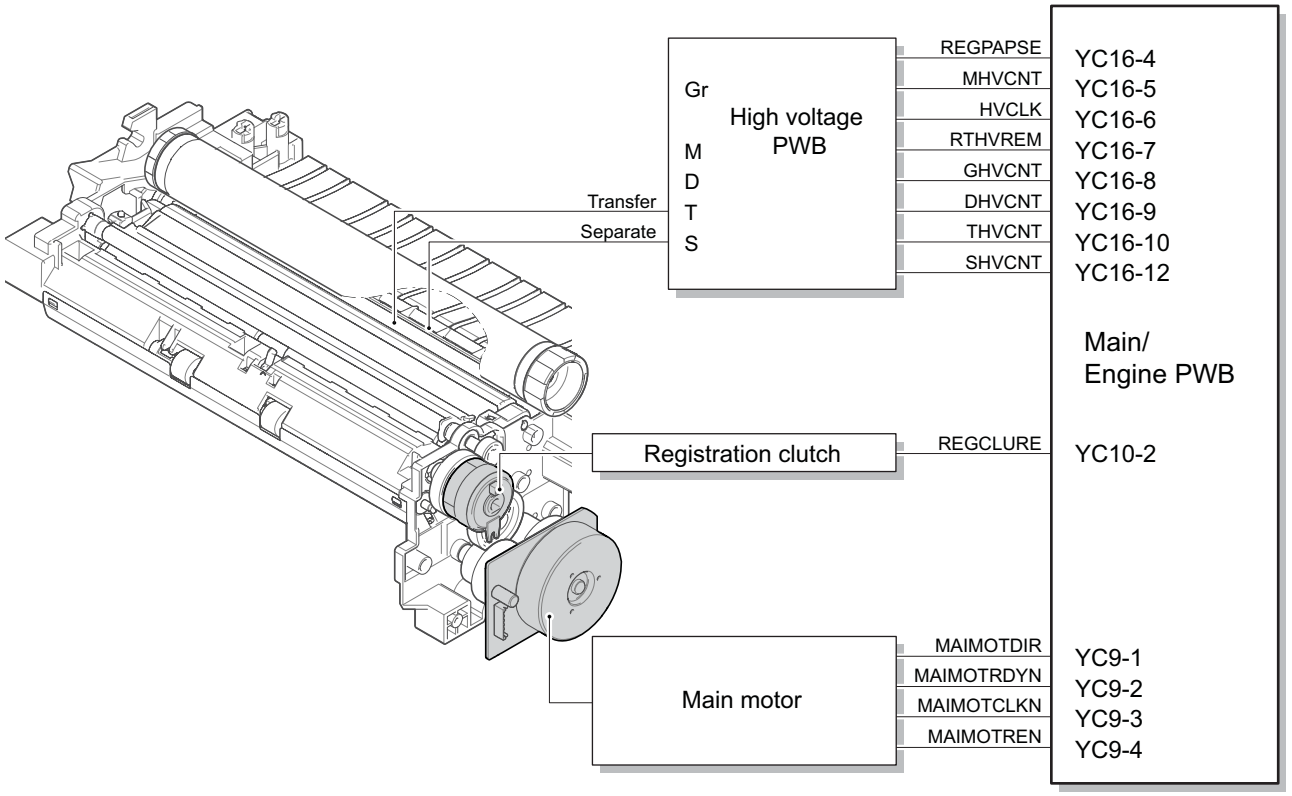


Figure 3-33

(6) Fuser section

Paper from the transfer and separation section is pinched between the fuser belt and the press roller. The fuser belt is heated by the fuser heater and pressed by the press roller pressed by the fuser pressure spring. The toner is fused on the paper with heat and pressure.

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

Components parts

1. Fuser front guide
2. Fuser heater
3. Fuser belt
4. Fuser press roller
5. Thermopile
6. Fuser thermistor
7. Thermal cut-off
8. Actuator (Eject sensor)
9. Lower eject roller
10. Lower eject pulley

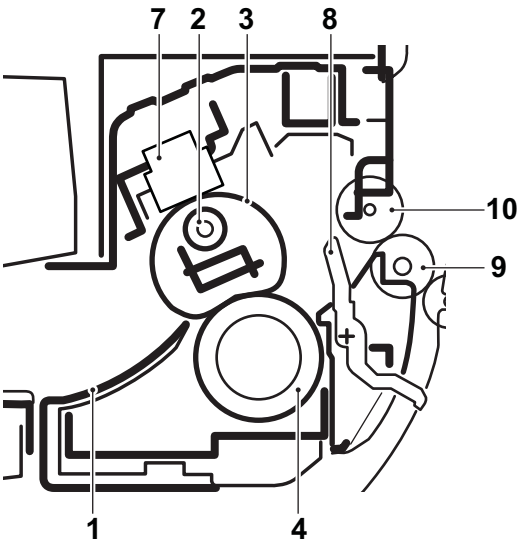


Figure 3-34

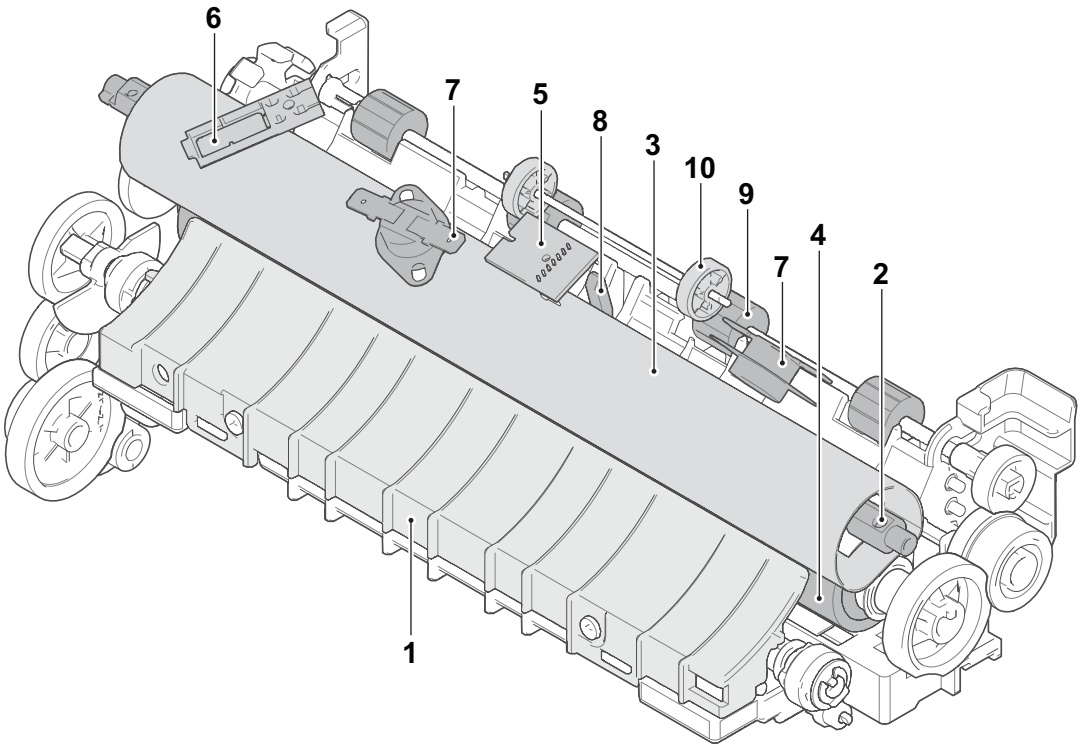


Figure 3-35

Block diagram

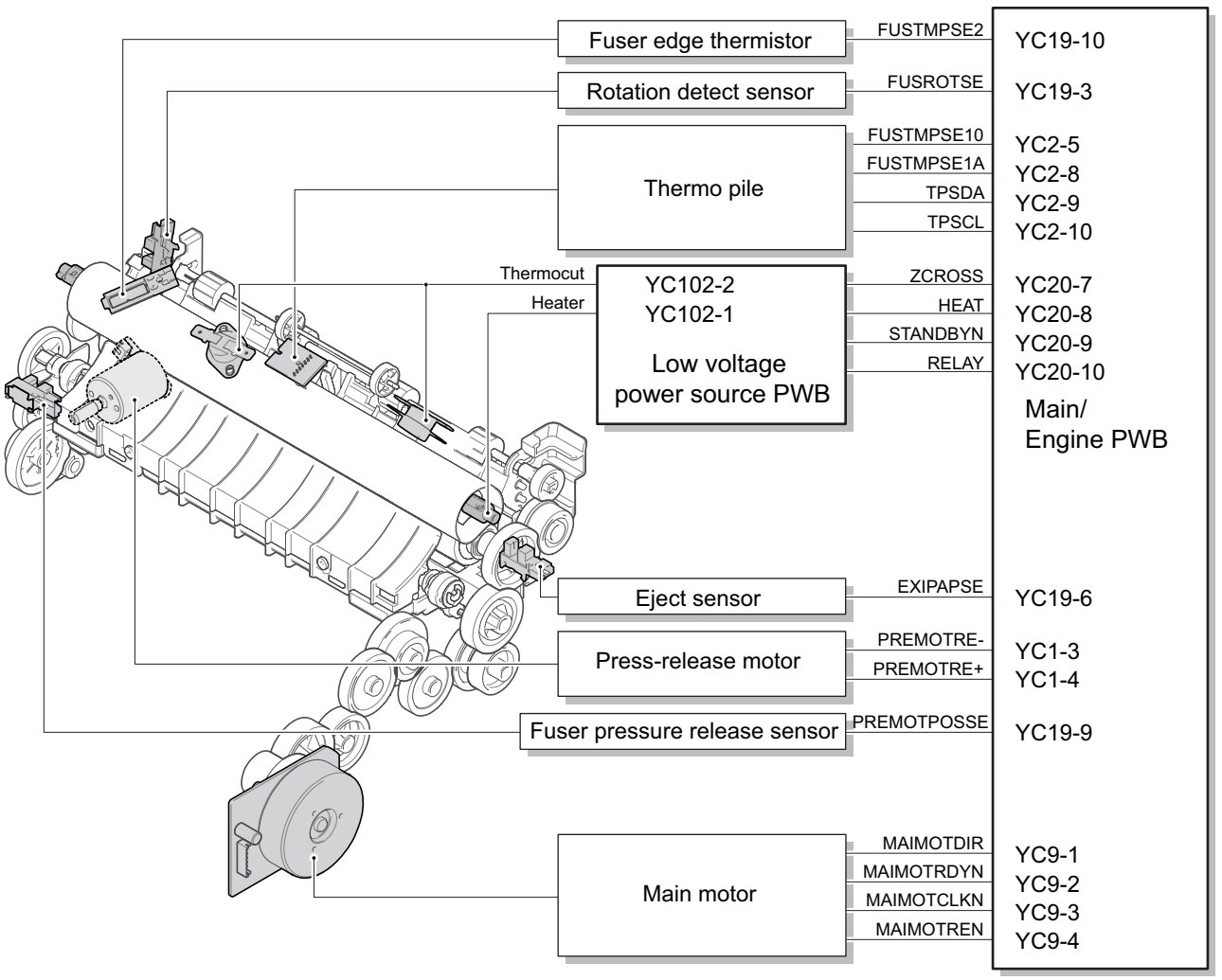


Figure 3-36

(7) Eject and feedshift section

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

Components parts

1. Upper eject roller
2. Upper eject pulley
3. Eraser brush
4. FD guide
5. Eject lever
6. Lower eject roller
7. Feedshift pulley
8. Rear cover

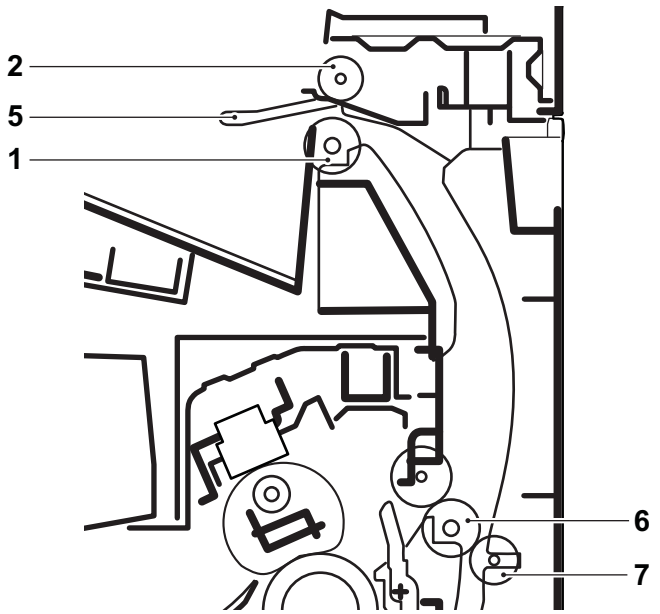


Figure 3-37

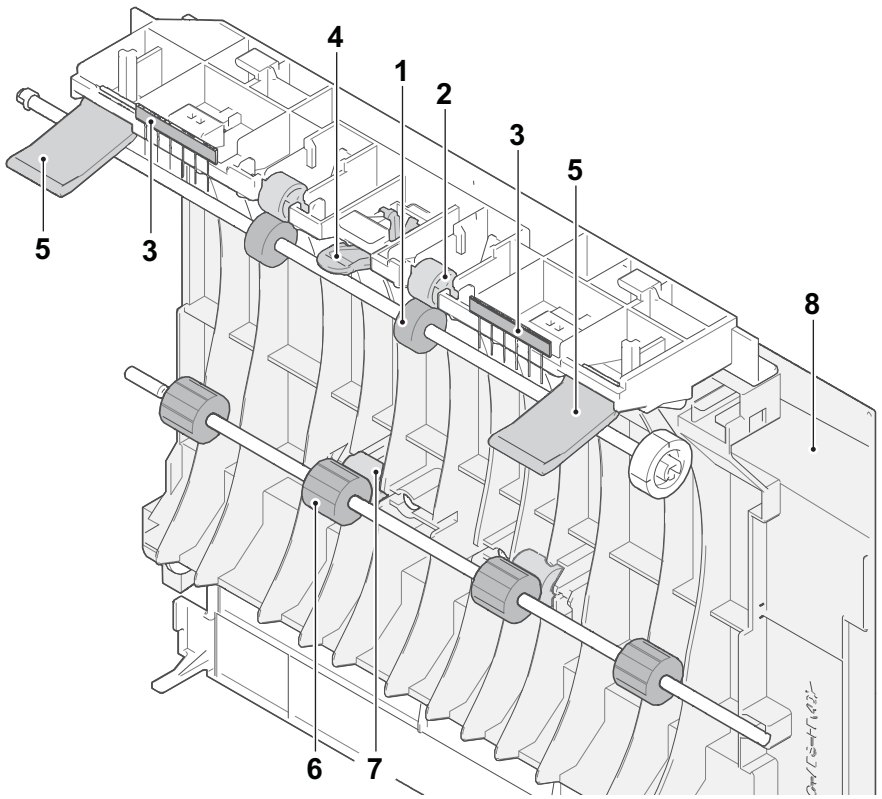


Figure 3-38

Block diagram

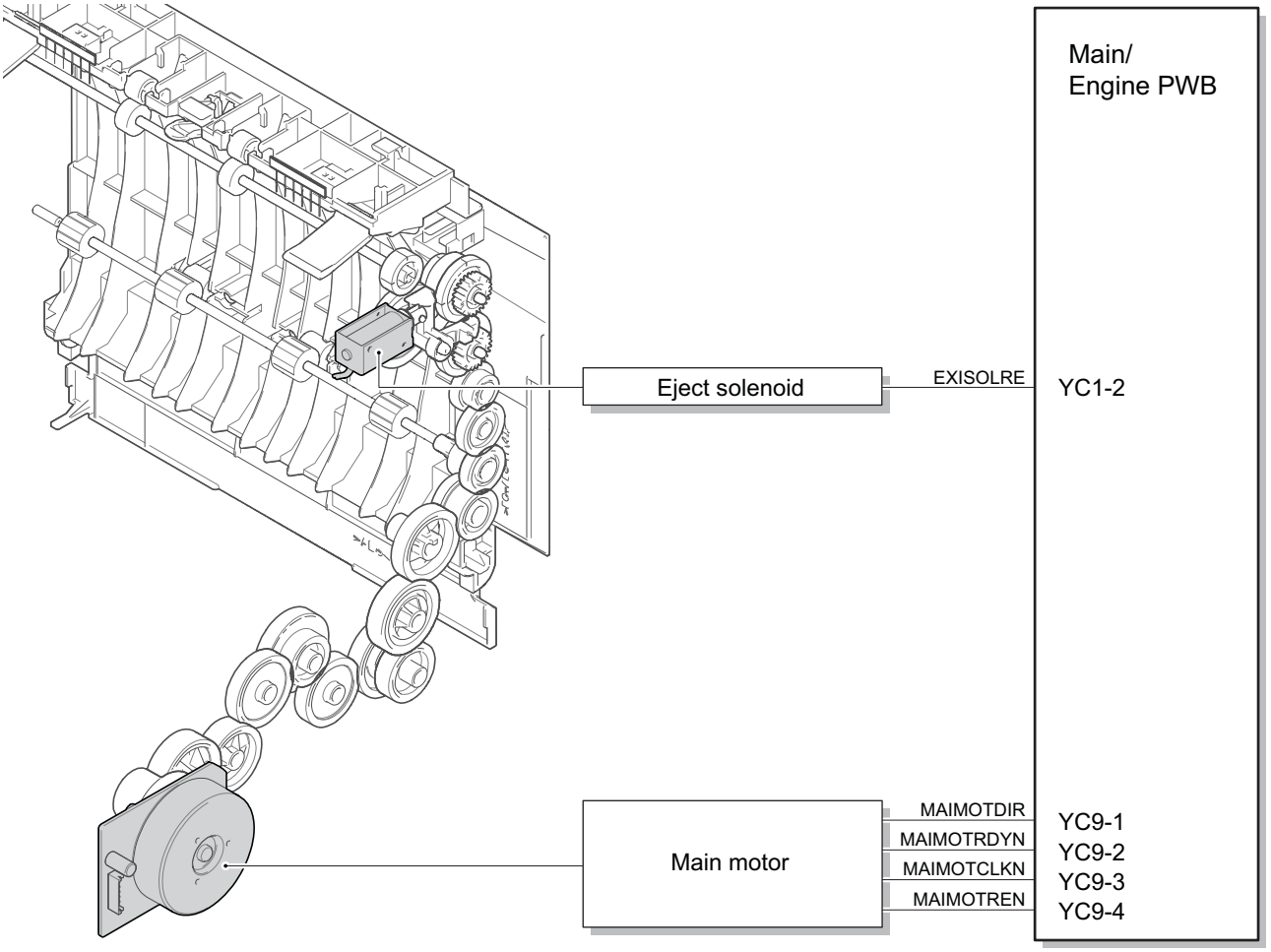


Figure 3-39

(8) Duplex conveying section

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

Components parts

1. Lower eject roller
2. Feedshift pulley
3. Actuator (Eject sensor)
4. DU conveying roller A
5. DU conveying pulley A
6. DU conveying roller B
7. DU conveying upper guide
8. DU conveying lower guide
9. DU conveying lever
10. Rear cover

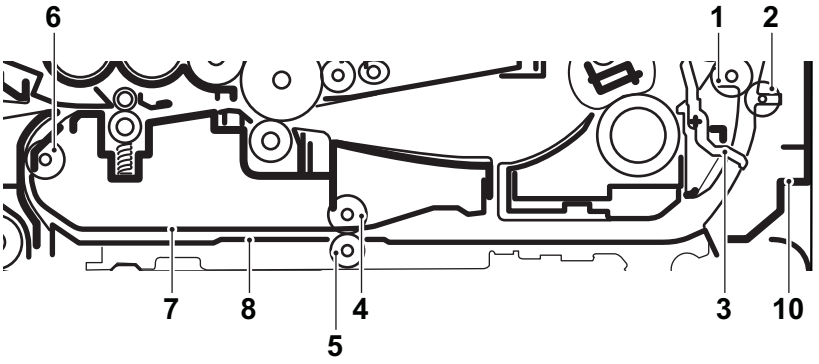


Figure 3-40

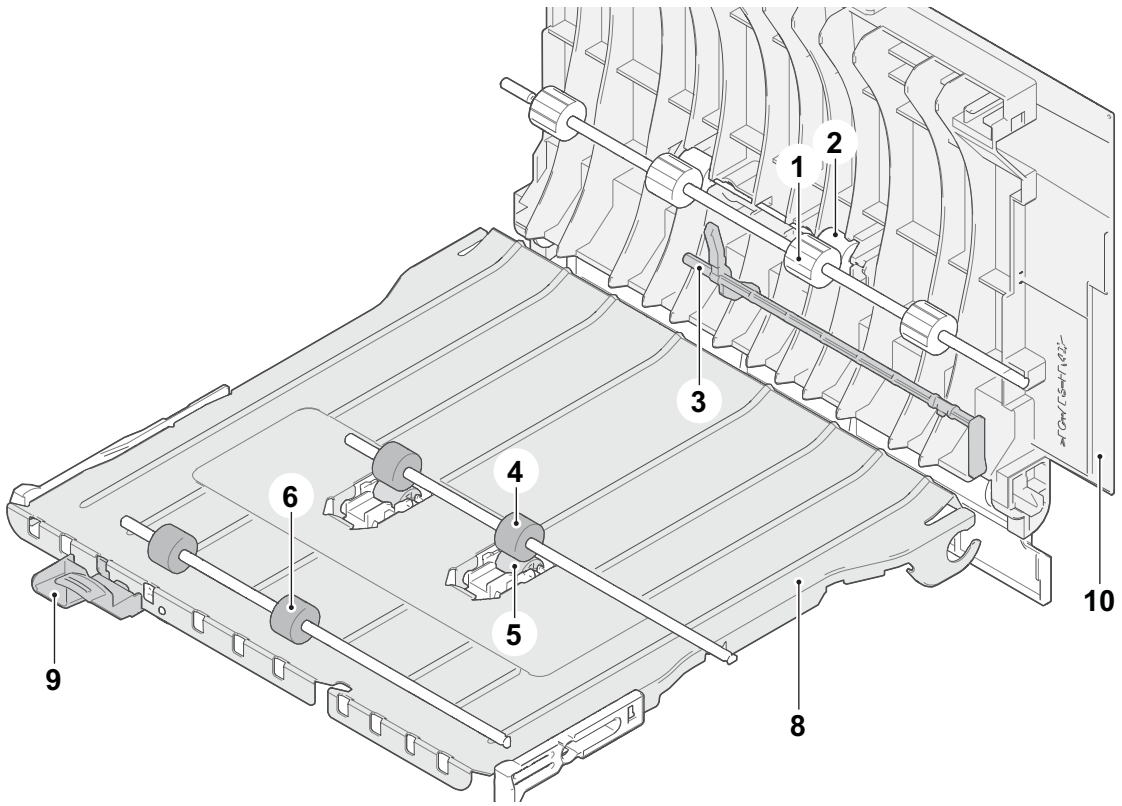


Figure 3-41

Block diagram

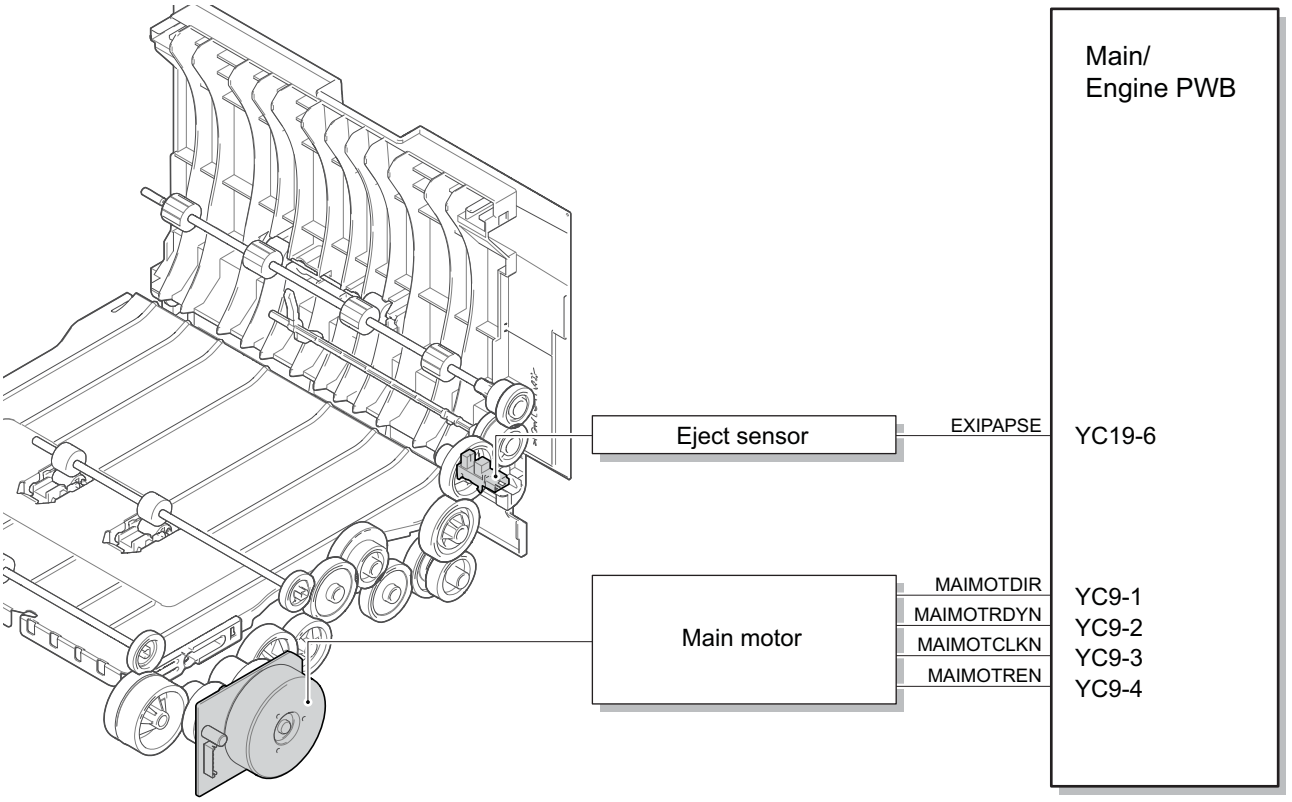


Figure 3-42

(9) Paper feeder (option)

The cassette can 300 sheets paper (64 g/m²) or 250 sheets paper (80 g/m²). Paper fed from the cassette is picked up by the rotation of the pickup roller and is conveyed to the main unit by the rotation of the paper feed roller and conveying roller. Multi-feeding is also prevented by the effect of the retard roller.

Components parts

1. PF paper feed roller
2. PF pickup roller
3. PF pickup holder
4. PF retard roller
5. PF conveying roller
6. PF conveying pulley
7. PF cassette bottom plate
8. PF friction pad
9. PF paper width guides
10. PF actuator (PF paper sensor)
11. PF paper length guide
12. PF cassette base
13. PF actuator (PF feed sensor)

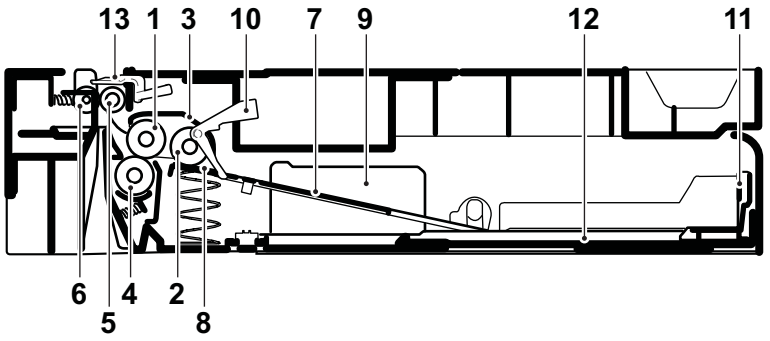


Figure 3-43

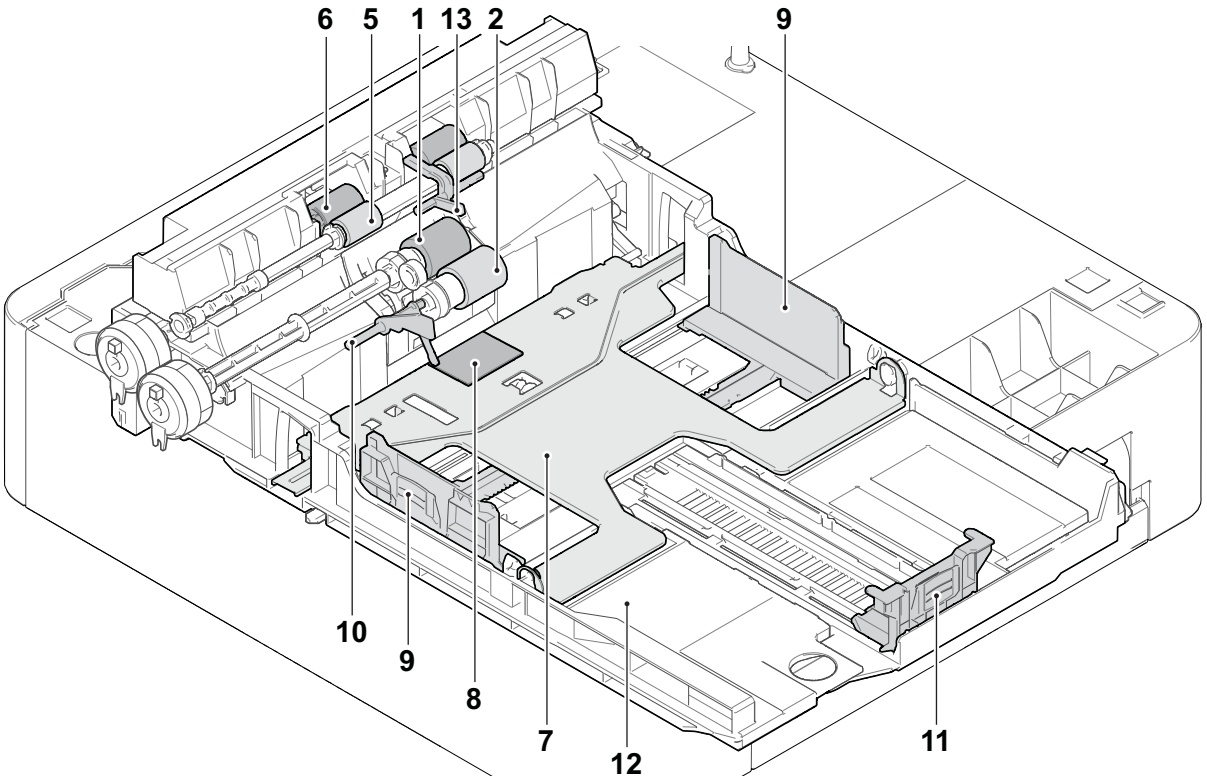


Figure 3-44

Block diagram

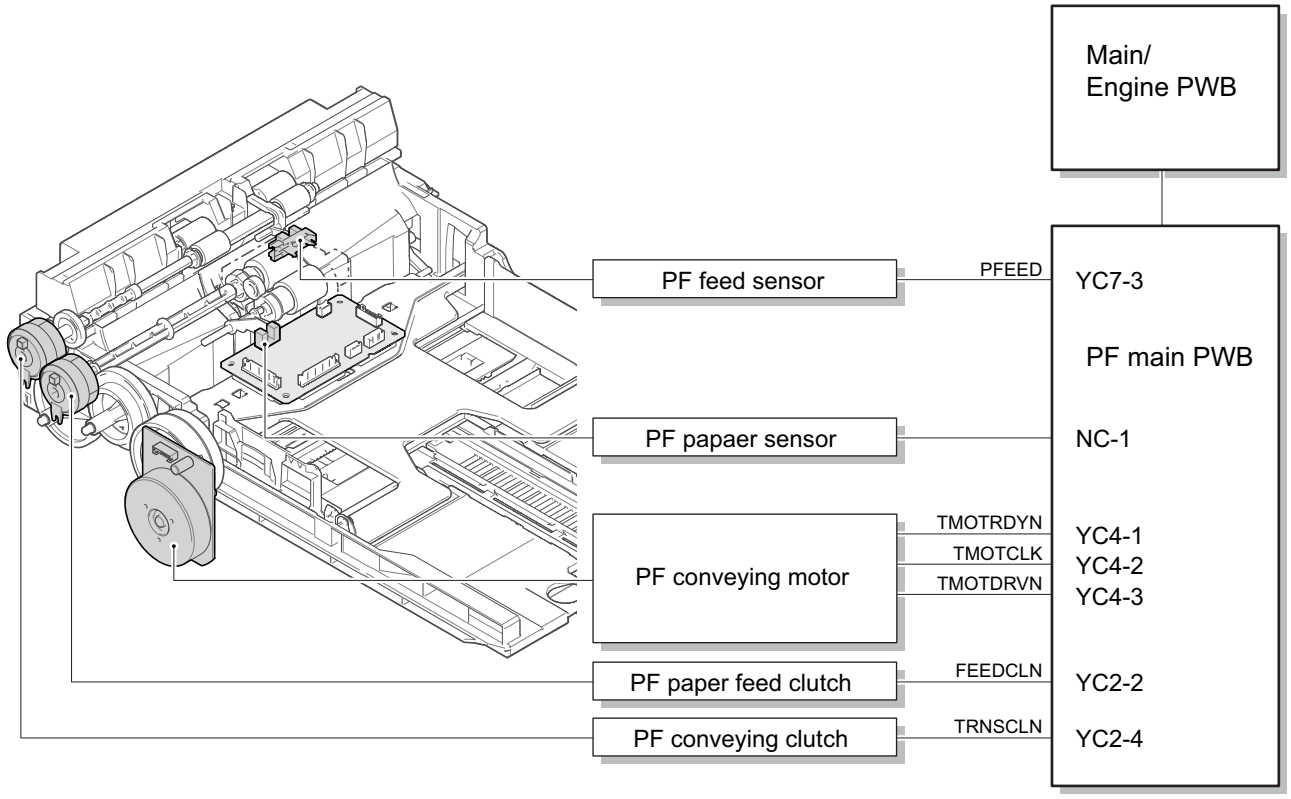


Figure 3-45

4 Maintenance

4-1 Precautions for the maintenance

(1) Precautions

Before disassembling the main unit, press the main power switch to turn the power off. Make sure that the power lamp on the operation panel is off and unplug the power cord from the wall outlet. Then, start the disassembly.
When handling the PWBs (printed wiring boards), do not touch parts with bare hands. Make sure not to damage the PWB.
If ICs are mounted on the PWB, do not touch them by hand or something charged with electrostatic.
Make sure to release the hook before disconnecting the connector with the hook.
Take care not to pinch up the wire and cable.
Use the original screws when reassembling the parts once disassembled.
If the types and the sizes of screws are not sure, refer to the parts list.

(2) Storage and handling of the drum

Note the following when handling and storing the drum.
When detaching the drum unit, never expose the drum surface to strong direct light.
Store in the place of ambient temperature of -20 to 40 degree C and ambient humidity of 85% RH or less.
Avoid storing the drum unit in the place where the temperature and humidity may suddenly change even if these changes are within the tolerable range.
Avoid exposure to any substance which is harmful or may affect the quality of the drum.
Do not touch the drum surface with any object.
Make sure not to touch the drum surface with bare hands or gloves.
If the drum is touched by hands or stained with oil, clean it.

(3) Storage of the toner container

Store the toner container in a cool, dark place.
Do not place the toner container under direct sunshine or in a damp environment.

(4) Screening of the toner container

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

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

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

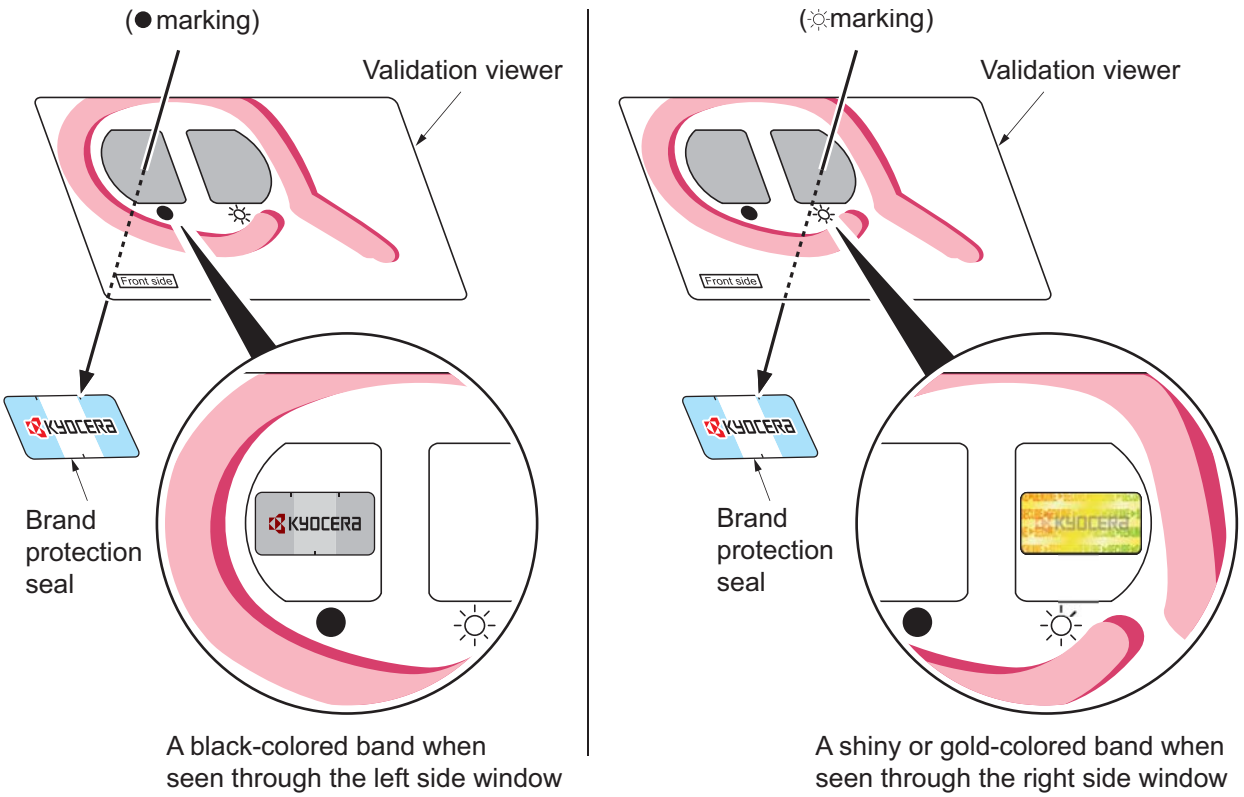


Figure 4-1

The anti-counterfeiting film portion has three slits as the figure below and it can not reused.

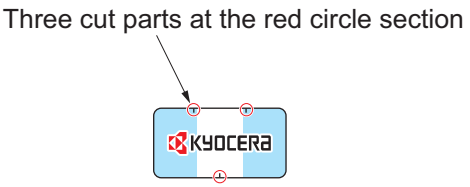


Figure 4-2

4-2 Maintenance parts

(1) Maintenance kits

Maintenance part name		Part No.
Name used in service manual	**Name used in parts list**	
MK-1150 MK-1151 MK-1152 MK-1154 (100,000 image)	MK-1150/MAINTENANCE KIT MK-1151/MAINTENANCE KIT MK-1152/MAINTENANCE KIT MK-1154/MAINTENANCE KIT DRUM UNIT Developer unit	1702RV0NL0 1702RV0JP0 1702RV0US0 1702RV0AS0

(2) Executing the maintenance mode after replacing the maintenance kit

After replacing the above maintenance kit, execute the following maintenance modes from [menu] key.

Item	Content
New Developer	Developer powder initial setting *1
Maintenance	Maintenance counter clear

*1 Only when replacing the developer unit with the new one

(3) Maintenance parts list

Maintenance part name		Part No.
Name used in service manual	**Name used in parts list**	
Pick up roller Paper feed roller (Paper feed roller assembly)	PULLEY PICKUP ASSY PULLEY FEED ASSY (PARTS HOLDER FEED ASSY SP)	302HN0608_ 302F90623_ (302RV9407_)
MP paper feed roller	ROLLER M/P ASSY	302HS0826_

(4) Periodic maintenance Procedures

CH:Check / CL:Clean / AD:Adjust / LU:Lubrication / RE:Replace

Parts name		Parts No.	PM maintenance (x1000 counts)			Remark
			Set UP	User Call	100	**Please do not use spray containing flamable gas for air-blow or air-brush purposes.**
1	IMAGE QUALITY	---	CH AD	CH AD	CH AD	
2	MK-1150 MK-1151 MK-1152 MK-1154	1702RV0NL0 1702RV0JP0 1702RV0US0 1702RV0AS0			RE	Drum unit, Developer unit
3	INSIDE OF MACHINE	---		CL	CL	Vacuum: In particular, remove toner and paper dust around imaging and conveying section.
4	PULLEY PICKUP ASSY PULLEY FEED ASSY	302HN06080 302F906230		CL	CL	Alcohol or dry cloth if no replacement.
5	ROLLER M/P ASSY	302HS08260		CL	CL	Alcohol or dry cloth if no replacement.

4-3Maintenance parts replacement procedures

When it is necessary to replace parts is needed due to malfunction, etc., replace the service parts in the following procedures.

(1) Cassette paper feed section

(1-1)Detaching and reattaching the Paper feed roller

Procedures

1. Pull out the cassette (a) from the main unit (b) in the direction of the arrow, and detach it.

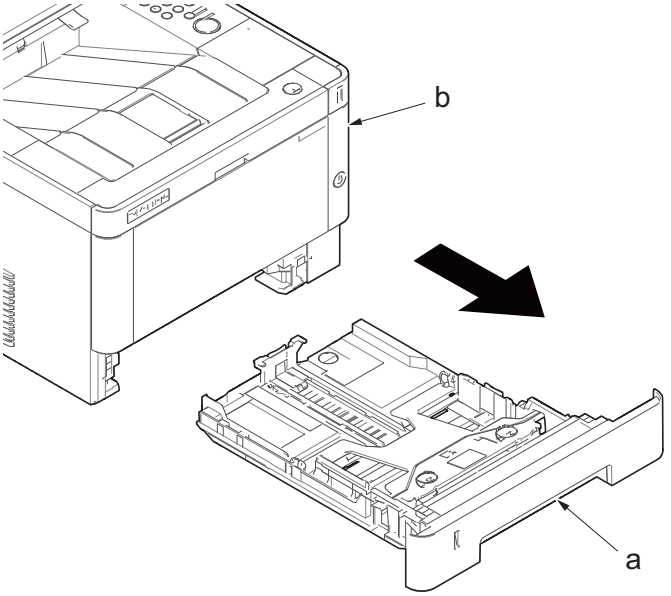


Figure 4-1

2. Pull the lever (b) of the paper feed roller assembly (a) toward you and release the lock.
3. Slide the paper feeder roller assembly (a) while settingg it upright and detach it from the paper feeder roller shaft (c).
4. Detach the paper feeder roller assembly (a) toward you.

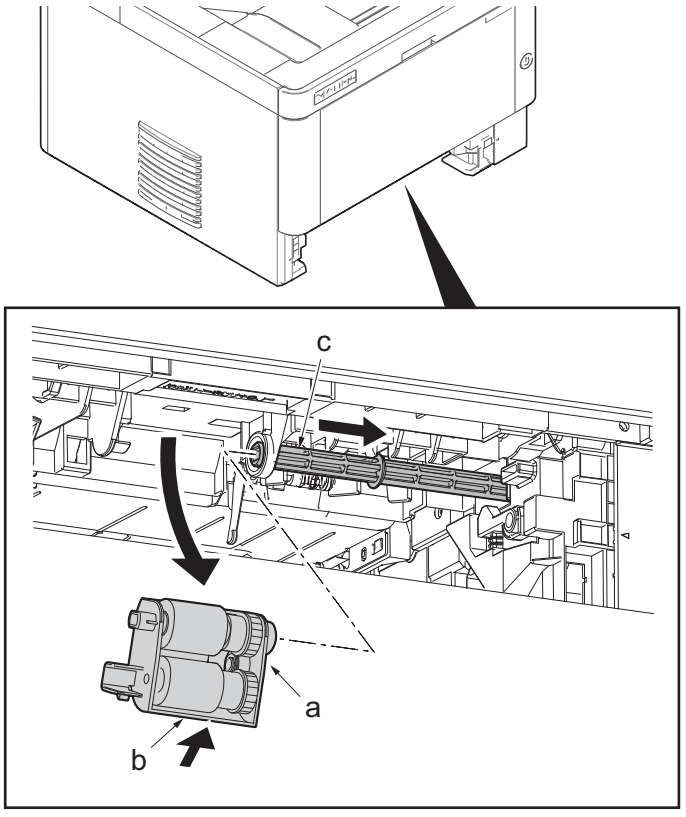


Figure 4-2

5. Check or replace the paper feeder roller assembly (a) (paper feed roller, pick up roller), and then reattach the parts in the original position.

Attention: When reattaching to the paper feed roller assembly (a), make sure to align the head (c) of the feed shaft (b) to the oval (d) of the paper feed roller assembly.

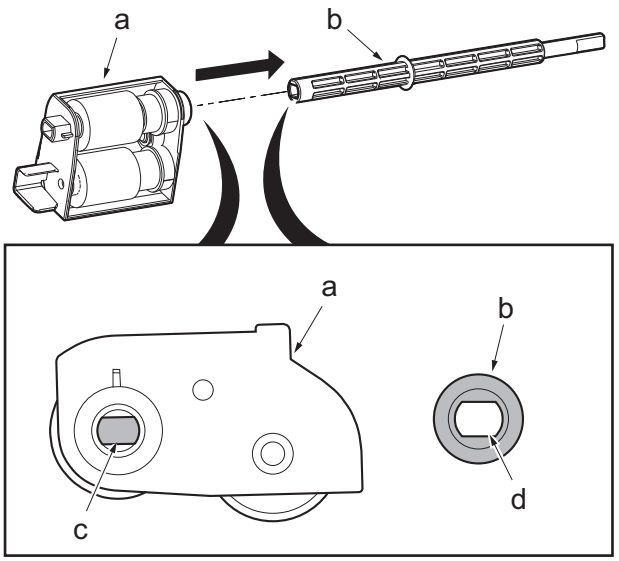


Figure 4-3

(1-2)Detaching and reattaching the retard roller

Procedures

1. Detach the cassette (a).
2. Release two hooks (b) from the back side of the cassette and detach the retard roller assembly (c).

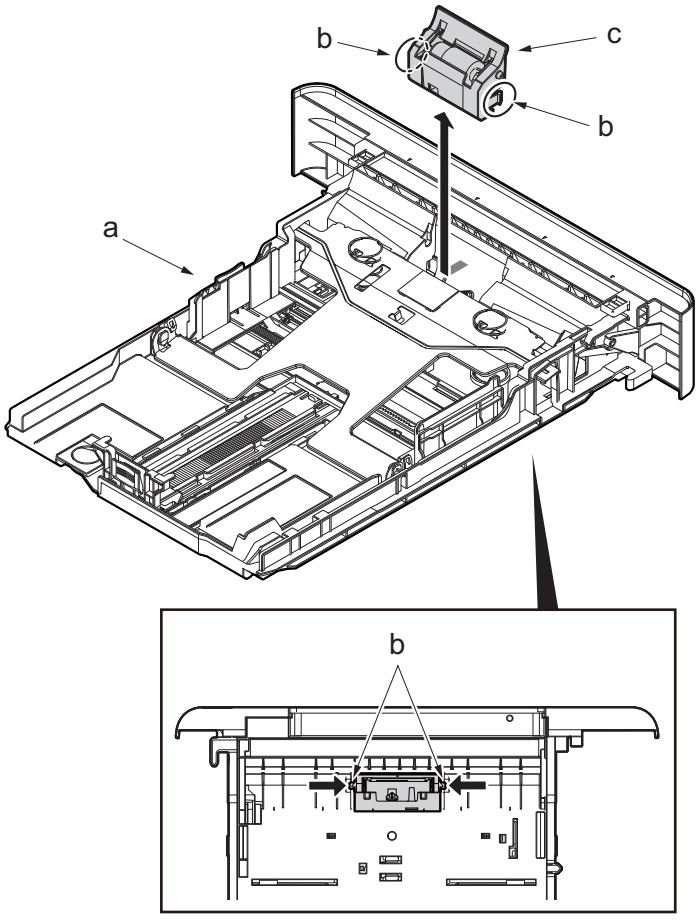


Figure 4-4

3. Detach the retard roller (b) from the retard roller assembly (a).

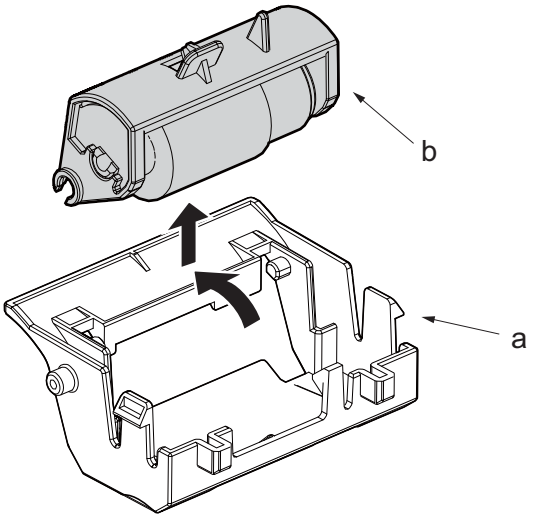


Figure 4-5

4. Check or replace the retard roller, reattach the detached parts in the original position.

Attention: When attaching the retard roller assembly (a), make sure to attach the spring (c) to the protrusion (b) of the retard roller assembly.

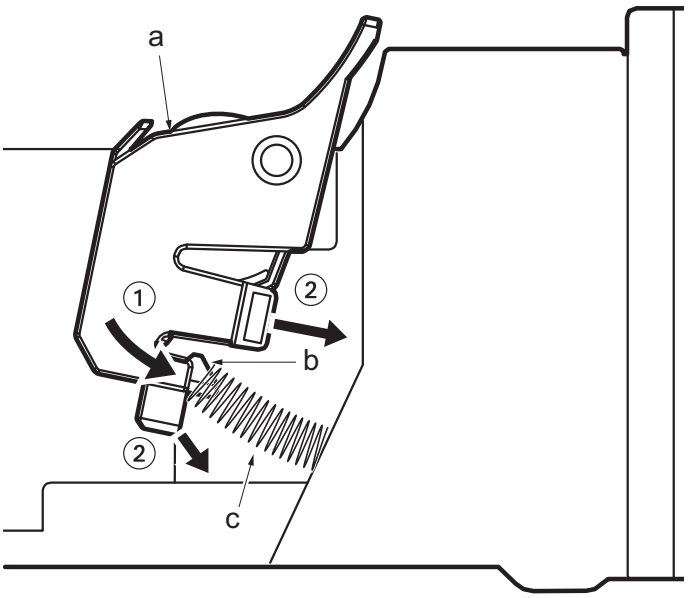


Figure 4-6

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

Procedures

1. Detach the cassette
2. Open the front cover (a) and detach the strap by using pliers.
3. Remove the stop ring (c).

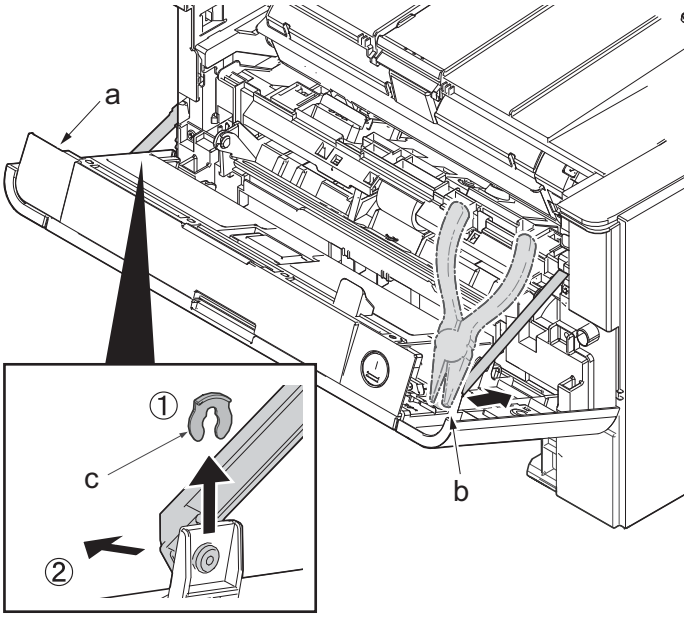


Figure 4-7

4. Open the front cover (a) to the bottom and detach the left side of cover fulcrum from the fulcrum shaft (b).
5. Release the right side of fulcrum portion (c) and detach the front cover (a).

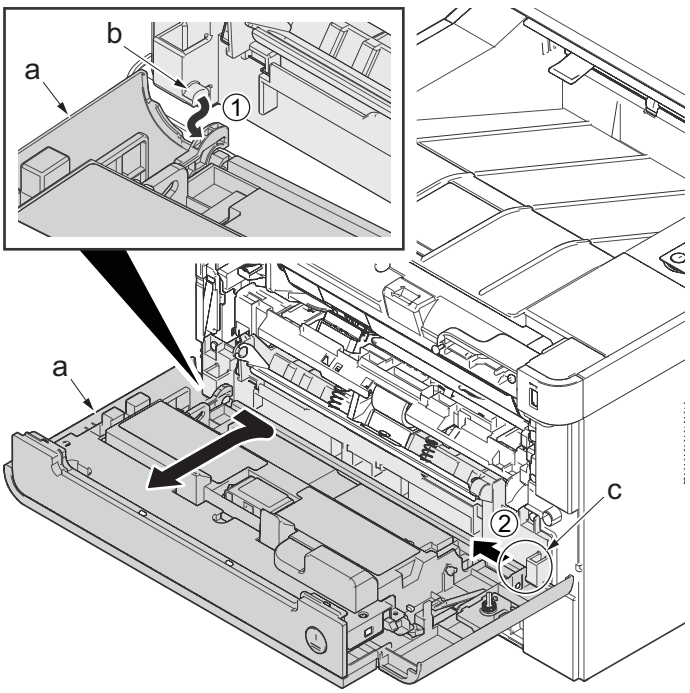


Figure 4-8

6. Remove four screws(M3x8S tight)(a), detach MP below frame(b).

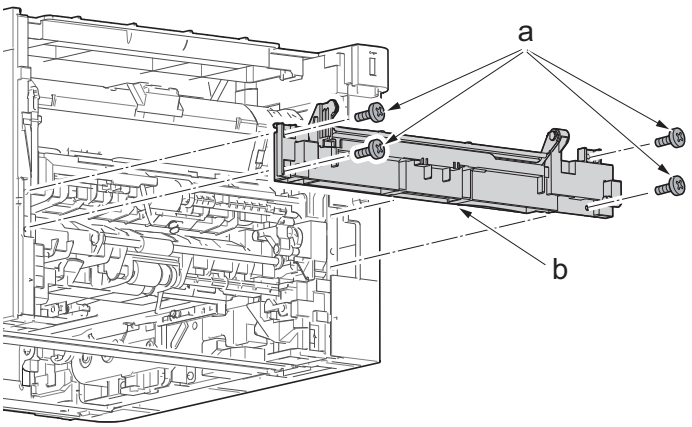


Figure 4-9

7. Pull the lock lever and the slide the paper feed roller shaft (b) to the right.
8. Detach the paper feed pulley (c).
9. Check or replace the paper feed pulley (c), and then reattach the parts which are detached in the original position.

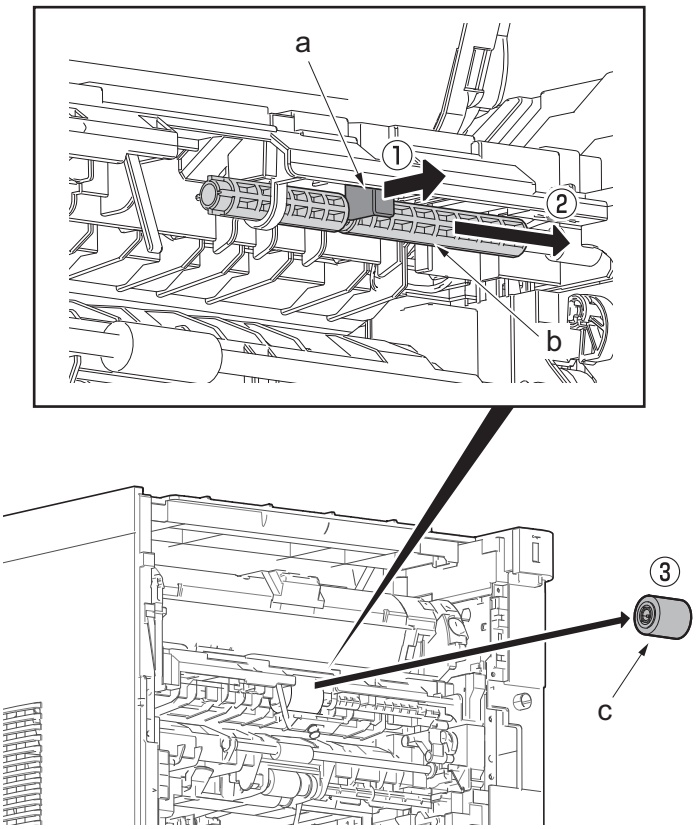


Figure 4-10

*: When attaching the paper feed pulley, locate it so that the cross notch lies at the right side viewed from front.

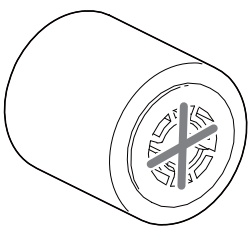


Figure 4-11

(2) Developer section

(2-1)Detaching and reattaching the developer unit

Procedures

1. Open the front cover (a).
2. Push down the developer release lever (b).

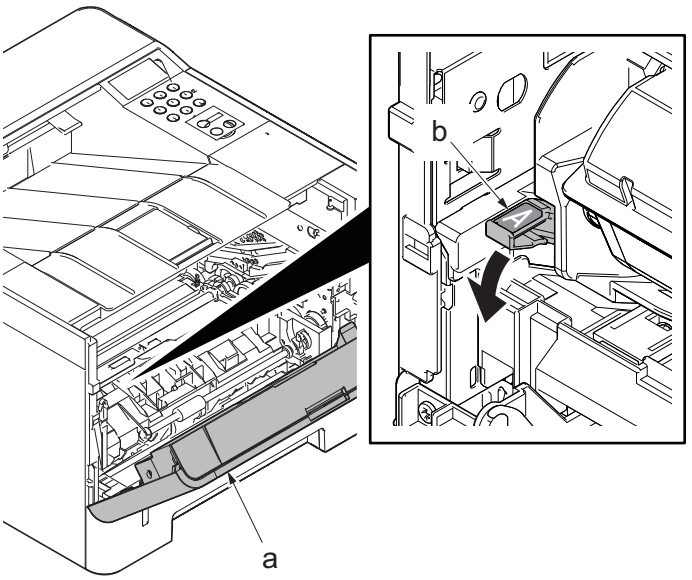


Figure 4-12

3. Detach the developer unit (a).
4. Check or replace the developer unit (a), and then reattach the parts which are detached in the original position.

Attention:
Execute the following maintenance modes when replacing the maintenance kit.

(LCD model)
Executing "Maintenance" (See page 6-11)
Executing "Developer" (See page 6-12)

(LED model)
Installing the toner installation mode (See page 6-17)
Maintenance counter preset (See page 6-17)

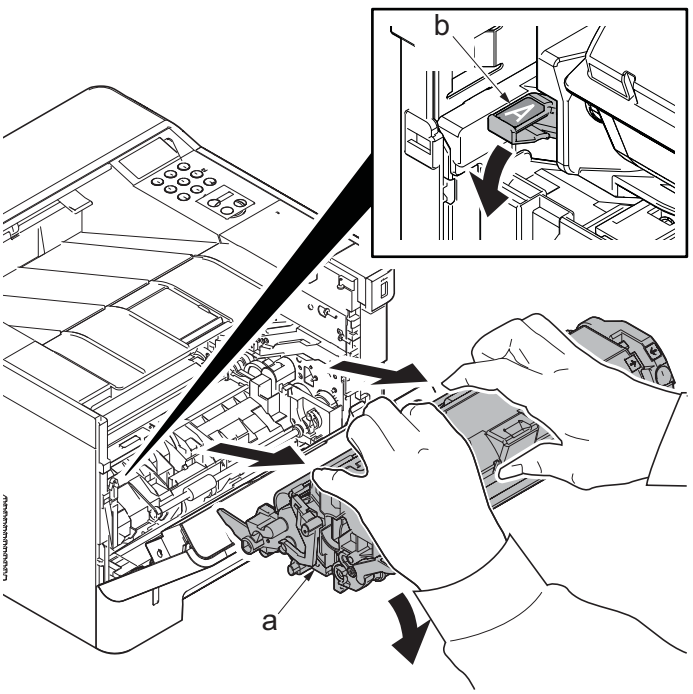


Figure 4-13

(3) Drum section

(3-1)Detaching and reattaching the drum unit

Procedures

1. Open the front cover (a).
2. Push down the developer release lever (b).

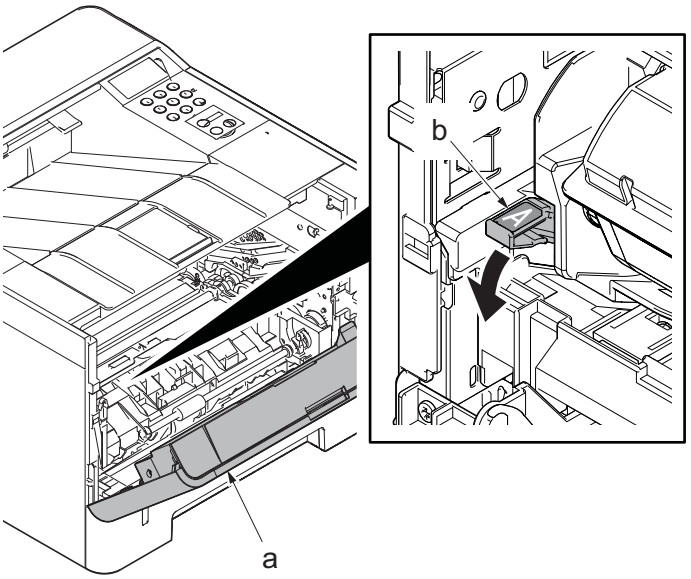


Figure 4-14

3. Detach the developer unit (a).

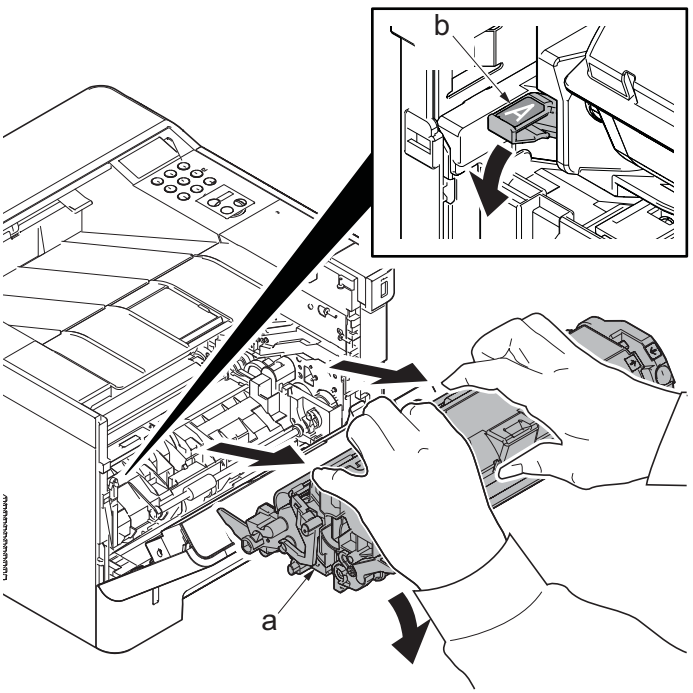


Figure 4-15

4. Detach the drum unit (a).
5. Check or replace the drum unit (a), and then reattach the parts which are detached in the original position.

Attention:
Execute the following maintenance modes when replacing the maintenance kit.

