



ECOSYS M2135dn
ECOSYS M2635dn
ECOSYS M2635dw
ECOSYS M2735dw
ECOSYS M2040dn
ECOSYS M2540dn
ECOSYS M2540dw
ECOSYS M2640idw
PF-1100

SERVICE MANUAL

Published in February 2017
2S0SM063
Rev.3

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 REMPLACÉE PAR UN MODÈLE DE TYPE INCORRECT. METTRE AU REBUT LES BATTERIES UTILISÉES SELON LES INSTRUCTIONS DONNÉES.

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 M2135dn	35 ppm	-	LCD	-	ADF	-	x			x
ECOSYS M2635dn		Wi-Fi	LCD	FAX			x	x		
ECOSYS M2635dw							x		x	x
ECOSYS M2735dw			TSI				x	x		
ECOSYS M2040dn	40 ppm	-	LCD	-	DADF		x			
ECOSYS M2540dn		Wi-Fi	LCD	FAX			x	x		
ECOSYS M2540dw									x	x
ECOSYS M2640idw			TSI			HyPAS				

Revision history

Revision	Date	Pages	Revised contents
1	2 November 2016	CONTENTS	Change: Page number
		1-4, 1-5	Added: FAX functions
		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: 4. Fuser pressure release motor
		3-11	Correction: Description of the thermopile
		4-3, 4-4 6-9, 6-10	Correction: Maintenance kits
		4-36 to 38	Correction: Correction: Procedure of detaching and reattaching the laser scanner unit
		4-75	Deleted: Procedure of detaching the front cover
		4-95 to 99	Added: Procedure of detaching the Wi-Fi PWB
		6-68	Deleted: Destination code (22)
		7-2	Correction: rear cover cover Deleted: (1-1)Step2 to 4
		7-9, 7-10	Added: J4002 to J4018
		7-15 to 83	Added: 7-2 Self diagnostic, 7-3 Image formation failure 7-4 Electric failure, 7-5 Mechanical failure
2	28 December 2016	1-5	Added: (Dual Scan / Simplex ADF)
		3-11	Correction: Description of 7 (right front)
		4-101 6-37	Deleted: 5.(1) *:When using the SSFC card, ... Added: U222 Description of SSFC
		6-10	Correction: Description of Toner Log
3	30 January 2017	6-40	Correction: Initial setting : DBL(Folio)
		4-101 6-53, 6-54 6-63 9-12	Correction: Chart no.(7505000106 302NM94330)
		4-100 6-53 to 55 6-58, 6-62 9-12	Correction: Chart no.(7505000107 302NM94340)
		6-105	Added: U964 Contents (Description of transfer files)

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


















2. Precautions for Maintenance

WARNING

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



CAUTION

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

- Do not remove the ozone filter, if any, from the copier except for routine replacement. 
- Do not pull on the AC power cord or connector wires on high-voltage components when removing them; always hold the plug itself. 
- Do not route the power cable where it may be stood on or trapped. If necessary, protect it with a cable cover or other appropriate item. 
- Treat the ends of the wire carefully when installing a new charger wire to avoid electric leaks. 
- Remove toner completely from electronic components. 
- Run wire harnesses carefully so that wires will not be trapped or damaged. 
- After maintenance, always check that all the parts, screws, connectors and wires that were removed, have been refitted correctly. Special attention should be paid to any forgotten connector, trapped wire and missing screws. 
- Check that all the caution labels that should be present on the machine according to the instruction handbook are clean and not peeling. Replace with new ones if necessary. 
- Handle greases and solvents with care by following the instructions below: 
 - Use only a small amount of solvent at a time, being careful not to spill. Wipe spills off completely.
 - Ventilate the room well while using grease or solvents.
 - Allow applied solvents to evaporate completely before refitting the covers or turning the 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

1 Specifications

1-1 Specifications	1-1
(1) Common function	1-1
(2) Copy Functions.....	1-3
(3) Printer Functions	1-3
(4) Scanner Functions.....	1-4
(5) FAX Functions	1-4
(6) Document Processor	1-5
(7) Paper Feeder (PF-1100)(Option)	1-6
1-2 Part Names.....	1-7
(1) Machine Exterior.....	1-7
(2) Connectors/Interior	1-8
(3) With Optional Equipments Attached.....	1-9
(4) Operation Panel (TSI).....	1-10
(5) Operation Panel Keys (LCD)	1-11
1-3 Overview of Optional Equipment	1-13
(1) Expansion Memory	1-14
(2) PF-1100 "Paper Feeder"	1-15
(3) Card Authentication Kit(B) "Card Authentication Kit".....	1-15
(4) UG-33 "ThinPrint Option"	1-15
(5) SD/SDHC Memory Card.....	1-15

2 Installation

2-1 Environment	2-1
2-2 Installing the main unit	2-2
(1) Unpacking and checking bundled items	2-3
(1-1) Main unit.....	2-3
(1-2) Paper Feeder (Option)	2-4
(2) Installing the optional equipment	2-5
(3) Connecting to other device.....	2-5
(4) Connecting to the cable.....	2-6
(4-1) LAN Cable	2-6
(4-2) USB cable	2-6
(5) Loading Paper	2-7
(6) Power-up	2-9
(7) Default (TSI model)	2-10
(7-1) Setting Date and Time.....	2-10
(7-2) Network Settings	2-11
(7-3) Altitude Adjustment Setting	2-12
(7) Default (LCD model)	2-13
(7-1) Setting Date and Time.....	2-13
(7-2) Network Settings	2-14
(7-3) Altitude Adjustment Setting	2-16
(8) Installing Software	2-17
(9) Output Maintenance Report (Executing Maintenance mode U000) (For Service)	2-18
(10) Clearing the counts (Executing Maintenance Mode U927) (For service)	2-18
(11) Terminating the maintenance mode (For service).....	2-18
(12) Installing the main unit is complete.....	2-18

3 Machine Design

3-1 Cross-section view	3-1
(1) Main unit + Document processor + Paper feeder (option).....	3-1
3-2 The configuration of the electrical components	3-2
(1) Electric parts.....	3-2
(1-1) Machine left side	3-2
(1-2) Machine right side	3-3
(1-3) Document processor	3-4
(1-4) Paper feeder (option)	3-4
(2) Descriptions about the major PWBs.....	3-5
(2-1) Main/Engine PWB	3-5
(2-2) High-voltage PWB	3-5
(2-3) Power source PWB	3-5
(2-4) Operation panel PWB (TSI).....	3-6
(2-5) Operation panel PWB (LCD)	3-6
(3) Electric parts layout	3-7
(3-1) PWBs	3-7
(3-2) Sensors and Switches	3-10
(3-3) Motors	3-13
(3-4) Others.....	3-15
3-3 Drive system	3-17
(1) Drive system for the paper conveying	3-17
(2) Each section drive	3-18
(2-1) Primary paper feed drive	3-18
(2-2) Drum drive.....	3-18
(2-3) Developer drive	3-19
(2-4) Fuser unit drive.....	3-19
3-4 Mechanical construction	3-20
(1) Paper feed section.....	3-20
(1-1) Cassette paper feed section.....	3-20
(1-2) MP tray paper feed section	3-22
(2) Optical section	3-24
(2-1) Image scanner unit.....	3-24
(2-2) Laser scanner unit.....	3-26
(3) Developer section.....	3-28
(3-1) Developer unit	3-28
(4) Drum section	3-30
(4-1) Main charger unit.....	3-30
(4-2) Cleaning	3-30
(5) Conveying/Transfer and Separation section	3-32
(6) Fuser section	3-34
(7) Eject and feedshift section.....	3-36
(8) Duplex conveying section.....	3-38
(9) Document processor	3-40
(10) Paper feeder (option).....	3-42

4 Maintenance

4-1 Precautions for the maintenance	4-1
(1) Precautions.....	4-1
(2) Storage and handling of the drum	4-1
(3) Storage of the toner container	4-1

(4) Screening of the toner container	4-2
4-2 Maintenance parts	4-3
(1) Maintenance kits.....	4-3
(2) Executing the maintenance mode after replacing the maintenance kit	4-3
(3) Maintenance parts list.....	4-3
(4) Periodic maintenance Procedures.....	4-4
4-3 Maintenance parts replacement procedures	4-5
(1) Cassette paper feed section	4-5
(1-1) Detaching and reattaching the Paper feed roller.....	4-5
(1-2) Detaching and reattaching the retard roller	4-6
(1-3) Detaching and reattaching the MP paper feed pulley	4-8
(2) Developer section.....	4-10
(2-1) Detaching and reattaching the developer unit.....	4-10
(3) Drum section	4-11
(3-1) Detaching and reattaching the drum unit	4-11
(3-2) Detaching and reattaching the main charger unit.....	4-13
(4) Transfer section	4-14
(4-1) Detaching and reattaching the transfer roller unit	4-14
(5) Fuser section	4-17
(5-1) Detaching and reattaching the fuser unit.....	4-17
4-4 Disassembly and Reassembly	4-21
(1) Outer covers	4-21
(1-1) Detaching and reattaching the left rear cover	4-21
(1-2) Detaching and reattaching the ISU rear cover	4-21
(1-3) Detaching and reattaching the ISU left cover	4-22
(1-4) Detaching and reattaching the ISU right cover.....	4-22
(1-5) Detaching and reattaching the left cover	4-23
(1-6) Detaching and reattaching the right cover.....	4-24
(1-7) Detaching and reattaching the front cover	4-26
(1-8) Detaching and reattaching the rear cover	4-27
(2) Optical section	4-28
(2-1) Detaching and reattaching the laser scanner unit (LSU).....	4-28
(2-2) Detaching and reattaching the image scanner unit (ISU).....	4-39
(2-3) Detaching and reattaching the operation panel (TSI model)	4-45
(2-4) Detaching and reattaching the operation panel (LCD model)	4-47
(2-5) Detaching and reattaching the ISU top frame	4-48
(2-6) Detaching and reattaching the scanner carriage assembly	4-48
(3) Drive section.....	4-49
(3-1) Detaching and reattaching the main motor	4-49
(3-2) Detaching and reattaching the fuser pressure release drive unit	4-54
(3-3) Detaching and reattaching the MP solenoid (front side)	4-60
(3-4) Detaching reattaching the clutch	4-64
(3-5) Detaching and reattaching the eject solenoid	4-70
(4) Others.....	4-83
(4-1) Detaching and reattaching the speaker.....	4-83
(4-2) Detaching and reattaching the eraser	4-89
(4-3) Replacing the language sheet (TSI model)	4-91
(4-4) Replacing the language sheet (LCD model)	4-92
(4-5) Fan motor attachment direction.....	4-93
(5) PWBs.....	4-94
(5-1) Detaching and reattaching the main/engine PWB.....	4-94

(5-2) Detaching and reattaching the high voltage PWB.....	4-102
(5-3) Detaching and reattaching the low voltage power source PWB.....	4-110
(5-4) Detaching and reattaching the FAX PWB	4-116
(5-5) Detaching and reattaching the Wi-Fi PWB.....	4-124
(5-6) Detaching and reattaching the USB PWB.....	4-126
(5-7) Detaching and reattaching the operation panel PWB (TSI model).....	4-138
(5-8) Detaching and reattaching the operation panel PWB (LCD model)	4-141
(6) Detaching and reattaching the document processor	4-143
(6-1) Detaching and reattaching the DP pick up pulley, DP paper feed roller and DP separation pad	4-143
(6-2) Detaching and reattaching the DP front cover	4-145
(6-3) Detaching and reattaching the DP rear cover	4-146
(6-4) Detaching and reattaching the DP main motor	4-146
4-5 Maintenance parts replacement procedures (option)	4-148
(1) Paper feeder.....	4-148
(1-1) Detaching and reattaching the PF main PWB.....	4-148
(1-2) Detaching and reattaching PF conveying motor.	4-149
(1-3) Detaching and reattaching the PF clutch.	4-152
 5 Firmware	
5-1 Firmware update (TSI model).....	5-1
5-2 Firmware update (LCD model)	5-6
 6 Maintenance mode	
6-1 Maintenance mode	6-1
(1) Executing the maintenance mode	6-1
(2) Maintenance modes list	6-2
(2-1) Content of the maintenance mode	6-5
6-2 Service modes.....	6-107
(1) TSI model	6-107
(1-1) Executing the service mode	6-107
(1-2) Descriptions of service modes	6-109
(2) LCD model.....	6-113
(2-1) Executing the service mode	6-113
(2-2) Descriptions of service modes	6-115
 7 Troubleshooting	
7-1 Conveying failures	7-1
(1) Prior standard check items	7-1
(1-1) Paper jam due to the cover-open detection	7-2
(1-2) Paper jam due to the wave or curl in the fuser section of the damp paper	7-2
(1-3) Paper jam due to the dog-ear, paper skew, paper creases, fusing failure or the paper curl	7-2
(1-4) Paper jam caused by the conveying guide, paper entry guide or the feedshift guide	7-3
(1-5) Paper jam caused by incorrectly loaded paper in the cassette	7-3
(1-6) Paper jam due to the inferior paper.....	7-3
(1-7) Paper jam caused by the conveying rollers or the paper feed pulleys	7-4
(1-8) Paper jam due to the sensor	7-5
(1-9) Paper jam due to the setting / detection failure	7-5
(1-10) Paper jam due to the static electricity.....	7-6

(1-11) Paper jam caused by installation in the environment where paper inside the cassette is always moist.	7-6
(2) Paper jam indication	7-7
(3) Paper jam detection condition	7-8
(4) First check item	7-12
7-2 Self diagnostic	7-15
(1) Self diagnostic function.....	7-15
(2) Self diagnostic codes.....	7-15
(3) System Error (Fxxxx) Outline	7-32
7-3 Image formation failure	7-37
(1) Poor image (due to DP and scanner reading)	7-38
(1-1) No image appears (entirely white).....	7-39
(1-2) No image appears (entirely black).....	7-41
(1-3) The entire image is faint	7-42
(1-4) The background is colored	7-44
(1-5) Vertical white streaks or bands appear	7-46
(1-6) Vertical white streaks or bands appear	7-47
(1-7) Horizontal black streaks appear	7-49
(1-8) The image is partly dark or bright.....	7-51
(1-9) Black dots appear in the image	7-53
(1-10) Characters are blurred	7-54
(1-11) Regular error images arise at the leading edge of the original and copy.	7-56
(1-12) The image is partly missing.....	7-57
(1-13) The image is blurred.....	7-59
(1-14) Image center does not align with the original center	7-61
(1-15) Moire	7-62
(1-16) Skewed image	7-63
(1-17) Abnormal image	7-64
(2) Poor image (Image forming factor).....	7-65
(2-1) No image appears (entirely white).....	7-66
(2-2) No image appears (entirely black).....	7-67
(2-3) The entire image is faint	7-68
(2-4) It is foggy at the background image	7-70
(2-5) Vertical white streaks or bands appear	7-71
(2-6) Vertical white streaks or bands appear	7-72
(2-7) There are horizontal bands in white or black.....	7-73
(2-8) Uneven density vertically.....	7-74
(2-9) Uneven density horizontally	7-75
(2-10) Black dots appear in the image	7-76
(2-11) Offset occurs	7-76
(2-12) The image is partly missing.....	7-77
(2-13) The image is blurred.....	7-77
(2-14) Irregular horizontal white streaks appear in the image Dots appear in the image	7-78
(2-15) Granular image (low solid image density)	7-79
7-4 Electric failure	7-80
7-5 Mechanical failure.....	7-83
7-6 Error codes	7-84
(1) Scan to SMB error code	7-84
(2) Scan to FTP error code	7-85
(3) Scan to E-mail error code.....	7-86

7-7 Error codes	7-88
(1) Error codes	7-88
(2) Error codes	7-89
(2-1) Error code table: U004XX Interrupted phase B	7-92
(2-2) Error code table: U006XX Problems with the unit	7-93
(2-3) Error code table: U008XX Page transmission error	7-93
(2-4) Error code table: U009XX Page reception error	7-93
(2-5) Error code table: U010XX G3 transmission error	7-94
(2-6) U011XX G3 reception error	7-96
(2-7) Error code table: U017XX V.34 transmission error	7-97
(2-8) Error code table: U018XX V.34 reception error	7-98
(2-9) Error code table: U023XX Page reception error	7-98
(2-10) Error code table: U044XX Encrypted transmission error	7-98

8 PWBs

8-1 Description for PWB	8-1
(1) Main/Engine PWB	8-1
(2) High voltage PWB	8-10
(3) Low voltage power supply PWB	8-12
(4) Operation panel PWB (TSI)	8-14
(5) Operation panel PWB (LCD)	8-19
(6) PF main PWB (option)	8-21

9 Appendixes

9-1 Appendixes	9-1
(1) Repetitive defects gauge	9-1
(2) Firmware environment commands	9-2
(3) Chart of image adjustment procedures	9-10
(4) Wiring diagram	9-13
(4-1) Standard	9-13
(4-2) PF-1100 (Options)	9-17

Installation Guide

PF-1100 (250 sheets × 1 Paper Feeder)

1 Specifications

1-1 Specifications

(1) Common function

Item		Description			
	40 ppm model	M2640idw	M2540dw	M2540dn	M2040dn
	35 ppm model	M2735dw	M2635dw	M2635dn	M2135dn
Type		Desktop			
Printing Method		Electrophotography by semiconductor laser			
Paper Weight	Cassette	60 to 163 g/m ²			
	Multi Purpose Tray	60 to 220 g/m ² , 209g/m ² (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	20 seconds or less	17 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	150 sheets (80 g/m ²)			
Image Write System		Semiconductor laser and electrophotography (twin beams)			
Scanning light source		3-color LED light source			
Scanning method		Flat-face scanning method with the CIS contact image sensor			
Photoconductor		OPC drum (diameter 30 mm)			
Charging system		Positive charge scorotron system			

Item		Description				
	40 ppm model	M2640dw	M2540dw	M2540dn	M2040dn	
	35 ppm model	M2735dw	M2635dw	M2635dn	M2135dn	
Developer system		Magnetic mono-component developing system Toner: magnetic toner Toner feed system: leveled toner feed				
Transfer system		Transfer roller method				
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		4.3inch TSI	5-line LCD			
Memory		512 MB				
Interface		USB Interface Connector: 1 (Hi-Speed USB) Network interface: 1 (10 BASE-T/100 BASE-TX/1000 BASE-T) USB Port: 1 (Hi-Speed USB)				
		Fax	Fax: 1	Fax: 1	Fax: 1	-
		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)		16.42" × 16.23" × 17.21"417 × 412 × 437 mm (Metric Model) 18.71" × 16.23" × 17.21"475 × 412 × 437 mm (Inch Model)				
Weight		(without toner container) Approx. 41.9 lb/Approx. 19 kg				
Space Required (W × D)		(Using multi purpose tray) 14.77" × 28.47"375 × 723 mm (Metric Model) (Using multi purpose tray) 14.77" × 28.47"375 × 723 mm (Inch Model)				
Power Source		AC100 V, 50/60 Hz, 9.7 A AC120 V, 60 Hz, 8.7A AC220 to 240V, 50 Hz, 4.4 A				

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

(2) Copy Functions

Item	Description			
	40 ppm model		35 ppm model	
Copy Speed	A4/A5	40 sheets/min	A4/A5	35 sheets/min
	Letter	42 sheets/min	Letter	37 sheets/min
	Legal	34 sheets/min	Legal	30 sheets/min
	B5	27 sheets/min	B5	24 sheets/min
	A5-R	19 sheets/min	A5-R	17 sheets/min
	A6	19 sheets/min	A6	17 sheets/min
	16K	22 sheets/min	16K	20 sheets/min
First Copy Time (A4, place on the platen, feed from Cassette)	6.4 seconds or less		6.9 seconds or less	
Zoom Level	Manual mode: 25 to 400%, 1% increments Auto mode:Preset Zoom			
Continuous Copying	1 to 999 sheets			
Resolution	600 × 600 dpi			
Supported Original Types	Sheet, Book, 3-dimensional objects (maximum original size: Legal/Folio)			
Original Feed System	Fixed			

(3) Printer Functions

Item	Description	
	40 ppm model	35 ppm model
Printing Speed	Same as Copying Speed.	
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 support Only	
Page Description Language	PRESCRIBE	
Emulations	PCL6(PCL-XL, PCL5c) KPDL3, (PostScript3 compatible), PDF, XPS, OpenXPS	

(4) Scanner Functions

Item	Description
Resolution	300 × 300 dpi, 200 × 200 dpi, 200 × 100 dpi, 600 × 600 dpi ^{*1} , 400 × 400 dpi ^{*1} , 200 × 400 dpi ^{*1}
File Format	TIFF (MMR/JPEG compression), JPEG, PDF (MMR/JPEG compression), High compressive PDF, XPS, OPEN XPS, Encrypted PDF, PDF/A-1
Scanning Speed^{*2}	(A4 landscape, 300 dpi × 300 dpi, Image quality: Text/Photo original) 1-sided B/W: 40 images/min, Color: 23 images/min 2-sided B/W: 32 images/min, Color: 16 images/min ^{*3}
Interface	Ethernet (10 BASE-T/100 BASE-TX/1000 BASE-T), USB
Transmission System	SMBv3, SMTP, FTP, FTP over SSL, USB, TWAIN ^{*4} , WIA ^{*5} , WSD

*1 One-sided scanning

*2 When using the document processor (except TWAIN and WIA scanning)

*3 Simultaneous duplex scan: 40ppm model only

*4 Available Operating System: Windows XP/Windows Vista/Windows Server 2003/Windows Server 2008/Windows Server 2008 R2/Windows 7/Windows 8/Windows 8.1/Windows 10/Windows Server 2012/Windows Server 2012 R2

*5 Available Operating System: Windows Vista/Windows Server 2008/Windows Server 2008 R2/Windows 7/Windows 8/Windows 8.1/Windows Server 2012/Windows Server 2012 R2/Windows 10

(5) FAX Functions

FAX Function

Item	Description
Compatibility	G3
Communication Line	Subscriber telephone line
Transmission Time	Less than 3 seconds (33600 bps, JBIG, ITU-T A4-R #1 chart)
Transmission Speed	33600/31200/28800/26400/24000/21600/19200/16800/14400/12000/9600/7200/4800/2400 bps
Coding Scheme	JBIG/MMR/MR/MH
Error Correction	ECM
Original Size	Max. width: 8 1/2"/216 mm, Max. length: 14 1/32"/356 mm
Automatic Document Feed	Max. 50 sheets (with document processor)
Resolution	Scan: 200 × 100 dpi Normal (8 dot/mm × 3.85 line/mm) 200 × 200 dpi Fine (8 dot/mm × 7.7 line/mm) 200 × 400 dpi Super (Super Fine) (8 dot/mm × 15.4 line/mm) 400 × 400 dpi Ultra (Ultra Fine) (16 dot/mm × 15.4 line/mm) Print: 600 dpi
Gradations	256 shades (Error diffusion)
One Touch Key	100 keys ^{*1} , 22 keys ^{*2}
Multi-Station Transmission	Max. 100 destinations

Item	Description
Substitute Memory Reception	256 sheets or more (when using ITU-T A4 #1)
Image Memory Capacity	3.5 MB (standard)(For fax transmission and reception)
Report Output	Send result report, FAX RX result report, Activity report, Status page

*1 TSI model

*2 LCD model

Network FAX Function

Item	Description
Hardware	IBM PC-AT compatible computer
Interface	10BASE-T, 100BASE-TX, 1000BASE-T, Wireless LAN support ^{*1}
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
Transmission Resolution	200 × 100 dpi Normal (8 dot/mm × 3.85 line/mm) 200 × 200 dpi Fine (8 dot/mm × 7.7 line/mm) 400 × 400 dpi Ultra (Ultra Fine) (16 dot/mm × 15.4 line/mm)
Document Size	Letter, Legal, Statement, A4, A5, Folio, B5(JIS)
FAX Delayed Transmit	Based on settings in the Network FAX Driver (setting is possible to any 1 minute increment within the subsequent 24 hour period)
Transmit and Print	Fax transmission and print out at the machine is available
Broadcast Transmission	Max. 100 destinations
Job Accounting	Requires the input of a Login User Name and Password in the Network FAX Driver when User Login, is turn ON in the fax machine. Requires the input of an Account ID in the Network FAX Driver when Job Accounting, is turned ON in the fax machine.
Cover Page	A format can be selected using the Network FAX Driver or a template can be created.

*1 Wi-Fi model only

(6) Document Processor (Dual Scan / Simplex ADF)

Item	Description
Supported Original Types	Sheet originals
Paper Size	Maximum: Folio/Legal Minimum: Statement/A6
Paper Weight	50 to 160 g/m ²
Loading Capacity	50 sheets (50 to 80 g/m ²) maximum ^{*1} Thick (120 g/m ²) : 25 sheets

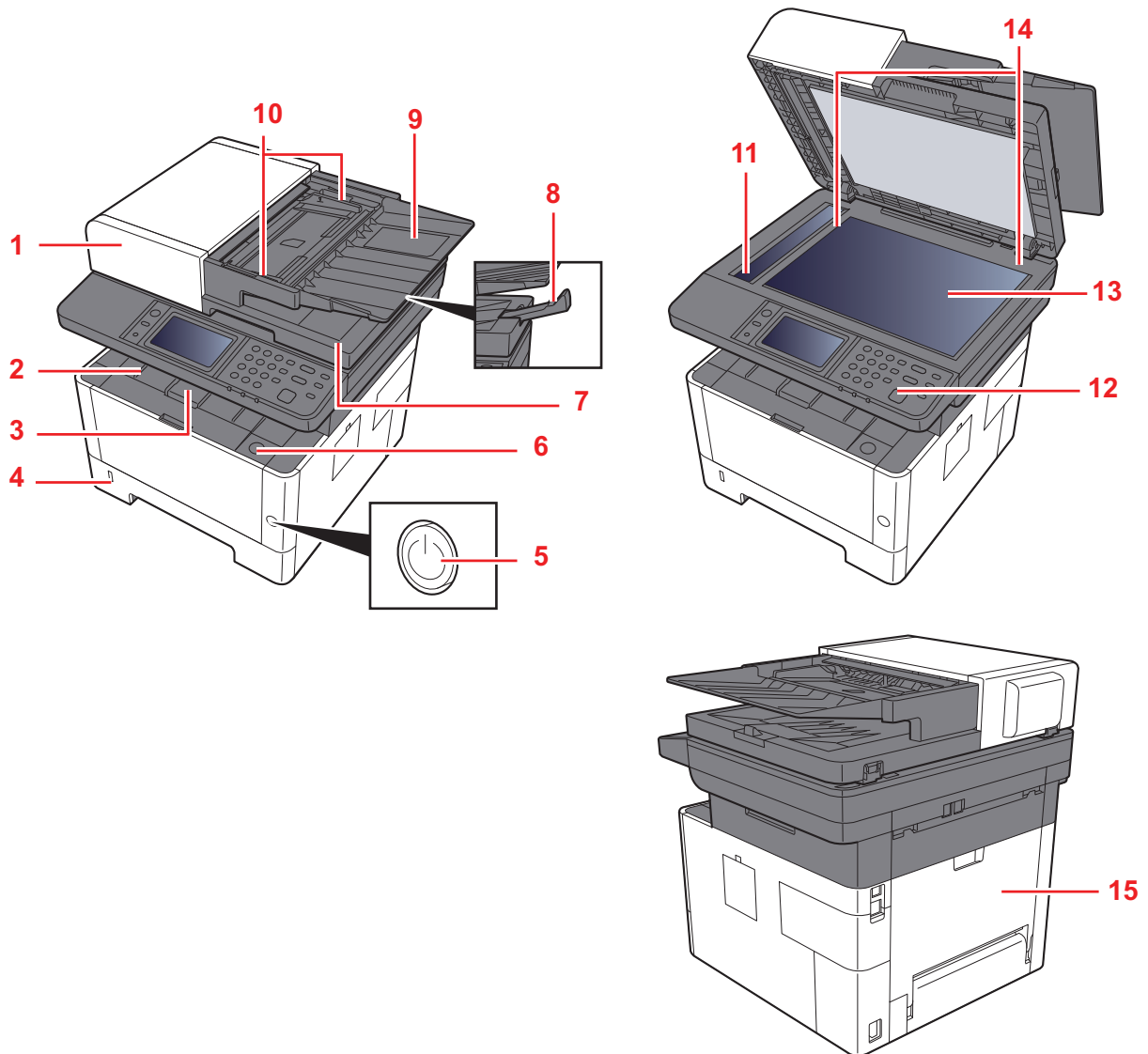
*1 Up to upper limit height line in the document processor

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

Item	Description
Paper Supply Method	Friction roller feeder (No. Sheets: 250, 80 g/m ² , 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 × 148 to 216 × 356 mm)
Supported Paper	Paper weight: 60 to 163 g/m ² 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

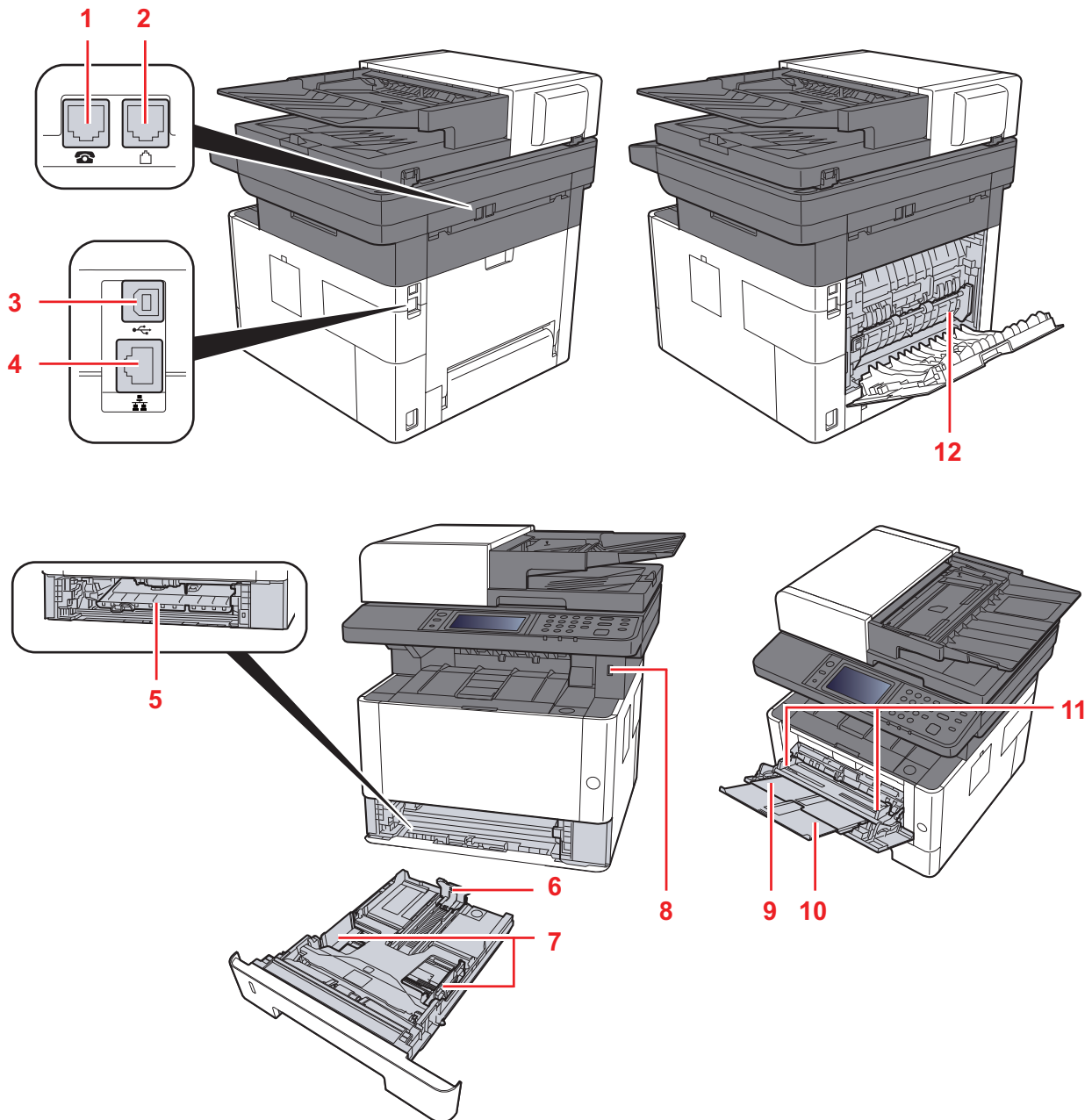
(1) Machine Exterior



- 1 Document Processor
- 2 Inner Tray
- 3 Eject Stopper
- 4 Cassette 1
- 5 Power Switch
- 6 Front Cover Open Button
- 7 Original Eject Table
- 8 Original Stopper

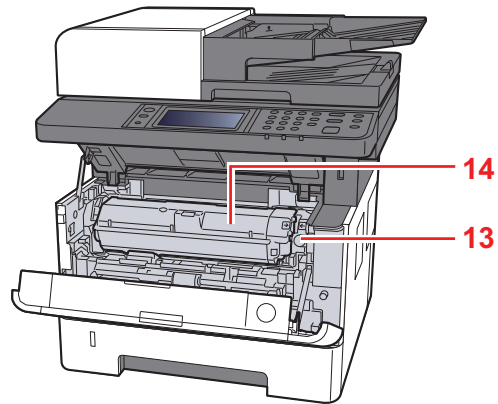
- 9 Original Tray
- 10 Original Width Guides
- 11 Slit Glass
- 12 Operation Panel
- 13 Contact glass
- 14 Original Size Indicator Plates
- 15 Rear cover

(2) Connectors/Interior



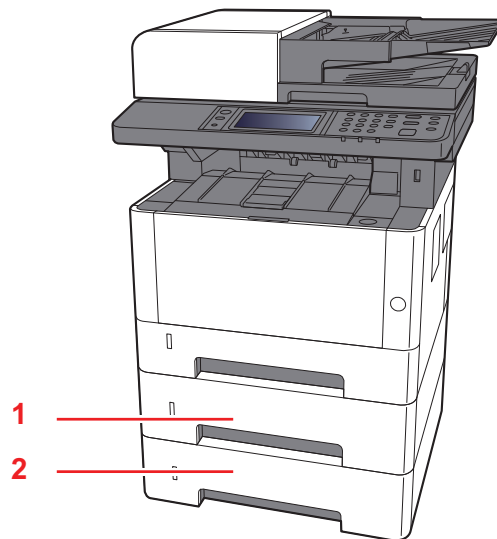
1. TEL Connector
2. LINE Connector
3. USB Interface Connector
4. Network Interface Connector
5. Feed Cover
6. Paper Length Guide

7. Paper Width Guides
8. USB Memory Slot
9. Multi Purpose Tray
10. Sub Tray
11. Paper Guides
12. Fuser Cover



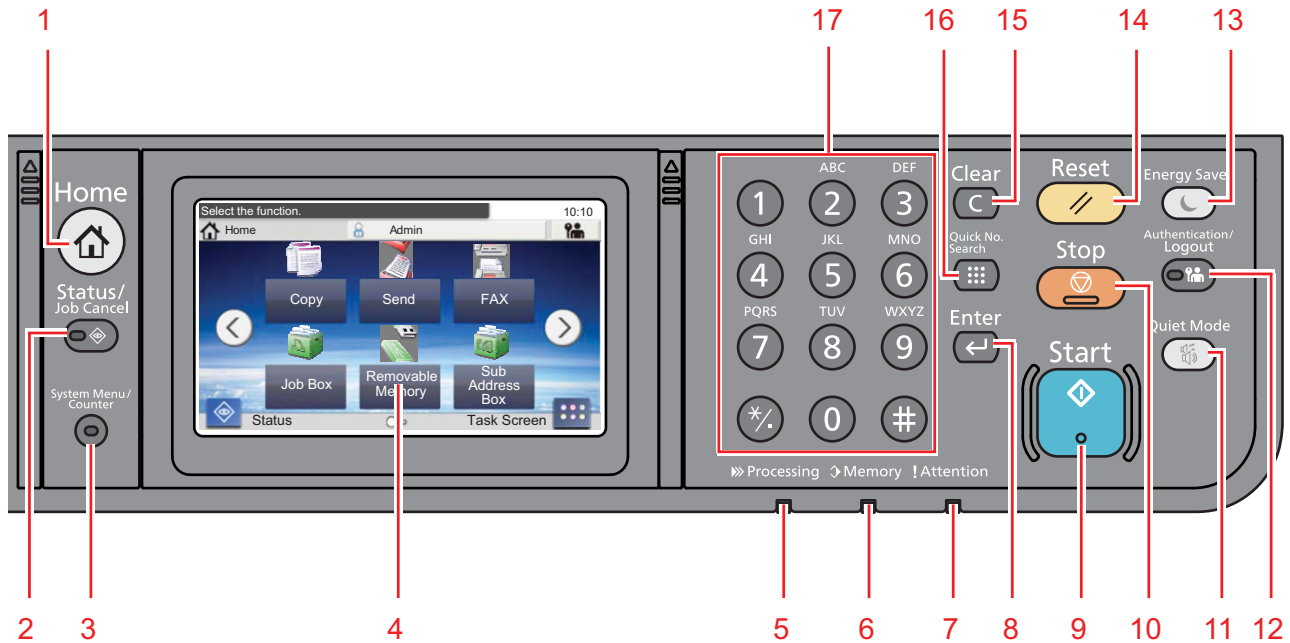
- 13. Toner Container Release Button
- 14. Toner Container

(3) With Optional Equipments Attached



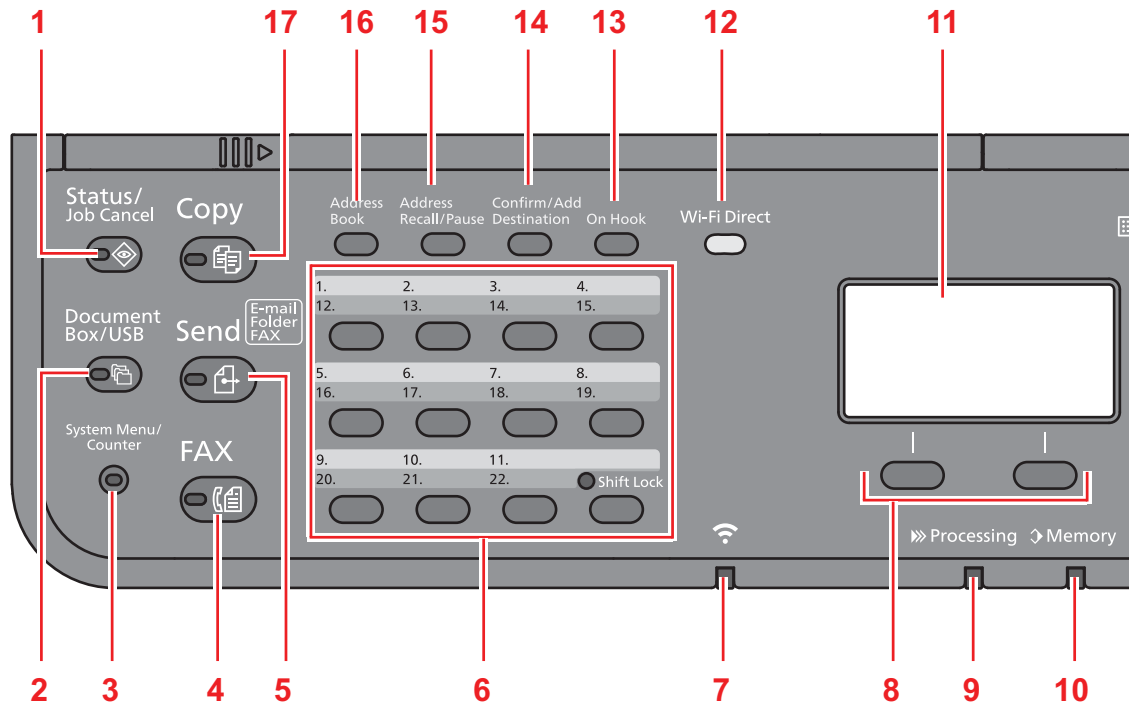
- 1. Cassette 2
- 2. Cassette 3

(4) Operation Panel (TSI)

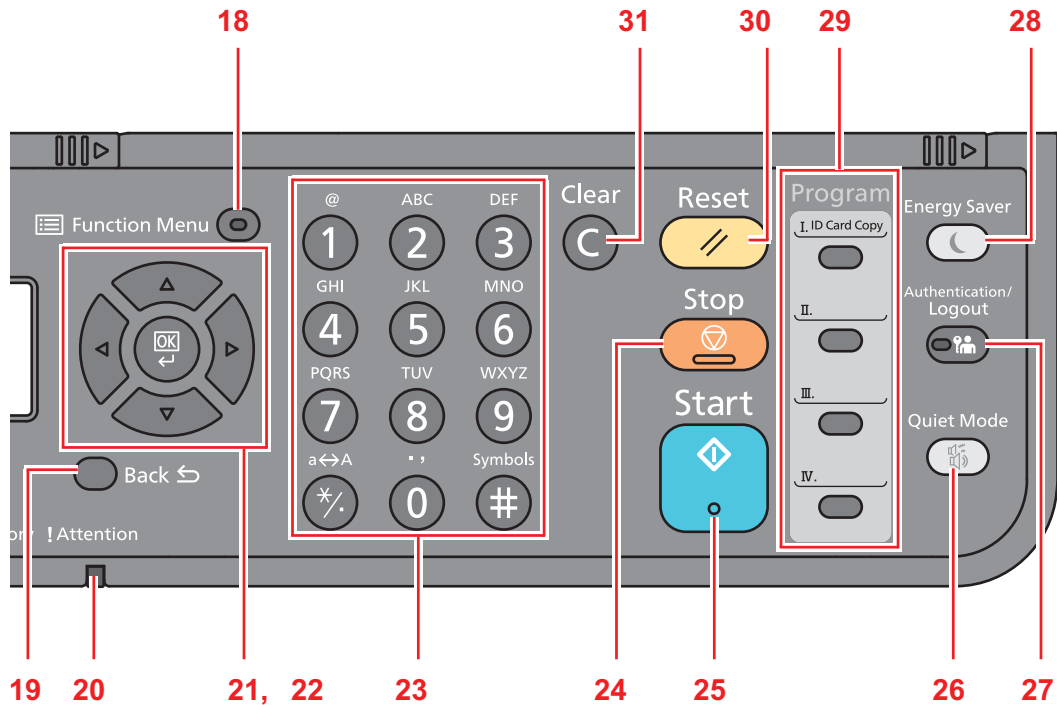


1. [Home] key: Displays the Home screen.
2. [Status/Job Cancel] key: Displays the Status/Job Cancel screen.
3. [System Menu/Counter] key: Displays the System Menu/Counter screen.
4. Touch panel: Displays icons for configuring machine settings.
5. [Processing] indicator: Blinks while printing or sending/receiving.
6. [Memory] indicator: Blinks while the machine is accessing the machine memory or fax memory.
7. [Attention] indicator: Lights or blinks when an error occurs and a job is stopped.
8. [Enter] key: Finalizes numeric key entry, and finalizes details during setting of functions. Operates linked with the on-screen [OK].
9. [Start] key: Starts copying and scanning operations and processing for setting operations.
10. [Stop] key: Cancels or pauses the job in progress.
11. [Quiet Mode] key: Lower print and scan speed for quiet processing.
12. [Authentication/Logout] key: Authenticates user switching, and exits the operation for the current user (i.e. log out).
13. [Energy Saver] key: Puts the machine into Sleep Mode. Recovers from Sleep if in Sleep Mode.
14. [Reset] key: Returns settings to their default states.
15. [Clear] key: Clears entered numbers and characters.
16. [Quick No. Search] key: Specifies registered information such as address numbers and user IDs by number.
17. Numeric keys: Enter numbers and symbols.

(5) Operation Panel Keys (LCD)



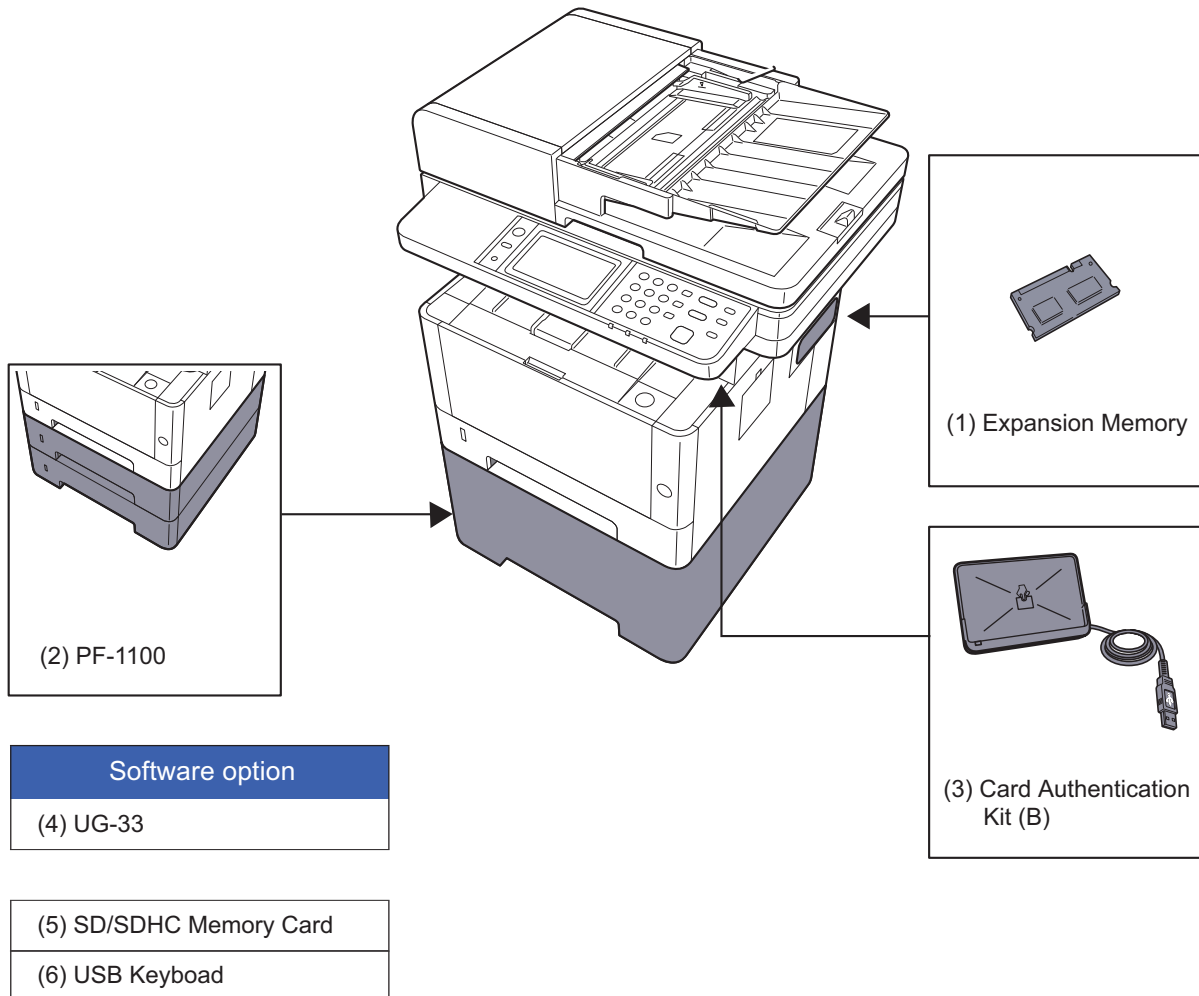
1. [Status/Job Cancel] key: Displays the Status/Job Cancel screen.
2. [Document Box/USB] key: Displays the Document Box/USB screen.
3. [System Menu/Counter] key: Displays the System Menu/Counter screen.
4. [FAX] key: Displays the FAX screen.
5. [Send] key: Displays the screen for sending. You can change it to display the Address Book screen.
6. One Touch keys: Recalls the destination registered for One Touch Keys.
7. [Wi-Fi] indicator : Blinks during Wi-Fi connection.
8. Select keys: Selects the menu displayed at the bottom of the message display.
9. [Processing] indicator: Blinks while printing or sending/receiving.
10. [Memory] indicator: Blinks while the machine is accessing the machine memory or fax memory.
11. Message display: Displays the setting menu, machine status, and error messages.
12. [Wi-Fi Direct] key: Set Wi-Fi Direct, and show information necessary for connection and the connection status.
13. [On Hook] key: Switches between on-hook and off-hook when manually sending a FAX.
14. [Confirm/Add Destination] key: Confirms the destination or adds a destination.
15. [Address Recall/Pause] key: Calls the previous destination. Also used to enter a pause when entering a FAX number.
16. [Address Book] key: Displays the Address Book screen.
17. [Copy] key: Displays the Copy screen.



- 18. [Function Menu] key: Displays the function menu screen.
- 19. [Back] key: Returns to the previous display.
- 20. [Attention] indicator: Lights or blinks when an error occurs and a job is stopped.
- 21. Arrow keys: Increments or decrements numbers, or selects menu in the message display. In addition, moves the cursor when entering the characters.
- 22. [OK] key: Finalizes a function or menu, and numbers that have been entered.
- 23. Numeric keys: Enter numbers and symbols.
- 24. [Stop] key: Cancels or pauses the job in progress.
- 25. [Start] key: Starts copying and scanning operations and processing for setting operations.
- 26. [Quiet Mode] key: Lower print and scan speed for quiet processing.
- 27. [Authentication/Logout] key: Authenticates user switching, and exits the operation for the current user (i.e. log out).
- 28. [Energy Saver] key: Puts the machine into Sleep Mode. Recovers from Sleep if in Sleep Mode.
- 29. Program keys: Used to register or recall programs.
- 30. [Reset] key: Returns settings to their default states.
- 31. [Clear] key: Clears entered numbers and characters.

1-3 Overview of Optional Equipment

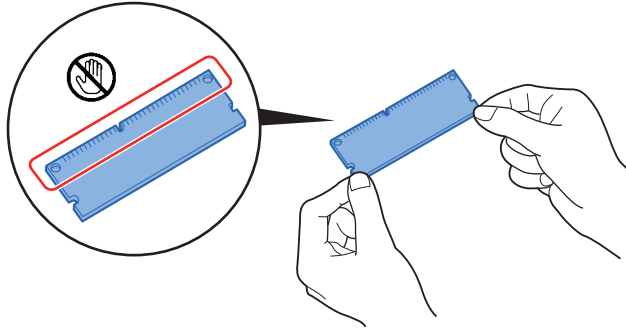
The following optional equipment is available for the machine.



(1) Expansion Memory

The machine can perform the more multiple jobs simultaneously by adding more memories. You can increase the machine's memory up to 1,536 MB by plugging in the optional memory modules.