(LCD model)
Executing "Maintenance" (See page 6-11)

(LED model)
Maintenance counter preset
(See page 6-17)

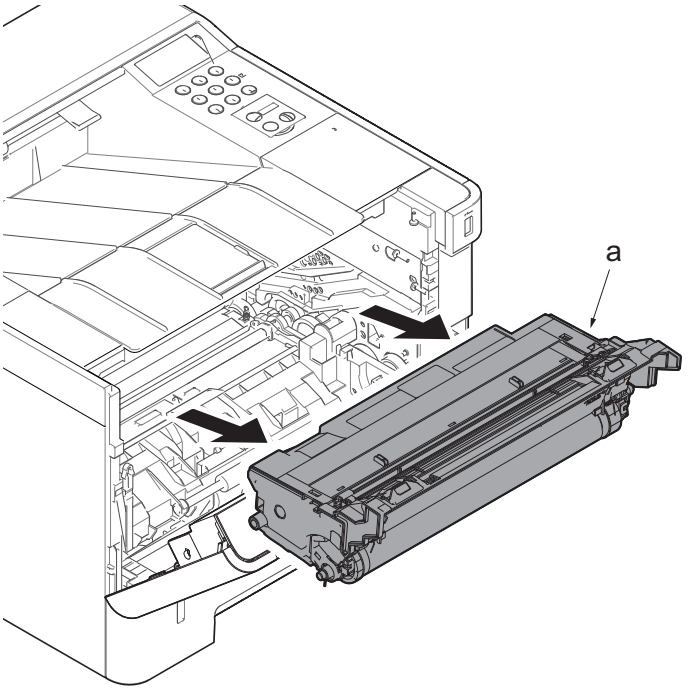


Figure 4-16

(3-2)Detaching and reattaching the main charger unit

Procedures

1. Remove the tape (b) from the drum unit (a).
2. Open the eraser cover (c)

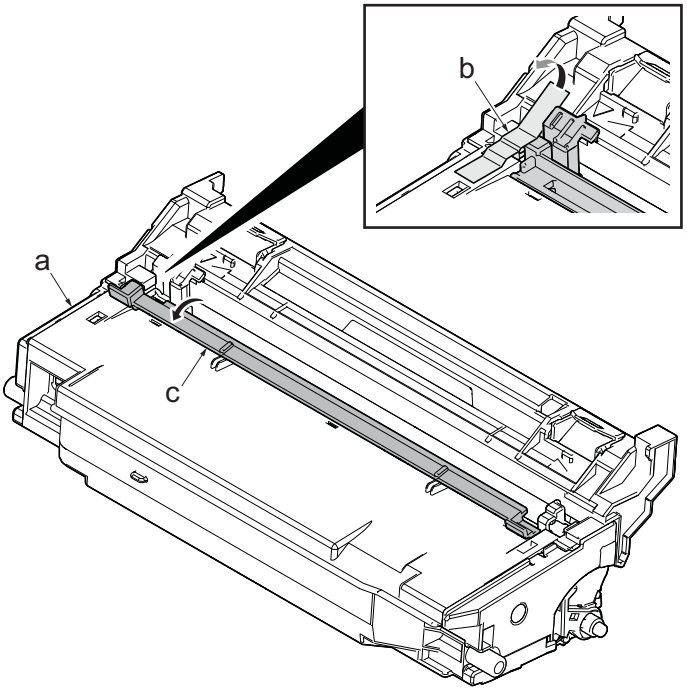


Figure 4-17

3. Push the edge (a) of the main charger unit and slide it.
4. Lift up the main charger unit (b) and detach it.
5. Check or replace the main charger unit (b), and then reattach the parts which are detached in the original position.

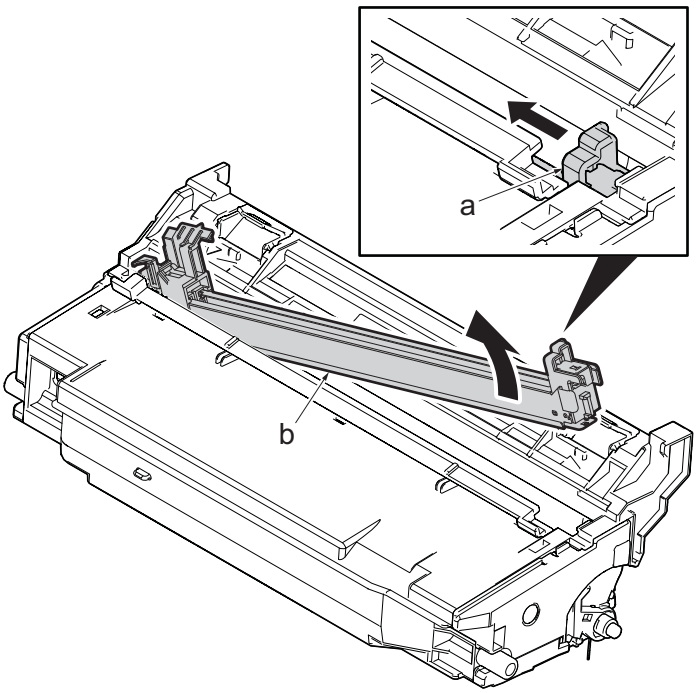


Figure 4-18

(4) Transfer section

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

Procedures

1. Open the front cover (a).
2. Push down the developer release lever (b).

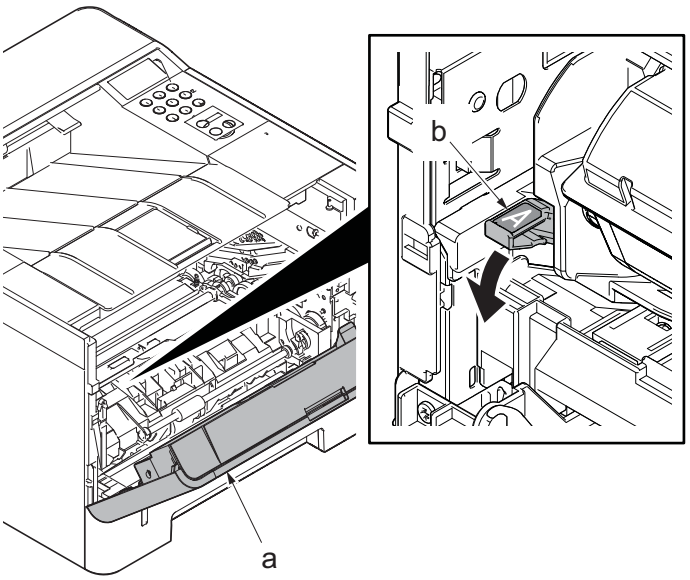


Figure 4-19

3. Detach the developer unit (a).

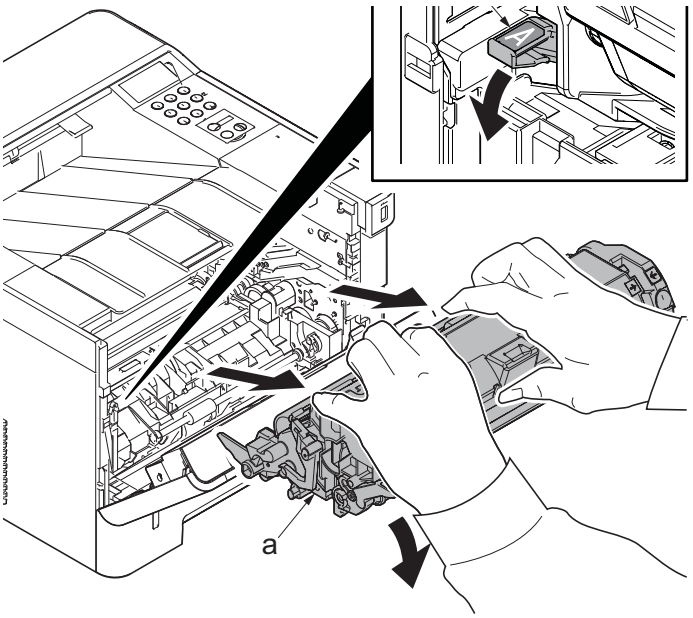


Figure 4-20

4. Detach the drum unit (a).

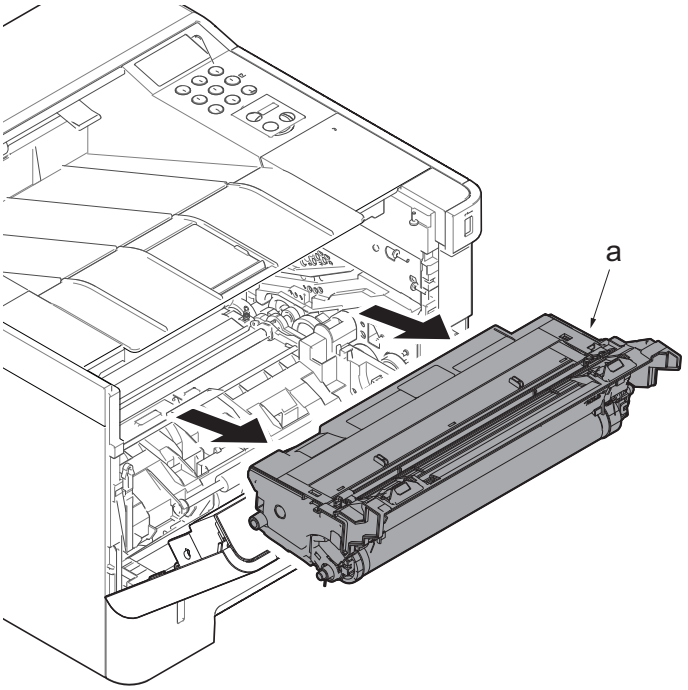


Figure 4-21

5. Slide the transfer front guide (b) while pressing the release lever (a) and release the hook (c).
6. Remove the transfer front guide (b).

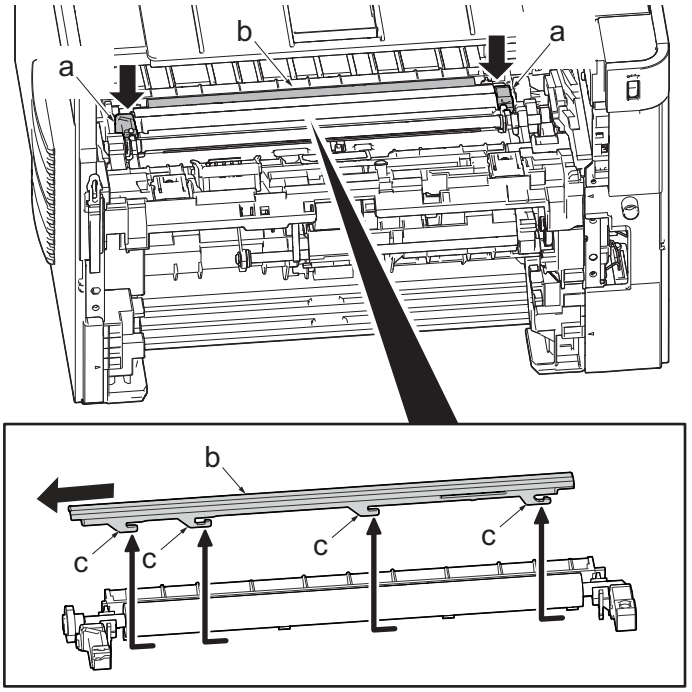


Figure 4-22

7. Remove the shaft (b) of transfer roller (a) from two transfer bushings (c).
8. Remove the gear Z17 (d) from the transfer roller (a).
9. Check or replace the transfer roller (a), and then reattach the parts which are detached in the original position.

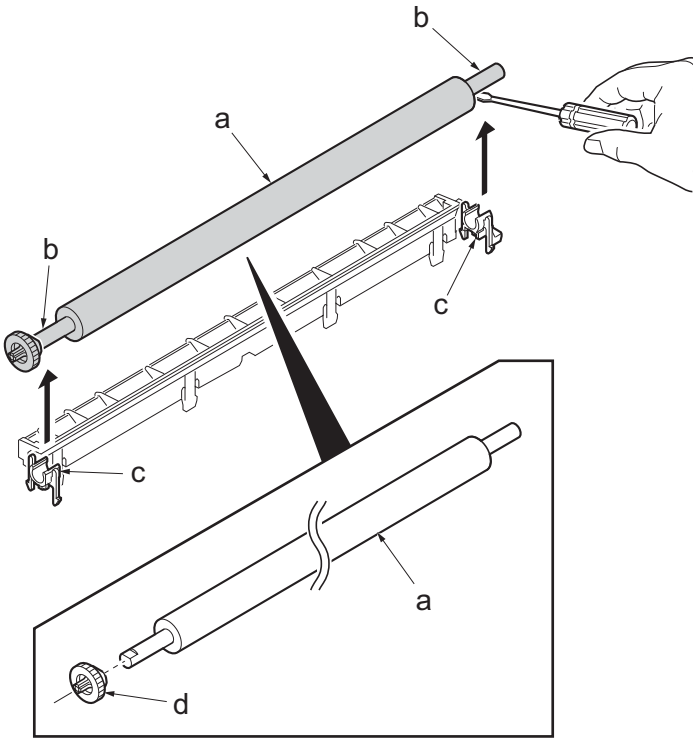


Figure 4-23

(5) Fuser section

(5-1)Detaching and reattaching the fuser unit

Procedures

1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:
The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

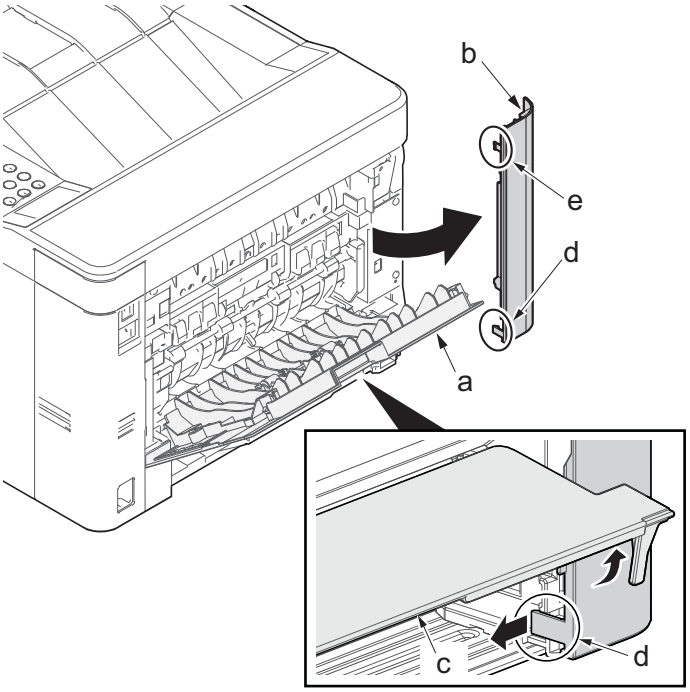


Figure 4-24

5. Open the rear cover (a) to align it to the position of the shaft (b) and detach it from the fulcrum (c) in the direction of the arrow.

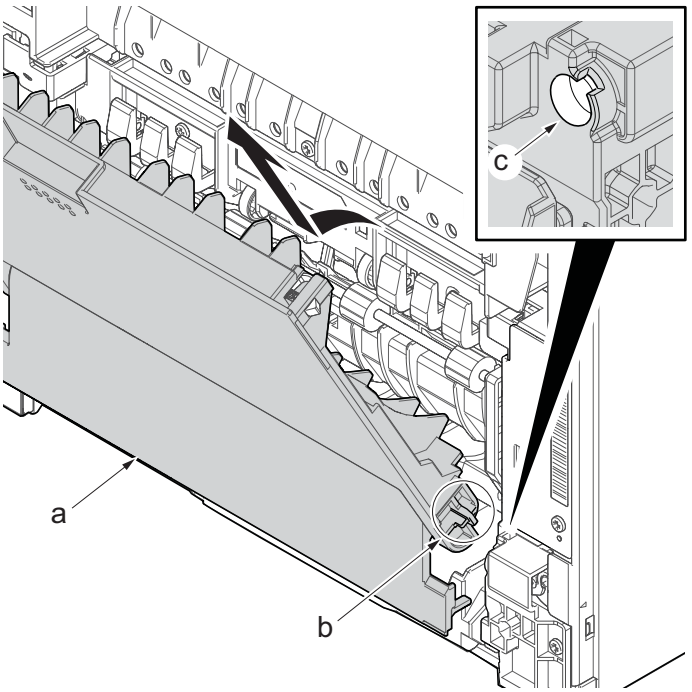


Figure 4-25

6. Detach the right rear cover (a) while twisting it.

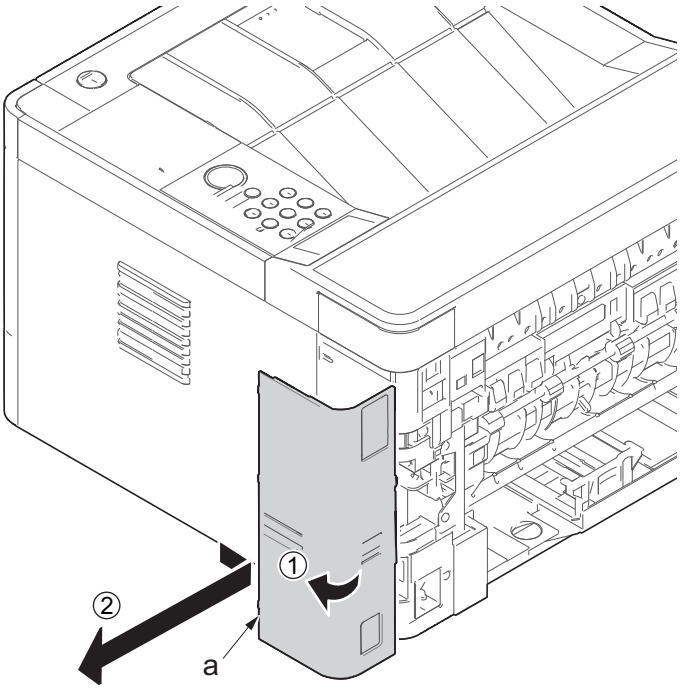


Figure 4-26

7. Remove two screws (M3x8P tight)(a) and detach the fuser wire cover (b).

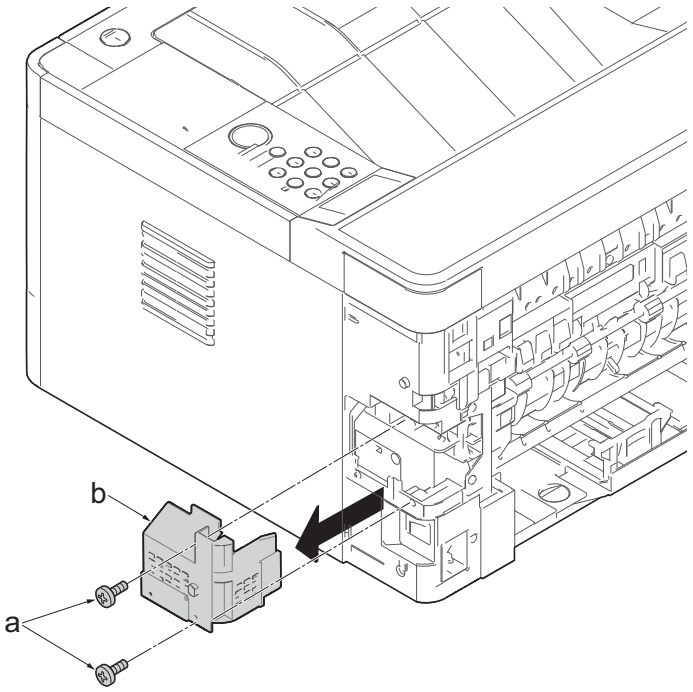


Figure 4-27

8. Disconnect the connector (a) from the low voltage power source PWB.
9. Disconnect the connector (b) from the main/ engine PWB.

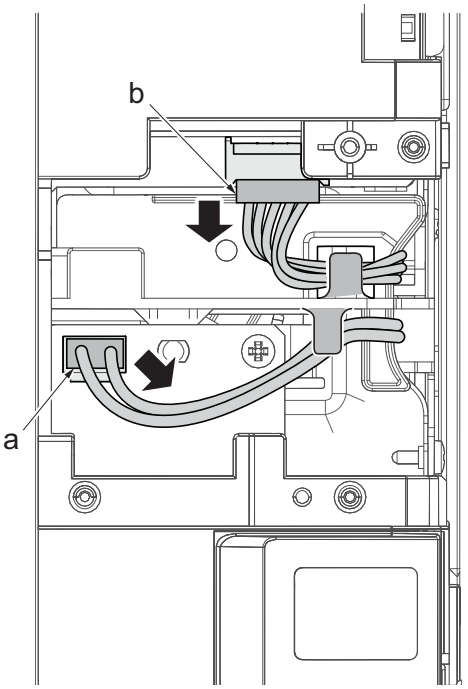


Figure 4-28

10. Remove four screws (M3×8S tight)(a).

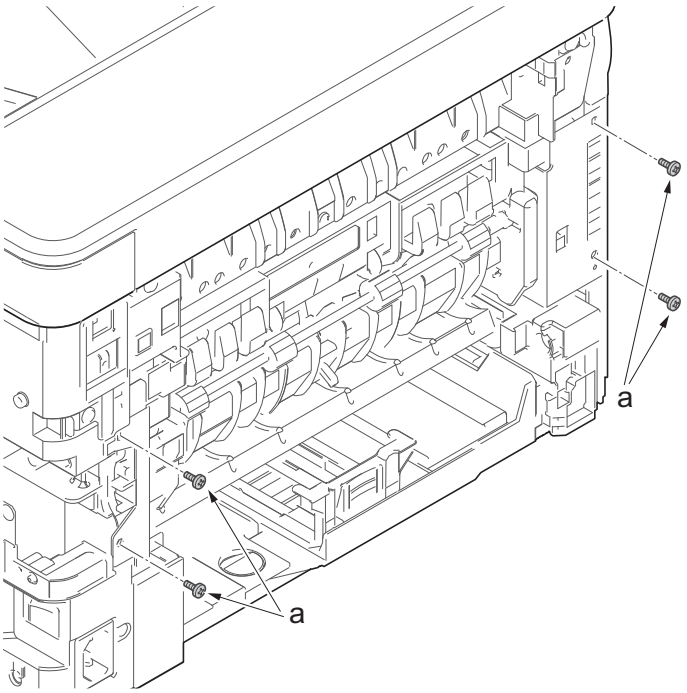


Figure 4-29

11. Pull out the fuser unit (a) while holding the both ends of it.
12. Check or replace the fuser unit (a), and then reattach the parts which are detached in the original position.

Attention:
When detaching and reattaching, pay attention not to burn by touching the hot section.

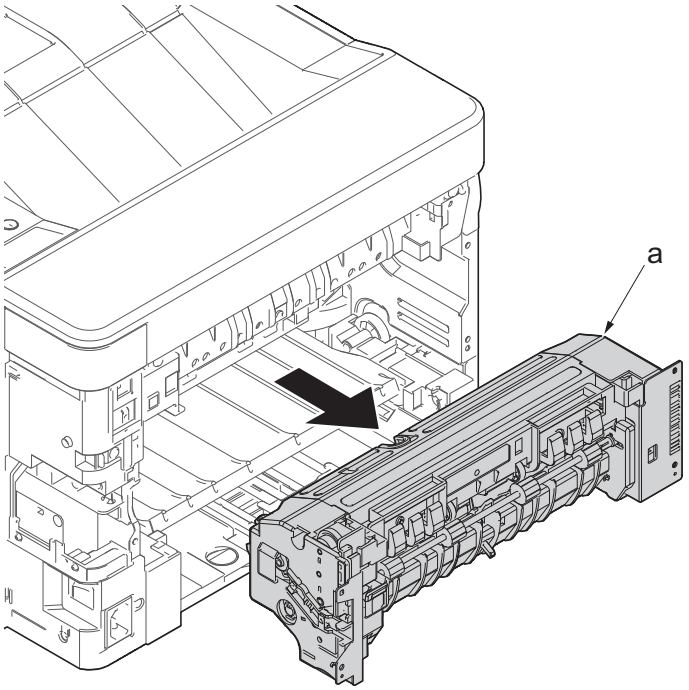


Figure 4-30

4-4Disassembly and Reassembly

(1) Outer covers

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

Procedures

1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:

The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

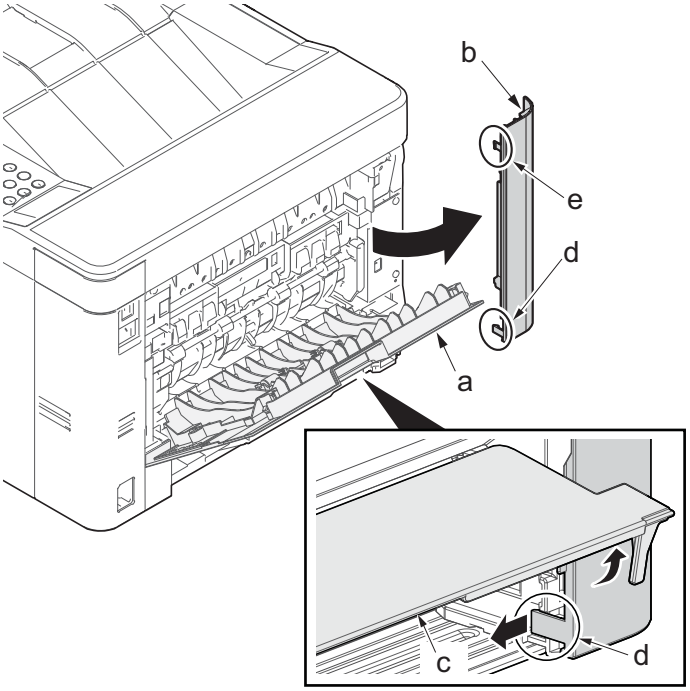


Figure 4-31

(1-2)Detaching and reattaching the upper rear cover

Procedures

1. Detach the right rear cover (a) while twisting it.
2. Remove the screw(M3×10TP)(b).
3. Release the protrusion (e) by using a flat-blade screwdriver (d).
4. Detach the Wi-Fi cover(c).

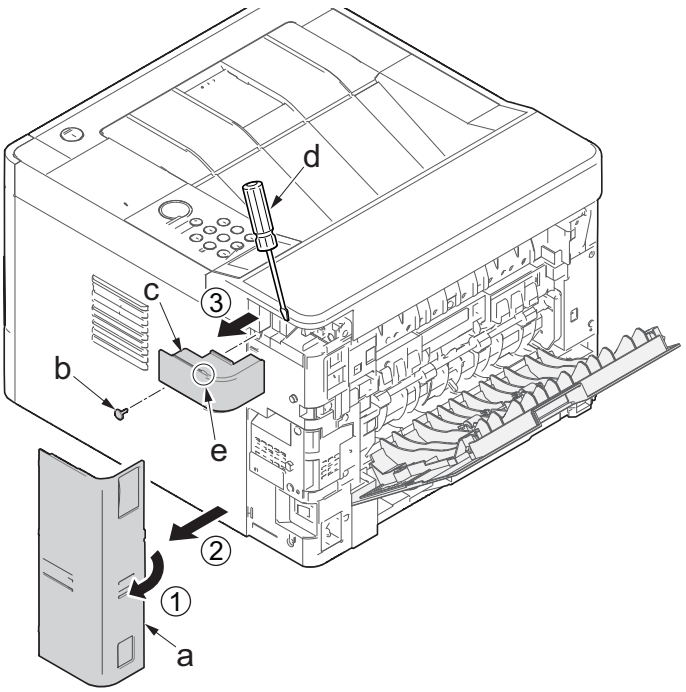


Figure 4-32

5. Remove two screws(M3×10TP)(a).
6. Release two hooks (b) of the upper rear cover(c) and detach it.

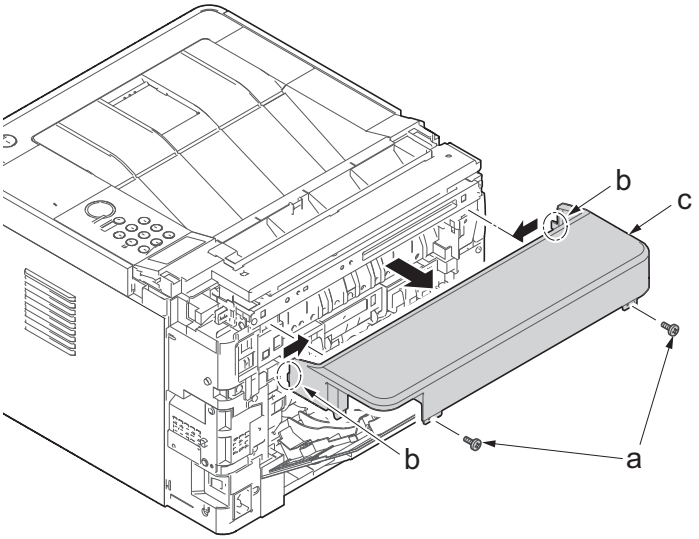


Figure 4-33

(1-3)Detaching and reattaching the left cover

Procedures

1. Pull out the cassette
2. Open the front cover (a).
3. Release four hooks (b) at the front side of the left cover(a).

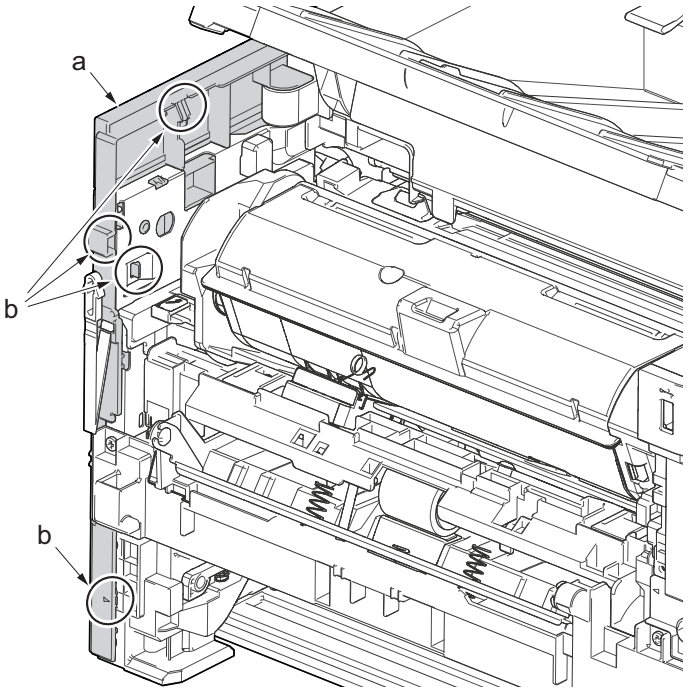


Figure 4-34

4. Release two hooks (b) at the rear side of the left cover (a).
5. While tilting the left cover (a), detach it in the direction of the arrow.

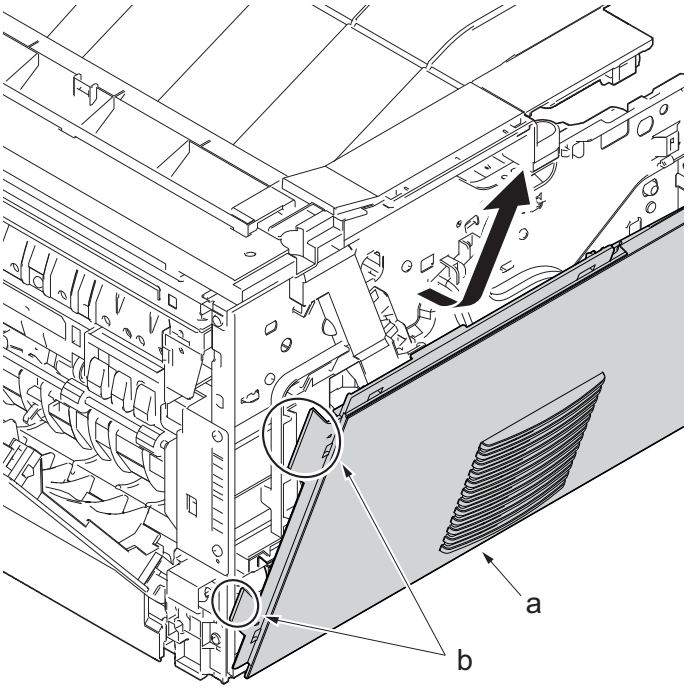


Figure 4-35

(1-4)Detaching and reattaching the right cover

Procedures

1. Twist three hooks (b) at the rear side of the right cover (a) to detach it.
2. Release two hooks by using a flat-head screwdriver (c).

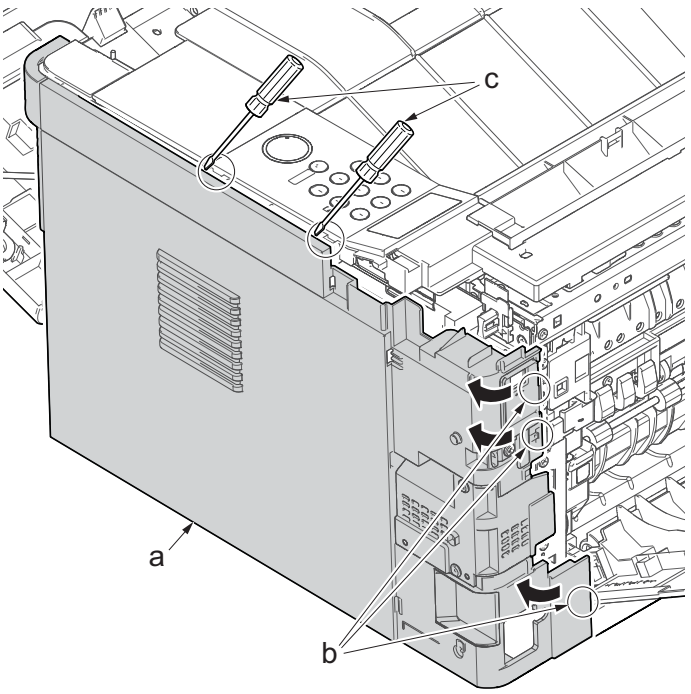


Figure 4-36

3. Release three hooks by using a flat-head screwdriver (d).
4. Twist two hooks (c) at the front side of the right cover (b) to release them and detach the right cover (b).

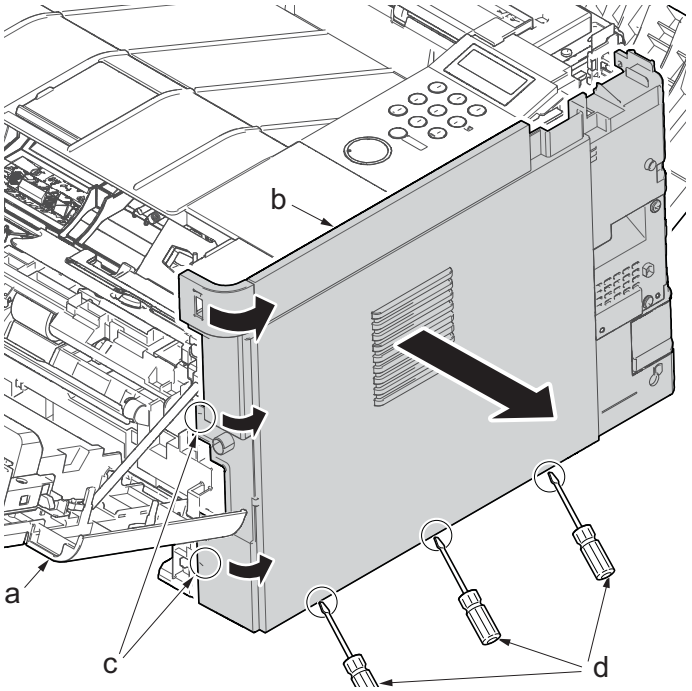


Figure 4-37

(1-5)Detaching and reattaching the front cover

Procedures

1. Open the front cover (a) and detach the strap by using pliers.
2. Remove the stop ring (c).

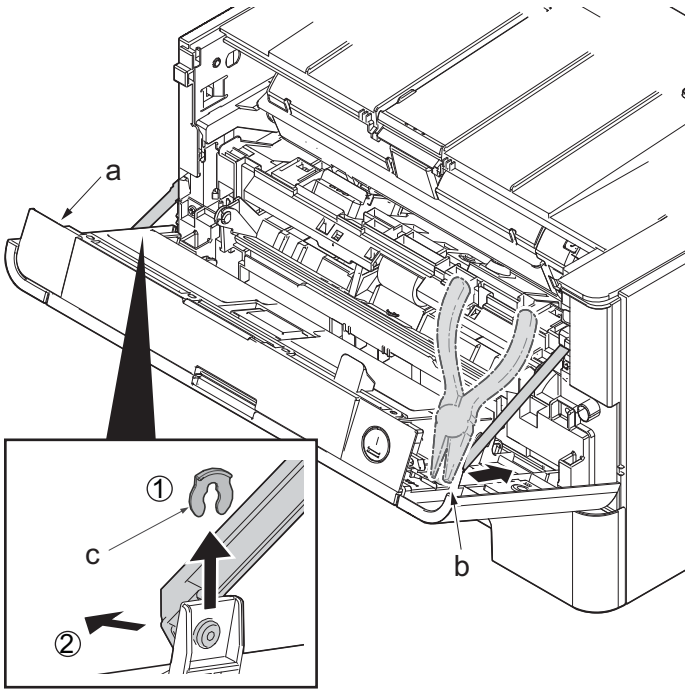


Figure 4-38

3. Open the front cover (a) to the bottom and detach the left side of cover fulcrum from the fulcrum shaft (b).
4. Release the right side of fulcrum portion and detach the front cover (a).

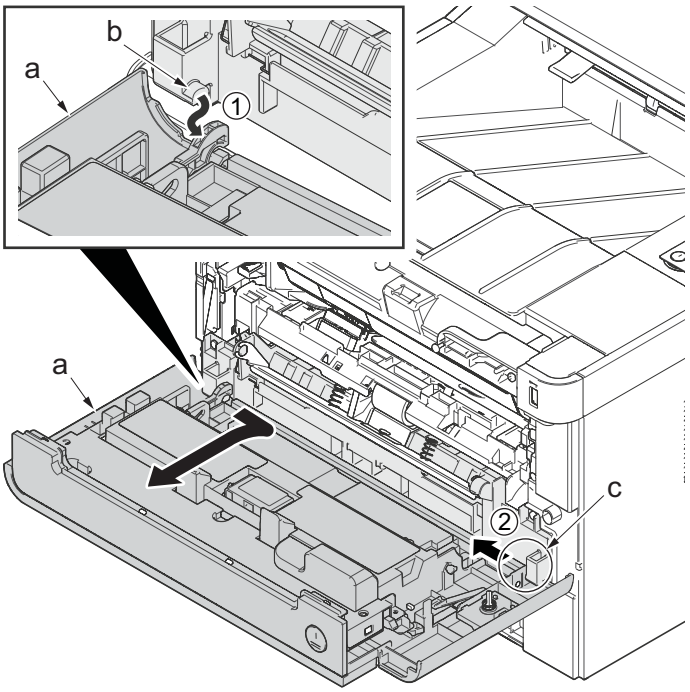


Figure 4-39

(1-6)Detaching and reattaching the rear cover

Procedures

1. Open the rear cover (a) to align it to the position of the shaft (b) and detach it from the fulcrum (c) in the direction of the arrow.

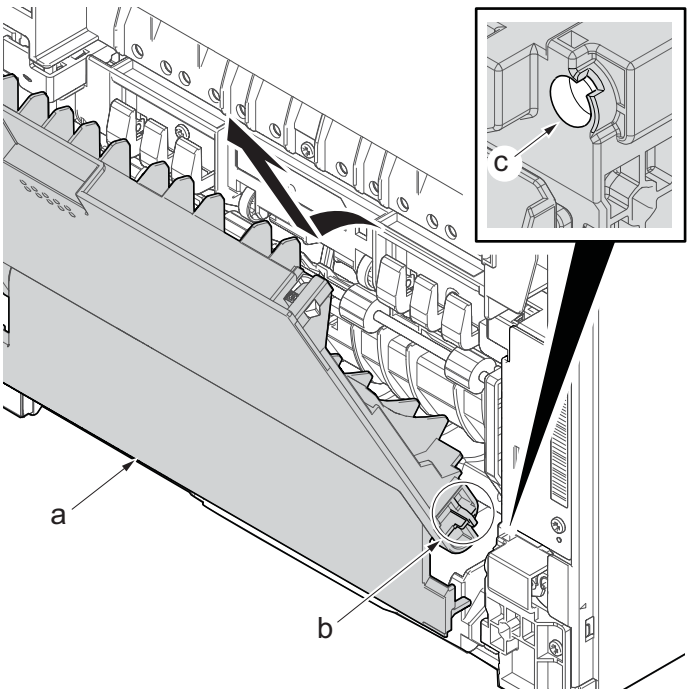


Figure 4-40

(2) Optical section

(2-1)Detaching and reattaching the laser scanner unit (LSU).

Procedures

1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:

The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

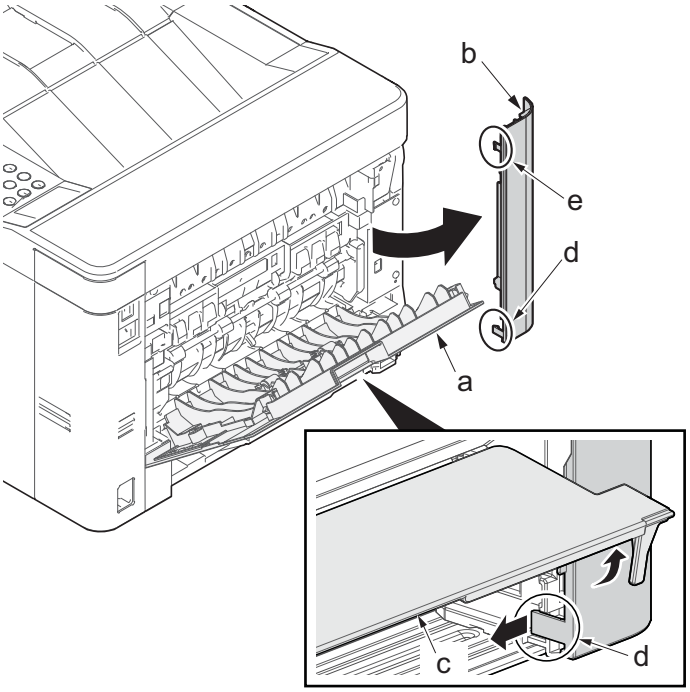


Figure 4-41

5. Detach the right rear cover (a) while twisting it.
6. Remove the screw(M3×10TP)(b).
7. Release the protrusion (e) by using a flat-blade screwdriver (d).
8. Detach the Wi-Fi cover(c).

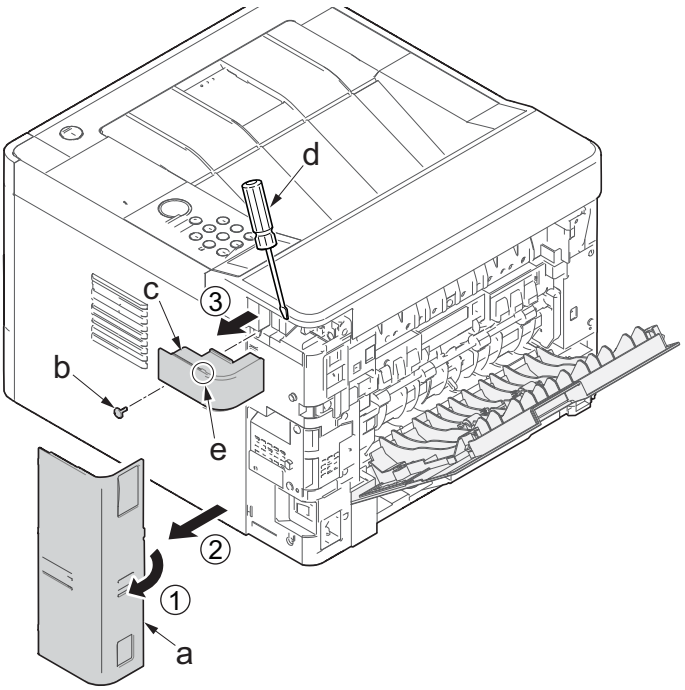


Figure 4-42

9. Remove two screws(M3×10TP)(a).
10. Release two hooks (b) of the upper rear cover(c) and detach it.

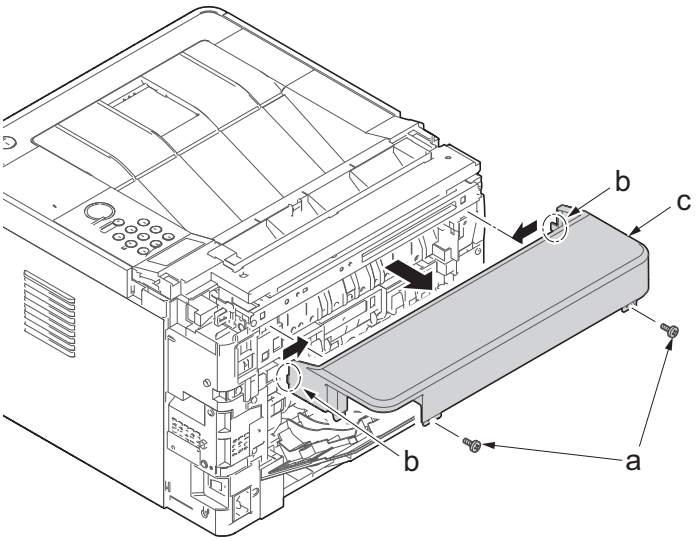


Figure 4-43

1. Pull out the cassette
2. Open the front cover (a).
3. Release four hooks (b) at the front side of the left cover(a).

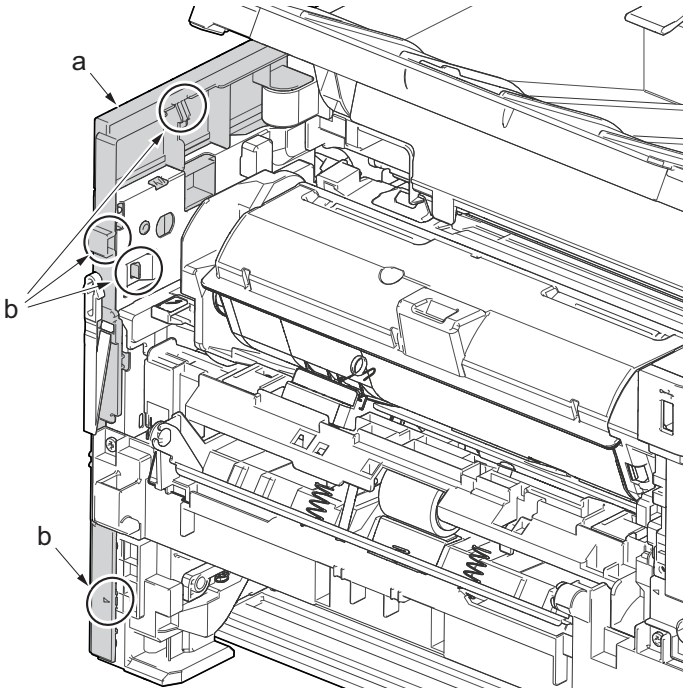


Figure 4-44

4. Release two hooks (b) at the rear side of the left cover (a).
5. While tilting the left cover (a), detach it in the direction of the arrow.

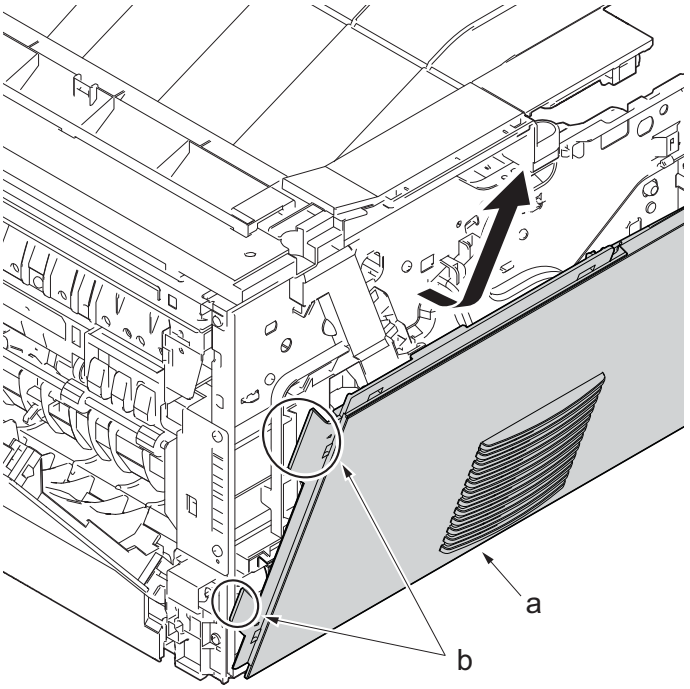


Figure 4-45

6. Twist three hooks (b) at the rear side of the right cover (a) to detach it.
7. Release two hooks by using a flat-head screwdriver (c).

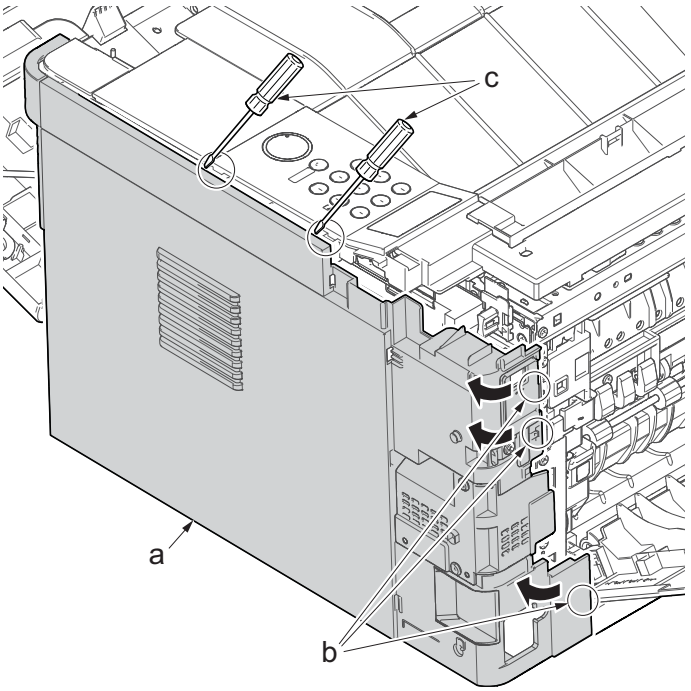


Figure 4-46

8. Release three hooks by using a flat-head screwdriver (d).
9. Twist two hooks (c) at the front side of the right cover (b) to release them and detach the right cover (b).

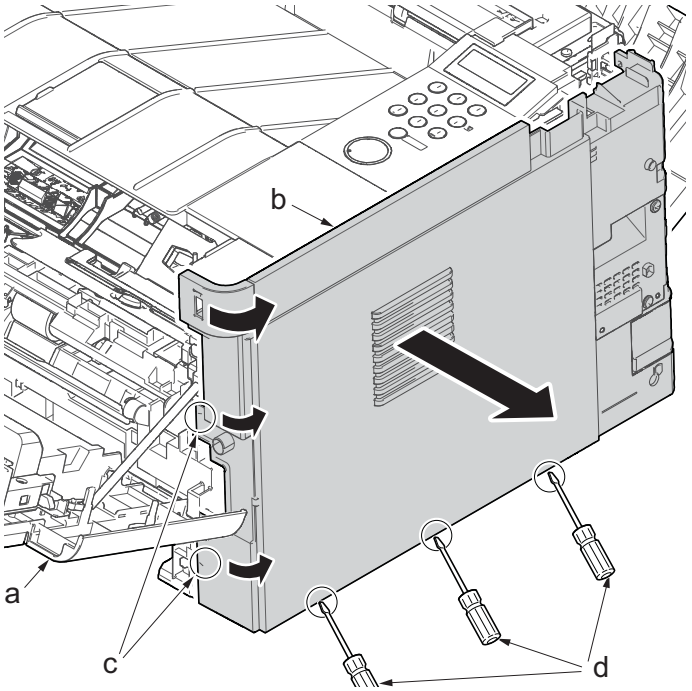


Figure 4-47

10. Push down the developer release lever (b).
11. Detach the developer unit (a).

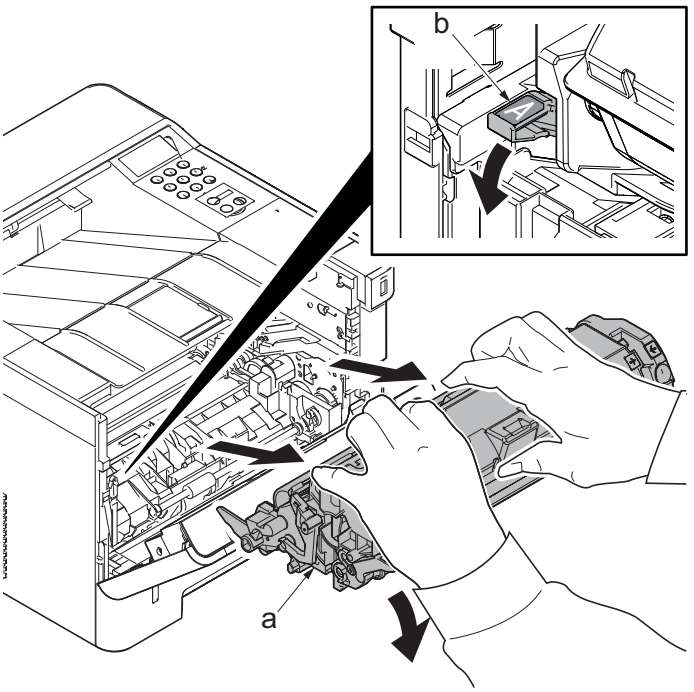


Figure 4-48

12. Open the top cover (a).
13. Remove the stop ring(b) and detach the upper cover rack (c) from the upper cover (a).

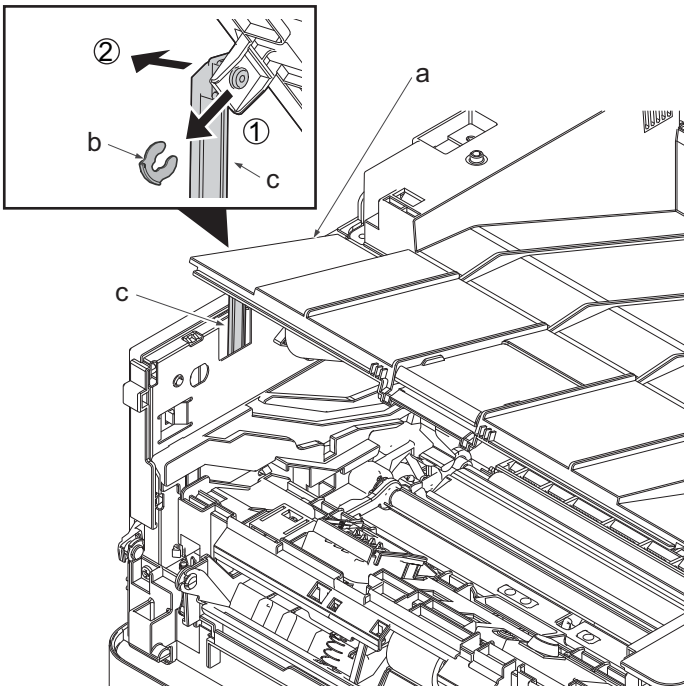


Figure 4-49

14. Open the top cover (a).
15. Remove the screws(M3x8S tight)(b), detach the right middle cover(c).

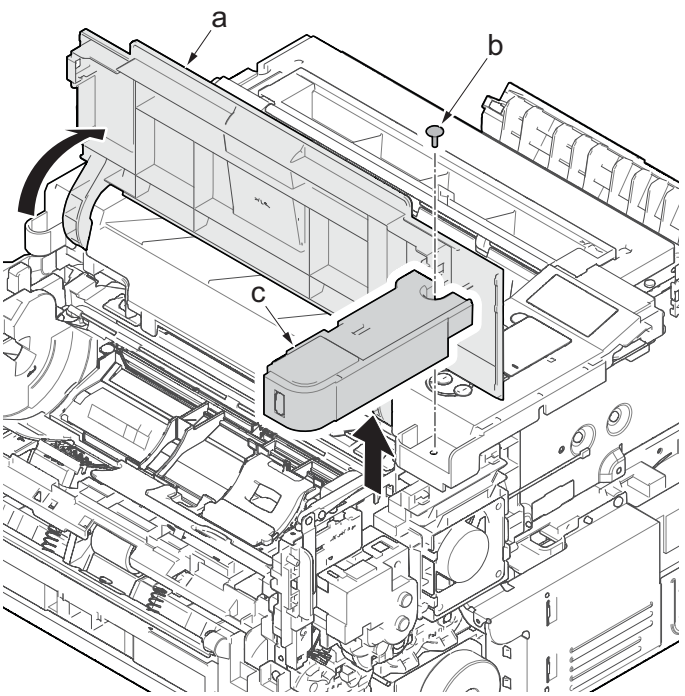


Figure 4-50

16. Remove two screws(M3×8TP)(a) and remove the eject tray(b).

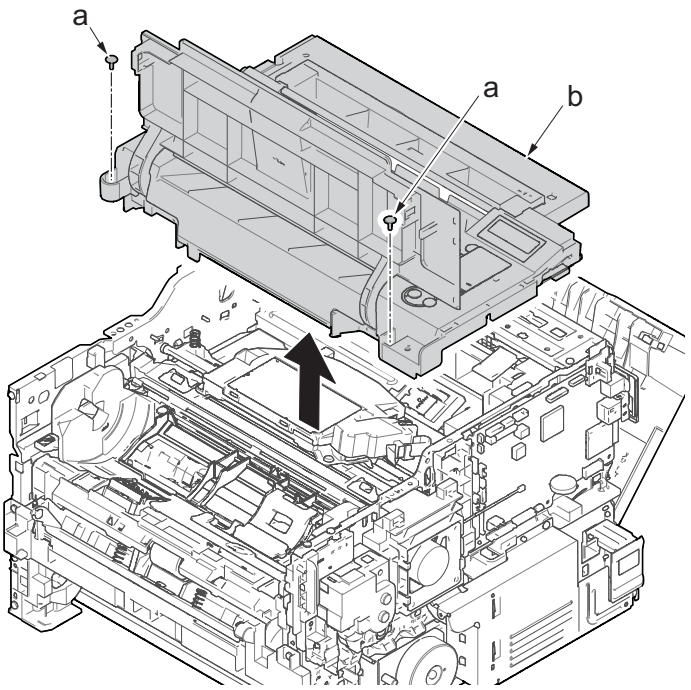


Figure 4-51

17. Disconnect the connector (b) and the FFC (c) from the main/engine PWB (a).
18. Detach the wire from the clamp (d).

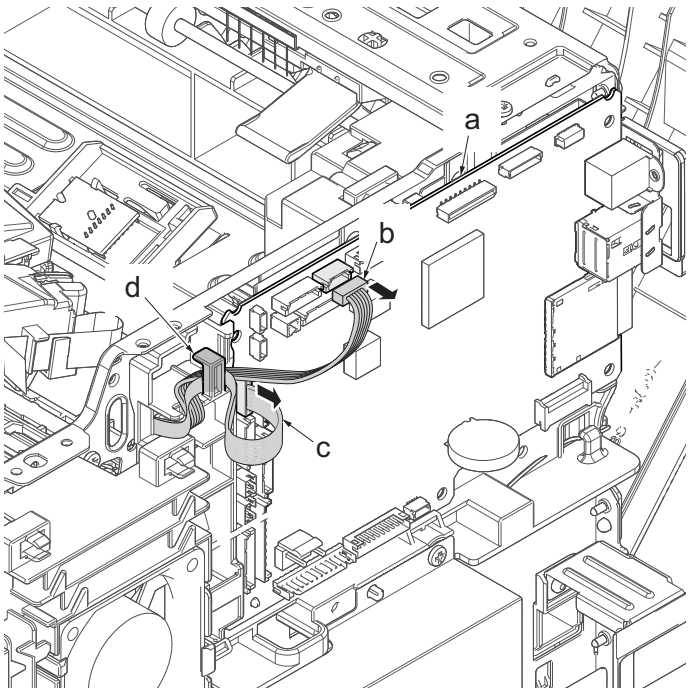


Figure 4-52

19. Remove four screws (M3×6TP)(b) from the laser scanner unit (a).
20. Check or replace the laser scanner unit (a), and then reattach the parts which are detached in the original position.

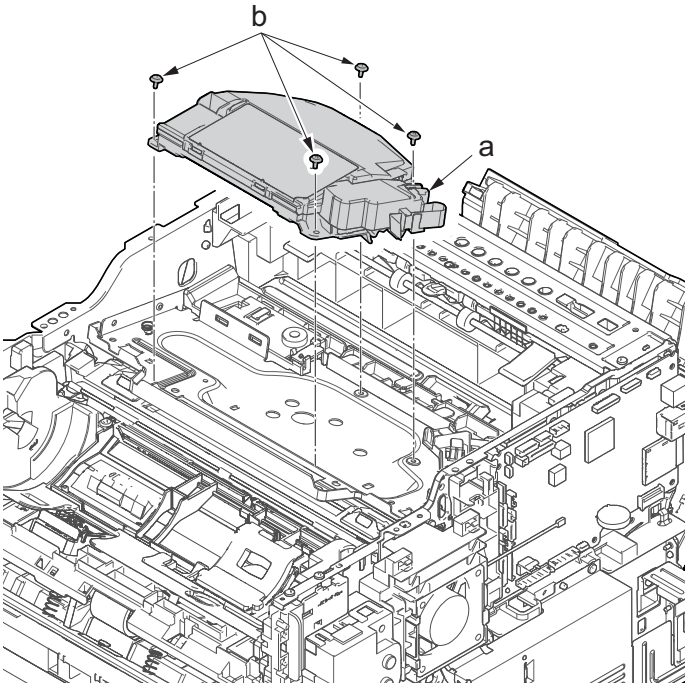


Figure 4-53

*: When securing the laser scanner unit with screws, execute it in the order of the figure to the right.

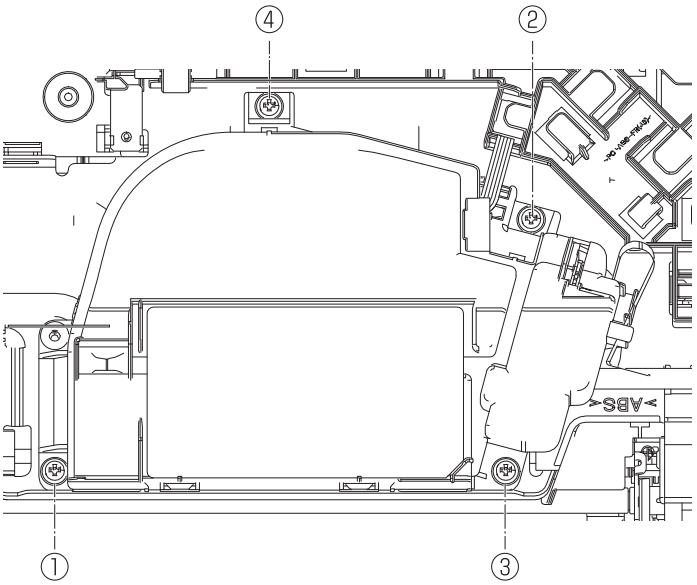


Figure 4-54

(3) Drive section

(3-1)Detaching and reattaching the main motor

Procedures

1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:

The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

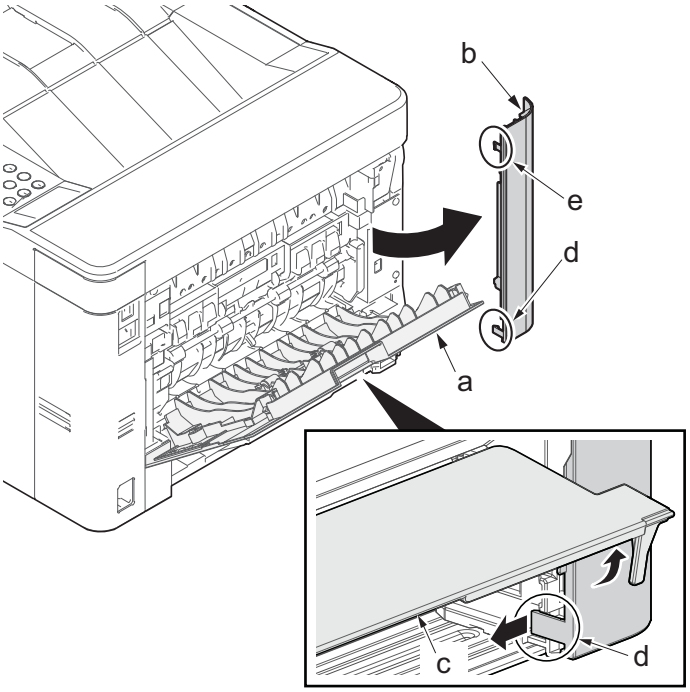


Figure 4-55

5. Detach the right rear cover (a) while twisting it.
6. Remove the screw(M3×10TP)(b).
7. Release the protrusion (e) by using a flat-blade screwdriver (d).
8. Detach the Wi-Fi cover(c).