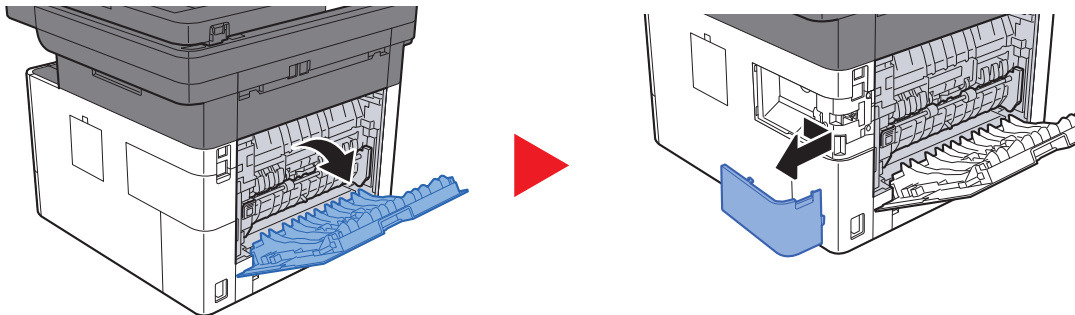
Precautions for Handling the Memory Modules



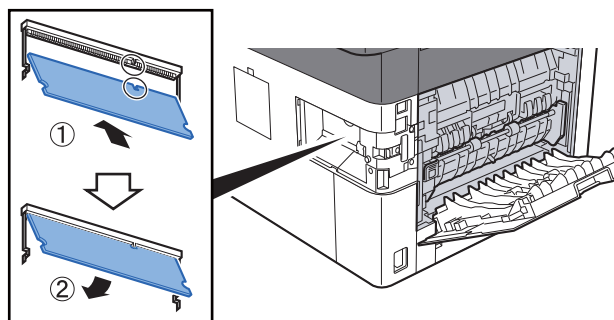
To protect electronic parts, discharge static electricity from your body by wearing an antistatic wrist strap, if possible, when you install the memory modules. If you do not have a wristband, touch a metal object to discharge static electricity before inserting the memory.

Installing the Memory Modules

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



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



5. Carefully press the inserted memory down and into the machine.
6. Replace the covers.

(2) PF-1100 "Paper Feeder"

Maximum two 250-sheet paper feeder can be installed.

(3) 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.

(4) UG-33 "ThinPrint Option"

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

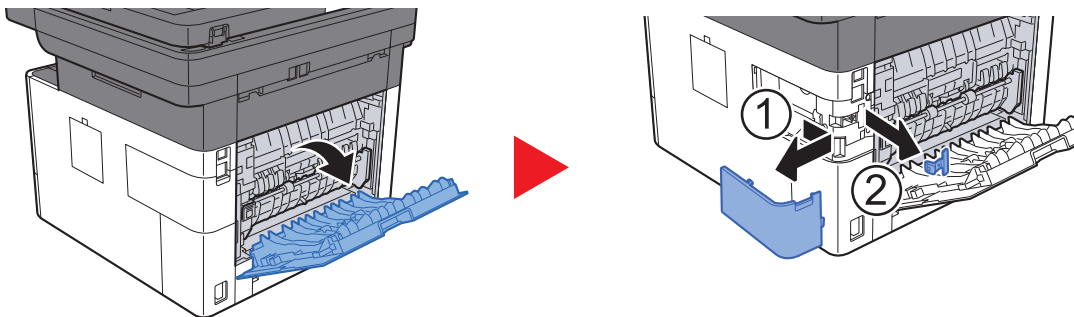
(5) SD/SDHC Memory Card

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

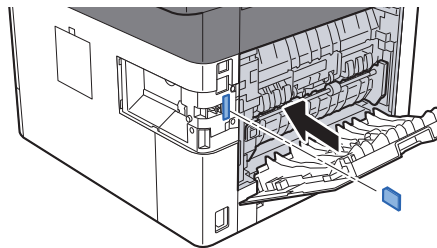
The machine is equipped with a slot for an SDHC memory card with a maximum size of 32 GB, and an SD memory card with a maximum size of 2 GB.

Installing the Memory Modules

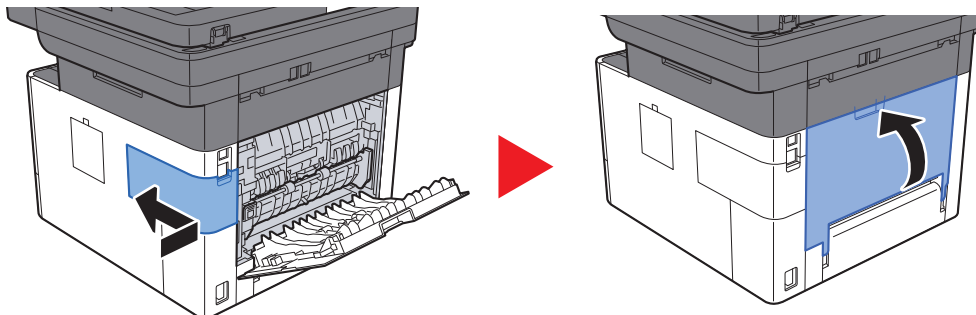
1. Turn off the machine and disconnect the power cord and interface cable.
2. Remove the cover.



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 9.7A or more
AC120V 60Hz 8.7A or more
AC220 to 240V 50HzA 4.4A or more
4. Frequency fluctuation: 50Hz+/-2% or 60Hz+/-2%

Installation location

The operative environmental conditions are as follows:

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

Avoid the following locations when selecting a site for the machine.

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

If the floor is delicate, when this machine is moved after installation, the floor material may be damaged by the casters. During operation, some ozone is released, but the amount does not cause any ill effect to one's health.

If, however, the machine is used over a long period of time in a poorly ventilated room or when making an extremely large number of copies, the smell may become unpleasant. To maintain the appropriate environment for copy work, it is suggested that the room be properly ventilated.

Installation space

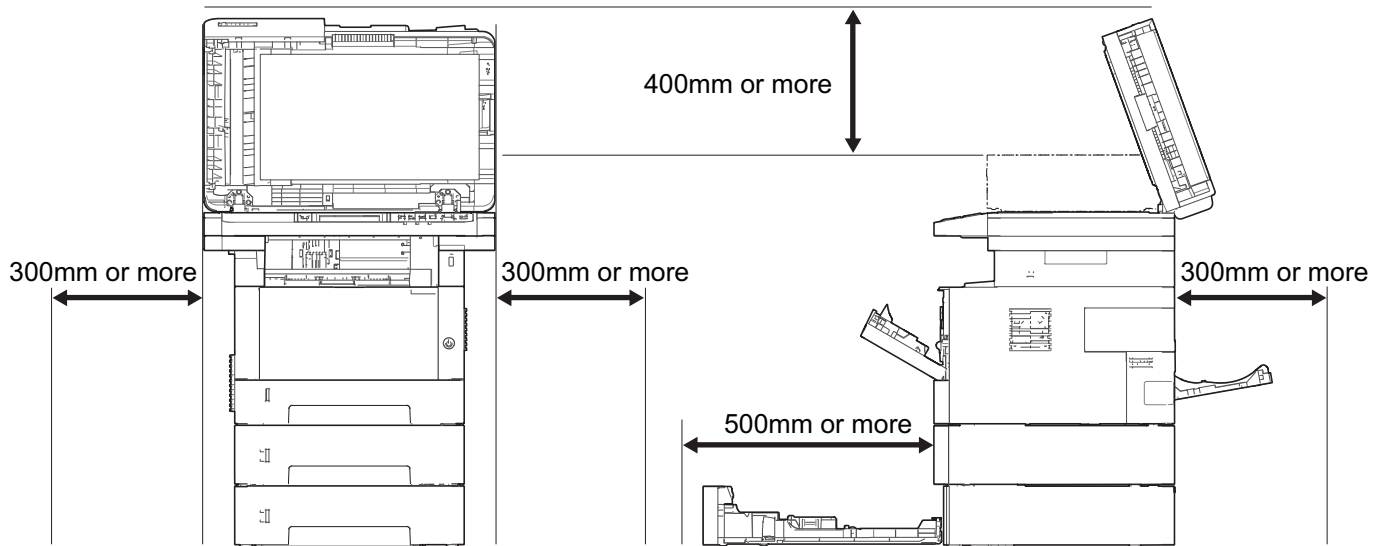
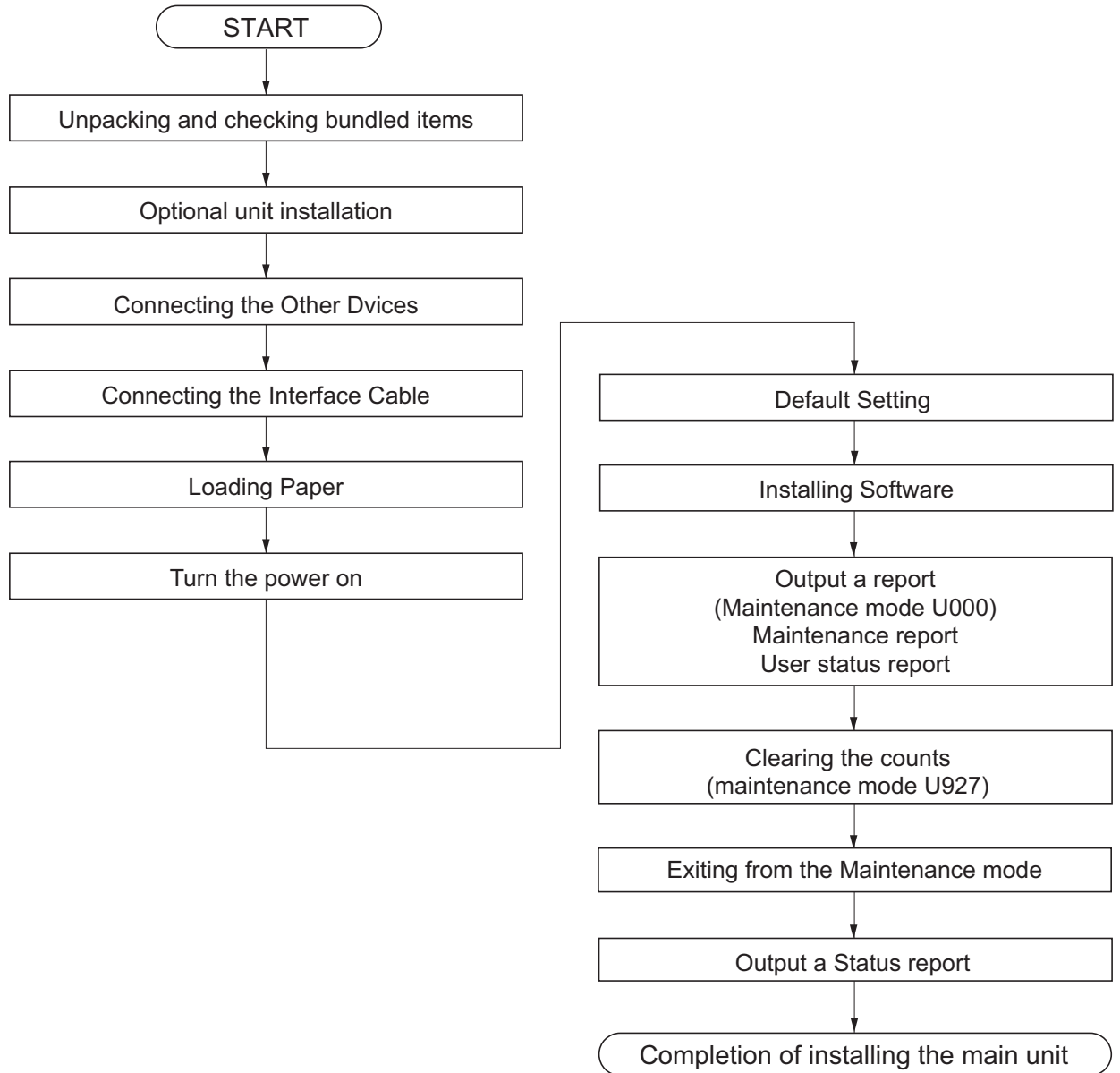


Figure 2-1

2-2 Installing the main unit

Installation procedures



IMPORTANT

Default setting will take about 10 minutes for the toner installation.
Do not execute the maintenance mode during the initial setting drive.

(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.

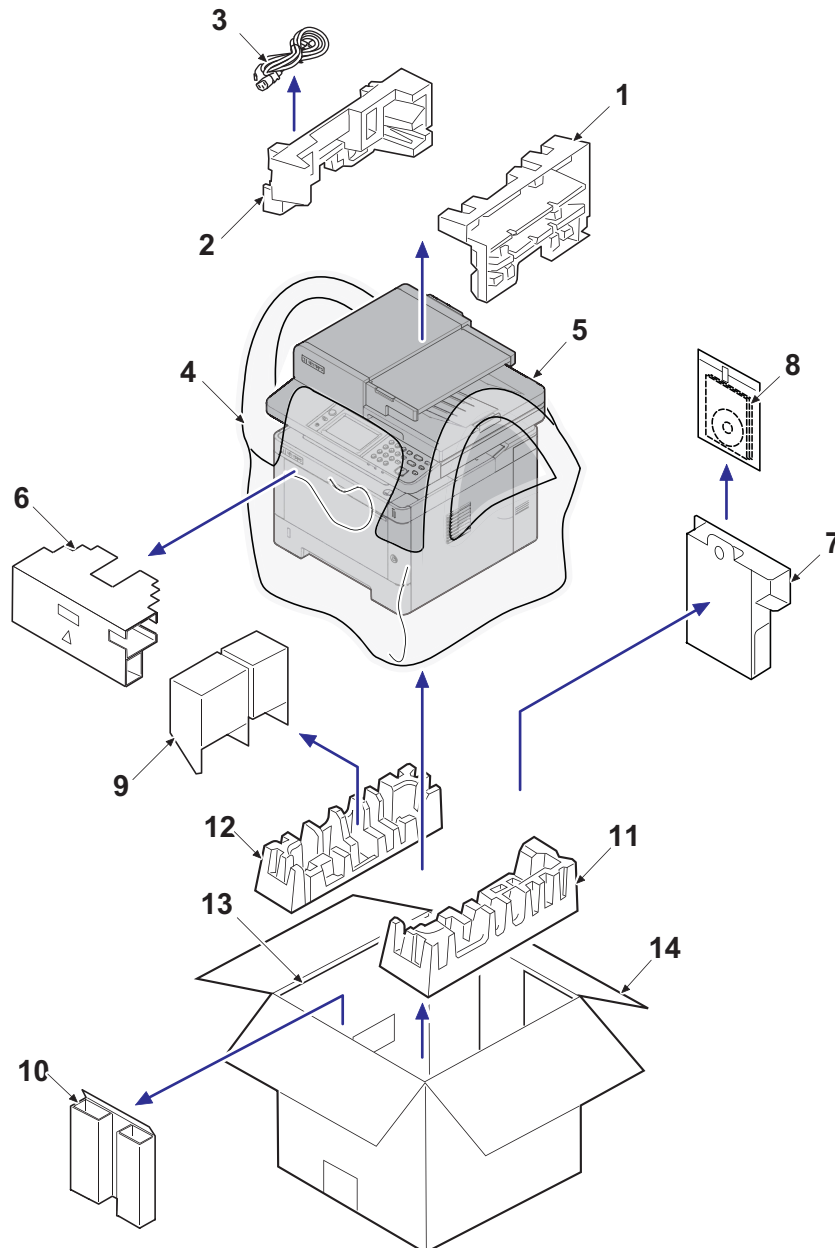


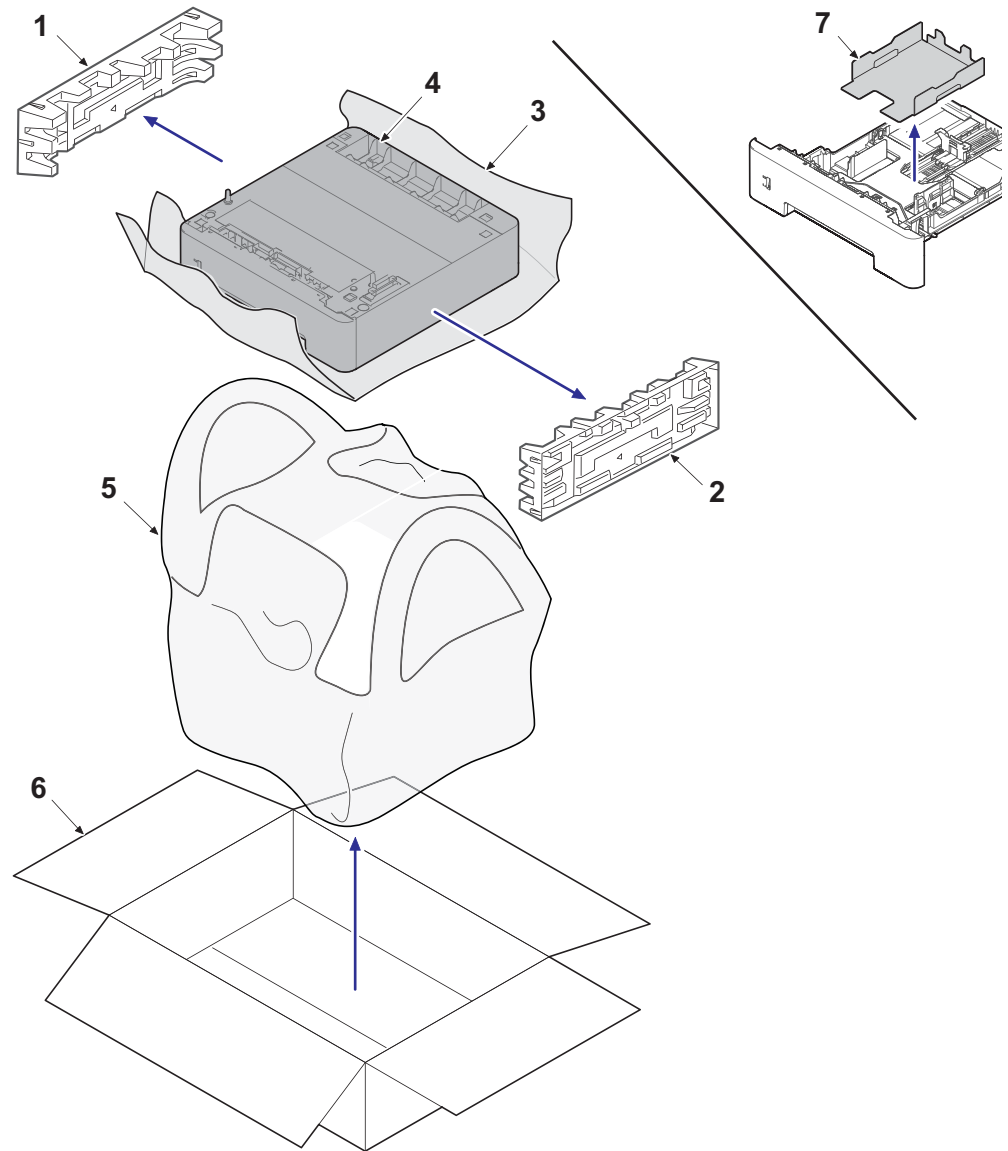
Figure 2-2

- | | |
|------------------------|----------------------|
| 1. Right upper pad | 8. Documents |
| 2. Left upper pad | 9. Left bottom pad |
| 3. AC power cord | 10. Front bottom pad |
| 4. Product storage bag | 11. Lower right pad |
| 5. Main unit | 12. Lower left pad |
| 6. Front upper pad | 13. inner frame |
| 7. Accessories box | 14. 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 | 5. Main unit storage bag |
| 2. Right pad | 6. Outer box |
| 3. Main unit protective sheet | 7. Cassette spacer |
| 4. Paper Feeder | |

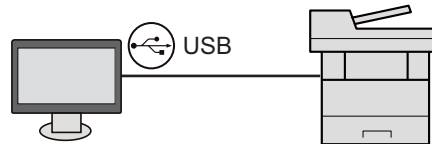
(2) Installing the optional equipment

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

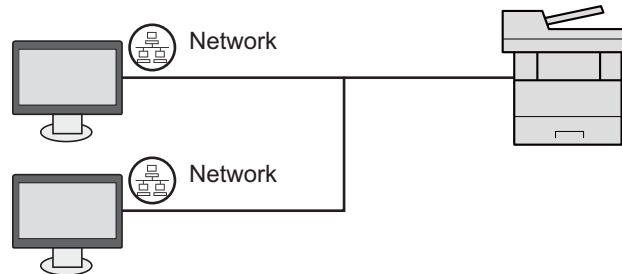
(3) Connecting to other device

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 Machine to the PC on the Network



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/Scanner/Network FAX	LAN cable (10BASE-T, 100BASE-TX, 1000BASE-T)
Connect a USB cable to the machine.	Printer/Scanner (TWAIN/WIA)	USB2.0 compatible cable (Hi-Speed USB compliant, Max. 5.0m or less. with shield)

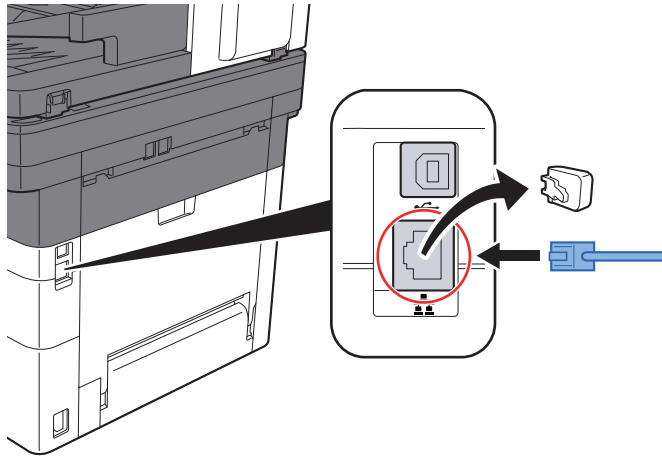
IMPORTANT

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

(4) Connecting to the cable

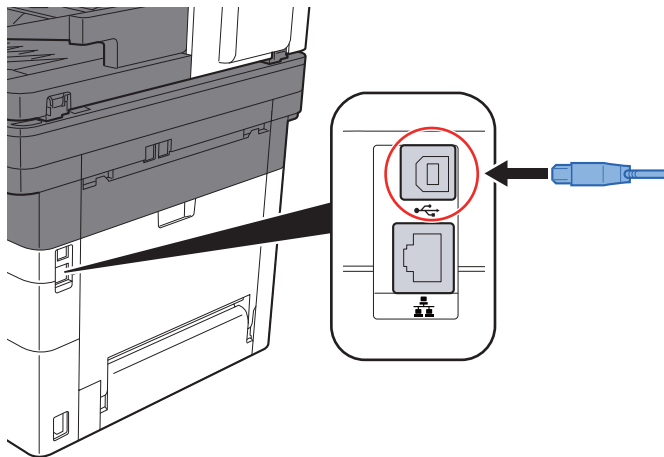
(4-1) LAN Cable

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.



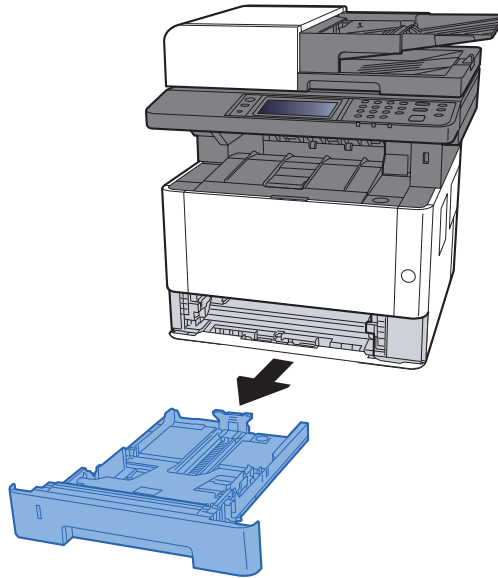
(4-2)USB cable

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.



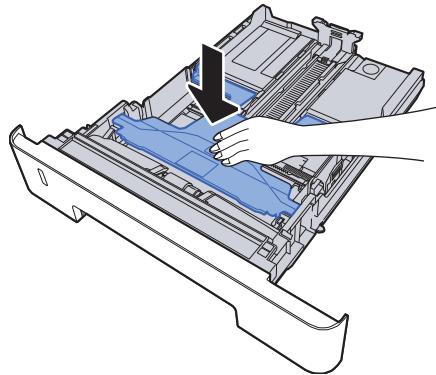
(5) Loading Paper

1. Pull the cassette out of the main unit.

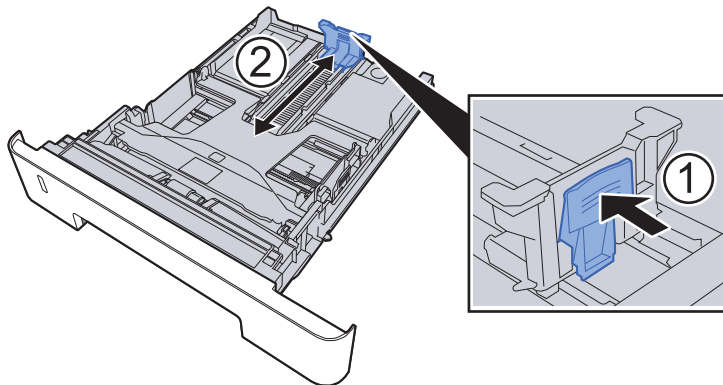


NOTE

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

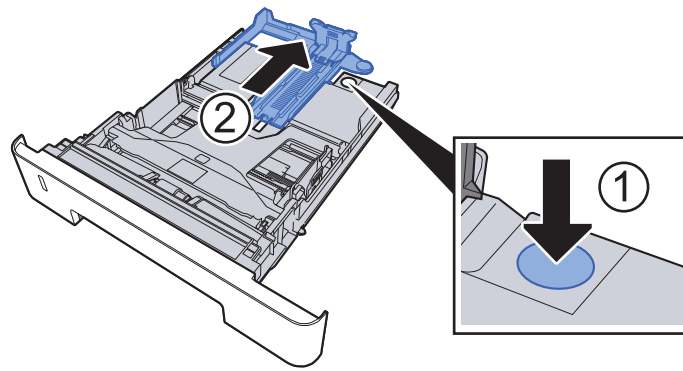


2. Adjust the paper length guide of the cassette.

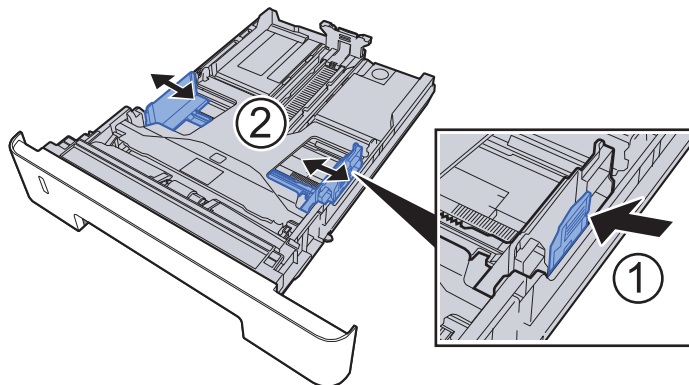


NOTE

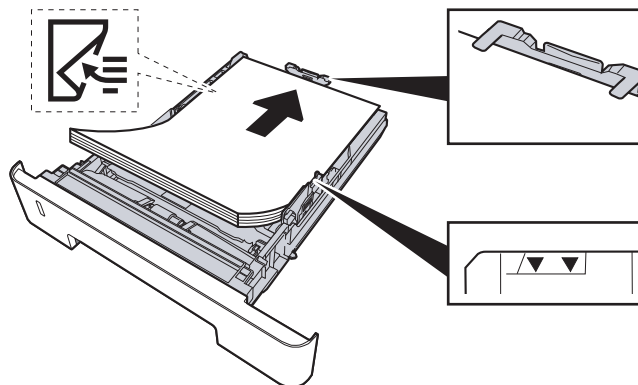
In case of using Folio, Oficio ?or Legal



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.

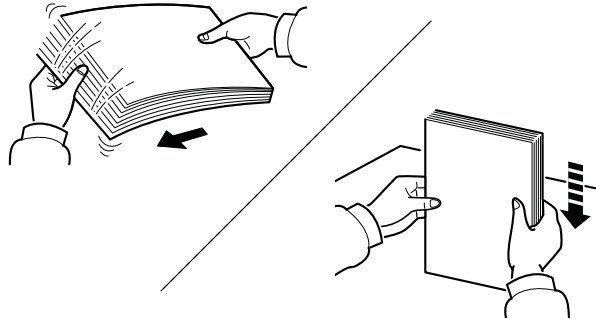
Before loading the paper, be sure that it is not curled or folded. Such paper may cause paper jams.

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.

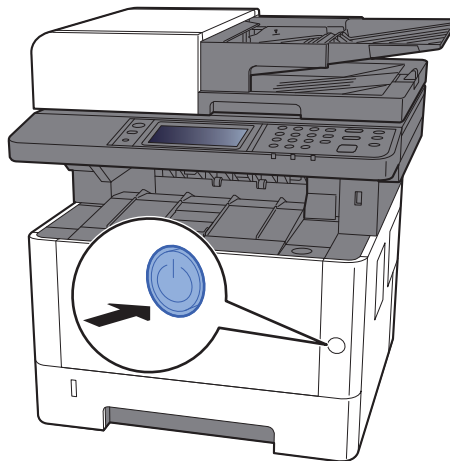
In case of paper fold or curl, stretch it in a straight line. Such paper may cause a jam.

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.

Do not execute maintenance mode during this period.

(7) Default (TSI model)

Before using this machine, configure such settings as date and time, network configuration, and energy saving functions as needed. The Machine Setup Wizard is launched when the equipment is turned on for the first time after being installed. Also, configure the following settings if necessary.

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.

When you send an E-mail using the transmission function, the date and time as set here will be printed in the header of the E-mail message. Set the date, time and time difference from GMT of the region where the machine is used.

NOTE

The correct time can be periodically set by obtaining the time from the network time server.

See page Command Center RX User Guide.

1. Displays the screen.
[System menu / counter] key > [Date/Timer/Energy Saver]
2. Configure the settings.
Select [Time Zone] > [Date/Time] > [Date Format] in this order for settings.

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/Time	Set the date and time for the location where you use the machine. If you perform Send as E-mail, the date and time set here will be displayed on the header. Value: Year (2000 to 2037), Month (1 to 12), Day (1 to 31), 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

Wired network setting

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

Be sure to connect the network cable before configuring the settings.

If the user administration is effective, this can be changed by logging in with administrator privileges.

If the user login administration is not effective, the user authentication screen appears. Enter a login user name and password, and select [Login].

The default login user name and login password at the factory shipment is set as below.

Login User Name: 4000 or 3500

Login Password: 4000 or 3500

TCP/IP (IPv4) Settings

1. Displays the screen.

[System menu / counter] key > [System/Network] > [Network] > [Wired Network Settings] > [TCP/IP Setting] > [IPv4]

[Wired setting] > [TCP/IP setting] > [IPv4 setting]

2. Configure the settings.

When using DHCP server

[DHCP]: Set to [On]

When setting the static IP address

[DHCP]: Set to [Off].

[IP Address]: Enter the address.

[Subnet Mask]: Enter the subnet mask in decimal representation (0 to 255).

[Default Gateway]: Enter the address.

In case of using Auto-IP

Set 0.0.0.0. in the IP address.

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 on the Command Center RX.

In case of using the host name with "DHCP" set to [Off]

When using the DNS server other than the DNS server, IP address of which is assigned by the DHCP automatically,

Regarding to setting the IP Address of the DNS Server, refer to Command Center RX User Guide.

Wireless network setting

When the wireless network function is available on the machine and the connection settings are configured, it is possible to print or send 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 Quick Setup Wizard when configuring the network in a wizard-style screen, without setting individually in System menu.
	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

On a model with a Wi-Fi function, change the settings in "Primary Network (Client)" appropriately if you switch to other than a wired network interface.

(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. Select [System Menu/Counter] key > [Adjustment/Maintenance] > [Service Setting] > [Altitude Adjustment]
2. 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) 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.

When you send an E-mail using the transmission function, the date and time as set here will be printed in the header of the E-mail message. Set the date, time and time difference from GMT of the region where the machine is used.

If the user administration is effective, this can be changed by logging in with administrator privileges.

If the user login administration is not effective, the user authentication screen appears. Enter a login user name and password, and select [Login].

The default login user name and login password at the factory shipment is set as below.

Login User Name: 4000 or 3500

Login Password: 4000 or 3500

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.

[System menu / counter] key > [] key > [Common Setting] > [OK] key > [] key > [Day and Time setting] > [OK] key

2. Configure the settings.

[] key > [Time difference] > [OK] key > Select the time difference > [OK] key > [] key > [Date/Time] > [OK] key > Set day and time > [OK] key > [] key > [Date format] > [OK] key > Select the date format > [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/Time	Set the date and time for the location where you use the machine. If you perform Send as E-mail, the date and time set here will be displayed on the header. Value: Year (2000 to 2037), Month (1 to 12), Day (1 to 31), 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

NOTE

Select [] or [] key, and enter the numerical values.

If you select [] or [] key, the entering position moves left and right and the highlight is displayed.

(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.

For other network settings, refer to the following:

NOTE

If the user administration is effective, this can be changed by logging in with administrator privileges.

If the user login administration is not effective, the user authentication screen appears. Enter a login user name and password, and select [Login].

The default login user name and login password at the factory shipment is set as below.

Login User Name: 4000 or 3500

Login Password: 4000 or 3500

TCP/IP (IPv4) Settings

1. Displays the screen.

[System Menu/Counter] key > [] key > [System/Network] > [OK] key >

[] key > [Network setting] > [OK] key > [] key > [Wired network setting] >

[] key > [TCP/IP setting] > [OK] key > [] key > [IPv4 setting] > [OK] key

2. Set

When setting the static IP address

- 1.[] key > [DHCP] > [OK] key > [] key > [Not set] > [OK] key

- 2.[] key > [IP address] > [OK] key

- 3.Enter the IP address.

NOTE

The IP address which can be entered is as follows.

IP Address: 000 to 255.

Use the numeric keypad, or select [] or [] key and enter the numerical values.

If you select [] or [] key, the entering position moves left and right and the highlight is displayed.

- 4.Select [OK] key.

- 5.[] key > [Subnet Mask] > [OK] key

- 6.Enter Subnet Mask

NOTE

The subnet mask which can be entered is as follows.

Subnet Mask: 000 to 255

Use the numeric keypad, or select [] or [] key and enter the numerical values.

If you select [] or [] key, the entering position moves left and right and the highlight is displayed.

- 7.Select [OK] key.

- 8.[] key > [Default gateway] > [OK] key

- 9.Enter Default Gateway.

NOTE

The default gateway which can be entered is as follows.

Default Gateway: 000 to 255

Use the numeric keypad, or select [] or [] key and enter the numerical values.

If you select [] or [] key, the entering position moves left and right and the highlight is displayed.

- 10.Select [OK] key.

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

- 12.[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 and sending are 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	When setting the connection from the system menu, use Wi-Fi settings or Wireless Network.
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 [System Menu/Counter] 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

(8) 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, KPD, 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.	-
KPD mini-driver/PCL mini-driver	This is a Microsoft MiniDriver that supports PCL and KPD. There are some restrictions on the machine features and option features that can be used with this driver.	-
FAX Driver	This makes it possible to send a document created in a computer software application as a fax via the machine.	-
Kyocera TWAIN Driver	This driver enables scanning on the machine using a TWAIN-compliant software application.	
Kyocera WIA Driver	WIA (Windows Imaging Acquisition) is a function of Windows that enables reciprocal communication between an imaging device such as a scanner and an image processing software application. An image can be acquired using a WIA-compliant software application, which is convenient when a TWAIN-compliant software application is not installed in the computer.	-
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.	
File Management Utility	This makes it possible to send and save a scanned document to a specified network folder.	-
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.

(9) Output Maintenance Report (Executing Maintenance mode U000) (For Service)

1. Input "10871087" using the numeric keys to enter the maintenance mode.
2. Enter "000" by using the numeric keys and press the [Start] key.
3. Select [Maintenance] and press the [Start] key to output the status report.
4. Select ?User Status? and press the [Start] key to output the user status page.
5. Press the [Stop] key.

(10) Clearing the counts (Executing Maintenance Mode U927) (For service)

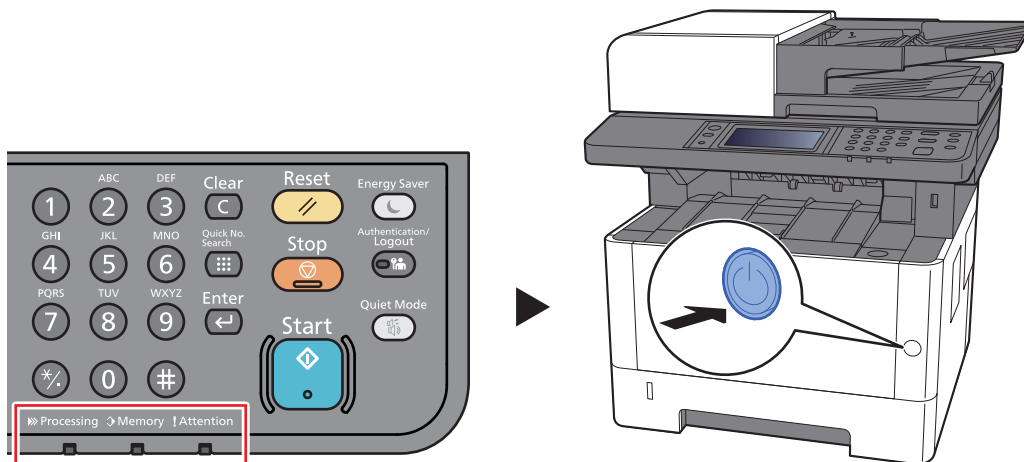
1. Input "927" using the numeric keys and press the [Start] key.
2. Select [Execute].
3. Press the [Start] key to clear the counter value.
4. Press the [Stop] key.

(11) Terminating the maintenance mode (For service)

1. Input "001" using the numeric keys and press the [Start] key.
- *: The maintenance mode is exited.

(12) Installing the main unit is complete.

1. Turn the power switch off.



*: When the "Processing" indicator or "Memory" indicator is lit up or blinking, the main unit is operating. If you turn the power switch off while the main unit is operating, it may cause malfunctions.

NOTE

The confirmation message for power supply off is displayed when [Show Power Off Message] is set to [On]. It takes approximately 3 minutes for power off.

IMPORTANT

Note that turning the machine off at the power switch disables fax transmission and reception. Remove paper from the cassettes and seal it in the paper storage bag to protect it from humidity.

3 Machine Design

3-1 Cross-section view

(1) Main unit + Document processor + Paper feeder (option)

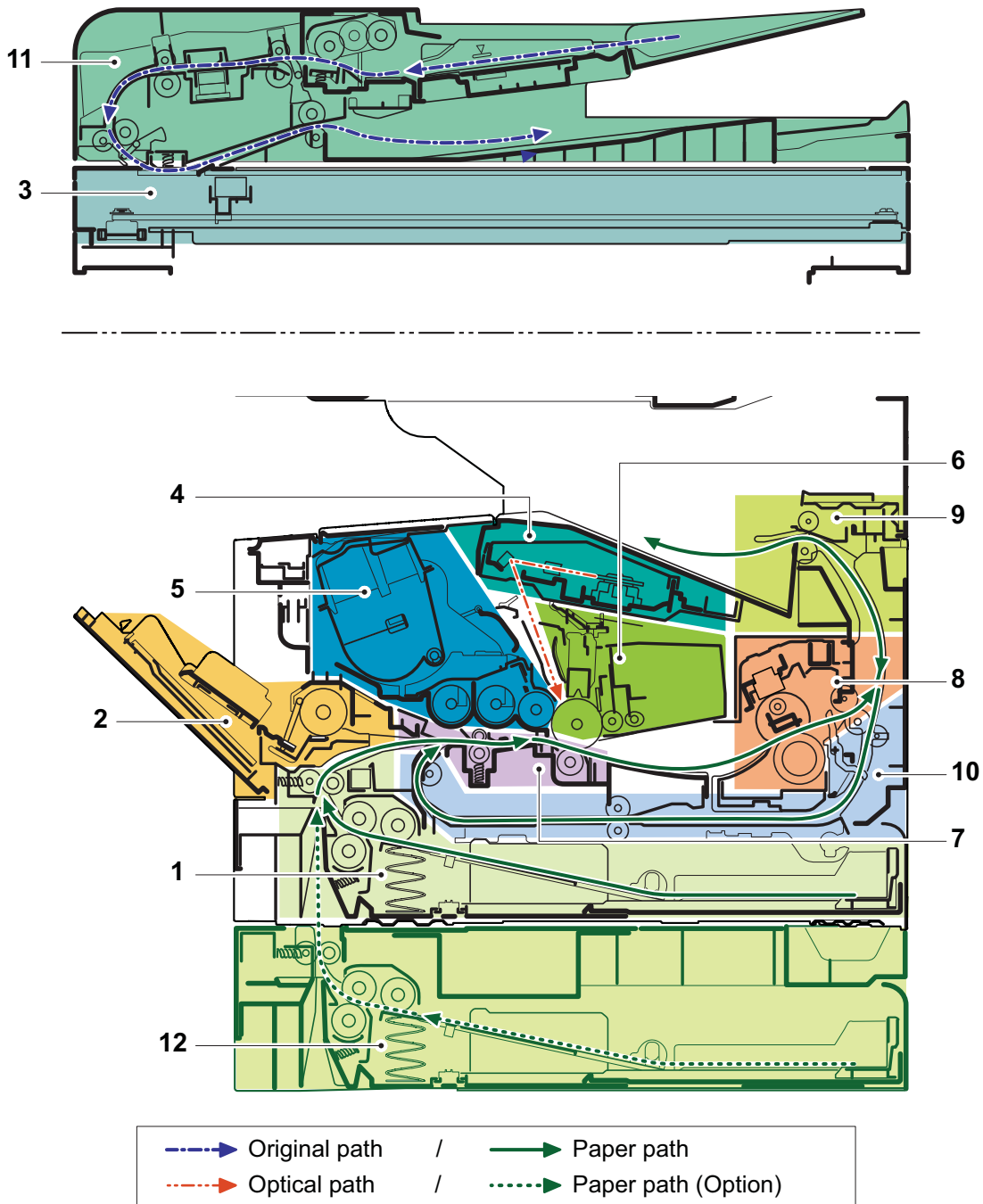


Figure 3-1

1. Cassette paper feed
2. MP paper feed section
3. Image scanner unit
4. Laser scanner unit
5. Developer unit
6. Drum unit

7. Conveying/Transfer section
8. Fuser section
9. Feedshift and eject section
10. Duplex conveying section
11. Document processor
12. Paper feeder (option)

3-2 The configuration of the electrical components

(1) Electric parts

(1-1) Machine left side

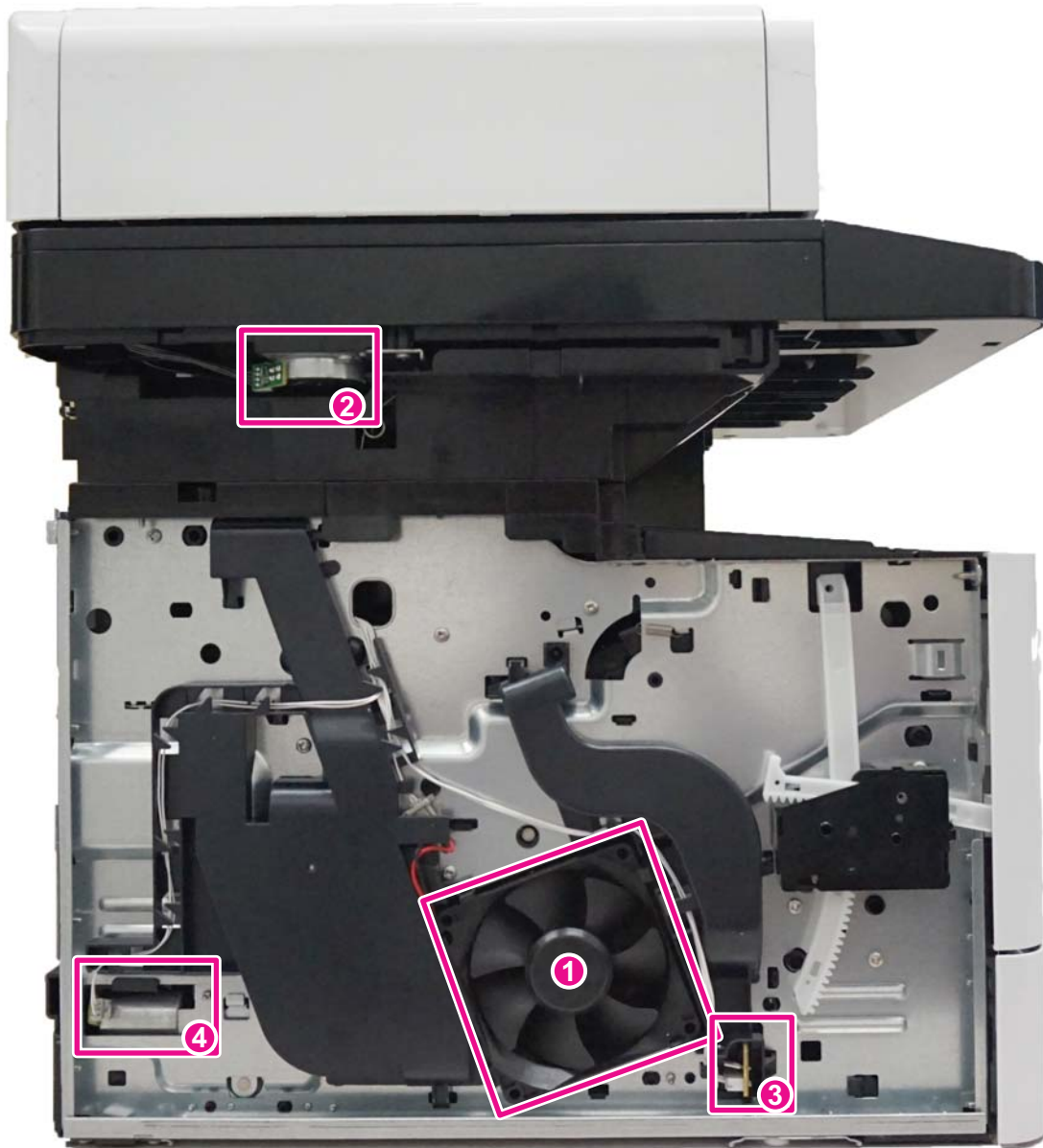
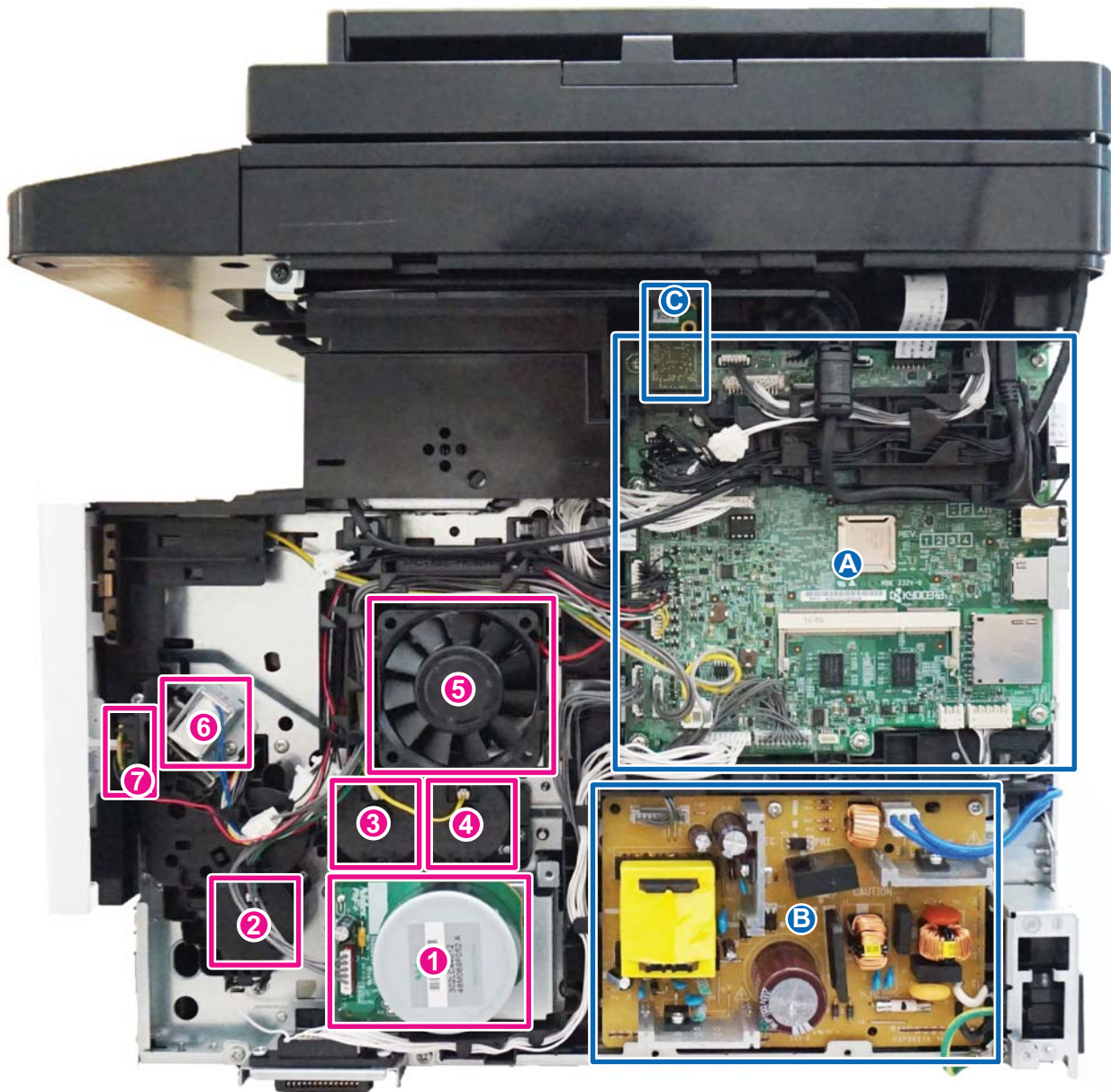


Figure 3-2

- 1. Left side fan motor
- 2. Scanner motor
- 3. Temp/Humid sensor
- 4. 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. Right side fan motor
6. MP solenoid
7. Power switch

- A. Main/Engine PWB
- B. Power source PWB
- C. Wi-Fi PWB

(1-3) Document processor

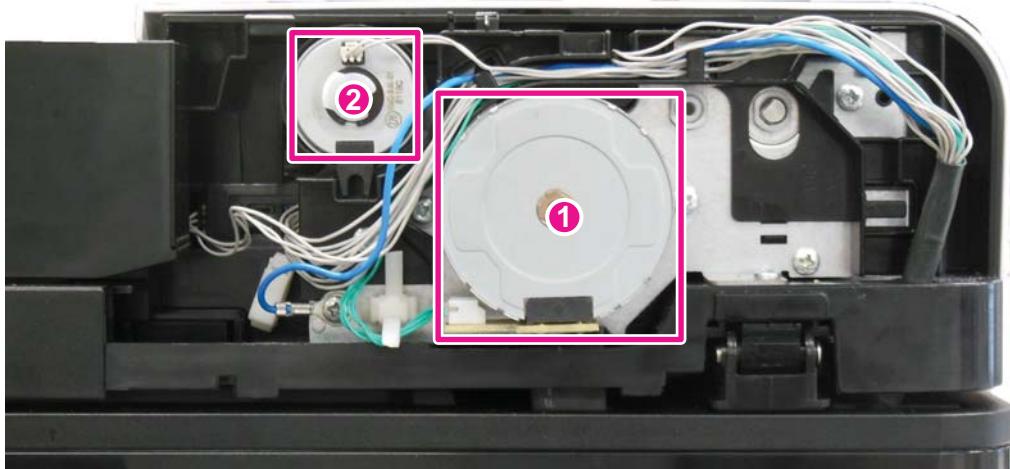


Figure 3-4

- 1. PF main PWB
- 2. PF paper feed clutch

- 3. PF conveying clutch

(1-4) Paper feeder (option)

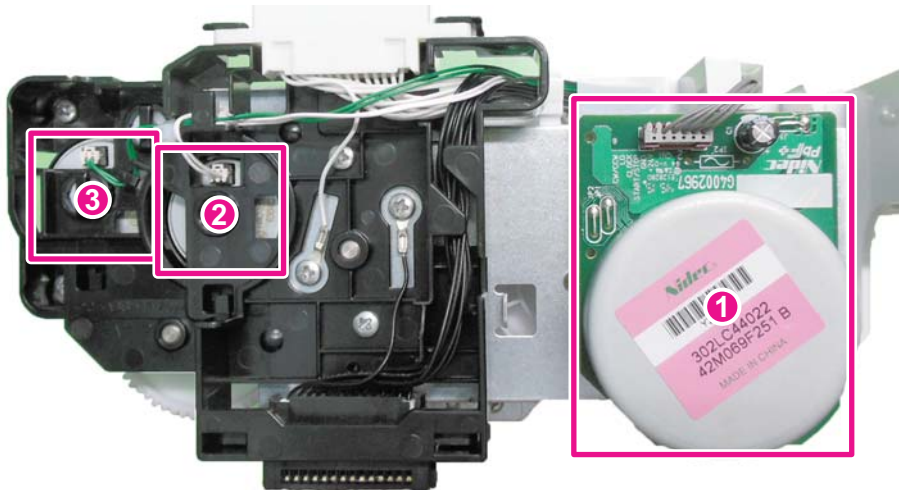


Figure 3-5

- 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 image scanner, operation unit, high voltage/bias output, paper conveying mechanism, etc.