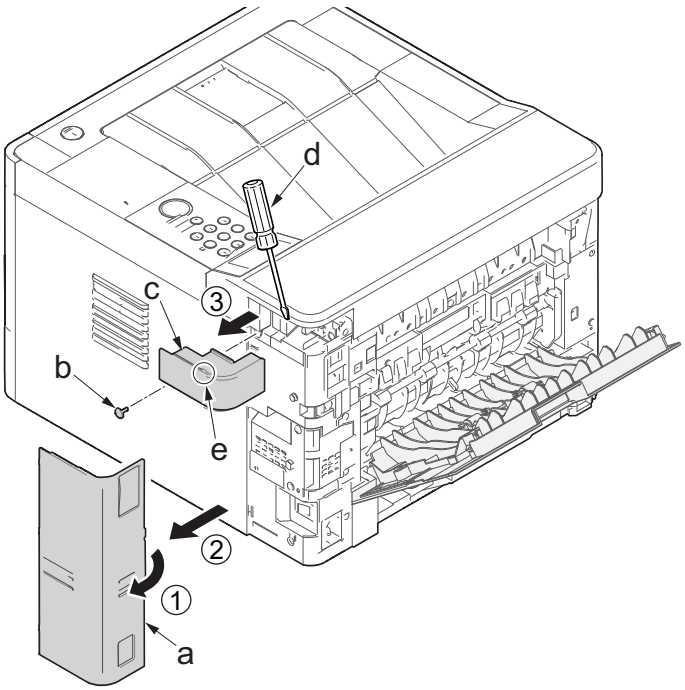


Figure 4-56

9. Remove two screws(M3×10TP)(a).
10. Release two hooks (b) of the upper rear cover(c) and detach it.

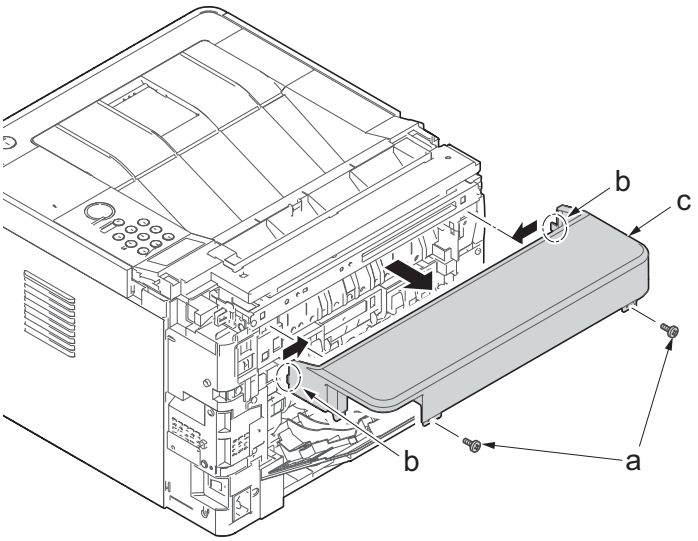


Figure 4-57

11. Pull out the cassette
12. Open the front cover (a).
13. Twist three hooks (b) at the rear side of the right cover (a) to detach it.
14. Release two hooks by using a flat-head screwdriver (c).

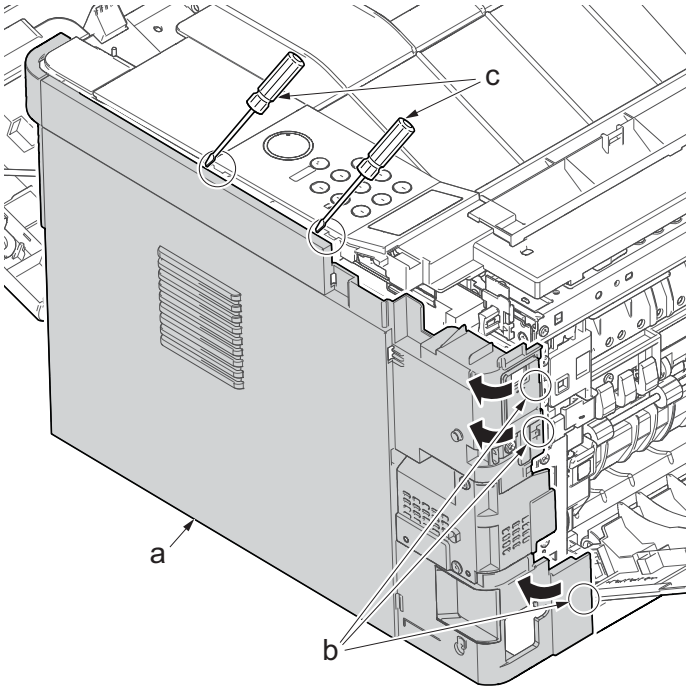


Figure 4-58

15. Release three hooks by using a flat-head screwdriver (d).
16. Twist two hooks (c) at the front side of the right cover (b) to release them and detach the right cover (b).

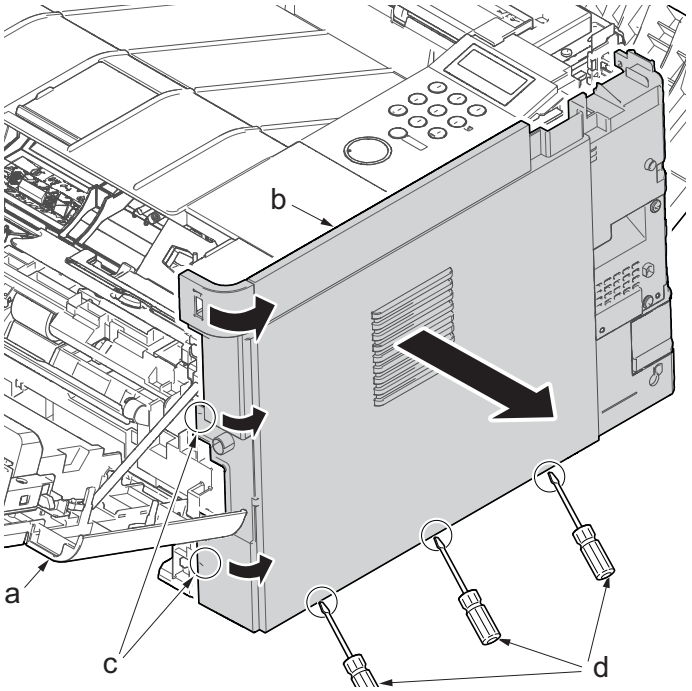


Figure 4-59

17. Remove three screws (M3×8Stight)(a) and the screw (M3×8Ptight)(b) securing the low voltage power source PWB cover (c).
18. Remove the low voltage power source PWB cover (c).

Attention: When detaching the low voltage power source PWB (c), the lower voltage power source PWB protection plate may fall.

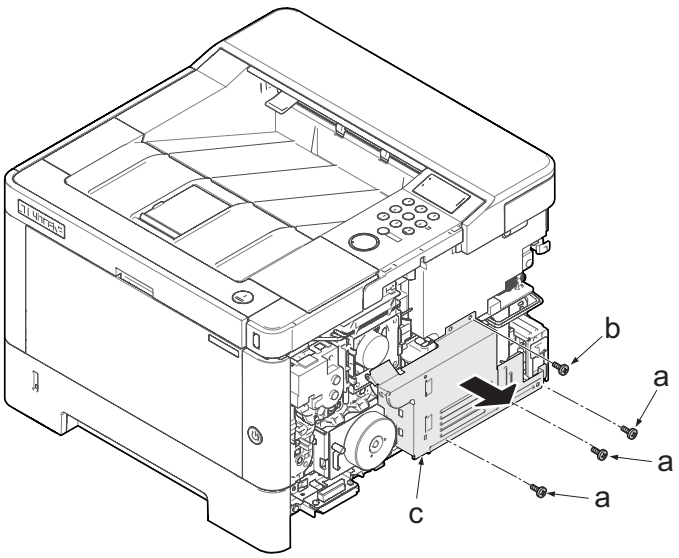


Figure 4-60

19. Disconnect the connector (a).
20. Remove three screws(M3×8S tight)(b), detach the main motor(c).
21. Check or replace the main motor(c), and then reattach the parts which are detached in the original position.

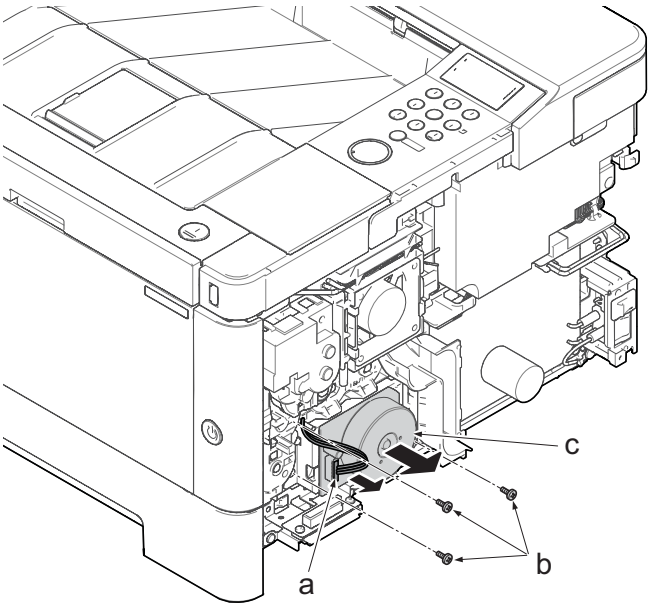


Figure 4-61

(3-2)Detaching and reattaching the fuser pressure release drive unit

Procedures

1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:
The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

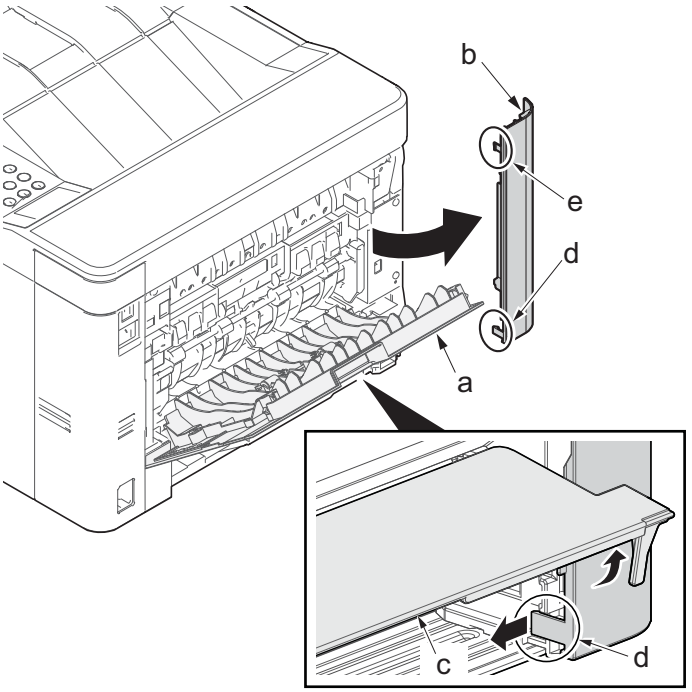


Figure 4-62

5. Detach the right rear cover (a) while twisting it.
6. Remove the screw(M3×10TP)(b).
7. Release the protrusion (e) by using a flat-blade screwdriver (d).
8. Detach the Wi-Fi cover(c).

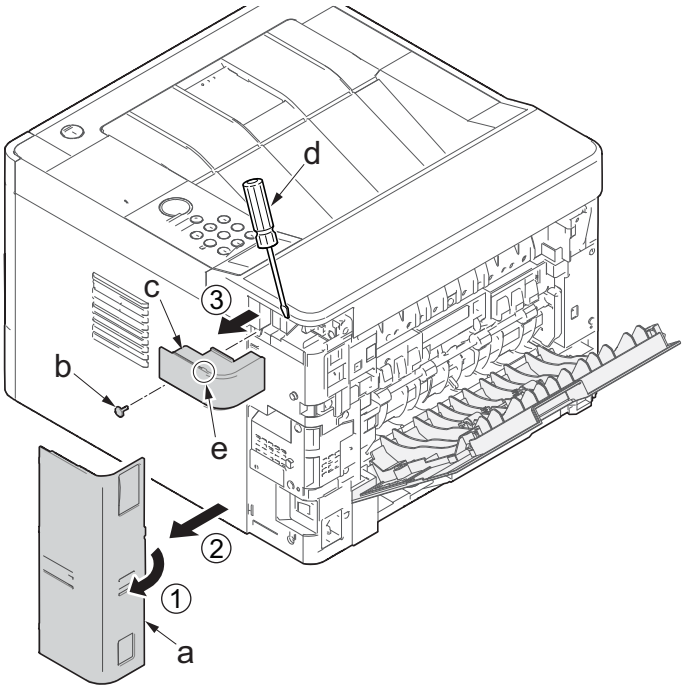


Figure 4-63

9. Remove two screws(M3×10TP)(a).
10. Release two hooks (b) of the upper rear cover(c) and detach it.

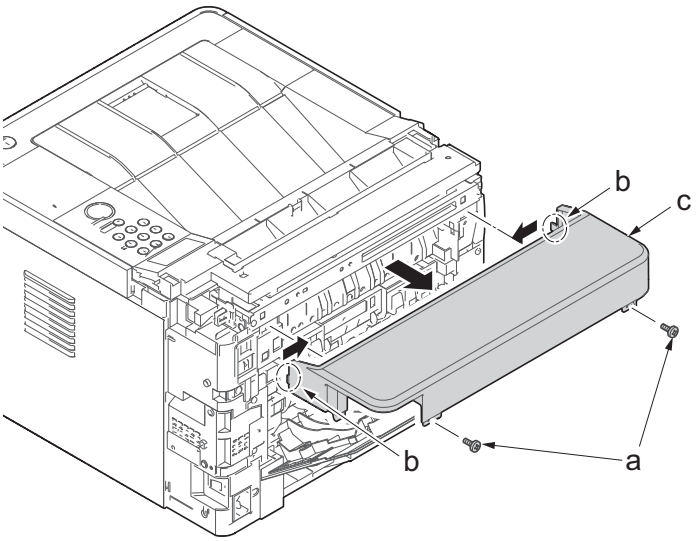


Figure 4-64

1. Pull out the cassette
2. Open the front cover (a).
3. Release four hooks (b) at the front side of the left cover(a).

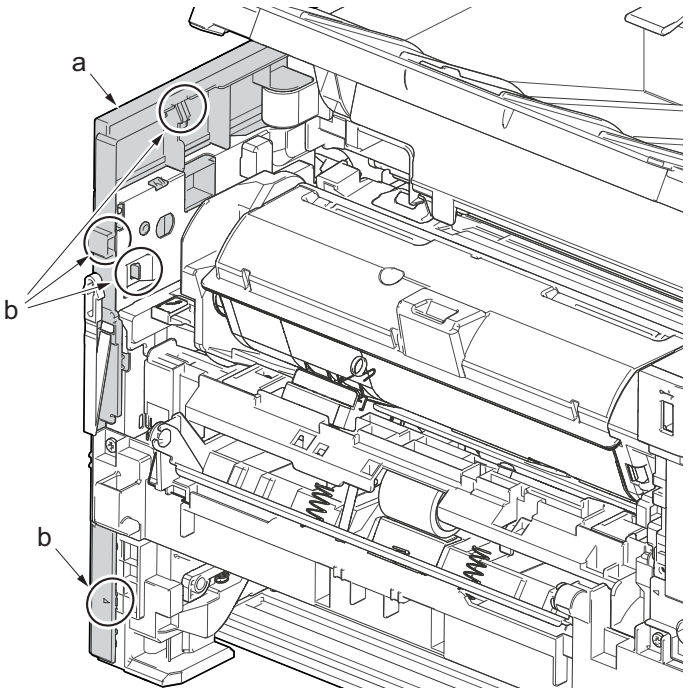


Figure 4-65

4. Release two hooks (b) at the rear side of the left cover (a).
5. While tilting the left cover (a), detach it in the direction of the arrow.

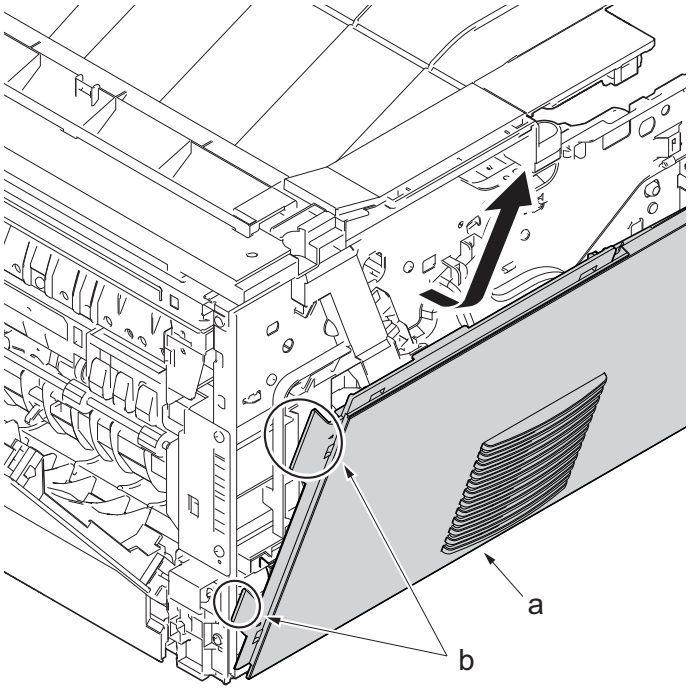


Figure 4-66

6. Disconnect the connector (a).

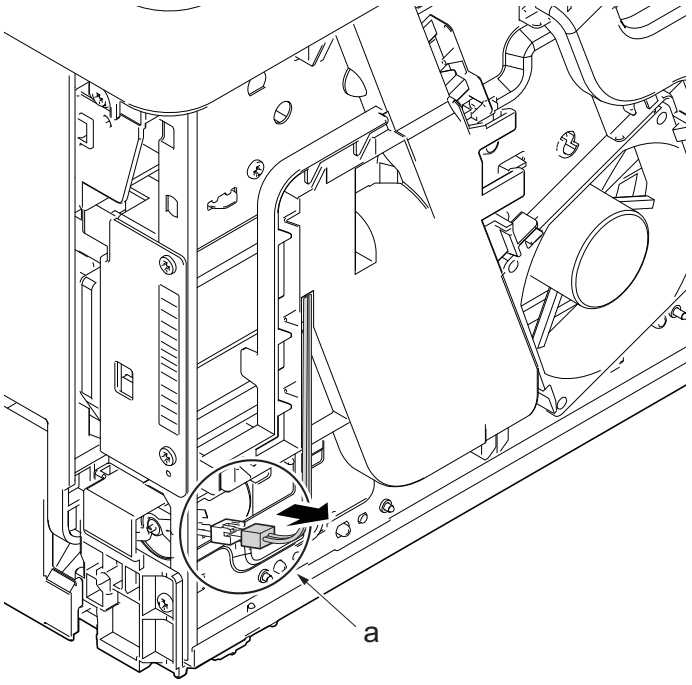


Figure 4-67

7. Open the front cover (a).
8. Push down the developer release lever (b).

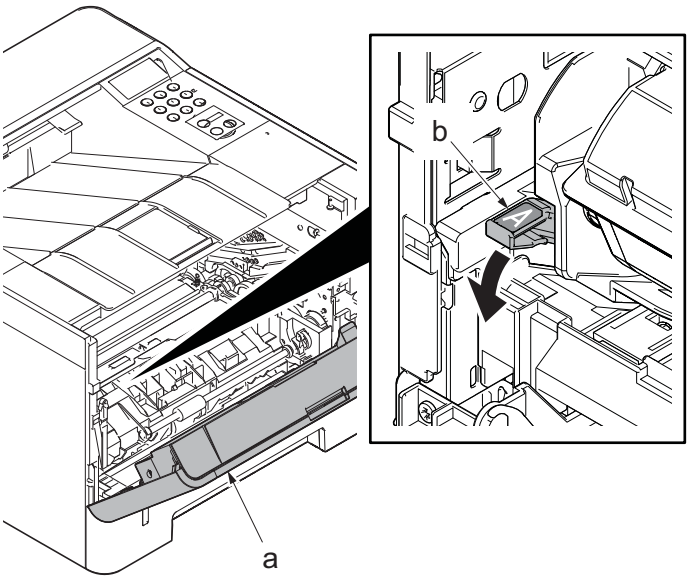


Figure 4-68

9. Detach the developer unit (a).

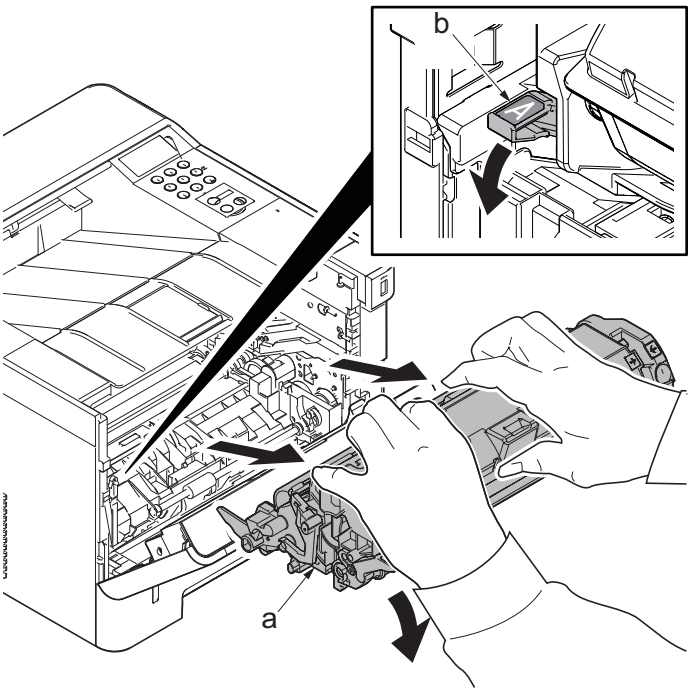


Figure 4-69

10. Detach the drum unit (a).

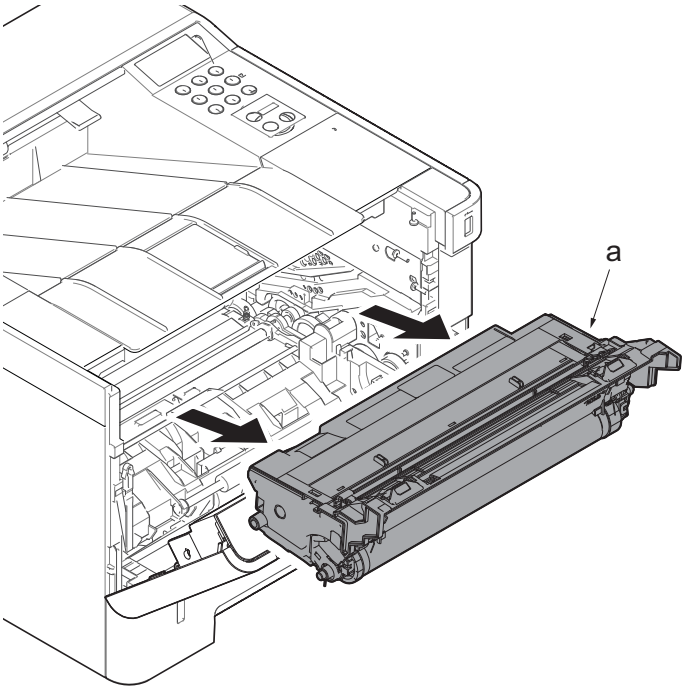


Figure 4-70

11. Stand the main unit so that you can see the bottom side.
12. Remove four screws(M3x8P tight)(a) and remove the front stay(b).

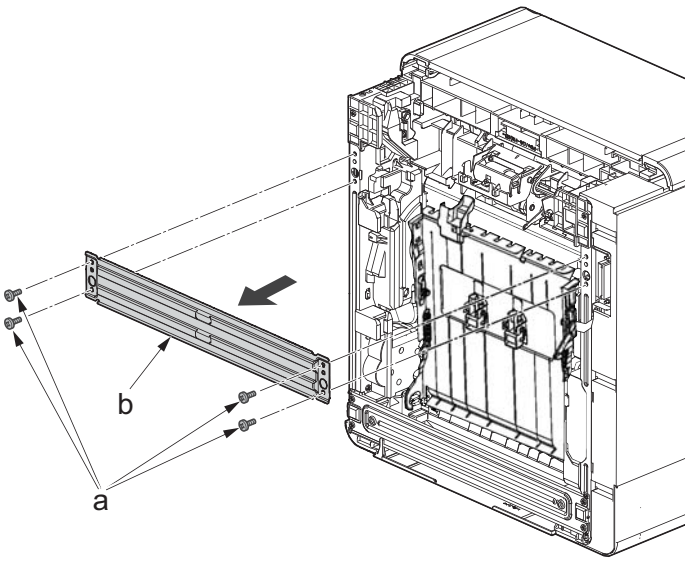


Figure 4-71

13. Tilt the DU assembly (a) and detach two stoppers(b) while pushing them inside.
14. Lift down the DU assembly(a) to the bottom and pull it toward you to detach it.

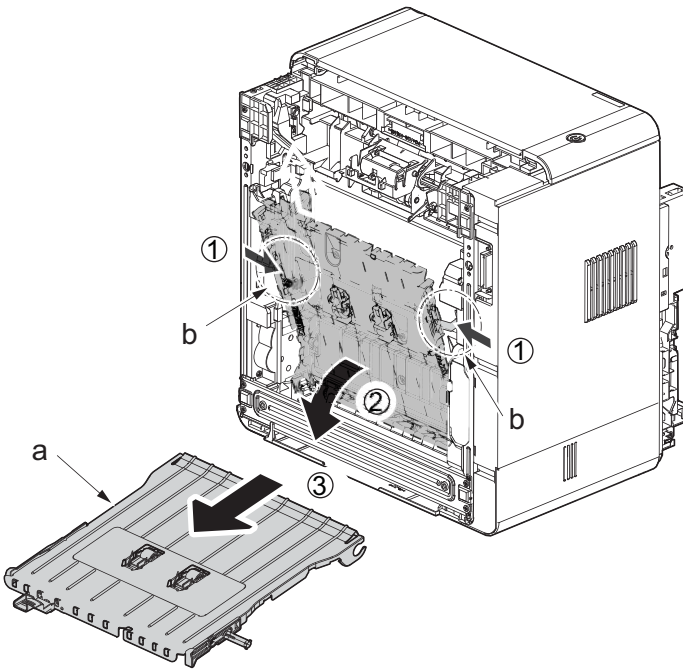


Figure 4-72

15. Remove two screws (a)(M3x8S tight).
16. Release the hook(b) and detach the fuser pressure release drive unit(c).
17. Check the fuser pressure release drive unit(c) and clean, or change it.
18. Reattach the parts in the original position.

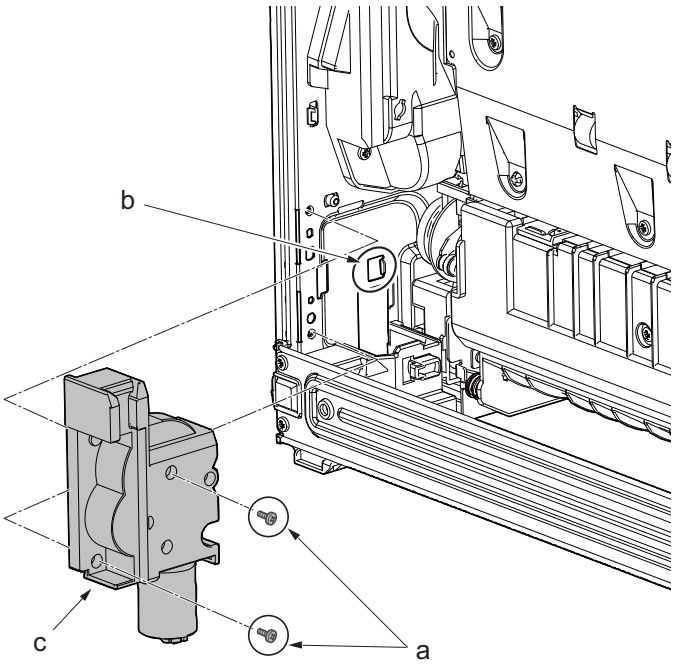


Figure 4-73

(3-3)Detaching and reattaching the MP solenoid (front side)

Procedures

1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:
The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

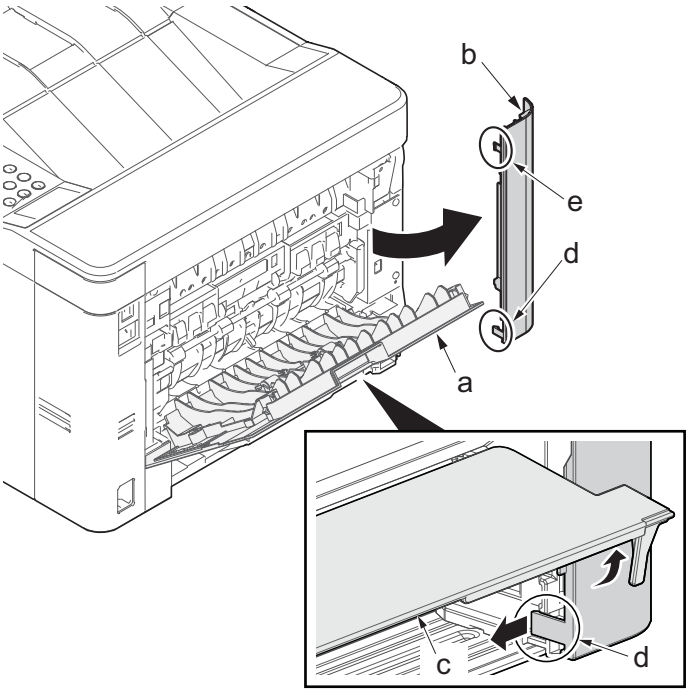


Figure 4-74

5. Detach the right rear cover (a) while twisting it.
6. Remove the screw(M3×10TP)(b).
7. Release the protrusion (e) by using a flat-blade screwdriver (d).
8. Detach the Wi-Fi cover(c).

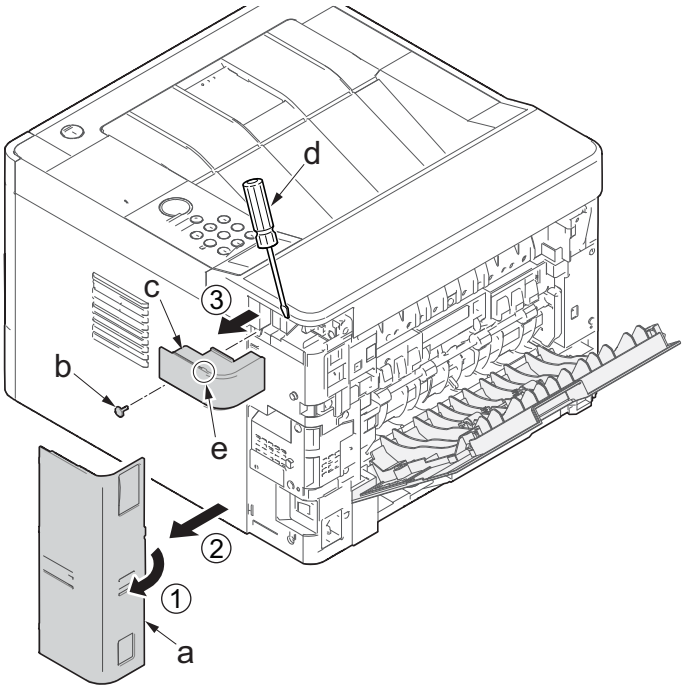


Figure 4-75

9. Remove two screws(M3×10TP)(a).
10. Release two hooks (b) of the upper rear cover(c) and detach it.

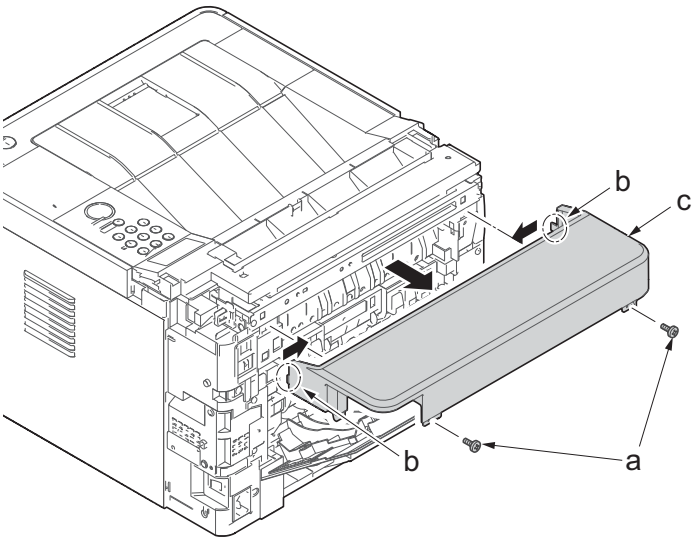


Figure 4-76

11. Pull out the cassette
12. Open the front cover (a).
13. Twist three hooks (b) at the rear side of the right cover (a) to detach it.
14. Release two hooks by using a flat-head screwdriver (c).

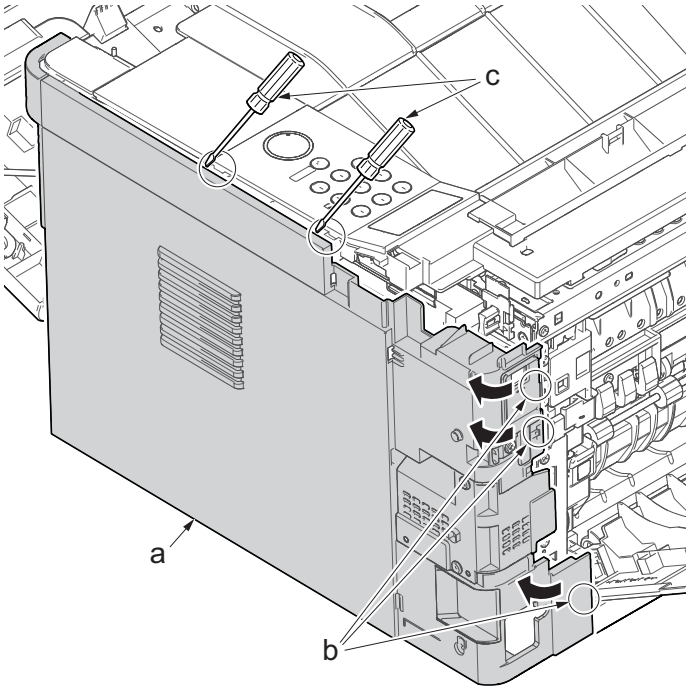


Figure 4-77

15. Release three hooks by using a flat-head screwdriver (d).
16. Twist two hooks (c) at the front side of the right cover (b) to release them and detach the right cover (b).

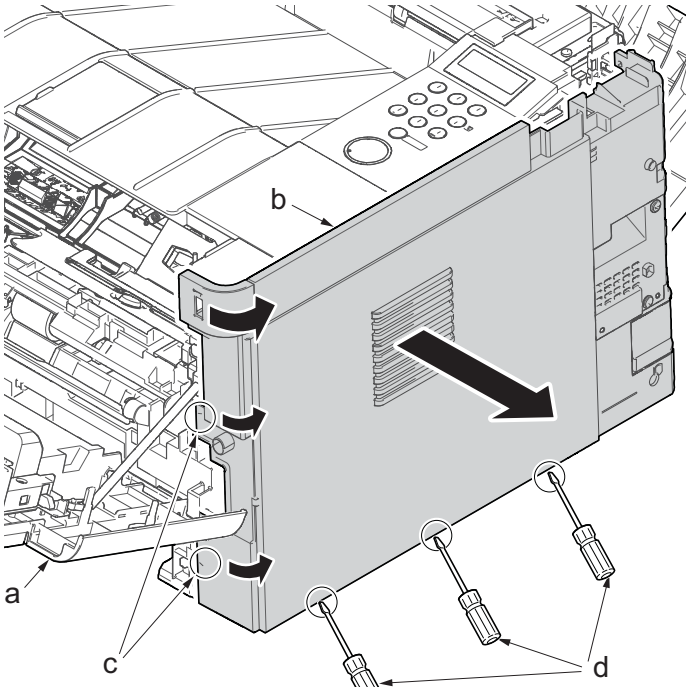


Figure 4-78

17. Disconnect the connector (a), and detach one screw (M3x8S tight)(b).
18. Detach the MP solenoid (c).
19. Check the MP solenoid (c), and clean or replace it.
20. Reattach the parts in the original position.

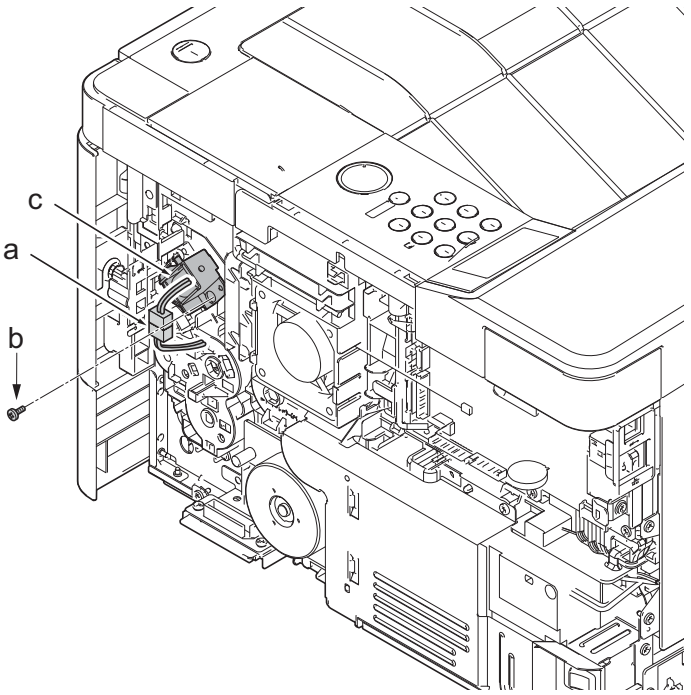


Figure 4-79

(3-4)Detaching reattaching the clutch.

Procedures

1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:
The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

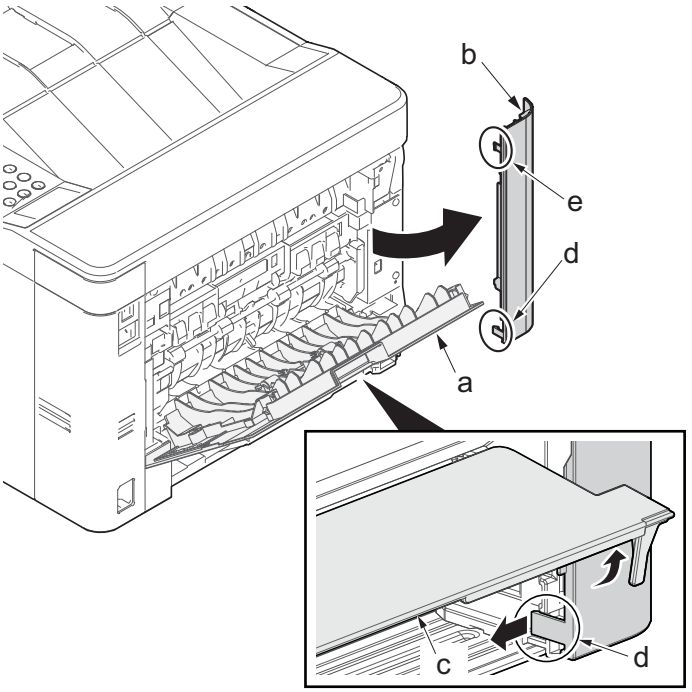


Figure 4-80

5. Detach the right rear cover (a) while twisting it.
6. Remove the screw(M3×10TP)(b).
7. Release the protrusion (e) by using a flat-blade screwdriver (d).
8. Detach the Wi-Fi cover(c).

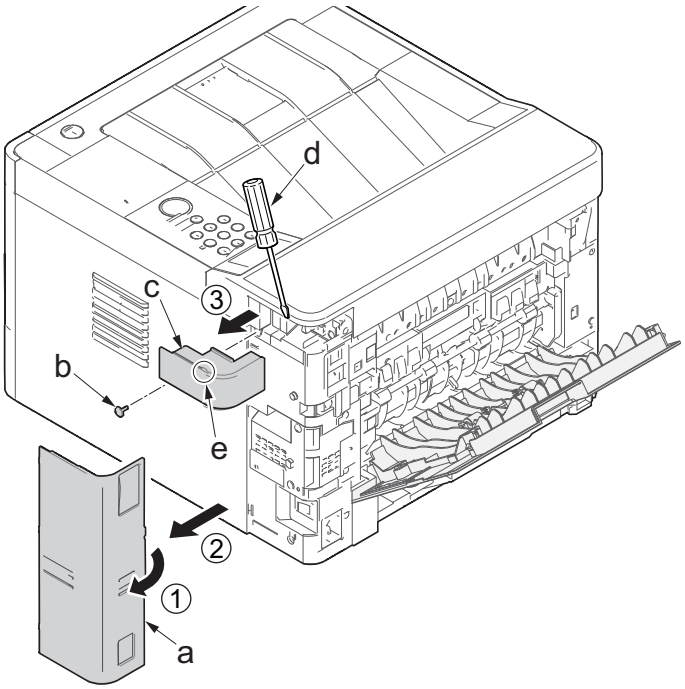


Figure 4-81

9. Remove two screws(M3×10TP)(a).
10. Release two hooks (b) of the upper rear cover (c) and detach it.

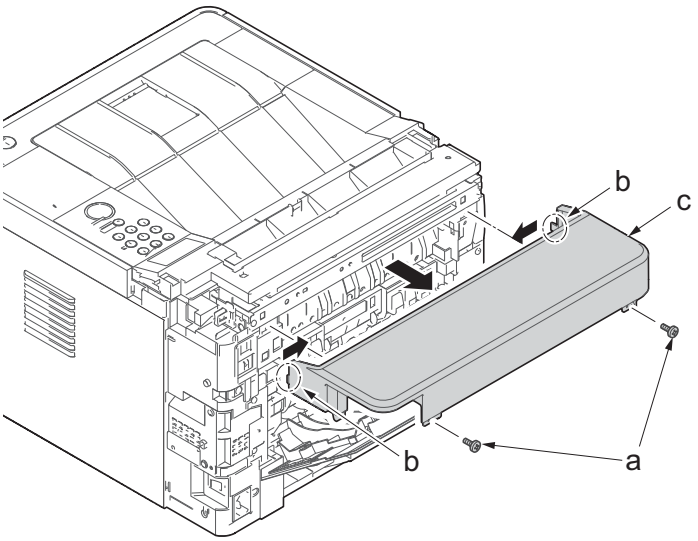


Figure 4-82

11. Pull out the cassette
12. Open the front cover (a).
13. Twist three hooks (b) at the rear side of the right cover (a) to detach it.
14. Release two hooks by using a flat-head screwdriver (c).

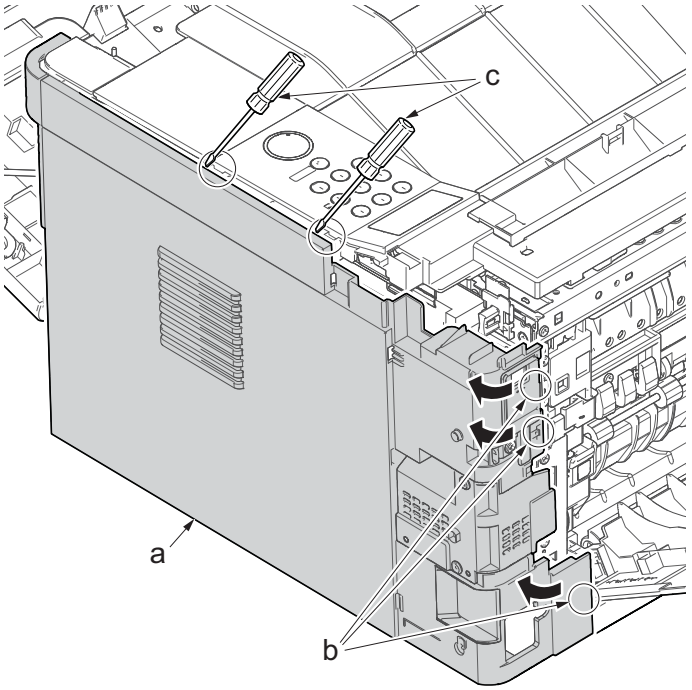


Figure 4-83

15. Release three hooks by using a flat-head screwdriver (d).
16. Twist two hooks (c) at the front side of the right cover (b) to release them and detach the right cover (b).

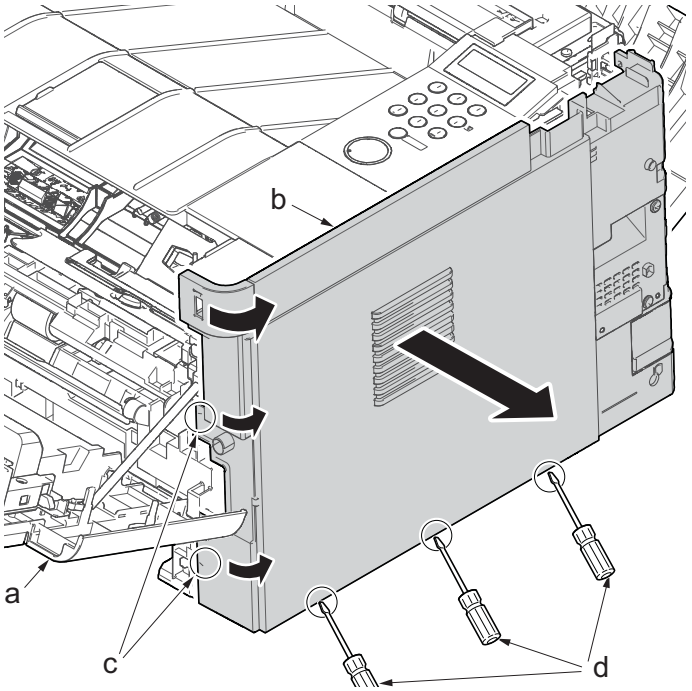


Figure 4-84

17. Disconnect three connector(a) of each clutch.

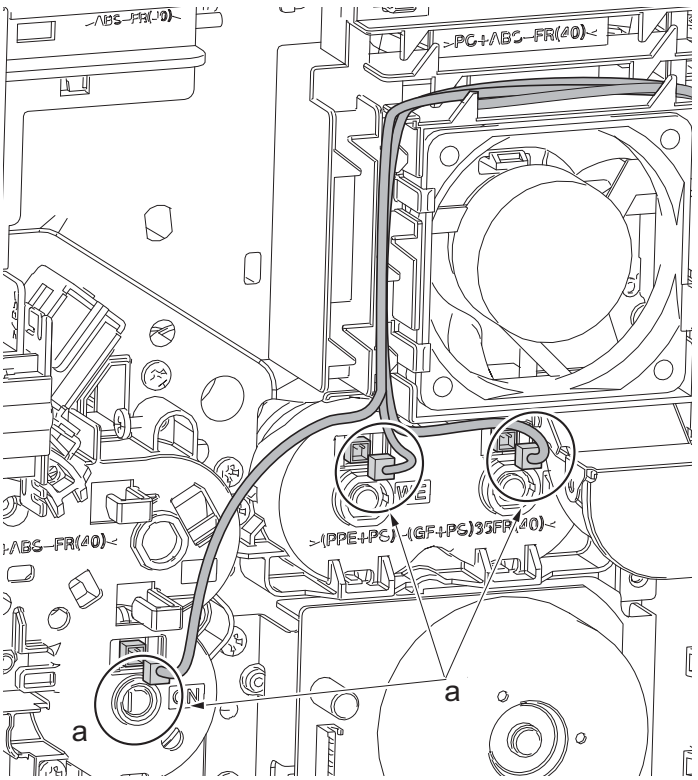


Figure 4-85

18. Remove two screws(M3x8S tight)(a), detach the clutch cover(b).
19. Detach the developer clutch (c) and registration clutch (d).

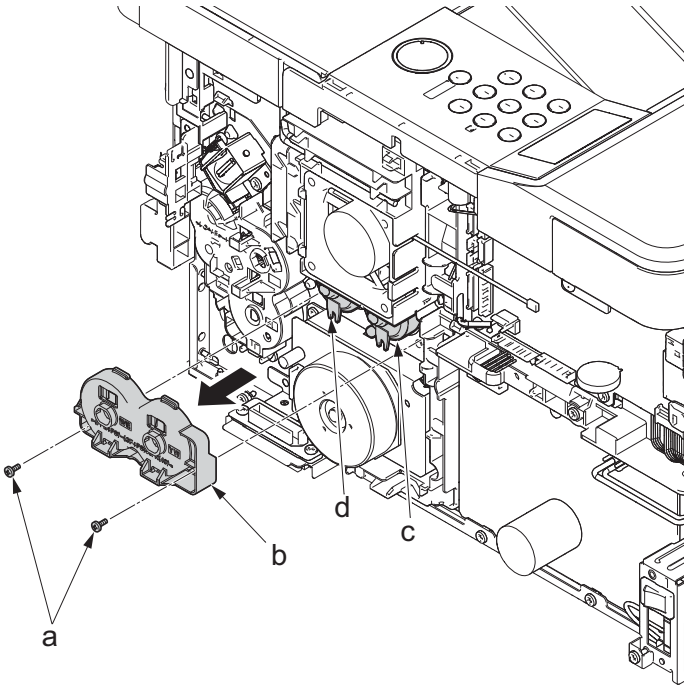


Figure 4-86

20. Remove the screw(M3x8P tight)(a) and deatch the power switch(b).

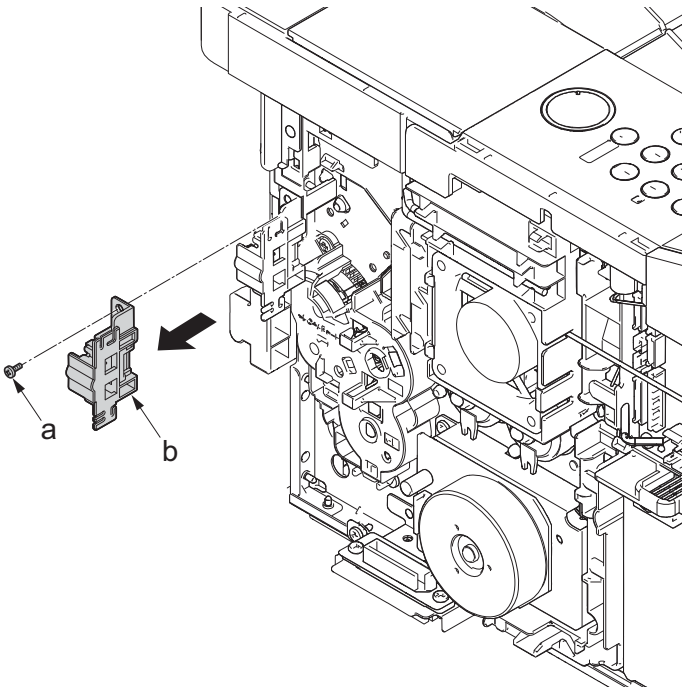


Figure 4-87

21. Remove three screws(M3x8S tight)(a) and remove the cover (b).
22. Detach the paper feed clutch (c).
23. Check or replace the clutch, and reattach the parts which are detached in the original position.

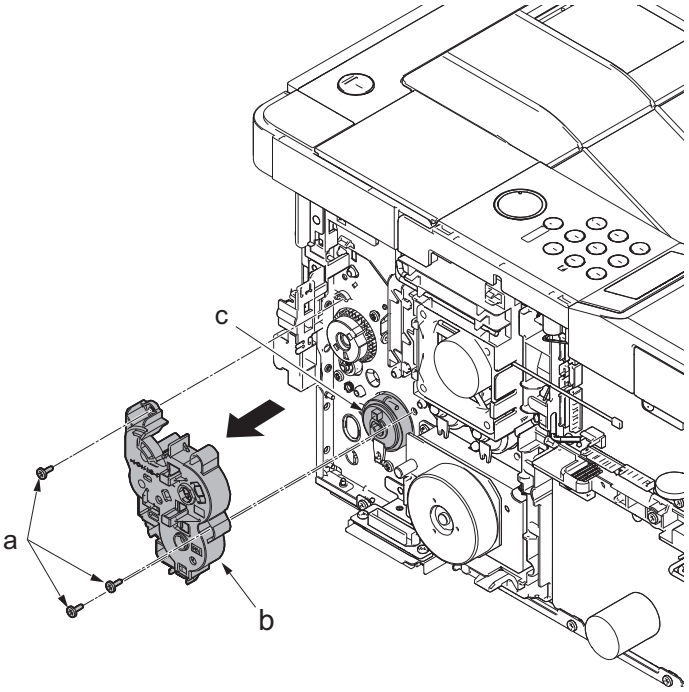


Figure 4-88

*: Attach the developer clutch (a) and the registration clutch (b) with the notches (c) facing down, and attach the cover.

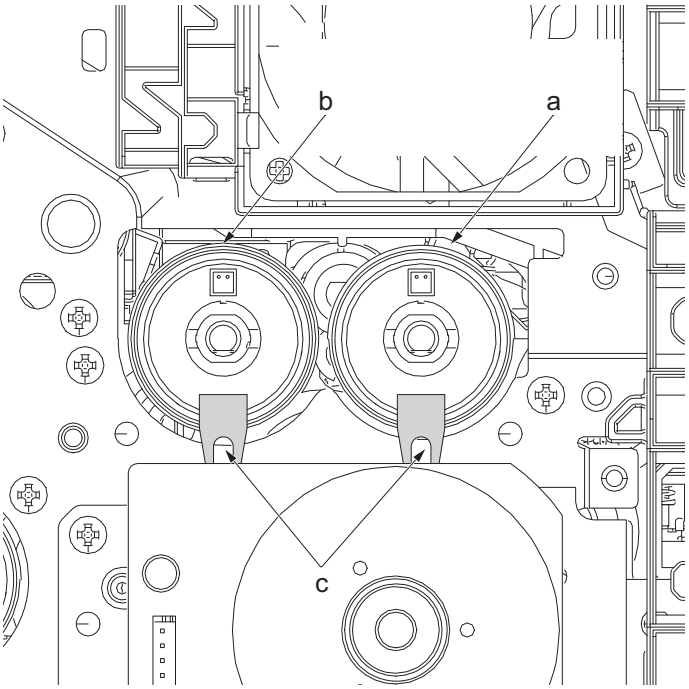


Figure 4-89

(3-5)Detaching and reattaching the eject solenoid

Procedures

1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:
The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

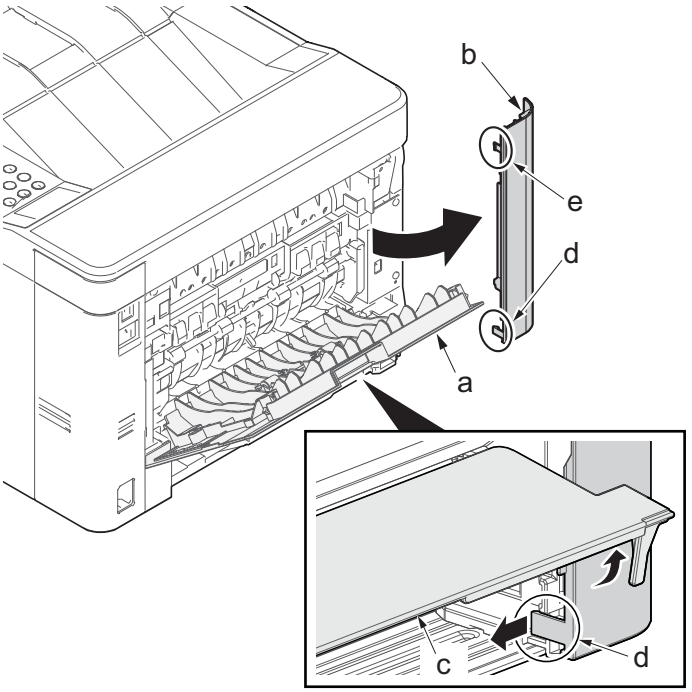


Figure 4-90

5. Detach the right rear cover (a) while twisting it.
6. Remove the screw(M3×10TP)(b).
7. Release the protrusion (e) by using a flat-blade screwdriver (d).
8. Detach the Wi-Fi cover(c).

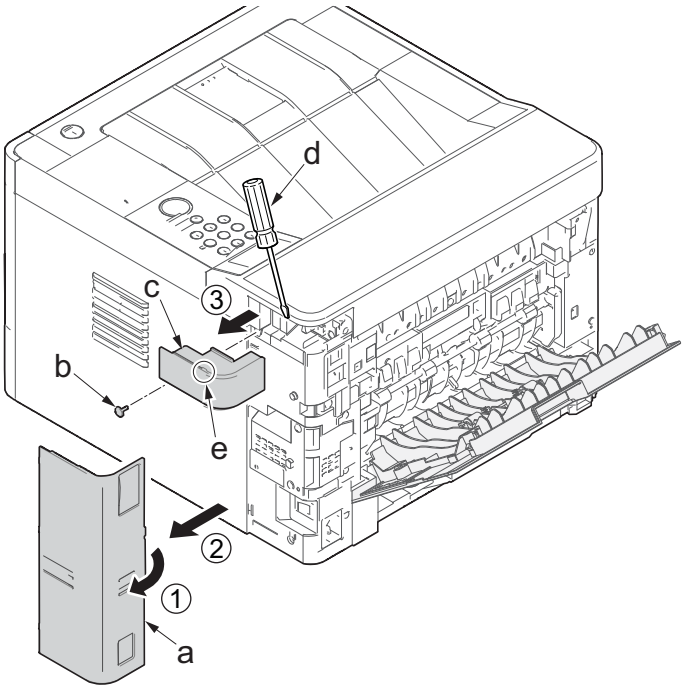


Figure 4-91

9. Remove two screws(M3×10TP)(a).
10. Release two hooks (b) of the upper rear cover (c) and detach it.

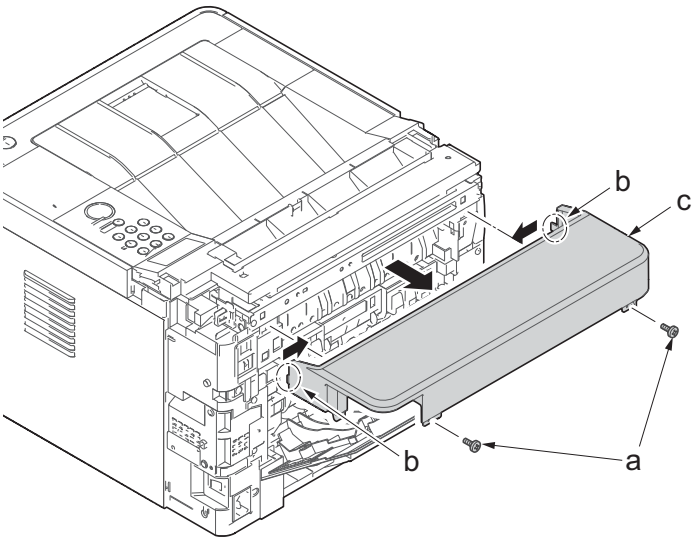


Figure 4-92

11. Pull out the cassette
12. Open the front cover (a).
13. Release four hooks (b) at the front side of the left cover(a).

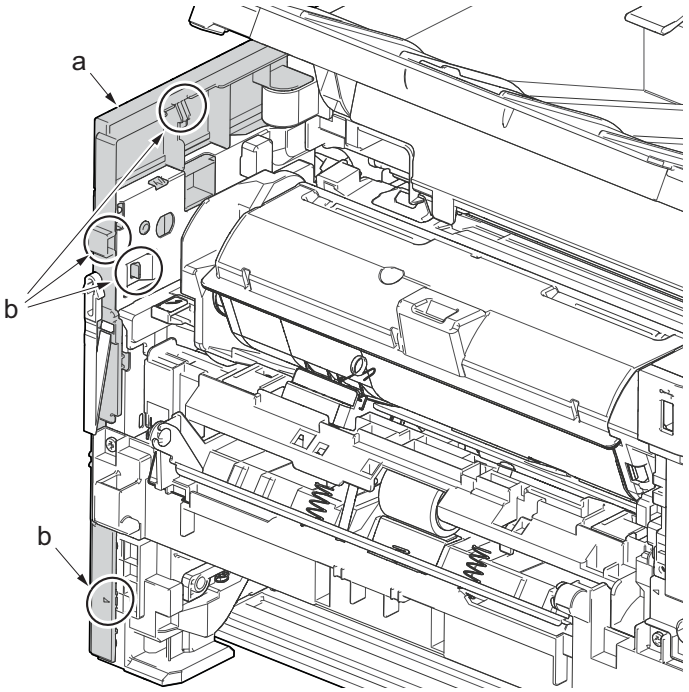


Figure 4-93

14. Release two hooks (b) at the rear side of the left cover (a).
15. While tilting the left cover (a), detach it in the direction of the arrow.

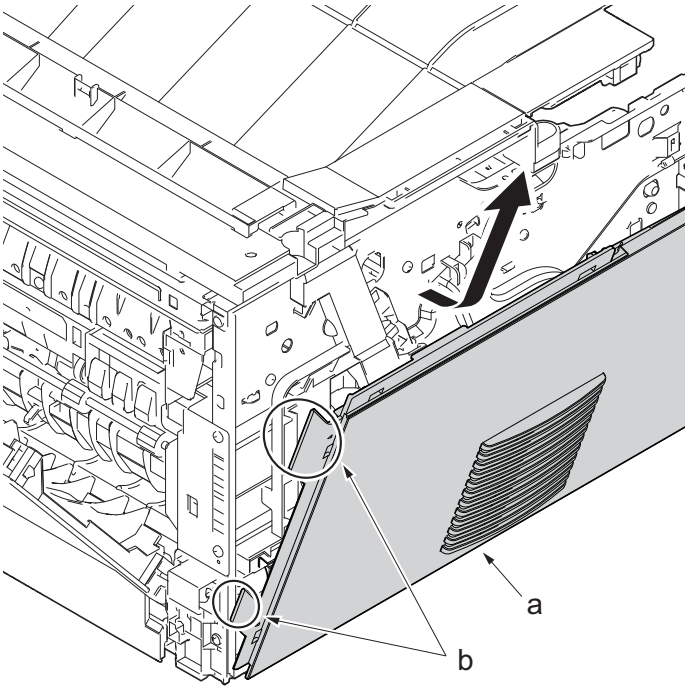


Figure 4-94

16. Twist three hooks (b) at the rear side of the right cover (a) to detach it.
17. Release two hooks by using a flat-head screwdriver (c).

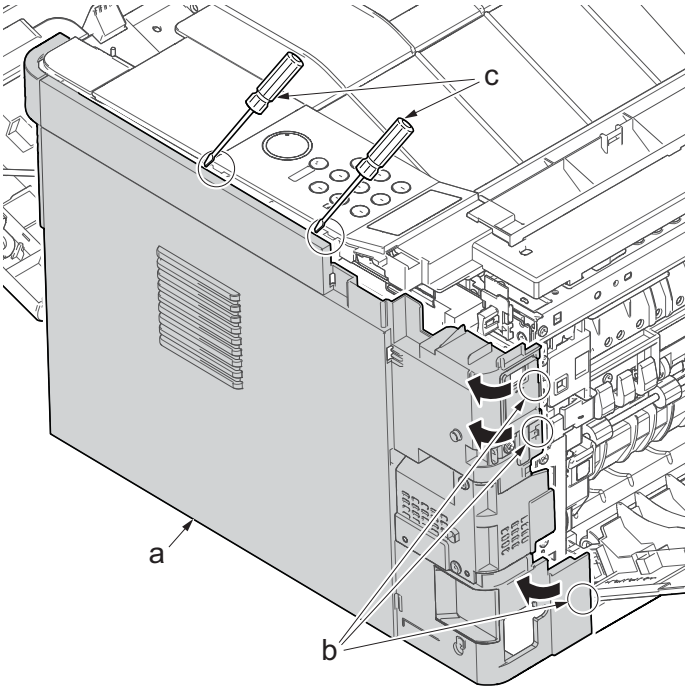


Figure 4-95

18. Release three hooks by using a flat-head screwdriver (d).
19. Twist two hooks (c) at the front side of the right cover (b) to release them and detach the right cover (b).