Figure 3-6

(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 3-7

(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.

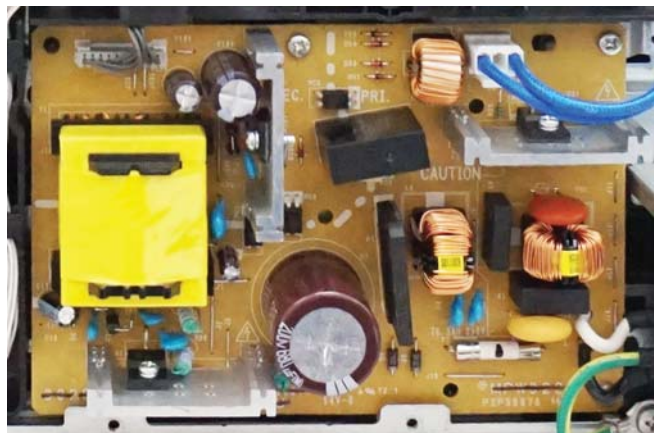


Figure 3-8

(2-4) Operation panel PWB (TSI)

It consists of the relay wiring circuit for the main/engine PWB, the operation key PWB(L/R) and the touch panel.



Figure 3-9

(2-5) Operation panel PWB (LCD)

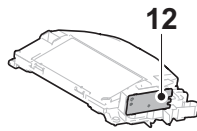
It consists of the LCD, LED indicators, the key switches.



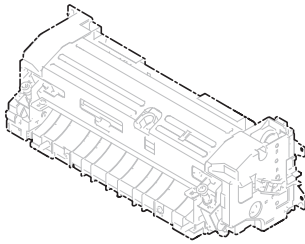
Figure 3-10

(3) Electric parts layout**(3-1) PWBs**

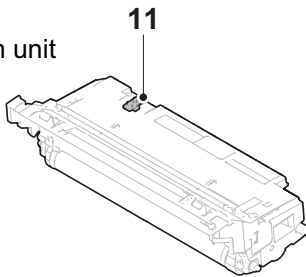
Laser scanner unit



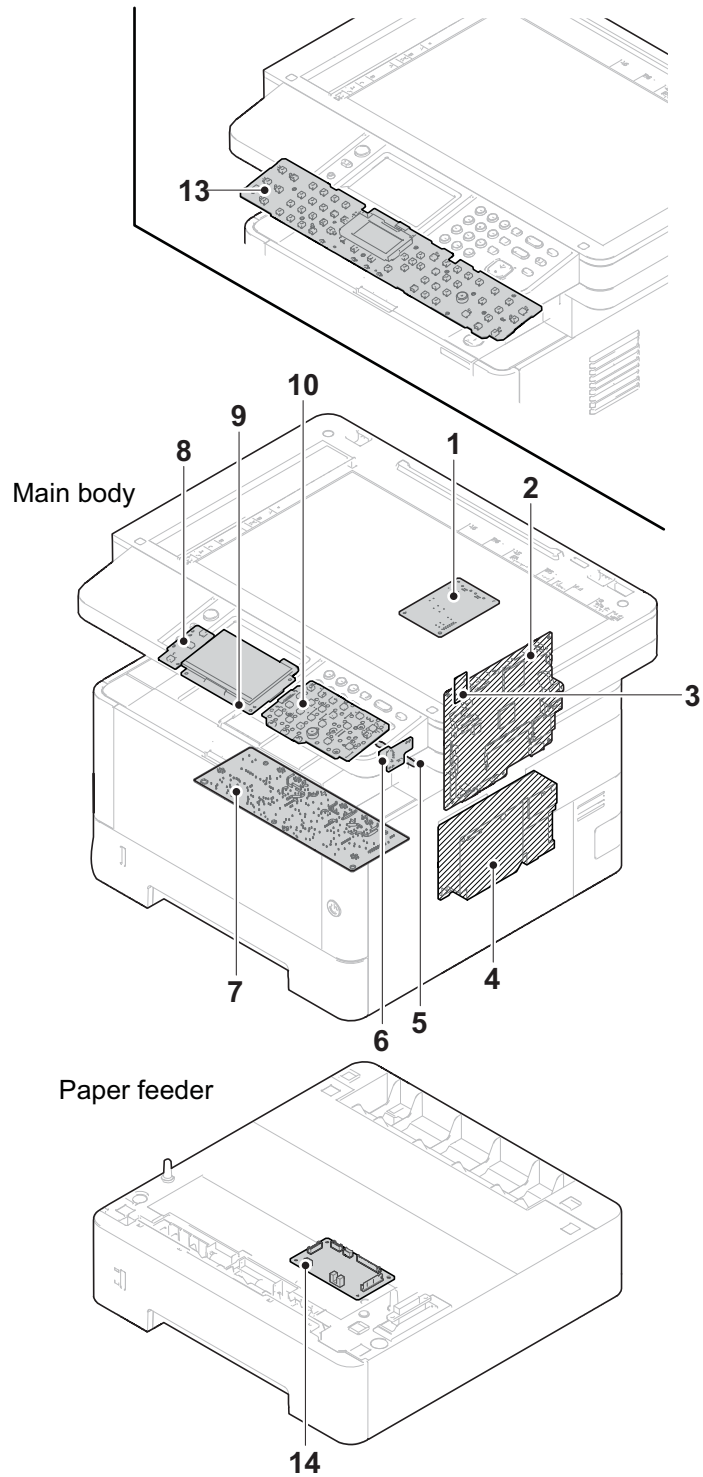
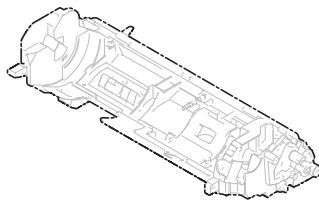
Fuser unit



Drum unit



Developer unit



Machine left side / Machine inside / Machine right side

Figure 3-11

1. FAX PWB *1 Modulate/demodulate of image data, compress/decompress, change resolution and smoothing
2. Main/Engine PWB It controls the software for the interface and image data processing, and controls the hardware such as the image scanner unit, operation section, high voltage/bias output, paper conveying mechanism, etc.
3. Wi-Fi PWB *2 It communicates wireless data.
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. Left key PWB (L) *3 It consists of the LED indicator and the key switches.
9. Operation panel PWB *3 It consists of main/engine PWB, left and right key and the LCD relay wiring circuit.
10. Operation key PWB (R) *3 It consists of the LED indicator and the key switches.
11. Grid PWB Controlling the grid currency
12. APC PWB Emitting and controlling the laser beam.
13. Operation panel PWB *4 It consists of LCD, LED indicators and key switches.
14. PF main PWB Controlling the drive of each electric parts in the PF.

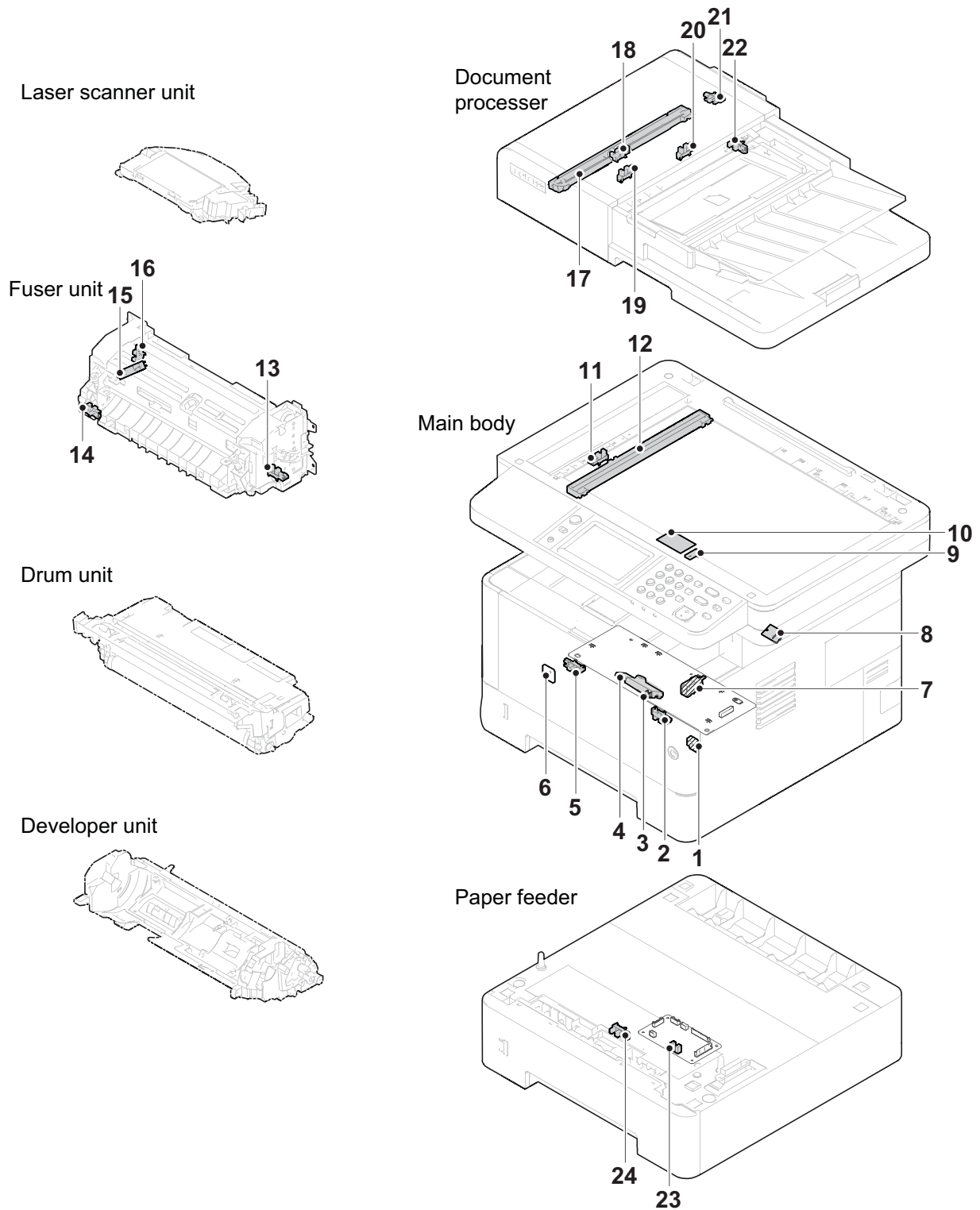
*1: FAX model only, *2: WiFi model only, *3: TSI model only, *4: LCD model only

Part name table

No.	Name used in service manual	Name used in parts list	Part. No.
1	FAX PWB*1	PARTS FAX UNIT E SP PARTS FAX UNIT U SP PARTS FAX UNIT J SP	303PA94011 302R794340 302R794330
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 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 EU SP PARTS PWB MAIN ENGINE ASSY SP PARTS PWB MAIN ENGINE ASSY SP PARTS PWB MAIN ENGINE ASSY EU SP	302S094060 302S094070 302S194020 302S194030 302S294020 302SG94010 302SG94020 302S394020 302S394030 302SH94010 302S494010 302S594020 302S594030
3	Wi-Fi PWB *2	PARTS WIFI UNIT SP	302R794010
4	Power source PWB	PARTS UNIT LOW VOLTAGE 100V SP PARTS UNIT LOW VOLTAGE 230V SP	302S094090 302S094100
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
8	Left key PWB *3	PARTS PWB KEY LEFT ASSY SP (PARTS OPERATION ASSY SP)	302R794250 (302S594010)
9	Operation panel PWB *3	PARTS PWB PANEL MAIN ASSY SP (PARTS OPERATION ASSY SP)	302S594040 (302S594010)
10	Right key PWB *3	PARTS PWB KEY RIGHT ASSY SP (PARTS OPERATION ASSY SP)	302R794220 (302S594010)
11	Grid PWB	(DK-1150)	(302RV93010)
12	APC PWB	(LK-1150)	(302RV93070)
13	Operation panel PWB *4	PARTS PWB M PANEL ASSY SP (PARTS OPERATION ASSY SP) (PARTS OPERATION ASSY SP) (PARTS OPERATION ASSY SP)	302S094080 (302S294010) (302S194010) (302S094040)
14	PF main PWB	PARTS PWB PF CONT ASSY SP	303RA94010

*1: FAX model only, *2: WiFi model only, *3: TSI model only, *4: LCD model only

(3-2) Sensors and Switches



- | | |
|---|--|
| 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. Home position sensor | Detecting the position of the image scanner unit. |
| 12. CIS | Scanning the frontside original data. |
| 13. Eject sensor | Detecting the paper jam at the fuser section. |
| 14. Press-release sensor | Detecting the mode of the fuser pressure. |
| 15. Fuser edge thermistor | Detecting the heat roller temperature (Edge). |
| 16. Rotation detecting sensor | Detecting the fuser rotation position |
| 17. DPCIS *1 | Scanning the backside original data. |
| 18. DP front side timing sensor | Detecting the conveying timing of original front side. |
| 19. DP back side timing sensor *1 | Detecting the conveying timing of original back side. |
| 20. DP paper feed sensor | Detecting the original paper feed timing. |
| 21. DP open/close sensor | Detecting the opening and closing of the document processor. |
| 22. DP original sensor | Detecting the presence of the original in the document processor. |
| 23. Paper sensor | Detecting the presence of paper on the PF cassette. |
| 24. PF feed sensor | Detecting the conveying timing of PF paper |

*1: 40 ppm model only

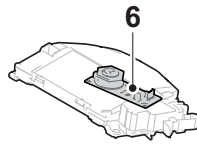
Conveying cover switchPart name table

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	Home position sensor	SENSOR OPT.	7NXSG2A241+++H01
12	CIS	PARTS SENSOR A4 CIS SP	302R794320
13	Eject sensor	(FK-1150) (FK-1152) (FK-1151)	(302RV93050) (302RV93060) (302RY93020)
14	Fuser pressure release sensor		
15	Fuser edge thermistor		
16	Rotation detecting sensor		
17	DPCIS *1	PARTS SENSOR A4 CIS SP	302R794320
18	DP front side timing sensor	PARTS SENSOR OPT. SP	302P794010
19	DP backside timing sensor *1	PARTS SENSOR OPT. SP	302P794010
20	DP paper feed sensor	PARTS SENSOR OPT. SP	302P794010
21	DP open/close sensor	PARTS SENSOR OPT. SP	302P794010
22	DP original sensor	PARTS SENSOR OPT. SP	302P794010
23	PF paper sensor	PARTS PWB PF CONT ASSY SP	303RA94010
24	PF feed sensor	PARTS SENSOR OPT. SP	302P794010

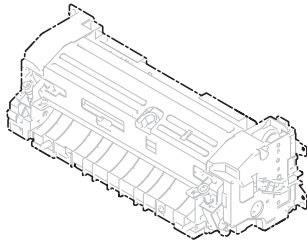
*1: 40 ppm model only

(3-3) Motors

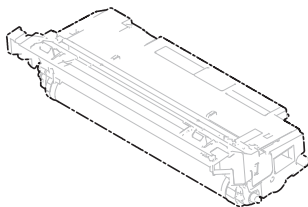
Laser scanner unit



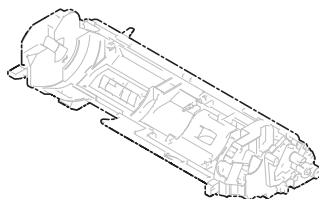
Fuser unit



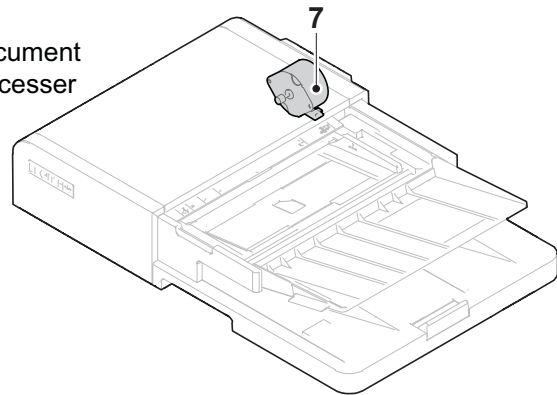
Drum unit



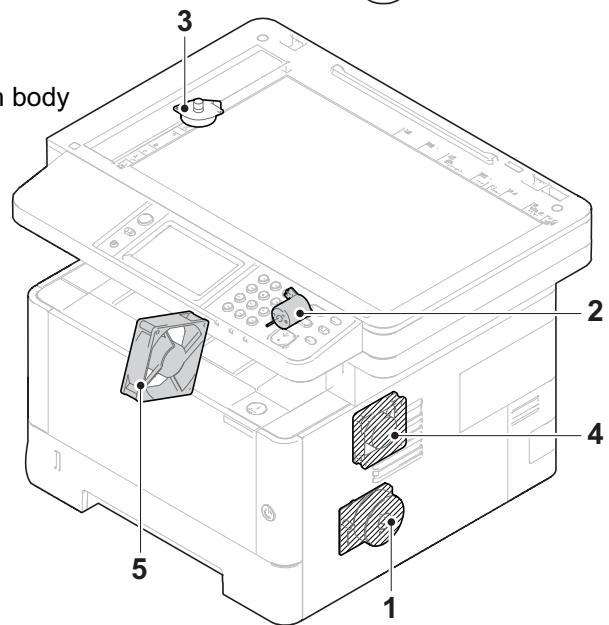
Developer unit



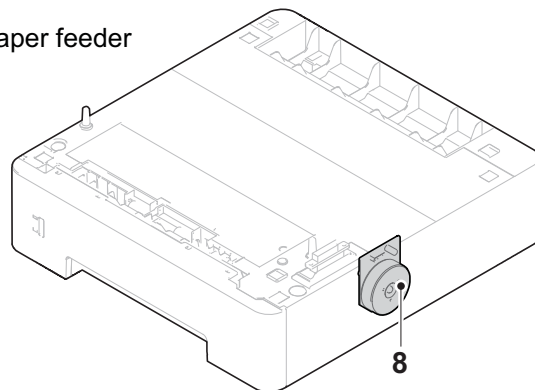
Document processor



Main body



Paper feeder



Machine left side / Machine inside / Machine right side

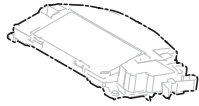
1. Main motor The paper feed and conveying mechanism drive
2. Fuser pressure release motor Fuser pressure release drive
3. Scanner motor Driving the optical section.
4. Right side fan Cooling inside the machine (right side)
5. Left side fan motor Cooling inside the machine (left side)
6. Polygon motor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

Part name table

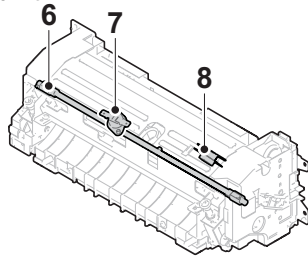
No.	Name used in service manual	Name used in parts list	Part. No.
1	Main motor	PARTS MOTOR-BL W40 SP	302LC94283
2	Fuser pressure release sensor	PARTS DC MOTOR ASSY SP (PARTS DRIVE PRESS RELEASE ASSY SP)	302RV94180 (302RV94030)
3	Scanner motor	PARTS MOTOR ISU SP	302R794380
4	Right side fan motor	PARTS,FAN COOLING CONVEYING SP	302FZ94420
5	Left side fan motor	PARTS FAN MOTOR SP	302NG94220
6	Polygon motor	(LK-1150)	(302RV93070)
7	DP feed motor	PARTS MOTOR-PM DP SP	302S094010
8	PF paper feed motor	PARTS MOTOR-BL W10 SP	302LC94292

(3-4) Others

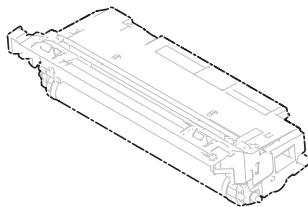
Laser scanner unit



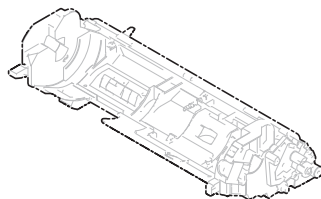
Fuser unit



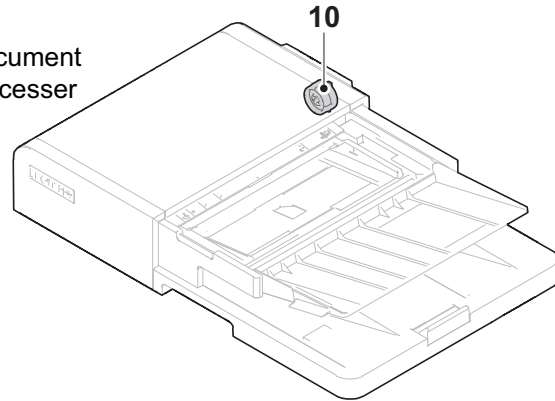
Drum unit



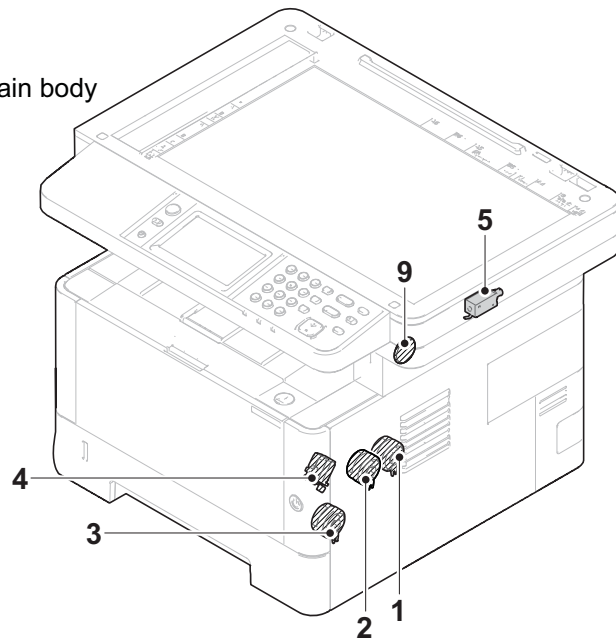
Developer unit



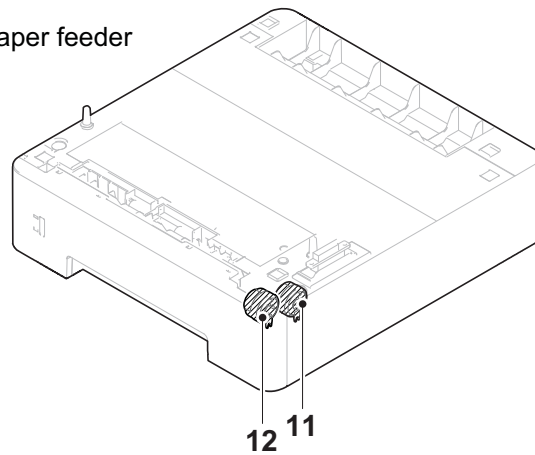
Document processor



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. Speaker Generating the operation panel touch sound and error sound
10. DP paper feed clutch Controlling the conveying drive of document processor
11. PF paper feed clutch Controlling the drive of PF cassette paper feed
12. 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)	(302RV93050)
7	Thermal cut (center)	(FK-1152)	(302RV93060)
8	Thermal cut (edge)	(FK-1151)	(302RY93020)
9	SPEKER	PARTS SPEAKER SP	302ND94790
10	DP feed clutch	PARTS CLUTCH 35 Z35R SP	302NR94010
11	PF paper feed clutch	PARTS CLUTCH 35 Z35R SP	302NR94010
12	PF feed roller	PARTS CLUTCH 35 Z35R SP	302NR94010

3-3 Drive system

(1) Drive system for the paper conveying

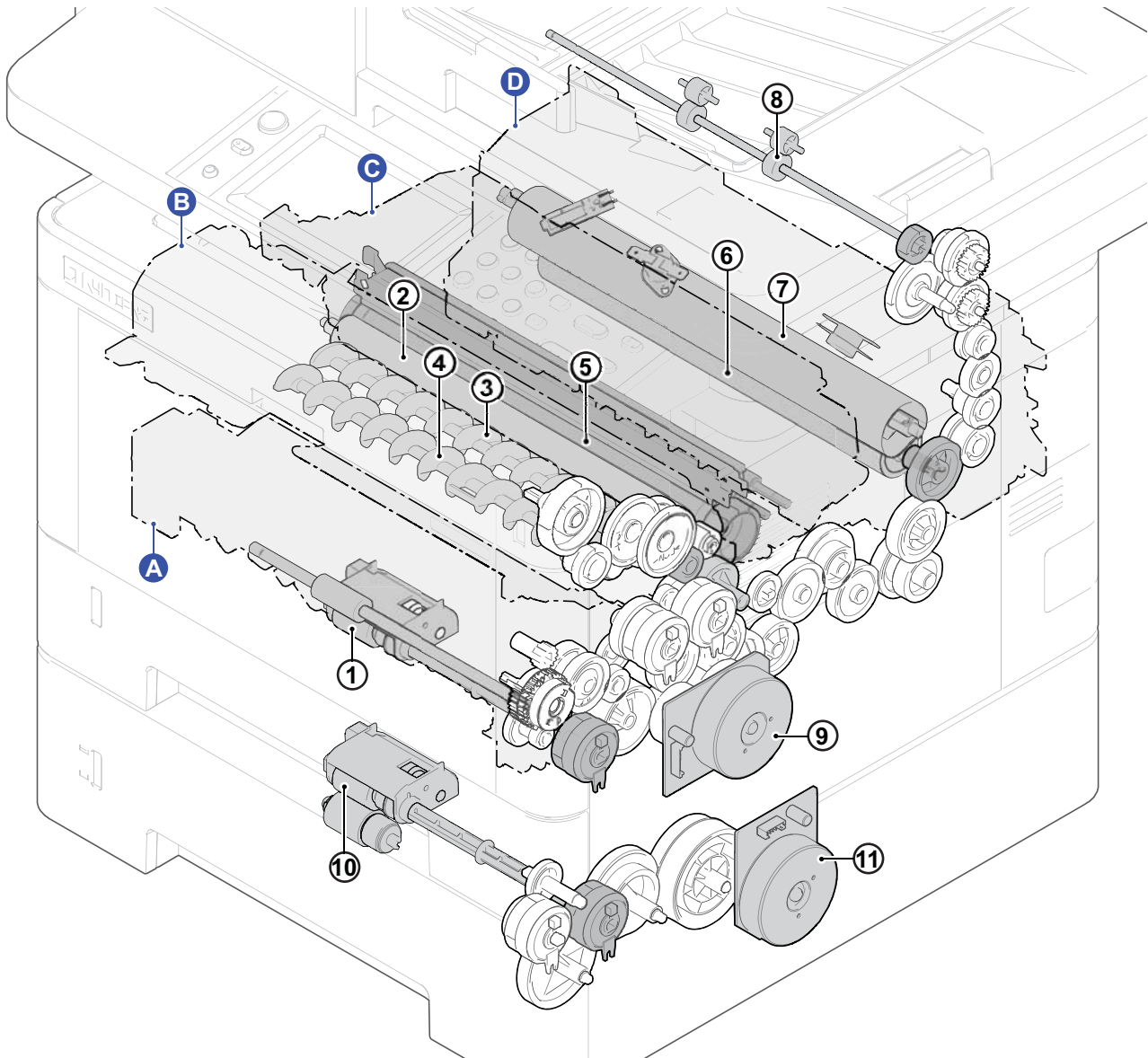


Figure 3-12

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

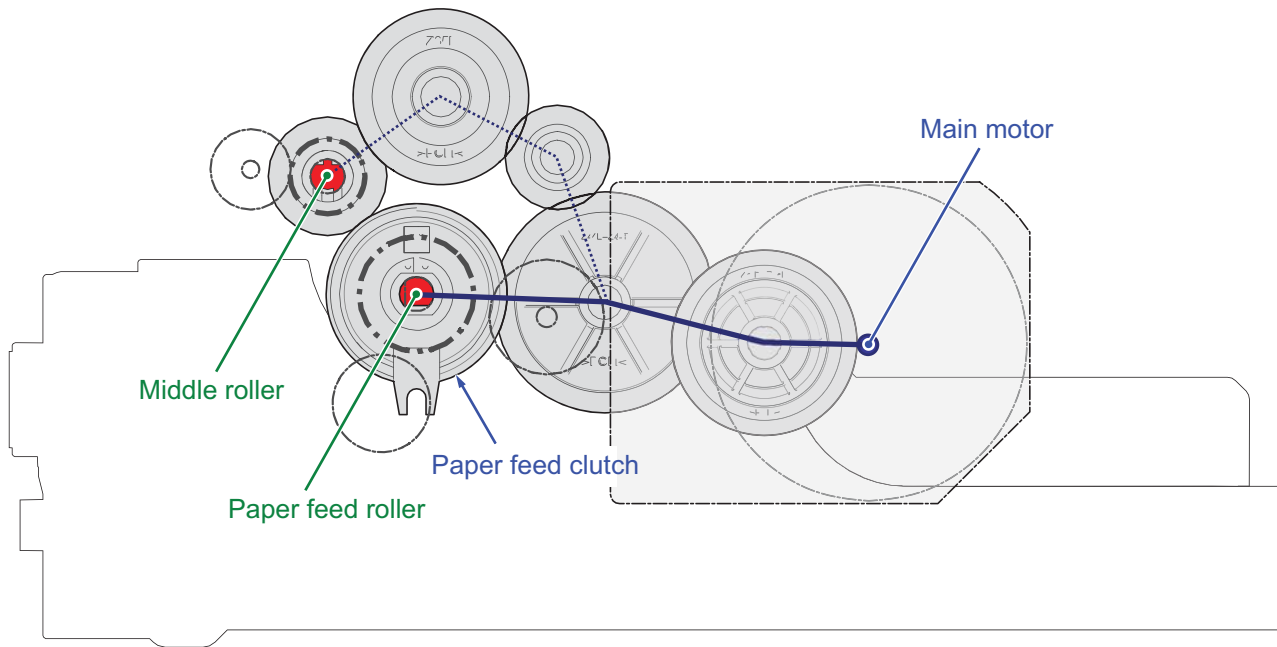


Figure 3-13

(2-2) Drum drive

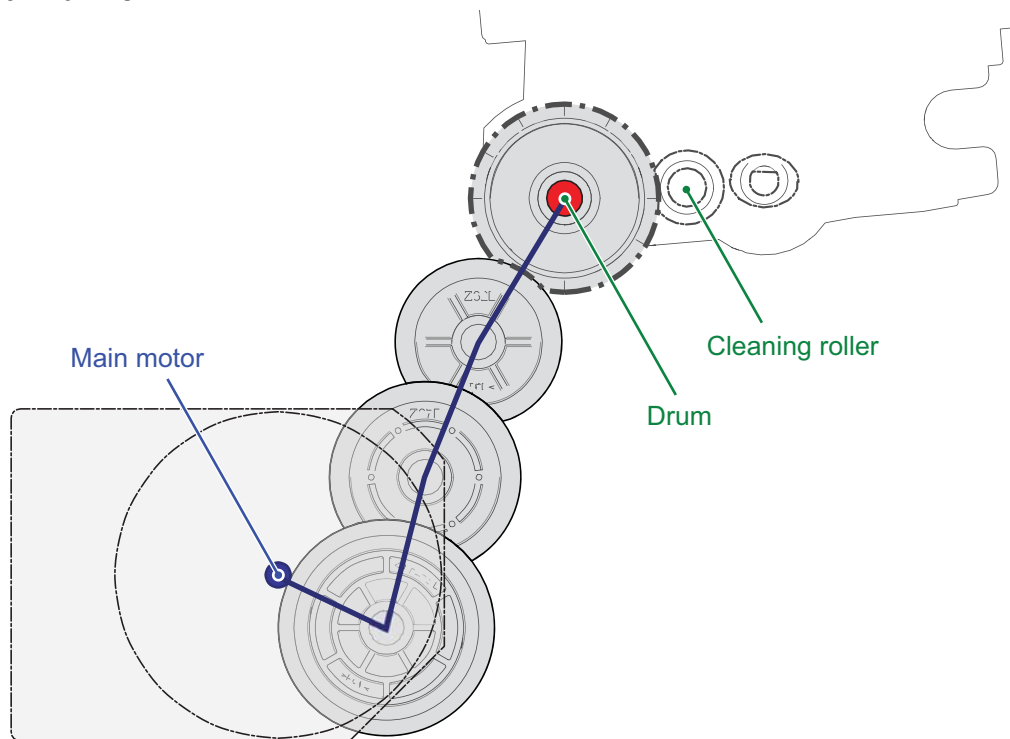
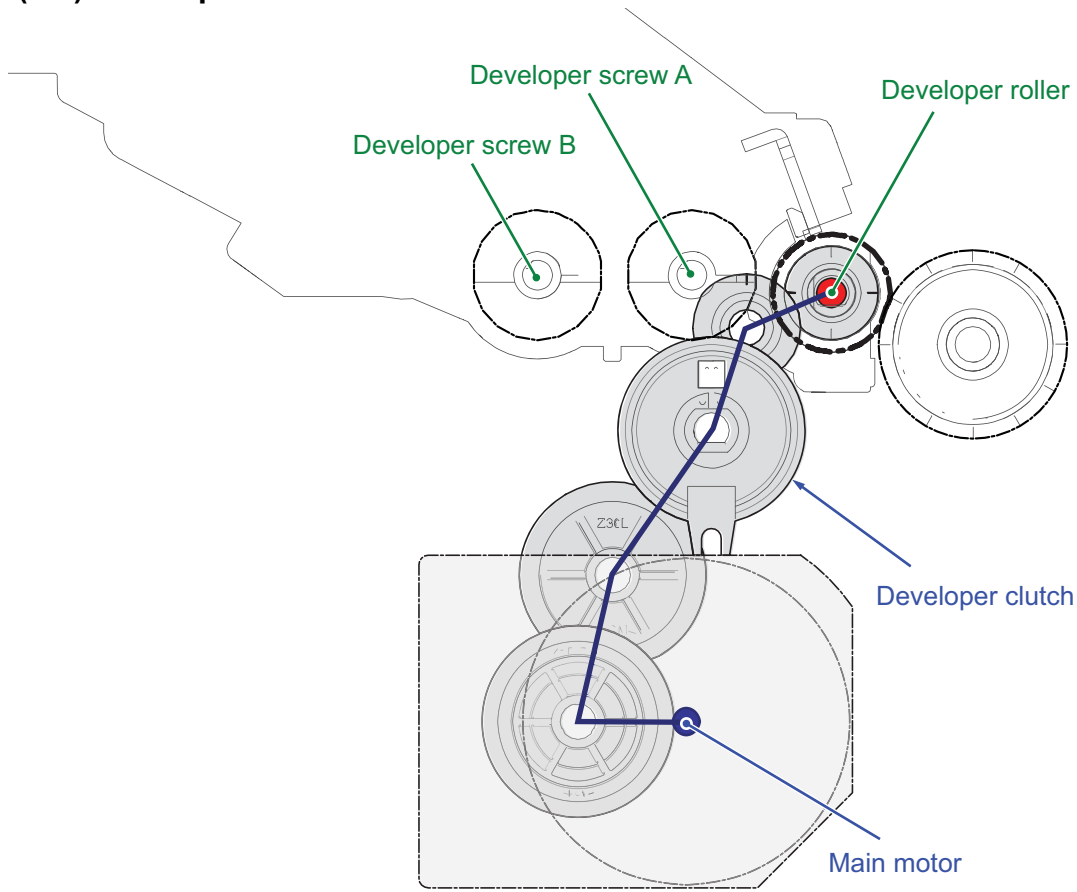
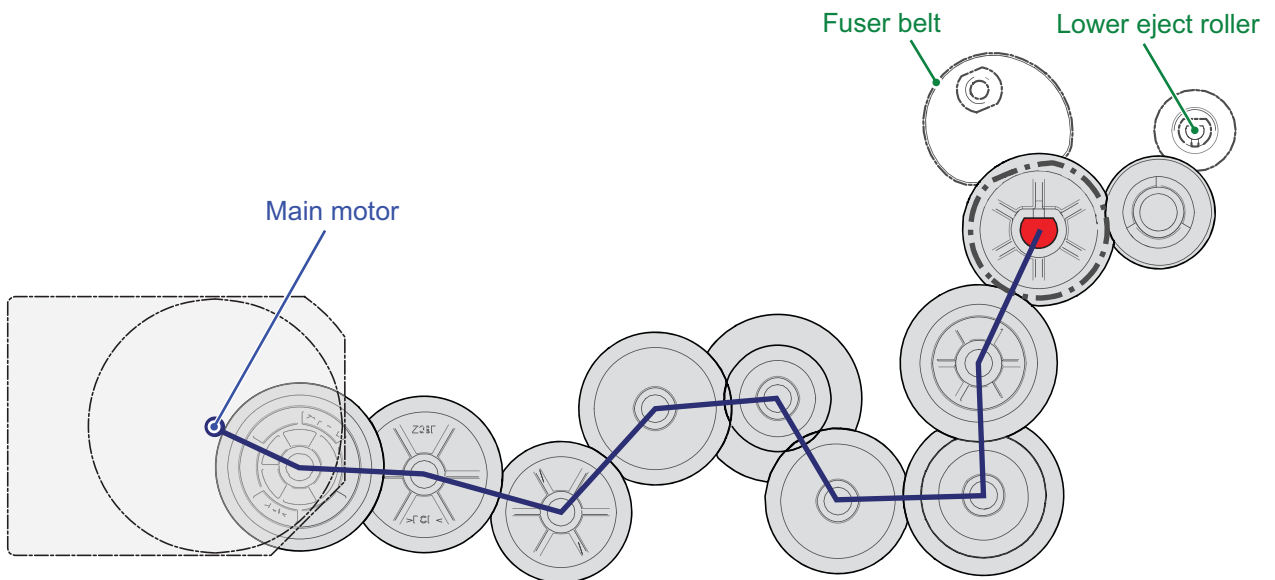


Figure 3-14

(2-3) Developer drive**Figure 3-15****(2-4) Fuser unit drive****Figure 3-16**

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

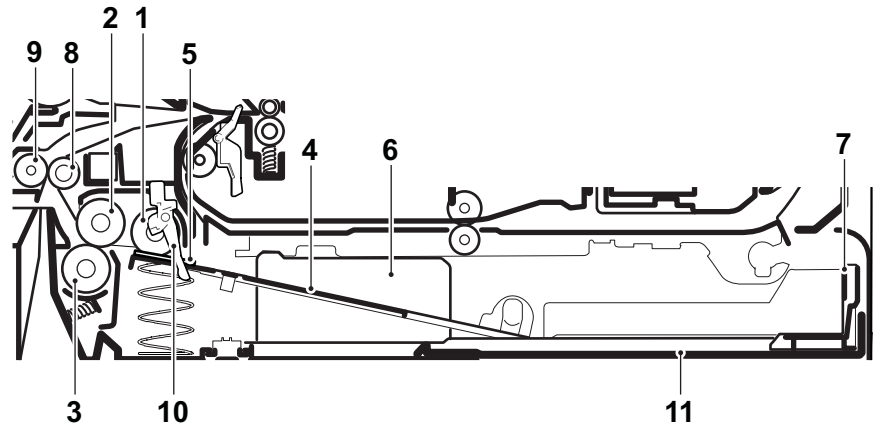


Figure 3-17

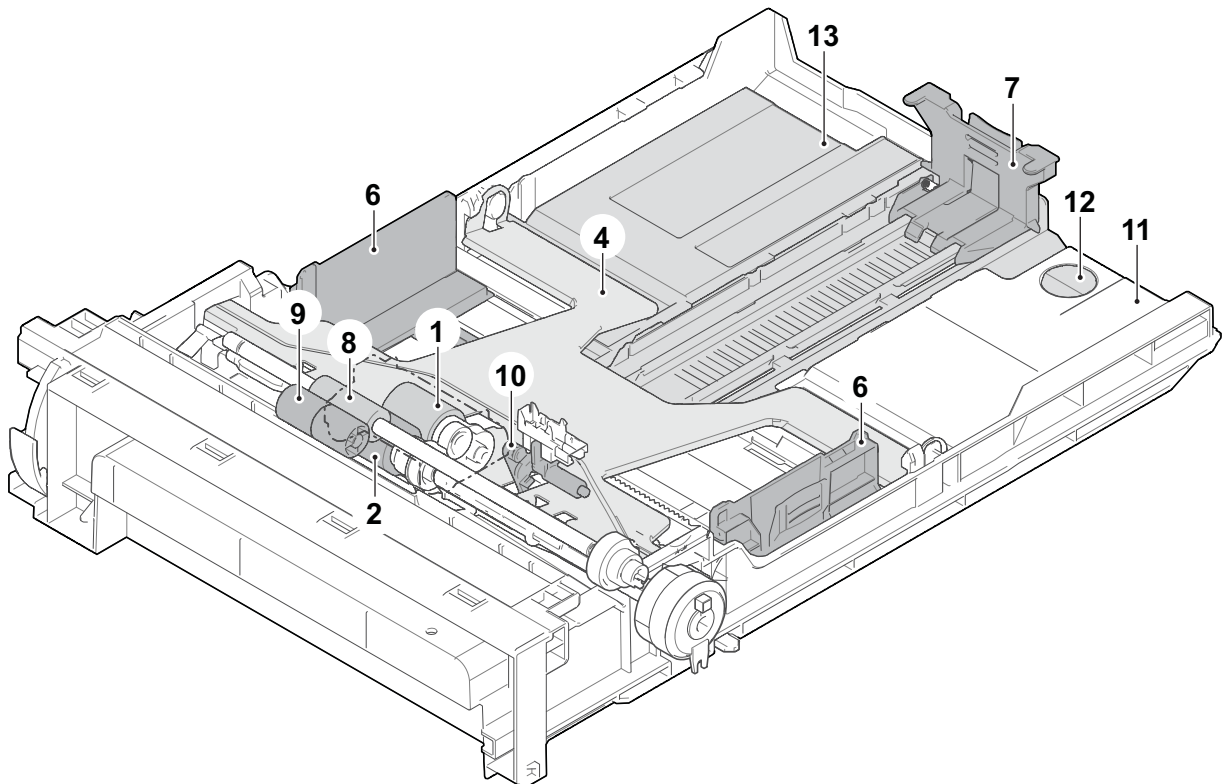


Figure 3-18

Block diagram

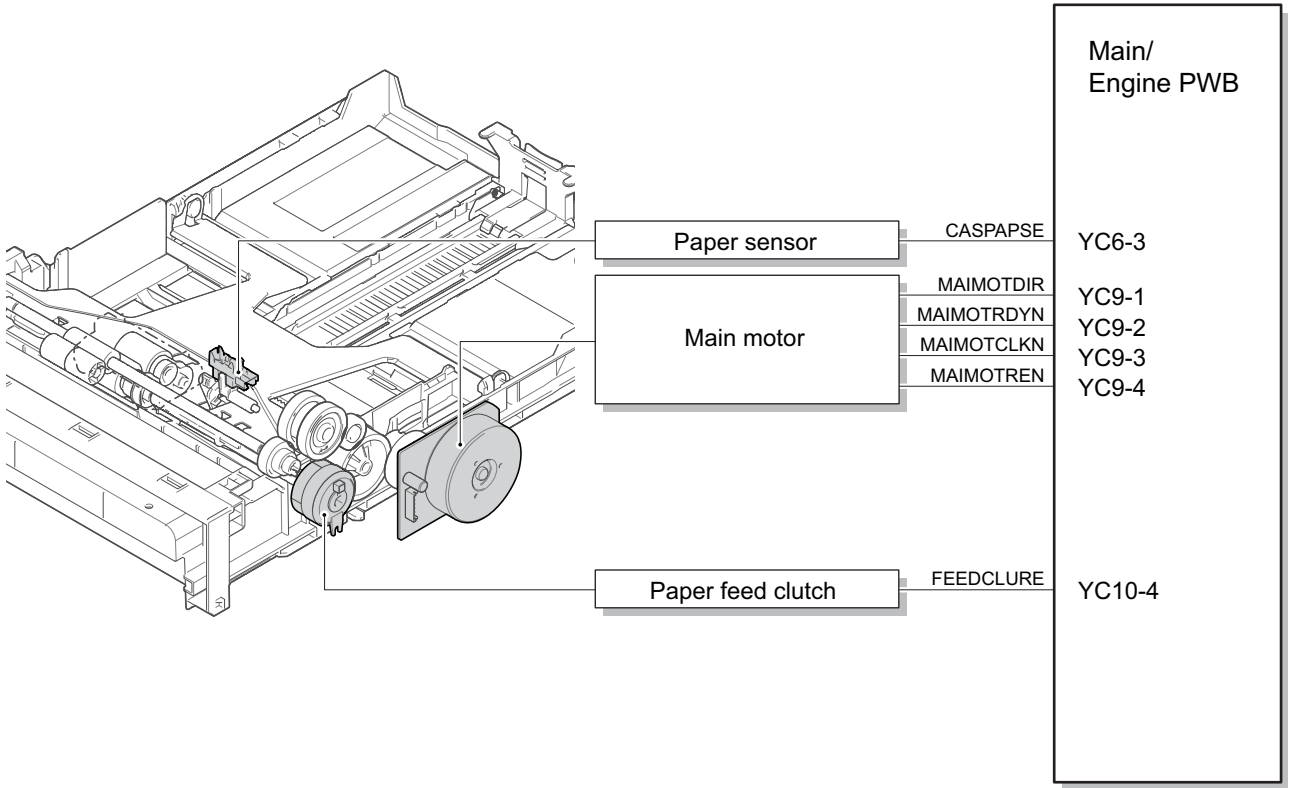


Figure 3-19

(1-2) MP tray paper feed section

The MP tray can load 60 sheets paper (64 g/m²) or 50 sheets (80 g/m²). 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)

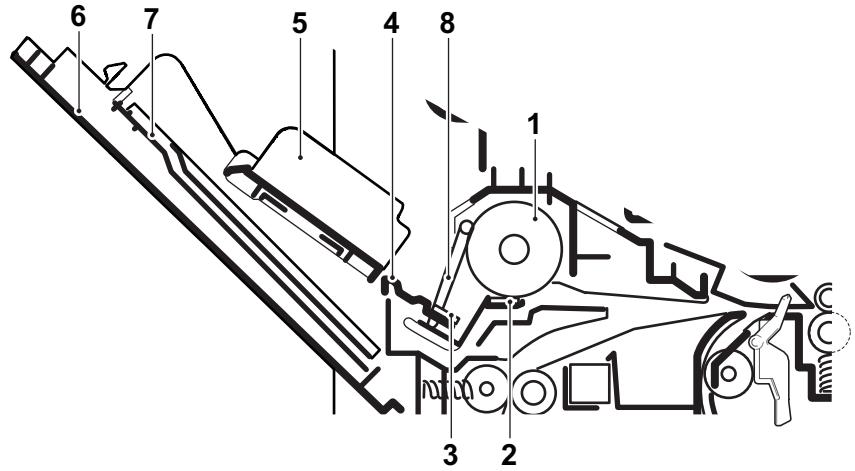


Figure 3-20

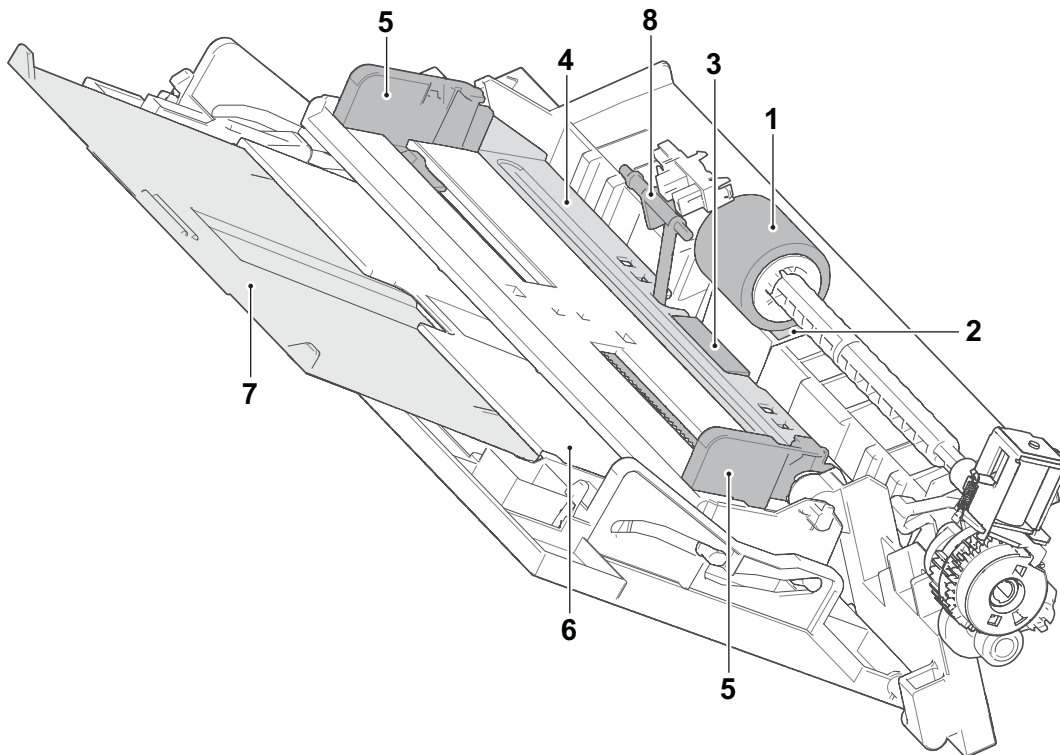


Figure 3-21

Block diagram

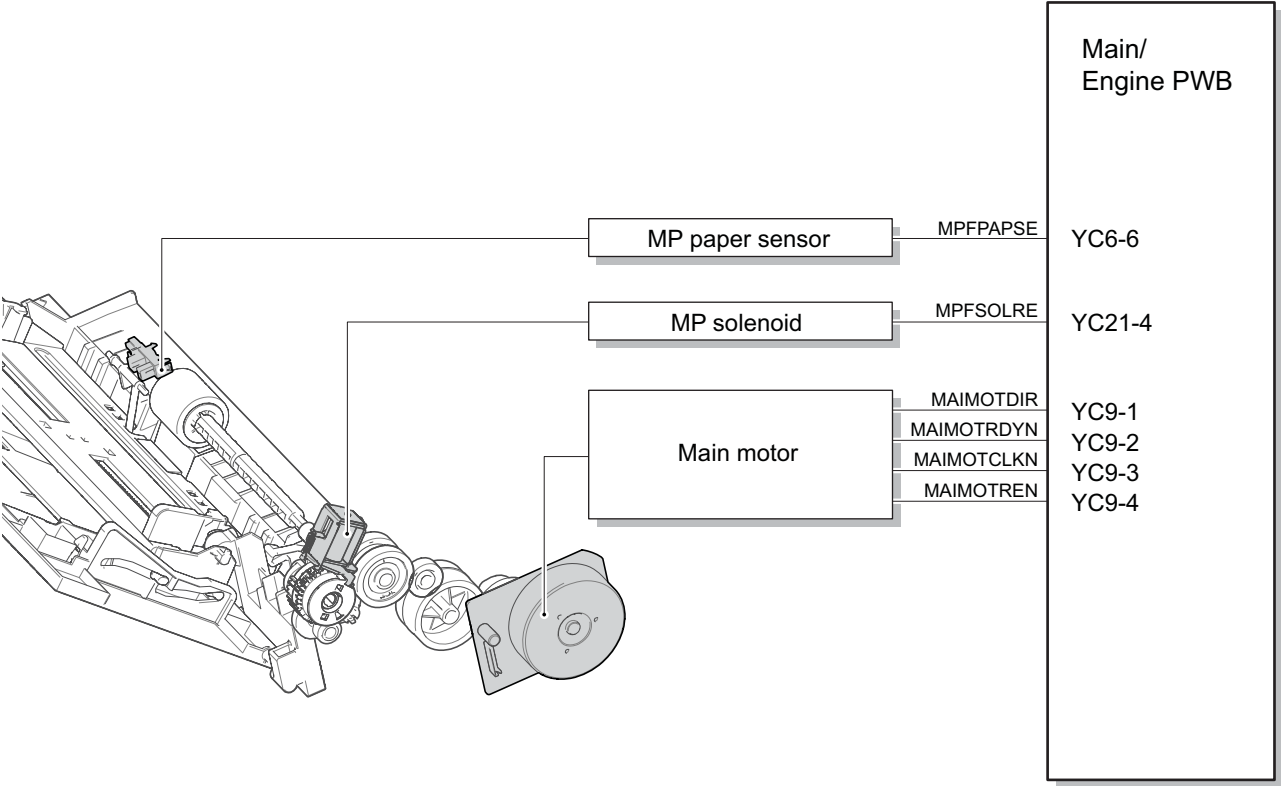


Figure 3-22

(2) Optical section

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

(2-1) Image scanner unit

The original image is exposed by the exposure lamp (LED) and the reflection light is scanned by the CIS image sensor and converted to the electric signal.

When using the document processor, the image scanner unit stops at the original scanning position (slit glass) and scans the image from the original conveyed in the document processor.

Components parts

1. CIS
2. Scanner carriage
3. Slit glass
4. Contact glass
5. ISU top flame
6. Scanner drive gear
7. Scanner drive belt
8. ISU bottom flame

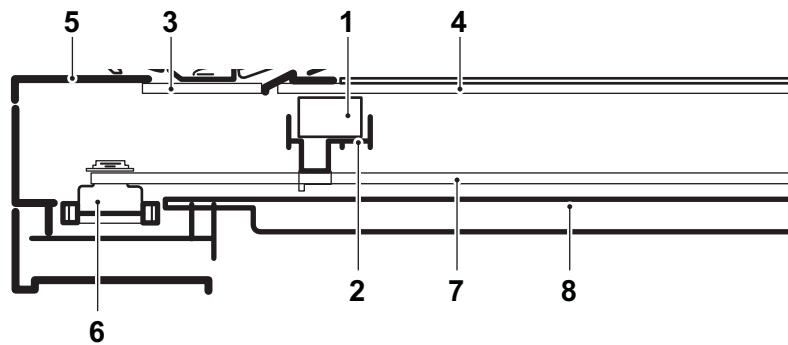


Figure 3-23

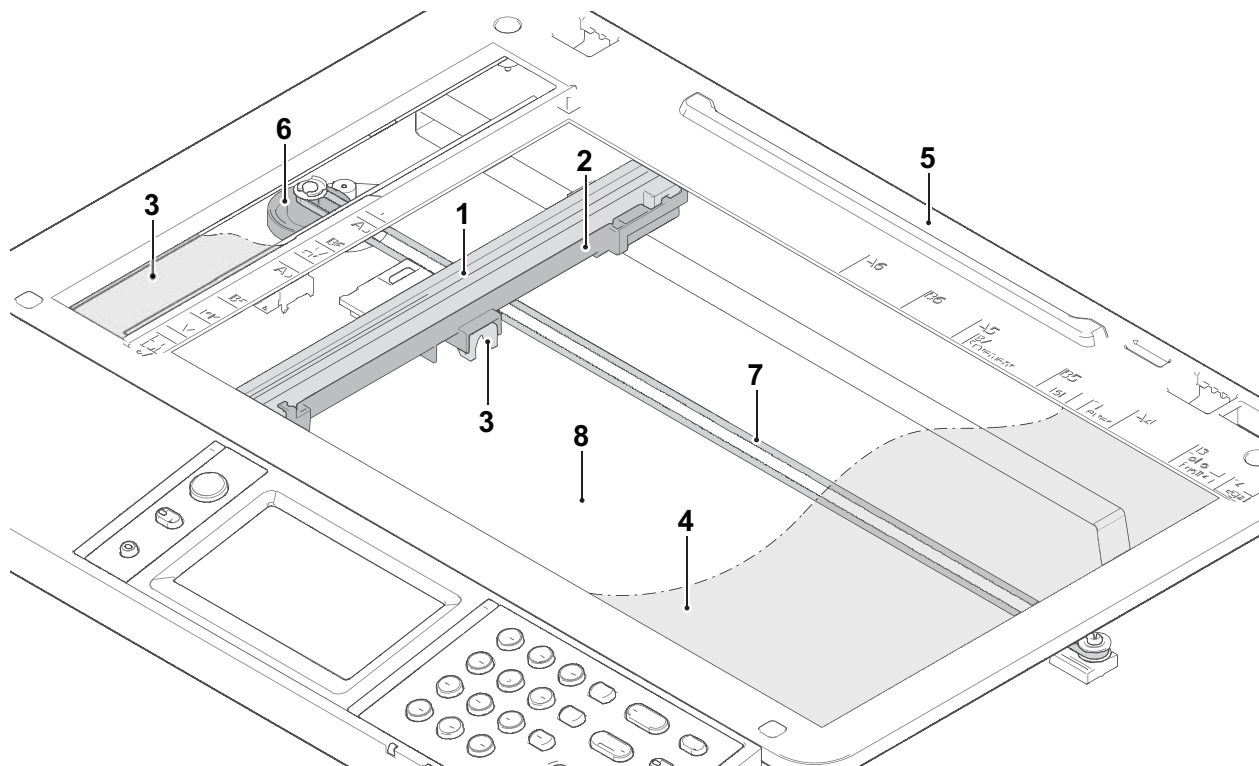
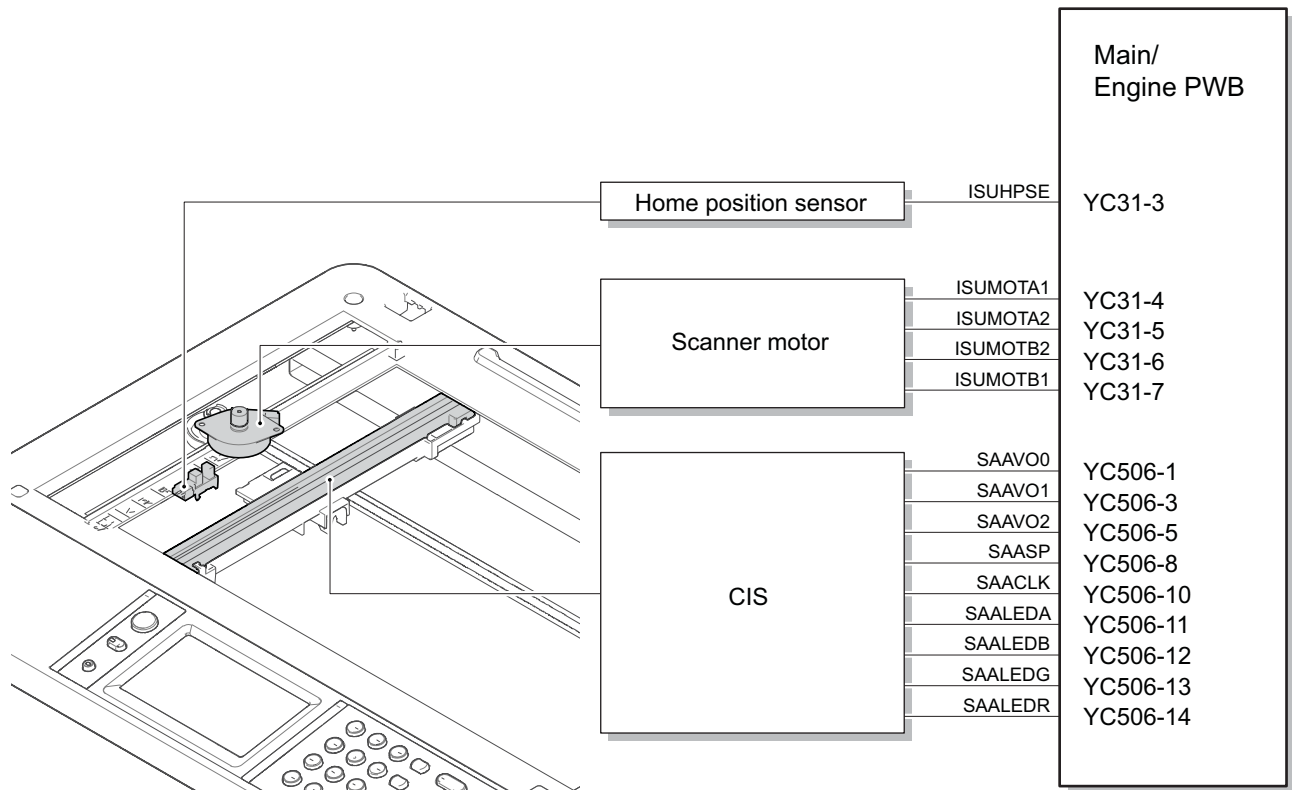


Figure 3-24

Block diagram**Figure 3-25**

(2-2) Laser scanner unit

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

Components parts

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

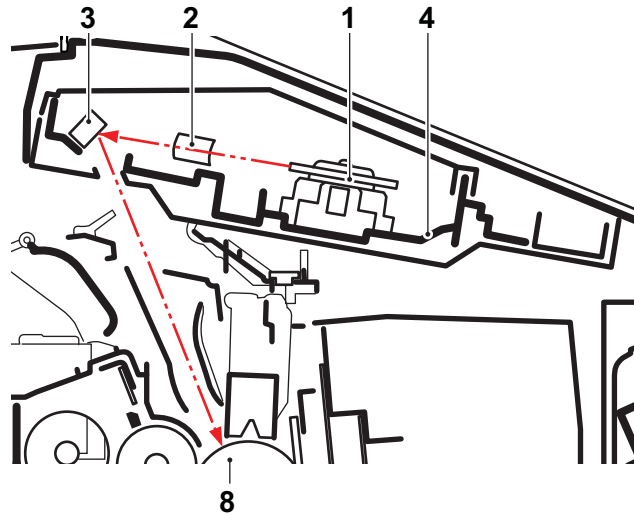


Figure 3-26

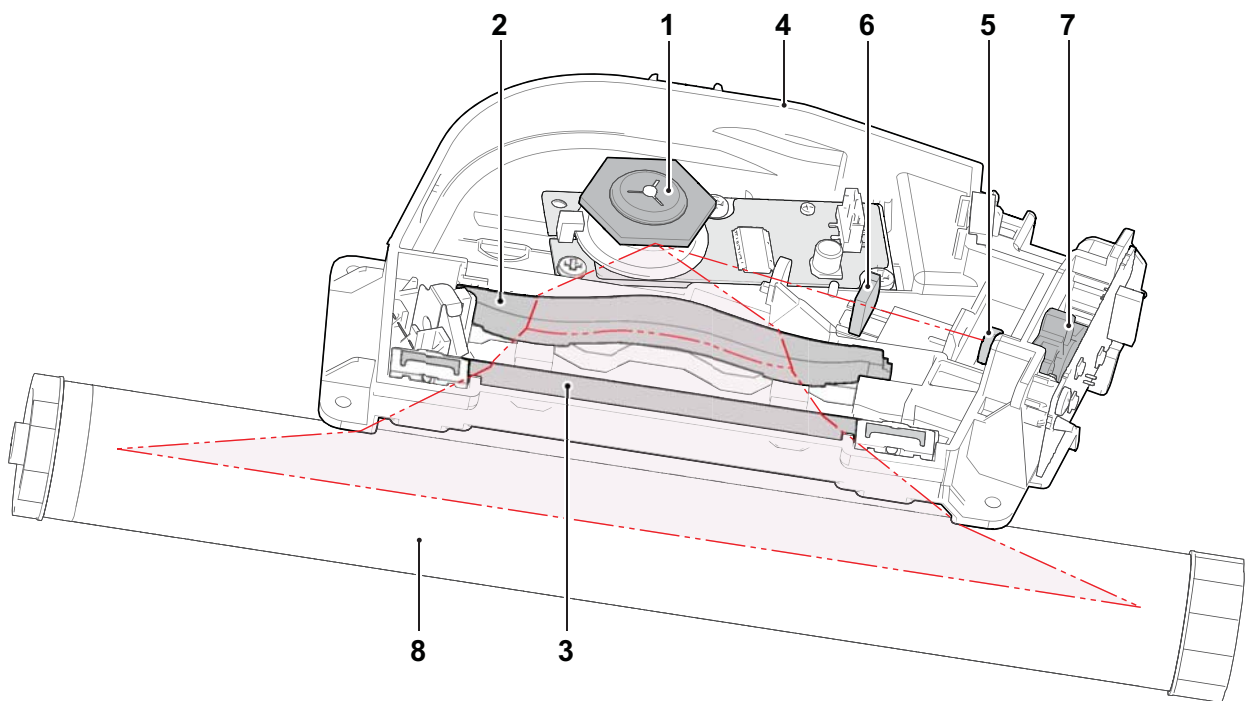


Figure 3-27

Block diagram

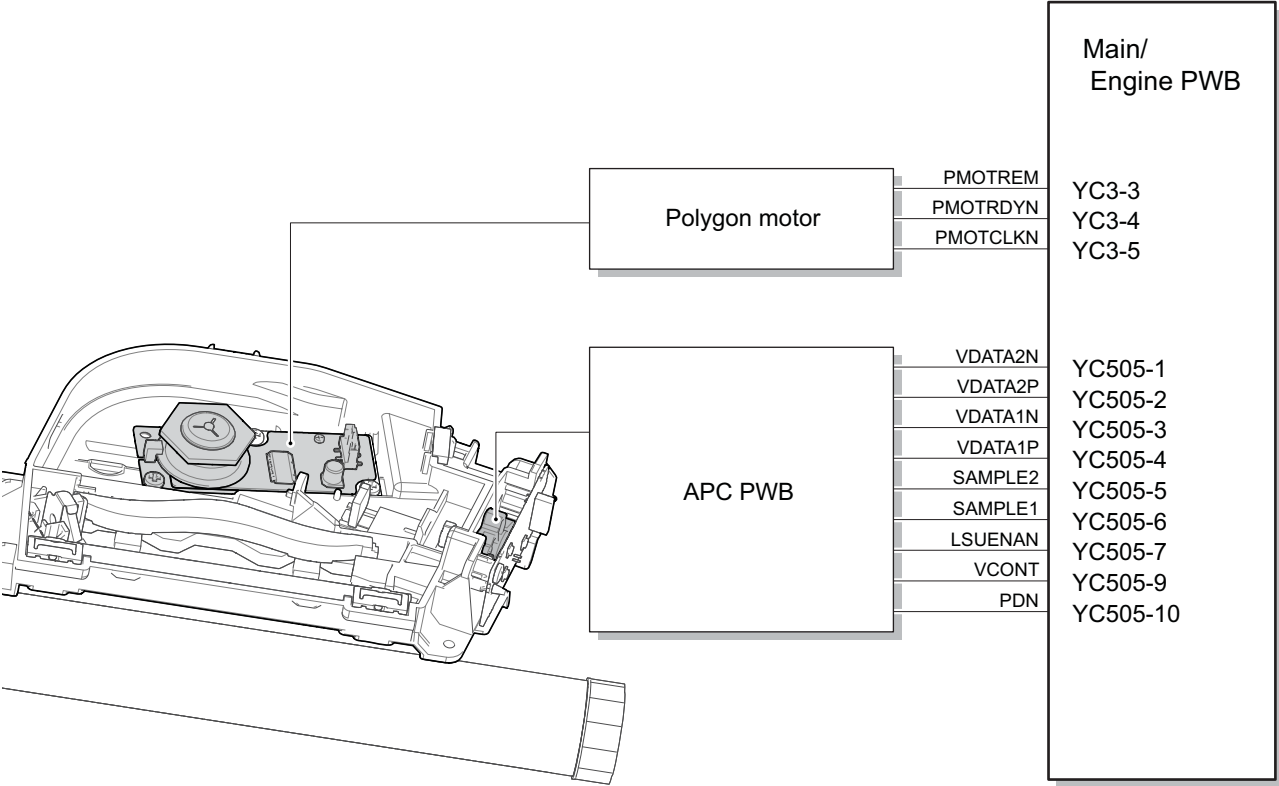


Figure 3-28

(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 also detected by the toner 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

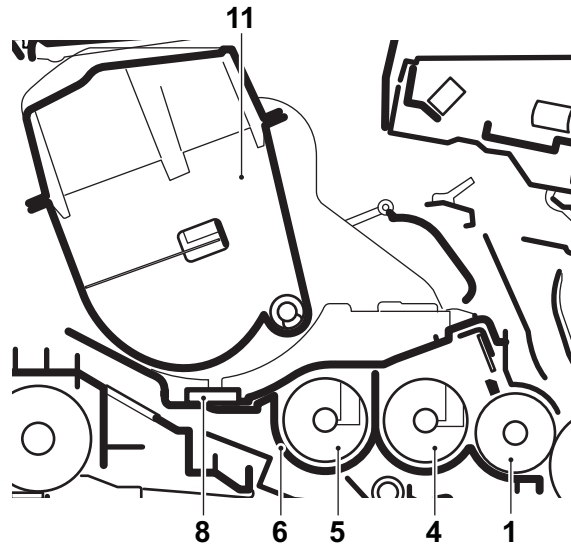


Figure 3-29

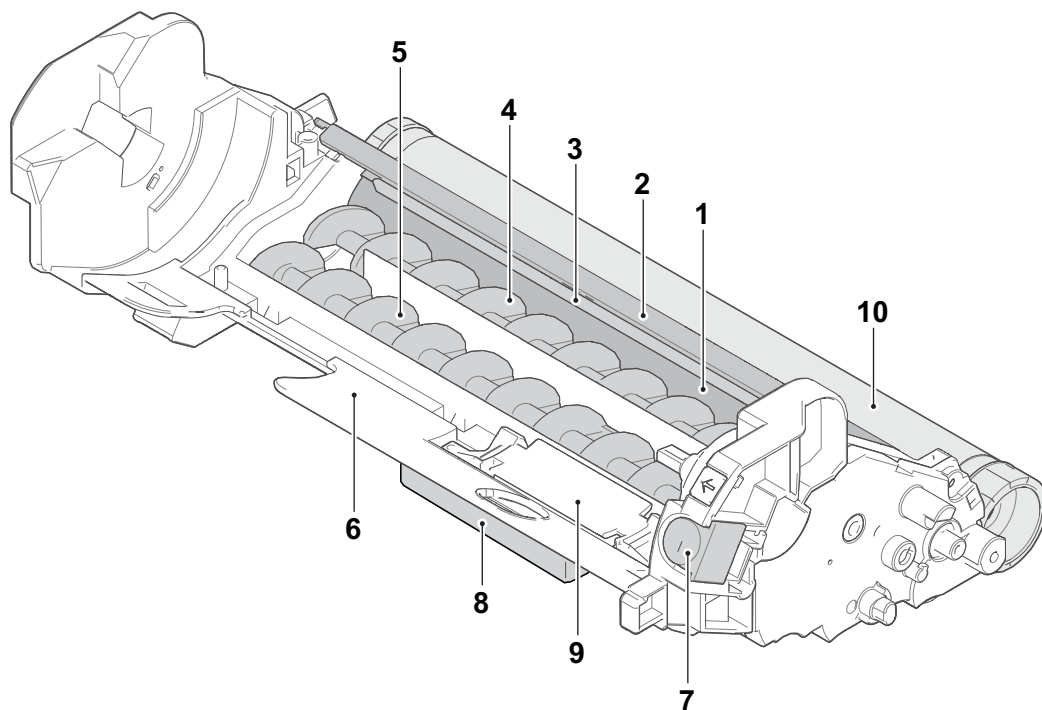
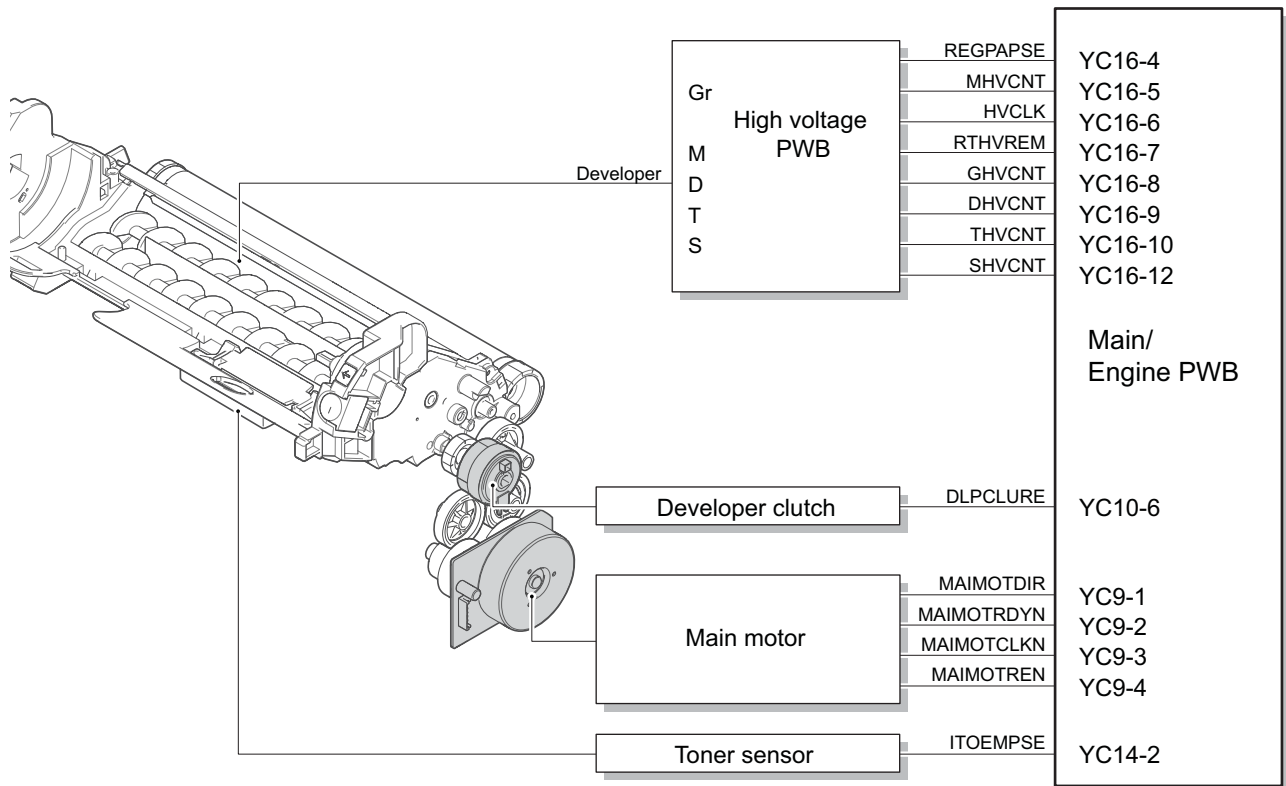


Figure 3-30

Block diagram**Figure 3-31**

(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

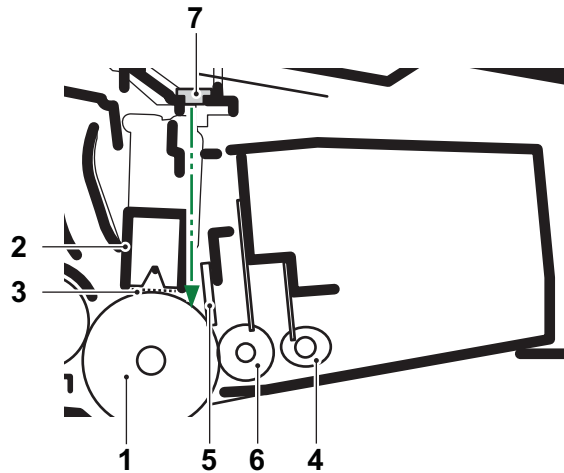


Figure 3-32

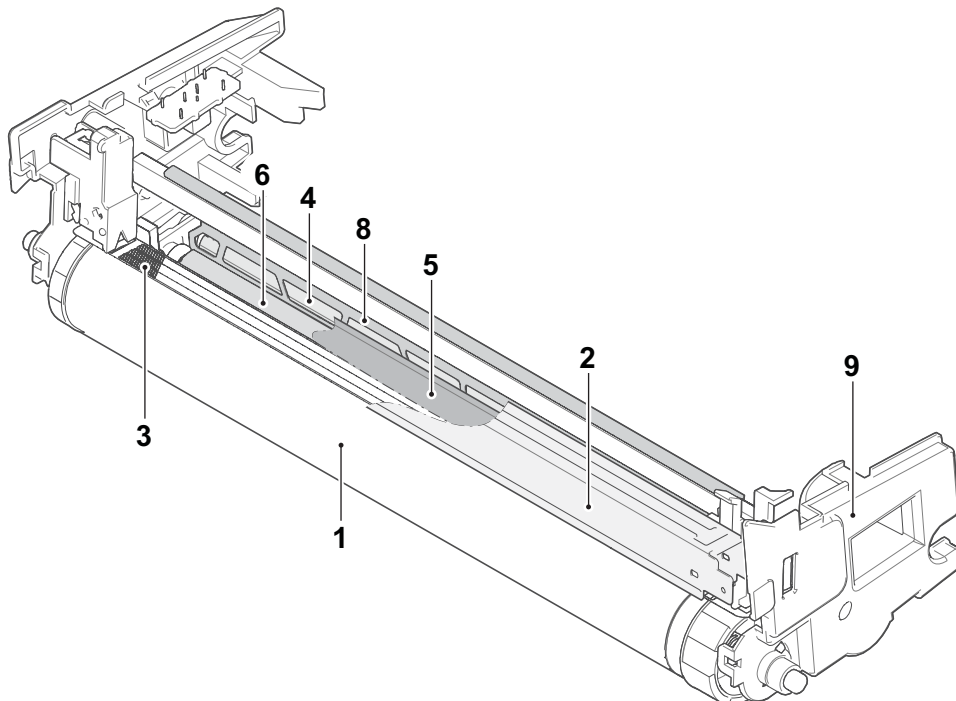


Figure 3-33

Block diagram

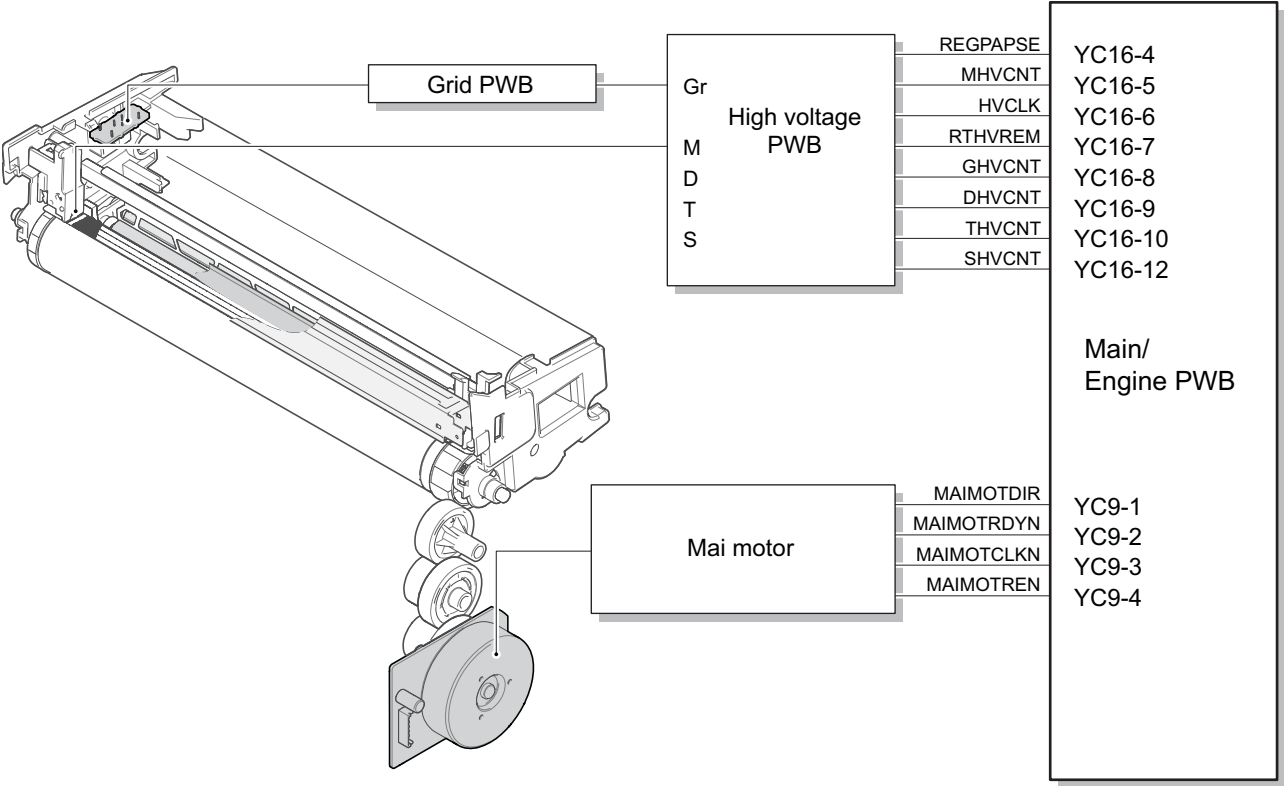


Figure 3-34

(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

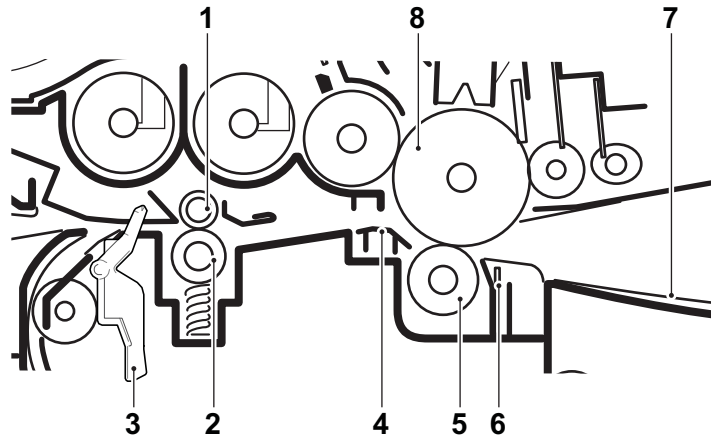


Figure 3-35

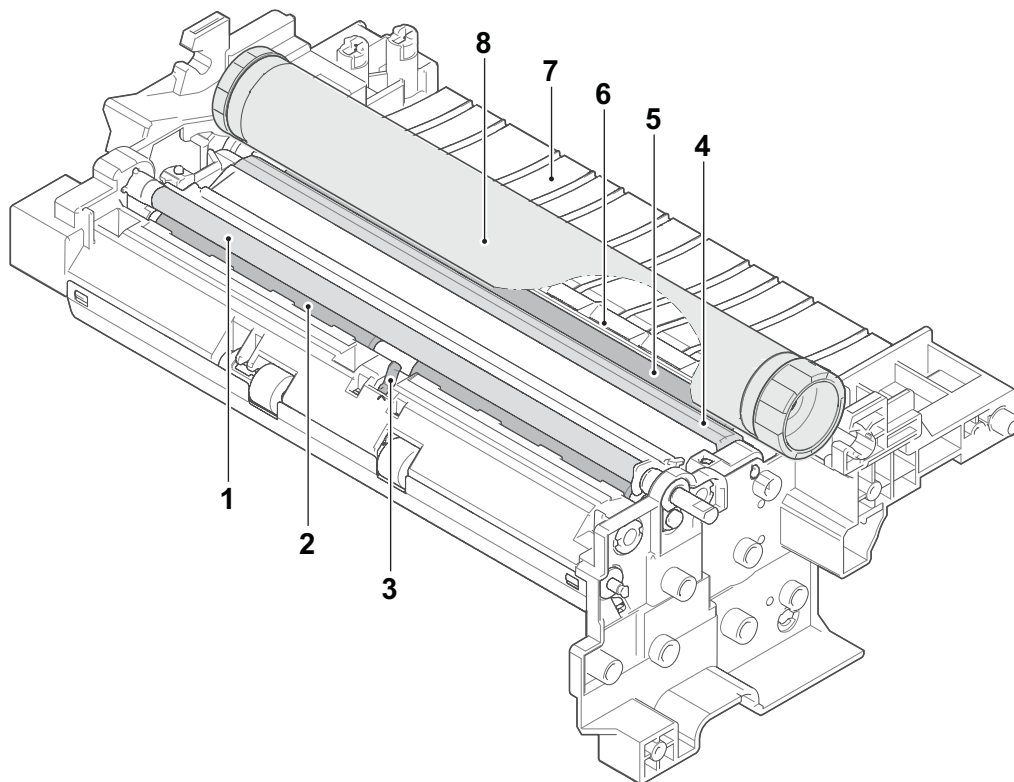
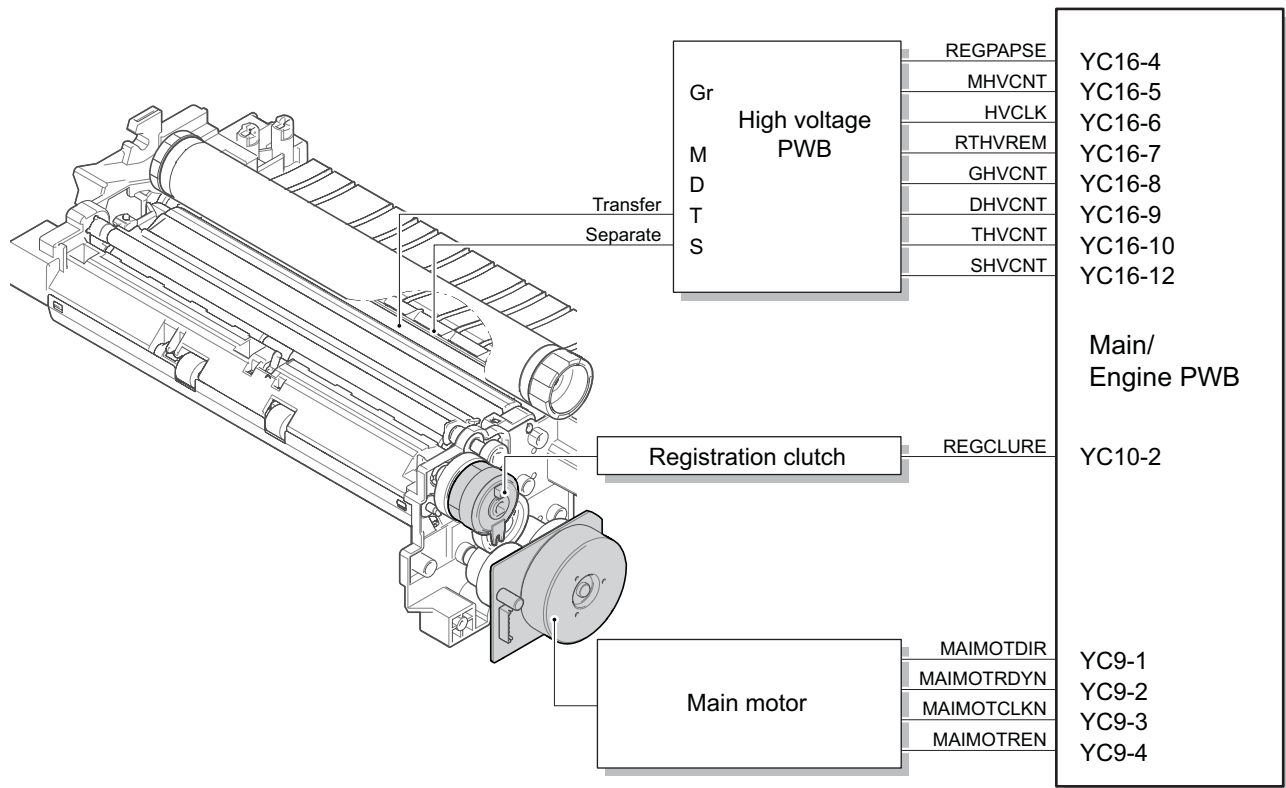


Figure 3-36

Block diagram**Figure 3-37**

(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

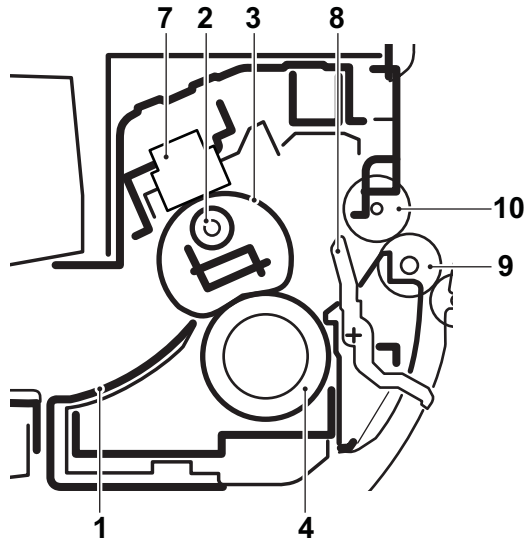


Figure 3-38

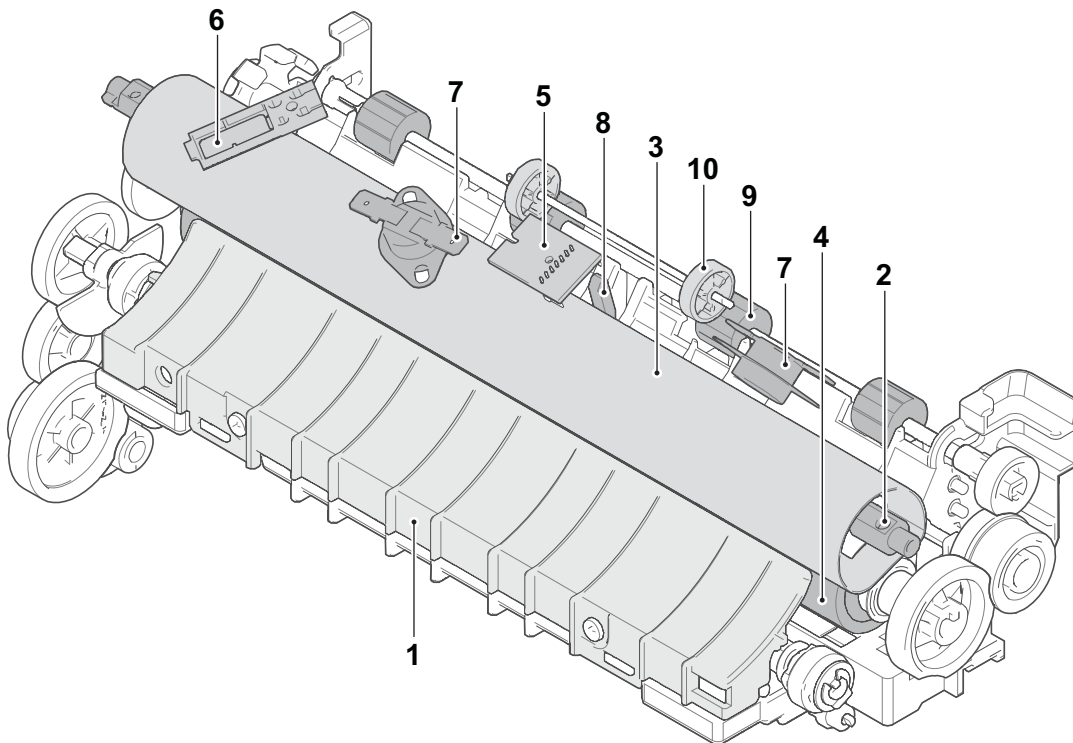
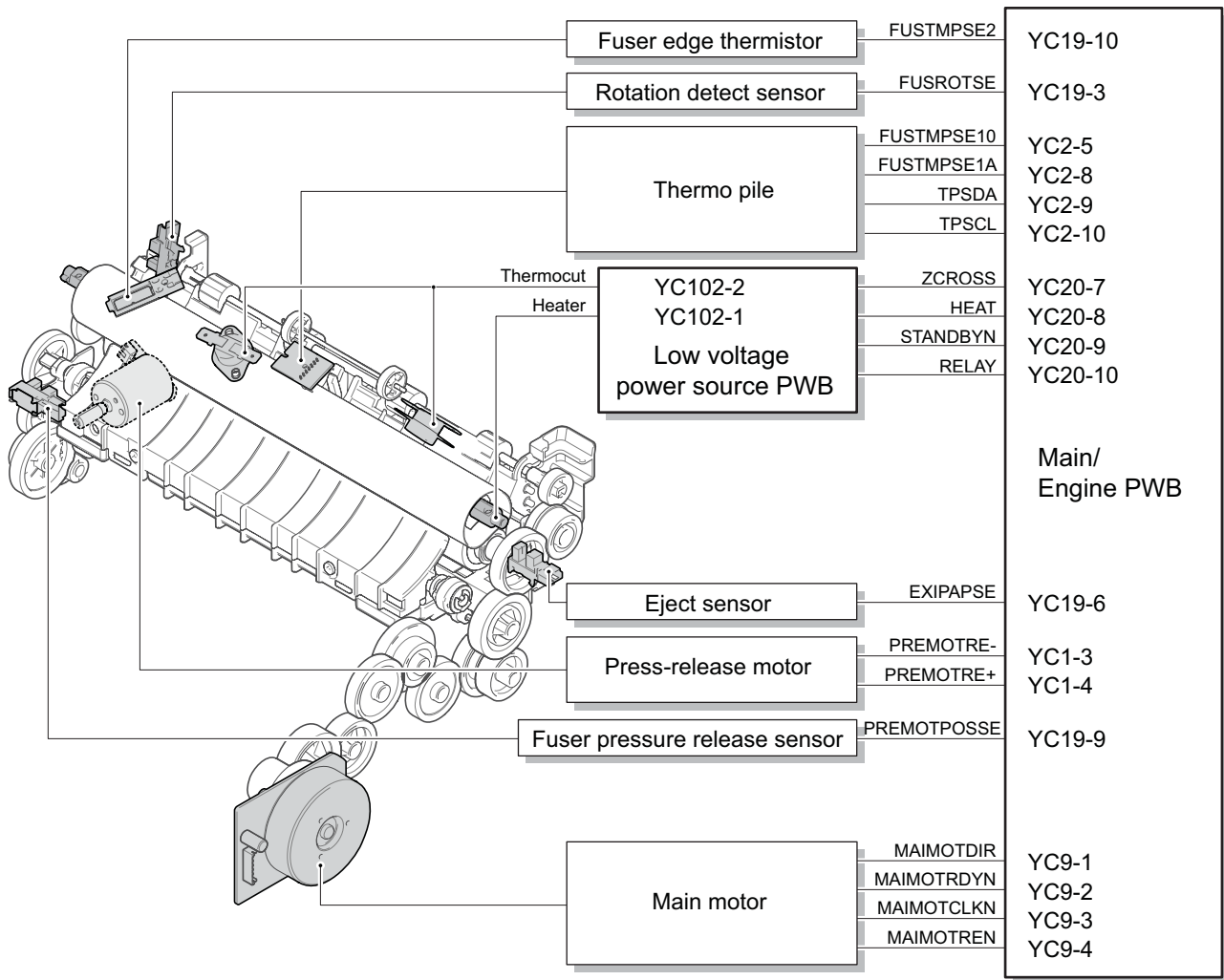