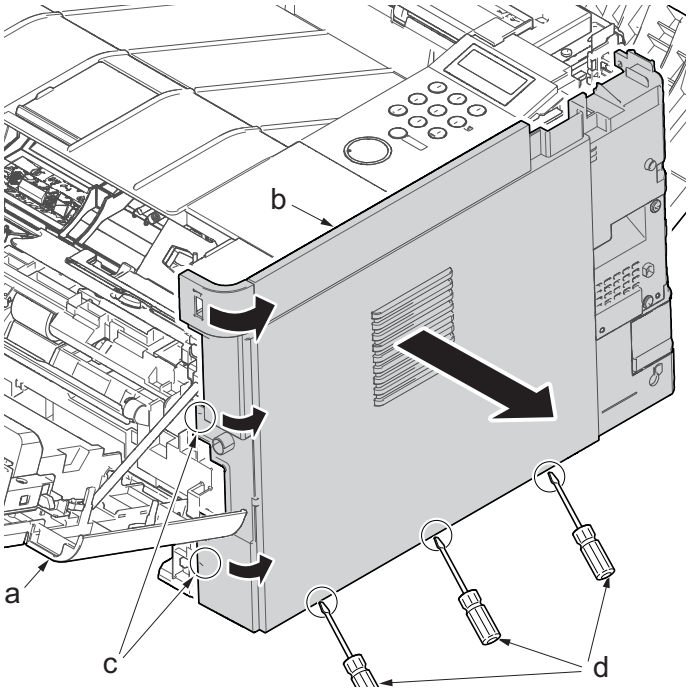


Figure 4-96

20. Open the front cover (a) and detach the strap (b) by using pliers.
21. Remove the stop ring (c).

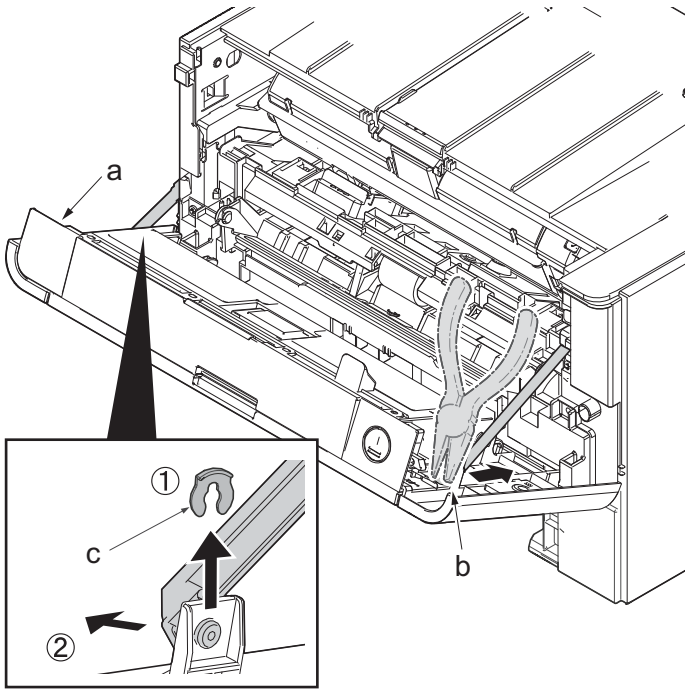


Figure 4-97

22. Open the front cover (a) to the bottom and detach the left side of cover fulcrum from the fulcrum shaft (b).
23. Release the right side of fulcrum portion (c) and detach the front cover (a).

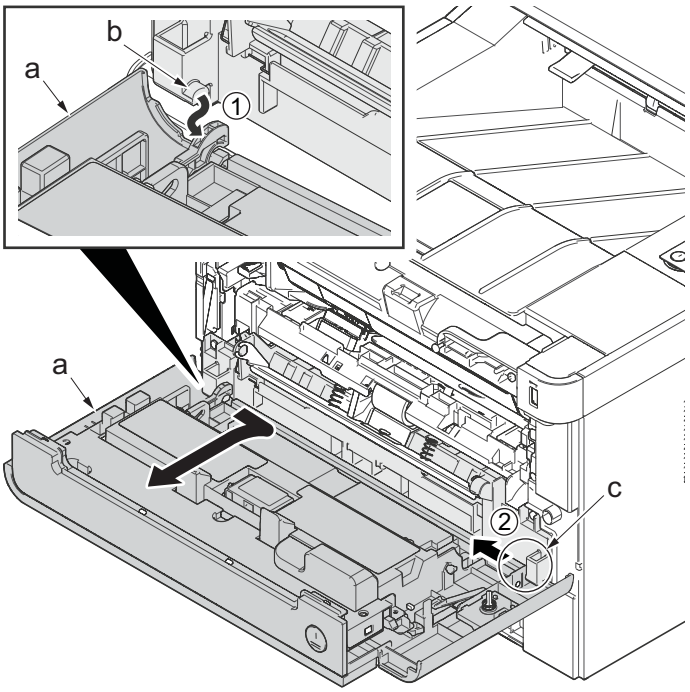


Figure 4-98

24. Open the rear cover (a) to align it to the position of the shaft (b) and detach it from the fulcrum (c) in the direction of the arrow.

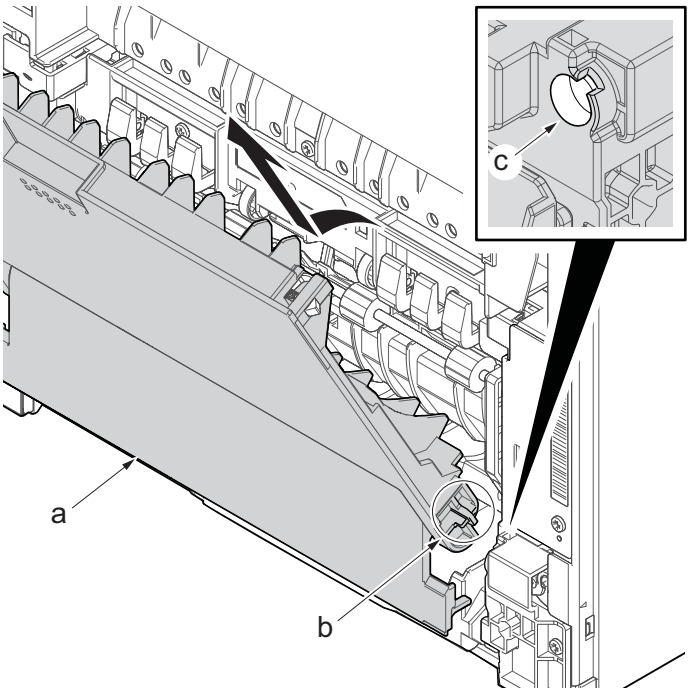


Figure 4-99

25. Open the top cover (a).
26. Remove the stop ring(b) and detach the upper cover rack (c) from the upper cover (a).

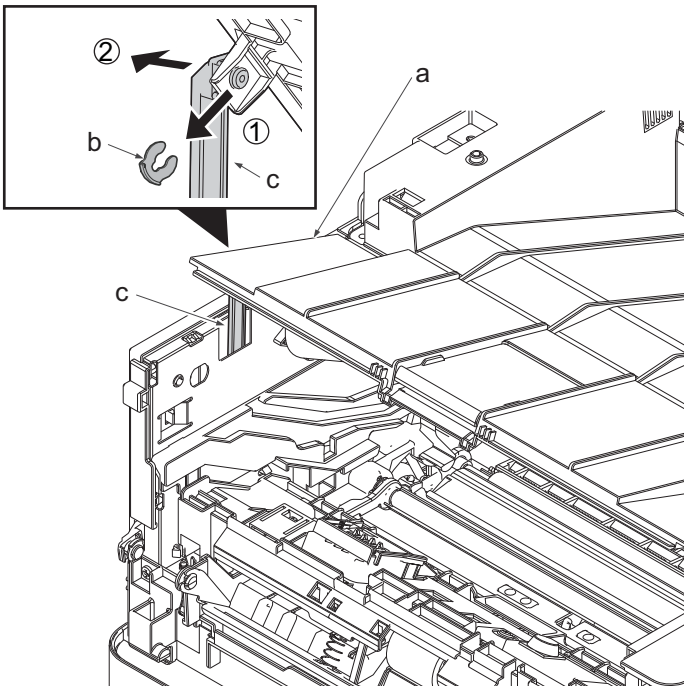


Figure 4-100

27. Open the top cover (a).
28. Remove the screws(M3x8S tight)(b), detach the right middle cover(c).

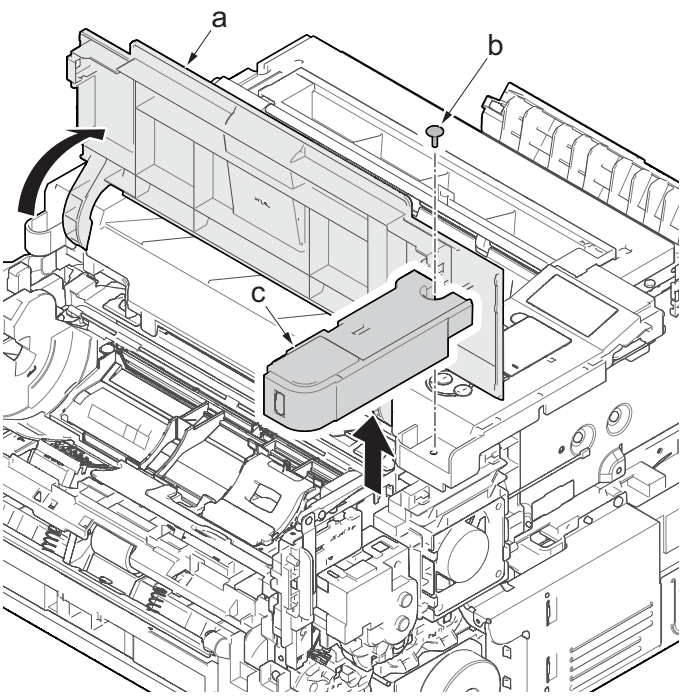


Figure 4-101

29. Remove two screws(M3×8TP)(a) and remove the eject tray(b).

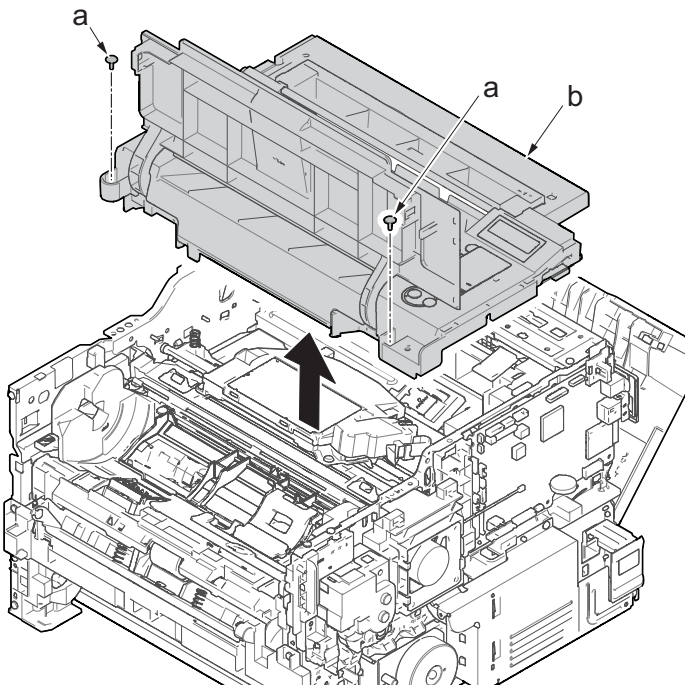


Figure 4-102

30. Remove four screws(M3x8S tight)(a) and remove the back side of metallic plate (b).

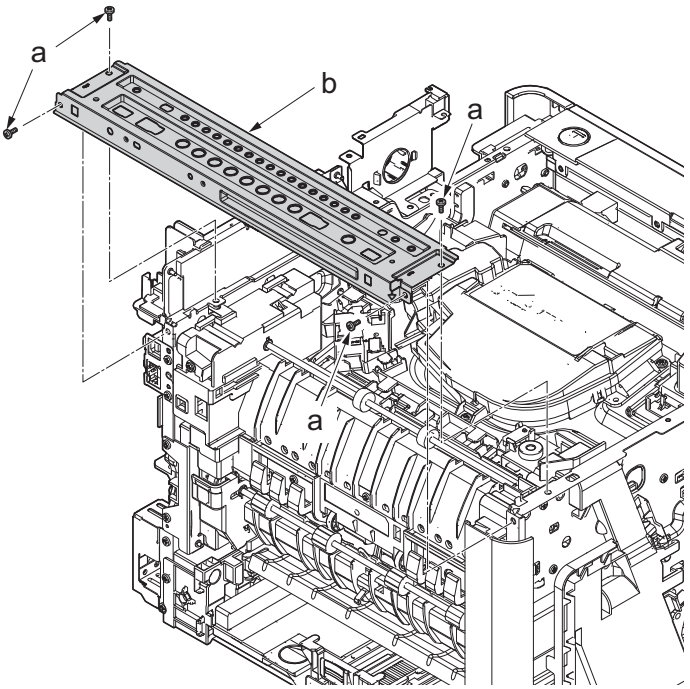


Figure 4-103

31. Disconnect the connector (a).

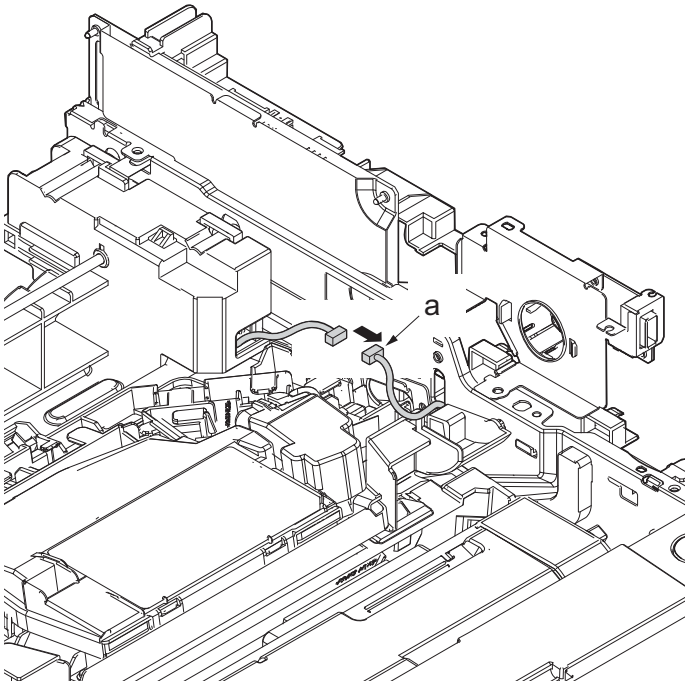


Figure 4-104

32. Remove the screw(M3×8S tight)(a).
33. Remove the screw(M3×8P tight)(b).

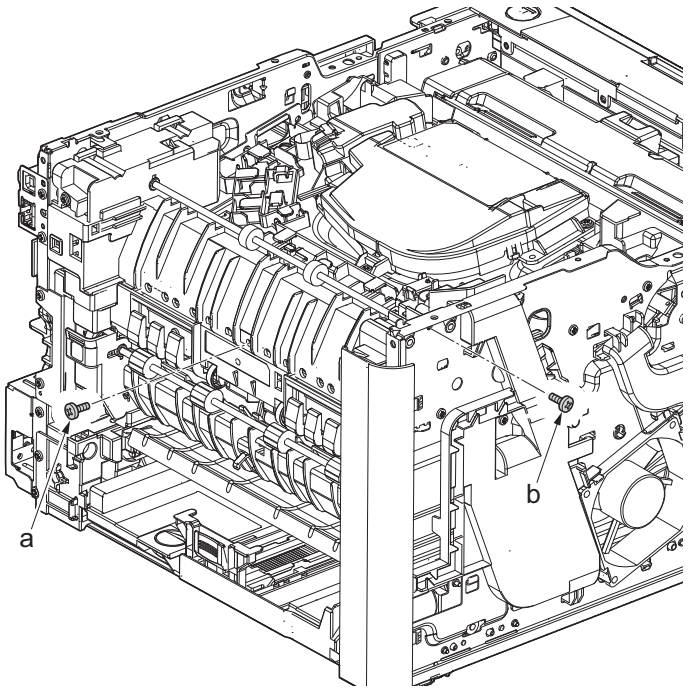


Figure 4-105

34. Detach the eject unit (a) in the direction of the arrow.

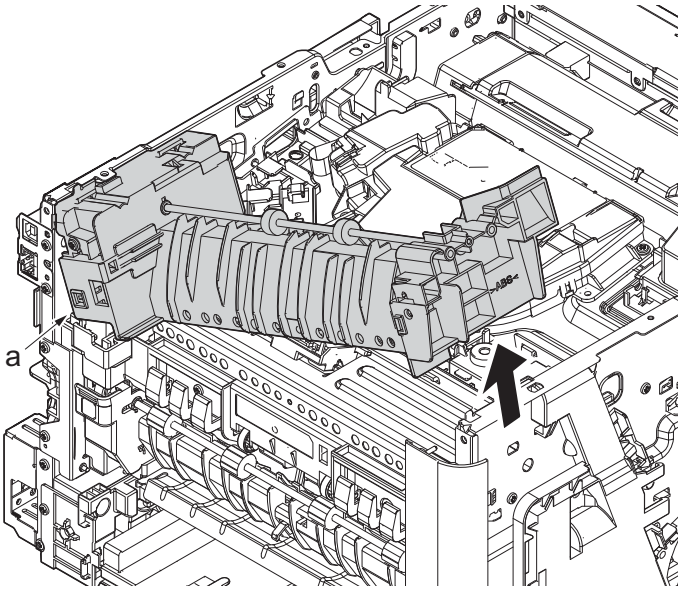


Figure 4-106

35. Release two hooks(b) and detach the eject unit cover (a).
36. Remove the screw (c) (M3×4P tight).
37. Remove the eject solenoid (d).
38. Check or replace the eject unit(d), and reattach the parts which are detached in the original position.

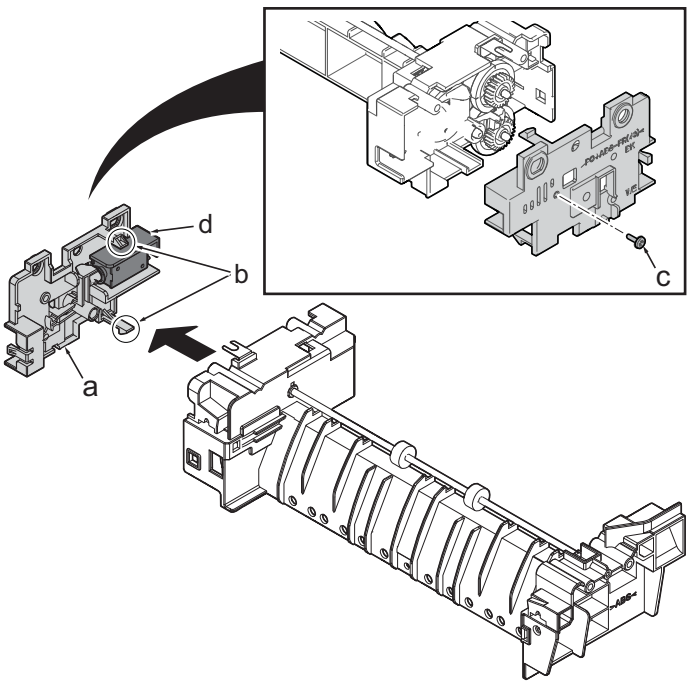


Figure 4-107

(4) Others

(4-1)Detaching and reattaching the eraser

Procedures

1. Open the front cover (a).
2. Push down the developer release lever (b).

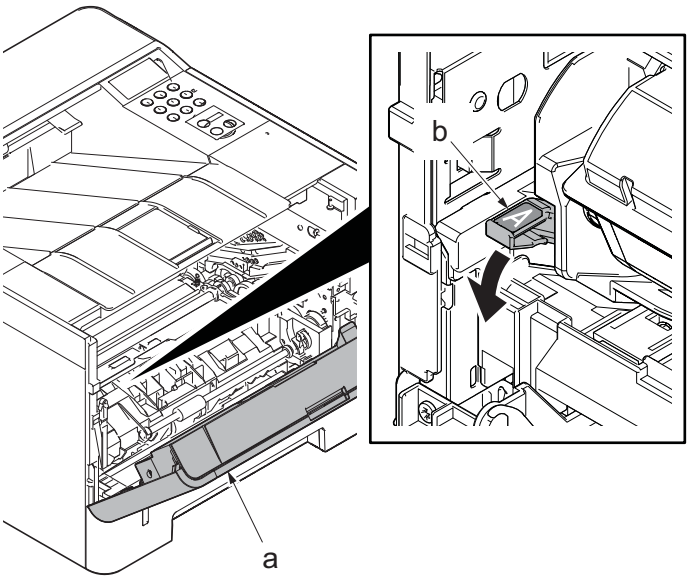


Figure 4-108

3. Detach the developer unit (a).

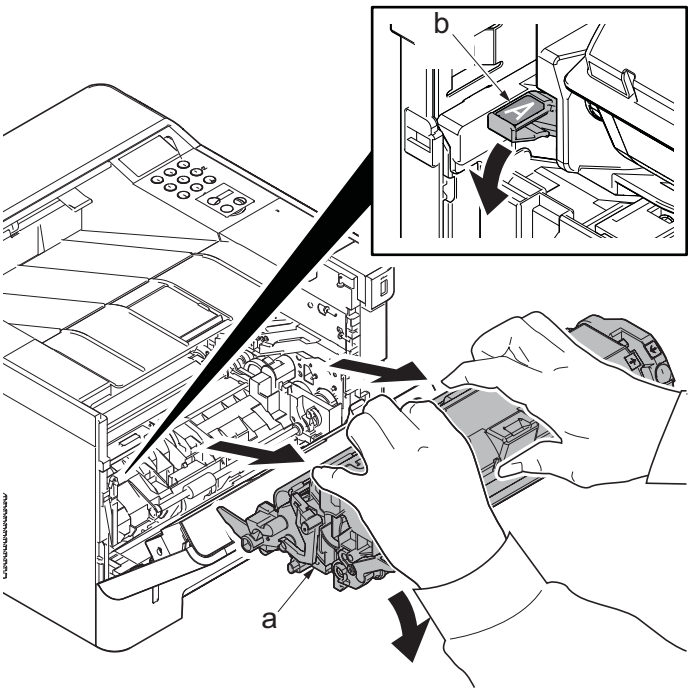


Figure 4-109

4. Detach the drum unit (a).

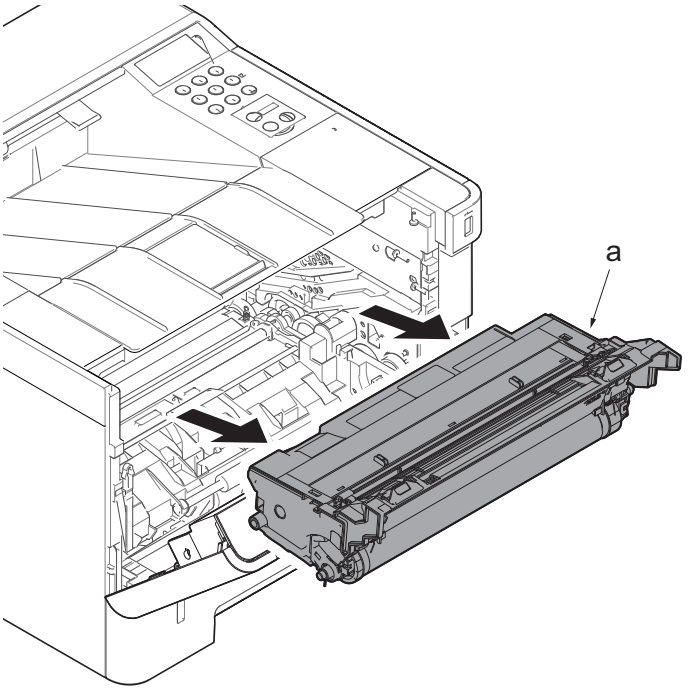


Figure 4-110

5. While taking care of both side of springs, remove the eraser assembly (a).
6. Check the eraser PWB, and clean or replace it.
7. Reattach the parts in the original position.

*: Attach the spring by hooking on the protrusion at the main unit.
*: When reattaching the eraser assembly, hook it the protrusion of the main unit.

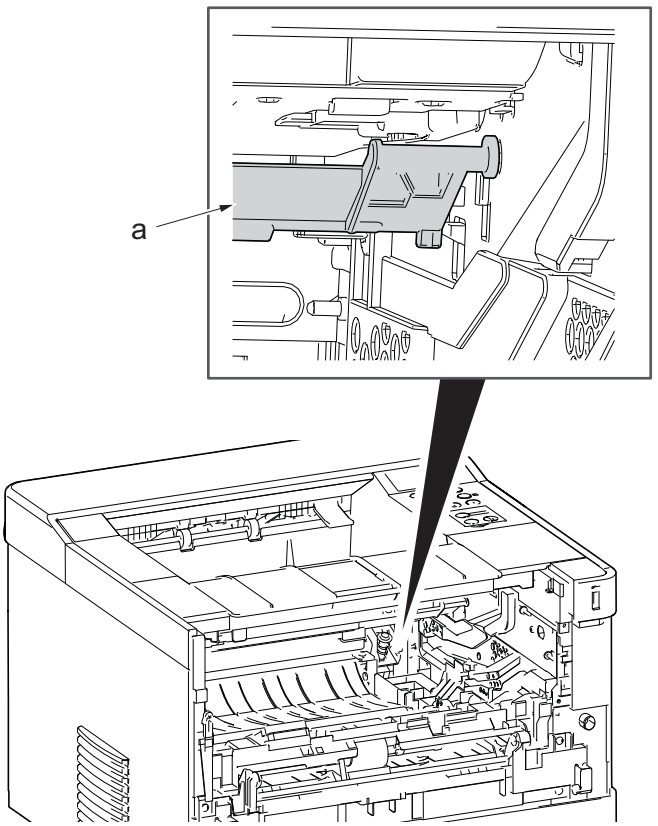


Figure 4-111

(4-2)Fan motor attachment direction

Detaching and attaching are available by detaching the outer covers.

*: When reattaching the fan motor (a), be aware of the attachment direction (intake/exhaust).

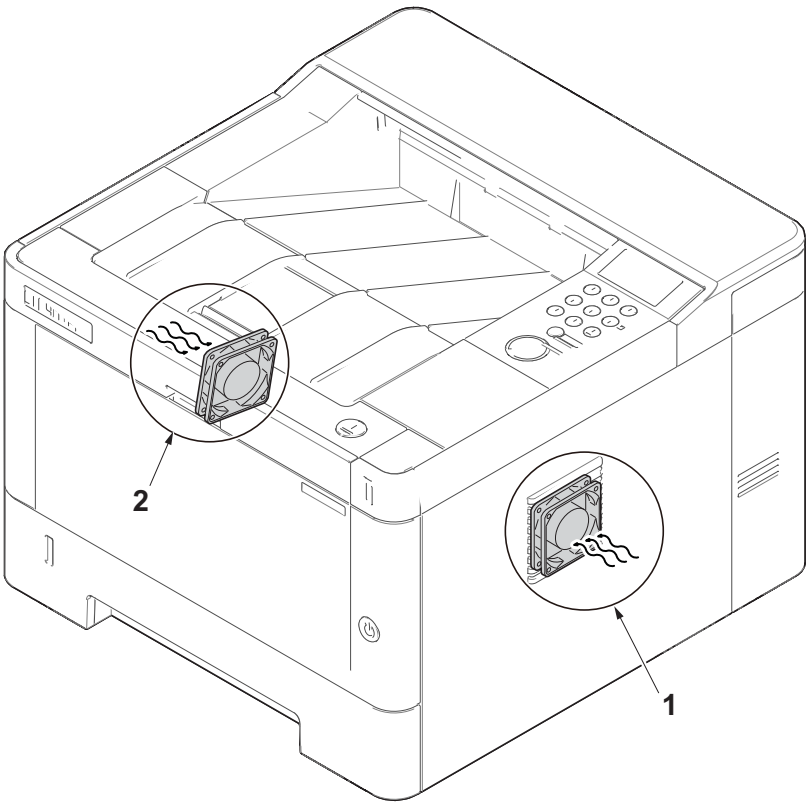


Figure 4-112

1. Right side fan motor : Intake (Rating label inside)
2. Left side fan motor : Intake (Rating label inside)

(5) PWBs

(5-1)Detaching and reattaching the main/engine PWB

Procedures

1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:
The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

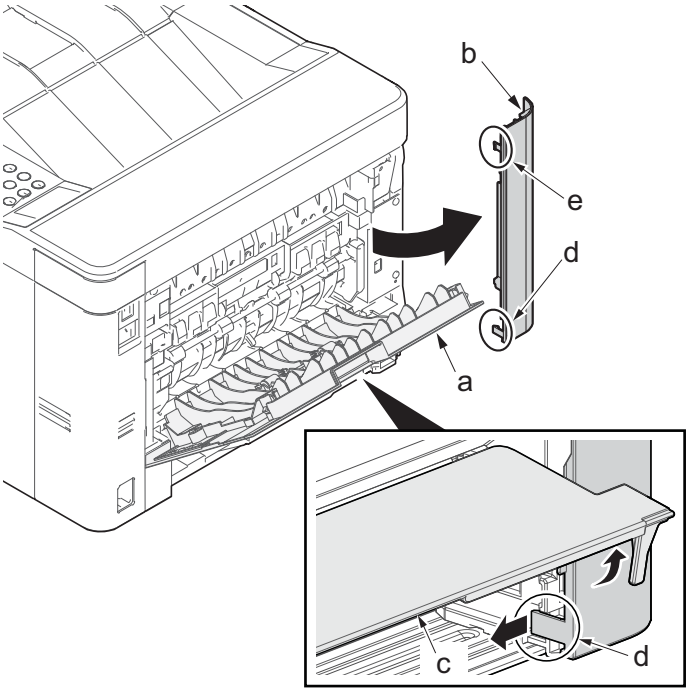


Figure 4-113

5. Detach the right rear cover (a) while twisting it.
6. Remove the screw(M3×10TP)(b).
7. Release the protrusion (e) by using a flat-blade screwdriver (d).
8. Detach the Wi-Fi cover(c).

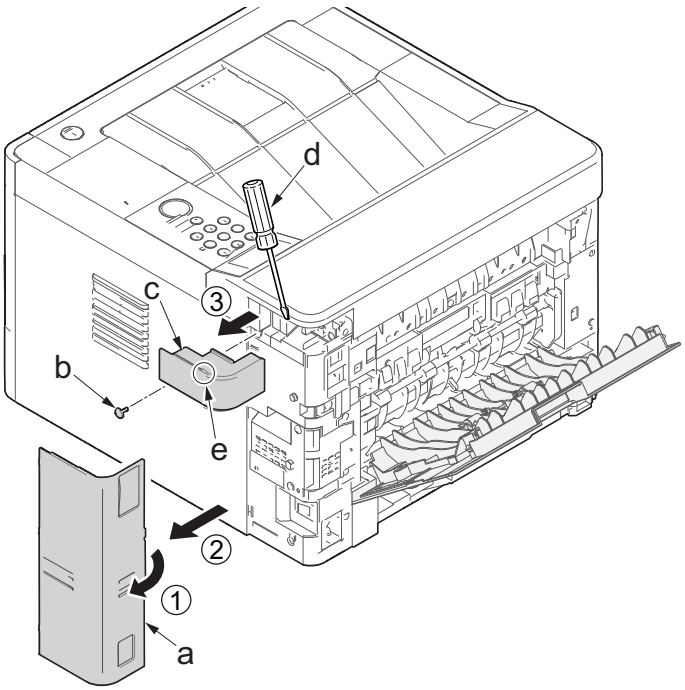


Figure 4-114

9. Remove two screws(M3×10TP)(a).
10. Release two hooks (b) of the upper rear cover (c) and detach it.

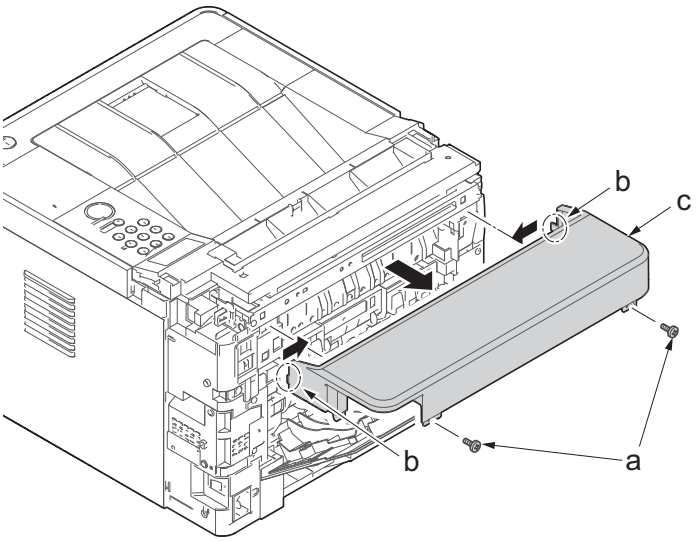


Figure 4-115

11. Pull out the cassette
12. Open the front cover (a).
13. Twist three hooks (b) at the rear side of the right cover (a) to detach it.
14. Release two hooks by using a flat-head screwdriver (c).

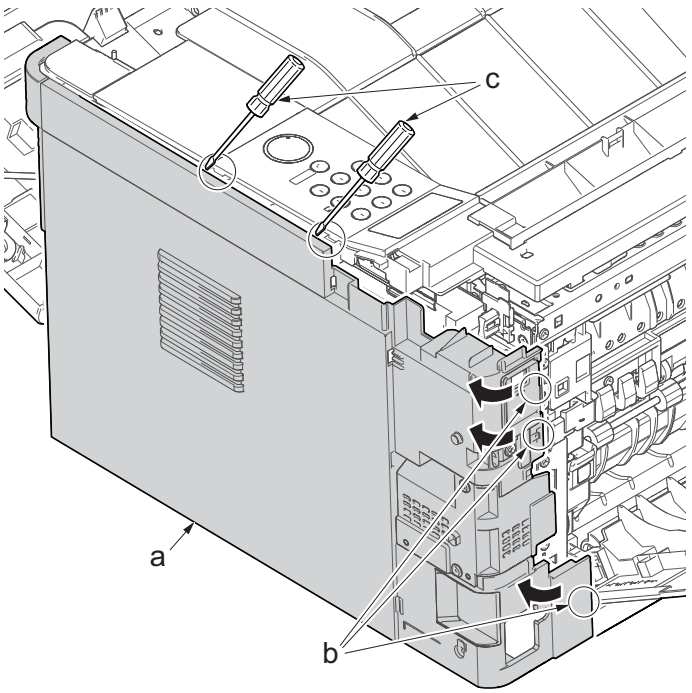


Figure 4-116

15. Release three hooks by using a flat-head screwdriver (d).
16. Twist two hooks (c) at the front side of the right cover (b) to release them and detach the right cover (b).

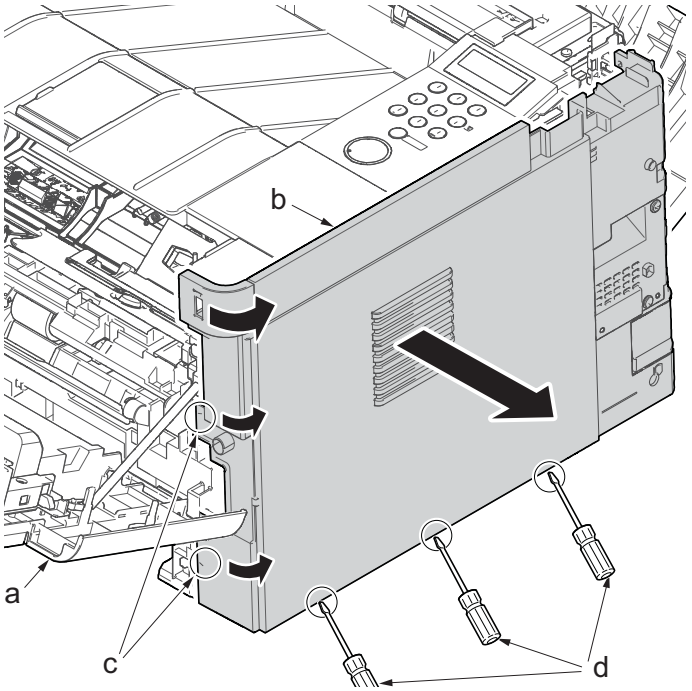


Figure 4-117

17. Remove two screws(M3x8S tight)(a) and detach the USB earth plate (b).
18. Disconnect all the connectors and FFCs from the main/engine PWB(c).

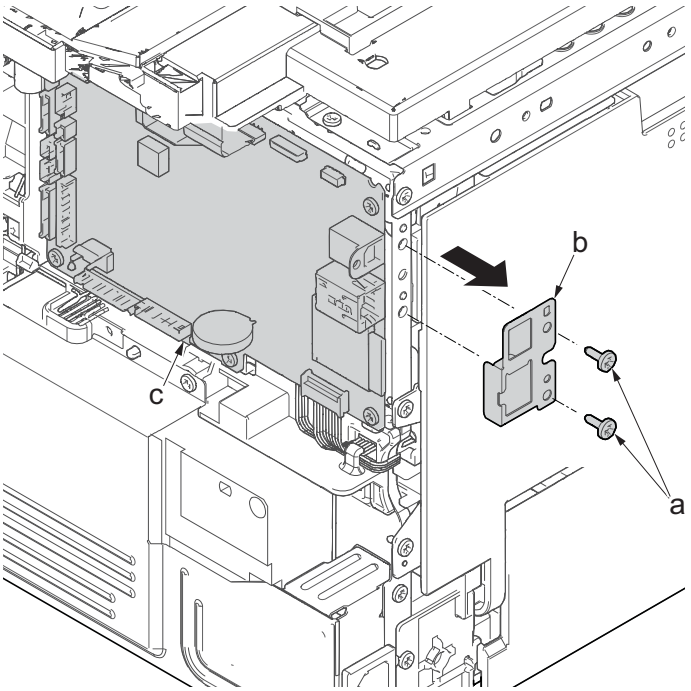


Figure 4-118

19. Remove five screws(M3×8S tight)(a).
20. Detach the main/ engine PWB (b).

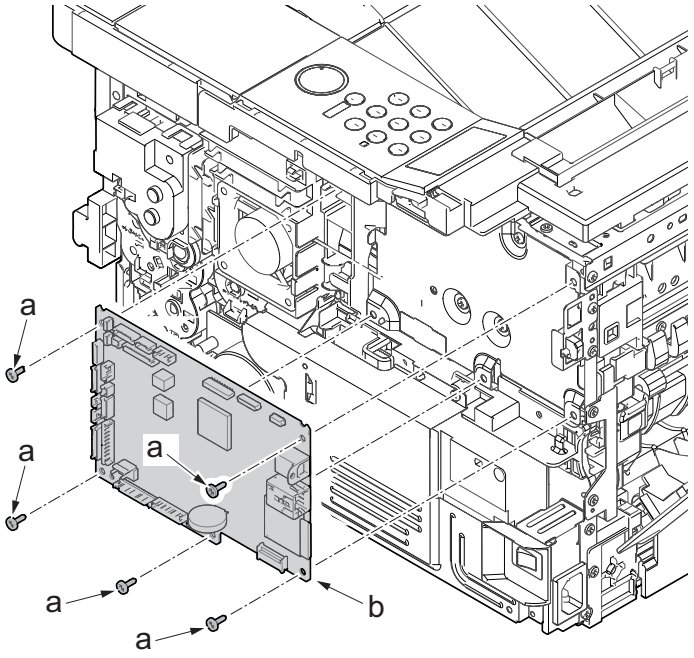


Figure 4-119

21. Check or replace the main/engine PWB (a), and then reattach the parts which are detached in the original position.

Attention: When replacing the main/engine PWB(a), remove EEPROM (YS1)(b) from it and reattach it to the new main/engine PWB(a).

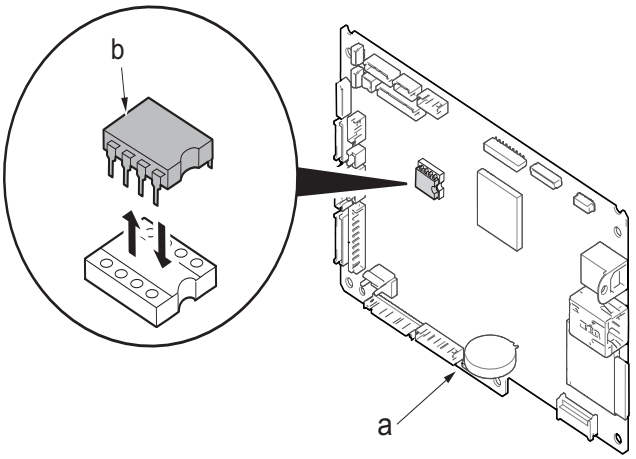


Figure 4-120

Note when replacing the main/engine PWB

When replacing the main/engine PWB, remove EEPROM (YS1) on the old PWB and make sure to place it on the new PWB.

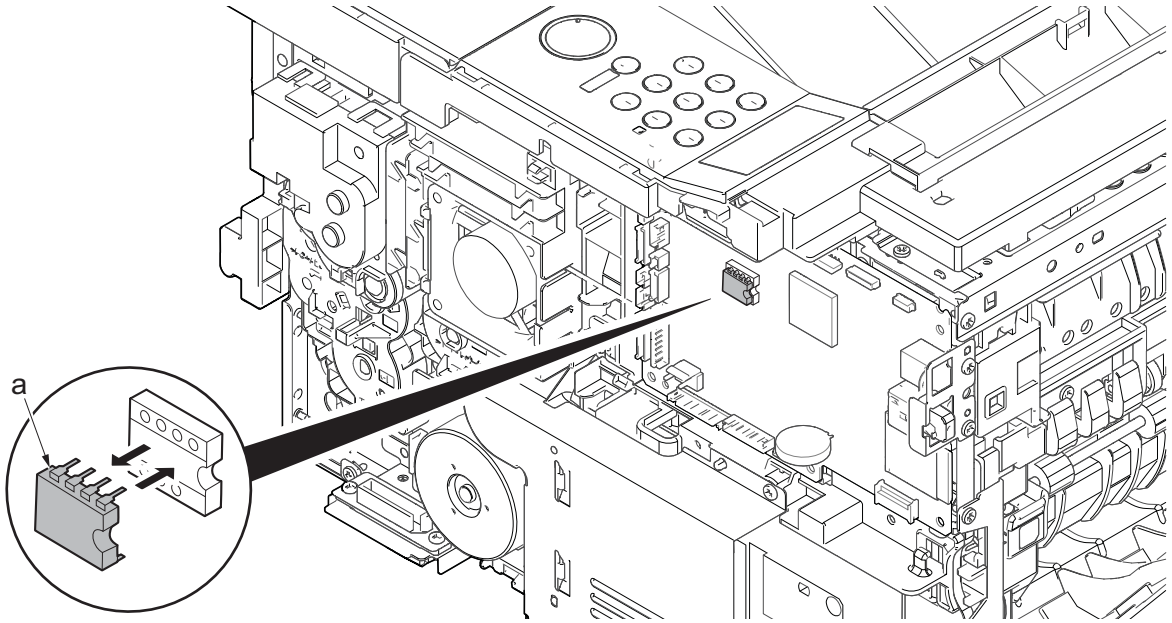


Figure 4-121

*: Check the network setting since the MAC address is changed.
Example: when the printer name is registered with the IP address, reconfigure the IP address.
*: Make sure to attach the Wi-Fi PWB on the old PWB of the Wi-Fi model to the new PWB.

After replacing the main/engine PWB, execute the following setting.

1. Firmware update (See page 5-1)
   *:Check the latest firmware and upgrade it.

2. Reactivating the license
   Reactivate the license when equipping the license of the optional product.
   (1)Card Authentication Kit (B)
   (2)UG-33 (ThinPrint)
   (3)Data Security Kit (E)
   *:Re-entering 4-digit encryption codes entered at setup is necessary.

(5-2)Detaching and reattaching the high voltage PWB

Procedures

1. Open the front cover (a).
2. Push down the developer release lever (b).

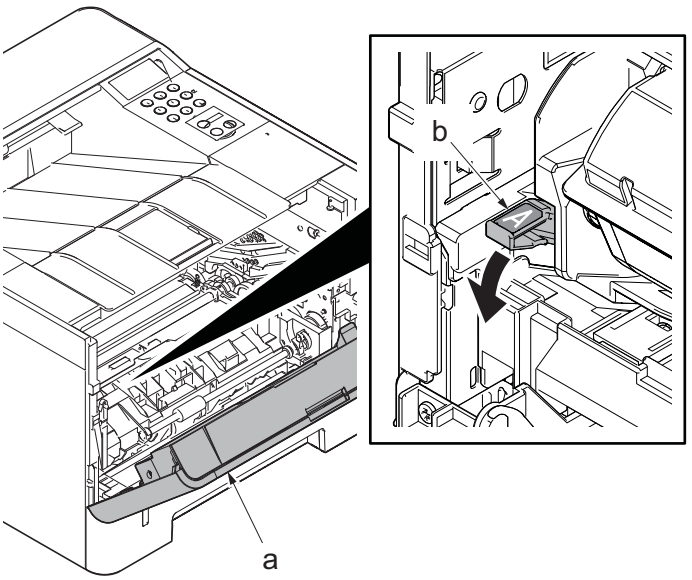


Figure 4-122

3. Detach the developer unit (a).

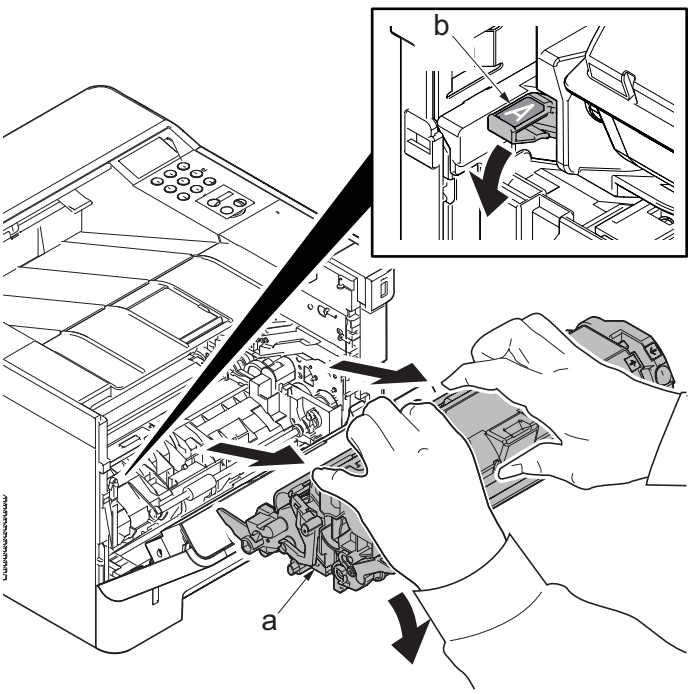


Figure 4-123

4. Detach the drum unit (a).

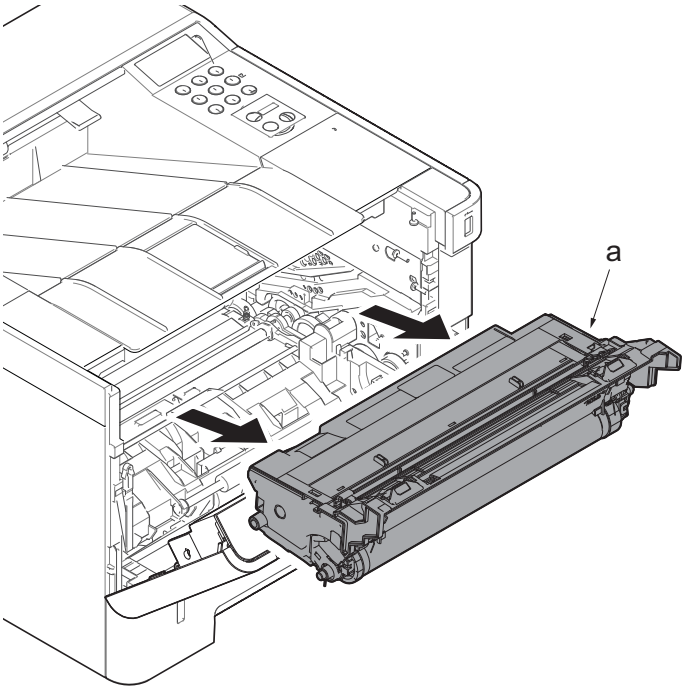


Figure 4-124

5. Slightly pull out the cassette
6. Open the rear cover (a).
7. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
8. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:
The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

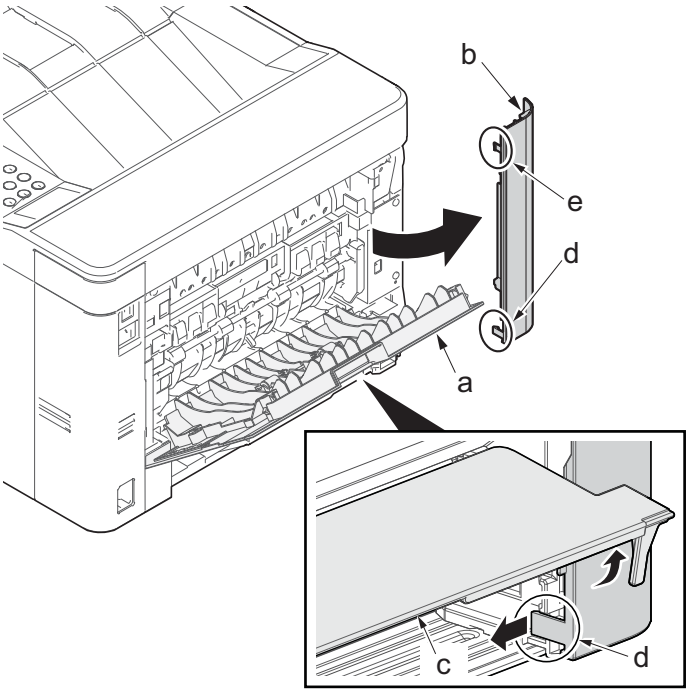


Figure 4-125

9. Detach the right rear cover (a) while twisting it.
10. Remove the screw(M3×10TP)(b).
11. Release the protrusion (e) by using a flat-blade screwdriver (d).
12. Detach the Wi-Fi cover(c).

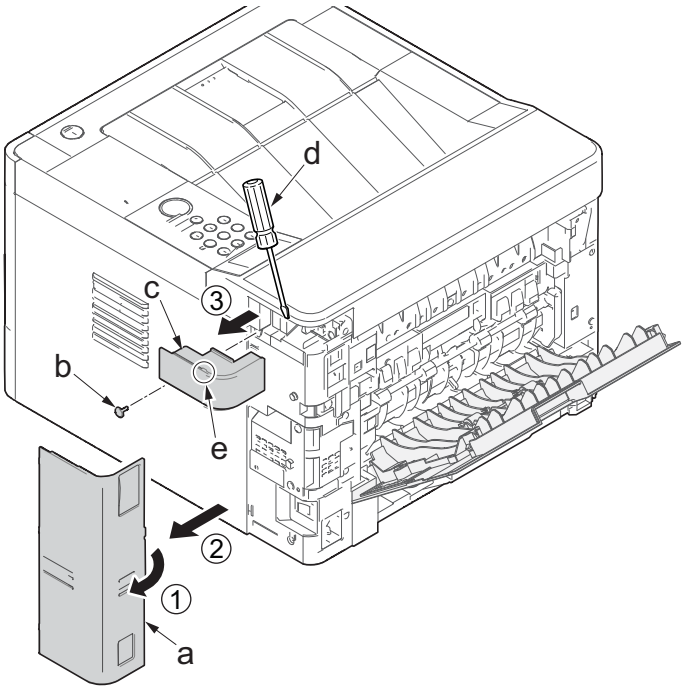


Figure 4-126

13. Remove two screws(M3×10TP)(a).
14. Release two hooks (b) of the upper rear cover (c) and detach it.

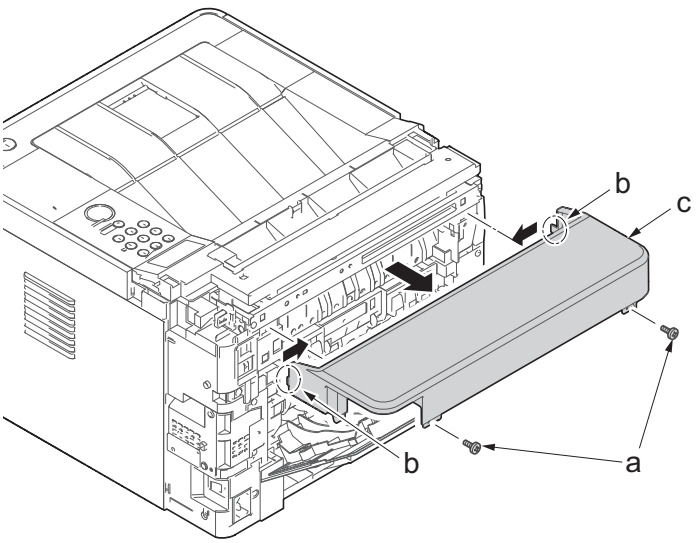


Figure 4-127

15. Release four hooks (b) at the front side of the left cover (a).

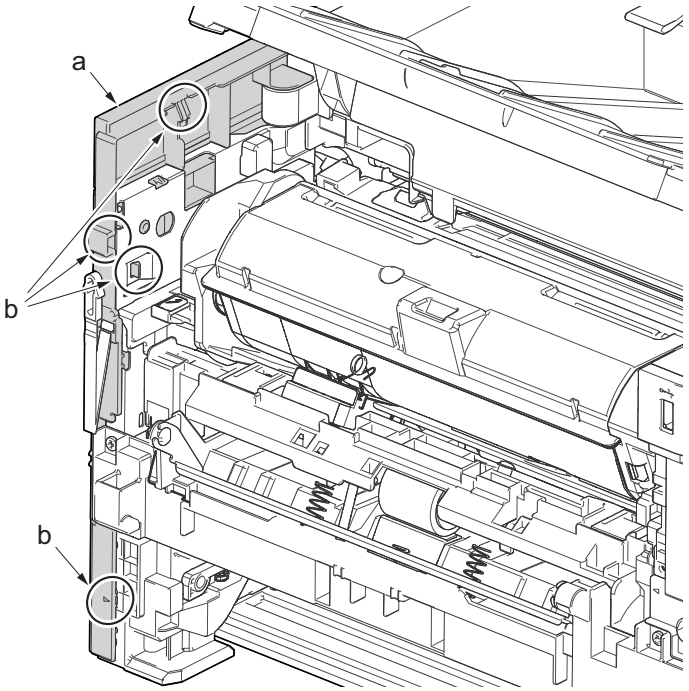


Figure 4-128

16. Release two hooks (b) at the rear side of the left cover (a).
17. While tilting the left cover (a), detach it in the direction of the arrow.

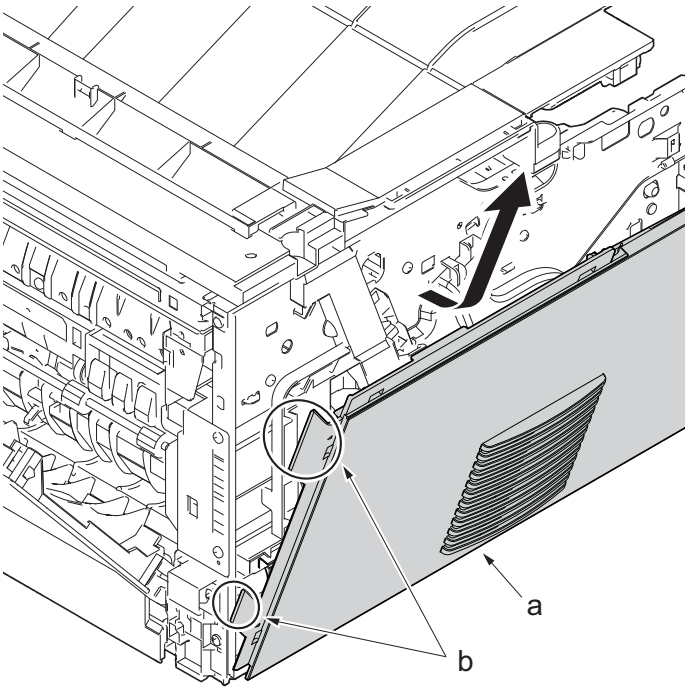


Figure 4-129

18. Pull out the cassette
19. Open the front cover (a).
20. Twist three hooks (b) at the rear side of the right cover (a) to detach it.
21. Release two hooks by using a flat-head screwdriver (c).

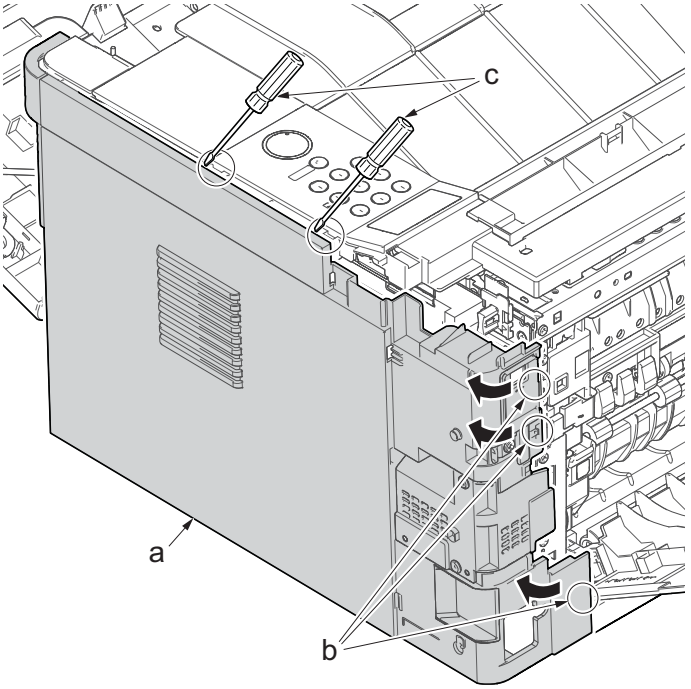


Figure 4-130

22. Release three hooks by using a flat-head screwdriver (d).
23. Twist two hooks (c) at the front side of the right cover (b) to release them and detach the right cover (b).

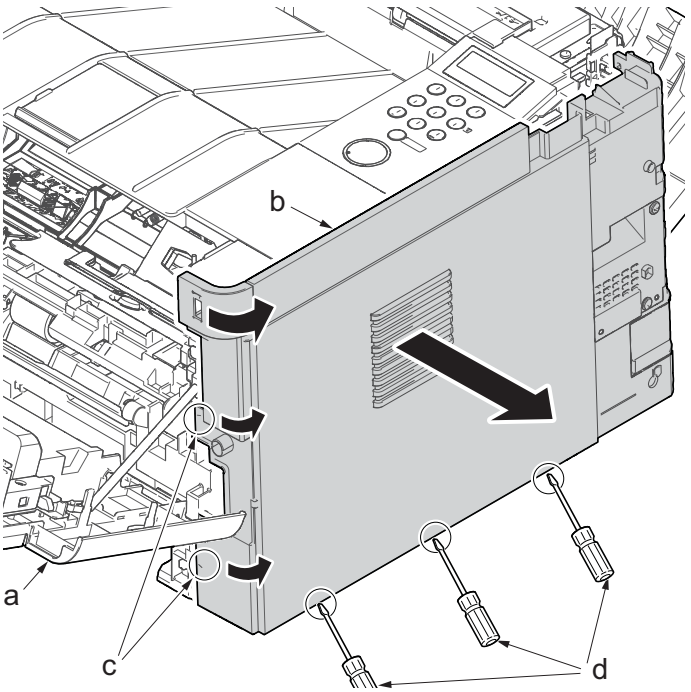


Figure 4-131

24. Stand the main unit so that you can see the bottom side.
25. Remove four screws(M3x8S tight)(a) and detach the front stay(b).

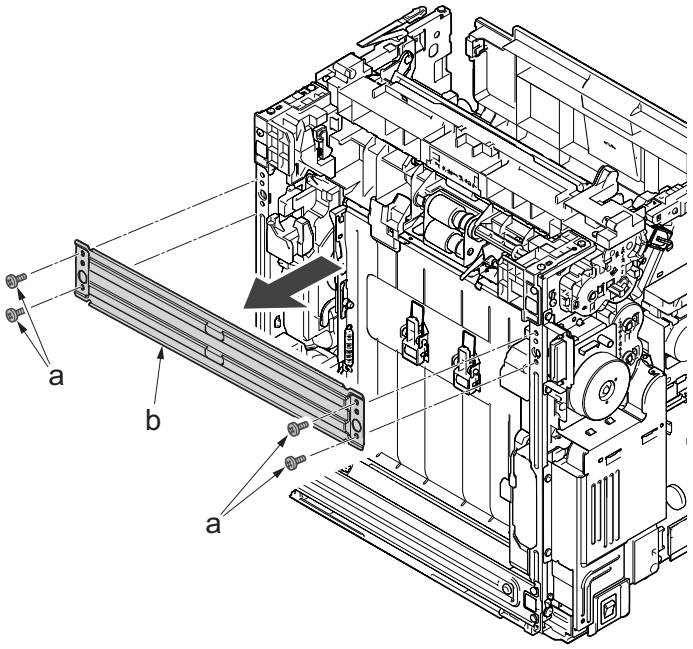


Figure 4-132

26. Tilt the DU assembly (a) and detach two stoppers(b) while pushing them inside.
27. Lift down the DU assembly(a) to the bottom and pull it toward you to detach it.

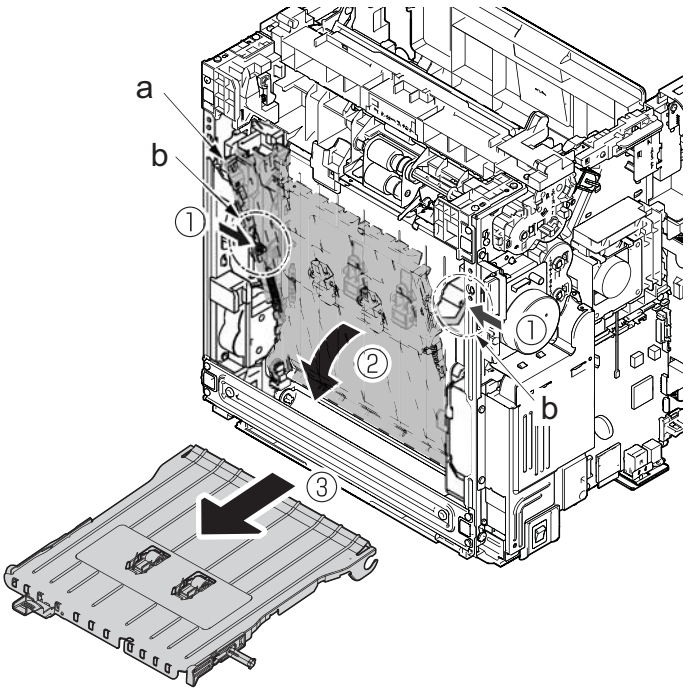


Figure 4-133

28. Remove three screws(M3×8P tight)(a).
29. Lift up the lower base cover (b) and detach it.
30. Disconnect the connector (c).

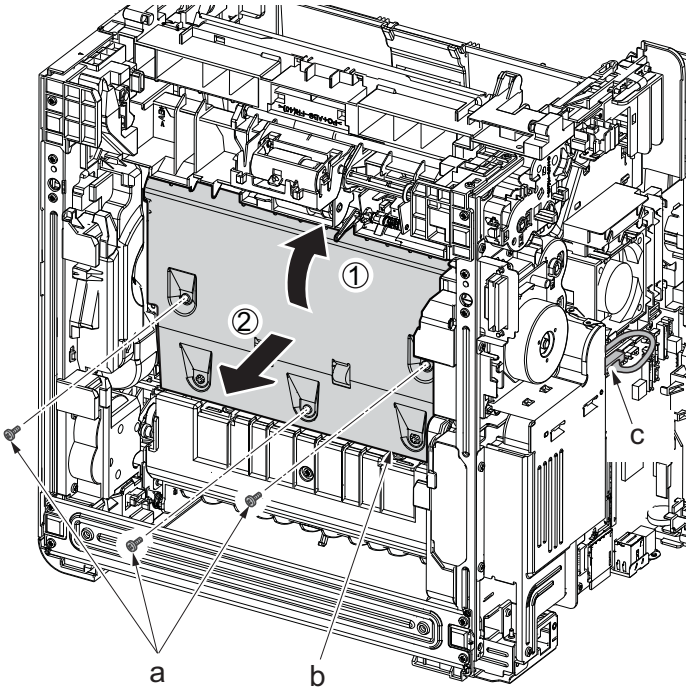


Figure 4-134

31. Remove the screw(M3×8Ptight)(b) and three screws(M3×8Stight)(c) securing the low voltage power source PWB cover (a) .
32. Remove the low voltage power source PWB cover (a).

    Attention: When detaching the low voltage power source PWB, the lower voltage power source PWB protection plate (d) may fall.

33. Disconnect the connector (d) from the main/engine PWB and release the wire from the hook (e).

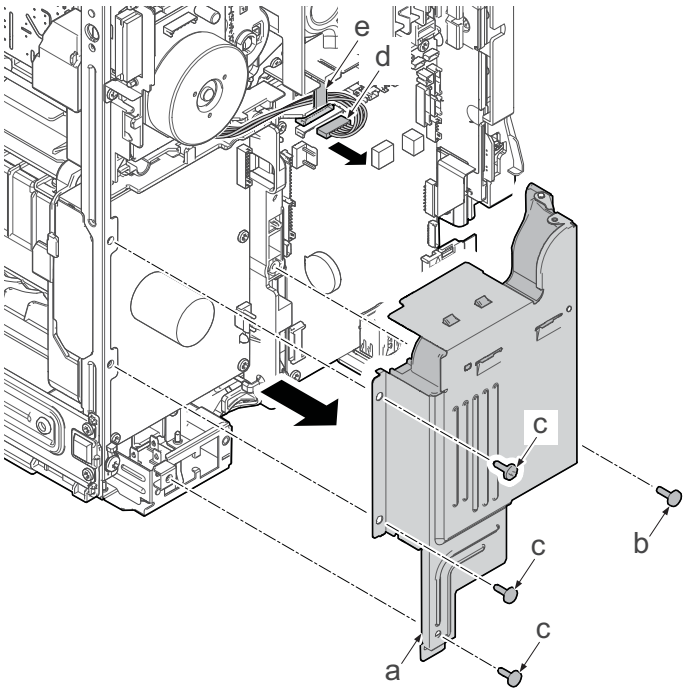


Figure 4-135

34. Remove the screw(M4x12P?tight)(a), release the board support.
35. Detach the high voltage PWB (b).
36. Check or replace the high voltage PWB (b), and then reattach the parts which are detached in the original position.

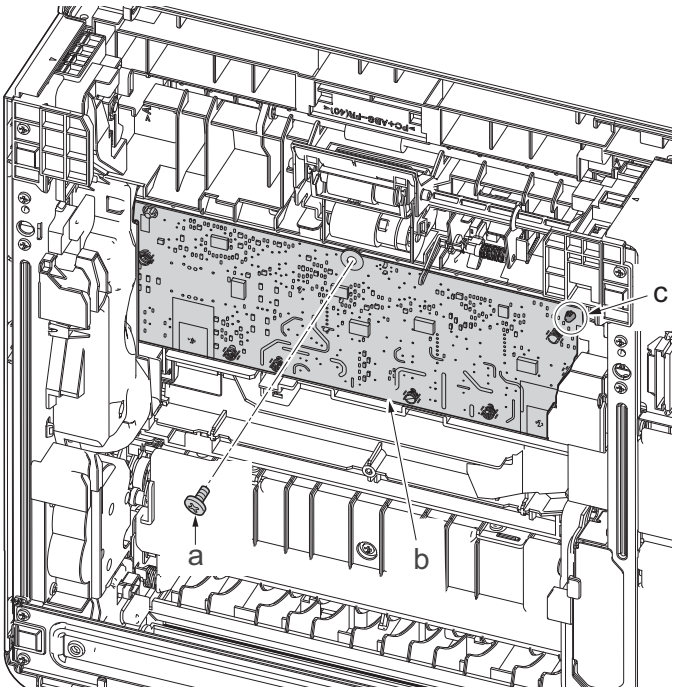


Figure 4-136

(5-3)Detaching and reattaching the low voltage power source PWB

Procedures

1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:
The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

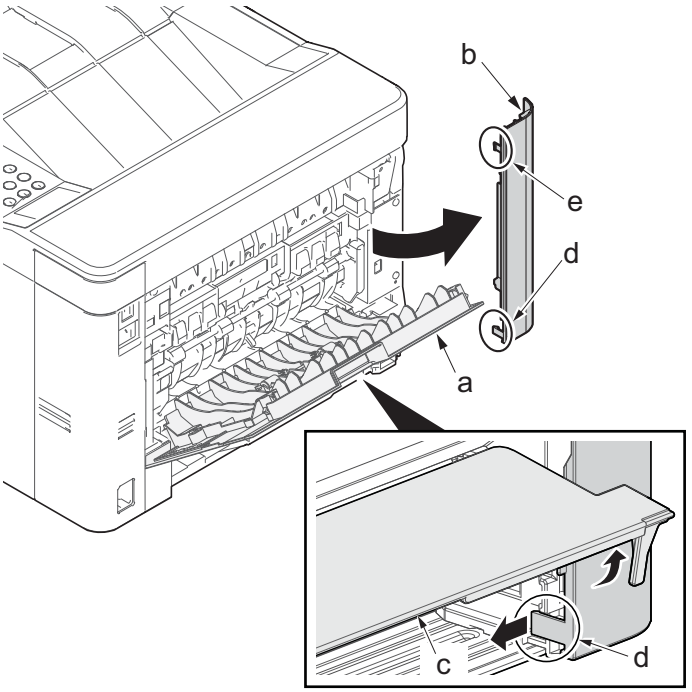


Figure 4-137

5. Detach the right rear cover (a) while twisting it.
6. Remove the screw(M3×10TP)(b).
7. Release the protrusion (e) by using a flat-blade screwdriver (d).
8. Detach the Wi-Fi cover(c).

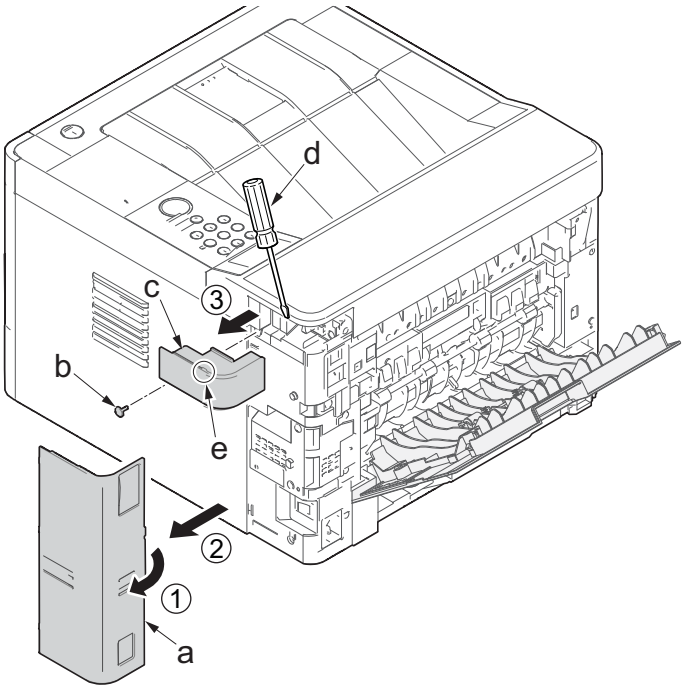


Figure 4-138

9. Remove two screws(M3×10TP)(a).
10. Release two hooks (b) of the upper rear cover (c) and detach it.

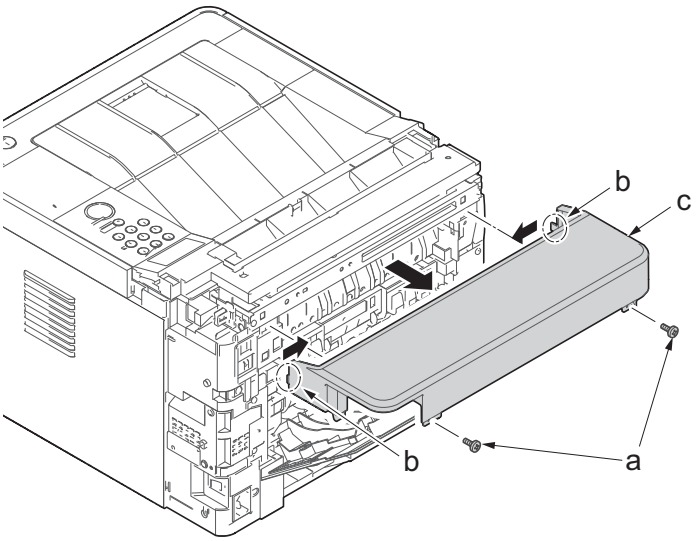


Figure 4-139

11. Pull out the cassette
12. Open the front cover (a).
13. Twist three hooks (b) at the rear side of the right cover (a) to detach it.
14. Release two hooks by using a flat-head screwdriver (c).

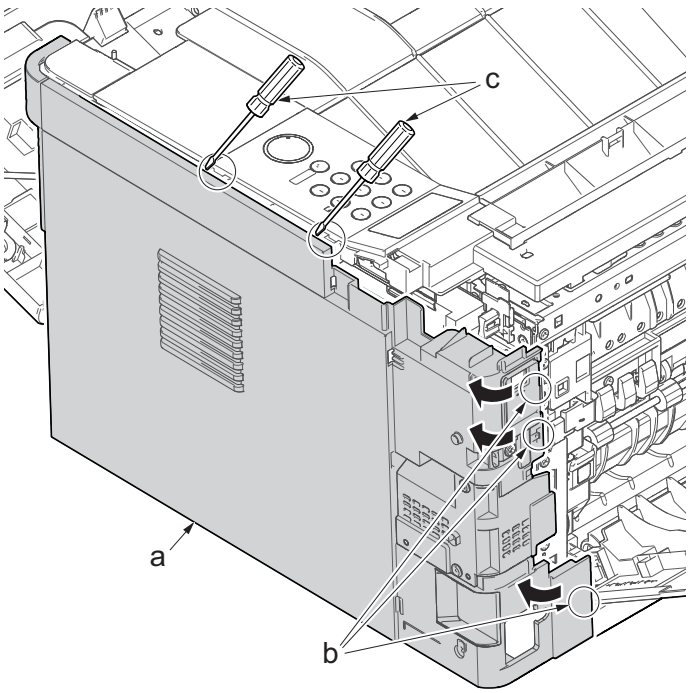


Figure 4-140

15. Release three hooks by using a flat-head screwdriver (d).
16. Twist two hooks (c) at the front side of the right cover (b) to release them and detach the right cover (b).

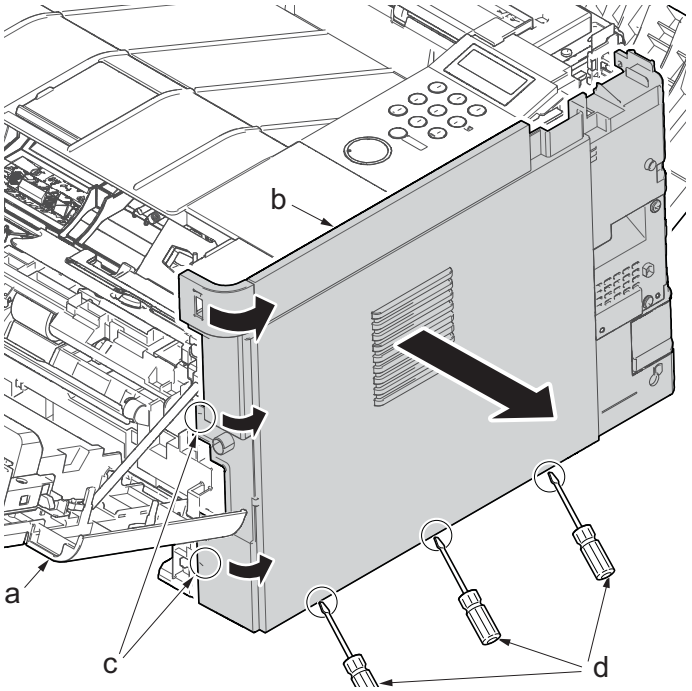


Figure 4-141

17. Remove the screw(M3×8Ptight) (b) and three screws(M3×8Stight)(c) securing the low voltage power source PWB cover (a) .
18. Remove the low voltage power source PWB cover (a).

Attention: When detaching the low voltage power source PWB, the lower voltage power source PWB protection plate (d) may fall.

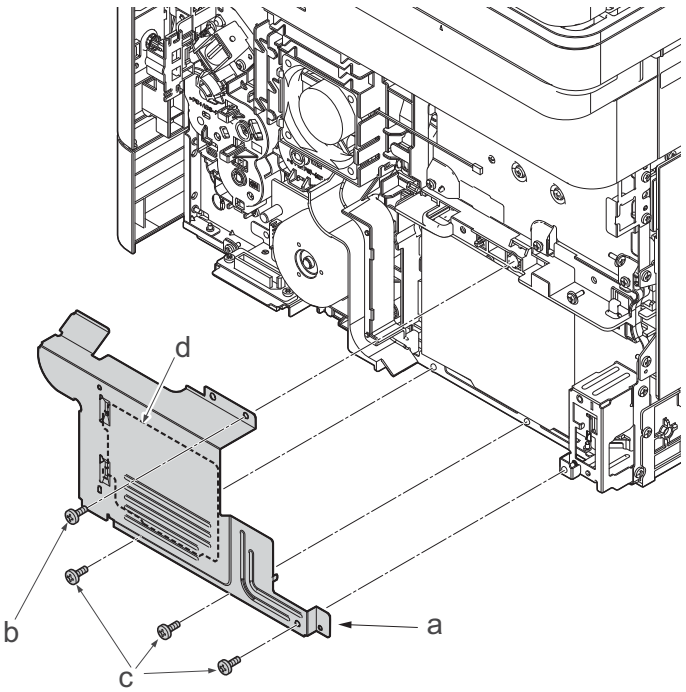


Figure 4-142

19. Remove three screws(M3x8S tight)(a), detach the inlet mounting plate(b).

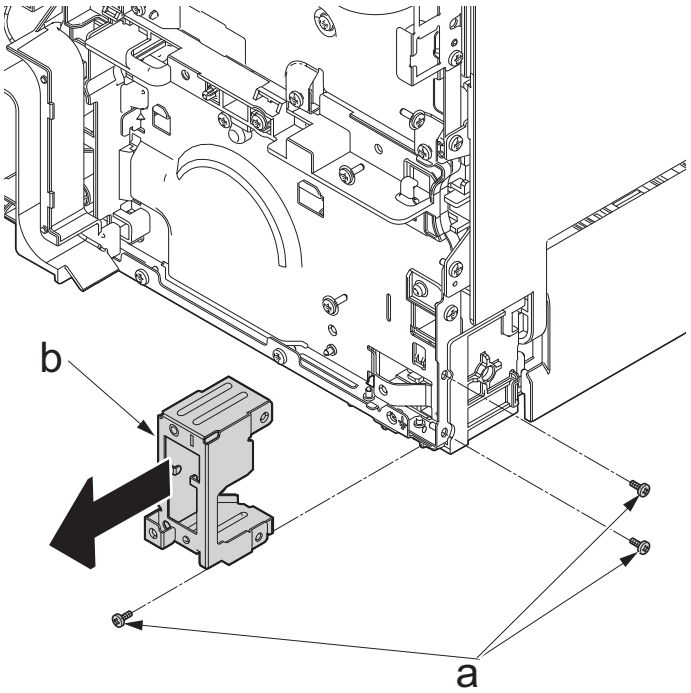


Figure 4-143

20. Disconnect two connectors (a).
21. Remove the screw(M4×8S tight)(b), remove the ground wire(c).

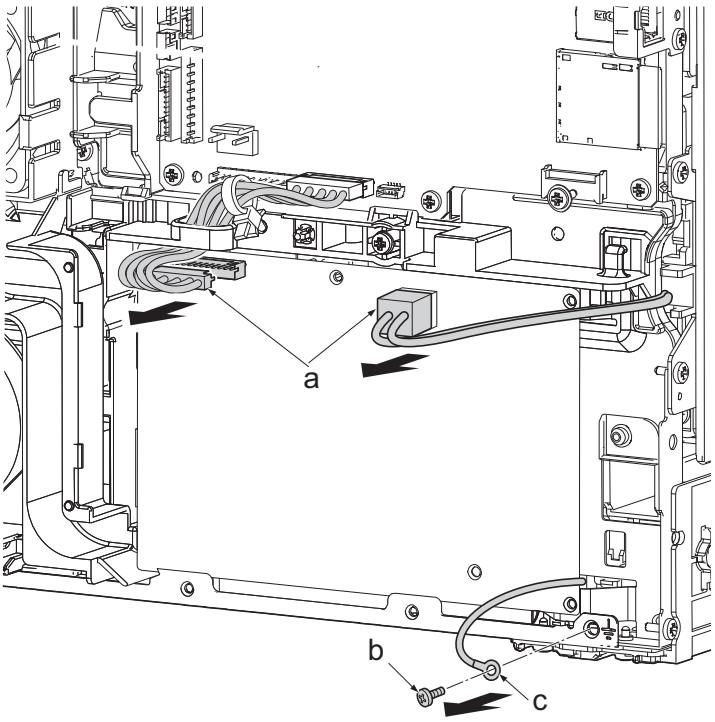


Figure 4-144

22. Remove three screws(a)(M3x8S tight), detach the low voltage power source PWB (b).
23. Check or replace the low voltage power source PWB (b), and then reattach the parts which are detached in the original position.

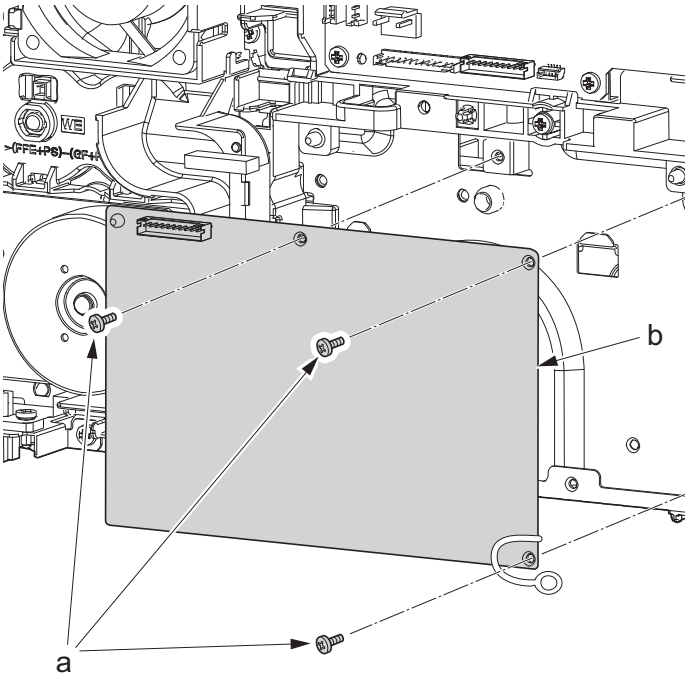


Figure 4-145

(5-4)Detaching and reattaching the Wi-Fi PWB.

Procedures

24. Detach the right rear cover (a) while twisting it.
25. Remove the screw(M3×10TP)(b).
26. Release the protrusion (e) by using a flat-blade screwdriver (d).
27. Detach the Wi-Fi cover(c).

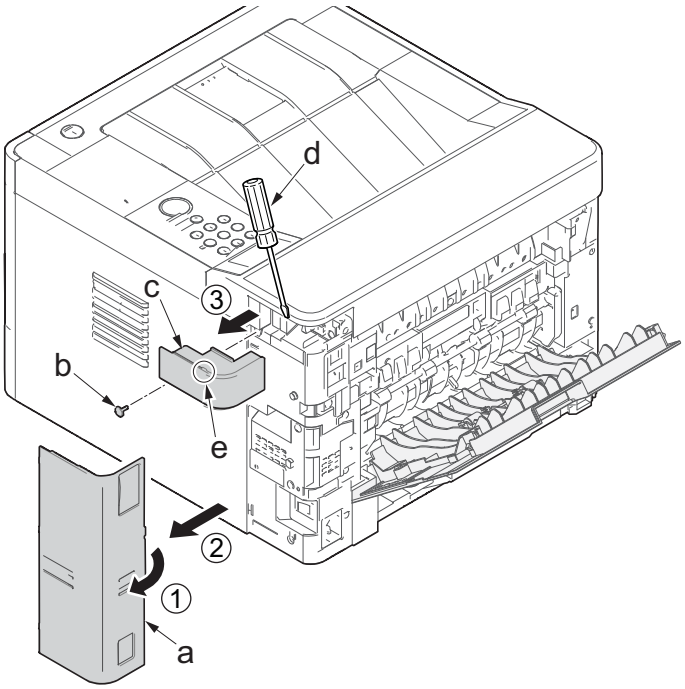


Figure 4-146

28. Detach the Wi-Fi PWB (a).
29. Check or replace the Wi-Fi PWB (a), and then reattach the parts which are detached in the original position.

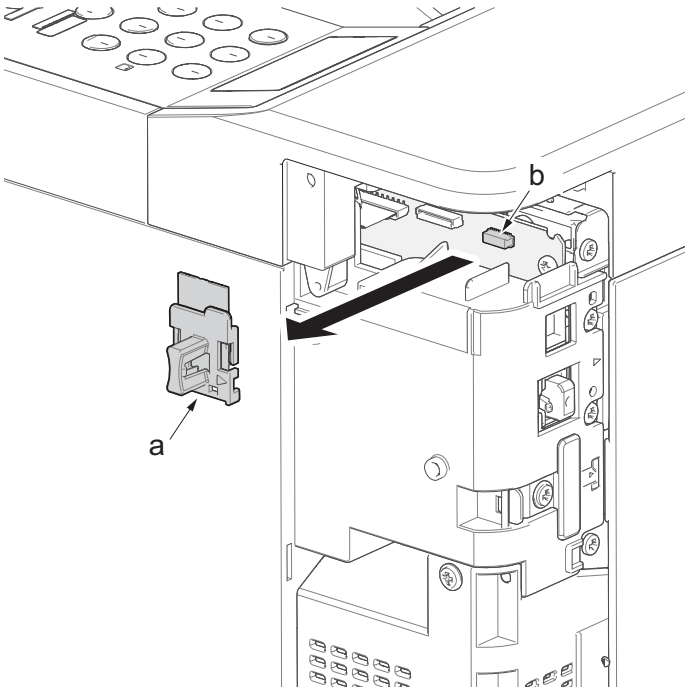


Figure 4-147

(5-5)Detaching and reattaching the USB PWB.

Procedures

1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:
The direction of hook (d) or (e) is reverse. Pay attention to the damage when detaching.

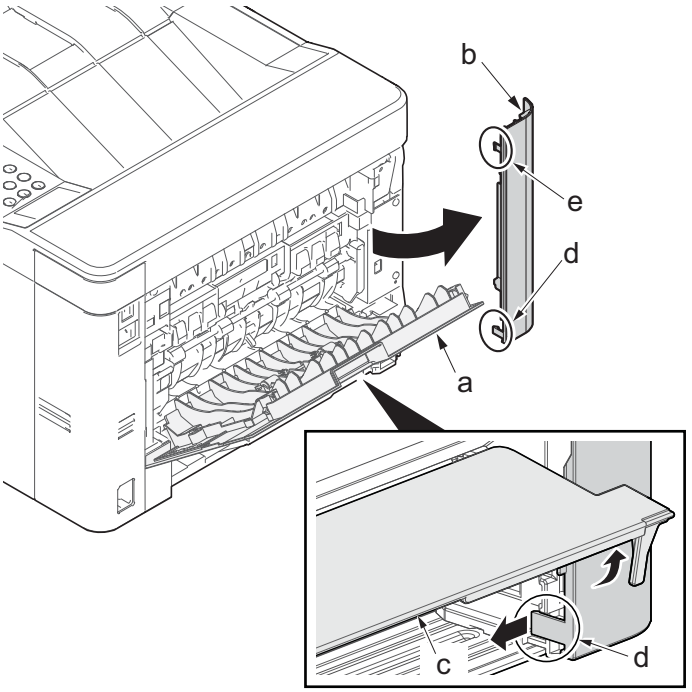


Figure 4-148

5. Detach the right rear cover (a) while twisting it.
6. Remove the screw(M3×10TP)(b).
7. Release the protrusion (e) by using a flat-blade screwdriver (d).
8. Detach the Wi-Fi cover(c).

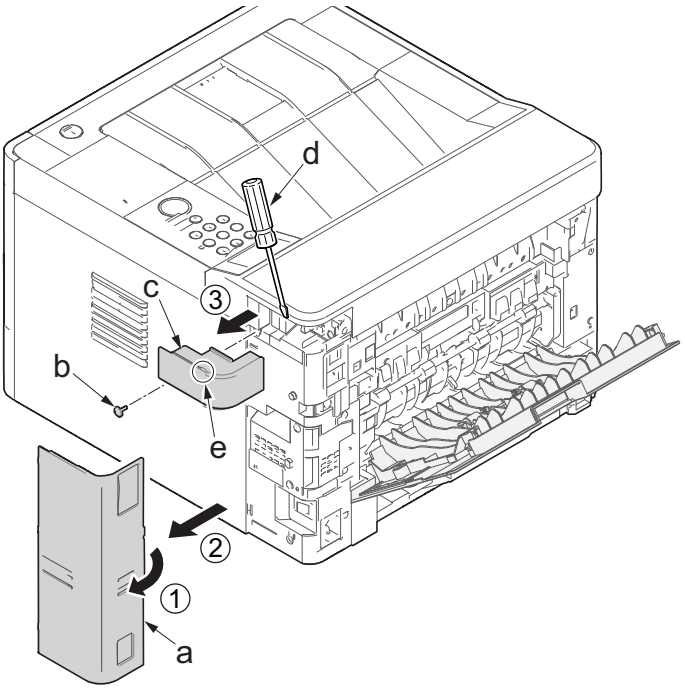


Figure 4-149

9. Remove two screws(M3×10TP)(a).
10. Release two hooks (b) of the upper rear cover (c) and detach it.

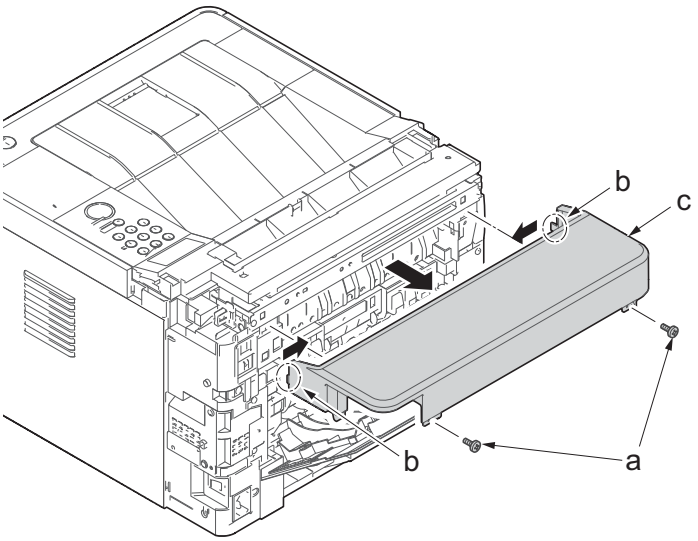


Figure 4-150

11. Pull out the cassette
12. Open the front cover (a).
13. Release four hooks (b) at the front side of the left cover(a).

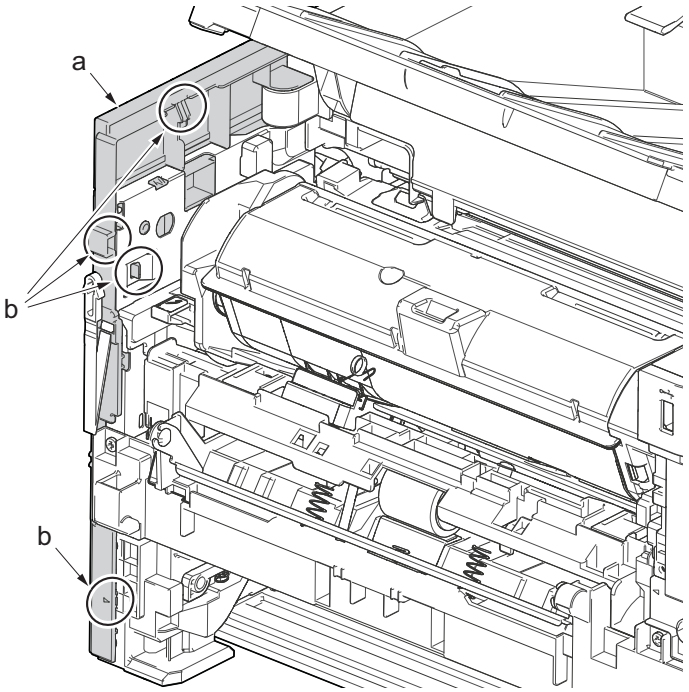


Figure 4-151

14. Release two hooks (b) at the rear side of the left cover (a).
15. While tilting the left cover (a), detach it in the direction of the arrow.

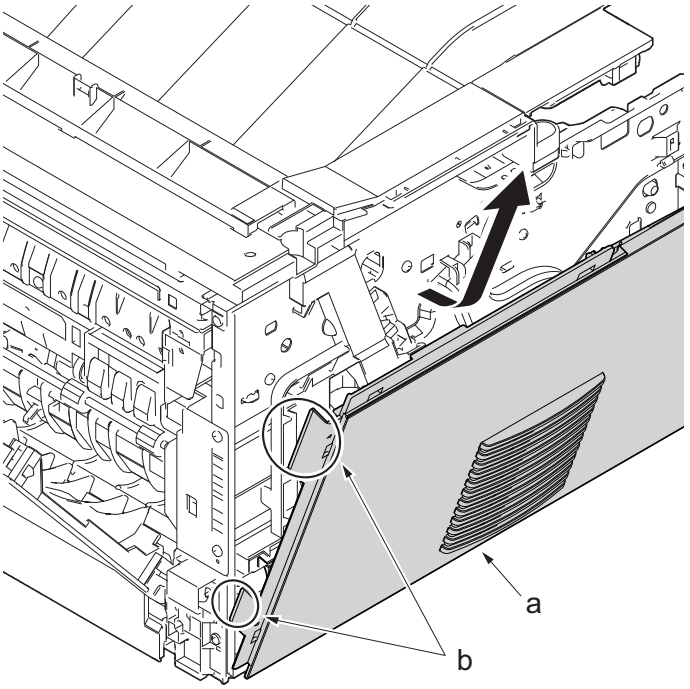


Figure 4-152

16. Twist three hooks (b) at the rear side of the right cover (a) to detach it.
17. Release two hooks by using a flat-head screwdriver (c).

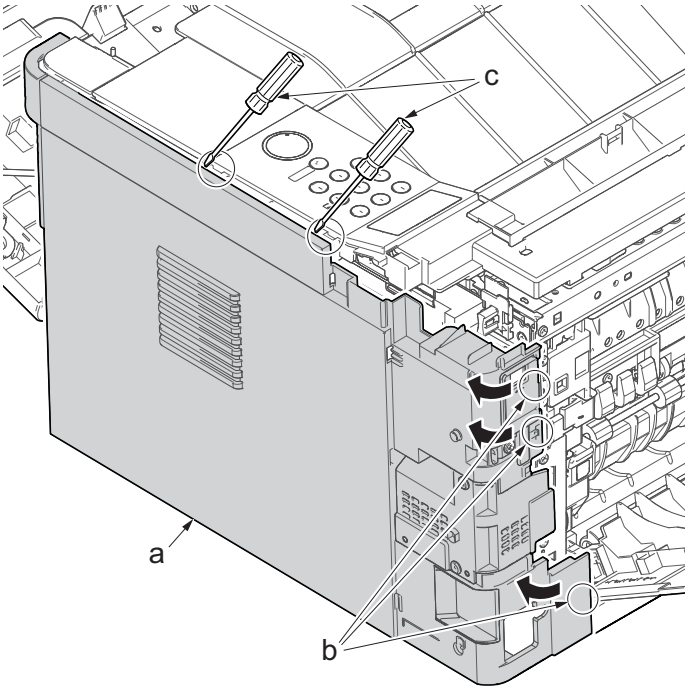


Figure 4-153

18. Release three hooks by using a flat-head screwdriver (d).
19. Twist two hooks (c) at the front side of the right cover (b) to release them and detach the right cover (b).

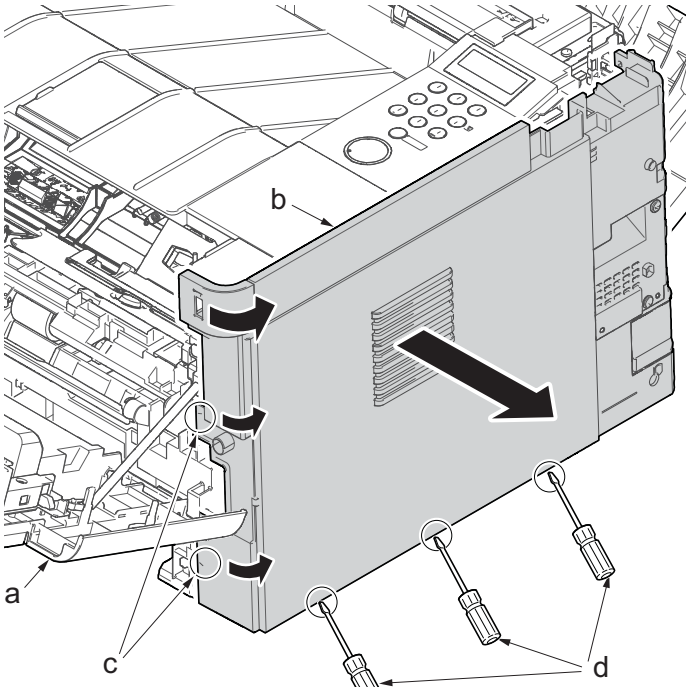


Figure 4-154

20. Open the top cover (a).
21. Remove the stop ring(b) and detach the upper cover rack (c) from the upper cover (a).

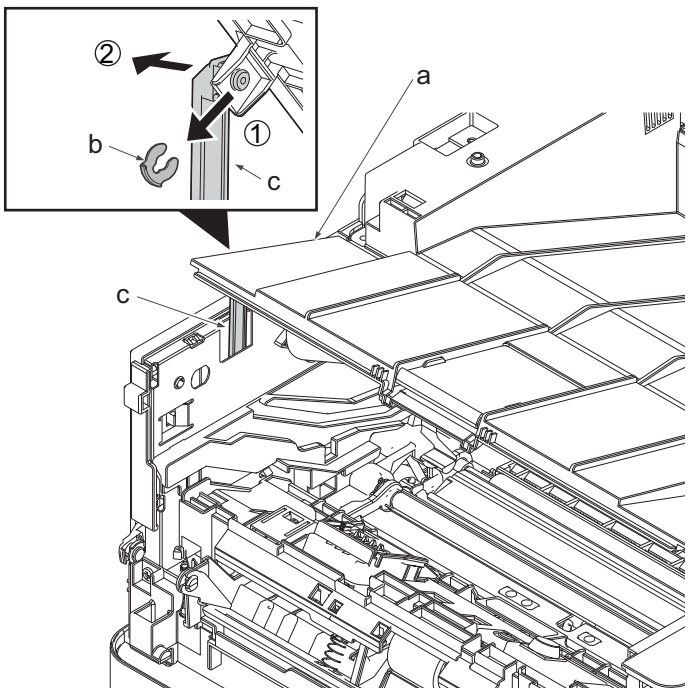


Figure 4-155

22. Open the top cover (a).
23. Remove the screws(M3x8S tight)(b), detach the right middle cover (c).

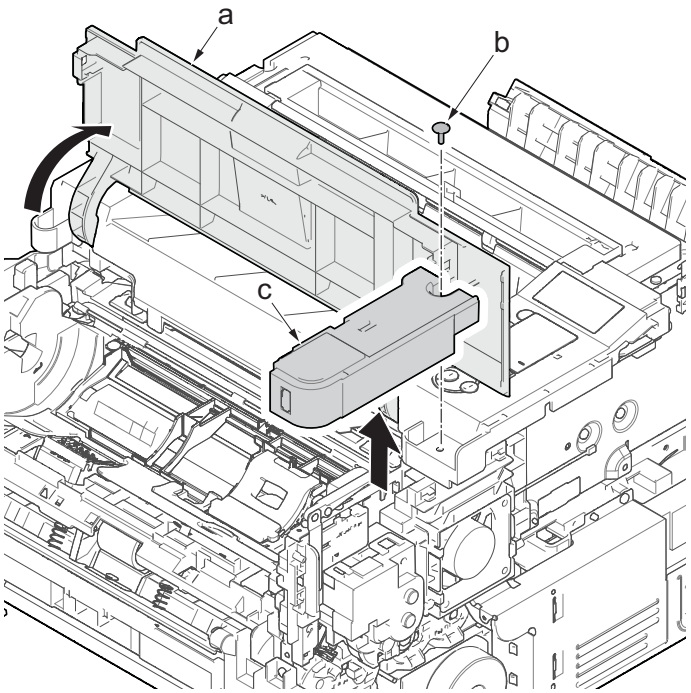


Figure 4-156

24. Remove two screws (a) (M3×8 tight).
25. Detach the USB PWB (b).
26. Check or replace the USB PWB (b), and then reattach the parts which are detached in the original position.

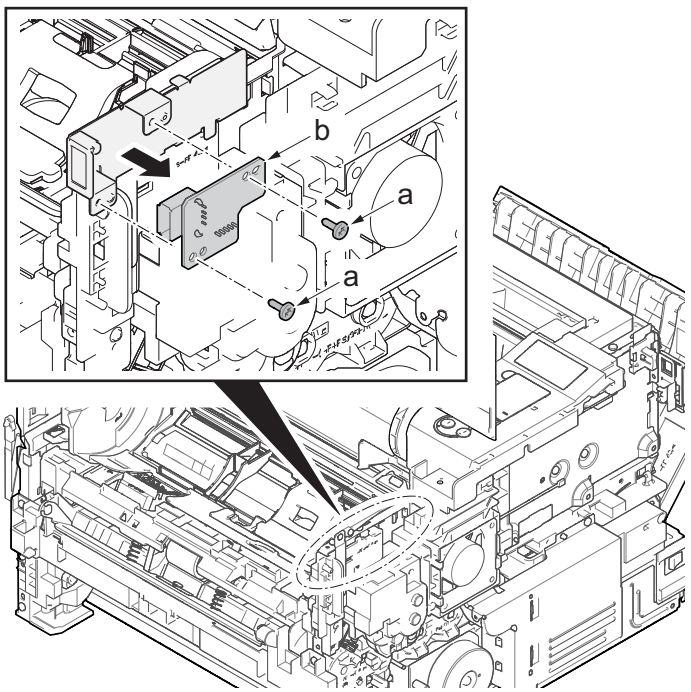


Figure 4-157

4-5Maintenance parts replacement procedures (option)

(1) Paper feeder

(1-1)Detaching and reattaching the PF main PWB

Procedures

1. Remove two screws(M3×8P tight)(a).
2. Release two hooks (b) of the upper cover (c) and detach it.

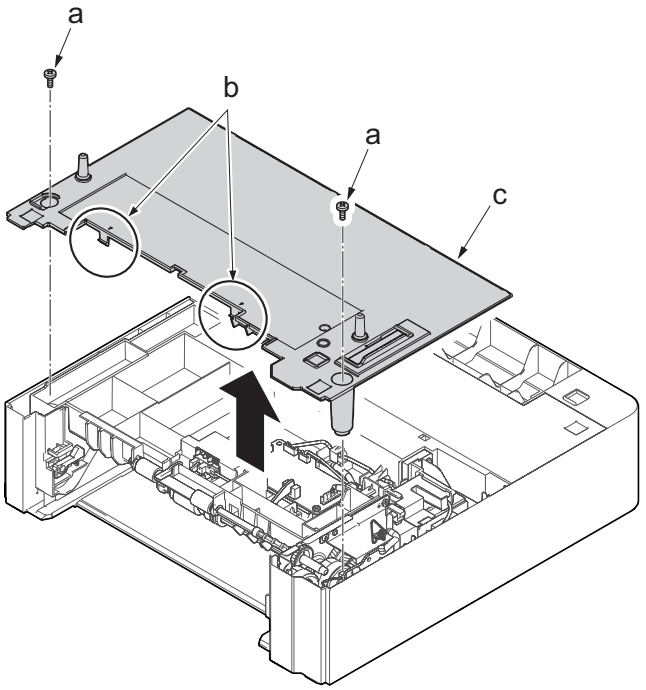


Figure 4-158

3. Disconnect all the connectors (a) from the PF main PWB(c).
4. Remove three screws(M3×8P tight)(b).
5. Detach the PF main PWB (c).
6. Check the status of the PF main PWB (c), clean or replace it as needed.
7. Reattach the parts in the original position.

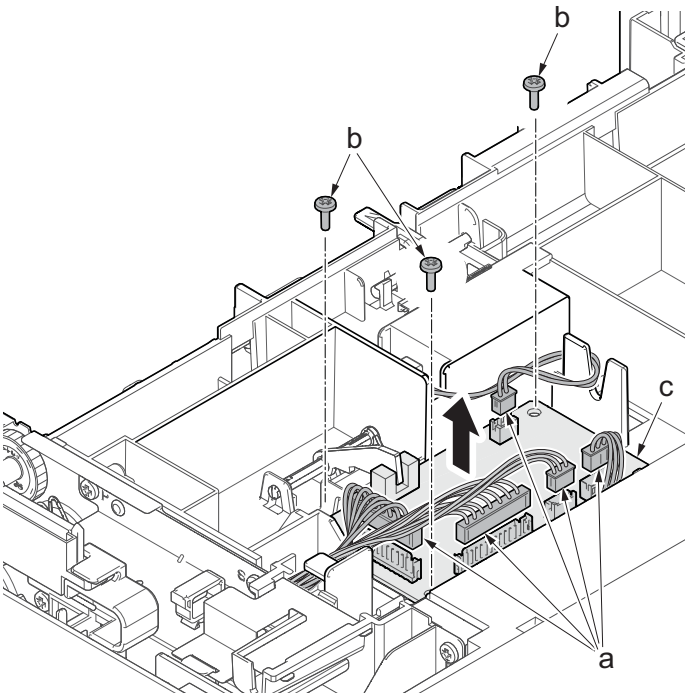


Figure 4-159

(1-2)Detaching and reattaching PF conveying motor.

Procedures

1. Remove two screws(M3×8P tight)(a).
2. Release two hooks (b) of the upper cover (c) and detach it.

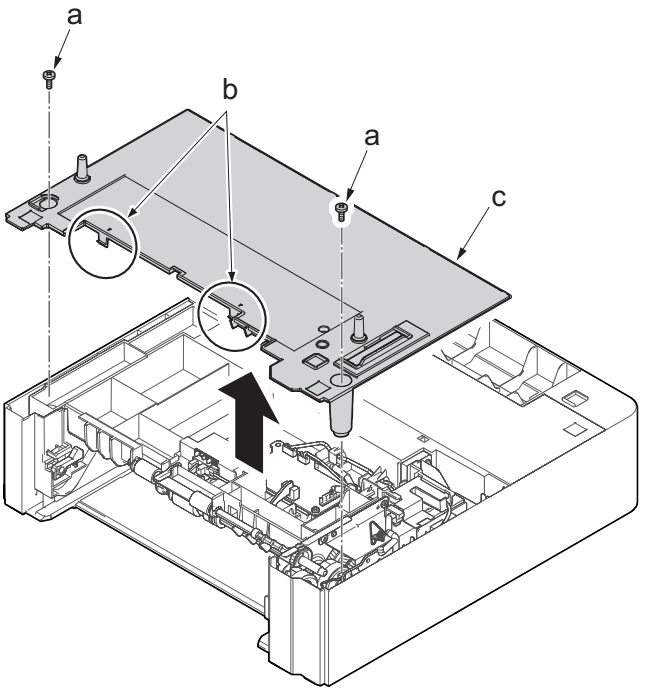


Figure 4-160

3. Remove the screw(M3x8P tight)(a) and detach the frame assembly (b).

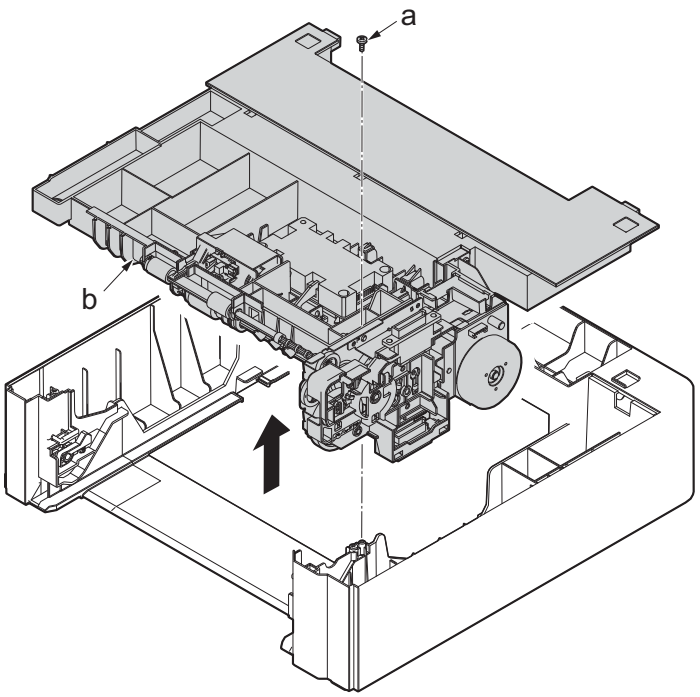


Figure 4-161

4. Disconnect three connectors (b) from the PF main PWB (a).
5. Remove the sheet(c) and open the wire saddle(d).
6. Remove the fixed screws(M3x8TP)(e) of the earth spring(f).

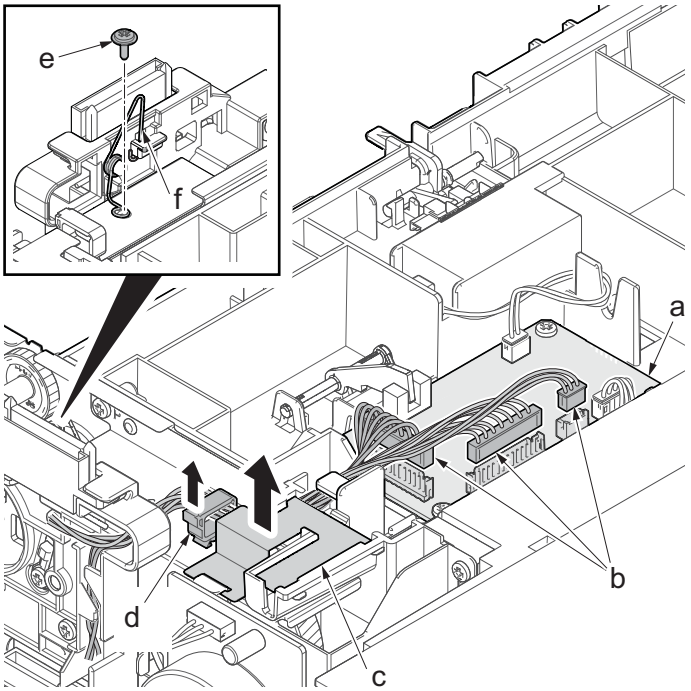


Figure 4-162

7. Disconnect two clutch connectors (a) and the motor connector (b).
8. Remove six screws(M3x8S tight)(a) and two ground terminals(d).
9. Detach the drawer support part (d).

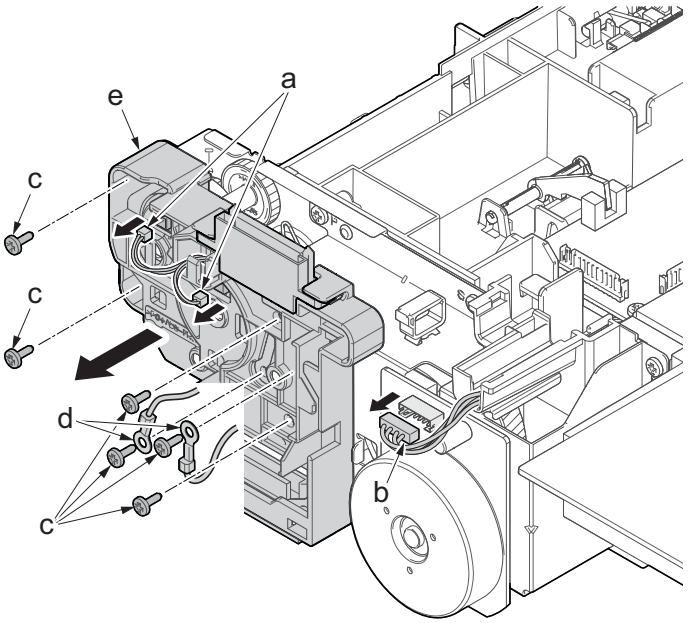


Figure 4-163

10. Remove two screws (M3x8S tight)(a).
11. Remove three screws (M3x8P tight)(b).
12. Detach the PF conveying motor assembly (c).

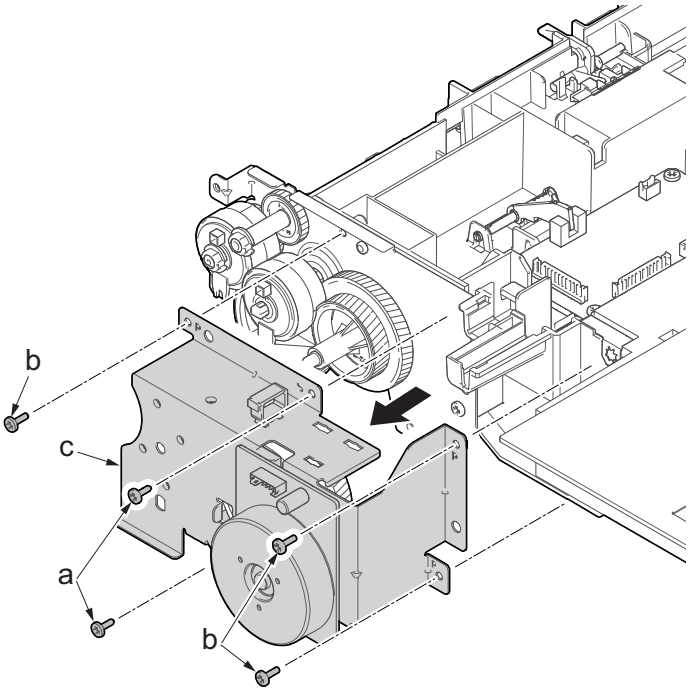


Figure 4-164

13. Detach the gear (a).
14. Remove three screws (b) (M3x4).
15. Detach the PF conveying motor (c) from the motor mounting plate (d).
16. Check the status of the PF conveying motor, clean or replace it if necessary.
17. Reattach the parts in the original position.

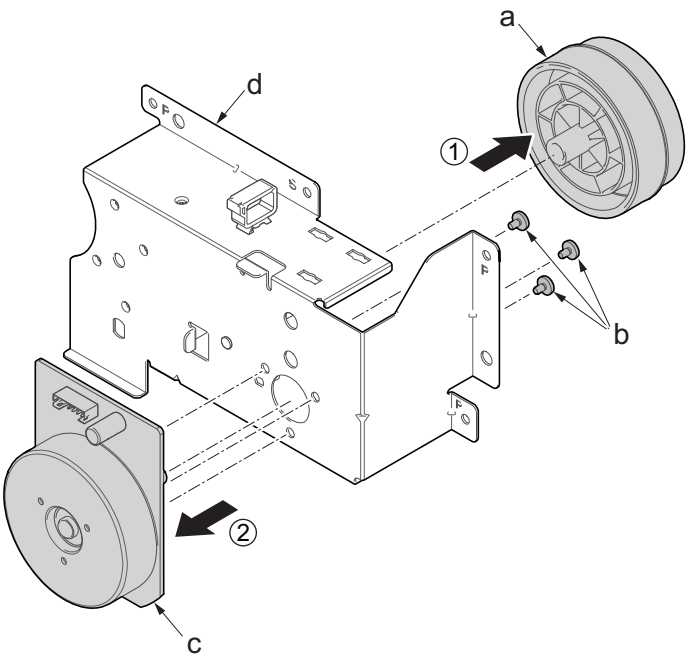


Figure 4-165

(1-3)Detaching and reattaching the PF clutch.

Procedures

1. Remove two screws(M3×8P tight)(a).
2. Release two hooks (b) of the upper cover (c) and detach it.

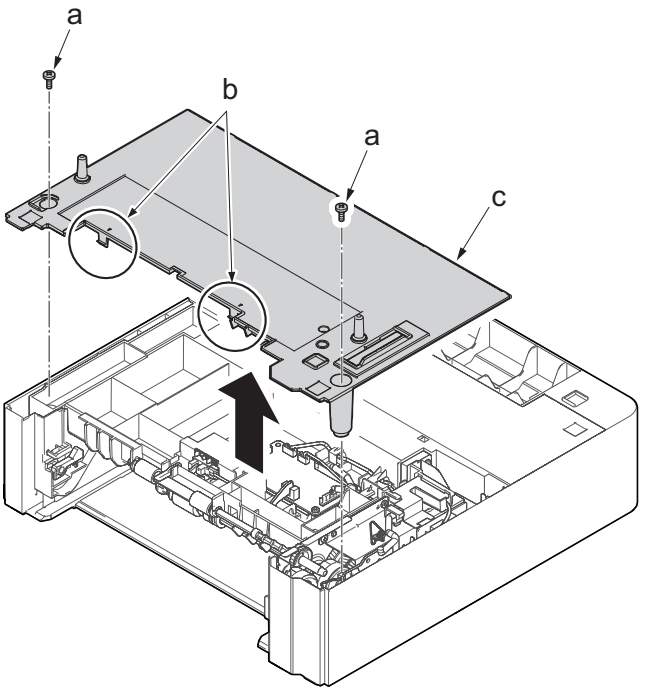


Figure 4-166

3. Remove the screw(M3x8P tight)(a) and detach the frame assembly (b).

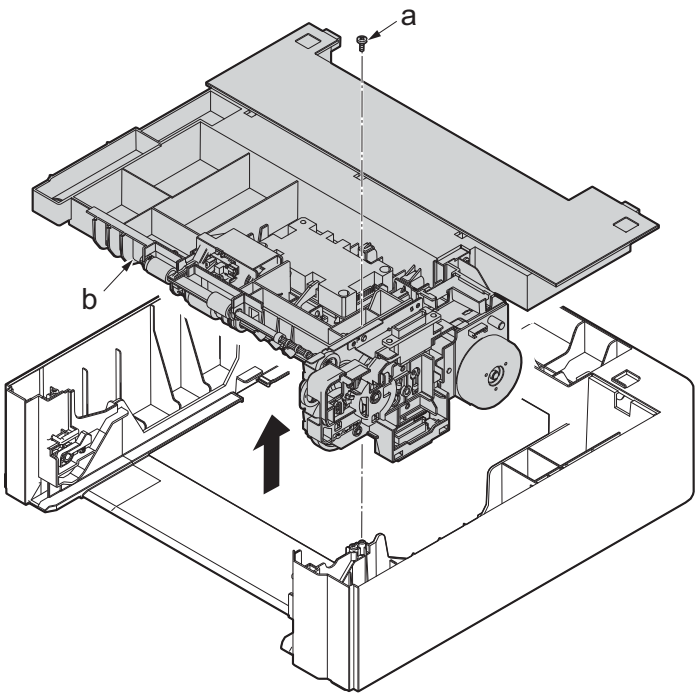


Figure 4-167

4. Disconnect three connectors (b) from the PF main PWB (a).
5. Remove the sheet(c) and open the wire saddle(d).
6. Remove the fixed screws(M3x8TP)(e) of the earth spring(f).

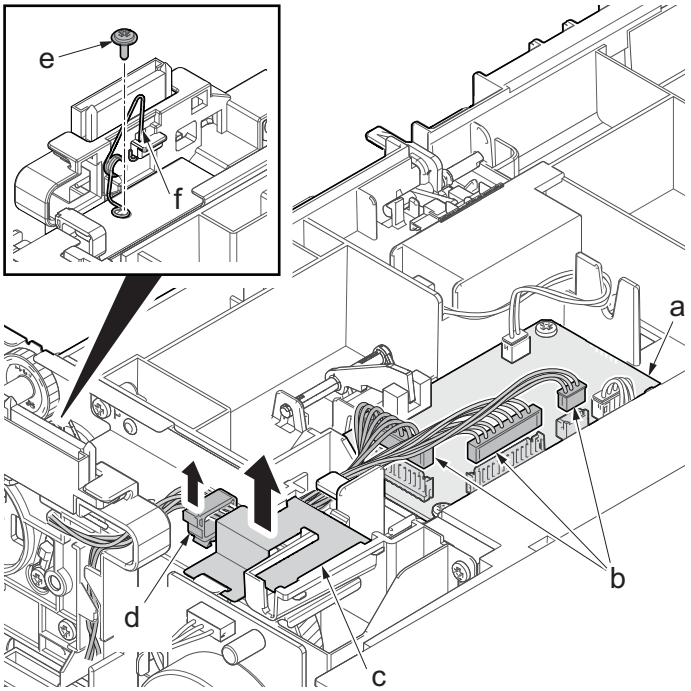


Figure 4-168

7. Disconnect two clutch connectors (a).
8. Remove six screws(M3x8S tight)(b) and two ground terminals(c).
9. Detach the drawer support part (d).

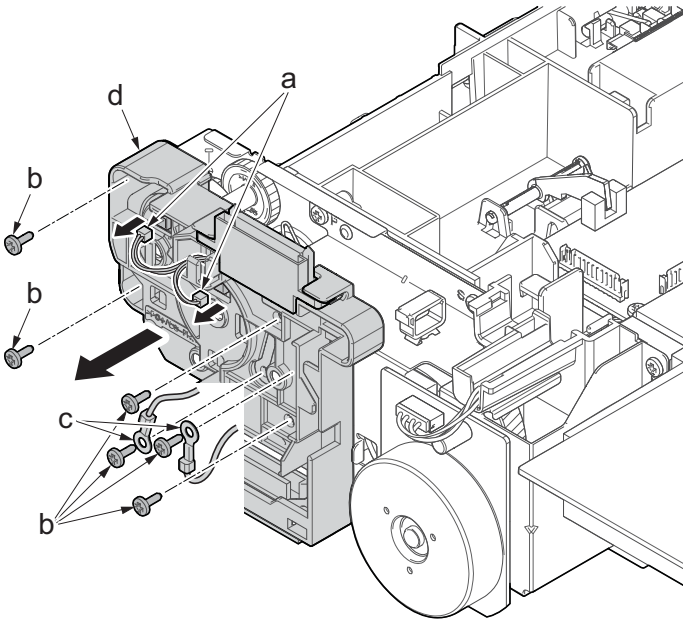


Figure 4-169

10. Detach the PF paper feed clutch(a).
11. Detach the PF feed clutch(b).
12. Check the status of the clutch, clean or replace it if necessary.
13. Reattach the parts in the original position.

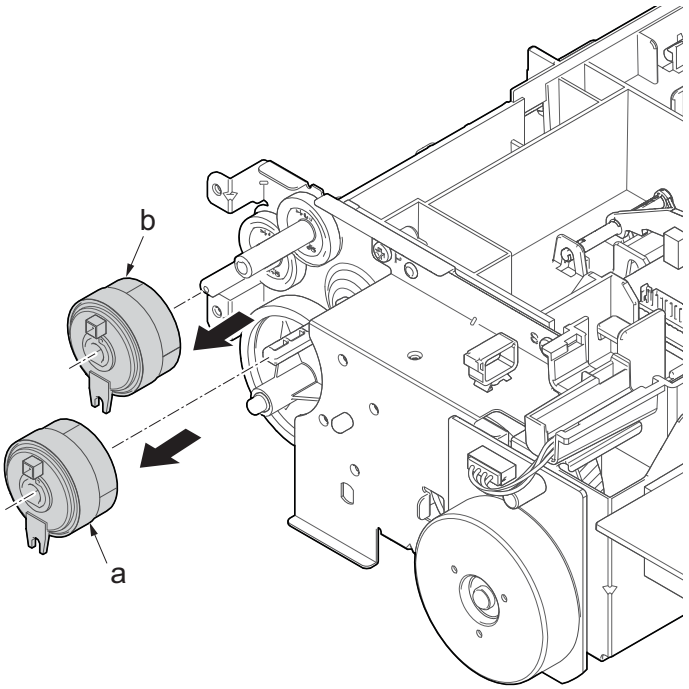


Figure 4-170

5 Firmware

5-1 Firmware update (LCD model)

Execute the following to update the firmware below.
*: The processing time is reduced with simultaneous processing by group.

[GROUP1 UPDATE]

Update order	Target	Master file name	Message
1	Controller firmware	DL_CTRL.2RX	CTRL
2	Optional language data 1	DL_OPT_xx.2RX*1	OPT1
3	Optional language data 2	DL_OPT_xx.2RX*1	OPT2
4	Optional language data 3	DL_OPT_xx.2RX*1	OPT3
5	Optional language data 4	DL_OPT_xx.2RX*1	OPT4
6	Optional language data 5	DL_OPT_xx.2RX*1	OPT5

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

[GROUP2 UPDATE]: No applicable firmware is available.

[GROUP3 UPDATE]

Update order	Target	Master file name	Message
1	Engine firmware	DL_ENGN.2RV	ENGN

[GROUP4 UPDATE]: No applicable firmware is available.

[GROUP5 UPDATE]: No applicable firmware is available.

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
Controller data	2RX2RX_CTRL_sign.bin	2RX_CTRL_cert.pem
Optional language data 1	2RX_OPT_xx_sign.bin	2RX_OPT_xx_cert.pem
Engine PWB	2RV_ENGN_sign.bin	2RV_ENGN_cert.pem
Data for optional language deletion	2RX_OPT_ER_sign.bin	2RX_OPT_ER_cert.pem

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

Preparations

Unzip the file containing the downloaded firmware and then copy the firmware and high-speed master file (skip files: ES_SKIP.ON) in the root folder of the USB memory.

*: If the high-speed master file exists, the same version firmware update is skipped.

Procedures

1. After turning the power switch (a) on and the screen is properly displayed, turn the power switch (a) off.
2. Insert the USB memory (b) with the firmware into the USB memory slot.
3. Turn the power switch (a) on.
4. [FW-UPDATE] is displayed and the upgrade is started.

*: Several kinds of firmware updates are processed simultaneously.

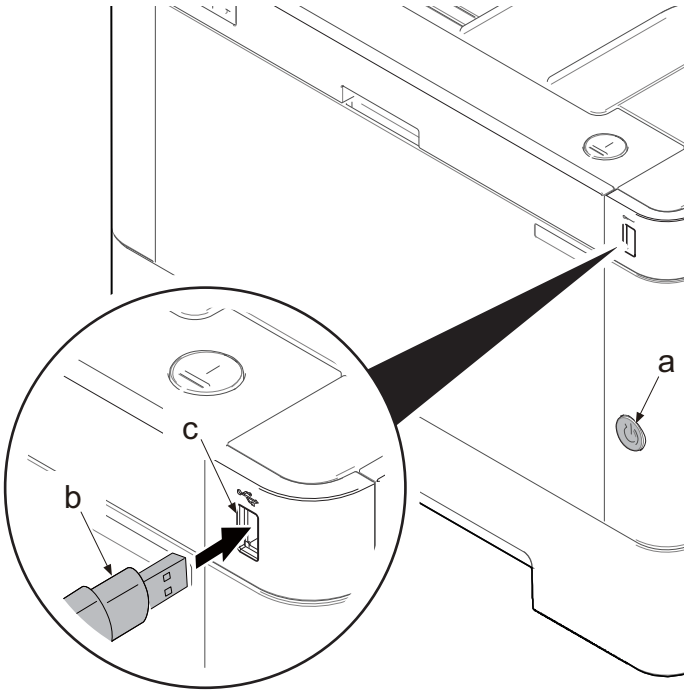


Figure 5-1

5. The target name is displayed with the progress by the progress bar during the firmware update.

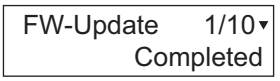
(Display example)

The first line: "FW-Update" is displayed

The second line: The progress bar displaying the update progress.

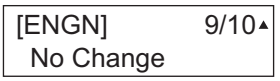
6. When the firmware update complete normally, the completion message is displayed on the first page and the character string of the update target and updated version are displayed on the second and subsequent pages.

(The first page)
The first line: "FW-Update"
Page number/total page number and upper and lower key icon are displayed.
The second line: "Completed" (Completion message)

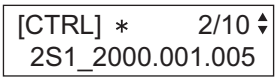


(The second and subsequent page)
The first line: "CTRL", (the character string applicable to the update target)
Page number/total page number and upper and lower key icon are displayed.
The second line: (updated version)

*: When there is no applicable master file, "No Change" is displayed.



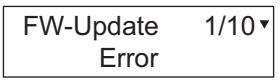
: "" is displayed after the update target name when it has been skipped.



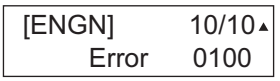
7. Check if the new firmware versions are displayed.
8. Unplug the power cord and disconnect the USB memory.
9. Connect the power cord and turn the power switch off after checking that "Ready to copy" is displayed.

In case of any error (the error which can not read a file), the process is interrupted immediately and the completion is displayed without executing the subsequent firmware update.

(The first page)
The first line: "FW-Update"
Page number/total page number and upper and lower key icon are displayed.
The second line: "Error"



(The second and subsequent page)
The first line: "ENGN", (the character string applicable to the update target)
Display page number/total page number, upper and lower key icon
The second line: "Error", error code



Error code

Code	Error contents	Code	Error contents
0000	Others	S000	Other signature verification error
0100	There is no master file.	S001	The signature verification file is insufficient.
0200	Master file version discrepancy	N001	Unable to connect the network *2 (There is no target to update.)
03xx *4	There is no download file (No.xx).		
04xx *4	File (No.xx) check sum discrepancy	N002	Can not connect to the network *3 (There is the target to update.)
05xx *4	File (No.xx) preparation failure		

Code	Error contents	Code	Error contents
06xx *4	File (No.xx) size excess		
08xx *4	File (No.xx) writing failure		

*1: The expiration of the FM certification is also included.
*2: As the normal startup is possible next time, restart automatically and start normally.
*3: Since the normal start-up is not available next time, it is not restarted automatically but moved to the USB update mode.
*4: The identifier applicable to the code XX is as follows.