Figure 3-39

Block diagram**Figure 3-40**

(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

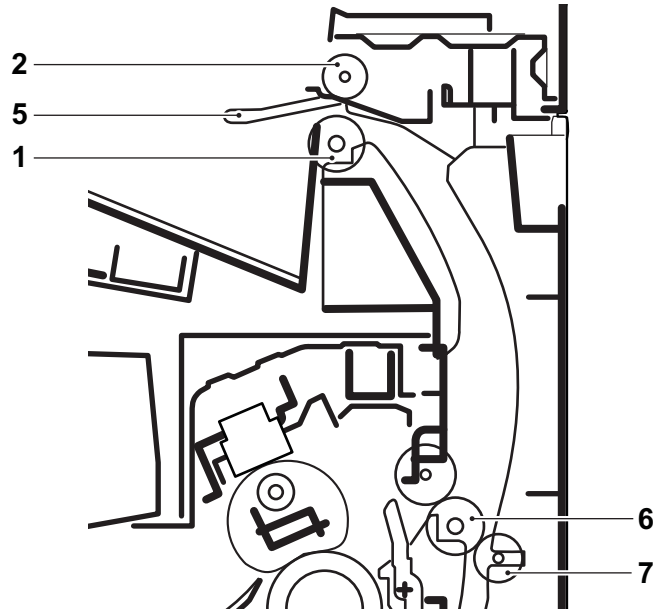


Figure 3-41

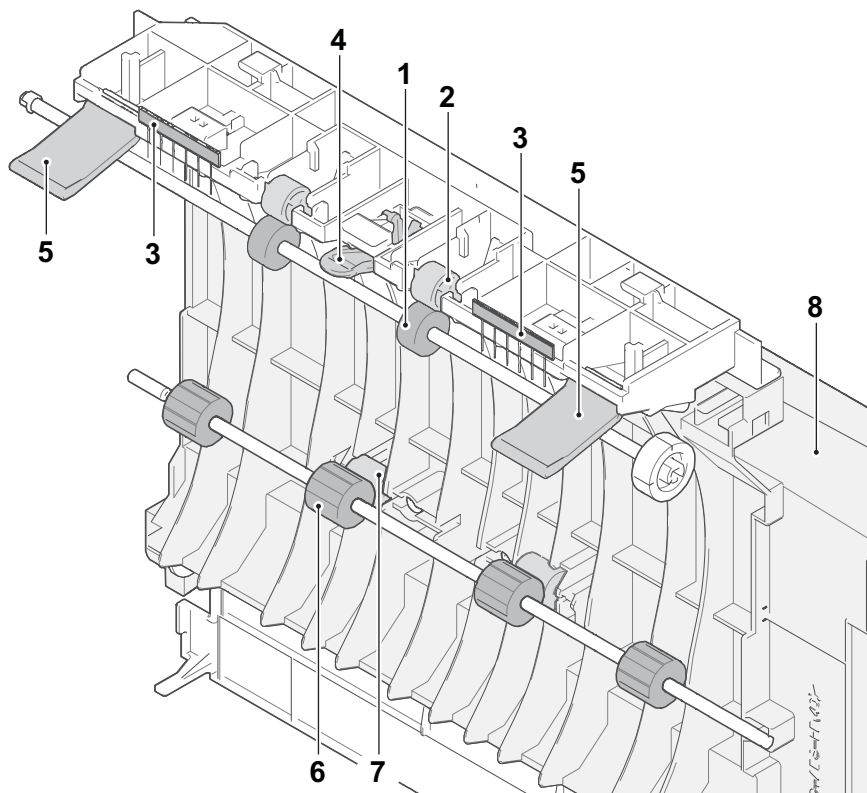


Figure 3-42

Block diagram

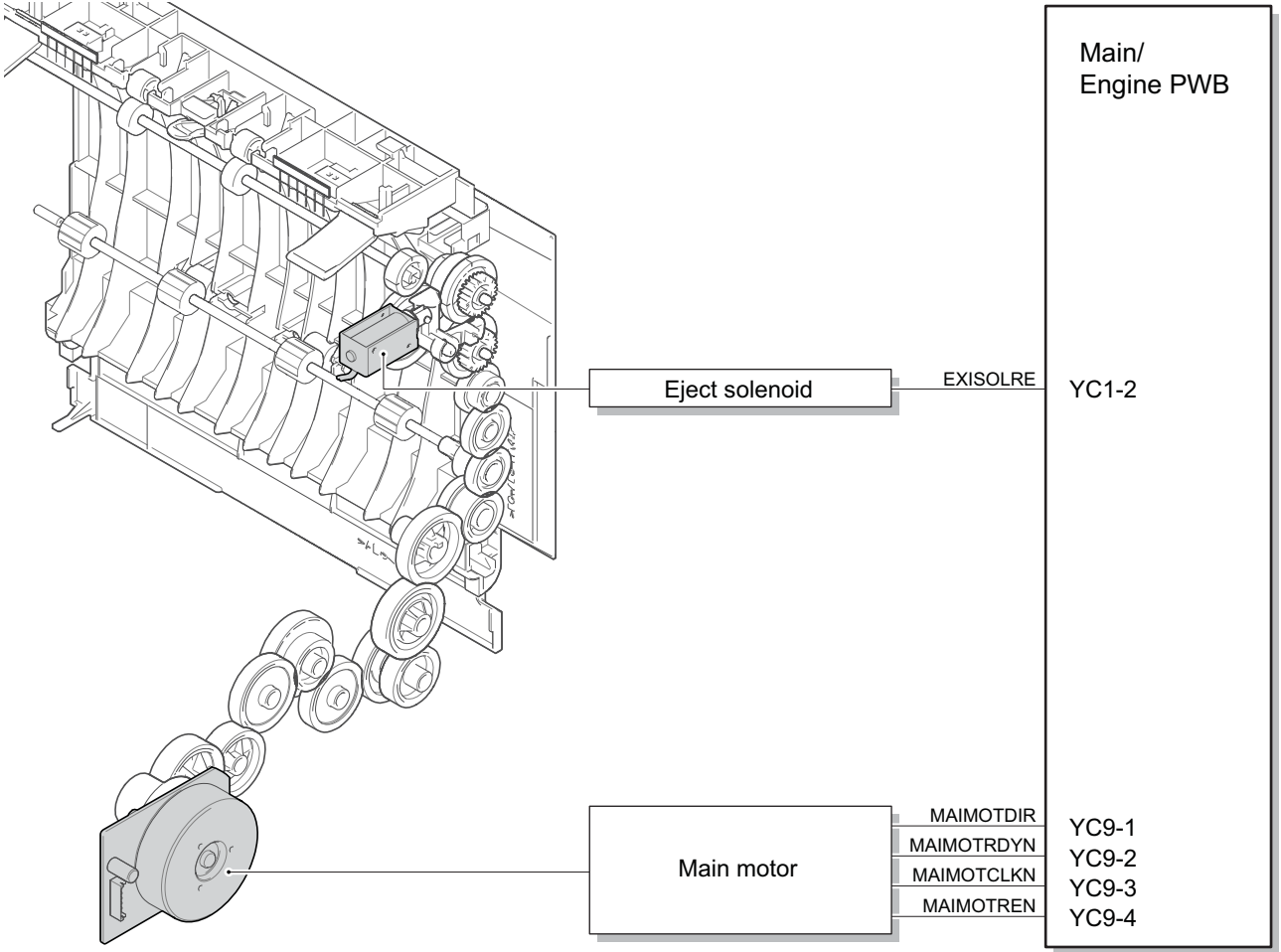


Figure 3-43

(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

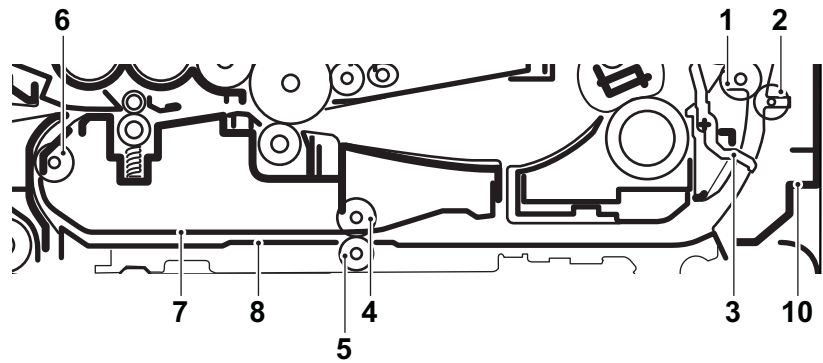


Figure 3-44

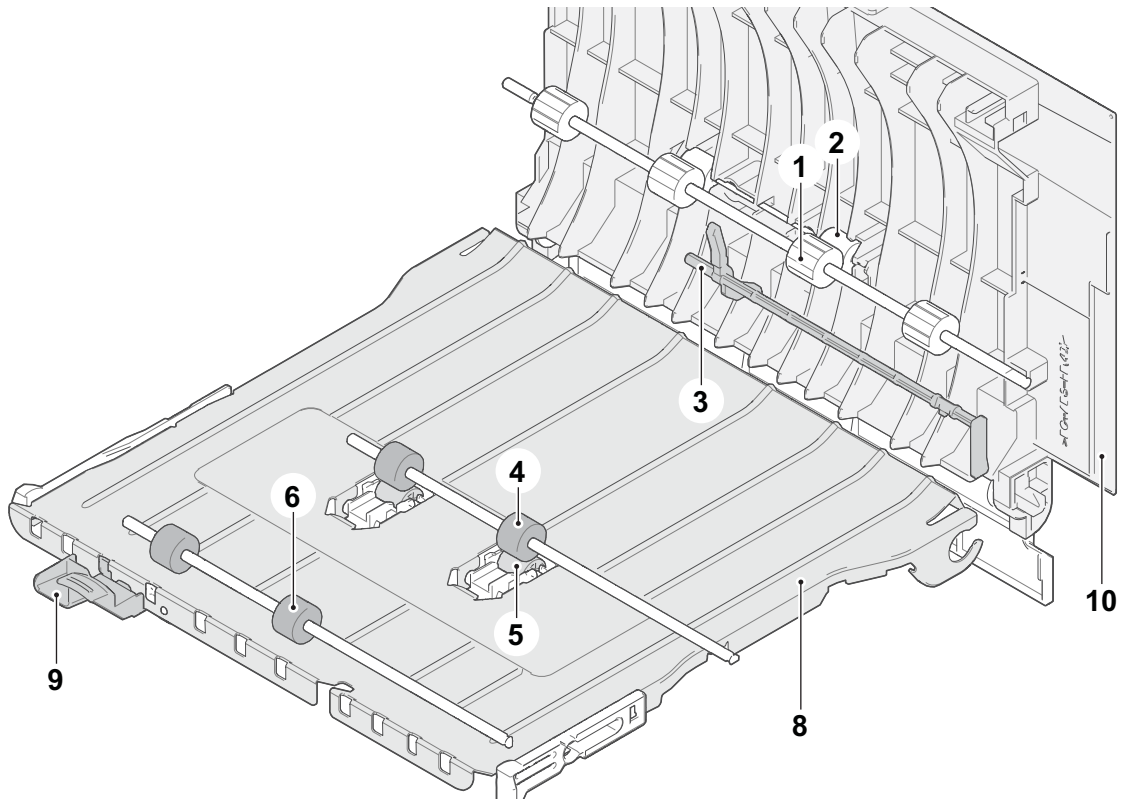


Figure 3-45

Block diagram

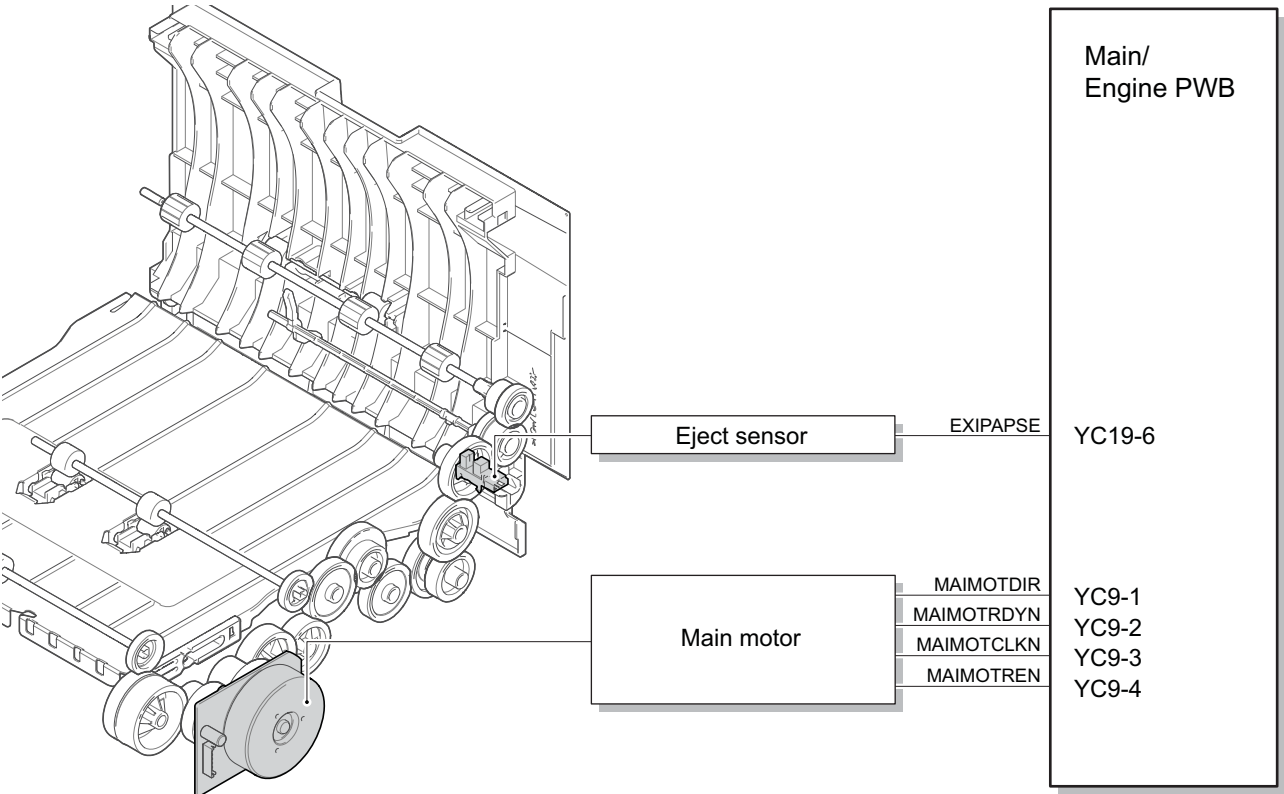


Figure 3-46

(9) Document processor

The original feed section consisting of the parts in the figure, feeds and conveys the original on the original tray to the original conveying section by the rotation of the DP forwarding pulley and DP feed roller.

The 2nd side of the conveyed original is scanned *1 when passing the CIS and the 1st side at the optical section (CIS) in the main unit when passing the DP slit glass. The original already scanned is ejected to the original eject table by the eject roller.

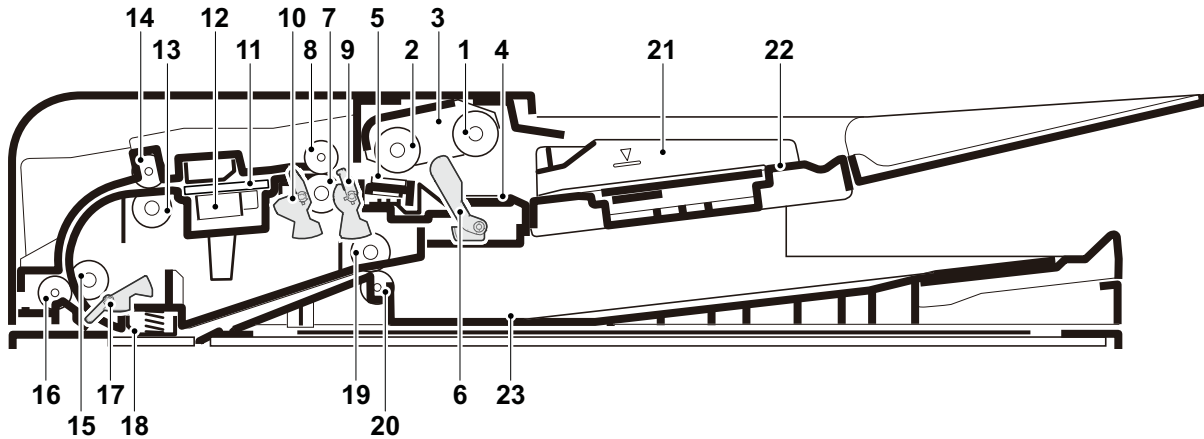


Figure 3-47

Components parts

- | | |
|--|--|
| 1. DP pickup pulley | 13. DP conveying roller A |
| 2. DP feed roller | 14. DP conveying pulley A |
| 3. DP feed folder | 15. DP conveying roller B |
| 4. DP friction pad | 16. DP conveying pulley B |
| 5. DP separation pad | 17. DP actuator (DP paper feed sensor) |
| 6. DP actuator (DP original sensor) | 18. DP scanning guide |
| 7. DP registration roller | 19. DP eject roller |
| 8. DP registration pulley | 20. DP eject pulley |
| 9. DP actuator (DP front side timing sensor) | 21. DP original width guide |
| 10. DP actuator *1 (DP backside timing sensor) | 22. DP original tray |
| 11. DP CIS contact glass | 23. DP eject tray |
| 12. DPCIS *1 | |

*1: 40 ppm model only

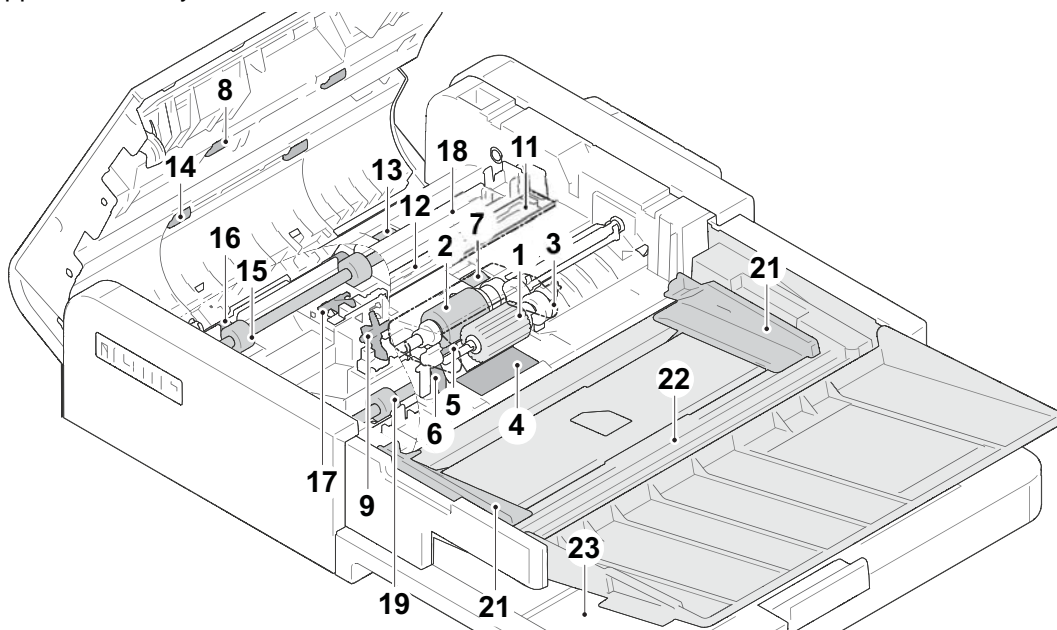
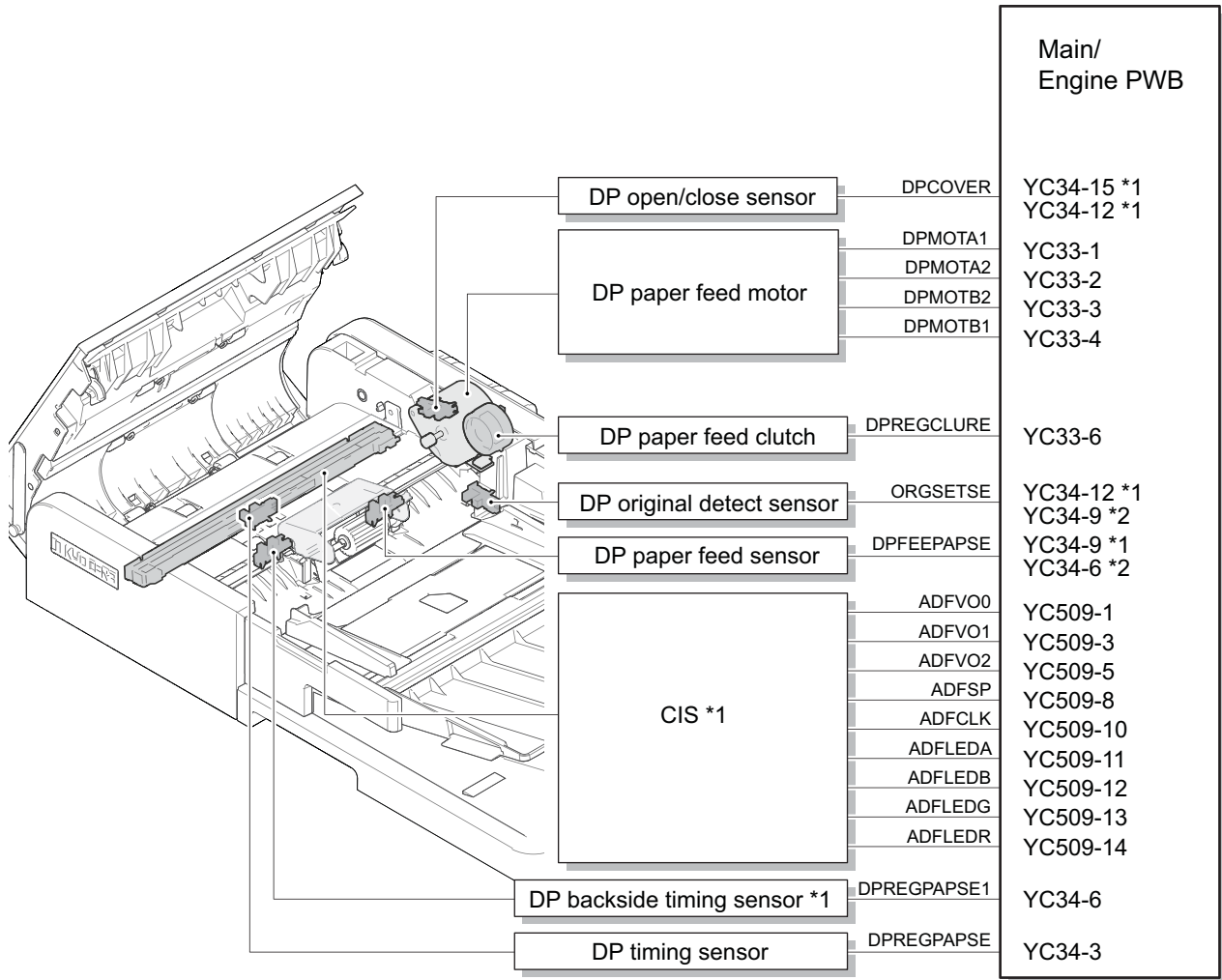


Figure 3-48

Block diagram

*1: 40 ppm model only, *2: 35 ppm model only

Figure 3-49

(10) 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)

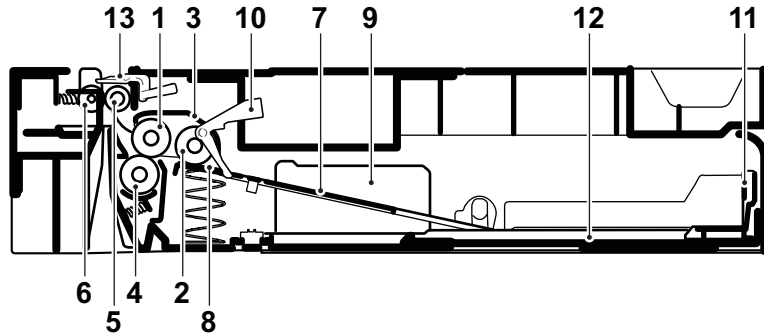


Figure 3-50

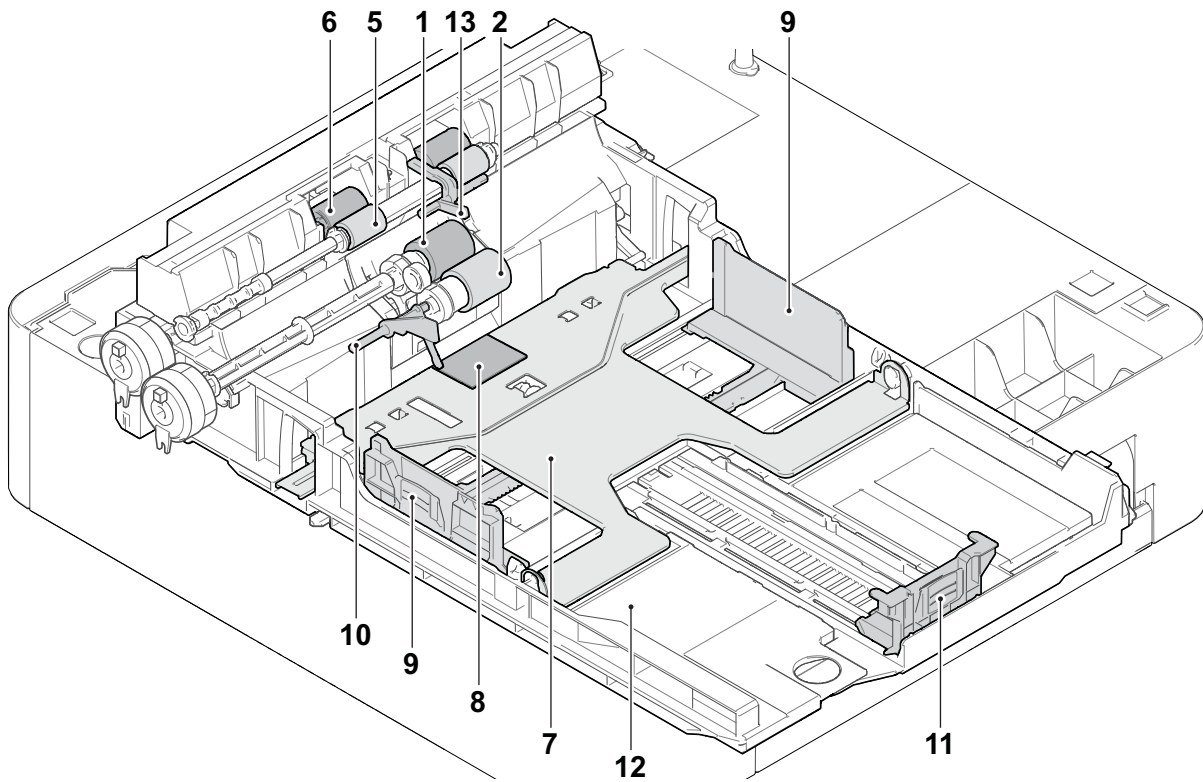
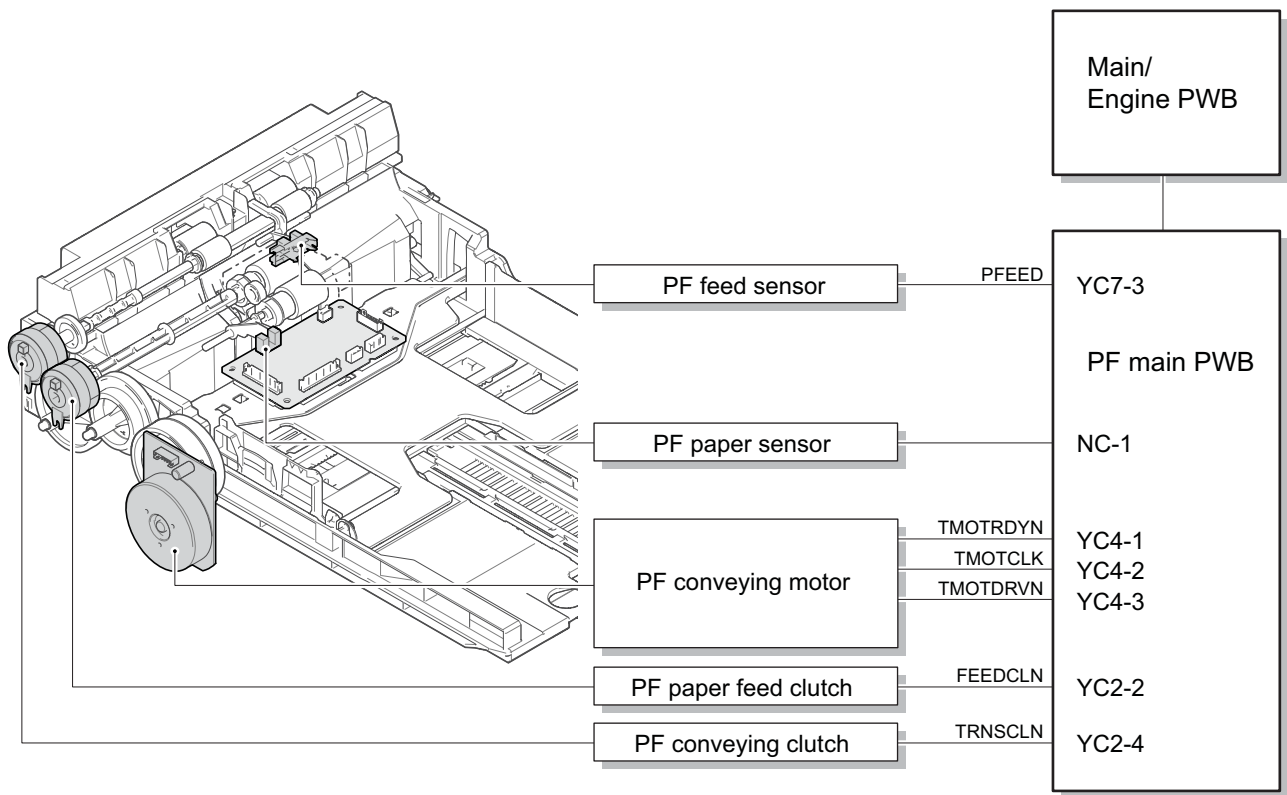


Figure 3-51

Block diagram**Figure 3-52**

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.

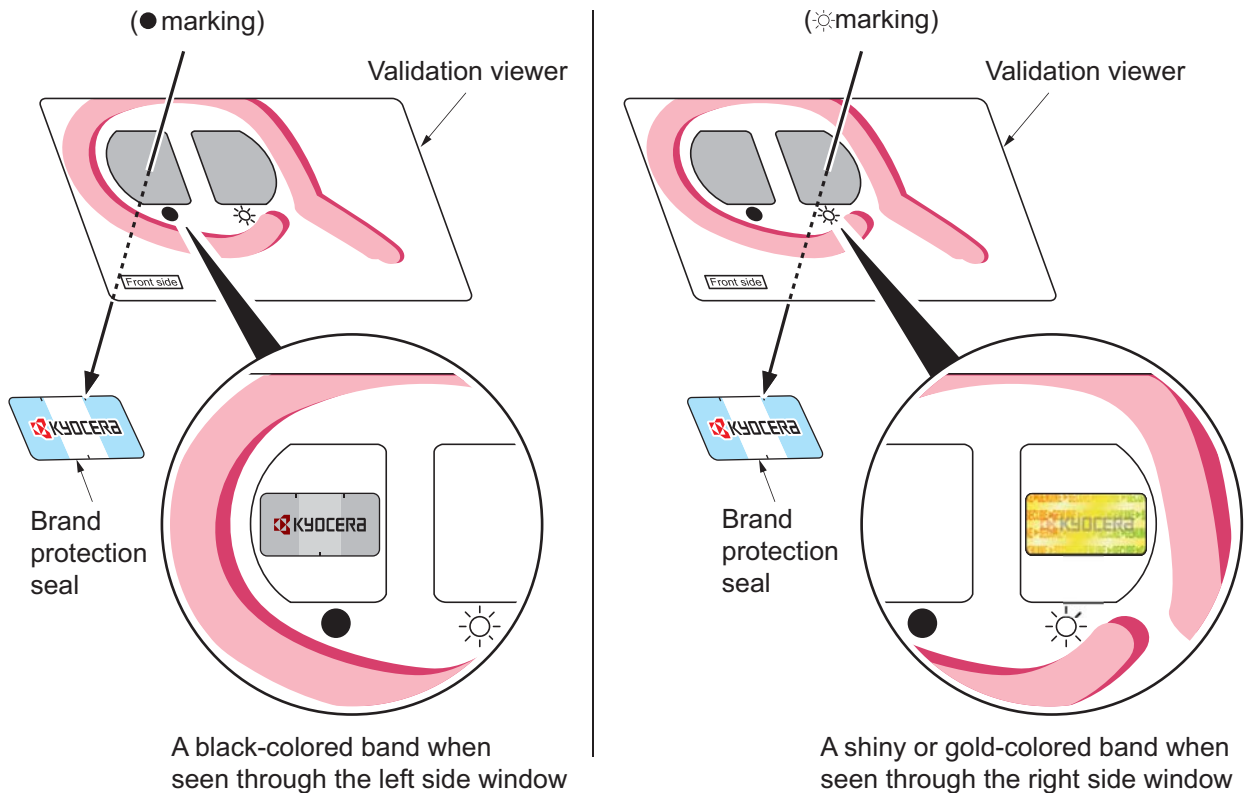


Figure 4-1

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

Three cut parts at the red circle section

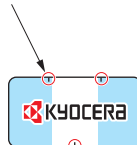


Figure 4-2

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-1150/MAINTENANCE KIT	1702RV0NL0
MK-1151	MK-1151/MAINTENANCE KIT	1702RV0JP0
MK-1152	MK-1152/MAINTENANCE KIT	1702RV0US0
MK-1154	MK-1154/MAINTENANCE KIT	1702RV0AS0
(100,000 image)	DRUM UNIT	
	Developer unit	

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

Execute the following maintenance modes after replacing the above maintenance kit.

Section	No.	Maintenance mode
Replacing settings	U130	Developer powder initial setting *1
Maintenance	U251	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	PULLEY PICKUP ASSY	302HN0608_
Paper feed roller	PULLEY FEED ASSY	302F90623_
(Paper feed roller assembly)	(PARTS HOLDER FEED ASSY SP)	(302RV9407_)
MP paper feed roller	ROLLER M/P ASSY	302HS0826_
CONTACT GLASS	PARTS ISU TOP SP	-
Slit glass	PARTS ISU TOP SP	302S01713_
(ISU upper frame(A4))	(PARTS FRAME ISU TOP A ASSY SP)	(302S09403_)
(ISU upper frame(Legal))	(PARTS FRAME ISU TOP L ASSY SP)	(302S39401_)

(4) Periodic maintenance Procedures

Check the maintenance counts by the maintenance mode U901.

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 flammable 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.
6	CONTACT GLASS CONTACT-GLASS DP	--- 302S017130		CL CL	CL CL	Dry cloth wiping or Alcohol cleaning.

4-3 Maintenance 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.

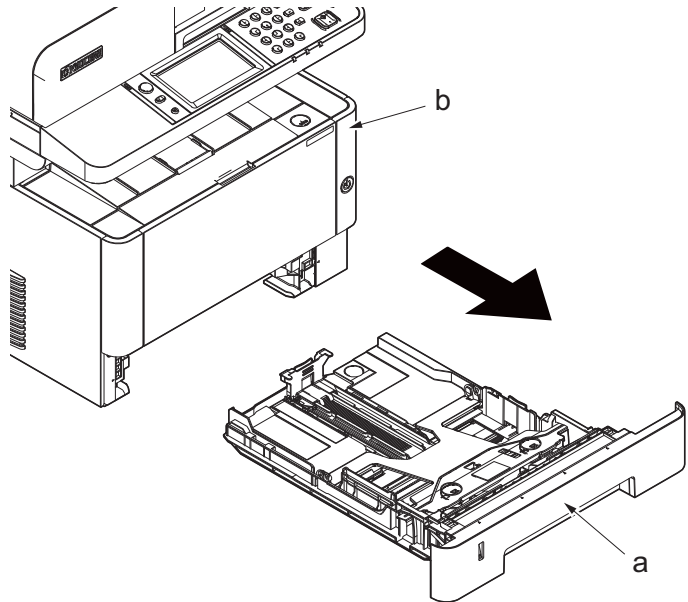


Figure 4-1

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.

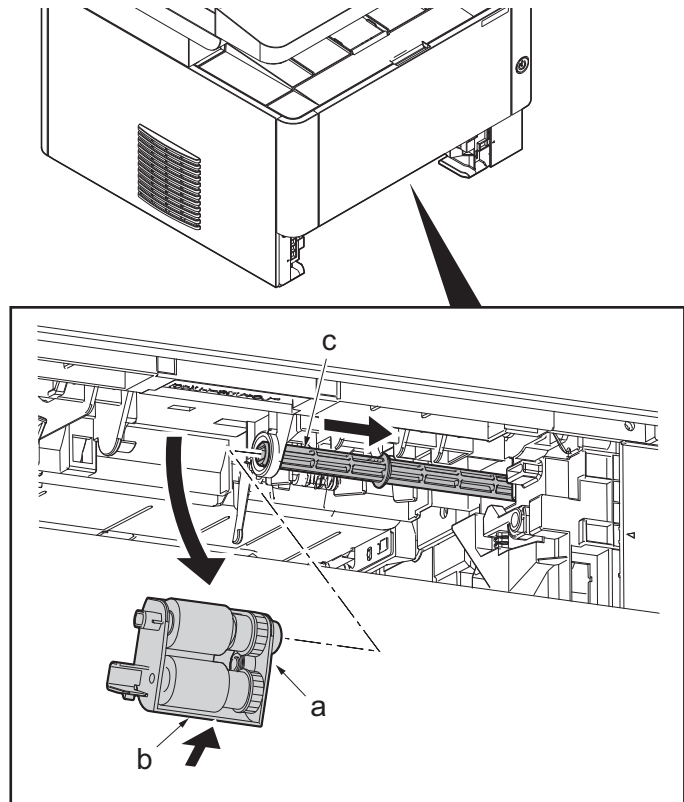


Figure 4-2

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.

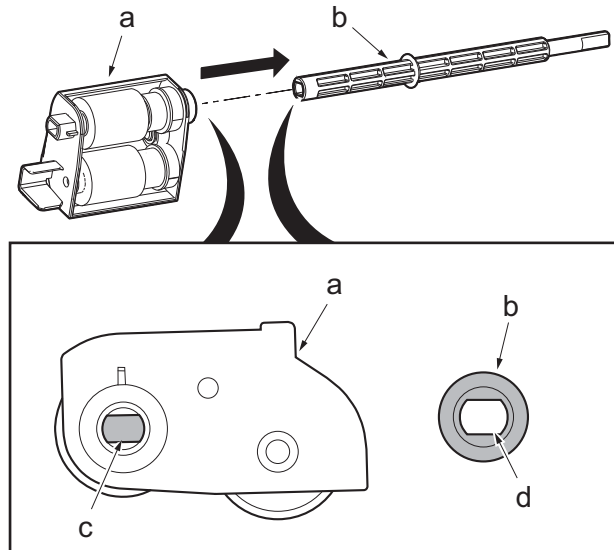


Figure 4-3

(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).

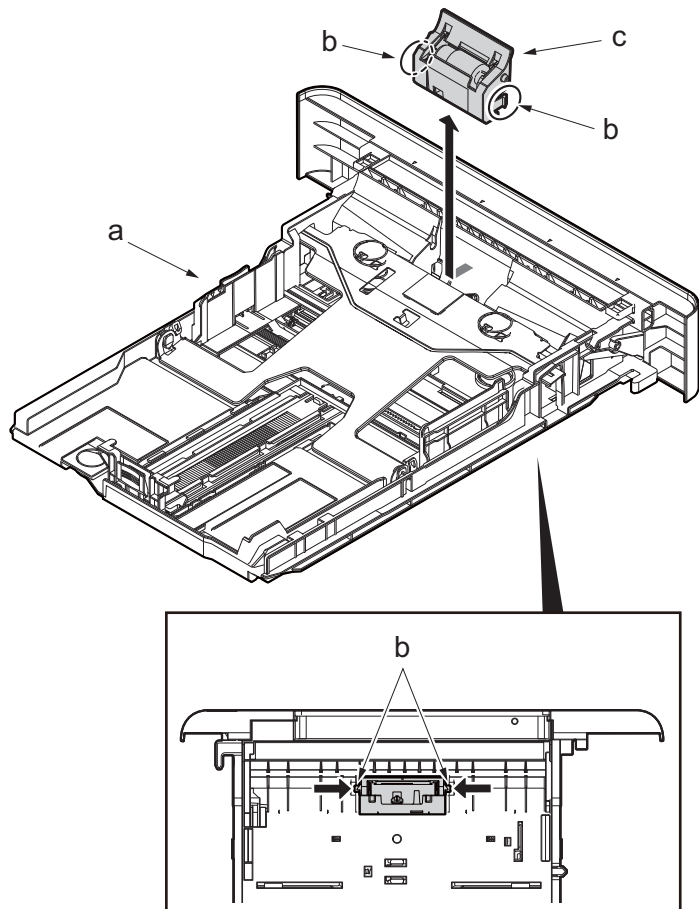


Figure 4-4

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

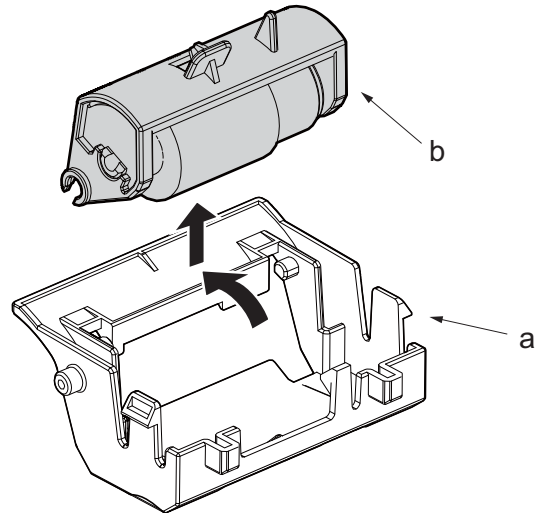


Figure 4-5

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.

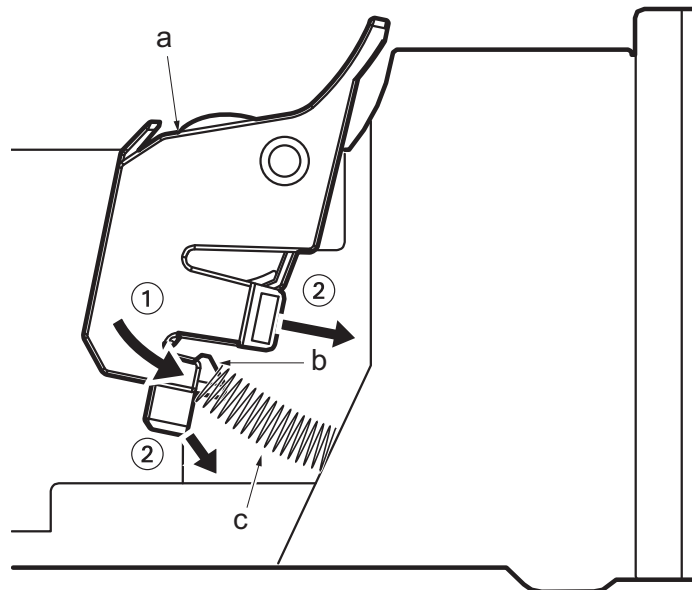


Figure 4-6

(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).

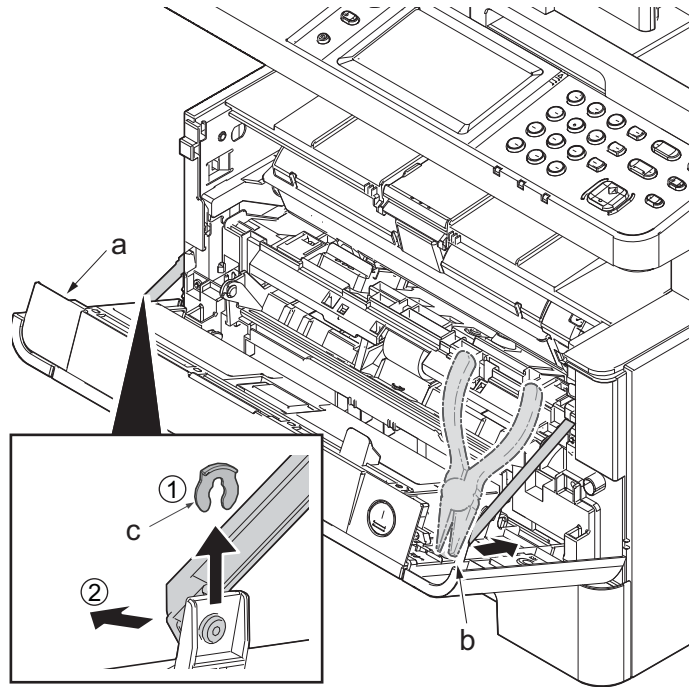


Figure 4-7

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).

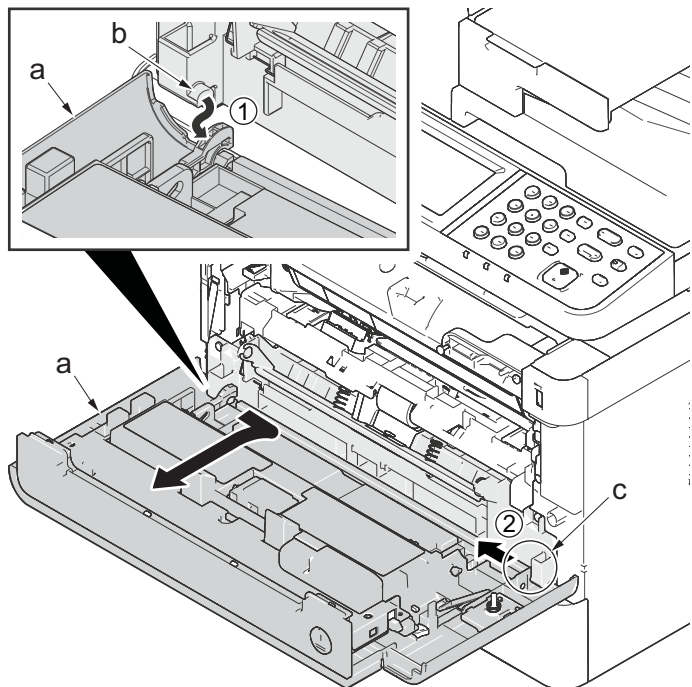


Figure 4-8

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

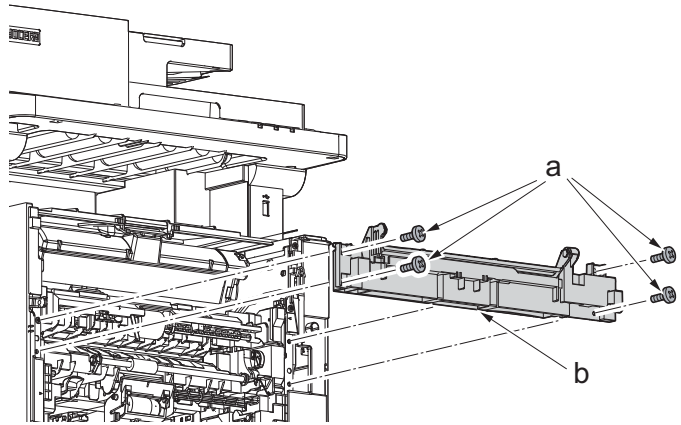


Figure 4-9

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.

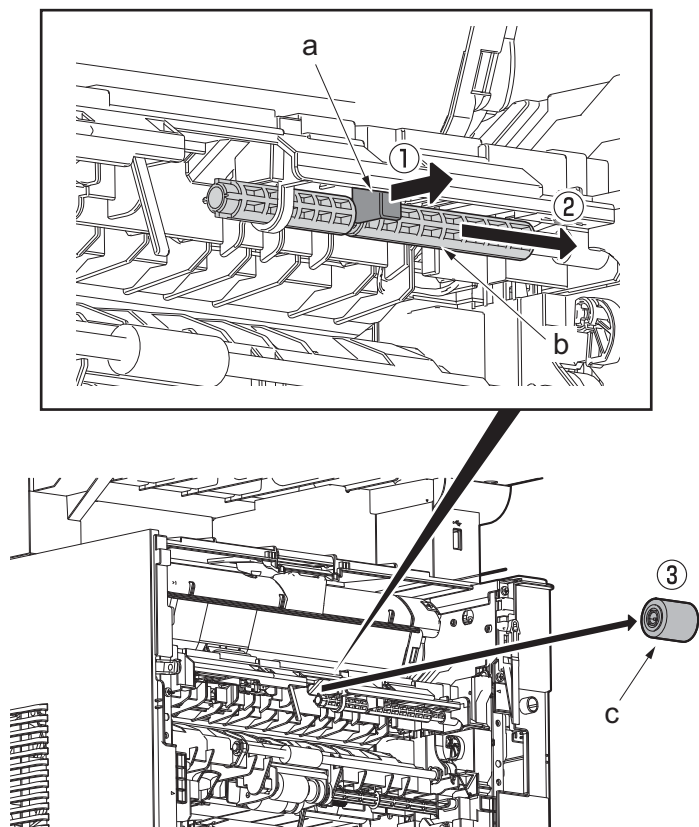


Figure 4-10

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

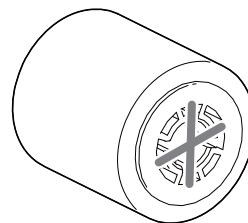


Figure 4-11

(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).

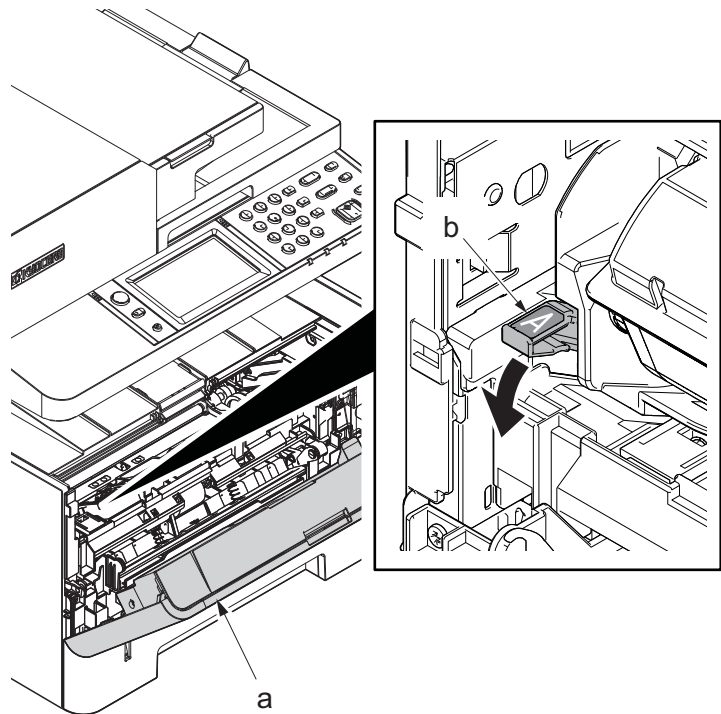


Figure 4-12

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.

Execute the following maintenance mode when replacing with the new developer unit.

U130 Developer powder initial setting
U158 Clear the developer counter

Attention:

Execute the following maintenance modes when replacing the maintenance kit.

U130 Developer powder initial setting
U251 Clear the maintenance counter

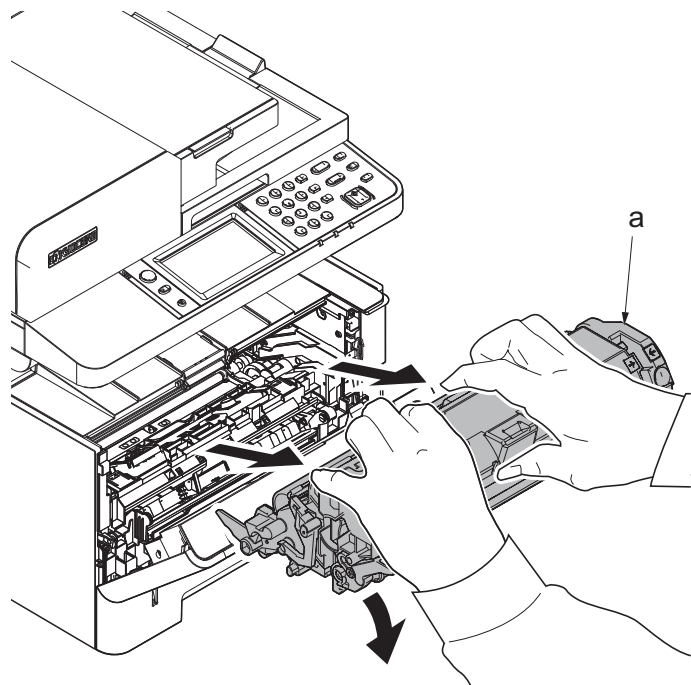


Figure 4-13

(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).

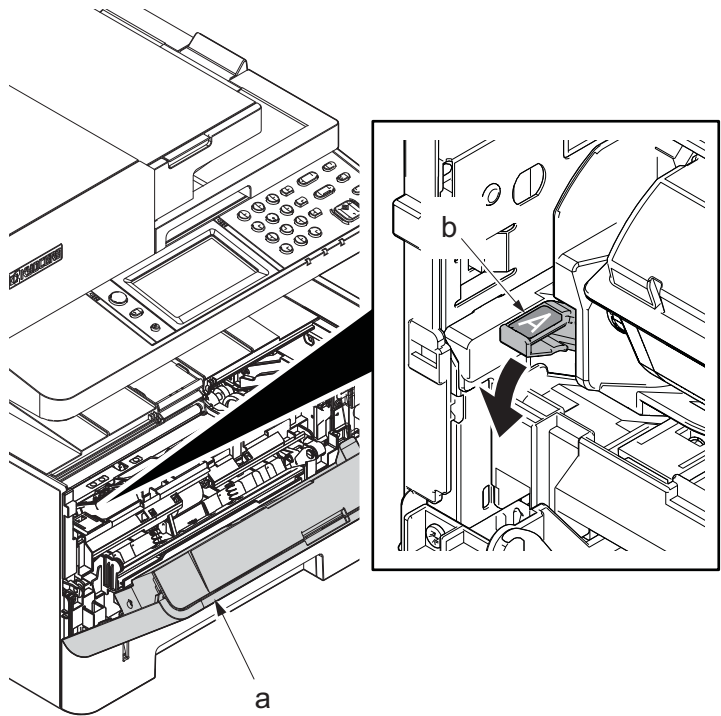


Figure 4-14

3. Detach the developer unit (a).

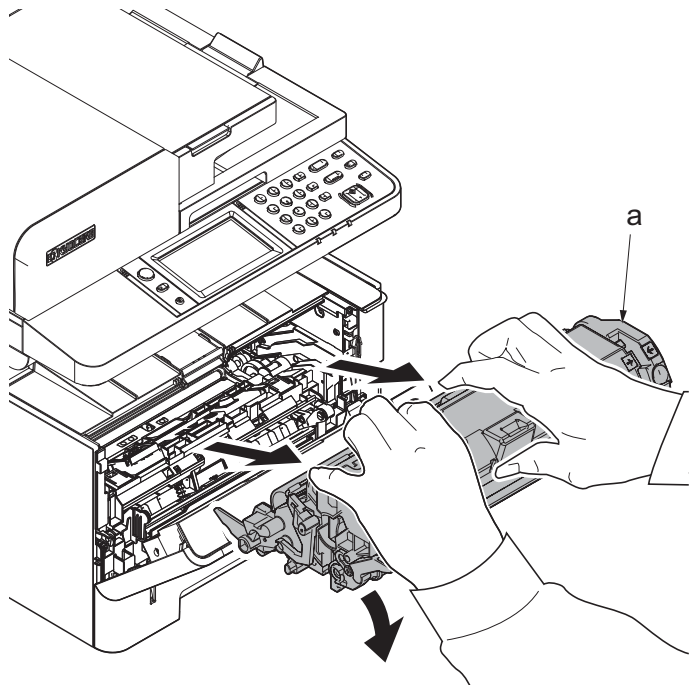


Figure 4-15

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.

When replacing with the new drum unit, execute the following maintenance mode.

U110 Clear the drum counter

U120?Clear the drum drive distance counter

Attention:

Execute the following maintenance modes when replacing the maintenance kit.