Update target	Code	Identifier
Controller data	01	BOOT
	02	KERNEL
	03	FDTBIN
	04	ROOTFS
	05	APPLI
Optional language data	01	M_OPT_ALL
Engine PWB	01	ENGN

The signature verification result display

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

10. Unplug the power cord and disconnect the USB memory.
11. Plug in the power cord and turn the power switch (a) on.
12. Check that the "Home" screen is displayed and then turn the power switch (a) off.

Precautions
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.

5-2 Firmware update (LED model)

Execute the following to update the firmware below.
*: The processing time is reduced with simultaneous processing by group.

[GROUP1 UPDATE]

Update order	Target	Master file name	Message
1	Controller firmware	DL_CTRL.2RV	CTRL
2	Optional language data 1(for controller)	DL_OPT_xx.2RV*1	OPT1
3	Optional language data 2(for controller)	DL_OPT_xx.2RV*1	OPT2
4	Optional language data 3(for controller)	DL_OPT_xx.2RV*1	OPT3
5	Optional language data 4(for controller)	DL_OPT_xx.2RV*1	OPT4
6	Optional language data 5(for controller)	DL_OPT_xx.2RV*1	OPT5

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

[GROUP2 UPDATE]: No applicable firmware is available.

[GROUP3 UPDATE]

Update order	Target	Master file name	Message
1	Engine firmware	DL_ENGN.2RV	ENGN

[GROUP4 UPDATE]: No applicable firmware is available.

[GROUP5 UPDATE]: No applicable firmware is available.

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
Controller data	2RV_CTRL_sign.bin	2RV_CTRL_cert.pem
Optional language data	2RV_OPT_xx_sign.bin*1	2RV_OPT_xx_cert.pem*1
Engine PWB	2RV_ENGN_sign.bin	2RV_ENGN_cert.pem
Data for optional language deletion	2RV_OPT_ER_sign.bin	2RV_OPT_ER_cert_pem

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

Preparations

Unzip the file containing the downloaded firmware and then copy the firmware and high-speed master file (skip files: ES_SKIP.ON) in the root folder of the USB memory.

*: If the high-speed master file exists, the same version firmware update is skipped.

Procedures

1. After turning the power switch (a) on and checking the [Processing] indicator is lit, turn the power switch (a) off.
2. Insert the USB memory (b) with the firmware into the USB memory slot.
3. Turn the power switch (a) on.

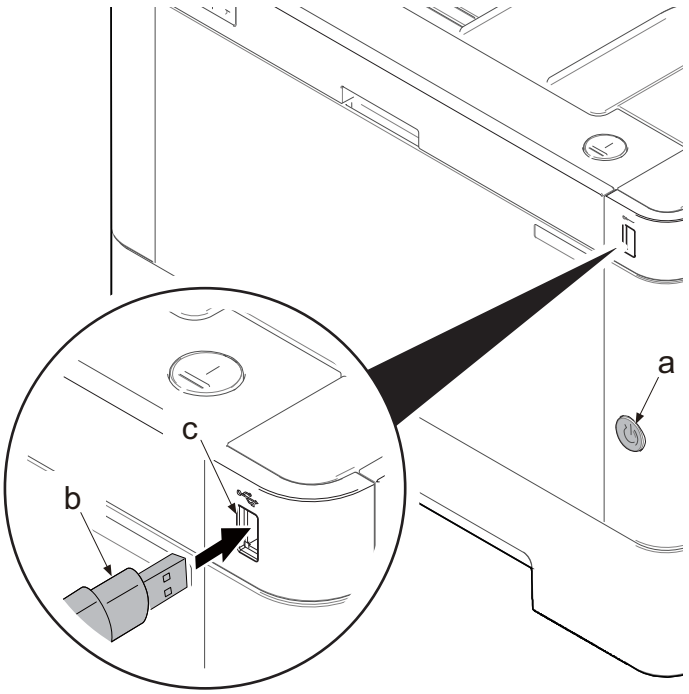
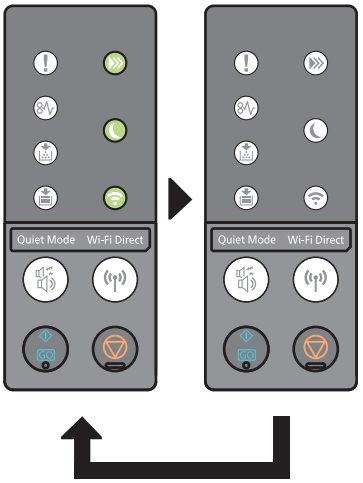


Figure 5-2

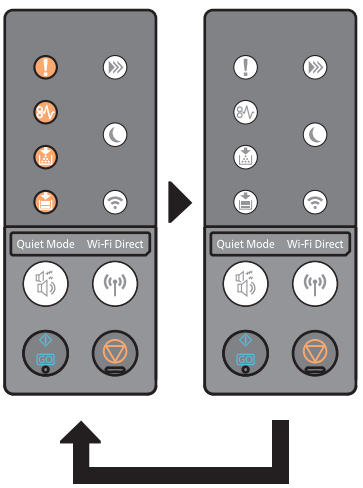
4. When the firmware update is started, all green LEDs on the operation panel blink during the process.



5. When the firmware update is completed, it is indicated with the following LED pattern.

In case of the normal completion.
When the firmware update is completed normally, all green LEDs turn on.
At this time also when all targets are no change, all the green LEDs turn on.

In case of the error completion.
In case of occurring an error during the firmware update, the process is interrupted immediately and all red LEDs blinks. The target items are not updated since an error occurred.



Error code

Code	Error contents	Code	Error contents
0000	Others	S000	Other signature verification error
0100	There is no master file.	S001	The signature verification file is insufficient.
0200	Master file version discrepancy	N001	Unable to connect the network *2 (There is no target to update.)
03xx *4	There is no download file (No.xx).		
04xx *4	File (No.xx) check sum discrepancy	N002	Can not connect to the internet *3 (There is the target to update.)
05xx *4	File (No.xx) preparation failure		
06xx *4	File (No.xx) size excess		
08xx *4	File (No.xx) writing failure		

*1: The expiration of the FM certification is also included.
*2: As the normal startup is possible next time, restart automatically and start normally.
*3: Since the normal start-up is not available next time, it is not restarted automatically but moved to the USB update mode.
*4: The identifier applicable to the code XX is as follows.

Update target	Code	Identifier
Controller data	01	BOOT
	02	KERNEL
	03	FDTBIN
	04	ROOTFS
	05	APPLI
Optional language data	01	M_OPT_ALL
Engine PWB	01	ENGN

Each master file code is "00".

The signature verification result display

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

6. Unplug the power cord and disconnect the USB memory.
7. Plug in the power cord and turn the power switch (a) on.
8. Check "Processing" is displayed and then turn the power switch (a) off.

Precautions

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.

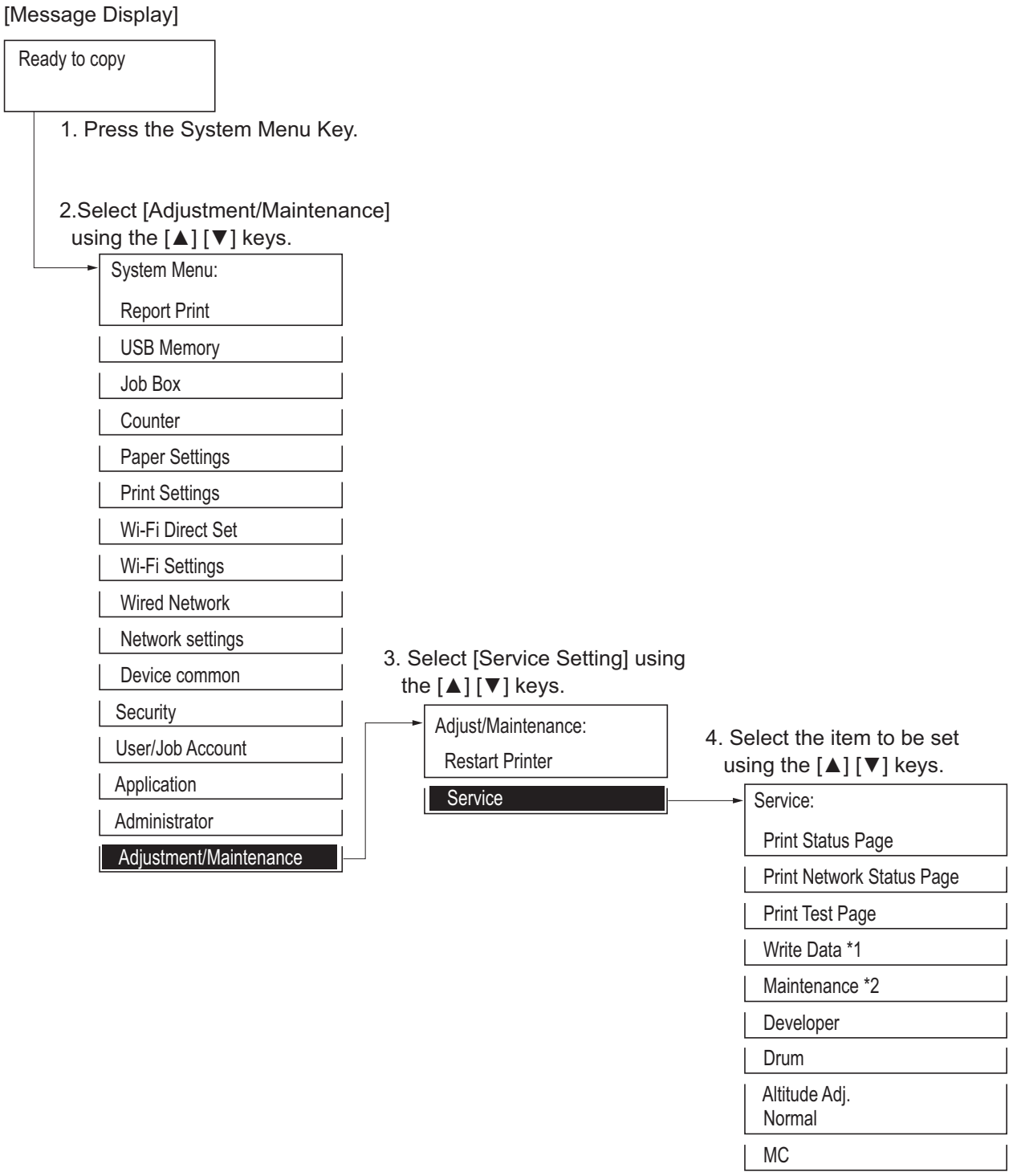
Turn the main power on again while the USB memory is installed.

*: The firmware update that was already completed before power shut-down is skipped.

6 Service modes
6-1 Service modes (LCD model)

The LCD model is equipped with the maintenance mode which can be used to maintain and repair the machine.

(1) Executing the service mode



*1:Displayed at the time of USB memory insertion.
*2:Display the time correspondence.

Service settings

Items	Contents	page
Print Status Page	Outputs the service status page.	6-3
Print Network Status Page	Outputs the network status page.	6-10
Print Test Page	Outputs the test page formed in halftone.	6-10
Writing Data	Writing data in a USB memory.	6-11
Maintenance	Reset the counter after replacing the maintenance kit.	6-11
Developer	Install toner in the developer unit	6-12
Drum	Cleans the drum surface.	6-12
Altitude Adj.	Sets the altitude adjustment mode.	6-13
MC	Sets the main charger output.	6-13

(2) Descriptions of service modes

Print Status Page

Contents

Prints the service status page. The service status page contains various settings and service data.

Purpose

Use to retrieve the information of the environmental setting and service data.

Method

1.Enter the Service Setting menu.
2.Using the [▲] or [▼] key, select [Print Test Page].
3.Press the [OK] key.
4.Press the [OK] key.
5.Prints the service status page.

Completion

Press the [Menu] key.

Detail of service status page (1)

Service Status Page

(6) [XXXXXXXXXX]

Printer
ECOSYS P2040dw
(1) Firmware Version 2RY_2000.000.000 2014.10.30

(2) 2014/10/30 15:15

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

Controller Information

Memory status
Standard Size 1.0 GB
Option Slot 1.0 GB
(7) Total Size 2.0 GB

Time
(8) Local Time Zone +01:00 _Tokyo
(9) Date and Time 10/30/2014 02:33
(10) Time Server 10.183.53.13

Installed Options
(11) Paper Feeder2 Installed
(12) SD Card Not Installed
(13) Card Authentication Kit (B) Installed
(14) UG-33 Installed
(15)
(16)
(17) Print Coverage
Average(%)/ Usage Page(A4/Letter Conversion)
(18) Total
K: 1.10 / 1111111.11

(19)

(20) Printer
K: 1.10 / 1111111.11

(21)

(22) Period (27/10/2010 - 03/11/2010 08:40)
(23) Last Page K(%) 1.00

(24)
(25)
(26)
(27)

(28) FRPO Status
User Top Margin A1+A2/100 0.0
User Left Margin A3+A4/100 0.0

e-MPS error control Y6 0

RP Code
(29) 1234 5678 9012
(30) 5678 9012 3456
(31) 9012 3456 7890
(32) 3456 7890 1234

1

? 6?1

Detail of service status page (2)

Service Status Page

Printer [ZE76100020]
ECOSYS P2040dw 2016/03/09 19:45
Firmware Version 2RY_2000.001.123 2016.02.18 [2RY_1000.001.083][2RY_1100.001.002][2RY_1100.001.002]

Controller Information

Print Settings
(33) MP Tray Priority Not Setting
(34) Altitude Adjustment
Status Normal
Send Information
(35) Date and Time 14/03/05 15:30
(36) Address mail@bjd.ne.jp

Engine Information

(37) NVRAM Version _CR05A19_CR05A19
(38) FAX Slot1 2NM_1200.001.089
FAX BOOT Version 2NM_5000.001.006
FAX APL Version 2NM_5100.004.001
FAX IPL Version 2NM_5200.001.006
(39) MAC Address 00:17:C8:3B:41:7E

1/4 (40) (41)
644/600 (42)
(43) -10/0/0/0/
(44) 0/0/-49/0
(45) 0/50/0/50/
(46) 0000064/0000000/0000064/0000000/0000000/0000000/
0000063/0000063/0000063/0000063/
F00/U00/0/1/0/0/1/25/27/30/0/0/25/25//5/1/0/ (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64)
(65) 1010/9000/2010/4000/3010/1010/4000/2010/1010/1010/5000/6000/3010/
5010/1010/1010/1010/1010/1010/1010/1010/1010/1010/1010/
(66) 6A00/F000/9901/4302/E102/9903/E803/E803/7100/F200/8601/3D02/D902/9503/E803/E803/
7500/F500/8701/3A02/EA02/9103/E803/E803/7400/0001/A901/4E02/F602/7C03/C403/CE03/
(67) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000/
(68) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000
(69) 0000000000000000/0000000000000000/0000000000000000/
(70) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/
(71) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000/
(72) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000/
(73) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000/
(74) 0000000000000000/0000000000000000/0000000000000000/
(75) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/
(76) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000/
(77) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000/
(78) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000/
(79) 0300A000/00000000/544B2D353234314B5300000000000000/3631324630333558000000000000000/0078/00/00
0300A000/00000000/544B2D3532343143530000000000000/3631324630313657000000000000000/0078/00/00
0300A000/00000000/544B2D353234314B5300000000000000/363132453236325A000000000000000/0078/00/00
0300A000/00000000/544B2D3532343159530000000000000/3631324532393142000000000000000/0078/00/00
(80) /
(81) [2R7_81BR.001.008] [ ] [ ] [ ] [ ]
[ ] [ ] (82) (83)
(84) 0284F60000/0258000000/00CF060005/000000FF00/5A00410022/0000003F00/00003F0000/003F000000/3F00001861/0000186100/
0018610000/1861000000/3F0000003F/0000000029/0028002300/2200900090/0028000002/0000EE02EE/02EE025203/0000002500/
0000250000/0025000000/310000002C/0000002C00/00002C0000/003F3C6E78/8CAA000186/A00000003D/00000101B0/0438048403/
8403840375/030302EF01/CC01EA0160/676D700105/0EFF39FEC7/004D00BCFE/DC01DE0159/FEA103EDFF/02FF1BFF0A/005800E5FF/
320082FE60/FE1BFF1500/2800D8FF54/FFA5FF5700/2100310000/000040
(85) 4/
1/ /5.0/12.0/ (86) (87) (88) (89)
0/5/ (90) (91)
0/0/15:47/0/ (92) (93) (94) (95)

2

? 6?2

No.	Items	Contents
(1)	Firmware Version	-
(2)	System date	-
(3)	Engine firmware version	-
(4)	Engine boot version	-
(5)	Operation panel firmware version	-
(6)	Machine serial number	-
(7)	Total memory size	-
(8)	Local time zone	-
(9)	Report output date	Day/Month/Year hour : minute
(10)	NTP server name	-
(11)	Availability of the paper feeder 2	Installed/Not Installed
(12)	Availability of the SD memory card	Installed/Not Installed
(13)	Availability of the ID Card Authentication Kit	Introduced/ before introduction/trial
(14)	Availability of UG-33	Introduced/ before introduction/trial
(15)	-	-
(16)	-	-
(17)	Page count converted to the A4/Letter size	Print Coverage provides a close-matching reference of toner consumption and will not match the actual toner consumption.
(18)	Entire average coverage	Black
(19)	-	-
(20)	Average printer coverage	Black
(21)	-	-
(22)	Cleared date and output date	-
(23)	Coverage on the last output page	-
(24)	-	-
(25)	-	-
(26)	-	-
(27)	-	-
(28)	FRPO setting	-
(29)	RP code	Coding the engine firmware version and the date of the previous update.
(30)	RP code	Code the main software version and the date of the latest update.
(31)	RP code	Coding the engine firmware version and the date of the previous update.
(32)	RP code	Code the main software version and the date of the previous update.
(33)	MP tray priority setting	Off/Auto/Always

No.	Items	Contents
(34)	High altitude adjustment set data	Normal/1001-2000m/2001-3000m/3001-3500m
(35)	The last sent date and time	-
(36)	Transmission address	-
(37)	NVRAM version	_ 1F3 1225 _ 1F3 1225 (a)(b)(c)(d)(e)(f) (a) Consistency of the current firmware 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 firmware version Normal if (a) and (d) are underscored, and (b) and (e) are identical with (c) and (f).
(38)	-	-
(39)	Mac address	-
(40)	Destination information	-
(41)	Area information	-
(42)	Margin setting	Top margin/Left margin
(43)	Top offset setting by paper source	MP tray top offest / Paper feeder 2 top offset / Duplex top offset / Top offset for rotated output
(44)	Left offset setting by paper source	MP tray left offset / Paper feeder 2 left offset / Duplex left offset / Left offset for rotated output
(45)	L parameters	Top margin integer part/Top margin decimal part/Left margin integer part /Left margin decimal part
(46)	Life counter (cassette 1)	Machine life/MP tray/Cassette/Paper feeder 1/Paper feeder 2/Duplex
	Life counter (cassette 2)	Drum unit K/Transfer unit/Developer Unit K/ Fuser unit
(47)	Panel lock information	F00: OFF F01: Partial lock1 F02: Partial lock2 F03: Partial lock3 F04: Full lock
(48)	USB information	U00: Not Connected U01: Full speed U02: Hi speed
(49)	Paper handling information	0: Paper source select 1: Paper source fixed

No.	Items	Contents
(50)	Auto cassette change	0: OFF 1: ON (Default)
(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 (Less than 330 mm length), Single counts
(53)	Billing counts timing	0: When secondary paper feed starts 1: When the paper is ejected
(54)	Temperature (machine inside)	-
(55)	Temperature (machine outside)	-
(56)	Relative humidity (machine outside)	-
(57)	Absolute humidity (machine outside)	-
(58)	LSU temperature information	-
(59)	LSU2 temperature information	-
(60)	DRT information	-
(61)	Asset Number	-
(62)	Job end judgment time-out time	-
(63)	Job end detection mode	0: Detects as one job, even if contained multiple jobs 1: Detects as individual job, dividing multiple jobs at a break in job
(64)	Prescribe environment reset	0: Off 1: On
(65)	Media type attributes 1 to 28 (Not used: 18, 19, 20) *: For details on settings, refer to MDAT command in "Prescribe Commands Reference Manual".	Weight settings 0: Light 1: Normal 1 2: Normal 2 3: Normal 3 4: Heavy 1 5: Heavy 2 6: Heavy 3 7: Extra Heavy Fuser settings 0: High 1: Middle 2: Low 3: Vellum Duplex settings 0: Disable 1: Enable
(66)	IO Calibration information	K/C/M/Y
(67)	Bias Calibration information	-
(68)	Calibration information	-
(69)	Sensor initial information	-
(70)	Calibration information	-
(71)	Calibration information	-
(72)	Calibration information	-
(73)	Calibration information	-
(74)	Paper loop correction shift amount	-
(75)	Paper loop correction interval	-
(76)	Paper loop correction patch amount	-
(77)	Calibration information	-

No.	Items	Contents
(78)	Calibration information	-
(79)	RFID information (K,C,M,Y)	-
(80)	RFID reader/writer version	-
(81)	Optional paper feeder firmware version	-
(82)	-	-
(83)	-	-
(84)	Maintenance information	-
(85)	MC correction	1 to 7
(86)	Automatic judgment of the color conversion process	0: Off 1: On
(87)	-	-
(88)	Low coverage setting	0.1 to 100.0
(89)	Middle coverage setting	0.1 to 100.0
(90)	Toner low setting	0: Disabled 1: Enabled
(91)	Toner low detection level	0 to 100 (%)
(92)	Full-page print mode	0: Normal mode (Factory setting) 1: Full-page mode
(93)	Wake-up mode	0: Off (Don't wake up) 1: On (Do wake up)
(94)	Wake-up timer	Displays the wake-up time
(95)	BAM conformity mode setting	0: Non-conformity mode 1: Conformity Mode

Print Network Status Page

Contents

Print the network status page.

Purpose

Acquires the network setting information.

Method

1.Enter the Service Setting menu.
2.Using the [▲] or [▼] key, select [Print Network Status Page].
3.Press the [OK] key.
4.Press the [OK] key.
5.Prints the network status page.

Completion

Press the [Menu] key.

Print Test Page

Contents

Outputs the test page in 16-level halftone.

Purpose

Outputs the test page to judge the cause when an image failure occurs.

Method

1.Enter the Service Setting menu.
2.Using the [▲] or [▼] key, select [Print Test Page].
3.Press the [OK] key.
4.Press the [OK] key.
5.Prints the test page.

Completion

Press the [Menu] key.

Gray scale (16 levels)

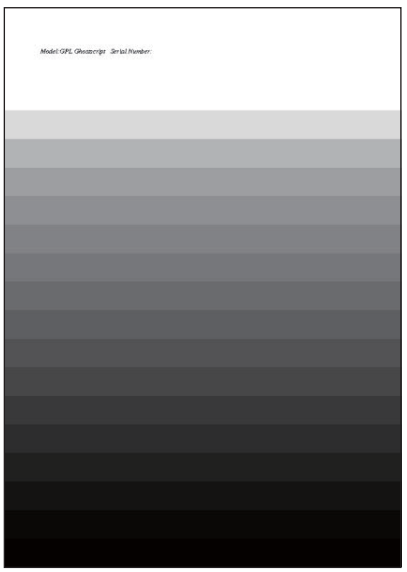


Figure 1-6-1

Write Data

Contents

Writing data in a USB memory.
Executable only when a USB memory is detected.

Method

Insert a USB memory before writing data.

1. Enter the Service Setting menu.
2. Using the [▲] or [▼] key, select [Write Data].
3. Press the [OK] key.
4. Press the [OK] key.
5. "Data waiting" is displayed when becoming ready to receive the write data.
6. "Processing" appears and writing data in a USB memory is executed by sending data from the host in this status. "Ready" is displayed after completion.

Completion

Press the [Menu] key.

Maintenance

Contents

Reset the counter after replacing the maintenance kit.
The "Replace MK" message indicates that it is necessary to replace the maintenance kit when the specified print count has been reached. After replacing the maintenance kit, execute this item and reset the counter in order to newly start the count.

* :Appears in the system menu only at the time of replacement.

Purpose

Clears maintenance kit life counts.

Replacement procedures

Drum unit (See page 4-11)
Developer unit (See page 4-10)

Method

1. Enter the Service Setting menu.
2. Using the [▲] or [▼] key, select [Maintenance].
3. Press the [OK] key.
4. Press the [OK] key.
5. "Completed" appears and the counter of the each unit is reset.

Remarks

The counter reset at the maintenance kit replacement is recorded in the event log as the page or image count at the maintenance kit replacement (6-16,6-19 reference). Base on this information, it can be judged that it was reset at other timing than the maintenance kit replacement.

Developer

Contents

When replacing with the new developer unit, it needs to supply toner as it is not included in the developer unit. Though the toner is supplied automatically to the developer unit without the specific operation, it takes a long time to supply the toner inside the developer unit to the level so that it is possible to print in the case of the new developer unit which does not contain the toner at all. (About 200gram toner needs to reside.) In case of replacing the developer unit, it is possible to supply toner temporally at a high speed in this mode.

Purpose

Enforce to supply the toner when replacing the developer unit.

Method

1.Enter the Service Setting menu.
2.Using the [▲] or [▼] key, select [Developer].
3.Press the [OK] key.
4.Press the [OK] key.
5.[Received] is displayed.
6.After turning the power switch off and on, the toner installation mode is executed.
* :When the toner installation mode is executed. it stops the toner supply.

Completion

Press the [Menu] key.

Drum

Contents

Toner is thinly spread to the entire drum and it is rotated about 2 minutes. The cleaning blade inside the drum unit scrapes off toner to clean the drum surface.

Purpose

Cleans the drum surface if an image failure occurs from the drum factor. Effective to execute when condensation occurs on the drum.

Method

1.Enter the Service Setting menu.
2.Using the [▲] or [▼] key, select [Drum].
3.Press the [OK] key.
4.Press the [OK] key.
5.Execute Drum refreshing.

Completion

Press the [Menu] key.

Altitude Adj.

Description

Sets the altitude adjustment mode.

Purpose

Execute it for the image quality deterioration at the operating environment of 1,001m above sea level or more.

Method

1.Enter the Service Setting menu.
2.Using the [▲] or [▼] key, select [Altitude Adjustment].
3.Press the [OK] key.
4.Using the [▲] or [▼] keys, select [Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m].
5.Press the [OK] key to set the setting value.

Completion

Press the [Menu] key.

MC

Contents

Sets the main charger output.

Purpose

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

Method

1.Enter the Service Setting menu.
2.Using the [▲] or [▼] key, select [MC].
3.Press the [OK] key.
4.Using the [▲] or [▼] key, select the setting "1" to "7".
5.Press the [OK] key to set the setting value.

Completion

Press the [Menu] key.

6-2 Service mode (LED model)

(1) Maintenance menu

If using [Maintenance menu] installed from the Product Library DVD, it is possible to adjust the print position and to enhance the print quality to the maximum.

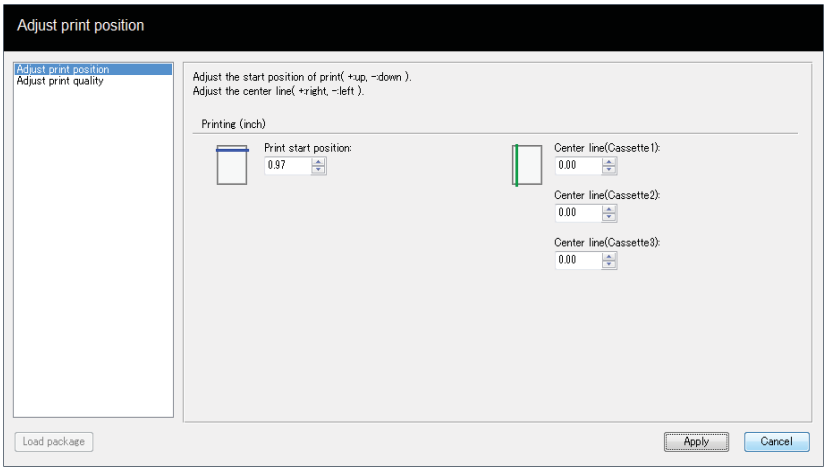


Figure 6-7

Items		Explanation
Adjust the print position	Print the start position	Designate the top margin value to adjust the print starting position. Setting value: 0 to 300 mm (in 5 mm increments)
	Center line	Designate the left margin value for each available paper source to adjust the center position. This setting can used in each cassette when an usable optional paper feeder is installed. Setting value: -25 to 25 mm (in 5 mm increments)
Adjust the print quality	Set the drum potential	If the print quality deteriorates, it is possible to improve it by adjusting the drum potential. Setting value: 1 to 7
	Altitude Adj.	When the print quality deteriorates at the high altitude of 1,000m or more, it is possible to improve the print quality by executing the altitude adjustment. Setting value: Normal, 1,001 to 2,000m, 2,001 to 3,000m, 3,001 to 3,500m
	Drum Refreshing	When vertical streaks appear on the image, execute the drum refreshing.

(2) Printing the report

When printing each report in order to check the machine setting and status, execute the following operation.

Print Status Page

The information which current setting contents, memory size and installed optional device can be checked.
Press and hold the [Go] key 3 seconds or more or 9 seconds or more to print the status page.
If it is possible to print the report, the indicator blinks as follows.

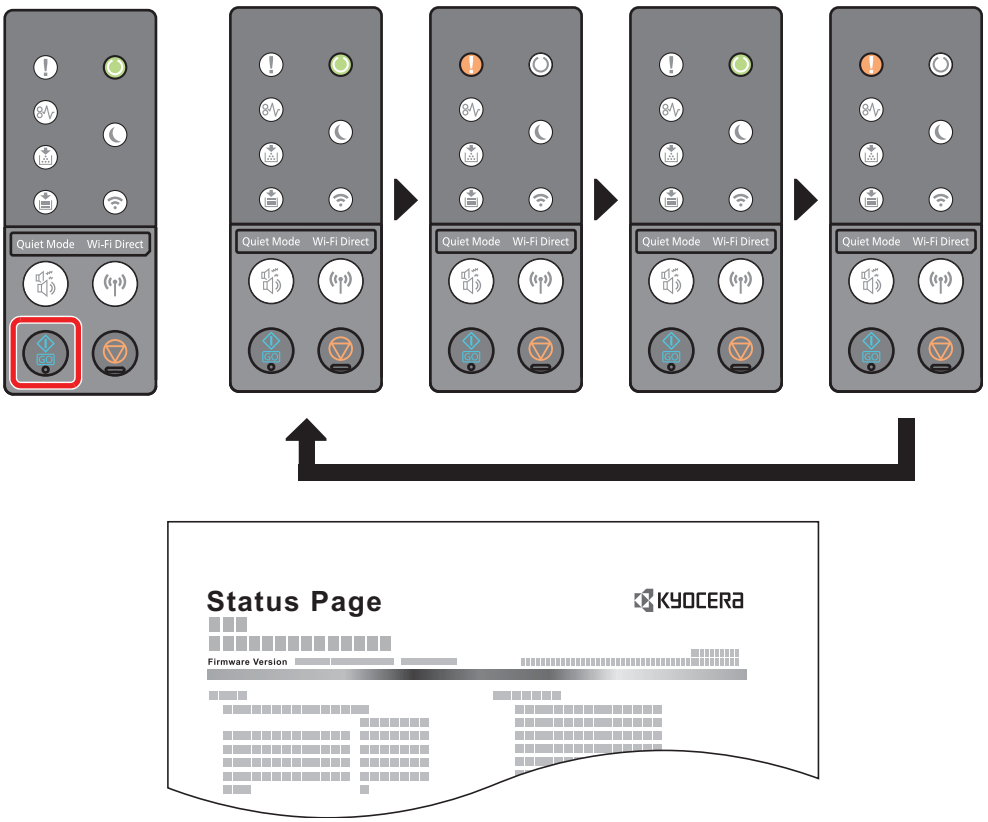


Figure 6-8

Print service status page
More detailed information than the status page can be checked.
It is the main purpose that the service person prints it in the case of the maintenance.
Press and hold the [Go] key 10 seconds or more to print the status page.
If it is possible to print the report, the indicator blinks as well as in the case of the status page.

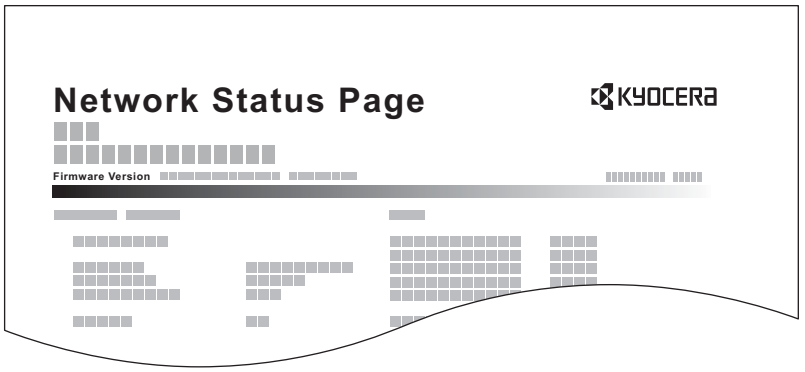


Figure 6-9

NOTE
In the case of the machine with the network function, the service status page and the network status page are printed.
The network status page provides the information such as network interface firmware version, network address and network protocol.

(3) Toner install mode

Contents

When replacing with the new developer unit, it needs to supply toner as it is not included in the developer unit. Though the toner is supplied automatically to the developer unit without the specific operation, it takes a long time to supply the toner inside the developer unit to the level so that it is possible to print in the case of the new developer unit which does not contain the toner at all. (About 200gram toner needs to reside.) In case of replacing the developer unit, it is possible to supply toner temporally at a high speed in this mode.

Purpose

Enforce to supply the toner when replacing the developer unit.

Method

1.Open the front cover.
2.Press and hold the [Go] and [Stop] keys simultaneously 5 seconds or more.
3.Close the front cover. The toner installation mode is executed.
* :When the toner installation mode is executed. it stops the toner supply.

(4) Checking/clearing the maintenance cycle

Contents

After replacing the maintenance kit, execute this item and reset the counter in order to newly start the count.

Purpose

Clears maintenance kit life counts.

Replacement procedures

Drum unit (See page 4-11)
Developer unit (See page 4-10)

Method

1.Open the front cover.
2.Press and hold the [Go] key 15 seconds or more.
3.Close the front cover. The maintenance counter is cleared.

6-3 Print event log

Print event log

Contents

List of the history of paper jams, self-diagnostics errors and toner container replacement is printed.

Purpose

The machine failure is analyzed by judging the occurrence history of each item.

Method

1.Connects between the main unit and PC (network) via the USB interface connector or network interface connector.
2.Connects the power cord.
3.Turn the power switch on. Check if it comes to the ready-to-print status.
4.Sends the following Prescribe command from PC to the main unit.

```
!R!KCFG"ELOG";EXIT;
```

5.Prints the event log.

Completion

Press the [Stop] key.

Remarks: explaining the set contents (detail of the above procedure 4.).

In the case of connection via the USB interface connector

(1)Save the file describing the Prescribe commands at the above 5.
(2)Sets the shared printer at the sharing tab of the printer properties.
(3)Select the port to connect via USB at [Port] tab.
(Set shared printer name.)
(4)Start up DOS and execute the following command.
copy file name\\computer name\shared printer name
*: Designate the file name saved at (1)

In the case of connection via the network interface connector (using the FTP communication).

(1)Save the file describing the Prescribe commands at the above 4.
(2)Start up DOS and execute the following command.
IP address of ftp printer
*: Both user name and password are left black to proceed.
(3)Next, execute the following command.
put file name
*: Designate the file name saved at (1)

Detail of event log (1)

Event Log

KYOCERA

Printer
ECOSYS P2040dw

XXXXXXXXXXXXXXXX
(2) 2014/10/19 15:15

(1) Firmware version 2RY_2000.000.000 2014.09.19

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

(6) Machine No.:Z7T0000000 (7) Life Count:100000

(8) **Paper Jam Log**

#	Count.	Event Descriptions	Date and Time
16	9999999	4003.01.00.00.00	2014/09/22 10:00
15	8888888	0501.01.00.00.00	2014/09/20 09:22
14	9999999	4201.01.00.00.00	2014/09/11 10:00
13	9999999	4003.01.00.00.00	2014/09/11 10:00
12	9999999	4003.01.00.00.00	2014/09/11 10:00
11	9999999	4003.01.00.00.00	2014/09/03 10:00
10	9999999	4003.01.00.00.00	2014/08/15 10:00
9	9999999	4003.01.00.00.00	2014/08/11 10:00
8	9999999	4003.01.00.00.00	2014/07/05 10:00
7	9999999	4003.01.00.00.00	2014/07/04 10:00
6	9999999	4003.01.00.00.00	2014/06/26 10:00
5	9999999	4003.00.00.00.00	2014/05/01 10:00
4	9999999	4003.00.00.00.00	2014/04/05 10:00
3	9999999	4003.00.00.00.00	2014/02/21 10:00
2	9999999	4003.00.00.00.00	2013/11/3010:00
1	9999999	4003.00.00.00.00	2013/11/24 10:00

4003.01.00.00.00
(a) (b) (c) (d) (e)

(10) **Maintenance Log**

#	Count.	Item	Date and Time
8	9999999	02.01	2014/07/05 10:00
7	9999999	02.00	2014/07/04 10:00
6	9999999	02.01	2014/06/26 10:00
5	9999999	02.02	2014/05/01 10:00
4	9999999	02.03	2014/04/05 10:00
3	9999999	02.01	2014/02/21 10:00
2	9999999	02.00	2013/11/30 10:00
1	9999999	02.02	2013/11/24 10:00

(9) **Service Call Log**

#	Count.	Service Code	Date and Time
8	9999999	01.00.0100	2014/07/05 10:00
7	9999999	02.01.0100	2014/07/04 10:00
6	9999999	01.01.0000	2014/06/26 10:00
5	9999999	01.00.0000	2014/05/01 10:00
4	9999999	01.01.0000	2014/04/05 10:00
3	9999999	02.00.0000	2014/02/21 10:00
2	9999999	02.00.0000	2013/11/30 10:00
1	9999999	01.00.0000	2013/11/24 10:00

(11) **Toner Log**

#	Count.	Item	Serial Number	Date and Time
5	9999999	01.00	0123456789ABCDEF	2014/05/01 10:00
4	9999999	01.00	0123456789ABCDEF	2014/04/05 10:00
3	9999999	01.00	0123456789ABCDEF	2014/02/21 10:00
2	9999999	01.00	0123456789ABCDEF	2013/11/30 10:00
1	9999999	01.00	0123456789ABCDEF	2013/11/24 10:00

ECOSYS

1

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Detail of event log (2)

Event Log

KYOCERA

Printer
ECOSYS P2040dw

XXXXXXXXXXXXXXXX

(2) 2014/10/19 15:15

(1) Firmware version 2RY_2000.000.000 2014.09.19 [XXXXXXXX] [XXXXXXXX] [XXXXXXXX]
(3) (4) (5)

(6) Machine No.:Z7T0000000 (7) Life Count:100000

(12) **Counter Log**

(f)
J0000 : 1
J0001 : 2
J0002 : 3
J0003 : 4
J0004 : 5
J0005 : 6
J0006 : 7
J0007 : 8
J0008 : 9
J0009 : 10
J0010 : 20
J0011 : 30
J0012 : 40
J0013 : 50
J0014 : 60
J0015 : 70
J0016 : 80
J0017 : 90
J0018 : 100
J0019 : 110
J0020 : 120
J0021 : 130
J0022 : 140
J0023 : 150
J0024 : 160
J0025 : 170
J0026 : 180
J0027 : 190
J0028 : 200
J0029 : 300
J0030 : 400
J0031 : 500
J0032 : 600
J0033 : 700
J0034 : 800
J0035 : 900
J0035 : 999
J0036 : 999
J0037 : 999
J0038 : 999
J0039 : 999
J0040 : 999

(g)
C0001 : 1
C0002 : 2
C0003 : 3
C0004 : 4
C0005 : 5
C0006 : 6
C0007 : 7
C0008 : 8
C0009 : 9
C0010 : 10
C0011 : 11
C0012 : 12
C0013 : 13
C0014 : 14
C0015 : 15
C0016 : 16
C0017 : 17
C0018 : 18
C0019 : 19
C0020 : 20
CF245: 21 (0)
CF248: 22 (11)
CF345: 222 (111)

(h)
T00 : 10
T01 : 20
T02 : 30
T03 : 40
M00 : 50
M01 : 60
M02 : 70
M03 : 80
M04 : 90

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2

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Description of event log

<table>
<tr><th>No.</th><th>Items</th><th colspan="3">Contents</th></tr>
<tr><td>(1)</td><td colspan="4">System version</td></tr>
<tr><td>(2)</td><td colspan="4">System date</td></tr>
<tr><td>(3)</td><td colspan="4">Engine firmware version</td></tr>
<tr><td>(4)</td><td colspan="4">Engine boot version</td></tr>
<tr><td>(5)</td><td colspan="4">Operation panel firmware version</td></tr>
<tr><td>(6)</td><td colspan="4">Machine serial number</td></tr>
<tr><td>(7)</td><td colspan="4">Life counter</td></tr>
<tr><td rowspan="11">(8)</td><td rowspan="11">Paper Jam Log</td><td>#</td><td>Count.</td><td>Event</td></tr>
<tr><td>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.</td><td>The total page count at the time of a paper jam.</td><td>Log code (5 types in hexa-decimal)

(a) Cause of paper jam
(b) Paper source
(c) Paper size
(d) Paper type
(e) Paper eject</td></tr>
<tr><td colspan="3">(a)Detail of Cause of paper jam (Hexadecimal)</td></tr>
<tr><td colspan="3">*Refer to [7-1 (3) Terms of paper jam detection] for the cause details of paper jam. (See page 7-8)</td></tr>
<tr><td colspan="3">(b) Detail of paper source (Hexadecimal)</td></tr>
<tr><td colspan="3">00: MP tray
01: Cassette 1
02: Cassette 2 (paper feeder)
03: Cassette 3 (paper feeder)
04 to 09: Reserved</td></tr>
<tr><td colspan="3">(c) Detail of paper size (Hexadecimal)</td></tr>
<tr><td>00: Not specified
01: Monarch
02: Business
03: International DL
04: International C5
05: Executive
06: Letter-R
86: Letter-E
07: Legal
08: A4R
88: A4E
09: B5R
89: B5E
0A: A3</td><td>0B: B4
0C: Ledger
0D: A5R
0E: A6
0F: B6
10: Commercial #9
11: Commercial #6
12: ISO B5
13: Custom size
1E: C4
1F: Hagaki
20: Oufuku Hagaki
21: Oficio II</td><td>22: Special 1
23: Special 2
24: A3 Wide
25: Ledger Wide
26: Full bleed paper (12 x 8)
27: 8K
28: 16K-R
A8: 16K-E
32: Statement-R
B2: Statement-E
33: Folio
34: Youkei type 2
35: Youkei type 4</td></tr>
</table>

<table>
<tr><th>No.</th><th>Items</th><th colspan="3">Contents</th></tr>
<tr><td rowspan="2">(8) cont.</td><td rowspan="2">Paper Jam Log</td><td colspan="3">(d) Detail of paper type (Hexadecimal)</td></tr>
<tr><td>01: Plain
02: Transparency
03: Preprinted
04: Labels
05: Bond
06: Recycled
07: Vellum
08: Rough
09: Letterhead</td><td>0A: Color
0B: Prepunched
0C: Envelope
0D: Cardstock
0E: Coated
0F: 2nd side
10: Media 16
11: High quality</td><td>15: Custom 1
16: Custom 2
17: Custom 3
18: Custom 4
19: Custom 5
1A: Custom 6
1B: Custom 7
1C: Custom 8</td></tr>
<tr><td rowspan="2">(9)</td><td rowspan="2">Service Call Log</td><td>#</td><td>Count.</td><td>Service Code</td></tr>
<tr><td>Remembers 1 to 8 th of occurrence of self diagnostics error.
If the occurrence of the previous self-diagnostic error is 8 or less, all of the diagnostics errors are logged.</td><td>The total page count at the time of the self diagnostic error.</td><td>Self diagnostic error code (See page 7-13)

Example: 01.6000
Self diagnostic error6000: Self diagnostic error code number</td></tr>
<tr><td rowspan="2">(10)</td><td rowspan="2">Maintenance Log</td><td>#</td><td>Count.</td><td>item</td></tr>
<tr><td>Remembers 1 to 8 of occurrence of unknown toner detection. If the occurrence of the previous unknown toner detection is less than 8, all of the unknown toner detection are logged.</td><td>Total page count at the time of the replacement of the maintenance item.

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.</td><td>Maintenance item code (1-byte value to indicate 2 items)

First byte (Replacing item)
01: Toner container
Second 1 byte (replacement item type)
00: Black

First byte (Replacing item)
02: Maintenance kit

Second 1 byte (replacement item type)
01: MK-1150
MK-1151
MK-1152
MK-1154</td></tr>
</table>

No.	Items	Contents		
(11)	Toner Log	#	Count.	item
		Remembers 1 to 32 of occurrence of unknown toner detection. If the occurrence of the previous unknown toner detection is less than 32, all of the unknown toner detection are logged.	The total page count at the time of the request of toner container replacement.	Unknown toner log code (1 byte, 2 categories) First byte (Replacing item) 01: Toner container (Fixed to 01) Second byte (Type of replacing item) 00: Black
(12)	Counter Log Consist of three log counters of paper jams, self diagnostics errors, and maintenance replacement items.	(f) Paper jam	(g) Self diagnostic error	(h) Replacement for maintenance Items
		Indicates the log counter of paper jams depending on location. Refer to Paper Jam Log. All instances including those not having occurred are displayed.	Indicates the log counter of self diagnostics errors depending on cause. Example: C6000: 004 Self diagnostic error 6000 has happened four times.	Indicates the log counter depending on the maintenance replacing item. T: Toner container 00: Black 01: Cyan 02: Magenta 03: Yellow M: Maintenance kit 01: MK-1150 MK-1151 MK-1152 MK-1154 Example: T00: 1 The toner container (Black) has been replaced once. The toner replacement log is triggered by toner empty. This record may contain such a reference as the toner container is inserted twice or a used toner container is inserted.

7 Troubleshooting
7-1 Conveying failures

(1) Prior standard check items

No.	Contents
(1-1)	Paper jam due to the cover-open detection
(1-2)	Paper jam due to the wave or curl in the fuser section of the damp paper
(1-3)	Paper jam due to the dog-ear, paper skew, paper creases, fusing failure or the paper curl
(1-4)	Paper jam caused by the conveying guide, paper entry guide or the feedshift guide
(1-5)	Paper jam caused by incorrectly loaded paper in the cassette or the paper deck
(1-6)	Paper jam due to the inferior paper
(1-7)	Paper jam caused by the conveying rollers or the paper feed pulleys
(1-8)	Paper jam due to the sensor
(1-9)	Paper jam due to the setting / detection failure
(1-10)	Paper jam due to the static electricity
(1-11)	Paper jam caused by installation in the environment where paper inside the cassette is always moist.

Content of Feeding/Conveying Failures

(1-1) Paper jam due to the cover-open detection

Step	Check description	Assumed cause	Measures	Reference
1	Resetting the cover	The cover is not fitted.	Open the cover of the main unit and reclose it securely. Then check if the cover of the main unit is slightly pulled or closed.	

(1-2) Paper jam due to the wave or curl in the fuser section of the damp paper

Step	Check description	Assumed cause	Measures	Reference
1	Checking the paper	The paper curls.	Reload paper upside down.	Loading paper
2	Checking the paper	The paper fanning is not enough.	Fan the paper well and load it by reversing the paper direction	Loading paper
3	Checking the paper	Paper absorbs moisture.	Replace the paper.	

(1-3) Paper jam due to the dog-ear, paper skew, paper creases, fusing failure or the paper curl

Step	Check description	Assumed cause	Measures	Reference
1	Checking the paper path and the paper	The paper is caught with a piece of paper, etc. Or the paper leading edge is bent.	When the dog-ear occurs on the paper, check if there are a piece of torn paper, foreign objects or the burrs on the part on the conveying path and remove them. When the paper leading edge is bent, remove it..	
2	Fuser temperature setting	The paper curls since the fuser temperature is improper.	Reload paper upside down when the paper curls. Or replace the paper.	

(1-4) Paper jam caused by the conveying guide, paper entry guide or the feedshift guide

Step	Check description	Assumed cause	Measures	Reference
1	Checking the paper path	The paper is caught with a piece of paper, etc.	Remove any piece of torn paper, foreign objects on the paper or if there are burrs on the parts such as the guide and actuator, remove them.	
2	Checking the guide	The guide is dirty.	If the guide or the separation needles are dirty with toner or paper dust, etc., clean them with a dry cloth or a brush.	
3	Checking the guide	The guide does not correctly operate due to the incorrect attachment or a fault.	Check the guide, remove if there are some burrs. Reattach the guide if it is not moved smoothly manually. If not repaired, deformed or worn out after that, replace it.	
4	Checking the solenoid	The solenoid does not operate normally.	Check the operation of the guide with the operation sound and manual operation. If the guide is not operated or is not smooth, reattach it. if not repaired, replace the solenoid.	

(1-5) Paper jam caused by incorrectly loaded paper in the cassette

Step	Check description	Assumed cause	Measures	Reference
1	Relocating the paper width guides	The locations of the paper width guides do not fit with the paper size.	Relocate the paper width guides or the MP paper width guides along the paper size when the paper skew or the paper creases occur.	
2	Checking the paper	The paper fanning is not enough.	After fanning paper, load it again If paper is bent, remove it.	Loading paper

(1-6) Paper jam due to the inferior paper

Step	Check description	Assumed cause	Measures	Reference
1	Checking the paper	Unspecified papers are used.	Explain to the user to use the paper within the specifications.	Paper specification

(1-7) Paper jam caused by the conveying rollers or the paper feed pulleys

Step	Check description	Assumed cause	Measures	Reference
1	Cleaning the roller	The roller is dirty.	Check if there are paper dust, toner, foreign objects, outer diameter change or frictional wear on the conveying rollers or the pulleys and then clean their surface. Replace if there are outer diameter change, frictional wear or the like.	
2	Checking the clutch	The clutch does not operate normally.	Check if the related motor operates normally. If the clutch does not operate normally, go to the next step. (When there are the abnormality in the motor operation, execute the treatment by jam code.)	
3	Checking the clutch	The clutch is not correctly attached and connected. Or foreign objects adhere on the clutch.	Check if the connector is securely connected to the clutch, the clutch is correctly attached, and there are no foreign objects on the clutch. Then, perform the proper measures if necessary.	
4	Replacing the clutch	The clutch is faulty.	If the clutch does not operate normally after reattaching and reconnecting it, or if the clutch is rusted, replace it. (Use the individual clutch or the unit containing the clutch.)	
5	Checking the bushing	The bushing is dirty.	Clean the roller's shaft or the bushing when the load is applied to the rotation of the conveying rollers due to dirt on them.	
6	Checking the spring	The spring comes off.	Check if the spring came off, or if it adequately presses the roller or the pulley, and reattach it if necessary.	

(1-8) Paper jam due to the sensor

Step	Check description	Assumed cause	Measures	Reference
1	Checking the sensor	The sensor is faulty.	The actuator for the paper feed sensor is caught. Also, if it comes off, reattach the actuator and its release spring.	
2	Checking the sensor	The sensor is dirty.	When the sensor surface or photoreceptor black felt is dirty by paper dust, etc., clean them.	
3	Checking the sensor	The sensor is faulty.	Check the sensor operation, and clean or replace the sensor if it does not operate normally.	

(1-9) Paper jam due to the setting / detection failure

Step	Check description	Assumed cause	Measures	Reference
1	Checking the paper leading edge margin	The leading edge margin is not enough.	If there is no margin of 4.0±2.5mm from the leading edge, adjust the leading margin by Maintenance Menu (Printing start position).	
2	Relocating the paper width guides	Paper size mismatch	Relocate the paper width guides or the MP paper width guides along the paper size to correctly detect the paper size.	
3	Checking the settings	The media type is not correctly set.	If the media type is not matched to the actual paper weight (the paper jam occurs due to the paper separation failure), set the media type at [System Menu/Counter] key > [Common Settings] > "Org./Paper Set.".	Setting the media type

(1-10) Paper jam due to the static electricity

Step	Check description	Assumed cause	Measures	Reference
1	Checking the ground	The static electricity accumulates.	When the main unit is installed in the low humidity environment where the static electricity easily accumulates on the conveying guide during the continuous printing, check if the discharge sheet in the eject section and the metal guide in the transfer section are grounded securely. If necessary, reattach the parts.	

(1-11) Paper jam caused by installation in the environment where paper inside the cassette is always moist.

Step	Check description	Assumed cause	Measures	Reference
1	Checking the paper storage place	Papers have been stored in the improper place.	Ask users to store paper in a dry place.	

(2) Paper jam indication

When a paper jam occurs, the machine immediately stops the operation and displays the paper jam message on the operation panel. Remove paper by way of pulling out the cassette, opening the front cover and rear cover when a paper jam has occurred inside the machine.
*: The locations are displayed on the operation panel when a paper jam has occurred.

(2-1) LCD model

Jam location indication

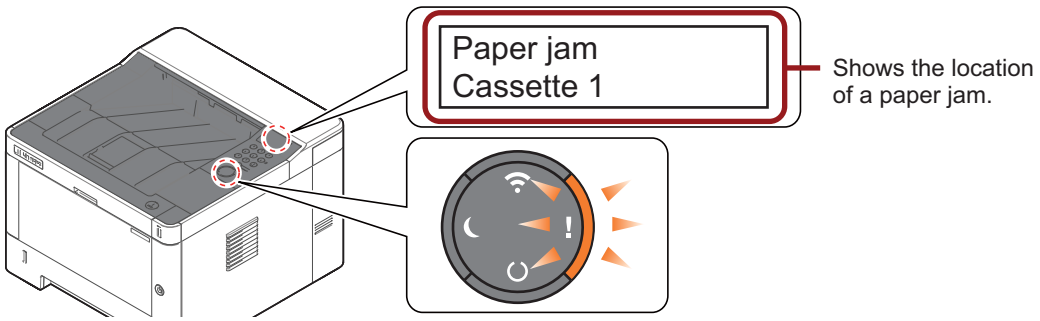
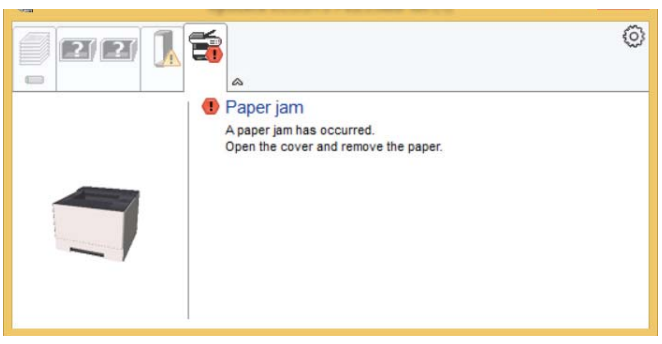


Figure 7-1

Paper jam location display	Paper jam location	Location
Paper jam MP Tray	MP tray paper jam	A
Paper jam Cassette 1 (~3)	Paper jam in the cassette 1 to 3	B
Paper jam Front Cover	Paper jam inside the front cover	C
Paper jam Rear Cover	Paper jam inside the rear cover	D
Paper jam Duplex unit	Paper jam inside the duplex unit	E

(2-2) LED model

When a paper jam occurs, printing stops and the [Jam] indicator is lit.
Check the paper jam location with the status monitor.



(3) Paper jam detection condition

Main unit + document processor + paper feeder (option)

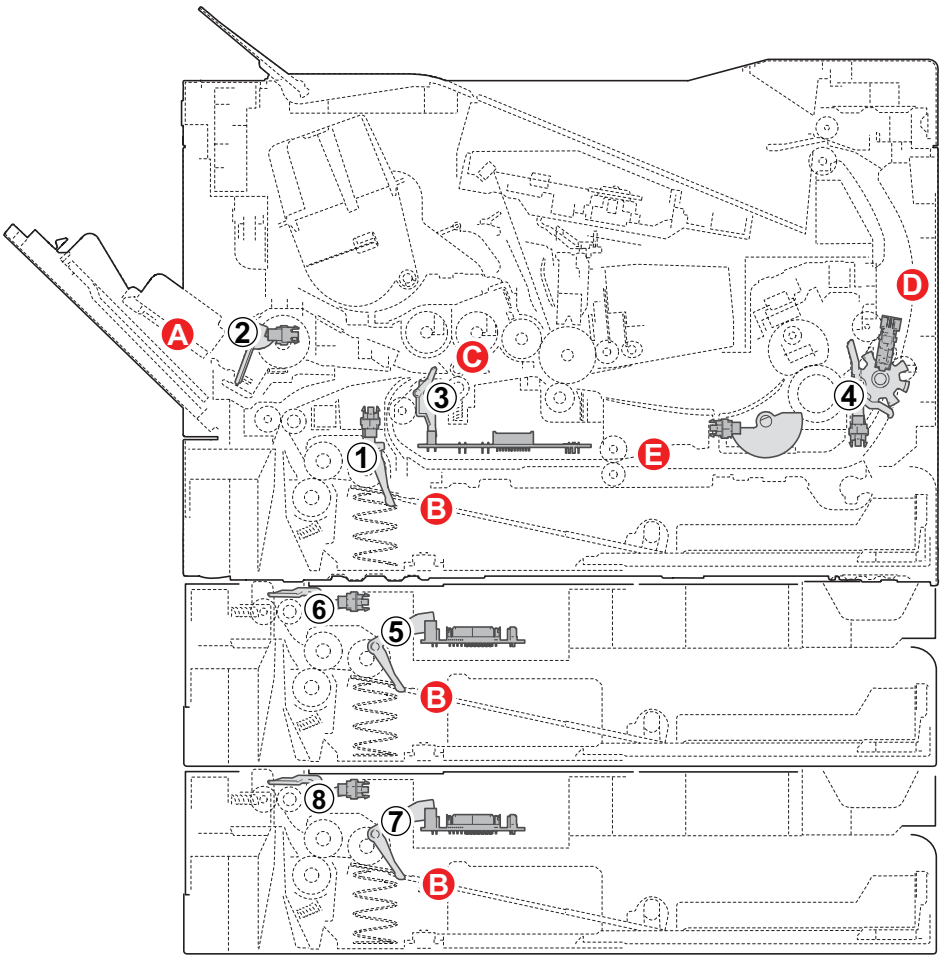


Figure 7-2

[Paper jam location]

A. MP tray paper jam
B. Paper jam in the cassette 1 (to 3)
C. Paper jam inside the front cover
D. Paper jam inside the rear cover
E. Paper jam inside the duplex unit

[sensor(paper conveying)]

1. Paper sensor
2. MP paper sensor
3. Registration sensor
4. Eject sensor
5. PF paper sensor 1
6. PF feed sensor 1
7. PF paper sensor 2
8. PF feed sensor 2

Jam code contents

Codes	Content	Detection condition	JAM Location*
0000	Initial jam	The power is turned on when a sensor in the conveying system is on.	-
0101	Wait for ready of the print-process package	40 seconds have passed without reply of StandbyReady from the driving function before the paper feeding or before the secondary paper feeding	-
0104	Wait for ready of conveying package	Before the paper feeding or the secondary paper feeding starts, the permission notice of the paper feeding or the secondary paper feeding does not come for 40 seconds.	-
0105	Drive prevention jam	A drive does not stop.	-
0106	Paper feeding request for duplex printing time out	Paper feeding request for duplex printing given by the controller is unreachable.	-
0107	Wait for ready of fuser package	Fuser package does not become ready.	-
0110	Front cover open jam	The front cover opened during printing.	-
0501	No paper feeding jam	Registration sensor does not turn on during paper feed from cassette 1.	B
0502		The PF paper feed sensor 1 does not turn on during paper feed from cassette 2.	B
0503		The PF paper feed sensor 2 does not turn on during paper feed from cassette 3.	B
0508		Registration sensor does not turn on during paper feed from duplex section.	E
0509		Registration sensor does not turn on during paper feed from MP tray.	A
0511	Multiple sheets jam	Registration sensor does not turn off during paper feed from cassette 1.	C
0512		The PF paper feed sensor 1 does not turn off during paper feed from cassette 2.	C
0513		The PF paper feed sensor 2 does not turn off during paper feed from cassette 3.	B
0518		The registration sensor does not turn off during paper feed from the duplex section.	C
0519		Registration sensor does not turn off during paper feed from MP tray.	C
1403	PF feed sensor 1 non arrival jam	The PF paper feed sensor 1 does not turn on during paper feed from cassette 3.	C
1413	PF feed sensor 1 stay jam	The PF paper feed sensor 1 does not turn off during paper feed from cassette 3.	B

Codes	Content	Detection condition	JAM Location*
4002	Regisutration sensor non arrival jam	The registration sensor does not turn on during paper feed from cassette 2.	A
4003		The registration sensor does not turn on during paper feed from cassette 3.	A
4008		Eject sensor does not turn on during paper feed from duplex section.	A
4012	Regisutration sensor stay jam	The registration sensor does not turn off during paper feed from cassette 2.	E
4013		The registration sensor does not turn off during paper feed from cassette 3.	E
4018		Eject sensor does not turn off during paper feed from duplex section.	E
4201	Fuser sensor non arrival jam	Eject sensor does not turn on during paper feed from cassette 1.	C
4202		Eject sensor does not turn on during paper feed from cassette 2.	C
4203		Eject sensor does not turn on during paper feed from cassette 3.	C
4208		Eject sensor does not turn on during paper feed from duplex section.	E
4209		Eject sensor does not turn on during paper feed from MP tray.	C
4211	Fuser sensor stay jam	Eject sensor does not turn off during paper feed from cassette 1.	D
4212		Eject sensor does not turn off during paper feed from cassette 2.	D
4213		Eject sensor does not turn off during paper feed from cassette 3.	D
4218		Eject sensor does not turn off during paper feed from duplex section.	D
4219		Eject sensor does not turn off during paper feed from MP tray.	D

* Refer to figure 7-2 for the paper JAM indication (see page7-8).

(4) First check item

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

Check items	Check description	Corrective action
Paper	1. Check if the paper delivered is dog-eared, skewed or creased.	1. If a dog-ear occurs, check if there are any objects existing in the conveying paths, and if any, fix it. 2. If the paper is fed askew or creased, execute No.2. below
	2. Check how paper is loaded in the cassette (paper feeder). Check that the paper has been properly aligned with the paper width guides and the rear guide; it has been loaded without skewing; or it is not damaged. (creased paper, main unit jam)	Adjust the paper width guides to the size of the paper.
	3. Check how paper is loaded. Check if the cutting edge of the paper bundle inside is crumpled or bent.	If the cutting edge of the paper bundle is crumpled, fan the paper before loading. If the paper is folded, stretch before loading in the cassette.
	4. Check if the paper is moist, wavy, or curled.	1. Load the paper in the cassette upside down. 2. Load the paper in the cassette after rotating it 180 degrees. 3. Change the paper.
	5. Check if the paper loaded in the cassette was stored in a continuously humid place.	Instruct the user to store the paper in a dry, less humid place.
	6. Check if the paper conforms to the specification.	Isolate the cause of the problem by replacing the paper with the recommended paper. (See page 1-1)
Settings/ Detection	1. Check if the margin is 4.0±2.5mm from the leading edge of paper.	If there is no margin of 4.0±2.5mm from the leading edge, adjust the leading margin by Maintenance Menu (Printing start position).
	2. Check the operation panel if the paper size is correctly set. (Multi feed jam)	If the paper size is incorrectly displayed, set the size of the paper cassette properly.
	3. Check that paper settings are made in accordance with the paper being used. (Jam caused by faulty separation)	Select Original/Paper settings under [Common Settings] in the system menu to set media type and weight of paper.
Rear cover	Check if the rear cover of the main unit is slightly pulled or closed	Open the rear cover and close it firmly.

Check items	Check description	Corrective action
Paper conveying guide Entry guide Feedshift guide	1. Check that the foreign objects including torn paper, paper clips, etc., do not exist in the paper conveying paths.	If foreign objects such as torn paper, etc. remain in the paper conveying path, remove them
	2. Check that the paper conveying guide and the separation needles are not contaminated with toner, paper dust, etc.	1. If dirty, clean the guide, ribs (with a cloth), and the separation needles (with a cleaning brush). 2. If the ribs of the conveying guides were broken or deposited with toner, replace the conveying guide.
	3. Check that the paper conveying guide has no burrs, deformations, or abrasions; and it is properly attached without being floated.	Clean the conveying guide or the paper entry guide. Remove any protrusions including burrs. If floated, reattach. If deformation or abrasion is observed, replace it.
	4. Check that the guide is smoothly operative. Check that the guide is smoothly operative by hand.	If the guide does not operate smoothly, replace the guide or the unit.
	5. Check that the guide is smoothly operative.	If the guide is inoperative or won't operate smoothly, reattach the guide or replace the unit.
Conveying roller Paper feed roller	1. Check the conveying rollers have no paper dust, toner, or foreign objects stuck. Check the variation of the external diameter of the roller or abrasion is not observed with the conveying roller.	Clean the conveying rollers or the pulleys. If variation in the external diameter or abrasion is observed, replace it.
	2. Turn the safety switch of the cover on and check if the motor and clutch operate.	1. If the conveying motor or the clutch is inoperative, replace it. 2. If stained, replace the clutch. 3. If the clutch is kept turned on due to a pulled wire, realign the wire.
	3. Check that the conveying roller rotates without overloading. Check the bushing or the roller shaft is not contaminated. Check that the spring has not fallen off and is attached so that it is properly applying pressure against the rollers or pulleys.	Clean the roller shaft or bushing. Reattach it while checking the pressure of the spring.

Check items	Check description	Corrective action
Sensor	1. Check if it does not operate with smoothness due to an abnormal move or dropping off of the actuator of the conveying switch.	Reattach the actuator or the return spring.
	2. Check that the surface of the sensor is not contaminated with toner, paper dust, etc.	If dirty, clean the sensor.
	3. Check the sensors are operated normally.	If the sensor is inoperative, replace the switch.
Static	Check if the location is susceptible to build static discharge at the conveying guide during printing.	Reattach and reconnect the static discharge sheet at the eject unit and the metal guide at the tranfer unit so that they are properly grounded.

7-2Self diagnostic

(1) Self diagnostic function

This machine is equipped with a self-diagnostic function. When a problem is detected, the machine stops operating and displays 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 error.

(2) Self diagnostic codes

If the parts of the failure cause is not supplied, replace the unit that includes it.

*: Before attempting to check the fuser unit and the low voltage power supply PWB, be sure to turn the power switch off and unplug the machine from power. (Allow at least 5 s before starting to conduct service until the capacitors on the circuit boards have been completely discharged.)

Indication	Contents	Related parts	Check procedures/corrective measures
0100	**Backup memory device error** Outputs an abnormal status from the flash memory.	Flash memory	Replace the main/engine PWB. (see page 4-63)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
0120	**MAC address data error** In case MAC address is invalid data	Flash memory	Replace the main/engine PWB. (see page 4-63)
0130	**Backup memory Read/write error** Read/write to the NAND memory cannot be executed.	Flash memory	Replace the main/engine PWB. (see page 4-63)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
0140	**Backup memory data error** At power up, the data that was read from the NAND memory has been determined to be a error.	Flash memory	Replace the main/engine PWB. (see page 4-63)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
0150	**EEPROM read/write error (Main/ Engine PWB)** Mismatch of reading data from two locations occurs 8 times successively. Mismatch between writing data and reading data occurs 8 times successively.	EEPROM(YS1)	Confirm that the EEPROM has been properly installed and repair if failed. (see page 4-63)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
		EEPROM(YS1)	Contact the service support.
0160	**Backup memory data error** Illegal data is detected in the EEPROM Counter data checksum does not match in all buffers	EEPROM(YS1)	Check that the EEPROM (YS1) is firmly installed and repair it if failed. (see page 4-63)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
		EEPROM(YS1)	Contact the service support.
0170	**Billing counting error** Checksum error was detected both in the billing counter and IPU backup memory	Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
		EEPROM(YS1)	Contact the service support.

Indication	Contents	Related parts	Check procedures/corrective measures
0190	**Backup memory device error** Unable to read out data from the EEPROM. The above remains at 3 times of retries	Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
		EEPROM(YS1)	Contact the service support.
0500	**Drive lock detection by engine firmware** The main motor was left rotating when monitoring it in the regular interval. (monitored also during the maintenance mode)	Main/Engine PWB	Turn the power switch off and on If not corrected, replace the main/engine PWB. (see page 4-63)
0510	**High voltage remote control error detection** It was detected that the high voltage remote signal (synchronized with the feed motor remote) is on while the drum is not driven	Main/Engine PWB	Turn the power switch off and on If not corrected, replace the main/engine PWB. (see page 4-63)
0530	**Backup task error detection** The time for the backup task not being in operation is 30s or more	Main/Engine PWB	Turn the power switch off and on If not corrected, replace the main/engine PWB. (see page 4-63)
0540	**Unexpected engine firmware control detection?** (Preventing the solenoid from continuously being on) The solenoid was continuously on for the specified time or more	Main/Engine PWB	Turn the power switch off and on If not corrected, replace the main/engine PWB. (see page 4-63)
0800	**Print sequence error** The printing sequence jam (JAM010X) occurred twice consecutively.	Main/Engine PWB	Turn the power switch off and on If not corrected, replace the main/engine PWB. (see page 4-63)
0840	**RTC error** Communication with the RTC has failed The RTC data mismatch such as dead battery	Battery on the main/engine PWB	Check it and repair it if it is faulty.
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
0970	**24V power down detect** The power shutoff was detected by the controller	Interlock switch	Check that the interlock switch is turned on properly by the front cove.
		Low voltage power supply PWB	Check if there is defective connection in the connector of the low voltage power supply PWB, and then check the 24V output from the main/engine PWB (YC20-1, 2,3). If not, replace the low voltage power supply PWB. (see page 4-76)
		Main/Engine PWB	Replace the main/engine PWB and check the operation. (see page 4-63)

Indication	Contents	Related parts	Check procedures/corrective measures
1810	**Communication error with the paper feeder (1st PF)** No paper feeder was detected after the paper feeder connection was detected at power-up	Paper feeder	Check the wiring connection status with the main unit, and if necessary, reconnect it.
		PF main PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. PF main PWB - Main/engine PWB (YC17) 2. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 3. Replace the PF main PWB. (see page 4-87)
		Main/ Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the main/engine PWB. (see page 4-63)
1820	**Communication error with the paper feeder (2nd PF)** No paper feeder was detected after the paper feeder connection was detected at power-up	Paper feeder	Check the wiring connection status with the main unit, and if necessary, reconnect it.
		PF main PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. PF main PWB and Main/engine PWB (YC47) 2. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 3. Replace the PF main PWB. (see page 4-87)
		Main/ Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the main/engine PWB. (see page 4-63)

Indication	Contents	Related parts	Check procedures/corrective measures
2000	**Main motor steady-state error** After the main motor was stabilized, the ready signal was not detected for consecutive 1s.	Wire and connector between the main motor and main/engine PWB (YC9)	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity. (see page 4-63)
		Main motor drive transmission system	Check if each roller and gear rotate smoothly. Apply grease to the bushings and gears if they are faulty. Check each gear if it is damaged and replace it if there is damage.
		Main motor	Replace the main motor. (see page 4-33)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
2010	**Main motor start-up error** The ready signal was not detected when passing 2s after the main motor is started up.	Wire and connector between the main motor and main/engine PWB (YC9)	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity. (see page 4-63)
		Main motor drive transmission system	Check if each roller and gear rotate smoothly. Apply grease to the bushings and gears if they are faulty. Check each gear if it is damaged and replace it if there is damage.
		Main motor	Replace the main motor. (see page 4-63)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
2600	**PF conveying motor error (Paper feeder)** The ready signal is not detected within 2s after the PF conveying motor of the cassette 2 turns on.	Connection of the wire and connector PF conveying motor - PF main PWB	If the connecor is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity. (see page 4-88)
		PF conveying motor drive transmission system	Check if each roller and gear rotate smoothly. Apply grease to the bushings and gears if they are faulty. Check each gear if it is damaged and replace it if there is damage.
		PF conveying motor	Replace the PF conveying motor. (see page 4-88)

Indication	Contents	Related parts	Check procedures/corrective measures
2610	**PF conveying motor error (Paper feeder)** The ready signal is not detected within 2s after the PF conveying motor of the cassette 3 turns on.	Connection of the wire and connector PF conveying motor - PF main PWB	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity. (see page 4-88)
		PF conveying motor drive transmission system	Check if each roller and gear rotate smoothly. Apply grease to the bushings and gears if they are faulty. Check each gear if it is damaged and replace it if there is damage.
		PF conveying motor	Replace the PF conveying motor. (see page 4-88)
4000	**Polygon motor initial error (LSU)** The polygon motor ready signal is not detected when passing 10s after starting up the polygon motor	Laser scanner unit (LSU)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Polygon motor - Main/engine PWB (YC3) If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 2. Replace the LSU. (see page 4-26)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the main/engine PWB. (see page 4-63)
4010	**Polygon motor steady-state error (LSU)** The polygon motor ready signal is not for consecutive 1s after the polygon motor is stabilized	Laser scanner unit (LSU)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Polygon motor - Main/engine PWB (YC3) If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 2. Replace the LSU. (see page 4-26)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the main/engine PWB. (see page 4-63)

Indication	Contents	Related parts	Check procedures/corrective measures
4201	**BD steady-state error (LSU)** BD was not obtained during the steady rotation	Laser scanner unit (LSU)	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. LSU - Main/Engine PWB (YC505) 2. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 3. Replace the LSU. (see page 4-26)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
6000	**Broken fuser heater wire (main)** During warm-up, the temperature detected by the thermopile does not reach 100°C/212.0 °F when turning the heater on for consecutive 10s. During warm up, the temperature detected by the thermopile does not reach the ready temperature when passing 30s after reaching 60°C/212°F.	Fuser unit	1. Make sure there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit - Main/Engine PWB(YC19) 3. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 4. If the fuser heater is not turned on (broken thermostat wire), replace the fuser unit. (see page 4-17)
		Low voltage power supply PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Heater - Low voltage power supply PWB (YC102) Low voltage power supply PWB - Main/Engine PWB(YC20) 2. Replace the low voltage power supply PWB. (see page 4-76)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)

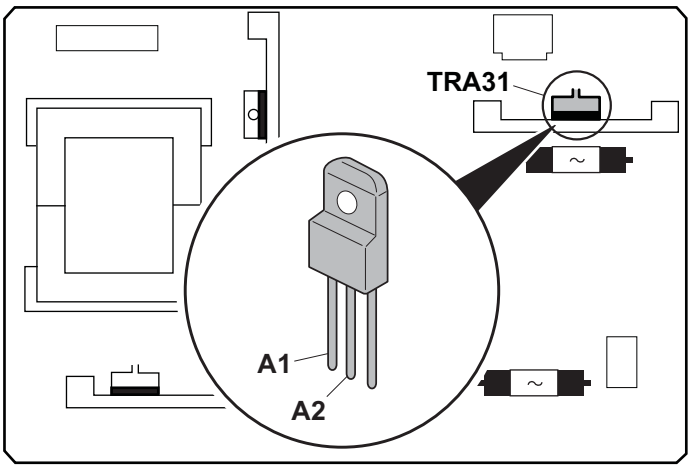
Indication	Contents	Related parts	Check procedures/corrective measures
6020	**Fuser thermopile high temperature error (main)** During drive, the thermopile detected 200°C/392 °F for 5s The temperature detected by the thermopile rose 18°C/65 °F or more when passing 1s or more after the drive is stopped Detected temperature at that time is 200°C/392 °or more	Thermopile	1. Reconnect the wire connector Replace the wire if there is no continuity. Thermopile - Main/engine PWB (YC2) 2. Check how the thermopile is attached. If not attached to the holder, correct it 3. Replace the thermopile if not repaired
		Fuser unit	1. Make sure there is no paper jam. 2. If the fuser heater is not turned on (broken thermostat wire), replace the fuser unit. (see page 4-17)
		Low voltage power supply PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Low voltage power supply PWB - Main/Engine PWB(YC20) 2. Replace the low voltage power supply PWB. (see page 4-76)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
6030	**Broken fuser thermopile wire (main)** The thermopile detected an abnormal value	Thermopile	1. Reconnect the wire connector Replace the wire if there is no continuity. Thermopile - Main/engine PWB (YC2) 2. Replace the thermopile if not repaired
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)

Indication	Contents	Related parts	Check procedures/corrective measures
6050	**Fuser thermopile low temperature error (main)** During printing, the temperature detected by the thermopile is less than 100°C/212°F for consecutive 3s	Power supply voltage	1. Check no voltage drop exceeding 10% of the rated during printing. 2. If the power is overloaded, change the AC outlet that supplies power.
		Thermopile	1. Reconnect the wire connector Replace the wire if there is no continuity. Thermopile - Main/engine PWB (YC2) 2. Check how the thermopile is attached. If not attached to the holder, correct it 3. Replace the thermopile if not repaired
		Fuser unit	1. Make sure there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit - Main/Engine PWB(YC19) 3. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 4. If the fuser heater is not turned on (broken thermostat wire), replace the fuser unit. (see page 4-17)
		Low voltage power supply PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Heater - Low voltage power supply PWB (YC102) Low voltage power supply PWB - Main/Engine PWB(YC20) 2. Replace the low voltage power supply PWB. (see page 4-76)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)

Indication	Contents	Related parts	Check procedures/corrective measures
6200	**Fuser heater error (sub)** During warm-up, the temperature detected by the thermistor does not reach 60°C/212.0 °F when turning the heater on for consecutive 30s. During warm-up, the temperature detected by the thermistor does not reach the ready temperature when passing 20s after it reaches 60°C/212°F.	Thermopile	1. Reconnect the wire connector Replace the wire if there is no continuity. Thermopile - Main/engine PWB (YC2) 2. Replace the thermopile if not repaired
		Fuser unit	1. Make sure there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit - Main/Engine PWB(YC19) 3. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 4. If the fuser heater is not turned on (broken thermostat wire), replace the fuser unit. (see page 4-17)
		Low voltage power supply PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Heater - Low voltage power supply PWB (YC102) Low voltage power supply PWB - Main/Engine PWB(YC20) 2. Replace the low voltage power supply PWB. (see page 4-76)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)

Indication	Contents	Related parts	Check procedures/corrective measures
6220	**Fuser heater high temperature error (sub)** The temperature detected by the thermopile is 240°C/464 °F while the drive is stopped The temperature detected by the thermopile is 255°C/491 °F during drive	Thermopile	1. Reconnect the wire connector Replace the wire if there is no continuity. Thermopile - Main/engine PWB (YC2) 2. Check how the thermopile is attached. If not attached to the holder, correct it 3. Replace the thermopile if not repaired
		Fuser unit	1. Make sure there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit - Main/Engine PWB(YC19) 3. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 4. Replace the fuser unit. (see page 4-17)
		Low voltage power supply PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Low voltage power supply PWB - Main/Engine PWB(YC20) 2. Replace the low voltage power supply PWB. (see page 4-76)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
6230	**Fuser thermistor wire break (sub)** The thermistor's AD value was abnormal	Fuser unit	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit - Main/Engine PWB(YC19) 2. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 3. If the fuser heater is not turned on (broken thermostat wire), replace the fuser unit. (see page 4-17)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)

Indication	Contents	Related parts	Check procedures/corrective measures
6250	**Fuser heater low temperature error (sub)** During printing, the temperature detected by the thermistor is less than 60°C/140°F for consecutive 3s	Thermopile	1. Reconnect the wire connector Replace the wire if there is no continuity. Thermopile - Main/engine PWB (YC2) 2. Check how the thermopile is attached. If not attached to the holder, correct it 3. Replace the thermopile if not repaired
		Fuser unit	1. Make sure there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit - Main/Engine PWB(YC19) 3. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 4. Replace the fuser unit. (see page 4-17)
		Low voltage power supply PWB	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Heater - Low voltage power supply PWB (YC102) Low voltage power supply PWB - Main/Engine PWB(YC20) 2. Replace the low voltage power supply PWB. (see page 4-76)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)

Indication	Contents	Related parts	Check procedures/corrective measures
6000 6020 6030 6050 6200 6220 6230 6250 Common	**Broken fuser heater wire (main) Fuser thermopile high temperature error (main) Broken fuser thermopile wire (main) Fuser thermopile low temperature error (main) Fuser heater error (sub) Fuser heater high temperature error (sub) Broken fuser heater wire (sub) Fuser heater low temperature error (sub)**	Connector pin	If the interface connector pins of the fuser unit and the main unit are deformed owing to foreign objects, replace the connectors or the units including the connectors.
		Triac TRA31/ for the heater control	Disconnect the power cord and check if the continuity (A1 - A2) of the triac TRA31 shows the mega ohm level resistance and there is no short-circuit. If there is a short-circuit, replace the low voltage power supply PWB. (see page 4-76)
		Low voltage power supply PWB  	
6400	**Zero-cross signal error** During the heater turned on, the zero-cross signal disappears for consecutive 1s	Low voltage power supply PWB	Replace the low voltage power supply PWB. (see page 4-76)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
6600	**Fuser rotation error** The fuser roller rotation detection is not input for consecutive 2s while the motor's steady signal is input	Fuser unit	1. Make sure there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit - Main/Engine PWB(YC19) 3. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 4. Replace the fuser unit. (see page 4-17)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)

Indication	Contents	Related parts	Check procedures/corrective measures
6610	**The fuser pressure release error** The fuser pressure change is not complete within 10s after the instruction	Fuser unit	1. Make sure there is no paper jam. 2. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Fuser unit - Main/engine PWB (YC19) 3. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 4. Replace the fuser unit. (see page 4-17)
		Fuser pressure release error	1. Reverse-rotate the fuser gear manually to check if the fuser pressure can be released. 2. When releasing the pressure, check the fuser pressure release sensor is interrupted by the actuator Reattach it if the light is not interrupted 3. Reconnect the wire connector Replace the wire if there is no continuity. Fuser pressure release sensor - Main/engine PWB (YC19) Fuser pressure release motor - Main/engine PWB (YC1) 4. Replace the fuser pressure release motor.
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
6650	**Fuser thermopile EEPROM error** 1. The thermopile EEPROM is not accessed 2. No response from the device at read was detected five time consecutively Data read at two points was unmatched eight times consecutively 3. Thermopile data checksum error	Thermopile	1. Reconnect the wire connector Replace the wire if there is no continuity. 2. Thermopile - Main/engine PWB (YC2) 3. Replace the thermopile if not repaired
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
7220	**Broken in-machine thermistor wire** The sensor input sampling value is greater than the reference value.	In-machine temperature sensor	1. Confirm that the wiring connector is firmly connected, Insert the connector all the way in. In-machine temperature sensor - Main/engine PWB (YC1) 2. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. Replace the in-machine temperature sensor PWB.
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)

Indication	Contents	Related parts	Check procedures/corrective measures
7800	**Broken outer thermistor wire** The sensor input sampling value is abnormal. (After detecting an error, it is controlled at 23°C/77 °F and 50%RH)	Temperature and humidity Sensor	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Temperature and humidity sensor - Main/engine PWB (YC2) 2. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 3. Replace the Temperature and humidity sensor PWB.
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
7990	**Waste toner full** The waste toner sensor detected the waste toner reservoir in the drum unit is full	Drum unit	Turn the power switch off and on Replace the drum unit if not repaired. (see page 4-11)
		Waste toner sensor	Replace the waste toner sensor.
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
F000	**Communication error between Main/Engine PWB - Operation panel PWB**	Connection of the wires and connectors between the main/engine PWB - the operation panel PWB.	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity.
		Operation panel PWB	Replace the operation panel PWB.
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-63)
F010	**Main/Engine PWB Checksum error**	Main/Engine PWB	Unplug the power cord from the wall outlet, and wait five seconds. Then plug in the power cord and then turn on the power switch. If not corrected, replace the main/engine PWB. (see page 4-63)
F020	**Main/engine PWB RAM checksum error**	Main/engine PWB memory (RAM)	Turn the power switch off and on If not corrected, replace the main/engine PWB. (see page 4-63)
F040	**Main/engine PWB engine communication error**	Main/Engine PWB	Turn the power switch off and on If not repaired, replace the EEPROM on the main/engine PWB or main/engine PWB. (see page 4-63)

Indication	Contents	Related parts	Check procedures/corrective measures
F050	**Main/engine PWB engine checksum error**	Main/Engine PWB	Download the engine firmware again (LCD:see page 5-1, LED:see page 5-5)
		Main/Engine PWB	Turn the power switch off and on If not repaired, replace the EEPROM on the main/engine PWB or main/engine PWB. (see page 4-63)

(3) System Error (Fxxxx) Outline

The document is described for the outline of the factors of the Fxxx errors that are not described in the self-diagnosis error code list.
Please utilize it as the measures when the system is not recovered after power off/on or it frequently occurs.

*: 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	LCD model	LED model
-	It locks on a Welcome screen.It locks on a starting logo (Taskalfa/Ecosys) screen.(Even if time passes for a definite period of time in more than * notes, a screen does not change)	(1) Check the harness of the connection state of a connector between Panel<=>Main/Engine PWBs, 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 Panel PWB and perform an operation check. (4) Exchange a Main/Engine PWB and perform an operation check. (5) It will get, if USBLOG is obtainable, and contact service headquarters.	* Execution of U024 will vanish user data and the software installed. Reinstallation is required.	*Note 60 [s] [Main<=>Panel I/F] Main/Engine PWB: YC507 Panel PWB: YC1	[Main<=>Panel I/F] Main/Engine PWB: YC507 Panel PWB: YC1
F000	CF000 will be displayed if * notes progress is carried out for a definite period of time with a Welcome screen.The communication fault between Panel-Main/Engine PWBsCommunication fault between Panel Core-Main Core	(1) Check the harness of the connection state of a connector between Panel<=>Main/Engine PWBs, 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/Engine PWB and perform an operation check. (4) Exchange a Panel PWB and perform an operation check. (5) It will get, if USBLOG is obtainable, and contact service headquarters.		[Main<=>Panel I/F] Main/Engine PWB: YC507 Panel PWB: YC1 LCD model only	
F15X	Abnormality detecting in an authentication device control section	(1) Check the harness between authentication device <=>Main/Engine PWBs, and the connection situation of a connector, and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) Get USBLOG and contact service headquarters.	Authentication device: IC card reader etc.	[Main unit<=>Authentication device] USB Host connector [Main/Engine PWB<=>USB connector] Main/Engine PWB: YC510	[Main unit<=>Authentication device] USB Host connector [Main/Engine PWB<=>USB connector] Main/Engine PWB: YC510
F18X	Abnormality detecting in a Video control section	(1) Check the harness between Engine<=>Main/Engine PWBs, 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/Engine PWB and perform an operation check. (4) Get USBLOG and contact service headquarters.		Main/Engine PWB: YC1, YC2, YC3, YC5, YC6, YC7, YC9, YC10, YC14, YC21, YC23	Main/Engine PWB: YC1, YC2, YC3, YC5, YC6, YC7, YC9, YC10, YC14, YC21, YC23
F1DX	Abnormality detecting of the image memory Management Department	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.		[Main/Engine PWB] There are no hardware components that can be checked in the field	[Main/Engine PWB] There are no hardware components that can be checked in the field
F21X, F22X, F23X	Abnormality detecting in an image-processing part	(1) Check contact of a DDR memory and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) Get USBLOG and contact service headquarters.		[Main/Engine PWB] There are no hardware components that can be checked in the field	[Main/Engine PWB] There are no hardware components that can be checked in the field

Number	Contents	Verification procedure & check point	Remarks	LCD model	LED model
F24X	Abnormality detecting in the system Management Department	(1) Check contact of a DDR memory and perform an operation check. (2) Exchange a Main/Engine PWB 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.	[Controller failure] Cleared by turning power off and on onlyUSB log is required for investigation [Main/Engine PWB] There are no hardware parts that can be checked in the field	[Controller failure] Cleared by turning power off and on onlyUSB log is required for investigation [Main/Engine PWB] There are no hardware parts that can be checked in the field
F25X	Abnormality detecting in a network management department	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and packet capture and contact service headquarters.	* It may occur according to a visitor's network environment.	[Main unit<=>Outside network] Ethernet connector	[Main unit<=>Outside network] Ethernet connector
F26X, F27X, F28X, F29X, F2AX	Abnormality detecting in the system Management Department	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.		(SSM:F26X) [Main/Engine PWB] There are no hardware parts that can be checked in the field	(SSM:F26X) [Main/Engine PWB] There are no hardware parts that can be checked in the field
F2BX, F2CX, F2DX, F2EX, F2FX, F30X, F31X, F32X	Abnormality detecting in a network control part	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.(Depending on an analysis result, it is packet capture acquisition)		[Main unit<=>Outside network] Ethernet connector	[Main unit<=>Outside network] Ethernet connector
F35X	Abnormality detecting in the printing controlling Management Department	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.		[Main/Engine PWB<=>Video device] Main/Engine PWB: YC1, YC2, YC3, YC5, YC6, YC7, YC9, YC10, YC14, YC21, YC23	[Main/Engine PWB<=>Video device] Main/Engine PWB: YC1, YC2, YC3, YC5, YC6, YC7, YC9, YC10, YC14, YC21, YC23
F38X	Abnormality detecting in the authentication authorized Management Department	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.		[Main unit<=>Authentication device] USB Host connector [Main/Engine PWB<=>USB connector] Main/Engine PWB: YC510	[Main unit<=>Authentication device] USB Host connector [Main/Engine PWB<=>USB connector] Main/Engine PWB: YC510
F3AX, F3BX, F3CX, F3DX, F3EX, F3FX, F40X, F41X, F42X, F43X, F44X, F45X	Abnormality detecting in the Entity Management Department	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.		[Main/Engine PWB] There are no hardware components that can be checked in the field	[Main/Engine PWB] There are no hardware components that can be checked in the field

Number	Contents	Verification procedure & check point	Remarks	LCD model	LED model
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.	Support [Main/Engine PWB] There are no hardware components that can be checked in the field	Support [Main/Engine PWB] There are no hardware components that can be checked in the field
F47X	Abnormality detecting of an image editing processing part	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.		(F47X) Not Support(F48X) Not Support(F49X) [Main/Engine PWB] There are no hardware components that can be checked in the field	(F47X) Not Support(F48X) Not Support(F49X) [Main/Engine PWB]There are no hardware components that can be checked in the field
F4DX, F4EX	Abnormality detecting in the Entity Management Department	(1 Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.		Support(F4DX) [Main/Engine PWB] There are no hardware parts that can be checked in the field	Support(F4DX) [Main/Engine PWB] There are no hardware parts that can be checked in the field
F4FX	Abnormality detecting in the JOB Management Department	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.	Support [Main/Engine PWB] There are no hardware components that can be checked in the field	Support [Main/Engine PWB] There are no hardware components that can be checked in the field
F51X, F52X, F53X, F55X, F56X, F57X	Abnormality detecting in a JOB execution part	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.	Support [Main/Engine PWB] There are no hardware components that can be checked in the field	Support [Main/Engine PWB] There are no hardware components that can be checked in the field
F5FX	Abnormality detecting in a service execution part	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.	Support [Main/Engine PWB] There are no hardware components that can be checked in the field	Support [Main/Engine PWB] There are no hardware components that can be checked in the field
F62X	Abnormality detecting in a service execution part	(1) Exchange a Main/Engine PWB 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.	[Main/Engine PWB] There are no hardware components that can be checked in the field	[Main/Engine PWB] There are no hardware components that can be checked in the field
F63X	Abnormality detecting in a device control section	(1) Exchange a Main/Engine PWB and perform an operation check. (2) Get USBLOG and contact service headquarters.		Support [Main/Engine PWB] There are no hardware components that can be checked in the field	Support [Main/Engine PWB] There are no hardware components that can be checked in the field

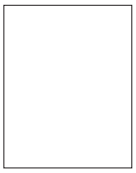
7-3 Image formation failure

(Main charge --> Drum --> LSU --> Developer --> Transfer image formation process failure)

<Image data flow>

Printing data from PC :

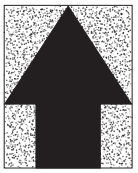
(1) Poor image (Image forming factor)



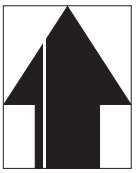
(1-1)No image appears (entirely white)

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

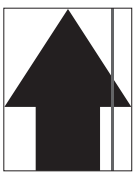
(1-3)The entire image is faint



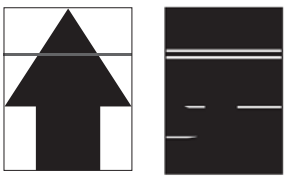
(1-4)It is foggy at the background image



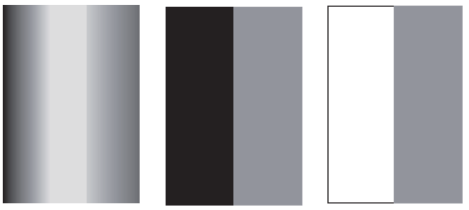
(1-5)Vertical white streaks or bands appear



(1-6)Vertical white streaks or bands appear



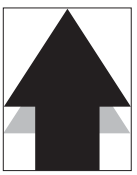
(1-7)There are horizontal bands in white or black



(1-8)Uneven density vertically

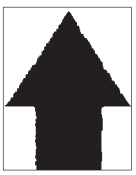
(1-9)Uneven density horizontally

(1-10)Black dots appear in the image



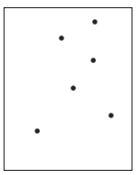
(1-11)Offset occurs

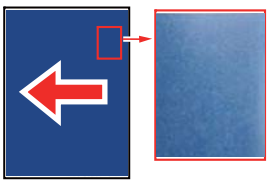
(1-12)The image is partly missing



(1-13)The image is blurred

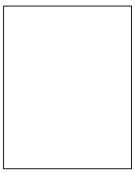
(1-14)Irregular horizontal white streaks appear in the image Dots appear in the image





(1-15)Granular image (low solid image density)

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

Image sample	Factor
	1. Developer bias is not output or not impressed. (Contact failure) 2. The developer lock shaft is not inserted. (The DS gap is wide) 3. Developer roller rotation failure. 4. Defective primary transfer. 5. Laser is not output from the laser scanner unit (LSU). 6. Drum does not rotate.

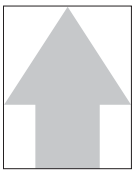
	Trouble location	Check	Measures
1	Developer unit	Check insertion of the lock shaft.	If the lock shaft is not inserted properly, insert it securely. (see page 4-10)
		Check if the developer drive gear is broken.	Replace the developer unit if broken. (see page 4-10)
		Check if the developer roller can be rotated manually.	Replace the developer unit if it has a problem. (see page 4-10)
		Check dirt and deformation of the developer unit and high voltage PWB contact terminal.	Clean the terminal if it is dirty. Correct the terminal if it is deformed so that it contacts.
2	Drive gear train	Check if there is damage in the developer drive gear.	Replace the applicable gear if damaged.
3	High voltage PWB	1. Check that the high voltage output terminals (B,T) on the high voltage PWB surely contact with the developer roller and transfer roller. 2. Check the connection between the high voltage PWB and connector. Or,	1. Clean the terminal if it is dirty. 2. Correct the terminal if it is deformed so that it contacts. 3. If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity. High voltage PWB and Engine PWB (YC16)
		The high voltage PWB (developer, transfer) output failure.	Replace the high voltage PWB. (see page 4-68)
4	Laser scanner unit (LSU)	Check the connector contact. Or, check the wire's continuity.	1. Reinsert the FFC cable if it is incompletely inserted. Replace the wire if there is no continuity. 2. Replace the LSU. (see page 4-26)
5	Main/Engine PWB	Check if the main/engine PWB control signal is not output.	Replace the main/engine PWB. (see page 4-63)

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

Image sample	Factor
	1. Main charge is not applied. (Drum surface potential error) 2. The LSU laser is on. 3. Abnormal developer bias output

	Trouble location	Check	Measures
1	Charger roller	Check if the terminal on the high voltage PWB to the main charge roller is deformed.	Correct the terminal if it is deformed so that it contacts.
2	Drum unit	Check if there is the contact failure with the high voltage PWB.	1. Correct the terminal if it is deformed so that it contacts. 2. Reattach the drum unit.
		Check the ground contact for the drum ground failure.	Correct the terminal if it is deformed so that it contacts.
3	Developer unit	Check if there is the contact failure with the high voltage PWB.	1. Correct the terminal if it is deformed so that it contacts. 2. Reattach the new developer unit.
4	High voltage PWB	Check the connector contact. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity. High voltage PWB and Engine PWB (YC16)
		There is the main charge current failure or developer bias output failure from the high voltage PWB.	Replace the high voltage PWB. (see page 4-68)
5	Laser scanner unit (LSU)	Failure in turning the laser diode on/off control failure on the LSU PWB.	Replace the LSU. (see page 4-26)
6	Main/Engine PWB	Video data output failure in the main/engine PWB.	Replace the main/engine PWB. (see page 4-63)

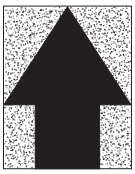
(1-3) The entire image is faint

Image sample	Factor
	1. Variance in environments (dew formation) 2. Toner is insufficient. Or it is deteriorated (becomes had to charge). 3. Developer bias output is low. 4. Primary transfer current output is low. 5. LSU laser power is low. 6. Drum surface potential is high.

	Trouble location	Check	Measures
1	Drum unit	Check if the drum is condensed.	Execute the drum refreshing. ([System Menu] > [Adjustment/Maintenance])
2	Developer unit	Check if executed low density printing continuously.	Refresh toner by consuming toner with continuous test pages in case of low coverage print.
		Check if the developer bias connection terminal is deformed.	Correct the terminal if it is deformed so that it contacts.
		There is the contact failure with the drum due to the dirt or damage of the DS pulleys in the sides of the developer roller.	Clean the DS pulley. Replace the developer unit if broken.
		Check the contact failure between the developer roller and drum surface. (Pressure failure)	Reattach the new developer unit.
3	Toner container	Shake the toner container up and down about ten times and check the following. 1. Check "Add toner" indication. 2. Check if the toner supply vent opens.	Replace the toner container if "Add toner" is indicated or the toner supply vent does not open.
4	High voltage PWB	Check the contact and output of the high voltage connection terminal of the developer, main charge and transfer bias.	1. Correct the terminal if it is deformed so that it contacts. 2. Replace the high voltage PWB. (see page 4-68)
5	Transfer roller	Check the transfer roller attachment to confirm it contact with the drum.	1. Reattch the transfer roller. 2. Replace the PF PWB. (see page 4-11)
		Check the high voltage contact deformation.	Correct the terminal if it is deformed so that it contacts.
6	High voltage PWB	Primary transfer current output failure on the transfer high voltage PWB.	Replace the high voltage PWB. (see page 4-68)
7	LSU	1. LSU laser beam power failure. 2. Internal mirror contamination	Replace the LSU. (see page 4-26)

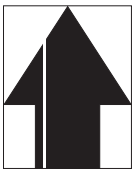
	Trouble location	Check	Measures
8	Drum unit	1. Check if the eraser lamp is dirty. 2. Check the lamp on/off. 3. Check if the drum surface is worn down.	1. Clean the eraser lamp if it is dirty. 2. Replace the drum unit if it is not improved after cleaning, it is not turned on or the surface is worn. (see page 4-11)
9	Charger roller	Check the terminal with the high voltage PWB.	Remove foreign objects if adhering to the terminal.
10	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-63)

(1-4) It is foggy at the background image

Image sample	Factor
	1. Toner is deteriorated (becomes had to charge). 2. Over-supply of toner. 3. Developer bias voltage is high. 4. Toner layer on the developer roller surface is thick (too much toner adheres). 5. The drum surface potential is low (low temperature environment)

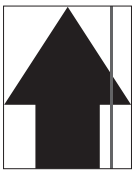
	Trouble location	Check	Measures
1	Developer unit	6. Check if the developer bias connection terminal is dirty or deformed.	Clean the developer bias connection terminal, if it is dirty. Correct the terminal if it is deformed so that it contacts.
2	Drum unit	1. Check if the machine is used in an environment of low temperature.	If the room temperature is 16 °C/60.8 °F or less, try to use in the environment of more than 16 °C/60.8 °F.
		2. Check if the drum unit is attached improperly.	Reattach the drum unit. (see page 4-11)
		3. Check if the ground connection terminal is dirty or conductive grease is applied to it.	Clean the terminal if it is dirty. Apply conductive grease to the receptacle side bearing of the drum drive shaft if little grease is applied.
		4. Check if the main charge roller is dirty.	Clean the main charge roller if it is dirty. Replace the drum unit if it does not take the dirty.
3	High voltage PWB	There is the contact failure or output failure of the developer bias or main charge current from the high voltage PWB.	Correct the terminal if it is deformed. Or, replace the high voltage PWB. (see page 4-68)
4	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-63)

(1-5) Vertical white streaks or bands appear

Image sample	Factor
	1. DP slit glass is dirty. 2. Foreign objects inside the developer unit. 3. Contamination inside the machine. 4. Dirty inside the drum unit.

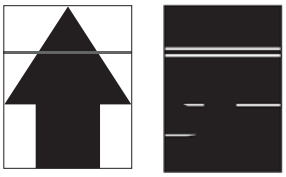
	Trouble location	Check	Measures
1	LSU	Check if the LSU slit glass is dirty.	1. Clean the?LSU slit glass if it is dirty. 2. Replace the LSU if it is dirty inside. (see page 4-26)
2	Developer unit	Check if there are foreign objects in the developer unit.	Clean the developer unit or replace it. (see page 4-10)
3	Light path between LSU and Drum	Check if the light path is interrupted by foreign objects such as dust, toner, etc.	If there are foreign objects in the frame between the developer unit and drum unit, and on the seal, remove them.
4	Drum unit	Check if the main charge wire is dirty.	Clean the main charge wire if it is dirty. Replace the drum unit if it does not take the dirty. (see page 4-11)
		The drum has scratches.	Replace the drum unit. (see page 4-11)

(1-6) Vertical white streaks or bands appear

Image sample	Factor
	1. Charger roller dirt. 2. Drum unit scratch or dirt. 3. Cleaning blade is damaged or jammed by paper dust.

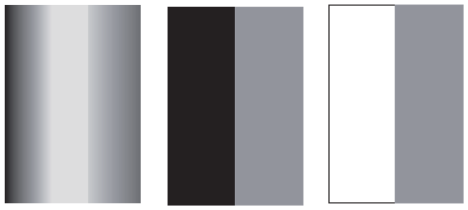
	Trouble location	Check	Measures
1	Drum unit	Check if there is adhesion at the main charger wire surface.	Clean it if lines appear on the surface. Replace the drum unit if it does not take the streak. (see page 4-11)
		Check if the drum surface is dirty.	Execute the drum refreshing. ([System Menu] > [Adjustment/Maintenance])
		Check if the drum surface is scratched. Check if the cleaning blade edge is damaged. Check if there is wear or paper dust is pinched in. Check if toner is accumulated at the cleaning section.	Replace the drum unit. (see page 4-11)
3	Developer unit	Foreign objects adhere to the developer roller surface.	1. Clean the developer roller surface. 2. Replace the developer unit if it is contaminated by foreign matter. (see page 4-10)

(1-7) There are horizontal bands in white or black

Image sample	Factor
	1. developer unit dirt, contact dirt. Sleeve roller scratch. 2. Drum unit scratch or dirt. Ground is defective. 3. Charger roller is deformed. 4. Primary transfer roller terminal dirt.

	Trouble location	Check	Measures
1	Developer unit	1. Check the print image on paper has a problem in the interval of the circumference of the developer roller. 2. Check if the sides of the developer roller and the bias terminal are dirty. 3. There is the cleaning failure at the developer roller surface. 4. Check if there are scratches on the sleeve roller.	1. If the sides of the developer roller and the bias terminal are dirty, clean them. 2. Replace the developer unit. (see page 4-10)
2	Drum unit	1. Check the print image on paper has a problem in the interval of the circumference of the drum.	Execute the drum refreshing. ([System Menu] > [Adjustment/Maintenance])
		2. Check the drum surface potential erasing failure.	Lower the MC (main charge) value. ([System Menu] > [Adjustment/Maintenance])
		3. Check if the drum is scratched.	Replace the drum unit. (see page 4-11)
		4. Check the ground terminal of the drum or drum drive shaft.	1. Check the drum unit attachment and reattach it if its fixing is insufficient. 2. Replace the drum unit. (see page 4-11)
3	Transfer roller	Check if the terminal for the high voltage PWB and the transfer roller is dirty with toner. Check if the terminal is deformed and there is no contact.	1. Clean the terminal if it is dirty. 2. Correct the terminal if it is deformed so that it contacts. 3. Replace the PF PWB. (see page 4-87)
4	High voltage PWB	Contact failure of the high voltage PWB or uneven bias voltage.	Check if how the high voltage PWB is attached and secure it with screws to secure grounding. Or, replace. (see page 4-68)

(1-8) Uneven density vertically

Image sample	Factor
	1. Uneven LSU laser beam emission. 2. Transfer belt contact failure with the drum. 3. Drum condensation. 4. Uneven toner layer on the developer roller

	Trouble location	Check	Measures
1	LSU	Laser is not output evenly from LSU. (Internal mirror drop-off)	Reattach the LSU. Or, replace. (see page 4-26)
2	Transfer roller	Check the attaching condition of the transfer roller. (Uneven pressure to the drum)	If the transfer roller is at incorrect position, correct it and reattach them. Or, replace the PF PWB. (see page 4-87)
3	Drum unit	1. Check if toner spreads evenly on the drum. 2. Check if it is used at high humidity. 3. Check if the drum surface is worn down.	1. Execute the drum refreshing. ([System Menu] > [Adjustment/Maintenance]) 2. Use in the environment without condensation. 3. Replace the drum unit. (see page 4-11)
4	Developer unit	1. Check if the toner layer thickness on the developer roller is even. 2. Check if the DS pulleys the sides of the developer rollers are dirty or damaged. (Failure of the developer roller to contact the drum surface)	1. Refresh toner by consuming toner with continuous test pages. 2. Clean the developer roller and DS pulley. Replace the developer unit if broken. (see page 4-10)

(1-9) Uneven density horizontally

Image sample	Factor
	1. Uneven rotation of the main drive. 2. Main charger roller rotation error. 3. Improper contact on the developer unit terminals. 4. LSU is defective.

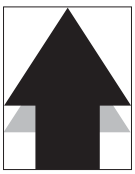
	Trouble location	Check	Measures
1	Main drive	Check to see if the drive mechanism for the developer unit and drum unit is smoothly operative.	1. Check the fitting condition of the developer unit and drum unit and clean the drive transmission section and apply grease if it is dirty. 2. Check if the main drive unit is surely secured with screws and reattached it.
2	Drum unit	The drum surface is worn down.	1. Replace the drum unit. (see page 4-11)
3	Developer unit	1. Check if the developer bias connection terminal of the developer unit is dirty with toner. 2. The DS pulleys at the sides of the developer unit are damaged.	1. Clean the terminal if it is dirty. 2. Clean the developer unit or replace it if the DS pulley is damaged. (see page 4-10)
4	LSU	Check the image if it is the phenomenon from uneven laser beam output.	Replace the LSU. (see page 4-26)

(1-10) Black dots appear in the image

Image sample	Factor
	1. Charger roller dirt. 2. Drum unit scratch or dirt. 3. Cleaning blade is damaged or jammed by paper dust.

	Trouble location	Check	Measures
1	Drum unit	Check the print image on paper has a problem in the interval of the circumference of the drum.	Replace the drum unit if the drum is scratched. (see page 4-11)
2	Developer unit	Check if the developer bias leaks.	1. Clean the edge of the developer roller if leaked. 2. If used at high altitude, set the high altitude adjustment at service setting of [Adjustment/Maintenance] in [System Menu].
		Check the print image on the image in the 40mm interval.	1. Clean the developer roller. 2. Replace the developer unit. (see page 4-10)

(1-11) Offset occurs

Image sample	Factor
	1. Drum unit cleaning failure, scratch or dirt. 2. Developer bias leakage.

	Trouble location	Check	Measures
1	Drum unit	Check the print image on paper has a problem in the interval of the circumference of the drum.	If the drum unit is dirty with paper duct, toner, etc., clean it and reattach it. Or, replace. (see page 4-11)
2	Developer unit	Check if offsets are observed in the 40mm interval.	If the developer unit is dirty with toner, etc., clean it and reattach it. Or, replace. (see page 4-10)

(1-12) The image is partly missing

Image sample	Factor
	1. Drum unit scratch or dirt. 2. Primary transfer belt surface deformation or dirt.

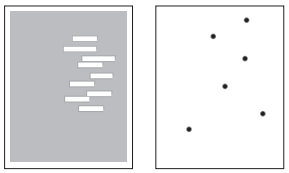
	Trouble location	Check	Measures
1	Drum unit	Check the print image on paper has a problem in the interval of the circumference of the drum.	Execute Drum Refresh if it appears on the image in the 94mm interval. ([System Menu] > [Adjustment/Maintenance])
2	Transfer roller	Check if the transfer roller surface is deformed or dirty.	If the surface is deformed or dirty, clean the transfer roller or replace the unit. (see page 4-87)

(1-13) The image is blurred

Image sample	Factor
	1. Drum unit condensation. 2. LSU slit glass dirt.

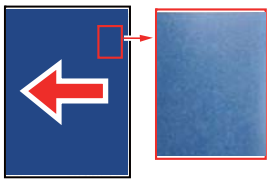
	Trouble location	Check	Measures
1	Drum unit	The drum surface is condensed.	Execute the drum refreshing. ([System Menu] > [Adjustment/Maintenance])
2	LSU	Check if the LSU slit glass is entirely dirty.	1. Clean the LSU slit glass if it is dirty. 2. Replace the LSU. (see page 4-26)

(1-14) Irregular horizontal white streaks appear in the image
Dots appear in the image

Image sample	Factor
	1. Installation at a high altitude. 2. Defective drum unit grounding. 3. Using the paper with high surface resistance.

	Trouble location	Check	Measures
1	Developer unit	Check if the operating environment is 1,000m or more above sea level. (Developer bias leakage)	In the case of the high altitude place of 1,000m or more above sea level, change the setting of high altitude adjustment. ([System Menu] > [Adjustment/Maintenance]) (Standard/1,001-2,000m/2,001-3,000m/3,001-3,500m) (LCD:see page 6-2, LED:see page6-14)
2	Drum unit	Check if there is contact failure between the main charger and high voltage PWB.	1. Correct the terminal if it is deformed so that it contacts. 2. Reattach the drum unit.
		Check the ground contact for the drum ground failure.	Correct the terminal if it is deformed so that it contacts.
3	Paper	Check if high surface resistance paper is used.	Change paper to different type.

(1-15) Granular image (low solid image density)

Image sample	Factor
	1. Installation at a high altitude. 2. Using the paper with high surface resistance.

	Trouble location	Check	Measures
1	Developer unit	Check if the operating environment is 1,000m or more above sea level.	In the case of the high altitude place of 1,000m or more above sea level, change the setting of high altitude adjustment. ([System Menu] > [Adjustment/Maintenance]) (Standard/1,001-2,000m/2,001-3,000m/3,001-3,500m) (LCD:see page 6-2, LED:see page6-14)
2	Paper	Check if high surface resistance paper is used.	Change paper to different type.

7-4 Electric failure

Failure status	Cause of failure	Check procedures/corrective measures
(1)The machine does not operate at all when turning the power on.	1. Power is not supplied to the outlet.	Check input voltage.
	2. Power plug connection is defective.	Check the contact between the power plug and outlet is secure.
	3. Top cover isn't securely closed.	Close the top cover firmly.
	4. Broken power cord.	Check the continuity and replace if there is no continuity.
	5. Connected to the power switch.	Check the continuity between the low voltage power supply PWB and replace it if there is no continuity. (see page 4-76)
	6. Fuse melt-down on the low voltage power PWB.	Replace the low voltage PWB after investigating the cause of melt-down. (see page 4-76)
	7. The interlock switch is defective.	Check the continuity between the interlock switch contacts. Replace the low voltage power supply PWB if there is no continuity. (see page 4-76)
	8. Low voltage power supply PWB is defective.	Replace the low voltage power supply PWB. (see page 4-76)
	9. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-63)
(2)The right cooling fan motor does not rotate.	1. Right cooling motor coil is broken.	Check the continuity of the right cooling fan and replace if there is no continuity.
	2. Wire or connector failure between the right cooling fan and main/engine PWB (YC7).	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity. (see page 4-63)
	3. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-63)
(3)The left cooling fan motor does not rotate.	1. Left cooling motor coil is broken.	Check the continuity of the left cooling fan and replace if there is no continuity.
	2. Wire or connector failure between the left cooling fan and main/engine PWB (YC1).	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity. (see page 4-76)
	3. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-63)

Failure status	Cause of failure	Check procedures/corrective measures
(4)Registration clutch does not operate.	1. Registration clutch coil is broken.	Check continuity of the coil and registration clutch coil replace the if there is no continuity.
	2. Wire or connector failure between the registration clutch and main/engine PWB (YC10).	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity.
	3. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-63)
(5)Paper feed clutch does not operate.	1. Paper feed clutch coil is broken.	Check continuity of the coil and paper feed clutch coil replace the if there is no continuity.
	2. Wire or connector failure between the paper feed clutch and main/engine PWB (YC10).	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity.
	3. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-63)
(6)The developer clutch does not operate.	1. Developer clutch coil is broken.	Check continuity of the coil and developer clutch coil replace the if there is no continuity.
	2. Wire or connector failure between the developer clutch and main/engine PWB (YC10).	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity.
	3. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-63)
(7)MP paper feed solenoid does not function	1. MP paper feed solenoid clutch coil is broken.	Check continuity of the coil and MP paper feed solenoid coil replace the if there is no continuity.
	2. Wire or connector failure between the MP paper feed solenoid and main/ engine PWB (YC21).	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity.
	3. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-63)
(8)Eraser lamps (PWB) are not lit.	1. Wire or connector failure between the Eraser lamps PWB and main/engine PWB (YC5).	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity.
	2. Eraser lamp (PWB) is defective.	Check the continuity and replace eraser lamp (PWB) if there is no continuity. (see page 4-60)
	3. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-63)

Failure status	Cause of failure	Check procedures/corrective measures
(9)Paper indicator is blincking while paper is available in the cassette.	1. Paper sensor is defective.	Replace the paper sensor.
	2. Wire or connector failure between the paper sensor and main/engine PWB (YC6).	If the connector is not inserted enough, reinsert it. Or check the wire's continuity, and repair or replace the wire if there is no continuity.
(10)Paper jam at the feed/conveying section or fuser section at power-up.	1. Paper pieces, etc. remain around the registration sensor or eject sensor.	Remove foreign objects if mixed up.
	2. Checking the registration sensor on the high voltage PWB.	Replace the high voltage PWB. (see page 4-68)
	3. Eject sensor is defective.	Replace the eject sensor.
(11)Attention LED is lit after closing the front cover.	The interlock switch is defective.	Check the continuity between the interlock switch contacts. If there is no continuity when turning the interlock switch on, replace it.

7-5 Mechanical failure

Failure status	Failure point and check method	Measures
(1)No primary paper feed.	Check if the surface of the paper feed roller is dirty with paper dust, etc.	Clean the roller surface with alcohol.
	Paper feed roller is deformed.	Check and replace paper feed roller assy if it is deformed. (see page 4-5)
	Feed clutch attaching failure.	Check and repair if failed.
(2)No secondary paper feed.	Check if the surface of the upper registration roller and lower registration roller is dirty with paper dust, etc.	Clean the roller surface with alcohol.
	Registration clutch attaching failure.	Check and repair if failed.
(3)Skewed paper feed.	Poor attachment of the paper width guide in a cassette.	Check if the paper width guide is set at the correct position and repair or replace it if it has a problem.
(4)Multiple sheets paper are fed.	Check if the bottom pad and MFP separation pad is worn.	Replace if worn out.
	Check if there is extreme curl on paper.	If curled, replace paper.
(5)Paper jam	Check if there is extreme curl on paper.	If curled, replace paper.
	Check if the upper registration roller contacts the lower registration roller correctly.	Check and repair if failed.
	extreme dirt or deformation of the heat roller and press roller.	Replace the fuser unit. (see page 4-17)
	Check if the exit roller contacts the fuser exit pulley correctly.	Check and repair if failed.
(6)Toner drops to the paper conveying section.	Check if the developer unit or drum unit is extremely dirty.	Clean the developer unit or drum unit.(see page 4-10, 4-11)
(7)An abnormal sound is generated	Check if each roller, pulley and gear rotate smoothly.	Apply grease to the bushing and roller shaft.
	Paper feed clutch, Registration clutch, developer clutch attaching failure.	Check and repair if failed.

8 PWBs

8-1 Description for PWB

(1) Main/Engine PWB

Connector position

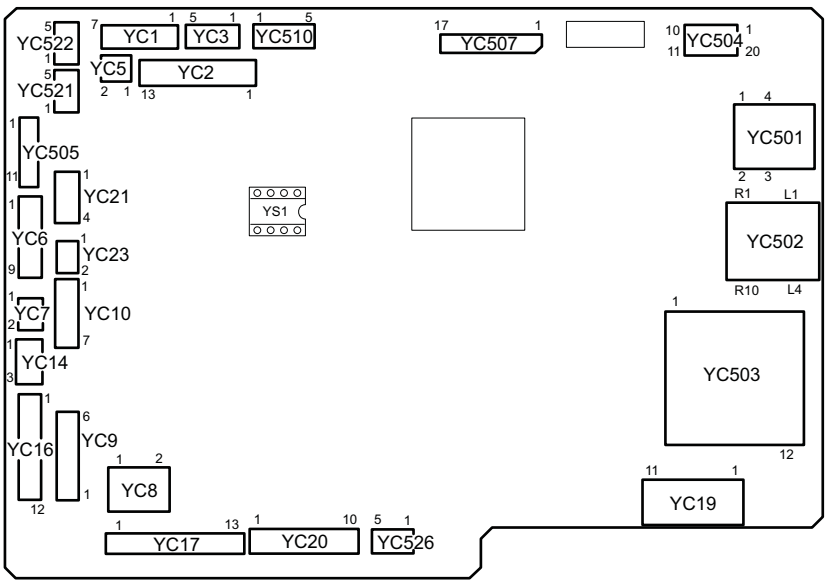


Figure 8-1

PWB photograph

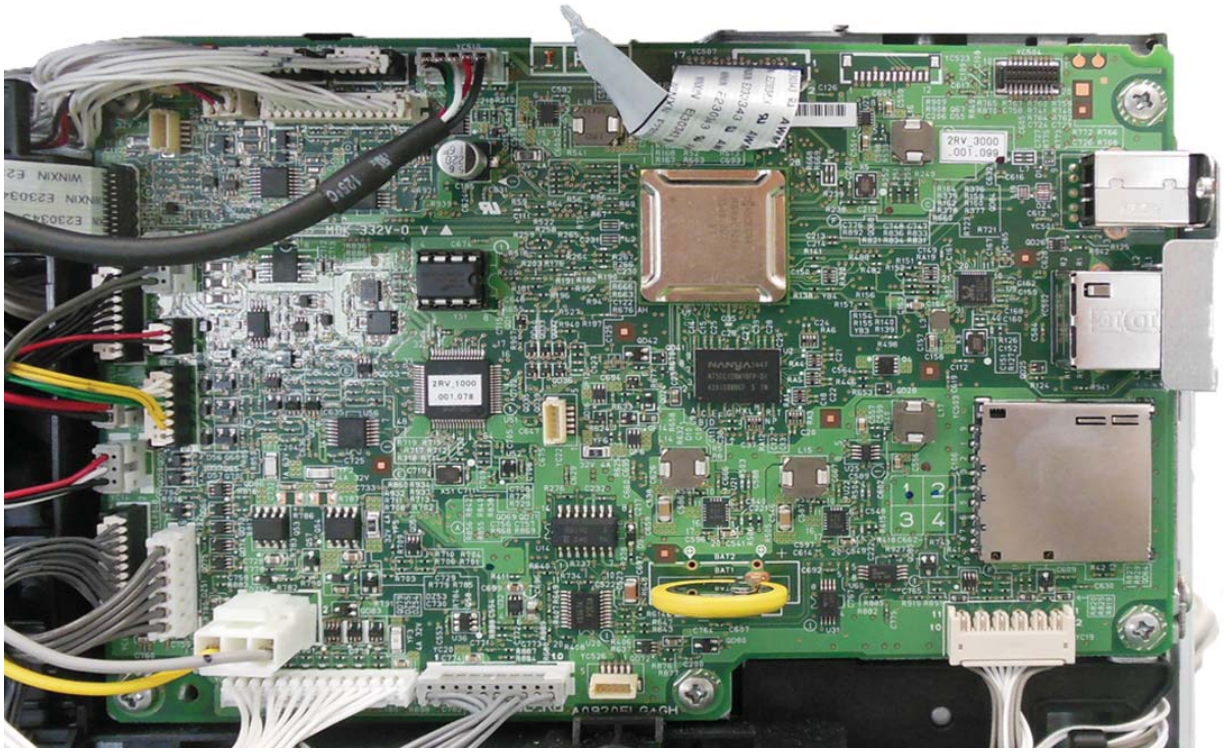


Figure 8-2

Connector access point

YC1: In-machine temperature sensor, Fuser pressure release motor, In-machine fan motor, Eject solenoid
YC2: Temperature humidity sensor, Waste toner sensor, Thermopile
YC3: Polygon motor
YC5: Eraser
YC6: MP paper sensor, Paper sensor, Container relay PWB
YC7: Eject fan motor
YC8: Inter lock switch
YC9: Main motor
YC10: Developer clutch, Feed clutch, Registration clutch
YC14: Toner sensor
YC16: Registration sensor, High voltage PWB
YC17: PF-1100
YC19: Fuser pressure release sensor, Rotation detection sensor, Eject sensor, Fuser terminal thermistor
YC20: Low voltage power supply PWB
YC21: MP solenoid
YC23: Power switch
YC501: USB
YC502: EtherNet
YC503: SD
YC504: Wi-Fi
YC505: APC PWB
YC507: Operation panel PWB(LCD model only)
YC507: Operation panel PWB(TSI model only)
YC510: USB PWB
YS1: EEPROM

Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	+24V6FA	-	24 V DC	24 V DC power source
	2	EXISOLRE	I	0/24 V DC	Eject solenoid drive
	3	PREMOTRE-	I/O	0/24 V DC	Pressure release motor drive
	4	PREMOTRE+	I/O	0/24 V DC	Pressure release motor drive
	5	FAN1MOTRE	I	0/24 V DC/ about12V	Left side fan drive
	6	+24V6FA(FAN)	-	24 V DC	24 V DC power (When fan stops, the output is turned off)
	7	GND	-	0 V DC	Ground
	8	INTTMP	I	Analog	In-machine temperature sensor output
YC2	1	HUMCLK	O	0/3.3 V DC(pulse)	Outside machine humidity sensor clock
	2	HUMDATA_	I	0/3.3 V DC(pulse)	Outside machine humidity sensor clock signal
	3	TMPDATA	I	Analog	Outside temperature sensor clock signal
	4	GND	-	0 V DC	Ground
	5	FUSTMPSE1O	I	Analog	Thermopile output 0
	6	GND	-	0 V DC	Ground
	7	+3.3V4LS	-	3.3 V DC	3.3 V DC power supply
	8	FUSTMPSE1A	I	Analog	Thermopile output A

Connec-tor	Pin	Signal	I/O	Voltage	Description
YC2	9	TPSDA	I/O	0/3.3 V DC(pulse)	Thermopile I2C communication data
	10	TPSCL	O	0/3.3 V DC(pulse)	Thermopile I2C communication clock
	11	GND	-	0 V DC	Ground
	12	WTOFULSE	I	0/3.3 V DC	Toner full detection signal
	13	+3.3V4LS	-	3.3 V DC	3.3 V DC power supply
YC3	1	+24V6FA	-	24 V DC	24 V DC power source
	2	GND	-	0 V DC	Ground
	3	PMOTREN	O	0/5 V DC	Polygon motor drive signal
	4	PMOTRDYN	I	0/3.3 V DC	Polygon motor rotation stability signal
	5	PMOTCLKN	O	0/5 V DC(pulse)	Polygon motor clock
YC5	1	GND	-	0 V DC	Ground
	2	+24V6ILFERA	-	24 V DC	24 V DC power (When the eraser is off, the output is turned off.)
YC6	1	+3.3V2LED	-	about1.2 V DC	Power for PI
	2	GND	-	0 V DC	Ground
	3	CASPAPSE	I	0/3.3 V DC	Cassette paper detection
	4	+3.3V2LED	-	about1.2 V DC	Power for PI
	5	GND	-	0 V DC	Ground
	6	MPFPAPSE	I	0/3.3 V DC	MPF paper detection
	7	GND	-	0 V DC	Ground
	8	CMDATA	I/O	0/3.3 V DC	Container communication
	9	-			
YC7	1	+24V6FA	-	24 V DC	24 V DC power source
	2	FAN2MOTRE	I	0/24 V DC	Right side fan drive
YC8	1	+24V0IL	-	24 V DC	24 V DC power (When the cover is opened, the output is turned off.)
	2	+24V0	-	24 V DC	24 V DC power source
YC9	1	MAIMOTDIR	O	0/5 V DC	Main motor rotaion's direction control signal
	2	MAIMOTRDYN	I	0/3.3 V DC	Main motor rotation stability signal
	3	MAIMOTCLKN	O	0/5 V DC(pulse)	Main motor clock
	4	MAIMOTREN	O	0/5 V DC	Main motor drive signal
	5	GND	-	0 V DC	Ground
	6	+24V6IL	-	24 V DC	24 V DC power (When the cover is opened, the output is turned off.)
YC10	1	+24V6FA	-	24 V DC	24 V DC power source
	2	REGCLURE	I	0/24 V DC	Registration clutch drive
	3	+24V6FA	-	24 V DC	24 V DC power source
	4	FEEDCLURE	I	0/24 V DC	Paper feed clutch drive

Connec-tor	Pin	Signal	I/O	Voltage	Description
YC10	5	+24V6FA	-	24 V DC	24 V DC power source
	6	DLPCLURE	I	0/24 V DC	Developer clutch drive
	7	-			
YC14	1	+3.3V4LS	-	3.3 V DC	3.3 V DC power supply
	2	ITOEMPSE	I	0/3.3 V DC	Toner empty detection signal
	3	GND	-	0 V DC	Ground
YC16	1	PGND	-	0 V DC	Ground
	2	SGND	-	0 V DC	Ground
	3	+3.3V4LS	-	3.3 V DC	3.3 V DC power supply
	4	REGPAPSE	I	0/3.3 V DC	Registration sensor output
	5	MHVCNT	O	0/5 V DC(pulse)	High voltage(M) output 310uA/155uA switch
	6	HVCLK	O	0/5 V DC(pulse)	High voltage(D) output pulse
	7	RTHVREM	O	0/5 V DC	High voltage(M,T) output off/on
	8	GHVCNT	O	0/5 V DC(pulse)	High voltage (M) output constant voltage/ constant current switch, G terminal voltage adjustment
	9	DHVCNT	O	0/5 V DC(pulse)	High voltage (D) output DC voltage adjustment
	10	THVCNT	O	0/5 V DC(pulse)	High voltage (T) output constant current off/on (output adjustment)
	11	+24V6ILF	-	24 V DC	24 V DC power (When the cover is opened, the output is turned off.)
	12	SHVCNT	O	Analog	High voltage (S) output off/on (output adjustment) : Japanese specification only
YC17	1	GND	-	0 V DC	Ground
	2	+3.3V4LSF	-	3.3 V DC	3.3 V DC power supply
	3	+3.3V2	-	3.3 V DC	3.3 V DC power supply
	4	PFINT	I	0/3.3 V DC	PF recovery factor detection
	5	PFRDY	I	0/3.3 V DC	PF ready signal
	6	PFSEL0	O	0/3.3 V DC	PF select 1 signal
	7	PFSEL1	O	0/3.3 V DC	PF select 2 signal
	8	PFCLK	O	0/3.3 V DC(pulse)	PF clock
	9	PFTXD	O	0/3.3 V DC(pulse)	PF data sending signal
	10	PFRXD	I	0/3.3 V DC(pulse)	PF data receiving signal
	11	+24V6FB	-	24 V DC	24 V DC power source
	12	+24V6FB	-	24 V DC	24 V DC power source
	13	GND	-	0 V DC	Ground

Connec-tor	Pin	Signal	I/O	Voltage	Description
YC19	1	+3.3V4LED	-	about1.2 V DC	Power for PI
	2	GND	-	0 V DC	Ground
	3	FUSROTSE	I	0/3.3 V DC	Eject sensor signal
	4	+3.3V4LED	-	about1.2 V DC	Power for PI
	5	GND	-	0 V DC	Ground
	6	EXIPAPSE	I	0/3.3 V DC(pulse)	Fuser rotation's detection signal
	7	+3.3V4LED	-	about1.2 V DC	Power for PI
	8	GND	-	0 V DC	Ground
	9	PREMOTPOSSE	I	0/3.3 V DC	Pressure release detection signal
	10	FUSTMPSE2	I	Analog	Fuser terminal thermistor signal
	11	GND	-	0 V DC	Ground
YC20	1	+24V0	-	24 V DC	24 V DC power source
	2	+24V0	-	24 V DC	24 V DC power source
	3	+24V0	-	24 V DC	24 V DC power source
	4	GND	-	0 V DC	Ground
	5	GND	-	0 V DC	Ground
	6	GND	-	0 V DC	Ground
	7	ZCROSS	I	0/3.3 V DC	Zero cross signal
	8	HEAT	O	0/3.3 V DC	Heater lighting signal
	9	STANDBYN	O	0/3.3 V DC	Sleep control signal
	10	RELAY	O	0/3.3 V DC	Relay control signal
YC21	1	-	-	-	Not used
	2	-	-	-	Not used
	3	+24V6FA	-	24 V DC	24 V DC power source
	4	MPFSOLRE	I	0/24 V DC	MPF solenoid drive
YC23	1	POWERSW	I	0/3.3 V DC	Power source switch signal
	2	GND	-	0 V DC	Ground
YC505	1	VDATA2N	O	LVDS	Image data signal
	2	VDATA2P	O	LVDS	Image data signal
	3	VDATA1N	O	LVDS	Image data signal
	4	VDATA1P	O	LVDS	Image data signal
	5	SAMPLE2	O	0/5 V DC	Sample signal
	6	SAMPLE1	O	0/5 V DC	Sample signal
	7	LSUENAN	O	0/5 V DC	Laser lighting signal
	8	SGND	-	0 V DC	Ground
	9	VCONT	O	Analog	Standard voltage
	10	PDN	I	0/5 V DC	Main scanning synchronization signal
	11	+5.0V4	-	5 V DC	5 V DC power