U251 Clear the maintenance counter

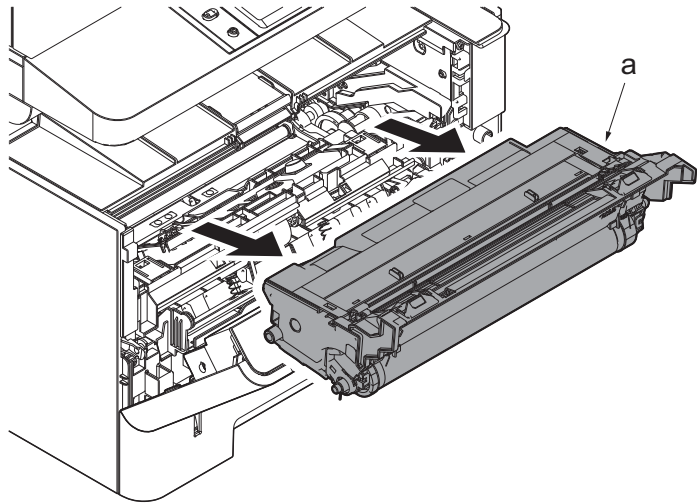


Figure 4-16

(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)

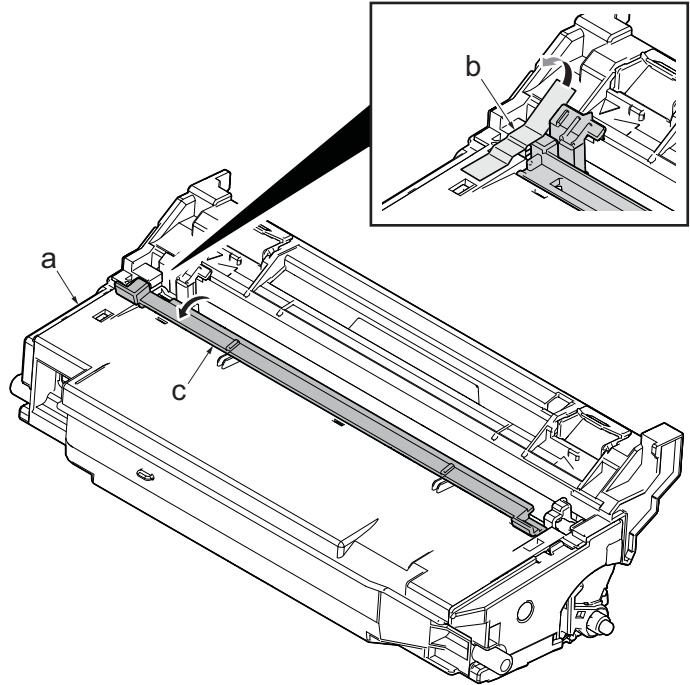


Figure 4-17

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

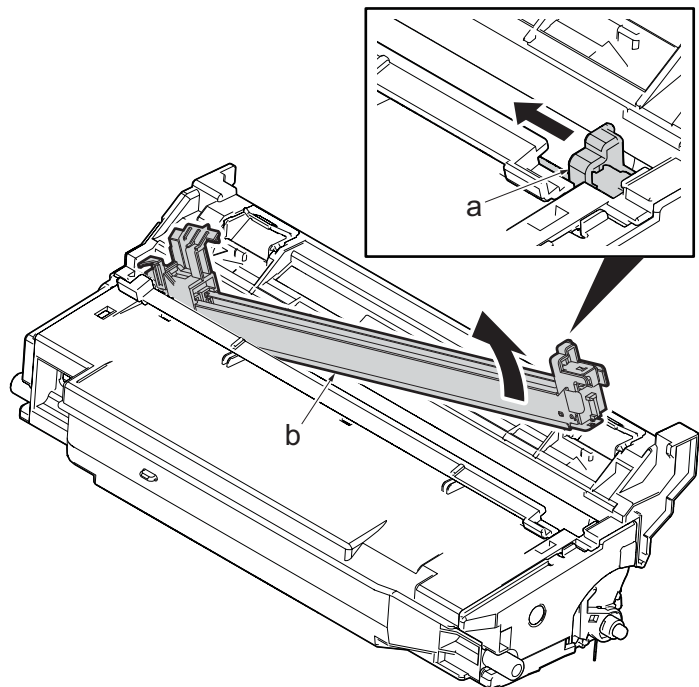


Figure 4-18

(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).

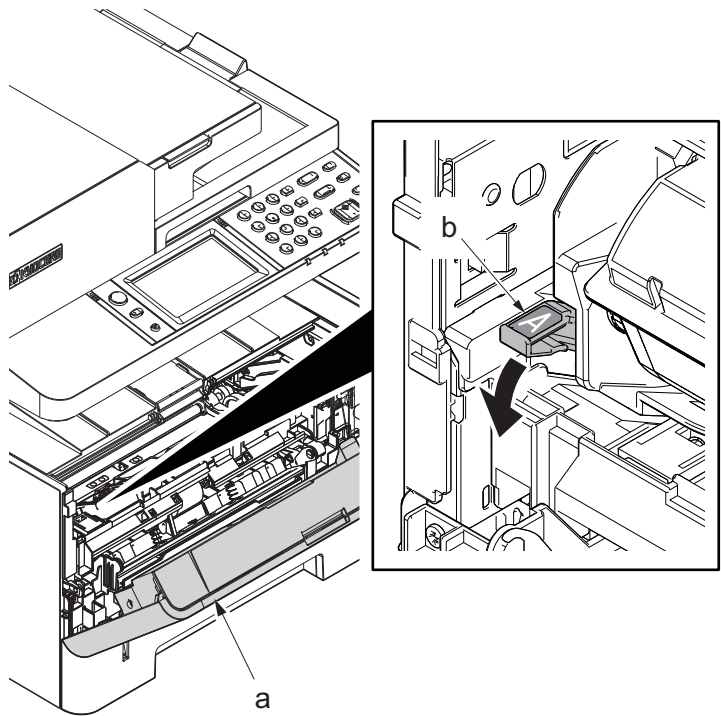


Figure 4-19

3. Detach the developer unit (a).

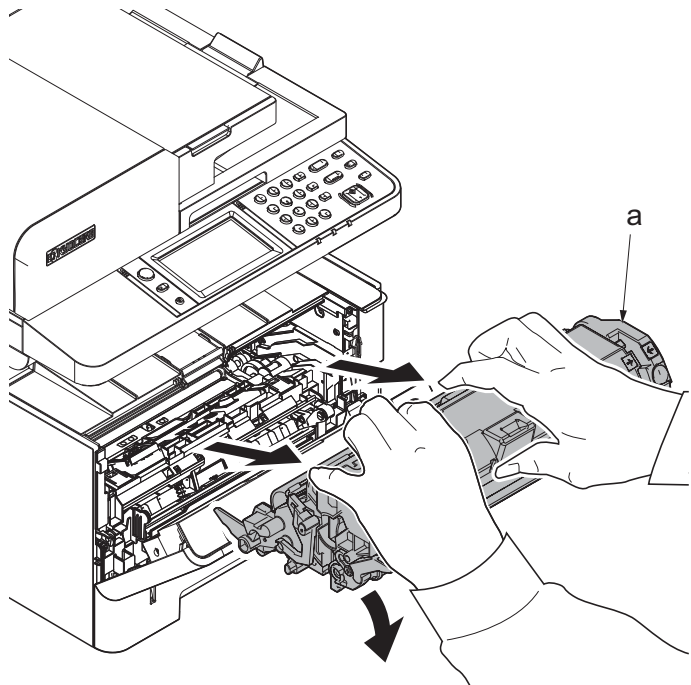


Figure 4-20

4. Detach the drum unit (b).

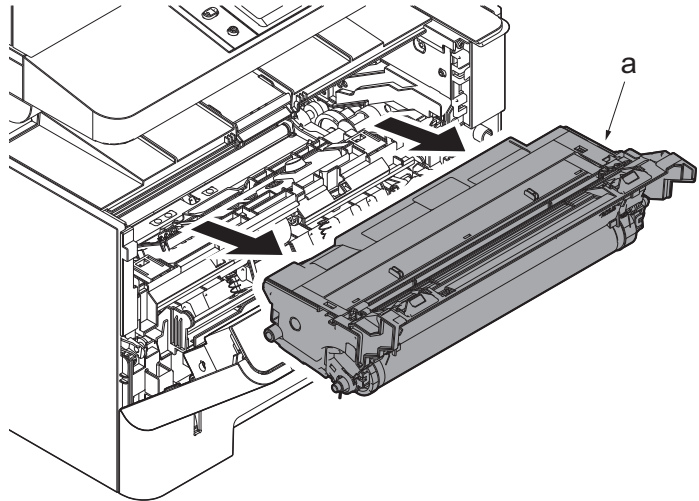


Figure 4-21

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).

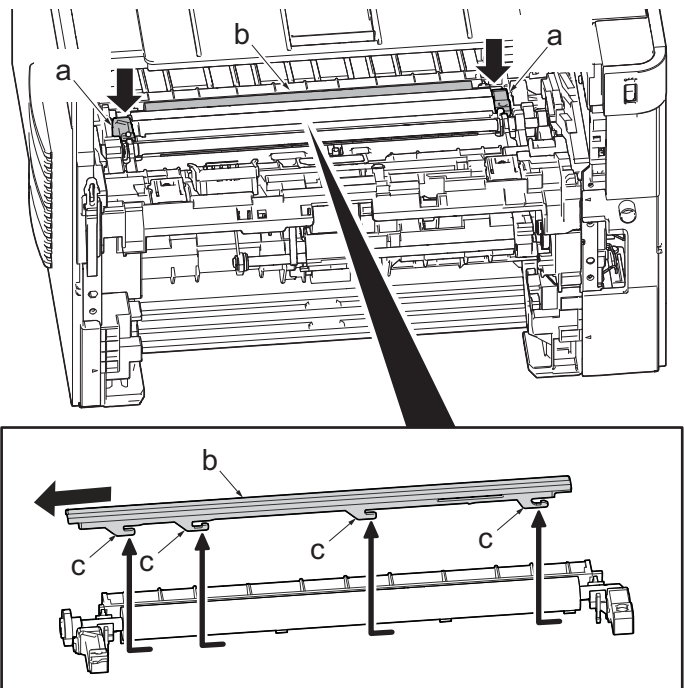
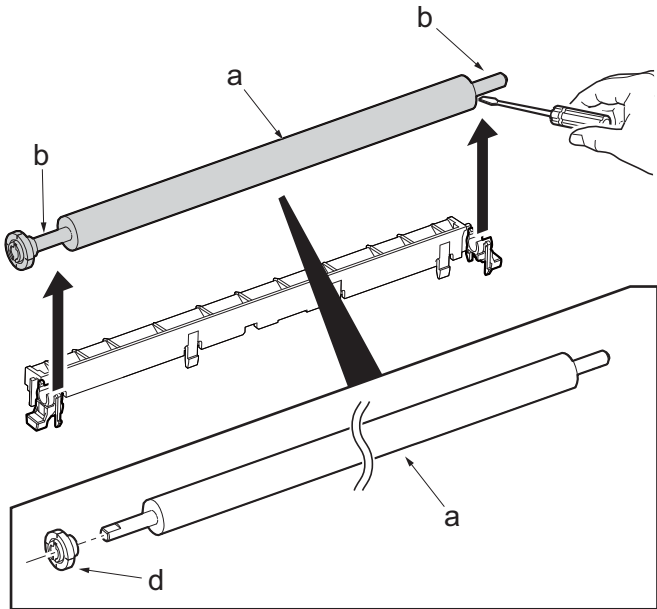


Figure 4-22

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.

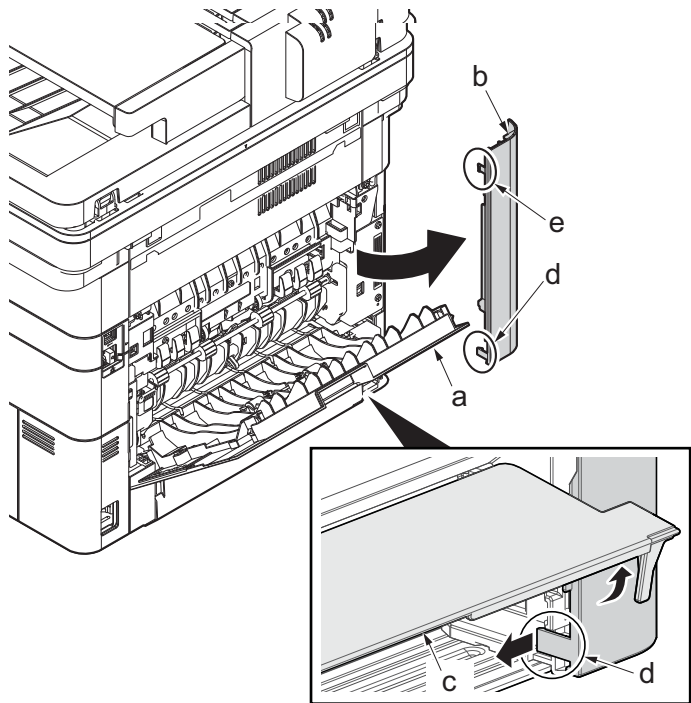


Figure 4-24

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.

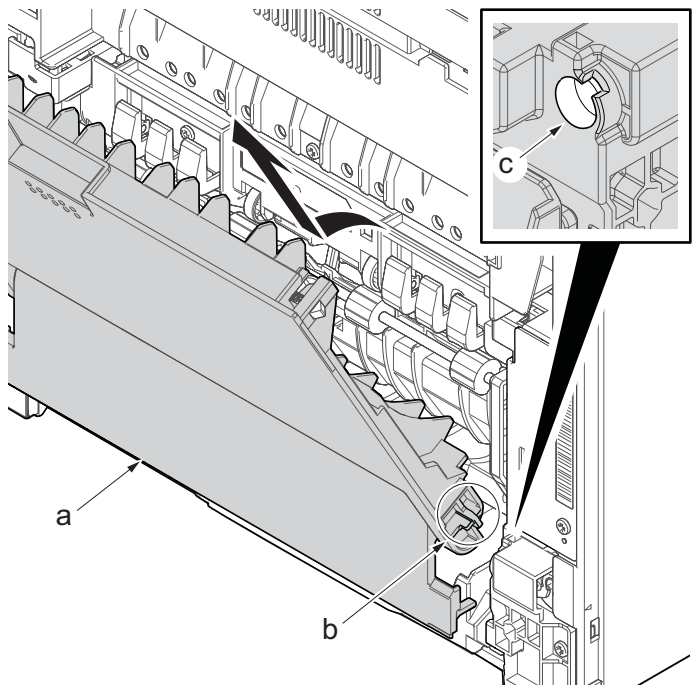


Figure 4-25

6. After twisting the DIMM cover(a), remove it while sliding it

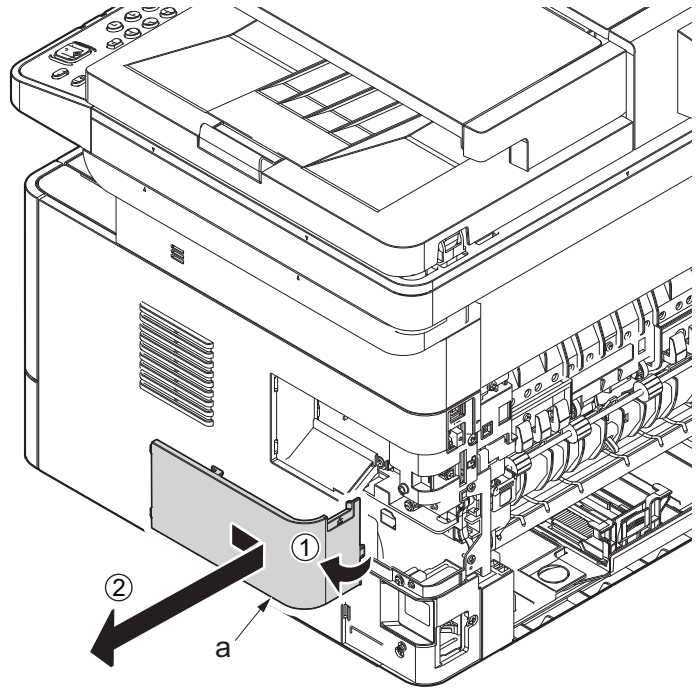


Figure 4-26

7. Twist the right rear cover(a) and detach it while sliding it.

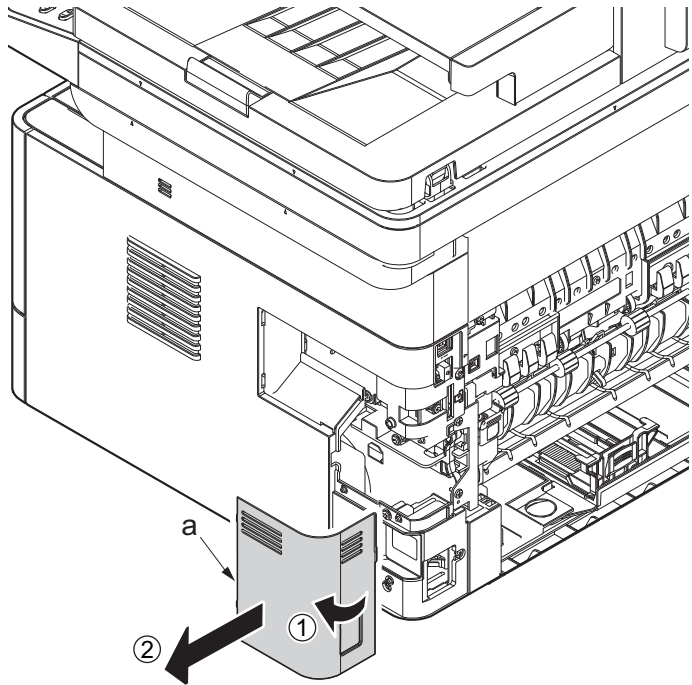


Figure 4-27

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

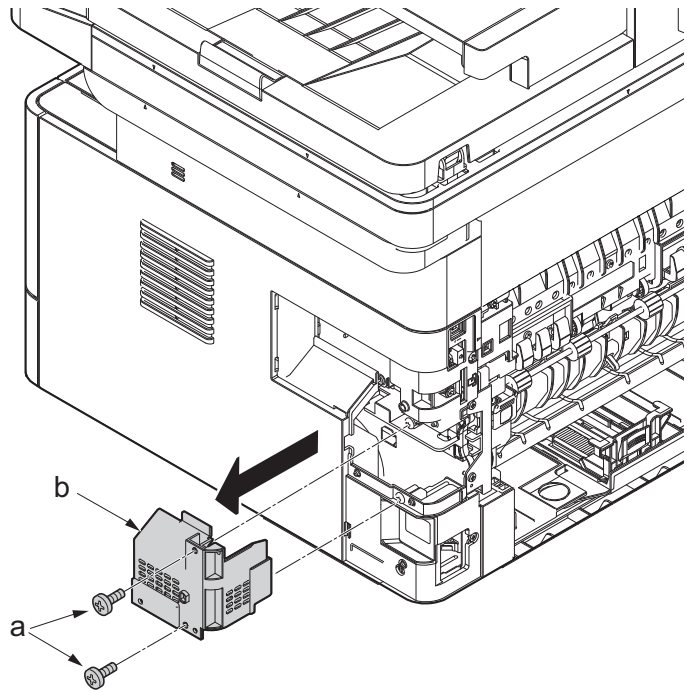


Figure 4-28

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

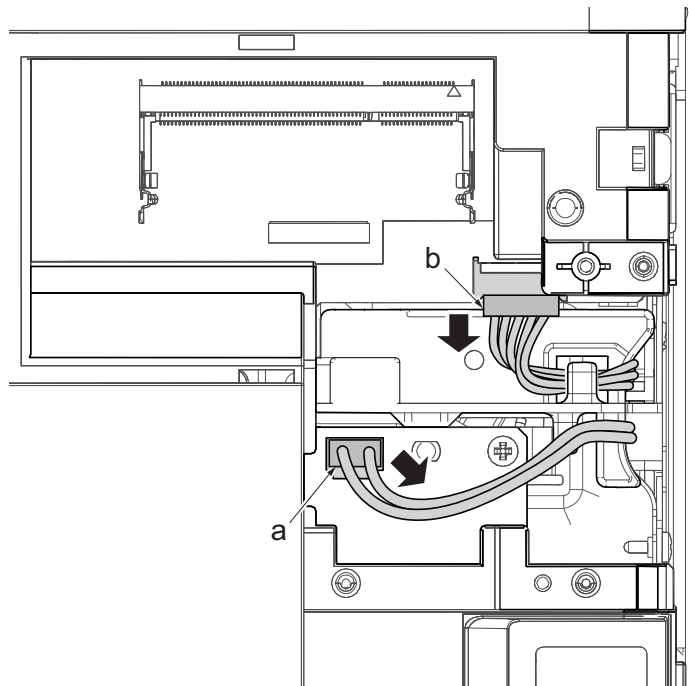


Figure 4-29

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

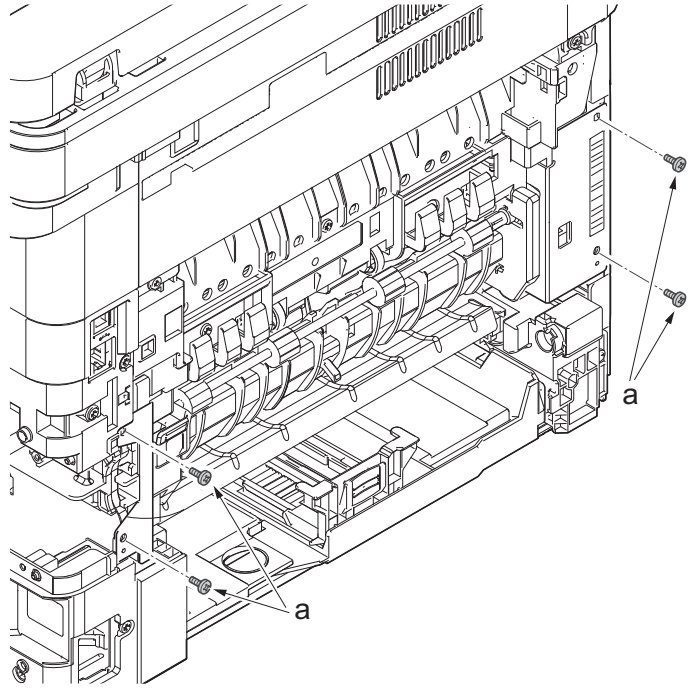


Figure 4-30

12. Pull out the fuser unit (a) while holding the both ends of it.
13. 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.

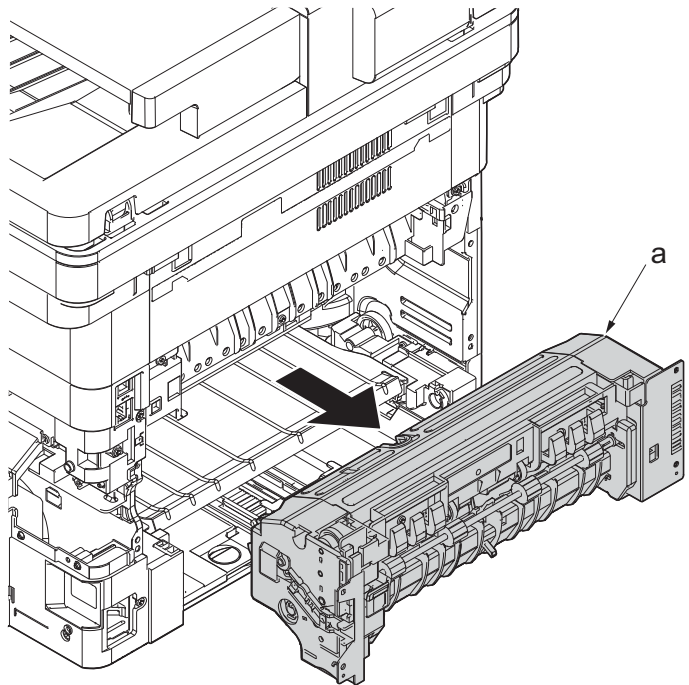


Figure 4-31

4-4 Disassembly 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.

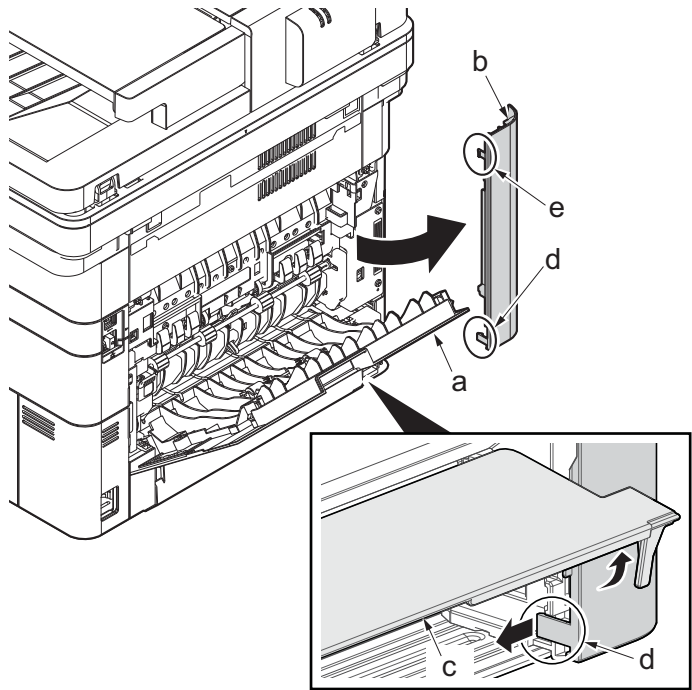


Figure 4-32

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

Procedures

1. Remove the screw (M3×10TP) (b).
2. Detach ISU rear cover (a) by holding the lower left portion of it.

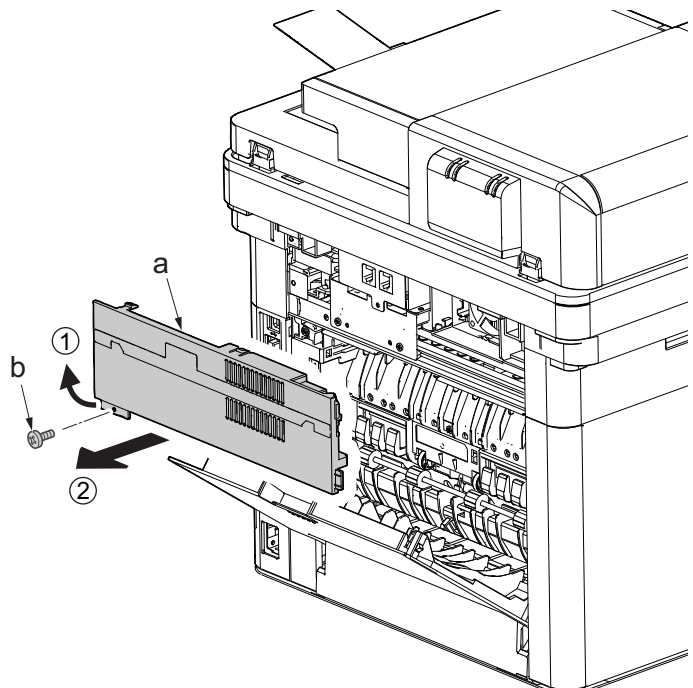


Figure 4-33

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

Procedures

1. Remove the screw(M3×10TP)(b).
2. While twisting the ISU left cover (a), release two hooks (c) in the direction of the arrow.
3. Release the protrusion (d) of the ISU left cover (a) in the direction of the arrow and detach it.

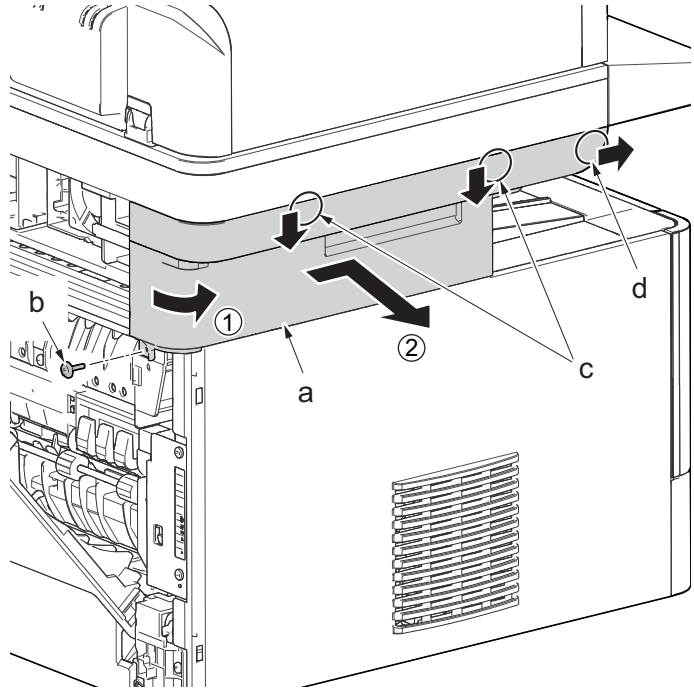


Figure 4-34

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

Procedures

1. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
2. Release the protrusion (c) of ISU left cover (a) in the direction of the arrow and detach it.

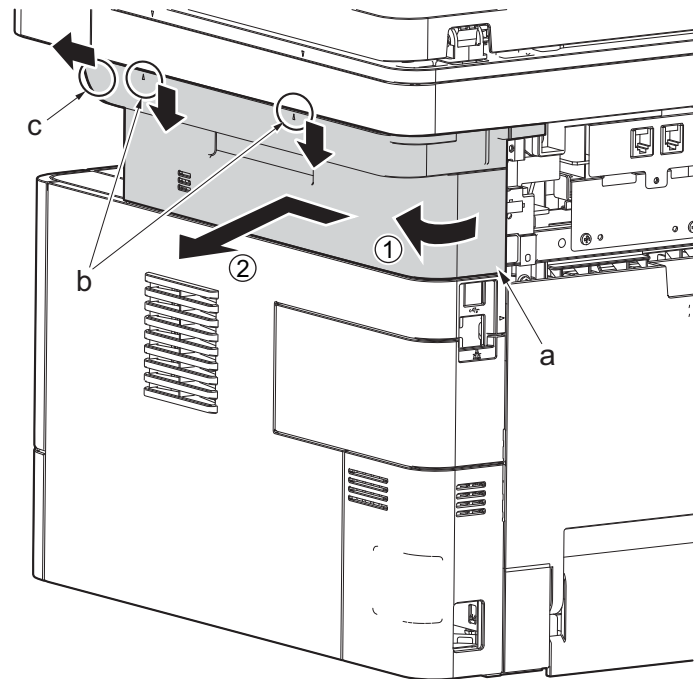


Figure 4-35

(1-5) Detaching and reattaching the left cover

Procedures

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

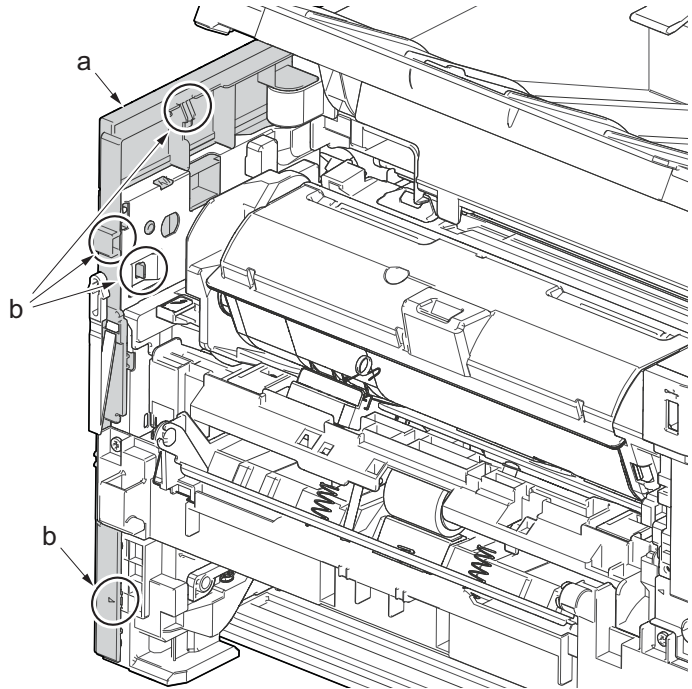


Figure 4-36

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.

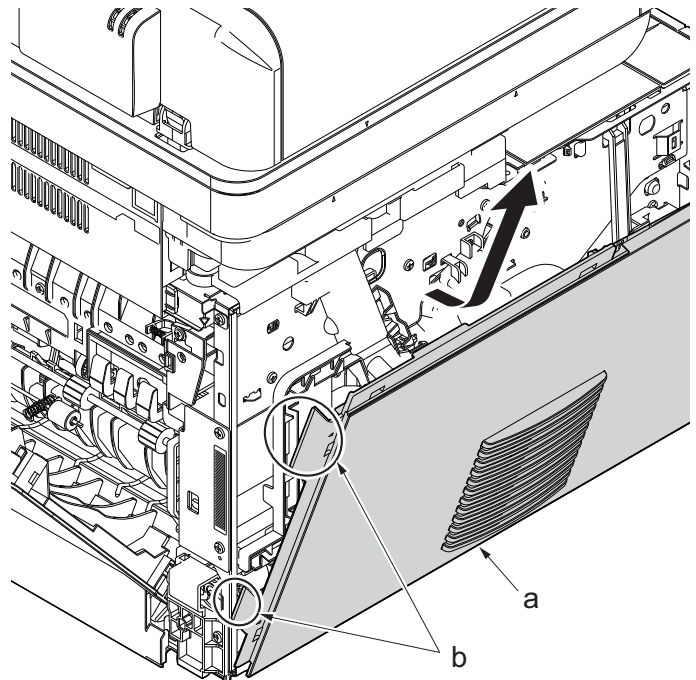
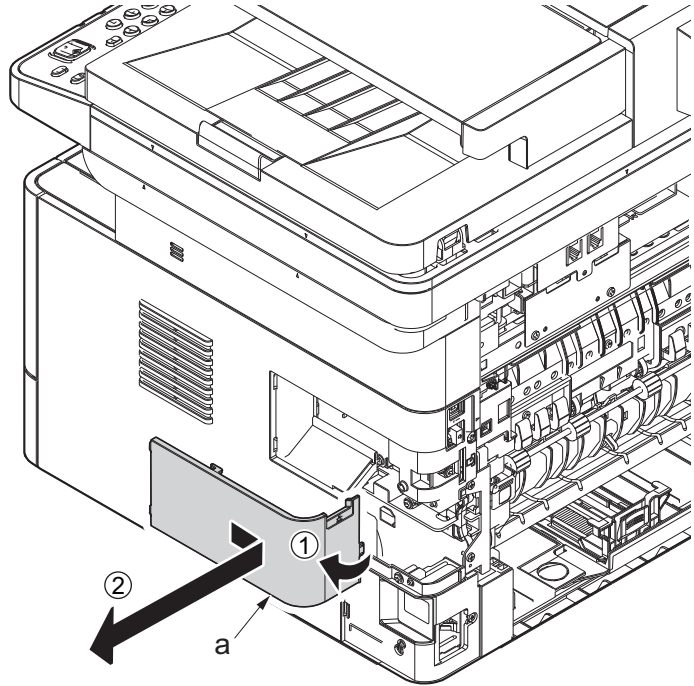


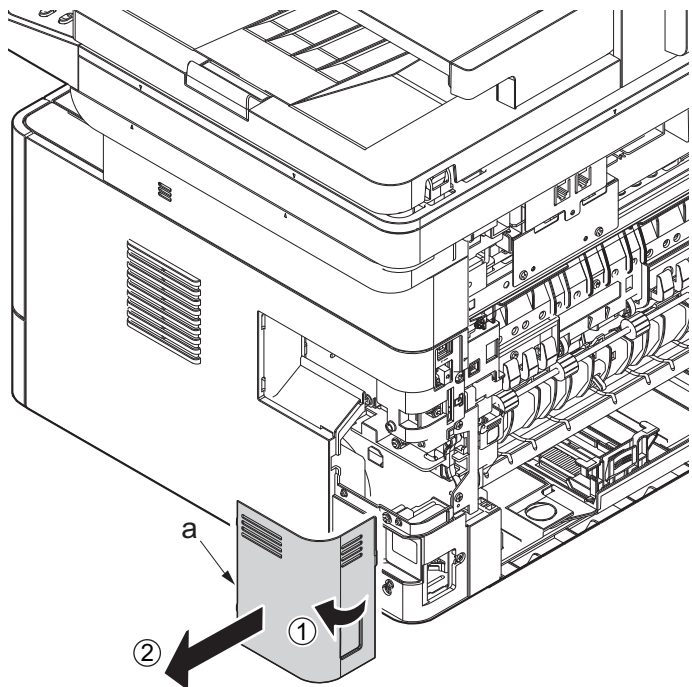
Figure 4-37

(1-6) Detaching and reattaching the right cover**Procedures**

1. After twisting the DIMM cover(a), remove it while sliding it

**Figure 4-38**

2. Twist the right rear cover(a) and detach it while sliding it.

**Figure 4-39**

3. Detach two hooks(b) at the front side of the right cover (a).

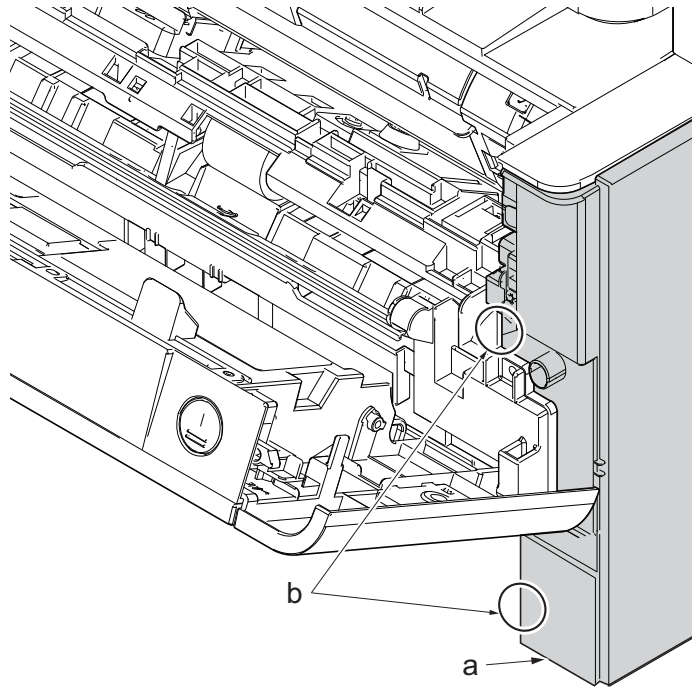


Figure 4-40

4. Release three hooks (b) at the rear side of the right cover (a).
5. Tilt the right cover (a) and detach it.

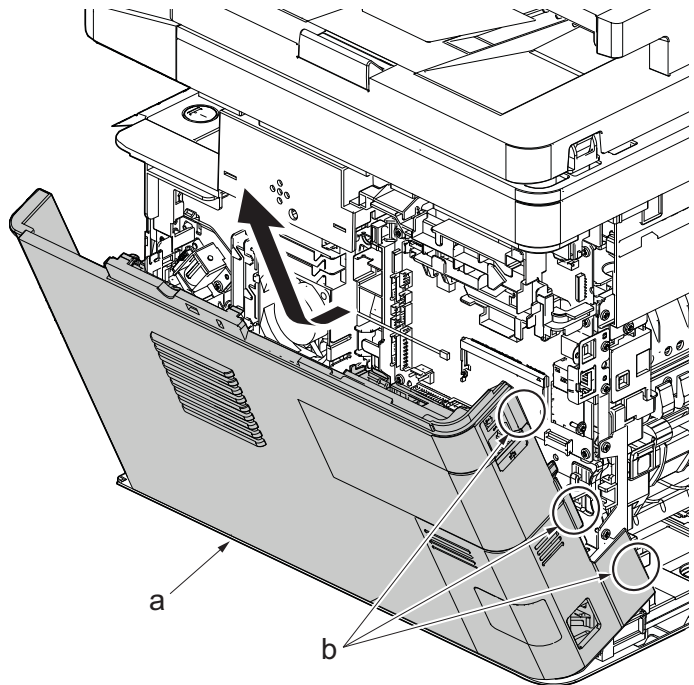
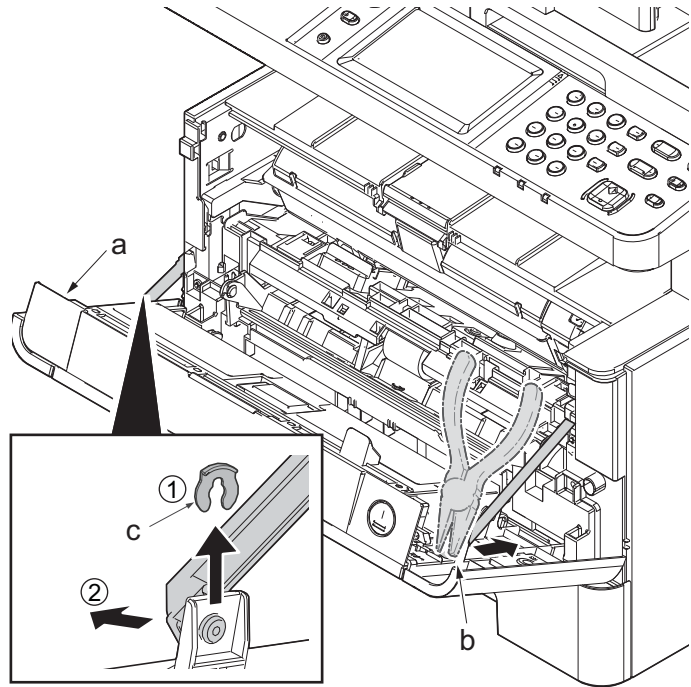


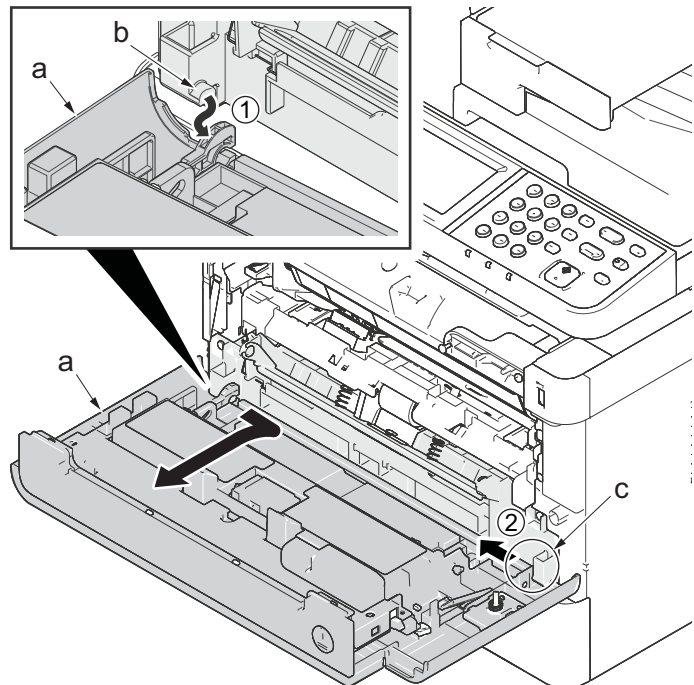
Figure 4-41

(1-7) 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).

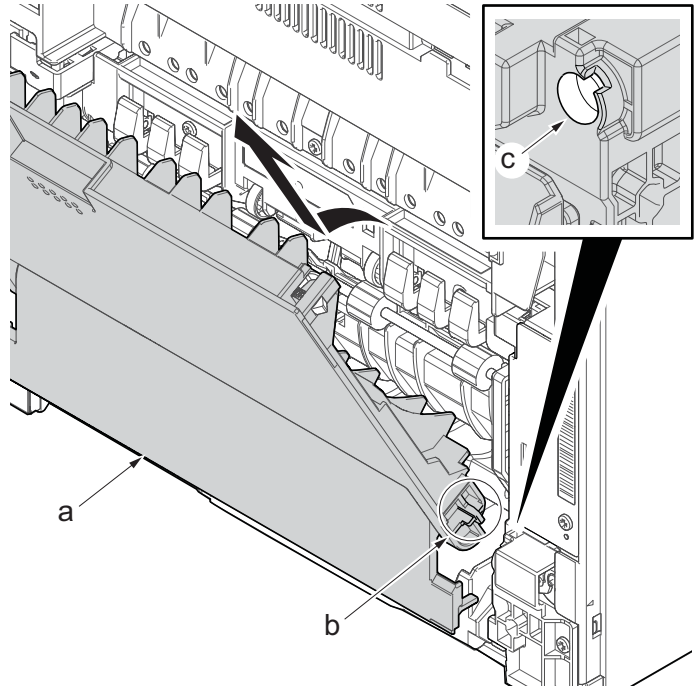
**Figure 4-42**

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 (c) and detach the front cover (a).

**Figure 4-43**

(1-8) 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 4-44**

(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.

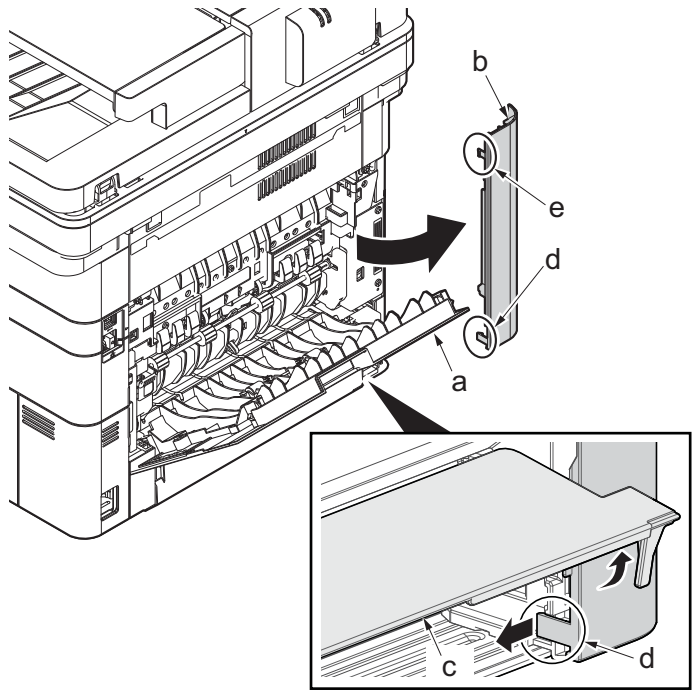


Figure 4-45

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

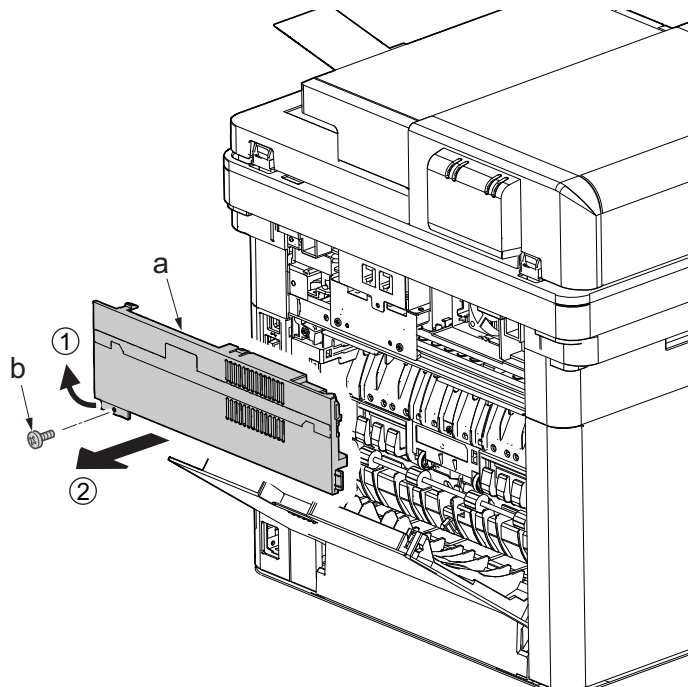


Figure 4-46

7. Remove the screw(M3×10TP)(b).
8. While twisting the ISU left cover (a), release two hooks (c) in the direction of the arrow.
9. Release the protrusion (d) of the ISU left cover (a) in the direction of the arrow and detach it.

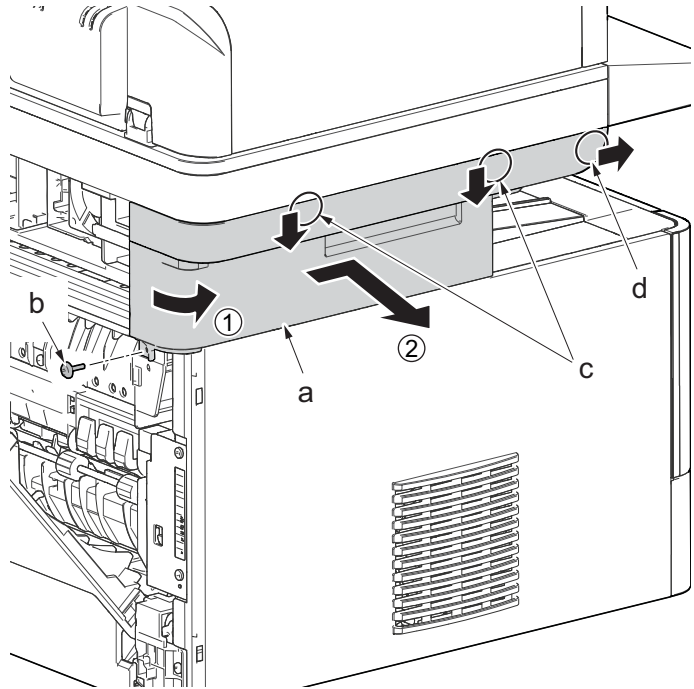


Figure 4-47

10. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
11. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

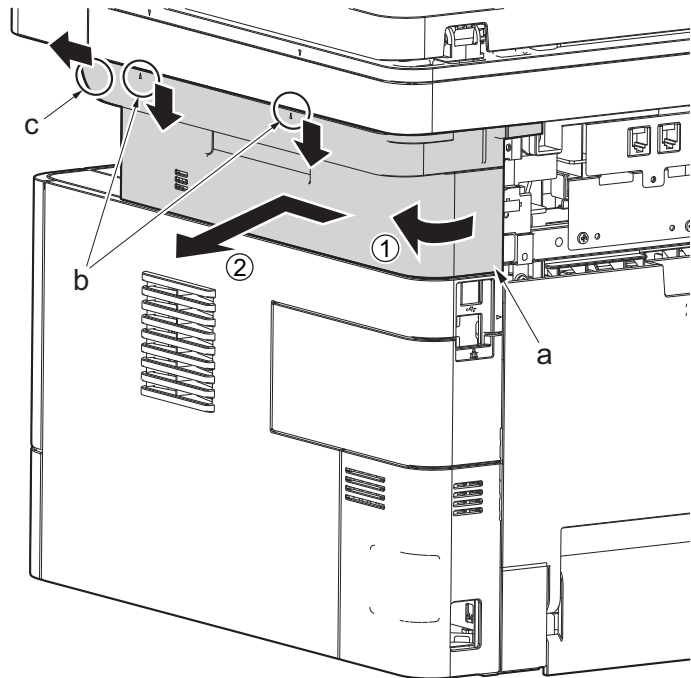


Figure 4-48

12. After twisting the DIMM cover(a), remove it while sliding it.

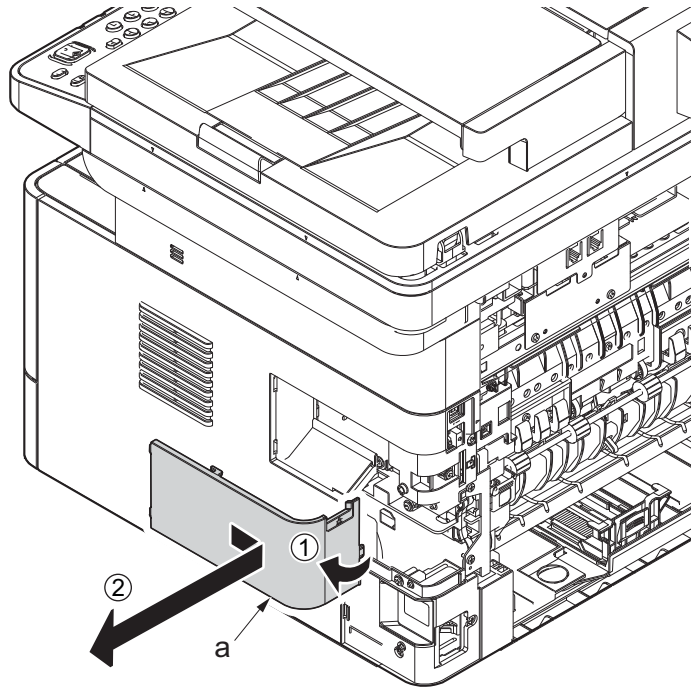


Figure 4-49

13. Twist the right rear cover (a) and detach it while sliding it.

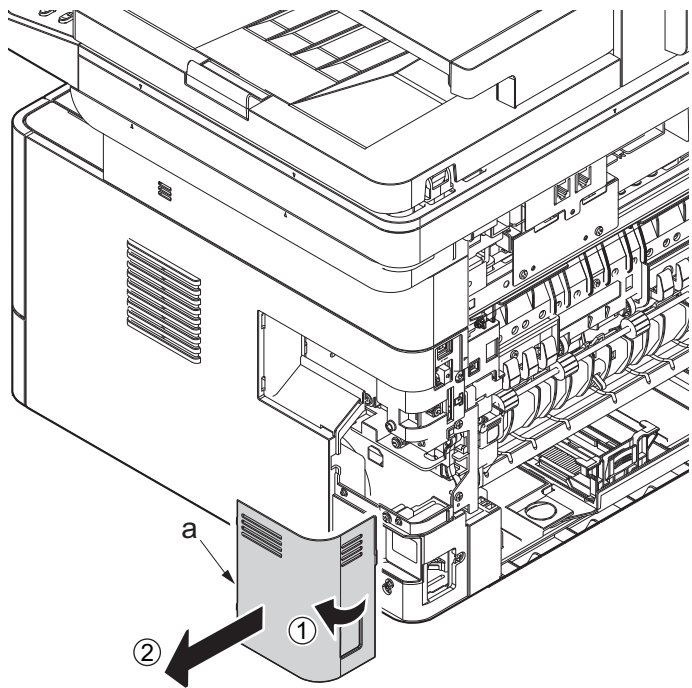


Figure 4-50

14. Detach the cassette
15. Open the front cover (a).
16. Detach two hooks (b) at the front side of the right cover (a).

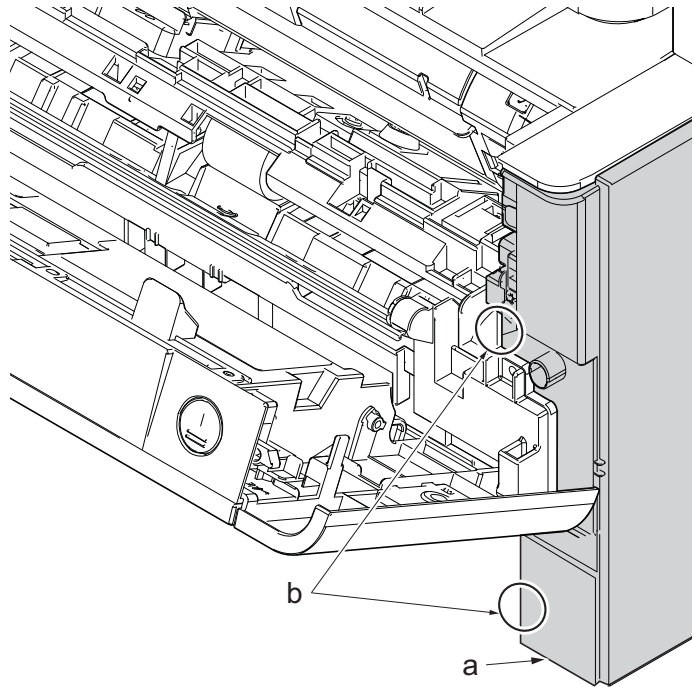


Figure 4-51

17. Release three hooks (b) at the rear side of the right cover (a).
18. Tilt the right cover (a) and detach it.

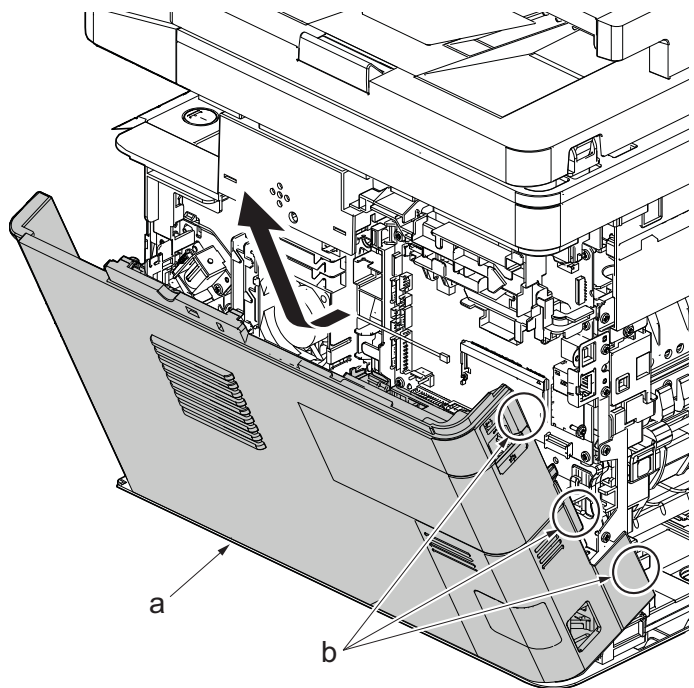


Figure 4-52

19. Remove the screw(M3×8S tight)(a), remove the ground terminal.

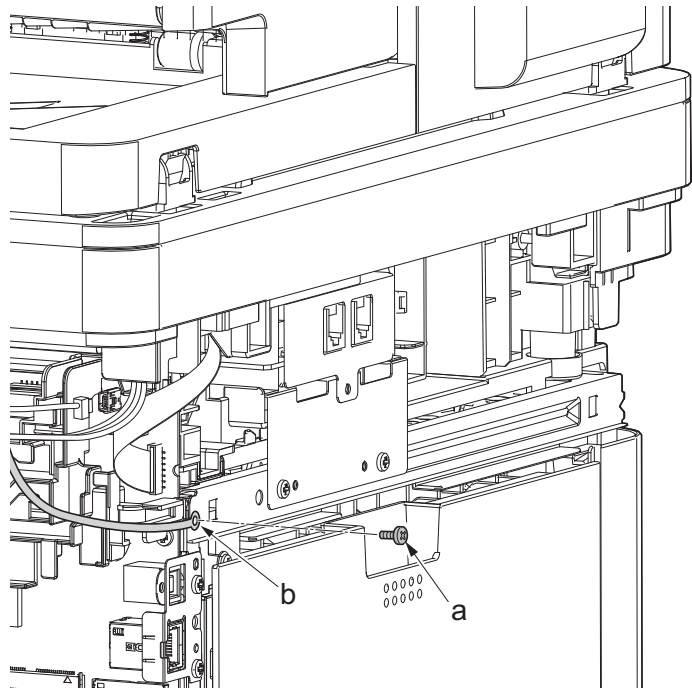


Figure 4-53

20. Disconnect six connectors (b), the connector (c)*1, USB connector (d)*1, FFC (e) and FFC (f)*2 from the main/engine PWB (a).

*1: TSI model only

*2: 40 ppm model only

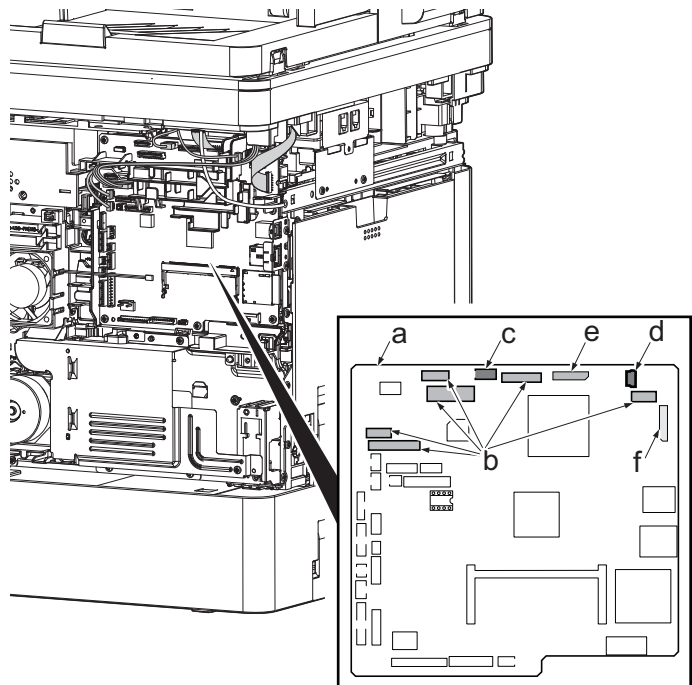


Figure 4-54

21. TSI model: remove the screw (M3x8B).
22. Remove two screws (b)(M4x12).
23. Align the image scanner unit(c) and document processor (d) in the direction of the arrow to release the hooks and detach them.

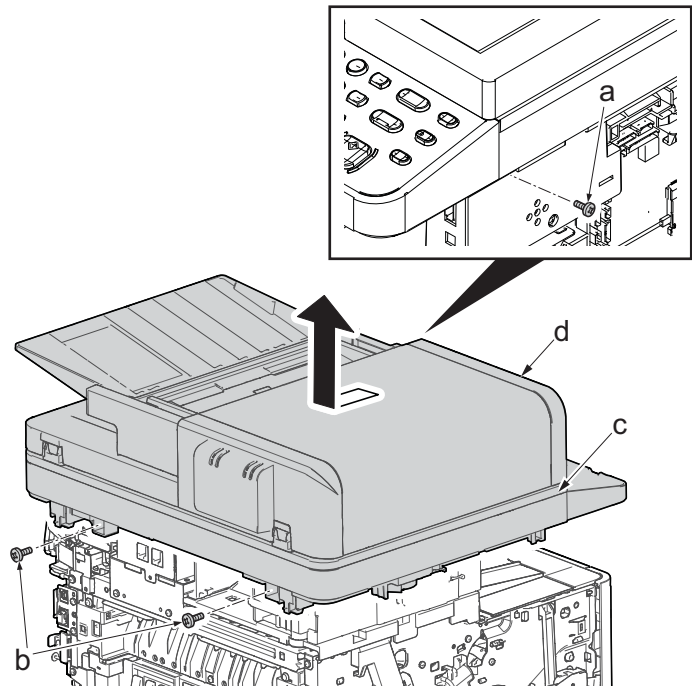


Figure 4-55

24. Remove two screws(M3x8S tight)(a), detach ISU left holder(b).

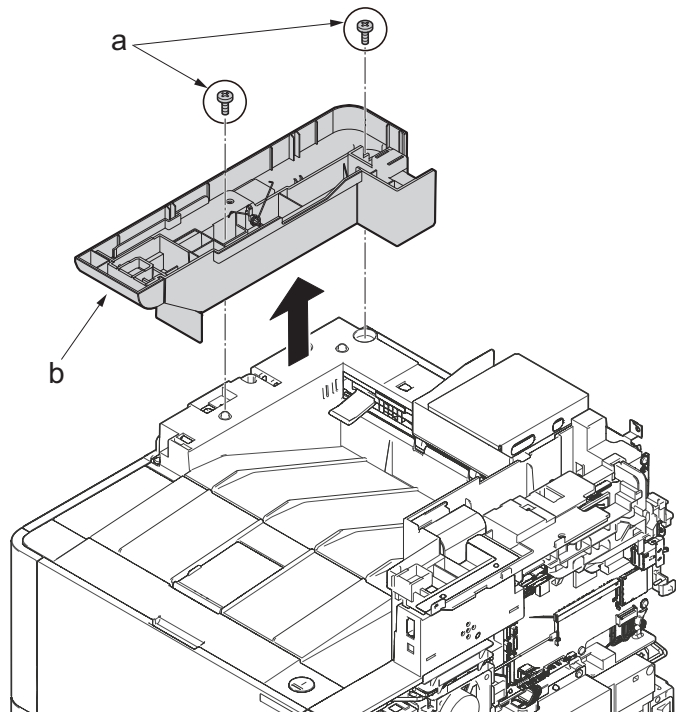


Figure 4-56

25. Disconnect the relay connector (a) of the speaker.
26. Disconnect the connector (c) from the main/engine PWB (b).

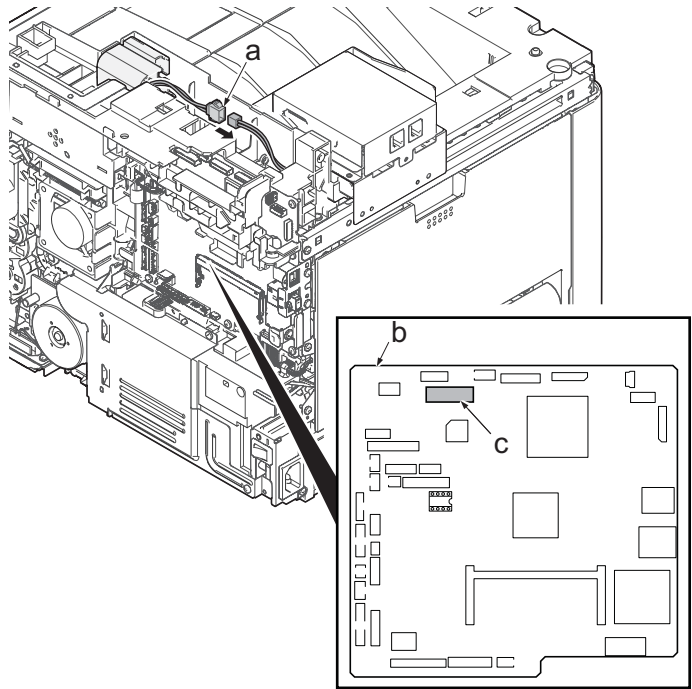


Figure 4-57

27. Remove two screws (a)(M3x8S tight) and detach the FAX PWB assembly(b).
28. Lift up the hook (d) of FAX PWB lower cover (c) and detach it while sliding it in the direction of the arrow.

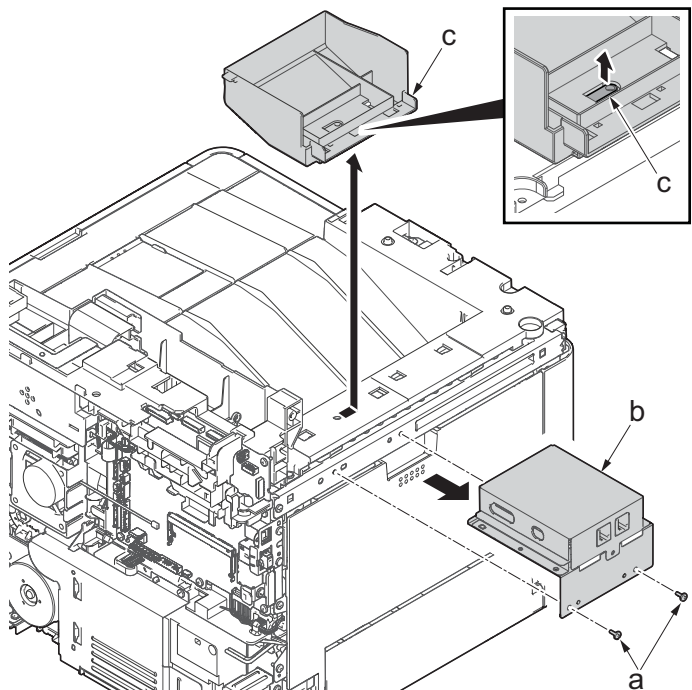


Figure 4-58

29. Remove the screw(M3x8P tight)(a), detach the speaker holder(b).

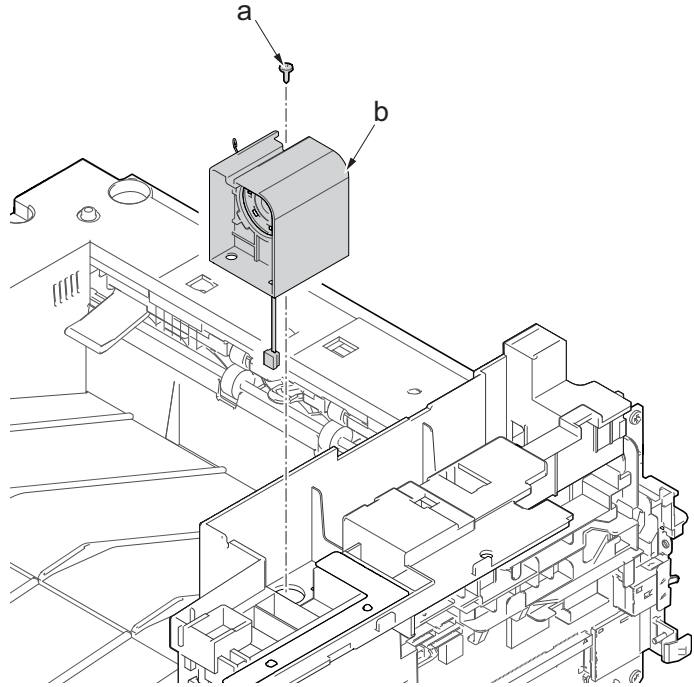


Figure 4-59

30. Remove three screws(M3x8S tight)(a), detach ISU right holder(b).

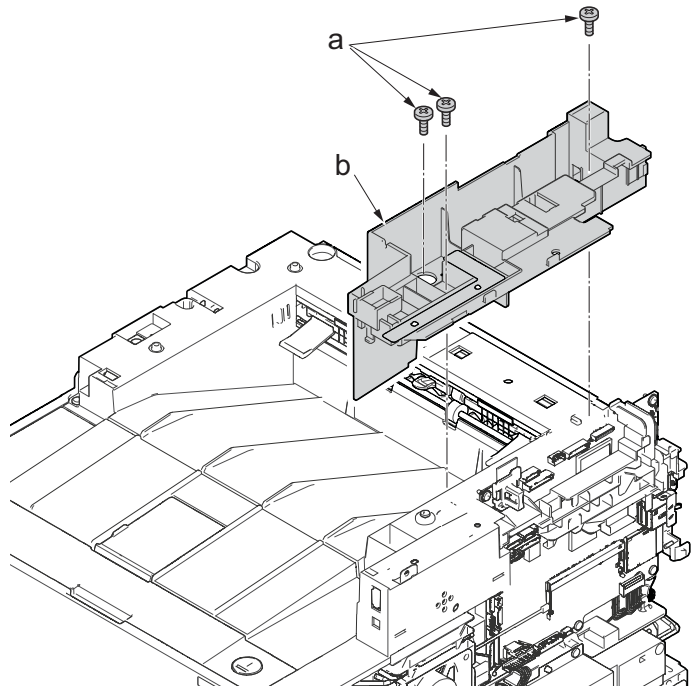


Figure 4-60

31. Detach the Wi-Fi PWB (a).
32. Remove the wire from the wire guide (b).
33. Slid the wire guide (b), release the hook (c) and remove it.

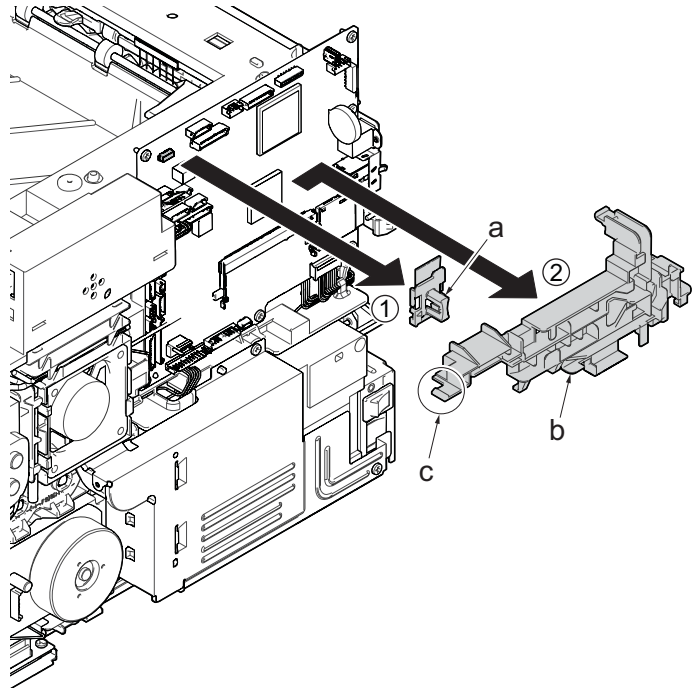


Figure 4-61

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

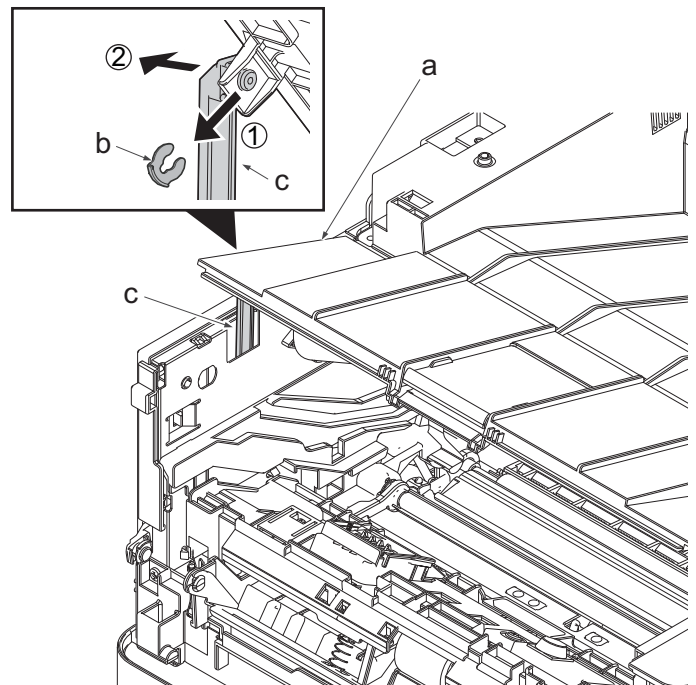


Figure 4-62

36. Remove two screws(M3×8TP)(a) and remove the eject tray (b) in the upper direction.

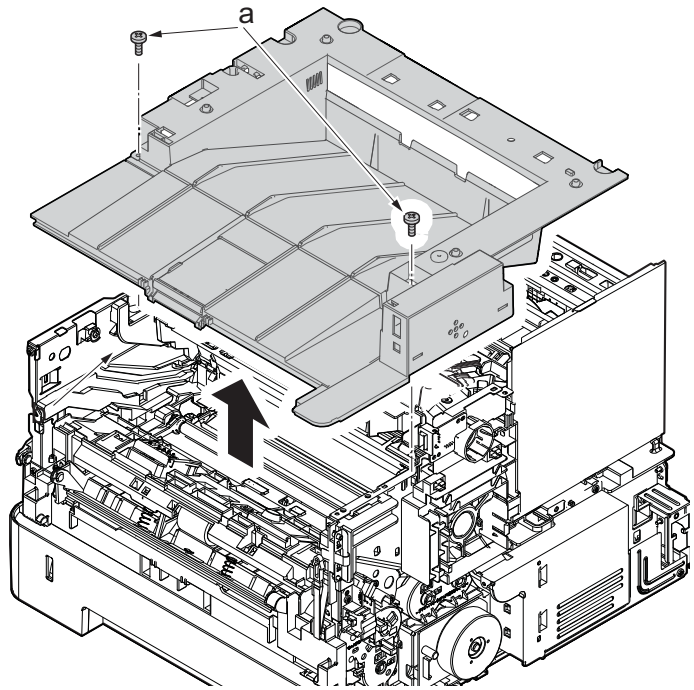


Figure 4-63

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

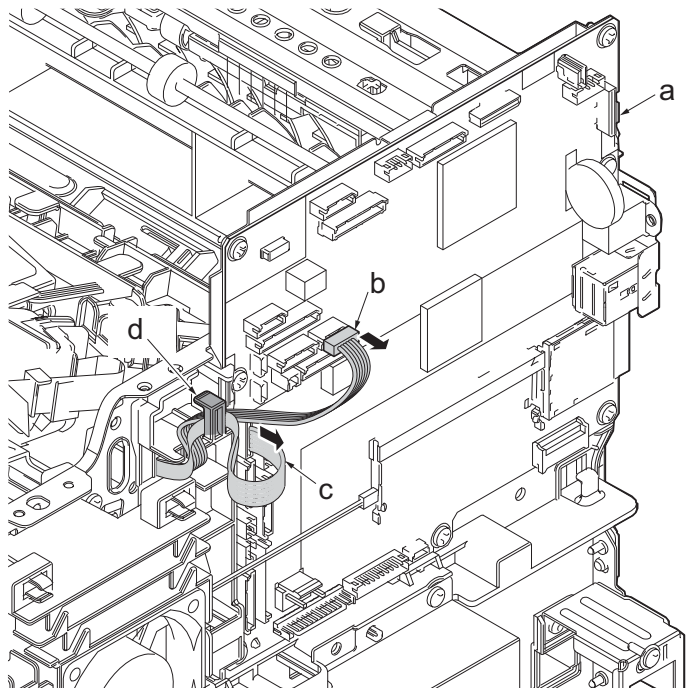


Figure 4-64

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

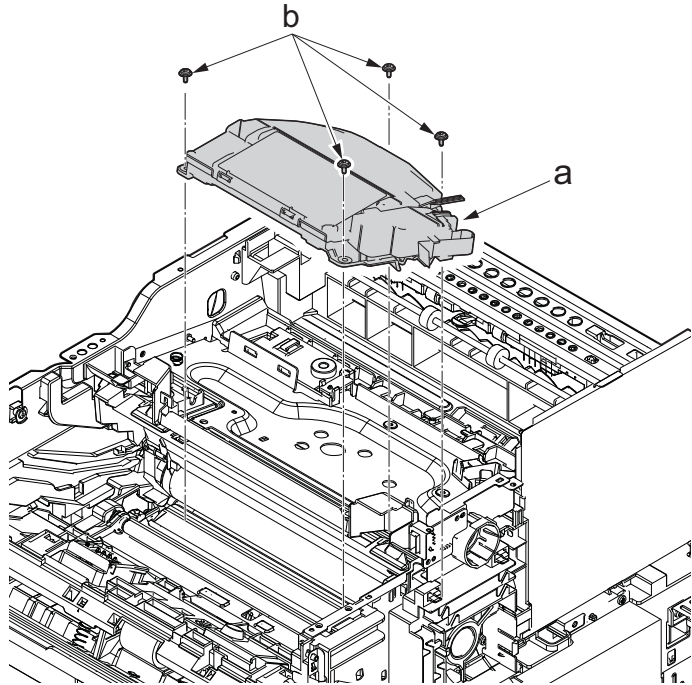


Figure 4-65

IMPORTANT

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

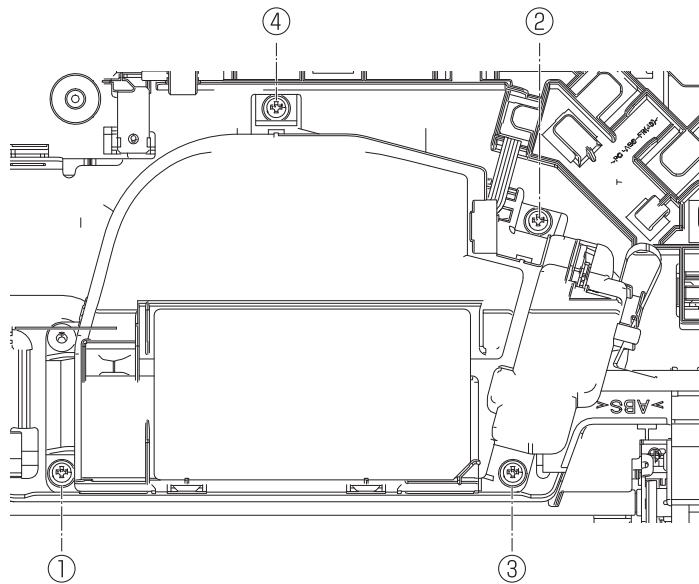


Figure 4-66

(2-2) Detaching and reattaching the image scanner unit (ISU)

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.

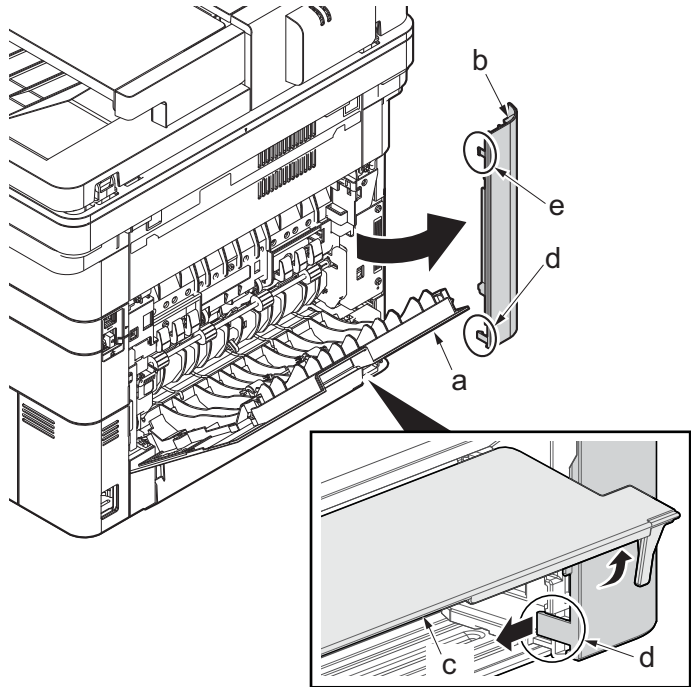


Figure 4-67

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

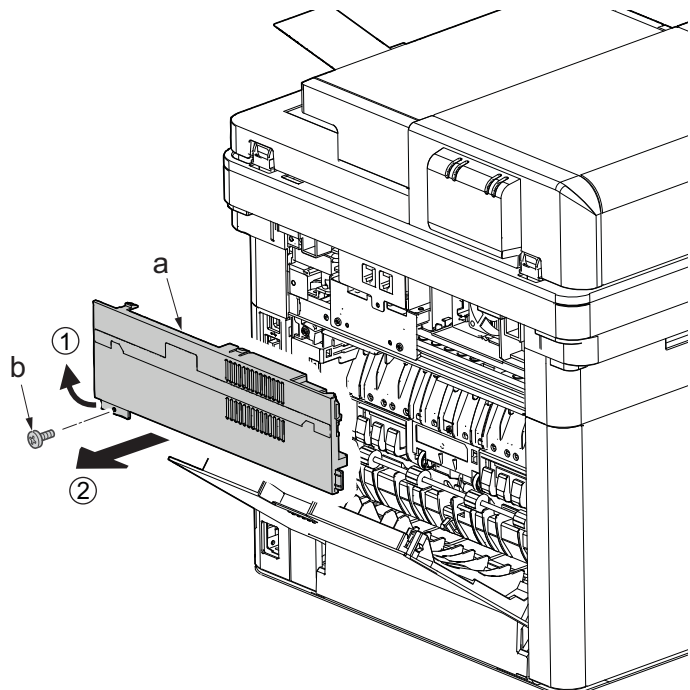


Figure 4-68

7. Remove the screw(M3×10TP)(b).
8. While twisting the ISU left cover (a), release two hooks (c) in the direction of the arrow.
9. Release the protrusion (d) of the ISU left cover (a) in the direction of the arrow and detach it.

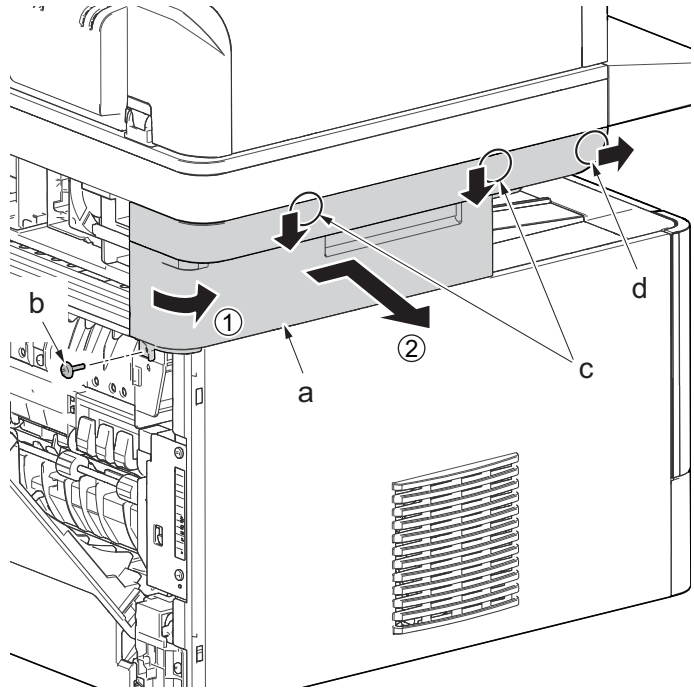


Figure 4-69

10. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
11. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

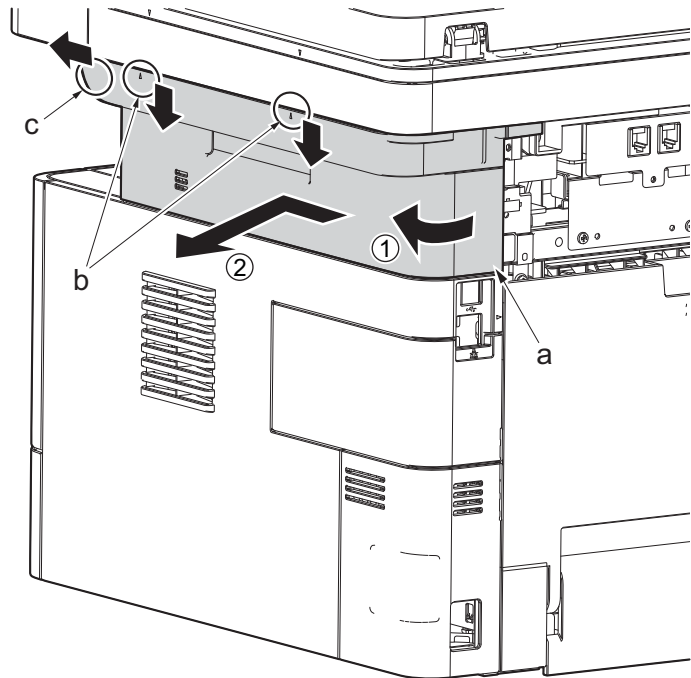


Figure 4-70

12. After twisting the DIMM cover(a), remove it while sliding it

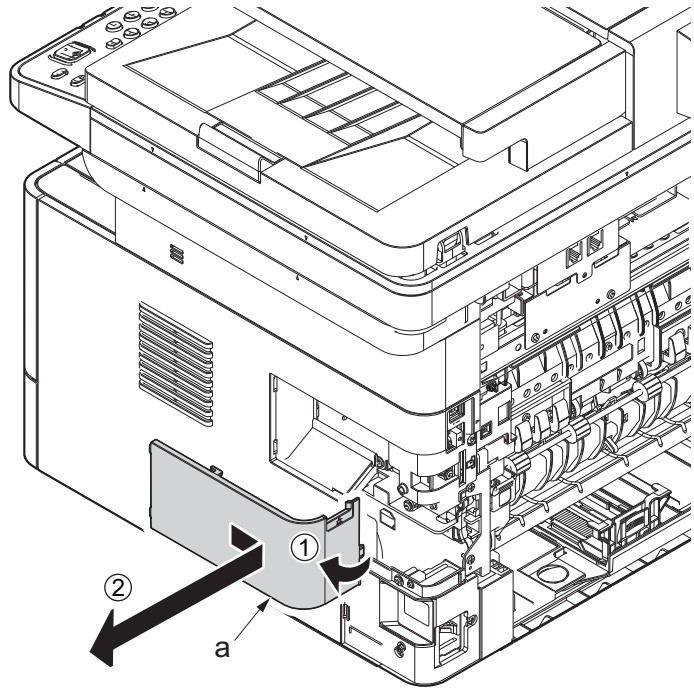


Figure 4-71

13. Twist the right rear cover (a) and detach it while sliding it.

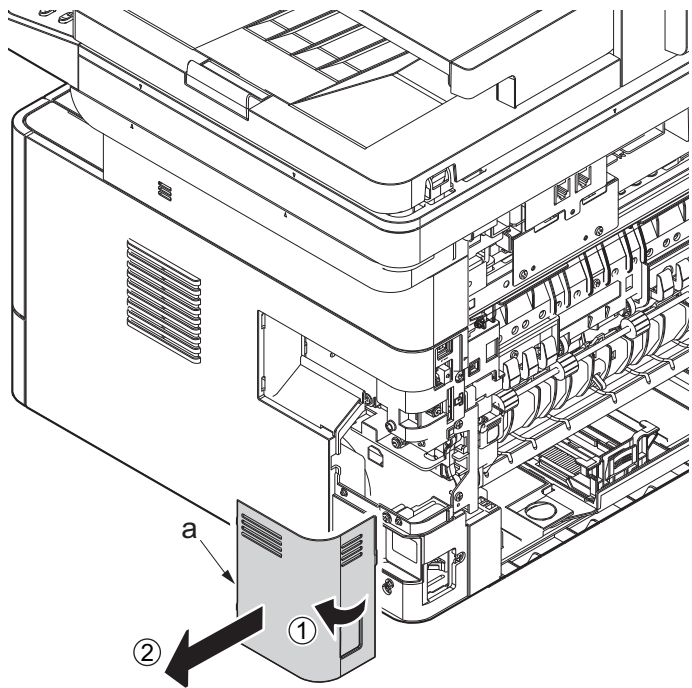


Figure 4-72

14. Detach the cassette
15. Open the front cover (a).
16. Detach two hooks (b) at the front side of the right cover (a).

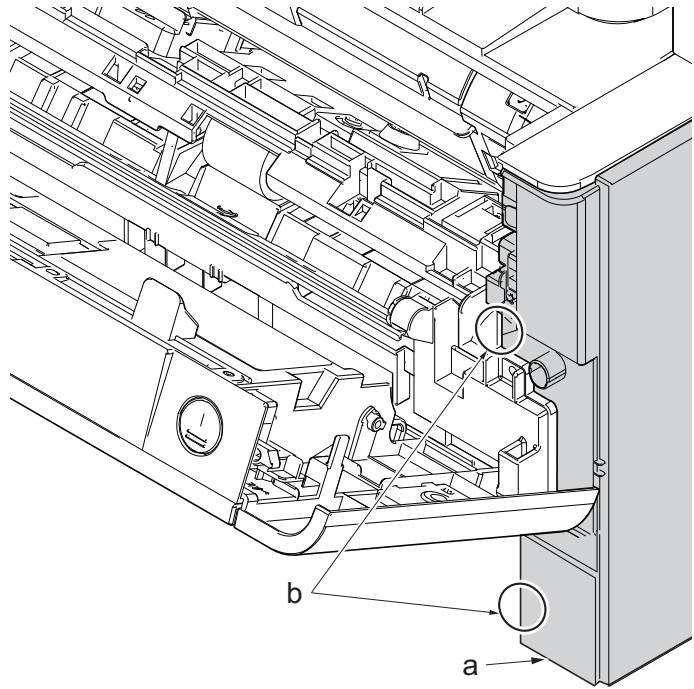


Figure 4-73

17. Release three hooks (b) at the rear side of the right cover (a).
18. Tilt the right cover (a) and detach it.

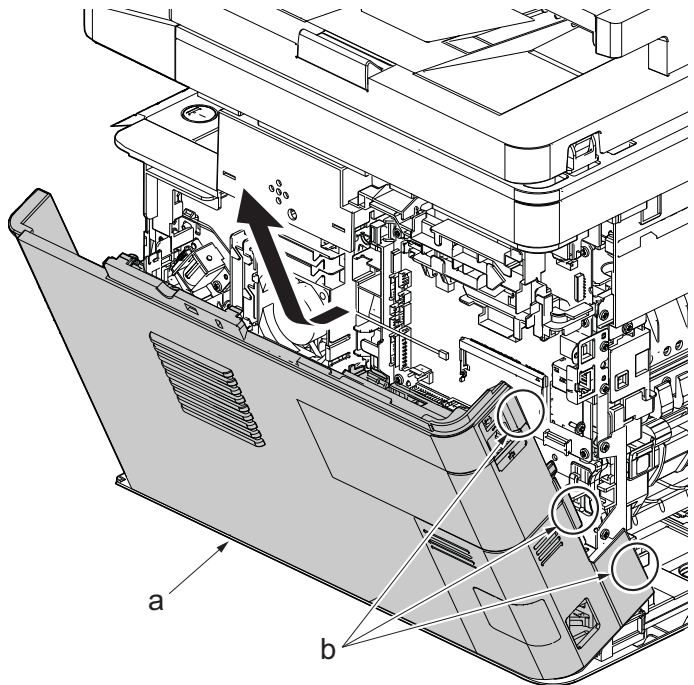


Figure 4-74

19. Remove the screw(M3×8S tight)(a), remove the ground terminal.

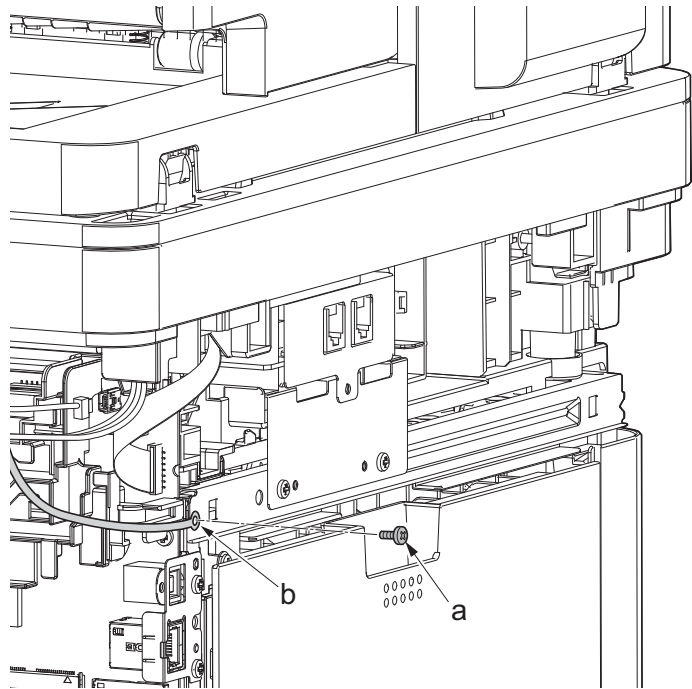


Figure 4-75

20. Disconnect six connectors (b), the connector (c)*1, USB connector (d)*1, FFC (e) and FFC (f)*2 from the main/engine PWB (a).

*1: TSI model only

*2: 40 ppm model only

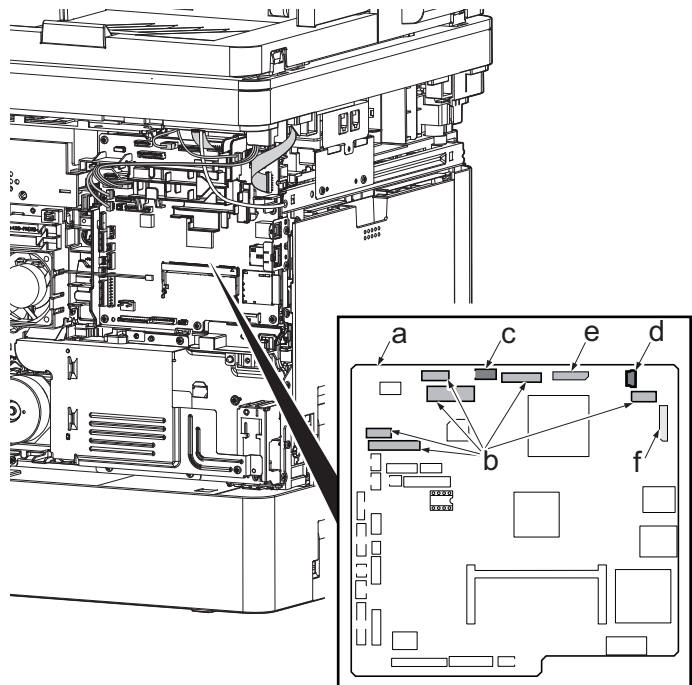


Figure 4-76

21. Open the document processor (a).
22. Lift up the document processor (a) in the direction of the arrow and detach the hinge (b) from the main unit.

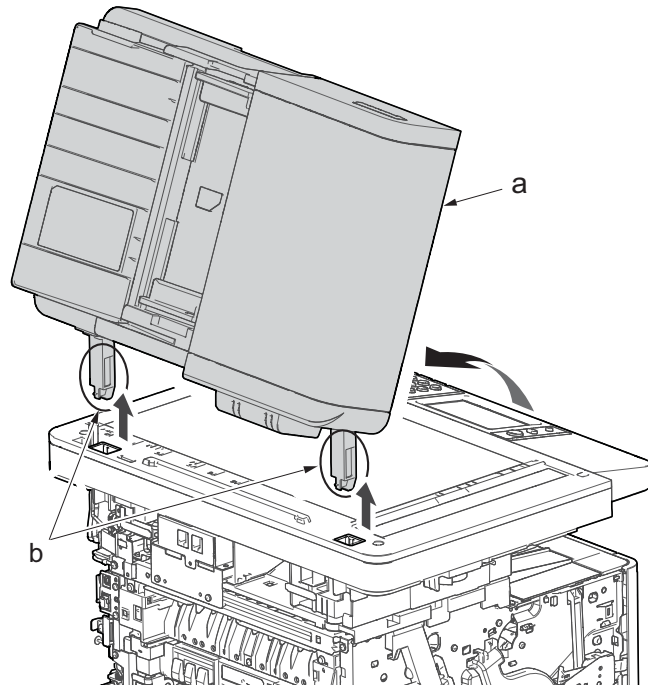


Figure 4-77

23. TSI model: remove the screw (M3x8B).
24. Remove two screws (b)(M4x12).
25. Align the image scanner unit (c) in the direction of the arrow and detach it by releasing the hook.
26. Check the image scanner unit(c), and clean or replace it .
27. Reattach the parts in the original position.

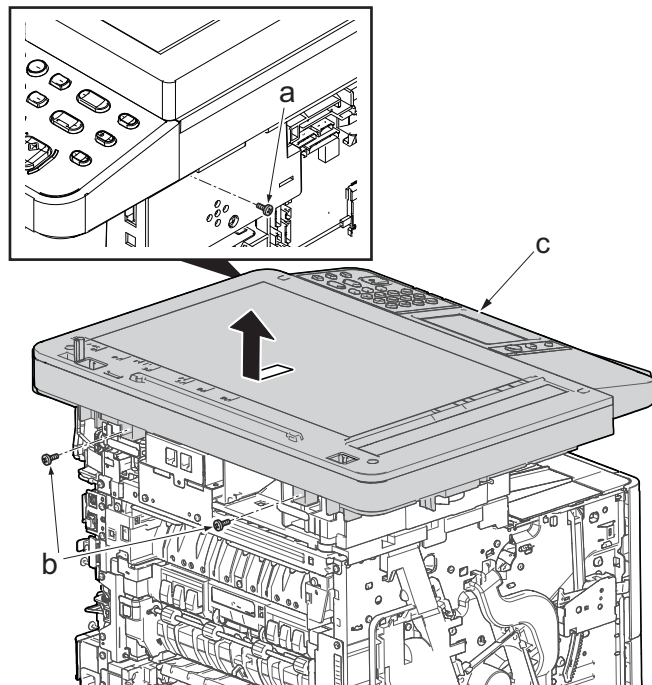
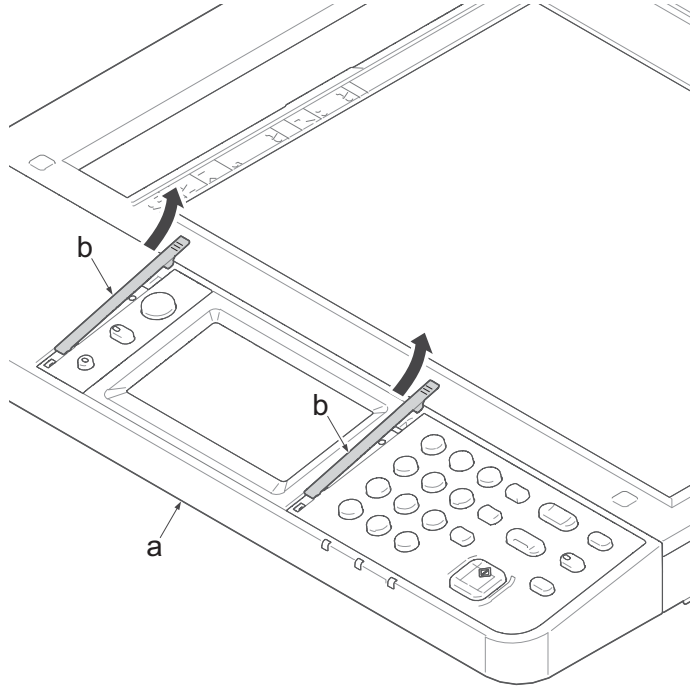


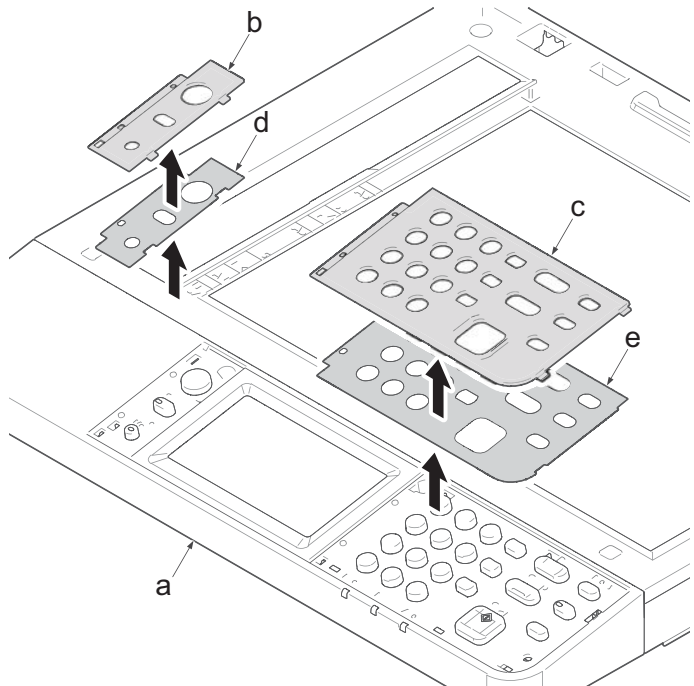
Figure 4-78

(2-3) Detaching and reattaching the operation panel (TSI model)**Procedures**

1. Open the document processor.
2. While lifting up the leading edge, slide two points of the operation covers (b) in the direction of the arrow.
3. Detach the operation panel cover (b) from the operational section (a).

**Figure 4-79**

4. Detach the clear panel (b) and (c) from the operation panel (a).
5. Next detach the operation panel sheet (d) and (e).

**Figure 4-80**

6. Remove two screws (c) (M3×8S tight).
7. Release two hooks (b) by using a flat-head screwdriver (d).
8. Open the operational cover (a) while lifting up the front side of it.

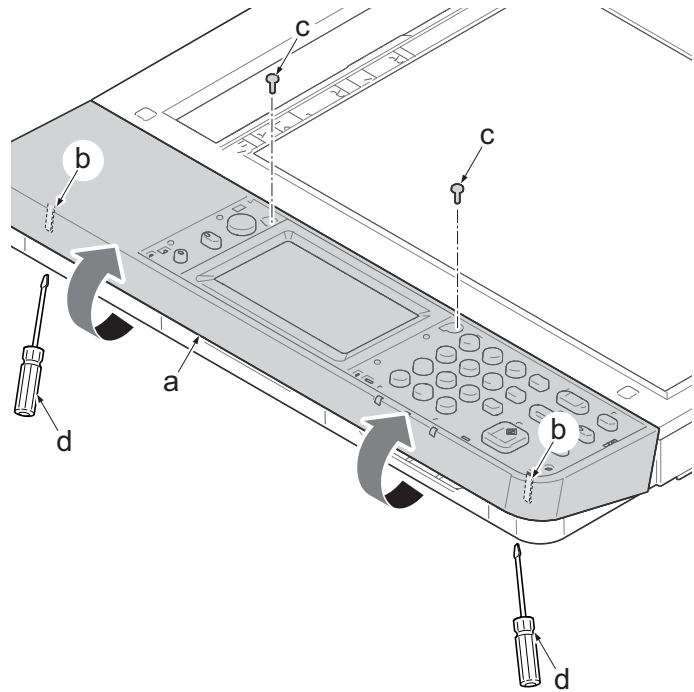


Figure 4-81

9. Turn over the operation cover (a).
10. Disconnects two connectors (c), the USB connector (d) and the grounding terminal (e) of operational cover PWB (b).
11. Detach the operating section.