Connec-tor	Pin	Signal	I/O	Voltage	Description
YC507 LCD model	1	+5V2	-	5 V DC	5 V DC power
	2	BUZZER	I	0/5 V DC(pulse)	buzzer
	3	KEY1	I	0/3.3 V DC	KEY1 signal
	4	LED6	I	0/3.3 V DC	LED6 cathode
	5	KEY2	I	0/3.3 V DC	KEY2 signal:
	6	+3.3V2	-	3.3 V DC	3.3 V DC power supply
	7	LED8	I	0/3.3 V DC	LED8 cathode
	8	GND	-	0 V DC	Ground
	9	LED5	I	0/3.3 V DC	LED5 cathode
	10	KEY3	I	0/3.3 V DC	KEY3 signal
	11	LED4	I	0/3.3 V DC	LED4 cathode
	12	KEY0	I	0/3.3 V DC	KEY0 signal
	13	LED0	I	0/3.3 V DC	LED0 cathode
	14	LED7	I	0/3.3 V DC	LED7 cathode
	15	LED1	I	0/3.3 V DC	LED1 cathode
	16	LED3	I	0/3.3 V DC	LED3 cathode
	17	LED2	I	0/3.3 V DC	LED2 cathode
YC507	1	+5V2	-	5 V DC	5 V DC power
LED model	2	P2CSDAT	I	0/3.3 V DC	Panel communication data sending signal
	3	P2CWAKEUP	I	0/3.3 V DC	Panel recovery notification signal
	4	C2PSDAT	O	0/3.3 V DC	Panel communication data receiving signal
	5	ESAVERKEY	I	0/3.3 V DC	ESAVERKEY detection signal
	6	+3.3V2	-	3.3 V DC	3.3 V DC power supply
	7	C2PRSTN	O	0/3.3 V DC	Panel reset signal
	8	GND	-	0 V DC	Ground
YC510	1	GND	-	0 V DC	Ground
	2	DATAP	I/O	LVDS	USB data signal
	3	DATAN	I/O	LVDS	USB data signal
	4	VBUS(+5.0V4)	-	5 V DC	5 V DC power
	5	FGND	-	0 V DC	Ground

(2) High voltage PWB

Connector position

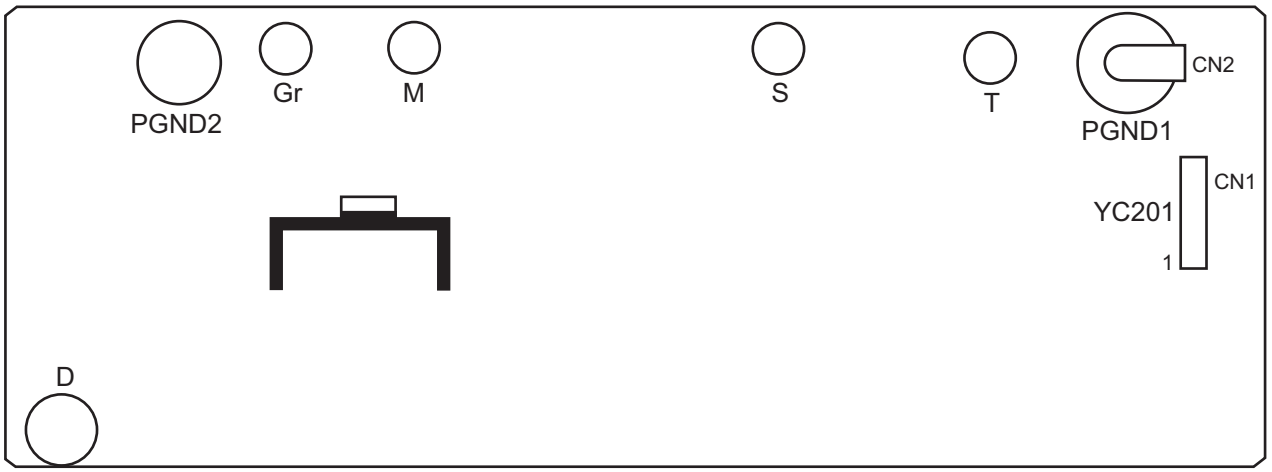


Figure 8-3

PWB photograph

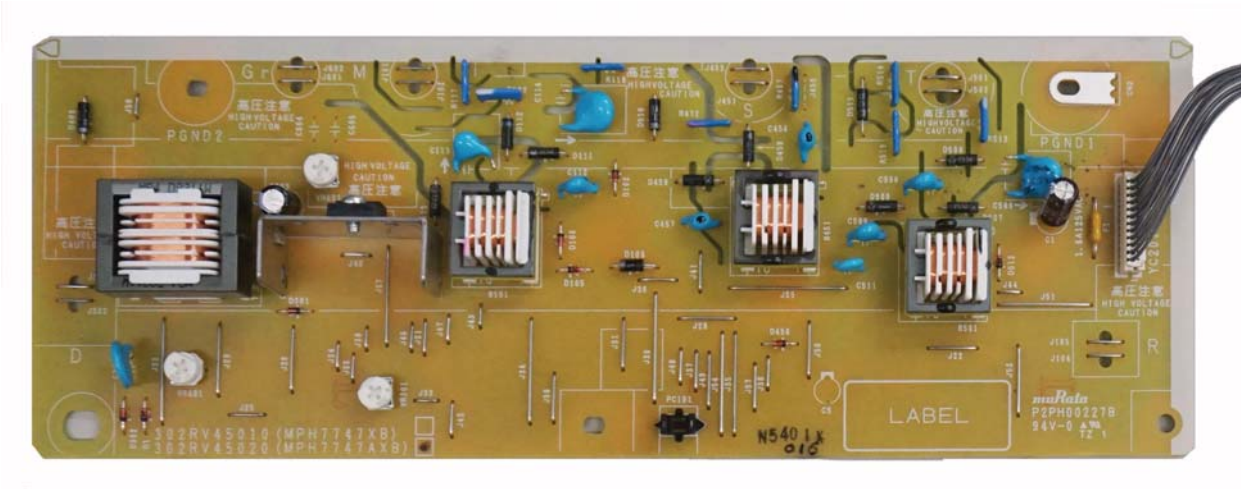


Figure 8-4

Connector access point

YC201: Main/Engine PWB

Connector	Pin	Signal	I/O	Voltage	Description
YC201	1	SHVCNT	I	0 to 3.3 V DC(Analog)	High voltage (S) output off/on (output adjustment) : Japanese specification only
	2	+24V6ILF	-	24 V DC	Power source for high voltage
	3	THVCNT	I	0/5 V DC(pulse)	High voltage (T) output constant current off/on (output adjustment)
	4	DHVCNT	I	0/5 V DC(pulse)	High voltage (D) output DC voltage adjustment
	5	GHVCNT	I	0/5 V DC(pulse)	High voltage (M) output constant voltage/ constant current switch, G terminal voltage adjustment
	6	RTHVREM	I	0/5 V DC	High voltage(M,T) output off/on
	7	HVCLK	I	0/5 V DC	High voltage(D) output pulse
	8	MHVCNT	I	0/5 V DC	High voltage(M) output 310uA/155uA switch
	9	REGPAPSE	O	0/3.3 V DC	Registration paper detection
	10	+3.3V4LS	-	3.3 V DC	Power for registration paper detection
	11	SGND	-	-	Ground for registration paper detection
	12	PGND	-	-	Ground for high voltage

(3) Low voltage power supply PWB

Connector position

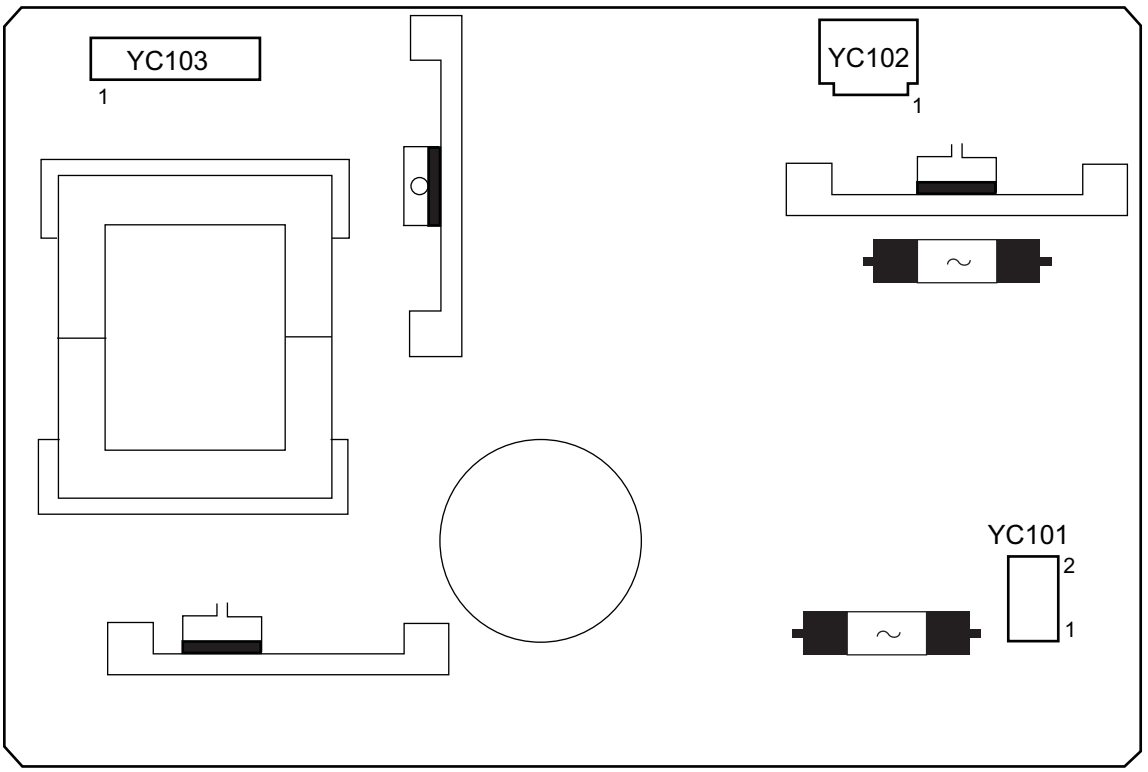


Figure 8-5

PWB photograph

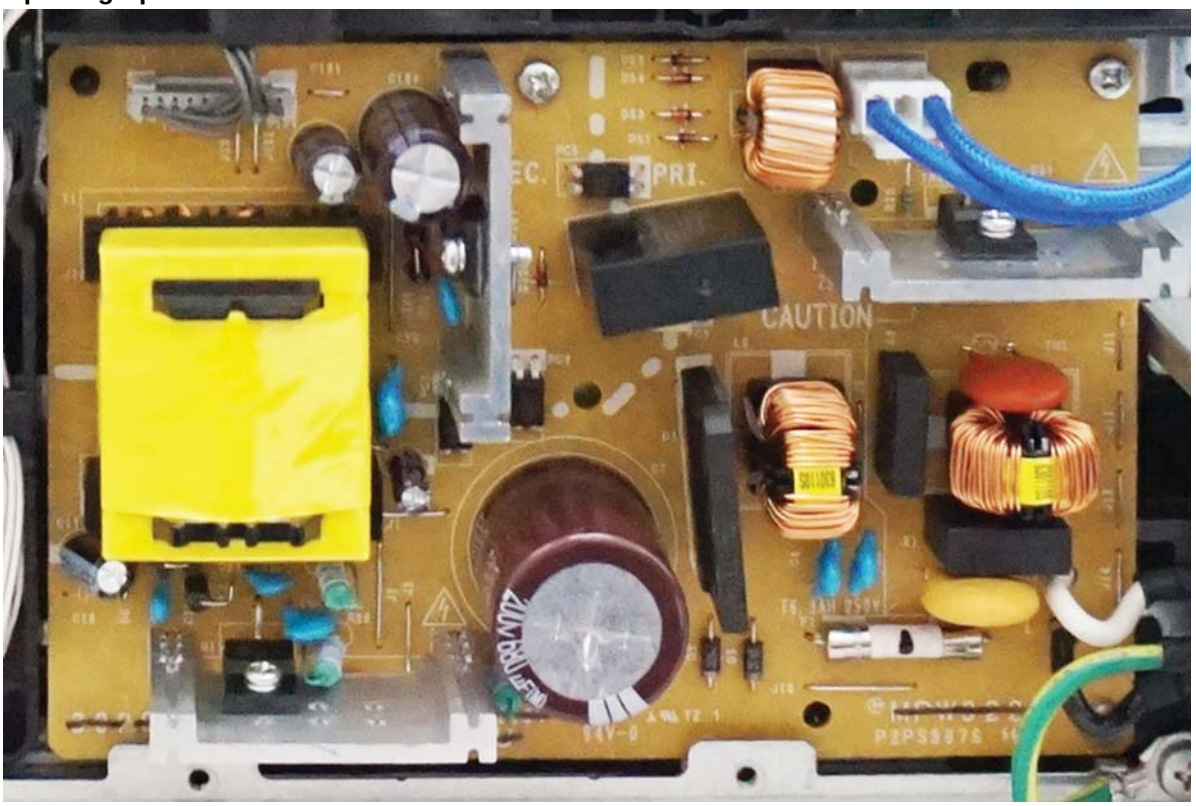


Figure 8-6

Connector access point

YC101: Inlet

YC102: Fuser heater, thermal cut-off

YC103: Main/Engine PWB

Connec-tor	Pin	Signal	I/O	Voltage	Description
YC101	1	L	-	AC power voltage	Commercial power connection
	2	N	-	AC power voltage	Commercial power connection
YC102	1	HEATERCOM	-	AC power voltage	Heater live side
	2	HEATERLIVE	-	AC power voltage	Heater neutral side
YC103	1	RELAY	I	0/3.3 V DC	Relay control signal
	2	STANDBYN	I	0/3.3 V DC	Sleep control signal
	3	HEAT	I	0/3.3 V DC	Heater lighting signal
	4	ZCROSS	O	0/3.3 V DC	Zero cross signal
	5	GND	-	0 V DC	Ground
	6	GND	-	0 V DC	Ground
	7	GND	-	0 V DC	Ground
	8	+24V0	-	8/24 V DC	24 V DC power (8V in off-mode)
	9	+24V0	-	8/24 V DC	24 V DC power (8V in off-mode)
	10	+24V0	-	8/24 V DC	24 V DC power (8V in off-mode)

(4) Operation panel PWB (LCD)

Connector position

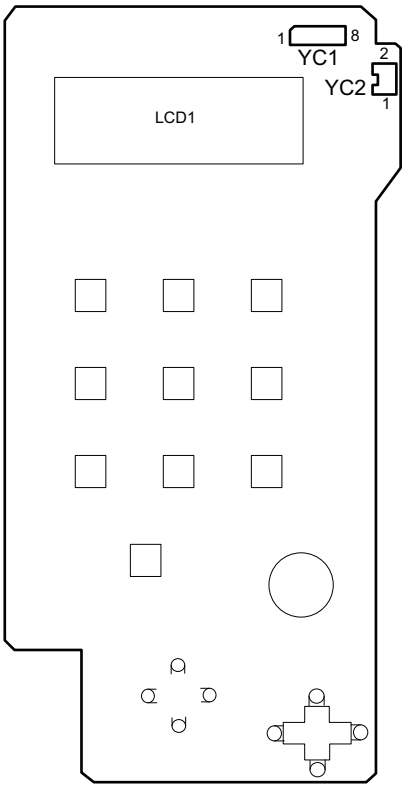


Figure 8-7

PWB photograph

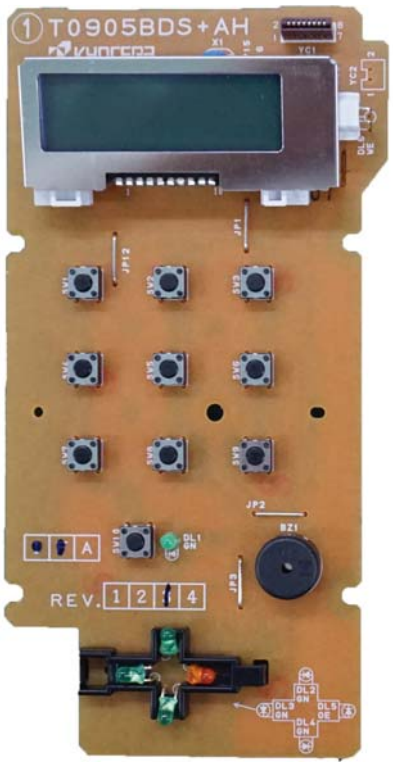


Figure 8-8

Connector access point

YC1: Main/Engine PWB

Connector	Pin	Signal	I/O	Voltage	Description
YC1	1	GND	-	0 V DC	Ground
	2	C2PRSTN	I	0/3.3 V DC	Panel reset signal
	3	+3.3V2	-	3.3 V DC	3.3 V DC power supply
	4	ESAVERKEY	O	0/3.3 V DC	ESAVERKEY detection signal
	5	C2PSDAT	I	0/3.3 V DC	Panel communication data receiving signal
	6	P2CWAKEUP	O	0/3.3 V DC	Panel recovery notification signal
	7	P2CSDAT	O	0/3.3 V DC	Panel communication data sending signal
	8	+5V2	-	5 V DC	5 V DC power

(5) Operation panel PWB (LED)

Connector position

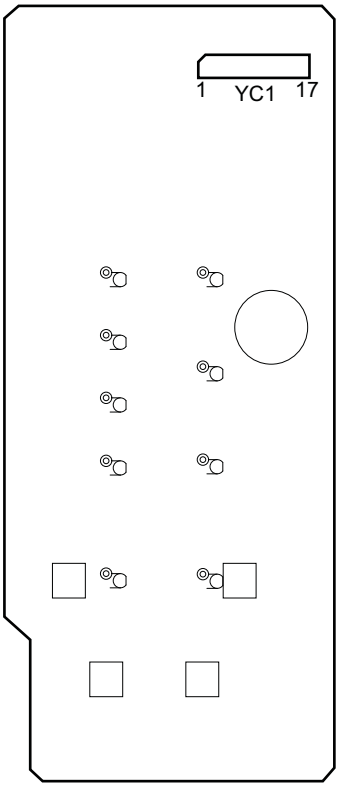


Figure 8-9

PWB photograph

Figure 8-10

Connector access point

YC1: Main/Engine PWB

Connec-tor	Pin	Signal	I/O	Voltage	Description
YC1	1	LED2	O	0/3.3 V DC	LED2 cathode
	2	LED3	O	0/3.3 V DC	LED3 cathode
	3	LED1	O	0/3.3 V DC	LED1 cathode
	4	LED7	O	0/3.3 V DC	LED7 cathode
	5	LED0	O	0/3.3 V DC	LED0 cathode
	6	KEY0	O	0/3.3 V DC	KEY0 signal
	7	LED4	O	0/3.3 V DC	LED4 cathode
	8	KEY3	O	0/3.3 V DC	KEY3 signal
	9	LED5	O	0/3.3 V DC	LED5 cathode
	10	GND	-	0 V DC	Ground
	11	LED8	O	0/3.3 V DC	LED8 cathode
	12	+3.3V2	-	3.3 V DC	3.3 V DC power supply
	13	KEY2	O	0/3.3 V DC	KEY2 signal
	14	LED6	O	0/3.3 V DC	LED6 cathode
	15	KEY1	O	0/3.3 V DC	KEY1 signal
	16	BUZZER	O	0/5 V DC(pulse)	buzzer
	17	+5V2	-	5 V DC	5 V DC power

(6) PF main PWB (option)

Connector position

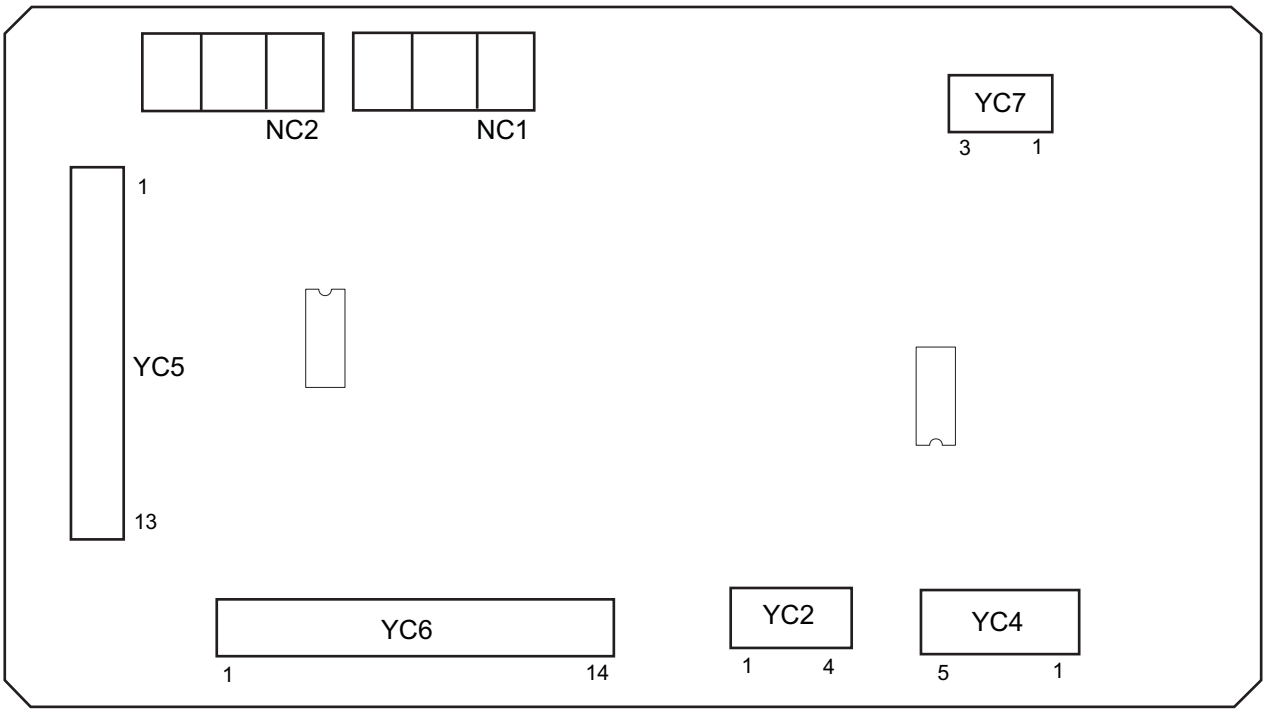


Figure 8-11

PWB photograph

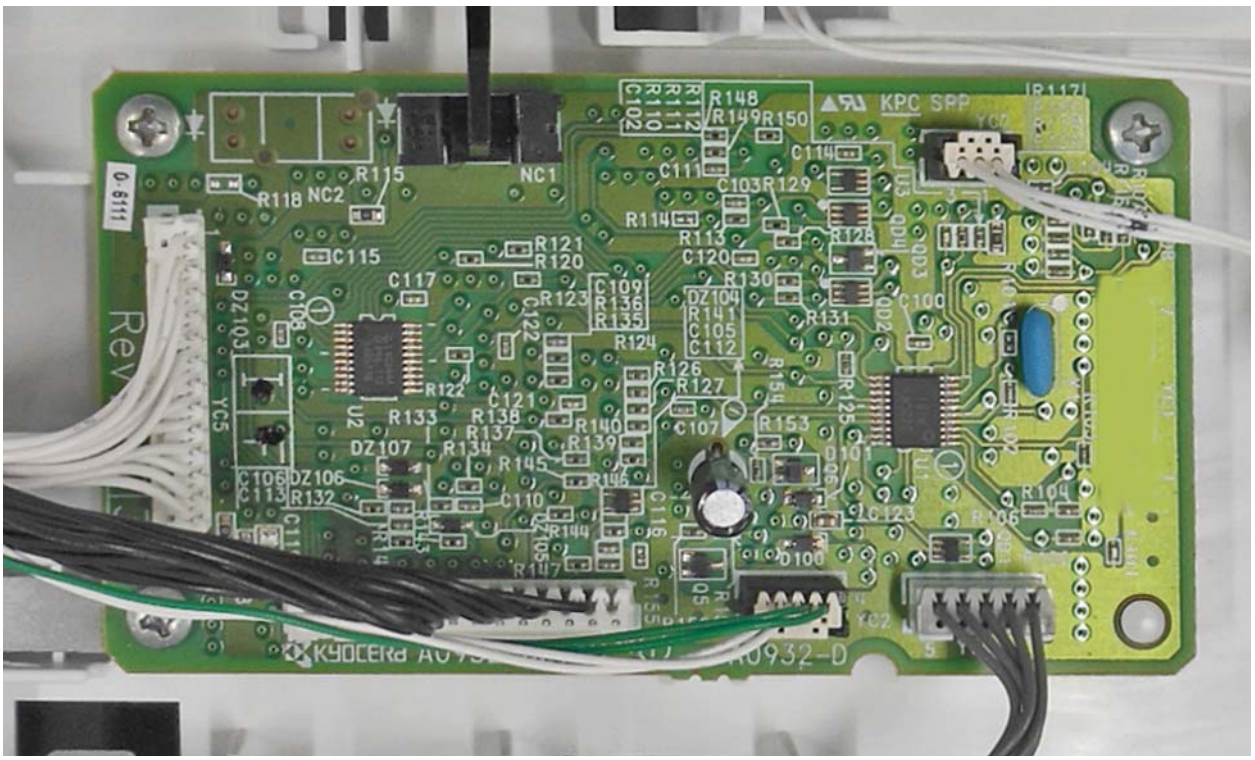


Figure 8-12

Connector access point

YC2: PF paper feed clutch, PF conveying clutch
YC4: PF conveying motor
YC5: Main/Engine PWB
YC6: PF main PWB (Lower cassette)
YC7: PF feed sensor

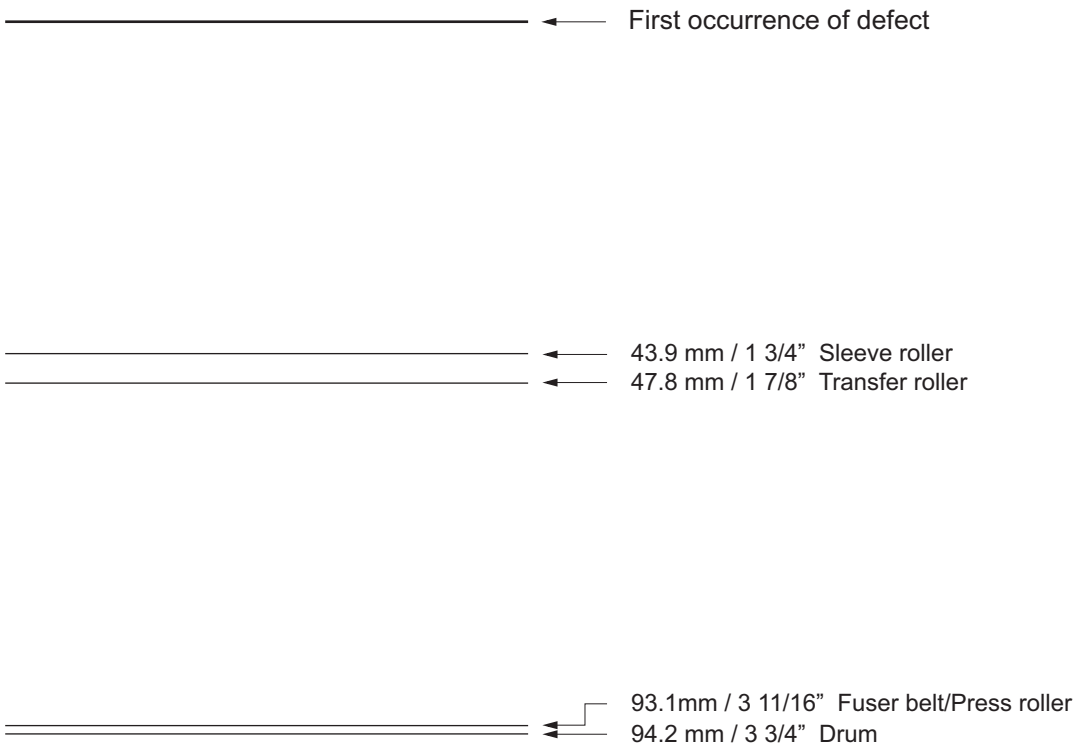
Connec-tor	Pin	Signal	I/O	Voltage	Description
YC2	1	+24V6FB	O	24 V DC	24 V DC power output
	2	FEEDCLN	O	0/24 V DC	Paper feed clutch signal
	3	+24V6FB	O	24 V DC	24 V DC power output
	4	TRNSCLN	O	0/24 V DC	Conveying clutch signal
YC4	1	TMOTRDYN	I	0/3.3 V DC	Motor rotation stability signal
	2	TMOTCLK	O	0/5 V DC(pulse)	motor rotation standard clock
	3	TMOTDRVN	O	0/5 V DC	motor rotation start/stop signal
	4	GND	O	-	Ground
	5	+24V6FB	O	24 V DC	24 V DC power output
YC5	1	GND	I	-	Ground
	2	+3.3V4LSF	I	3.3 V DC	3.3 V DC power input
	3	+3.3V2	I	3.3 V DC	3.3 V DC power input
	4	PFINT	O	0/3.3 V DC	Recovery factor signal
	5	PFRDY	O	0/3.3 V DC	Main PFRDY
	6	PFSEL0	I	0/3.3 V DC	PF select signal
	7	PFSEL1	I	0/3.3 V DC	PF select signal
	8	PFCLK	I	0/3.3 V DC(pulse)	Main PFCLK
	9	PFTXD	I	0/3.3 V DC	PF receiving data
	10	PFRXD	O	0/3.3 V DC(pulse)	PF receiving data
	11	+24V6FB	I	24 V DC	24 V DC power input
	12	+24V6FB	I	24 V DC	24 V DC power input
	13	GND	I	-	Ground
YC6	1	GND	O	-	Ground
	2	+3.3V4LSF	O	3.3 V DC	3.3 V DC power output
	3	+3.3V2	O	3.3 V DC	3.3 V DC power output
	4	PFINT	I	0/3.3 V DC	Recovery factor signal
	5	PFRDY	I	0/3.3 V DC	Main PFRDY
	6	PFSEL0	O	0/3.3 V DC	PF select signal
	7	PFSEL1	O	0/3.3 V DC	PF select signal
	8	PFCLK	O	0/3.3 V DC(pulse)	Main PFCLK
	9	PFTXD	O	0/3.3 V DC	PF receiving data
	10	PFRXD	I	0/3.3 V DC(pulse)	PF receiving data

Connec-tor	Pin	Signal	I/O	Voltage	Description
YC6	11	+24V6FB	O	24 V DC	24 V DC power output
	12	+24V6FB	O	24 V DC	24 V DC power output
	13	GND	O	-	Ground
	14	NC	-	-	Not used
YC7	1	+3.3V4LSF	O	3.3 V DC	3.3 V DC power output
	2	GND	O	-	Ground
	3	PFEED	I	0/3.3 V DC	Conveying paper timing sensor

9 Appendixes

9-1 Appendixes

(1) Repetitive defects gauge



*: The repetitive marks interval may vary depending on operating conditions.

(2) Firmware environment commands

The printer maintains a number of printing parameters in its memory. These parameters may be changed permanently with the FRPO (Firmware RePrOgram) commands.
This section provides information on how to use the FRPO command and its parameters using examples.

Using FRPO commands for reprogramming the firmware

The current settings of the FRPO parameters are listed as the optional values on the service status page.

Note: Before changing any FRPO parameters, print out a service status page, so you will know the parameter-values before the changes are made. To return FRPO parameters to their factory default values, send the-FRPO INIT (FRPO-INITialize) command. (!R! FRPO INIT; EXIT;)

The FRPO command is sent to the printer in the following sequence:
!R! FRPO parameter, value; EXIT;
Example: Changing emulation mode to PC-PR201/65A
!R! FRPO P1, 6; EXIT;

FRPO parameters

Items	FRPO	Setting value	Factory setting
Message language selection at power-up	B7	0: Entering into the language selection menu 1: Not entering the language selection menu	1
Default pattern resolution	B8	0: 300 dpi 1: 600 dpi	0
Number of copies at start-up	C0	1 to 999	1
Page orientation	C1	0: Portrait 1: Landscape	0
Default font*	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 switching	C8	0:HP compatible mode 32:Compatibility mode	0
Total host buffer size	H8	0 to 99 in units of the size defined by FRPO S5	5
Form feed time-out value	H9	Value in units of 5 seconds (0 to 99).	6 1: 100V
Reduction (100 V model only)	J0	0: 100% 5: 70 % 6: 81 % 7: 86 % 8: 94 % 9: 98 %	0
Auto linefeed mode (100 V model only) (Japanese emulation only)	J7	0: Auto linefeed 1: No auto linefeed	0
Horizontal offset (100 V model only) *	K0	-7 to +7 (Integer), unit: cm	0
	K1	-99 to +99 (Decimal), unit: 1/100 cm	0

Items	FRPO	Setting value	Factory setting
Vertical offset (100 V model only)*	K2	-7 to +7 (Integer), unit: cm	0
	K3	-99 to +99 (Decimal), unit: 1/100 cm	0
Kanji font number setting (100 V model only)	K4	0: Same as V7 1: Mincho 40 dots 2: Gothic 40 dots 5: Mincho 48 dots 6: Gothic 48 dots	0
New/old JIS code switching (100 V model only)	K6	0: JIS X 0208: 1990 1: JIS X 0208: 1978 8: JIS X 0213: 2004	0
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 240 minutes	1
Ecoprint level	N6	0: OFF 2: ON	0
Default emulation mode	P1	6 : PCL6 9 : KPDL	6 9: 120V
Carriage-return action	P2	0: Ignores 1: CR 2: CR+LF?	1
Linefeed action	P3	0: Ignores 1: LF 2: CR+LF?	1
KPDL auto switching	P4	0: None 1: Auto switching	0 1(120V model)
AES option Page eject command and action when automatic emulation switching (AES) is triggered	P7	If the data is neither applicable to KPDL nor alternate emulation after the AES is started, it is processed in the alternate emulation . 0: All page eject commands 1: None 2: All page eject commands and Prescribe EXIT command 3: Prescribe EXIT command only 4: ^L command only 6: Prescribe EXIT command and ^L command If the data is neither applicable to KPDL nor alternate emulation after the AES is started, it is processed in KPDL. 10: Data other than KPDL print data is printed in the alternate emulation.	10 11: 120V
Command recognition character	P9	ASCII code of 33 to 126	82(R)

Items	FRPO	Setting value	Factory setting
Paper size(start-up)	R2	0: Size of the default paper cassette (See R4.) 1: Envelope Monarch 2: Envelope #10 3: Envelope DL 4: Envelope C5 5: Executive 6: Letter 7: Legal 8: ISO A4 9: JIS B5 13: ISO A5 14: ISO A6 15: JIS B6 16: Envelope #9 17: Envelope #6-3/4 18: ISO B5 19: Custom 20: B4 to A4(100 V model only) 21: A3 to A4(100 V model only) 22: A4 to A4[98%](100 V model only) 23: STK to A4(100 V model only) 31: Hagaki 32: Oufuku Hagaki 33: Oficio II 40: 16K 42: 8.5x13.5 50: Statement 51: Folio 52: Youkei type 2 53: Youkei type 4	0
Default paper source	R4	0: MP paper feed section 1: Cassette 1	1

Items	FRPO	Setting value	Factory setting
MP tray size	R7	1: Envelope Monarch 2: Envelope #10 3: Envelope DL 4: Envelope C5 5: Executive 6: Letter 7: Legal 8: ISO A4 9: JIS B5 13: ISO A5 14: ISO A6 15: JIS B6 16: Envelope #9 17: Envelope #6-3/4 18: ISO B5 19: Custom 31: Hagaki 32: Oufuku Hagaki 33: Oficio II 40: 16K 42: 8.5x13.5 50: Statement 51: Folio 52: Youkei type 2 53: Youkei type 4	8 6(120V)
A4/Letter override	S4	0: OFF 1: ON	1 0 (100V)
Host buffer size rate (H8 value and integration)	S5	0: 10KB 1: 100KB 2: 1MB	1
RAM disk size (LCD model only)	S6	1 to 1024	400
RAM disk size (LCD model only)	S7	0: RAM disk mode OFF 1: RAM disk mode ON	1

Items	FRPO	Setting value	Factory setting
Tray1 size	T1	5: Executive 6: Letter 7: Legal 8: ISO A4 9: JIS B5 13: ISO A5 14: ISO A6 15: JIS B6 18: ISO B5 19: Custom 33: Oficio II 40: 16K 42: 8.5x13.5 50: Statement 51: Folio	8 6(120V)
Tray2 size	T2	5: Executive 6: Letter 7: Legal 8: ISO A4 9: JIS B5 13: ISO A5 14: ISO A6 15: JIS B6 18: ISO B5 19: Custom 33: Oficio II 40: 16K 42: 8.5x13.5 50: Statement 51: Folio	8 6(120V)
Wide A4	T6	0: OFF 1: ON	0
Line spacing	U0	Lines per inch (integer value)	6
	U1	Lines per inch (fraction value)	0
Character spacing	U2	Characters per inch (integer value)	10
	U3	Characters per inch (fraction value)	0

Items	FRPO	Setting value	Factory setting
Country code of the resident fonts	U6	0: US 1: France 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	41 0 (100V)
Supported symbol sets	U7	0: Same as the default emulation mode (P1) 1: IBM 6: PCL	53 0 (100V)
Default font pitch*	U8	Default font pitch/integer	10
	U9	Default font pitch/decimal	0
ANK outline font size at start-up*	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
ANK outline font name at start-up*	V3	ANK outline font name at power-up	Courier
Initial Kanji outline font side at start-up (100 V model only)*	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 (100 V model only)*	V7	Kanji outline font name at start-up	MTHSMIN-CHO-W3

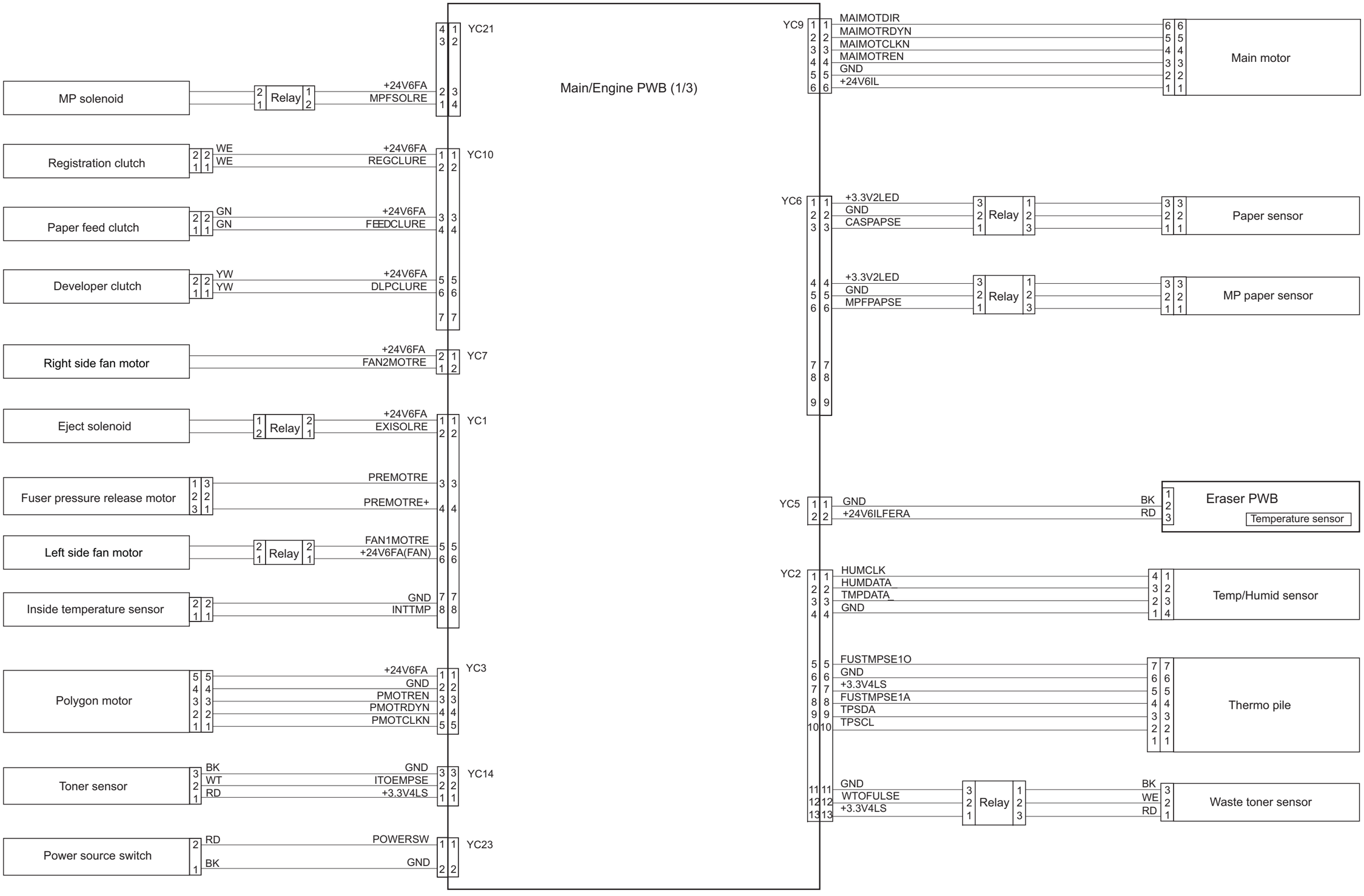
Items	FRPO	Setting value	Factory setting
Default weight(courier and letter Gothic)	V9	0: Courier = darkness Letter Gothic = darkness 1: Courier = regular Letter Gothic = darkness 4: Courier = darkness Letter Gothic = regular 5: Courier = regular Letter Gothic = regular	5
Color mode	W1	0: BW 1: Color (CMYK color)	1
Gloss mode	W6	0: OFF 1: ON	0
Paper type for the MP tray	X0	1: Plain 2: Transparency 3: Preprinted 4: Labels 5: Bond 6: Recycled 7: Vellum 8: Rough (except 100 V model) 9: Letterhead 10: Color 11: Prepunched 12: Envelope 13: Hagaki 14: Coated 16: Thick 17: High quality 21 to 28 : Custom 1 to Custom 8	1
Paper type (Paper cassettes 1)	X1	1: Plain 3: Preprinted 5: Bond 6: Recycled 8: Rough (except 100 V model) 9: Letterhead 10: Color 11: Prepunched 16: Thick 17: High quality 21 to 28 : Custom 1 to Custom 8	1

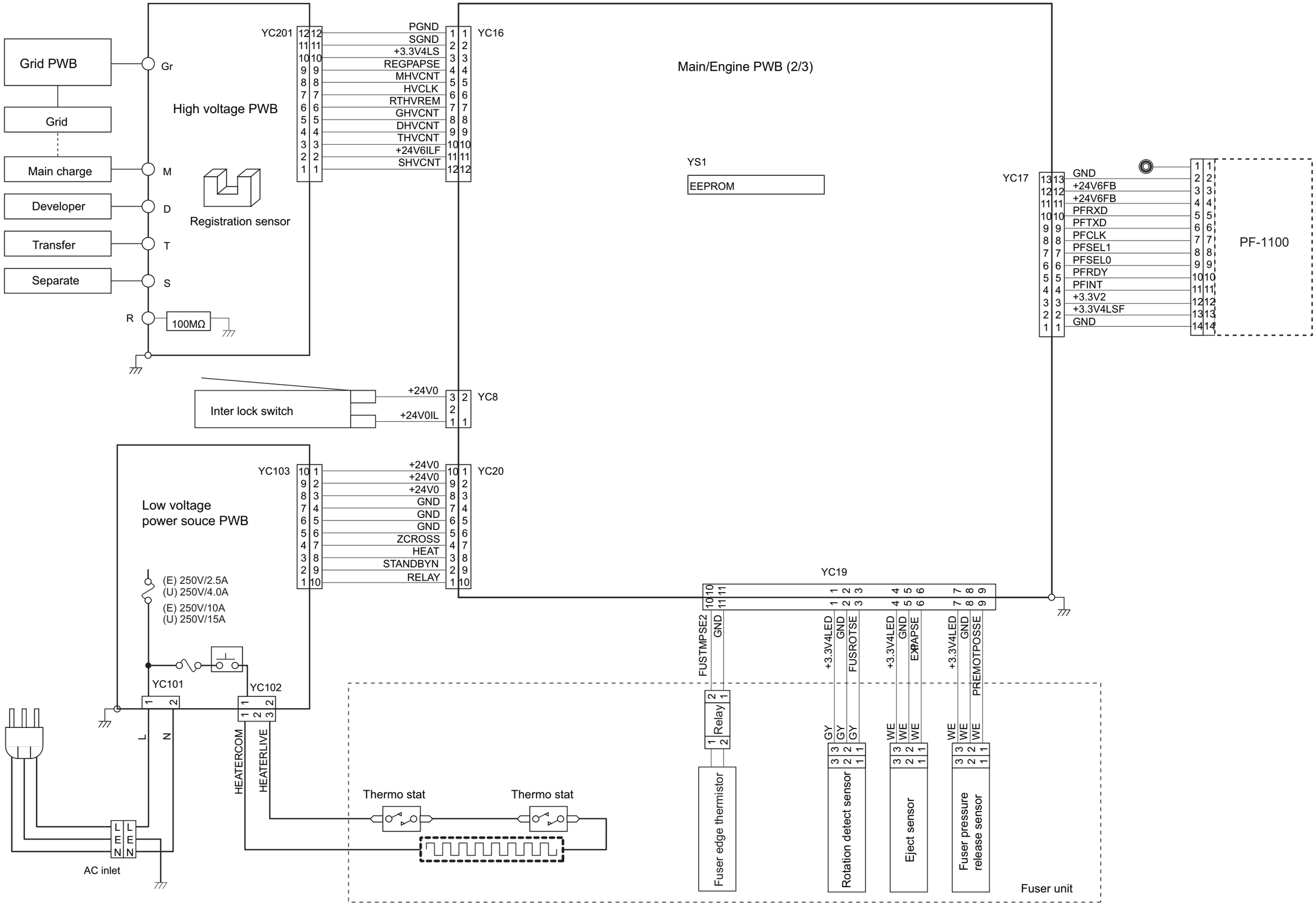
Items	FRPO	Setting value	Factory setting
Paper type (Option paper cassette 2 to 5)	X2	1: Plain 3: Preprinted 5: Bond 6: Recycled 8: Rough (except 100 V model) 9: Letterhead 10: Color 11: Prepunched 16: Thick 17: High quality 21 to 28 : Custom 1 to Custom 8	1
Cassette selection mode (PCL)	X9	0: Paper 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	Y0	0: OFF 1: ON	0
Auto error clear timeout time	Y1	Value in units of 5 seconds (0 to 99).	6
Paper error detection at duplex printing Paper size and type error detection at fixed paper source (LCD model only)	Y3	0: Not detected 33: Detected	0
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 to 99: Same action as default value(0)	0
Job box error control	Y6	0: No error control 1: Output the error list 2: Displays the error 3: Displays the error and prints the error report	3

*: Ignored depending on emulation

(3) Wiring diagram

(3-1)Standard




Grid PWB
Gr
Grid
Main charge
M
Developer
D
Transfer
T
Separate
S
R
100MΩ
High voltage PWB
Registration sensor
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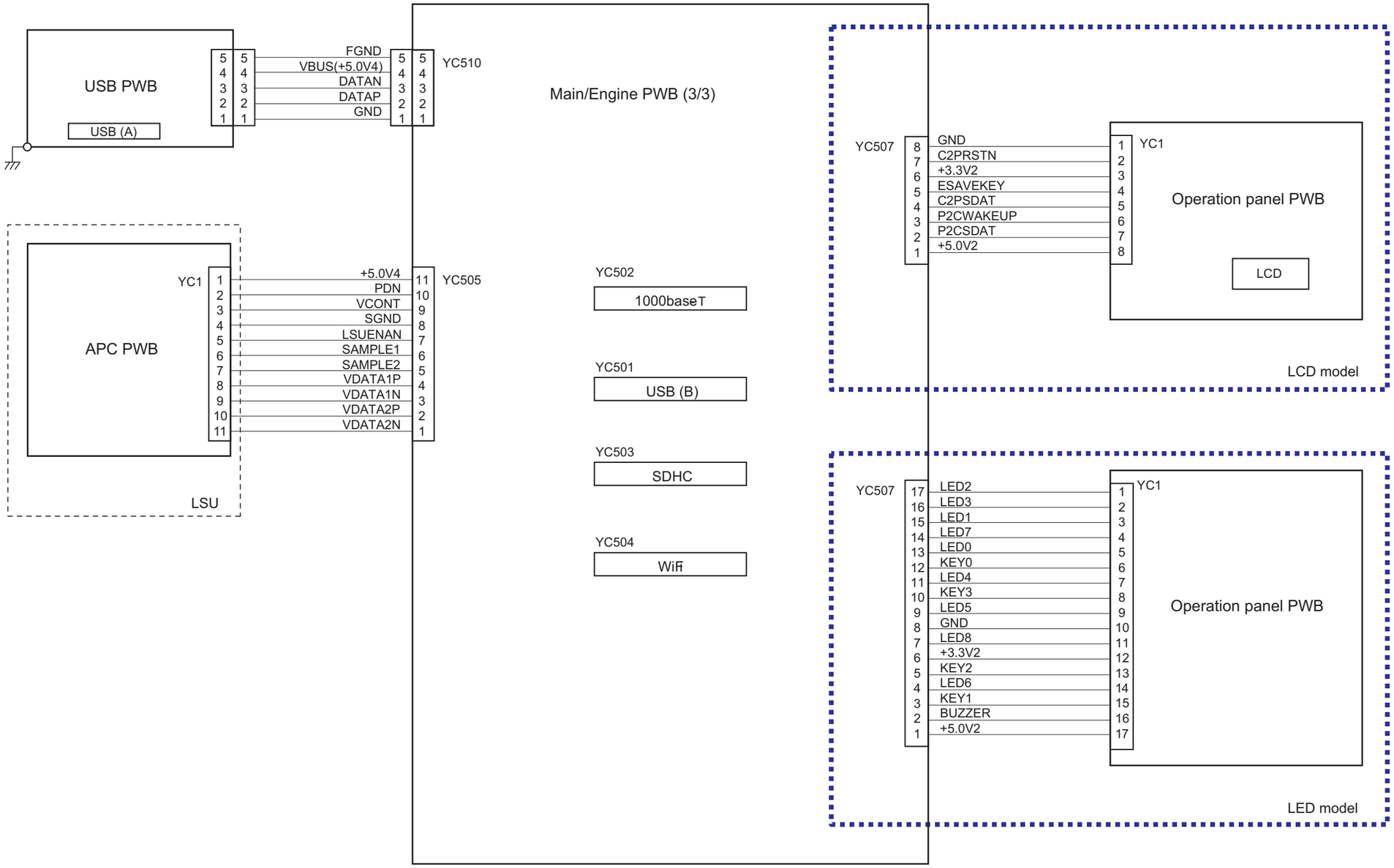
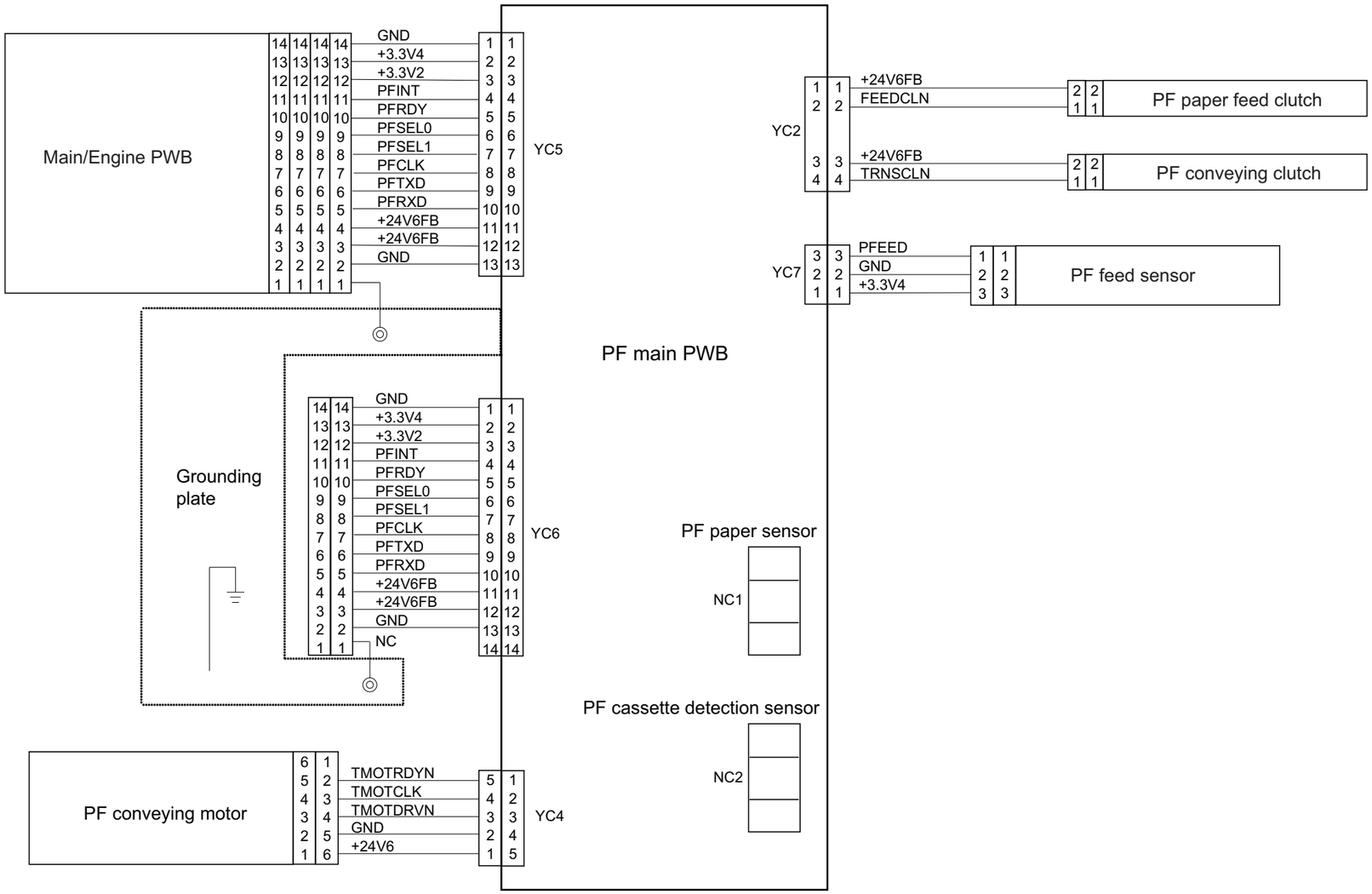
PGND
SGND
+3.3V4LS
REGPAPSE
MHVCNT
HVCLK
RTHVREM
GHVCNT
DHVCNT
THVCNT
+24V6ILF
SHVCNT
YC16
Main/Engine PWB (2/3)
YS1
EEPROM
YC17
GND
+24V6FB
+24V6FB
PFRXD
PFTXD
PFCLK
PFSEL1
PFSEL0
PFRDY
PFINT
+3.3V2
+3.3V4LSF
GND
PF-1100
Inter lock switch
+24V0
+24V0IL
YC8
YC103
+24V0
+24V0
+24V0
GND
GND
GND
ZCROSS
HEAT
STANDBYN
RELAY
YC20
Low voltage
power souce PWB
(E) 250V/2.5A
(U) 250V/4.0A
(E) 250V/10A
(U) 250V/15A
YC101
YC102
L
N
HEATERCOM
HEATERLIVE
AC inlet
Thermo stat
Thermo stat
YC19
FUSTMPSE2
GND
+3.3V4LED
GND
FUSROTSE
+3.3V4LED
GND
EXPAPSE
+3.3V4LED
GND
PREMOTPOSSE
Relay
Fuser edge thermistor
Rotation detect sensor
Eject sensor
Fuser pressure
release sensor
Fuser unit


USB PWB
USB (A)
FGND
VBUS(+5.0V4)
DATAN
DATAP
GND
YC510
Main/Engine PWB (3/3)
APC PWB
YC1
+5.0V4
PDN
VCONT
SGND
LSUENAN
SAMPLE1
SAMPLE2
VDATA1P
VDATA1N
VDATA2P
VDATA2N
YC505
LSU
YC502
1000baseT
YC501
USB (B)
YC503
SDHC
YC504
WiFi
YC507
GND
C2PRSTN
+3.3V2
ESAVEKEY
C2PSDAT
P2CWAKEUP
P2CSDAT
+5.0V2
YC1
Operation panel PWB
LCD
LCD model
YC507
LED2
LED3
LED1
LED7
LED0
KEY0
LED4
KEY3
LED5
GND
LED8
+3.3V2
KEY2
LED6
KEY1
BUZZER
+5.0V2
YC1
Operation panel PWB
LED model

(3-2)PF-1100 (Options)



PF-1100

(250 sheets × 1 Paper Feeder)

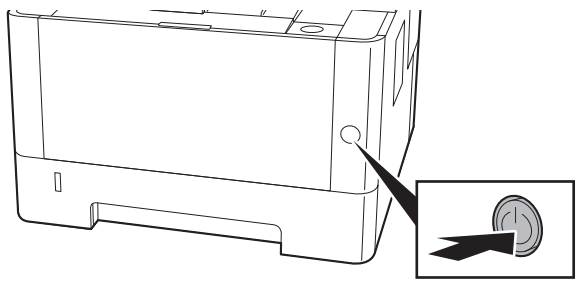
Installation Guide

PF-1100

Installation Guide
Installationsanleitung
Guide d'installation
Guida all'installazione
Guía de instalación
Руководство по установке
安裝手冊
설치안내서
インストールガイド

Installation of PF-1100
Installation von PF-1100
Installation de PF-1100
Installazione di PF-1100
Instalación de PF-1100
Установка PF-1100
安裝PF-1100
PF-1100설치
PF-1100の設置

1



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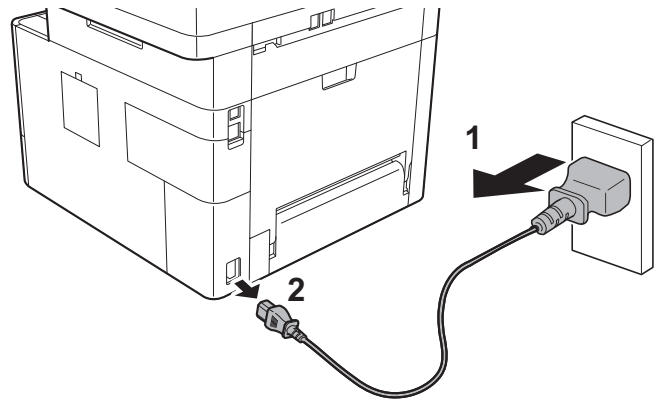
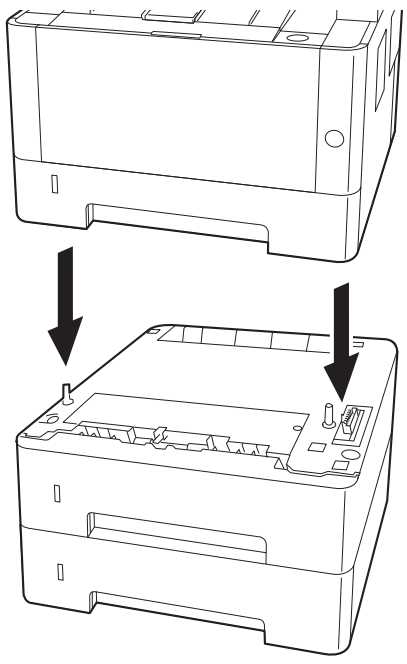


3



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Papier de chargement
Carta da caricamento
Papel del cargamento
Загрузка бумаги
裝入紙張
용지 적재
用紙のセット

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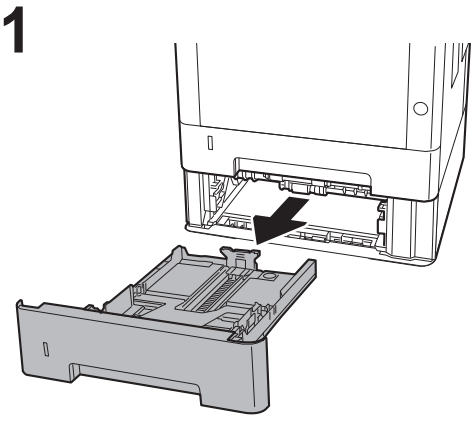

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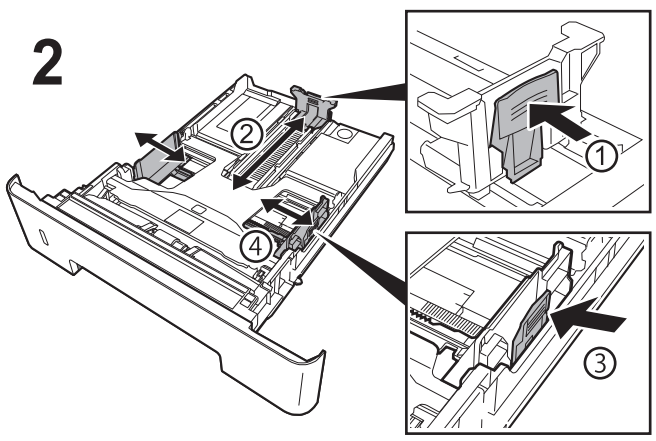

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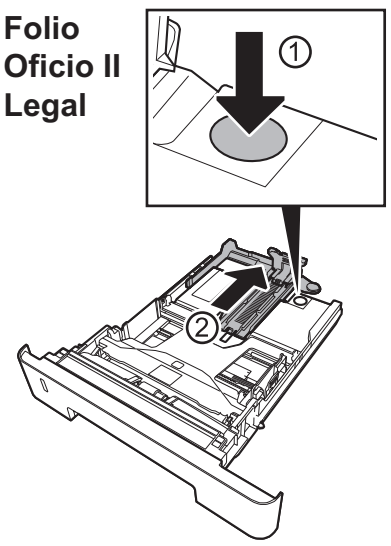

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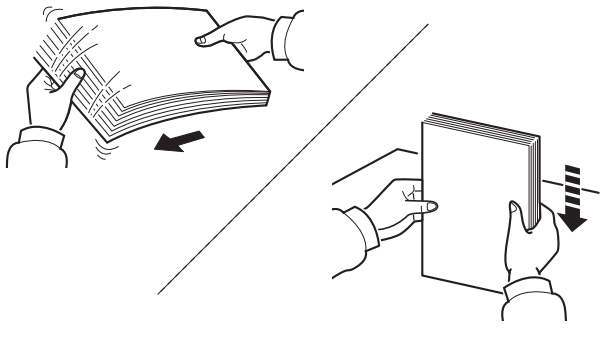

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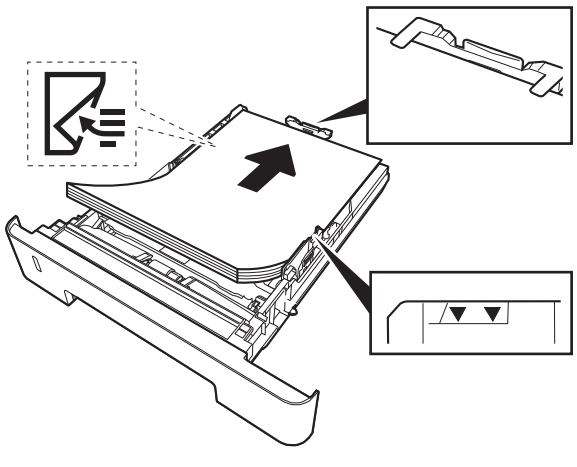

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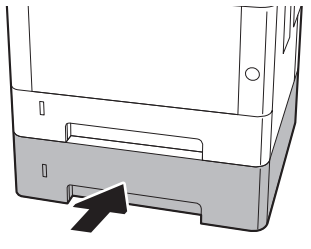

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