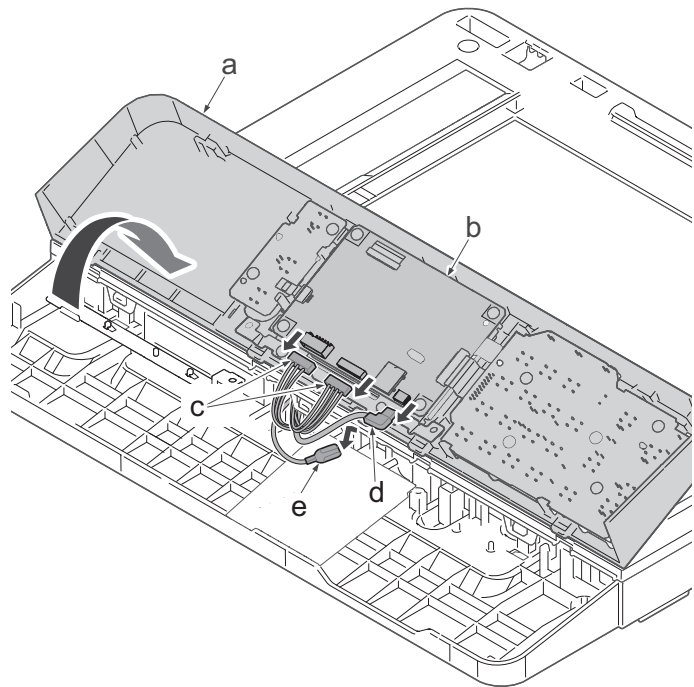
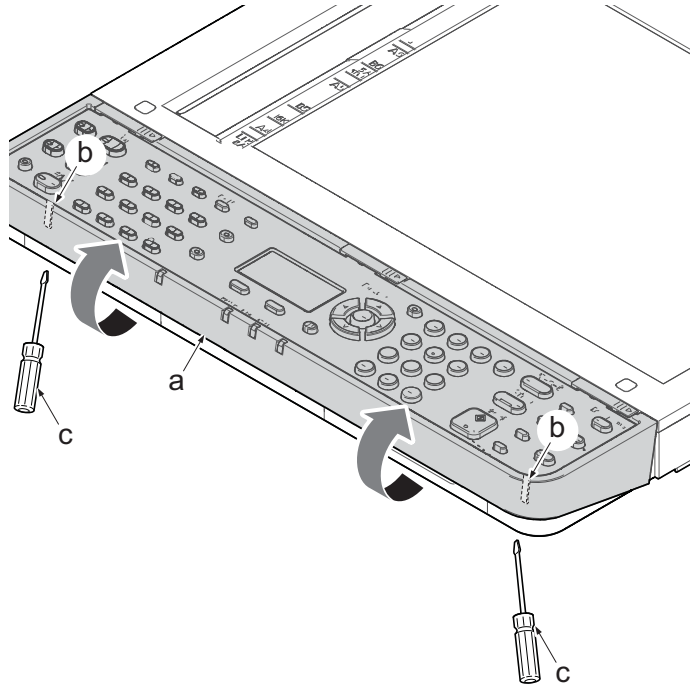


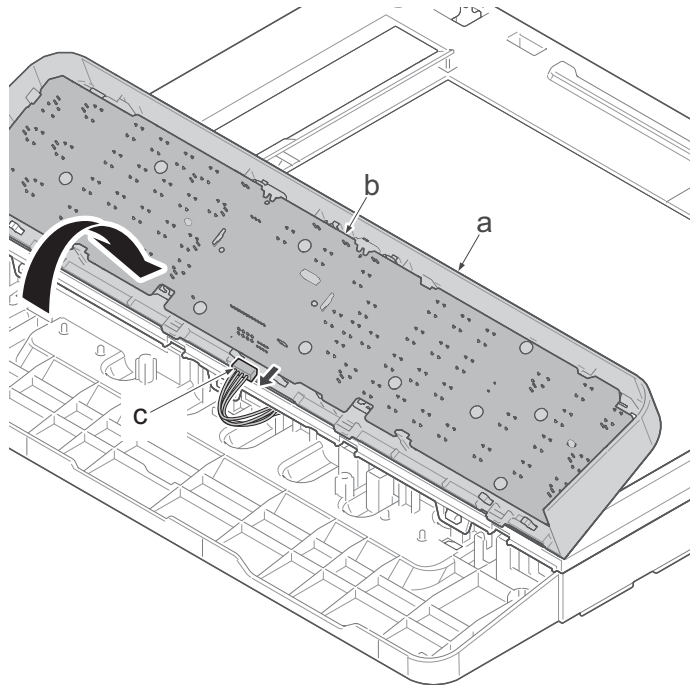
Figure 4-82

(2-4) Detaching and reattaching the operation panel (LCD model)**Procedures**

1. Open the document processor.
2. Release two hooks (b) by using a flat-head screwdriver (c).
3. Open the operational cover (a) while lifting up the front side of it.

**Figure 4-83**

4. Turn over the operation cover (a).
5. Disconnects the connector (c) of operational cover PWB (b).
6. Detach the operating section.

**Figure 4-84**

(2-5) Detaching and reattaching the ISU top frame

Procedures

1. Remove two screws(c).
2. Release five protrusions (d) of the ISU upper frame in the direction of arrow.
3. Release three hooks (f) of the ISU upper frame from the fixed section (e) of the ISU lower frame while lifting up the rear side of ISU upper frame.
4. Detach the ISU upper frame (b) from the ISU lower frame (a).

IMPORTANT

When detaching the ISU upper frame, pay attention not to touch the contact glass. Also wipe it with a dry cloth when it is dirty.

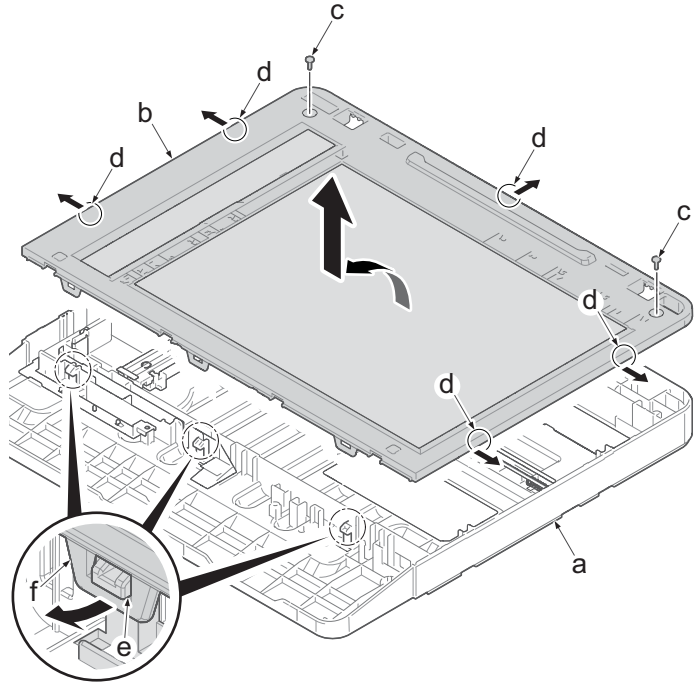


Figure 4-85

(2-6) Detaching and reattaching the scanner carriage assembly

Procedures

1. Disconnect FFC (d) from the connector (c) of the ISU carriage.
2. Detach the drive belt (f) from the ISU carriage fixed section (e).
3. Detach the ISU carriage(b) from ISU lower frame (a).

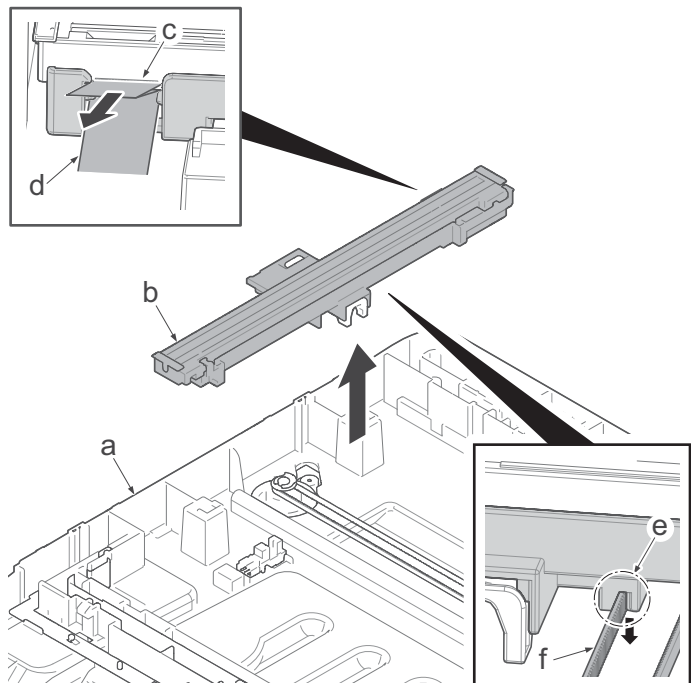


Figure 4-86

(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.

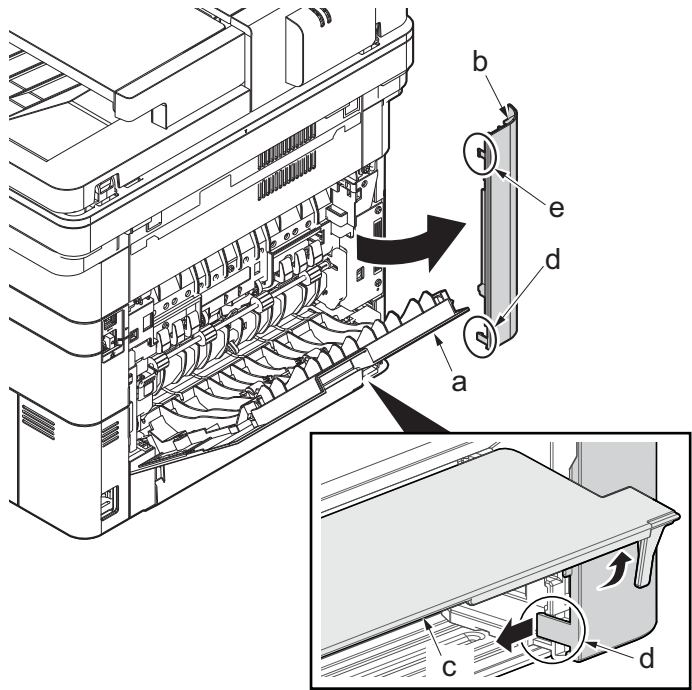


Figure 4-87

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

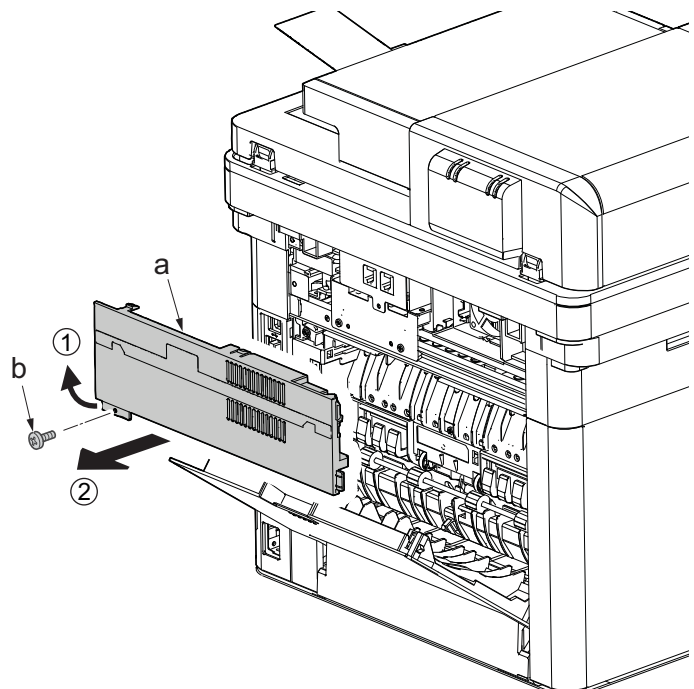


Figure 4-88

7. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
8. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

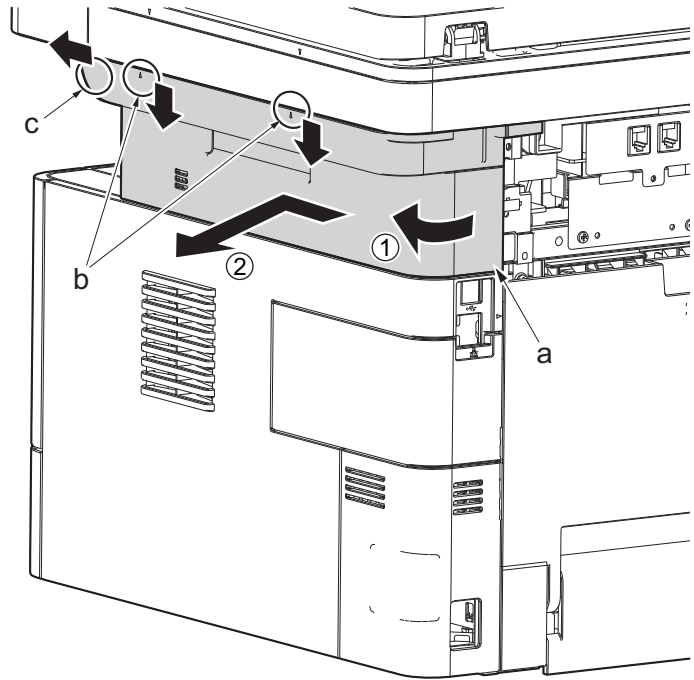


Figure 4-89

9. After twisting the DIMM cover(a), remove it while sliding it

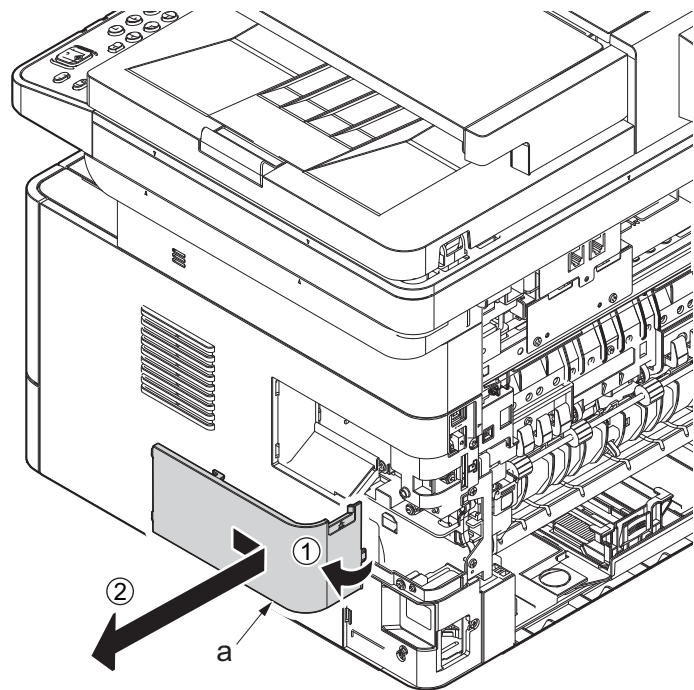


Figure 4-90

10. Twist the right rear cover (a) and detach it while sliding it.

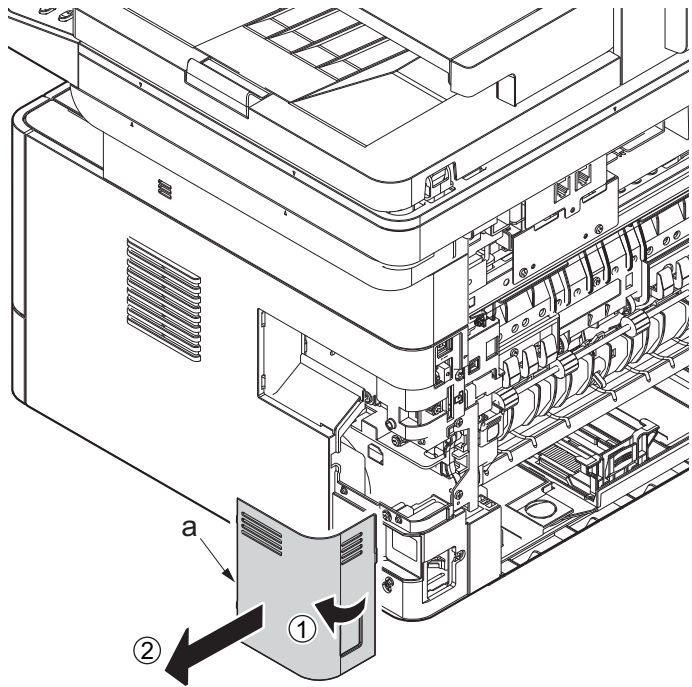


Figure 4-91

11. Detach the cassette
12. Open the front cover (a).
13. Detach two hooks (b) at the front side of the right cover (a).

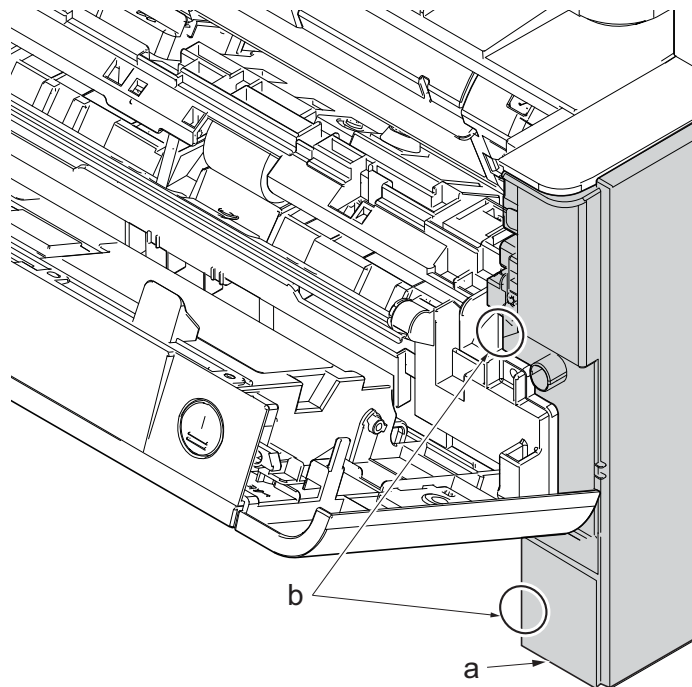


Figure 4-92

14. Release three hooks (b) at the rear side of the right cover (a).
15. Tilt the right cover (a) and detach it.

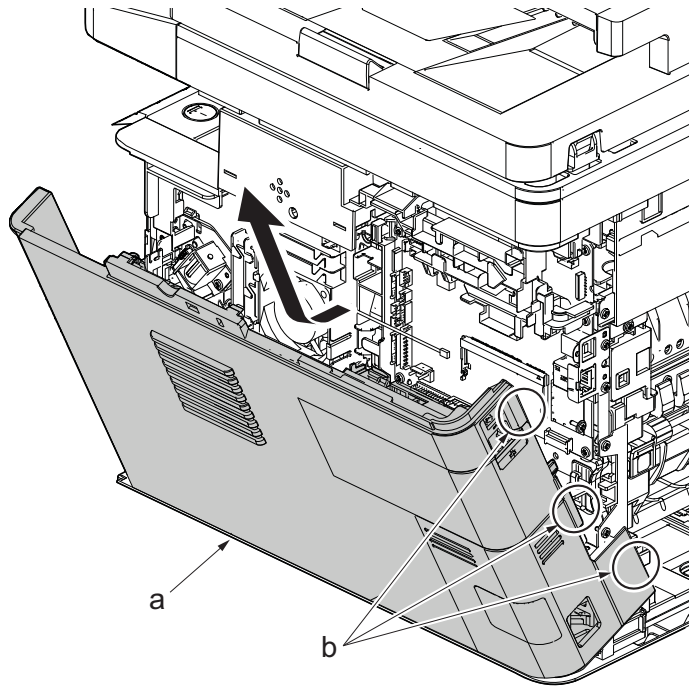


Figure 4-93

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

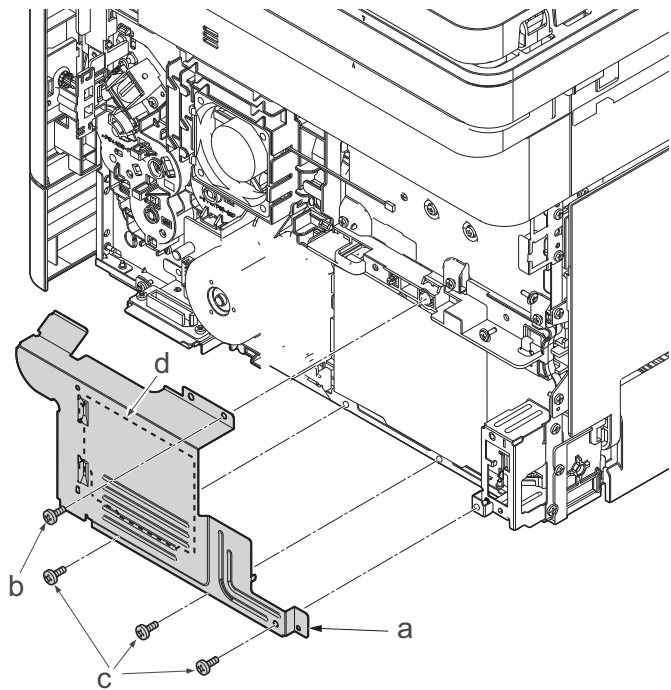


Figure 4-94

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

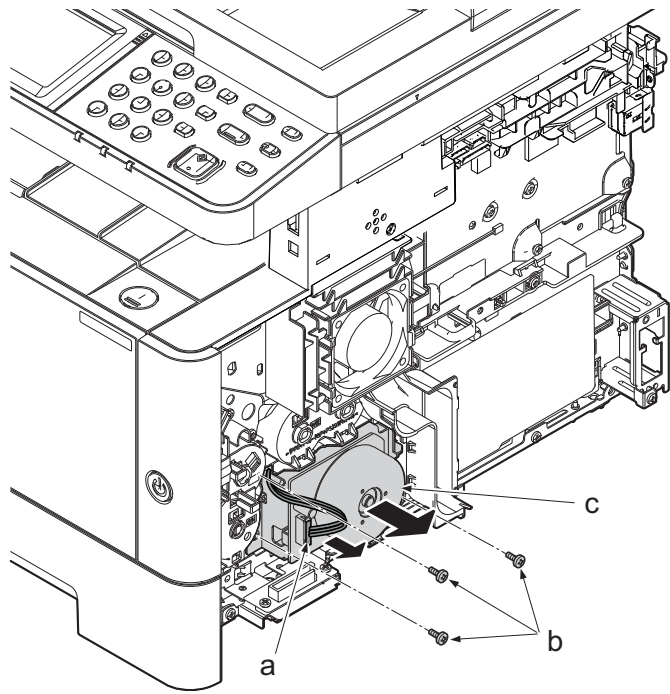


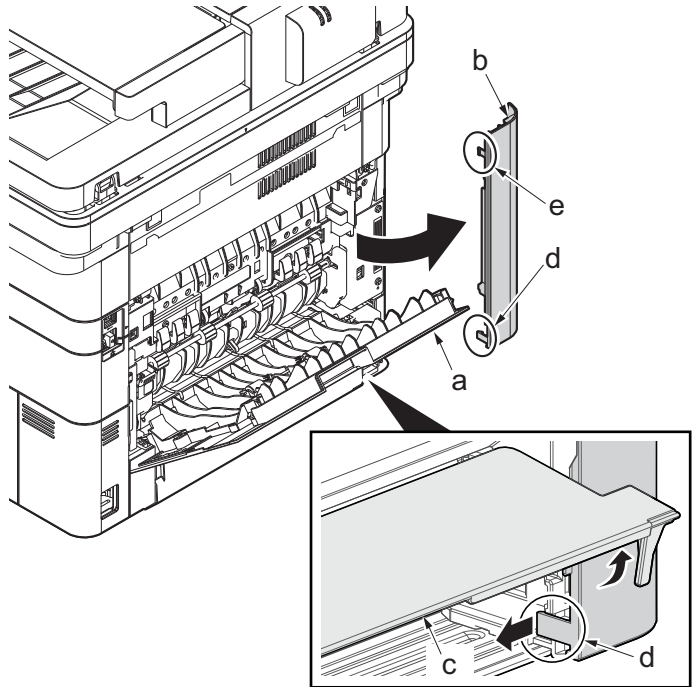
Figure 4-95

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

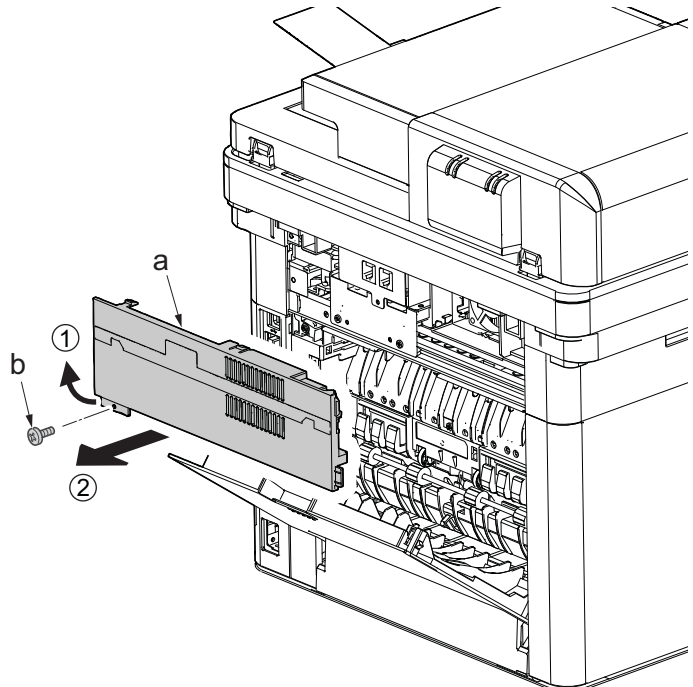
1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:

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

**Figure 4-96**

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

**Figure 4-97**

7. Remove the screw(M3×10TP)(b).
8. While twisting the ISU left cover (a), release two hooks (c) in the direction of the arrow.
9. Release the protrusion (d) of the ISU left cover (a) in the direction of the arrow and detach it.

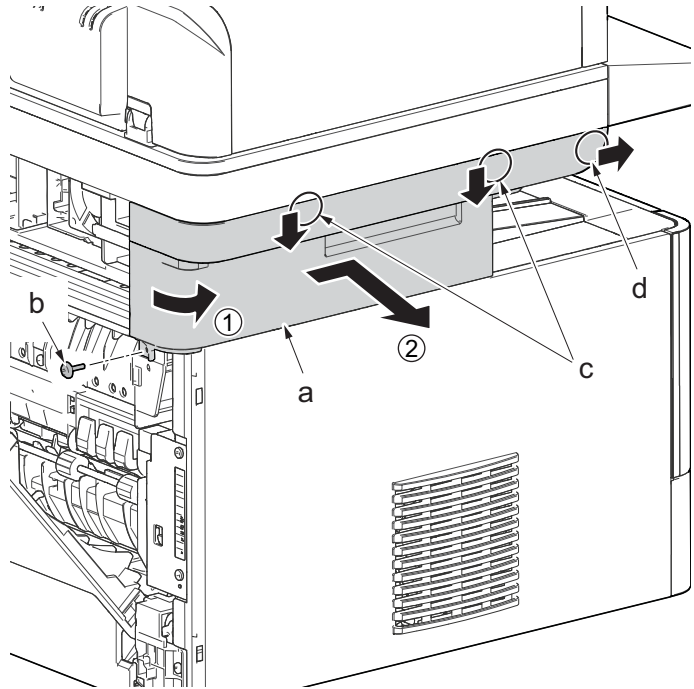


Figure 4-98

10. Detach the cassette
11. Open the front cover (a).
12. Release four hooks (b) at the front side of the left cover (a).

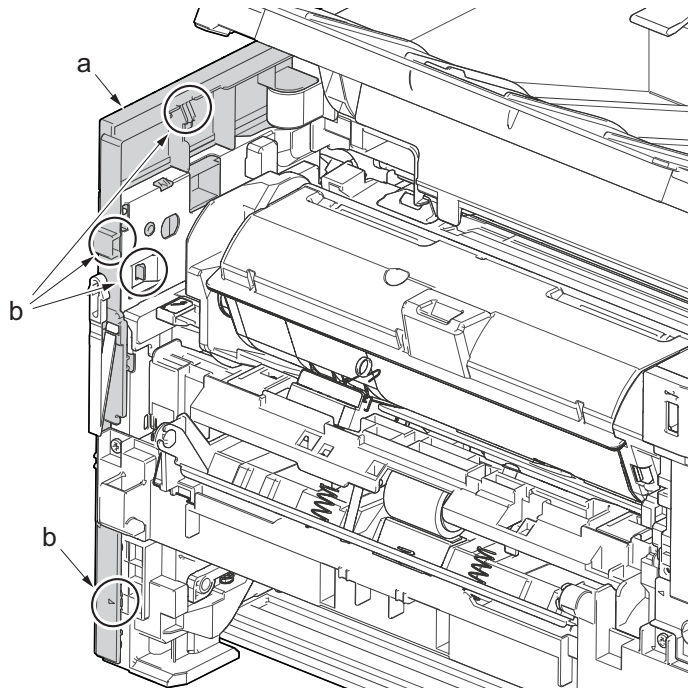


Figure 4-99

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

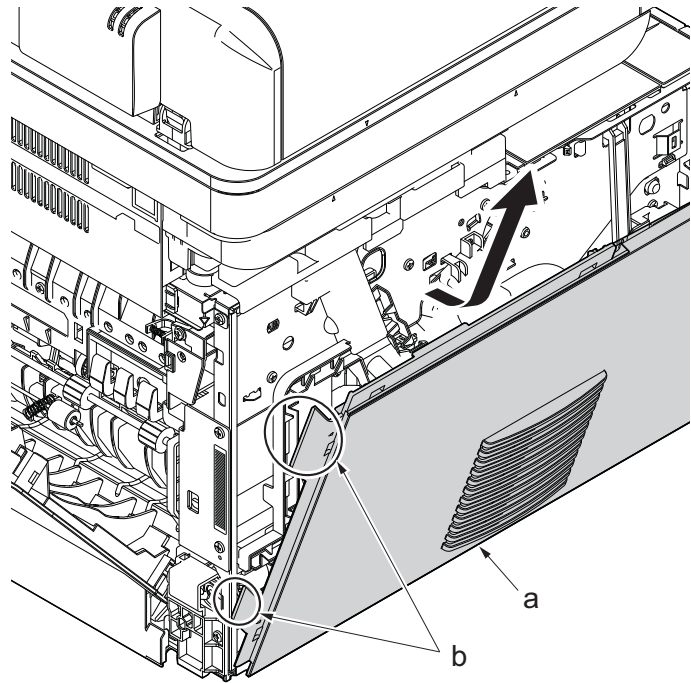


Figure 4-100

15. Disconnect the connector (a).

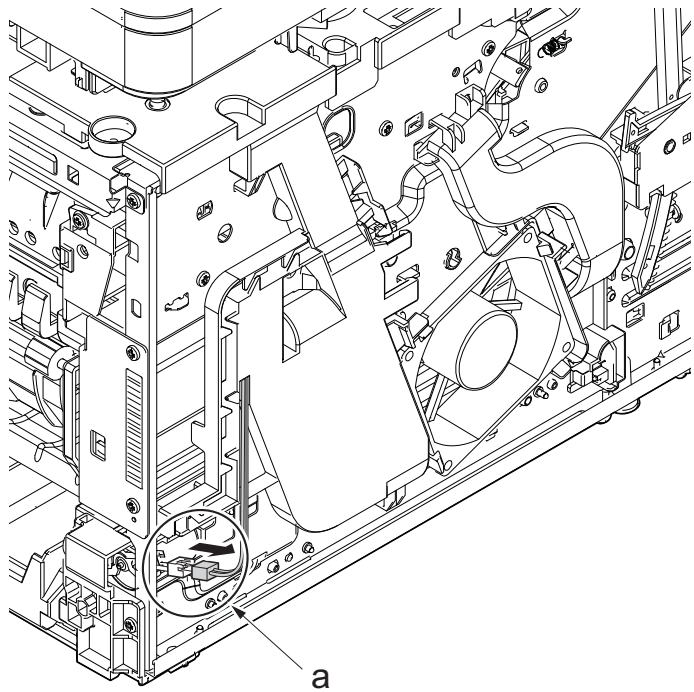
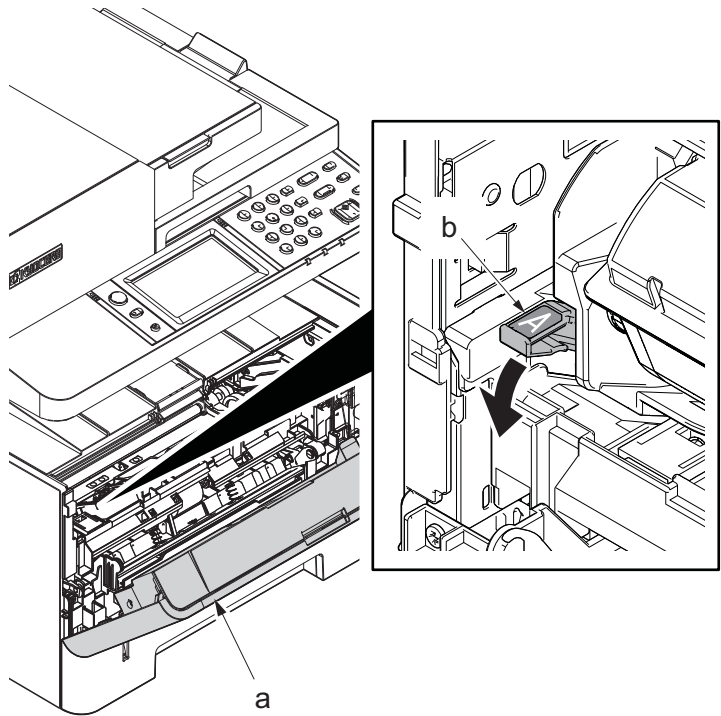
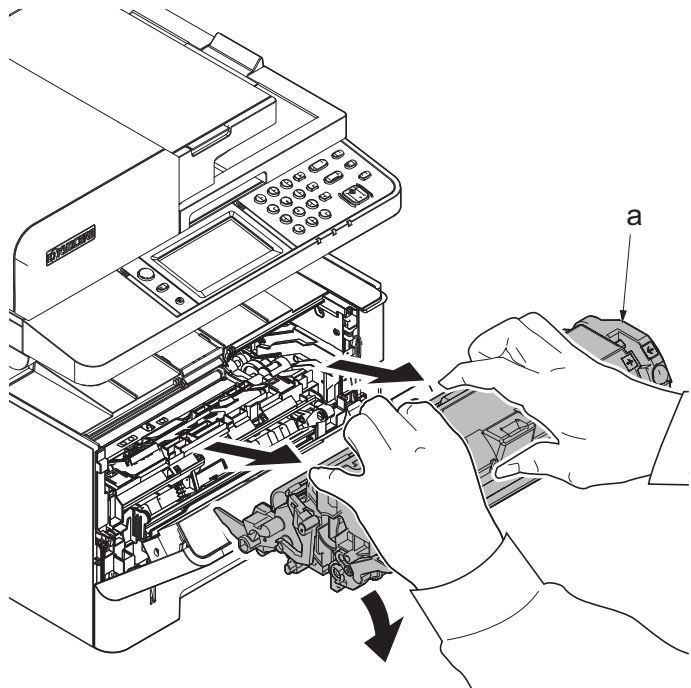


Figure 4-101

16. Open the front cover (a).
17. Push down the developer release lever (b).

**Figure 4-102**

18. Detach the developer unit (a).

**Figure 4-103**

19. Detach the drum unit (b).

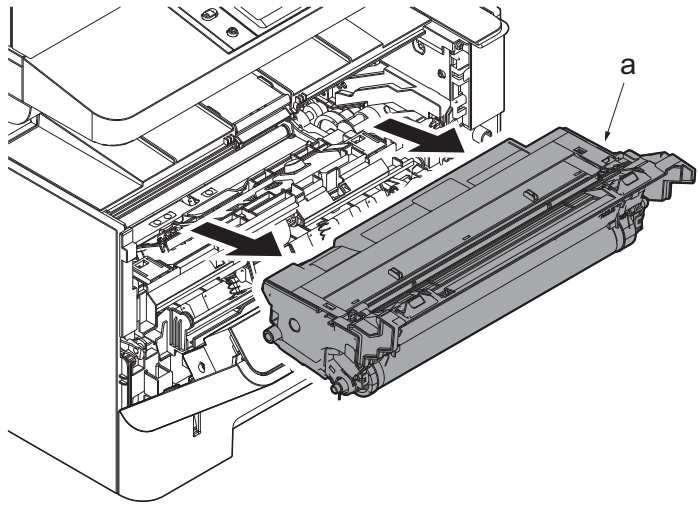


Figure 4-104

20. Stand the main unit so that you can see the bottom side.

21. Remove four screws(M3x8P tight)(a) and remove the front stay(b).

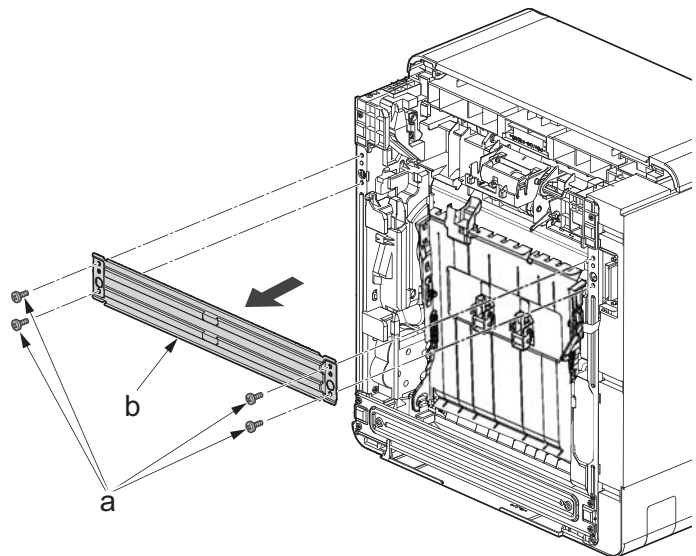


Figure 4-105

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

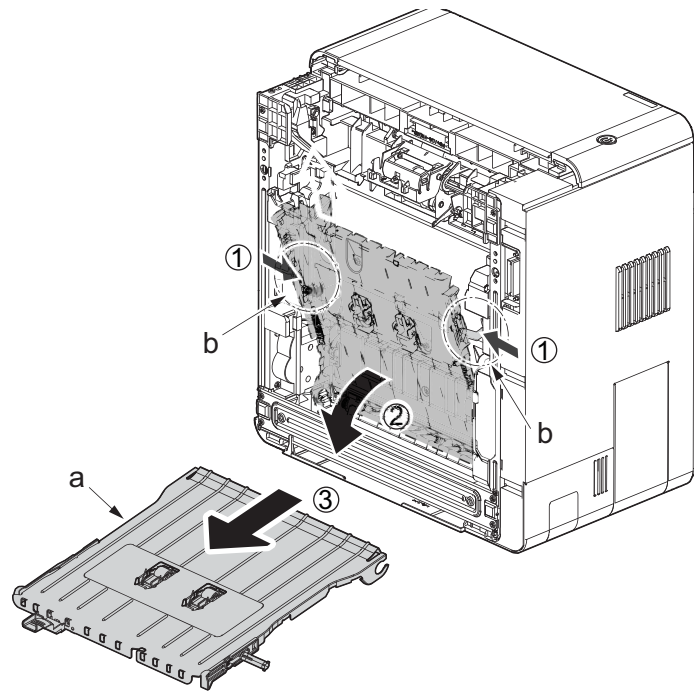


Figure 4-106

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

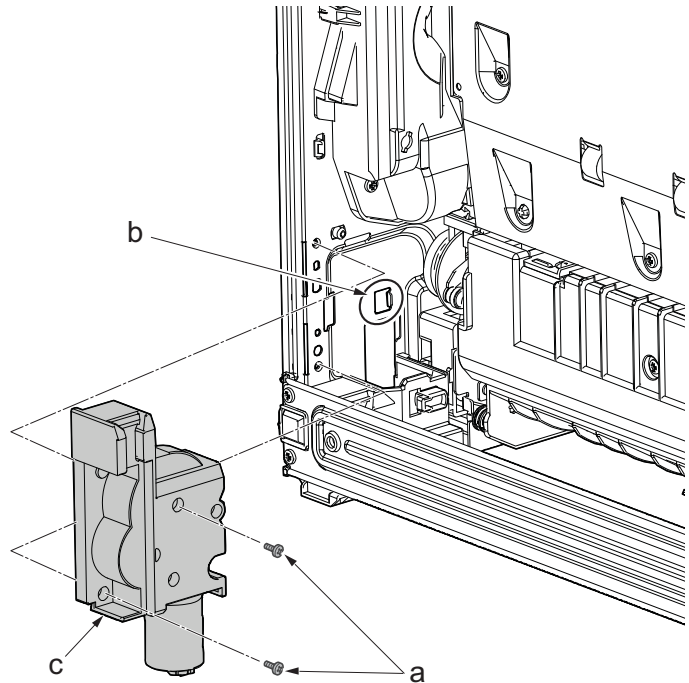


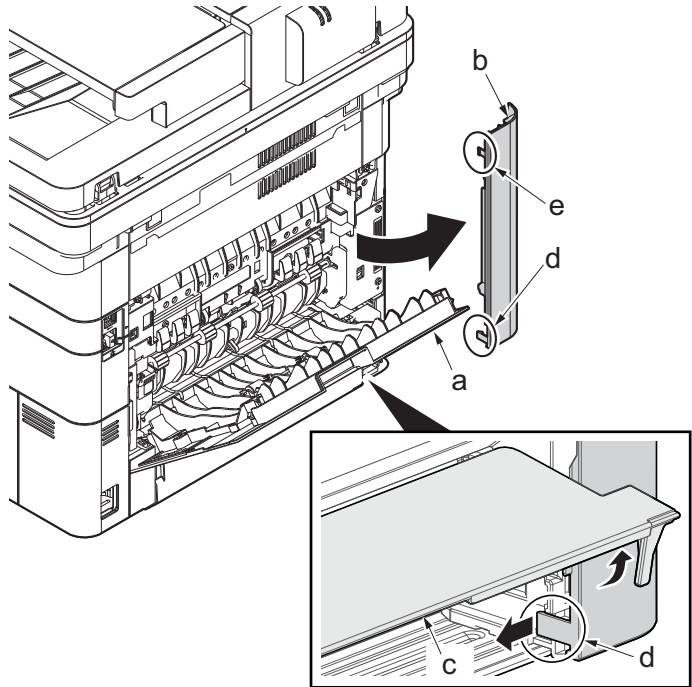
Figure 4-107

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

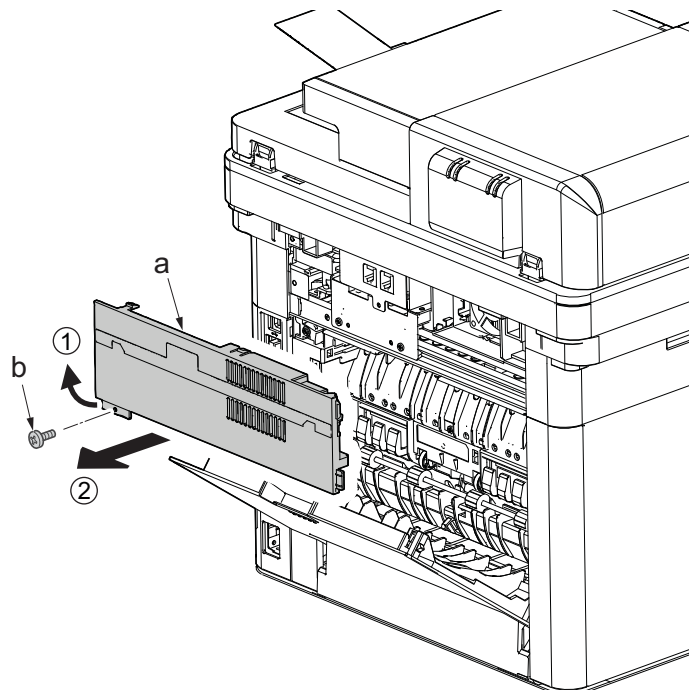
1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:

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

**Figure 4-108**

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

**Figure 4-109**

7. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
8. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

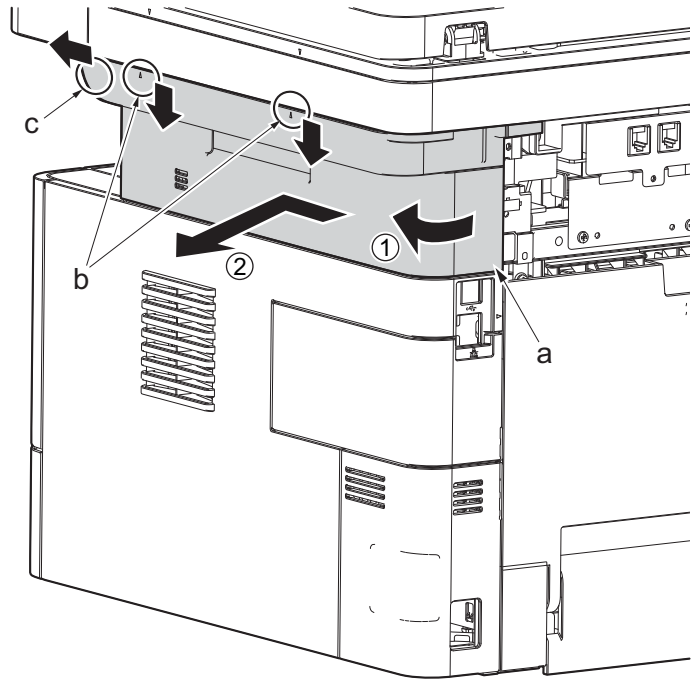


Figure 4-110

9. After twisting the DIMM cover(a), remove it while sliding it

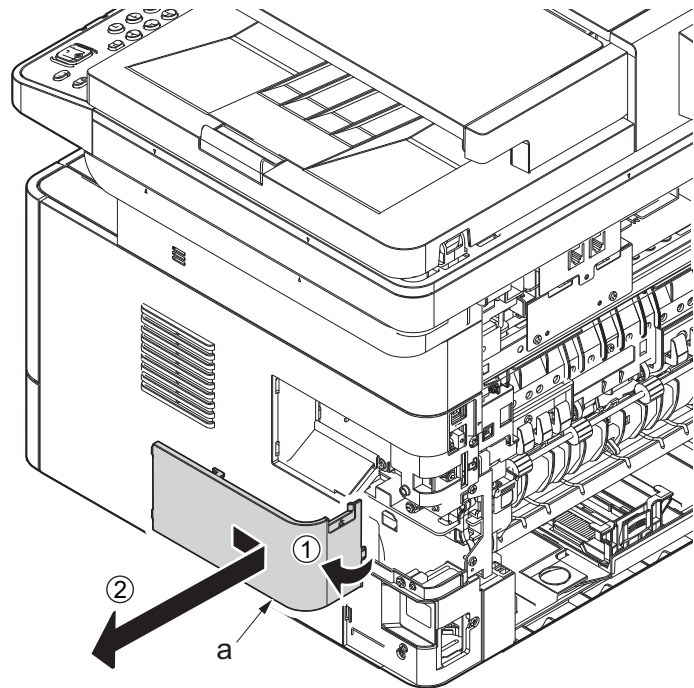


Figure 4-111

10. Twist the right rear cover (a) and detach it while sliding it.

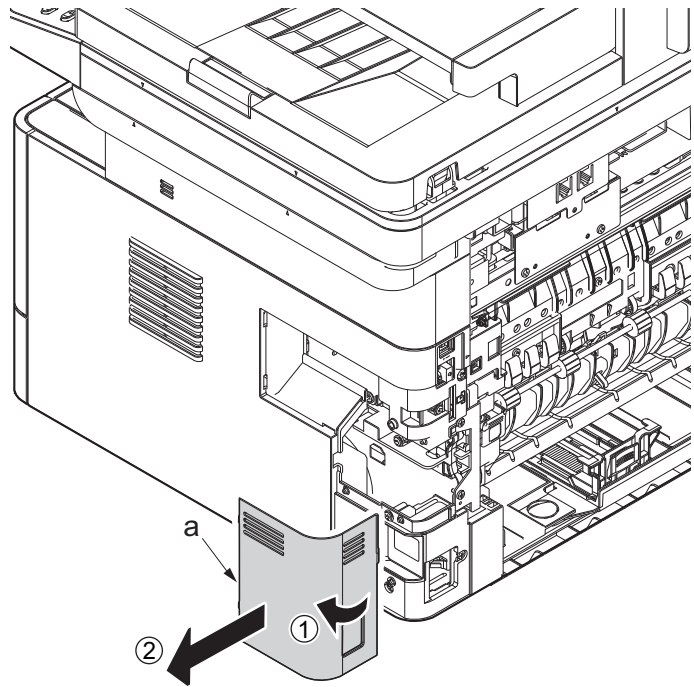


Figure 4-112

11. Detach the cassette
 12. Open the front cover (a).
 13. Detach two hooks (b) at the front side of the right cover (a).

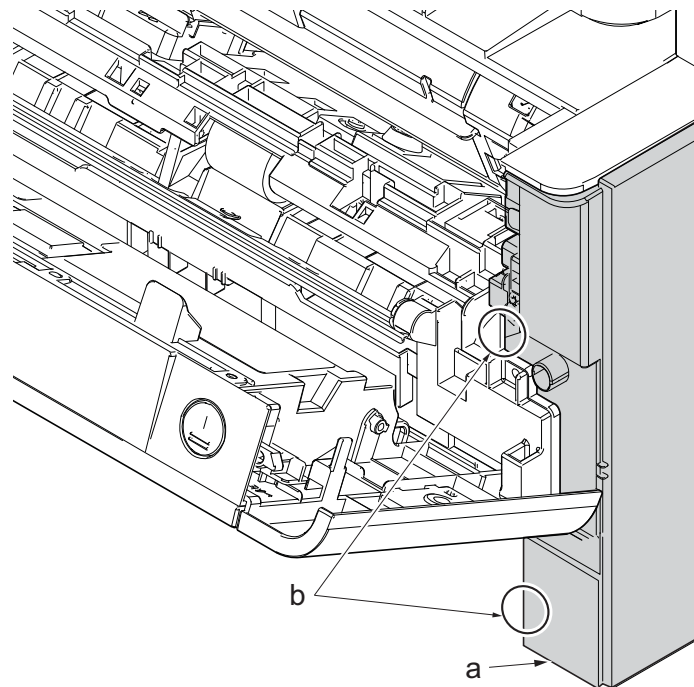


Figure 4-113

14. Release three hooks (b) at the rear side of the right cover (a).
15. Tilt the right cover (a) and detach it.

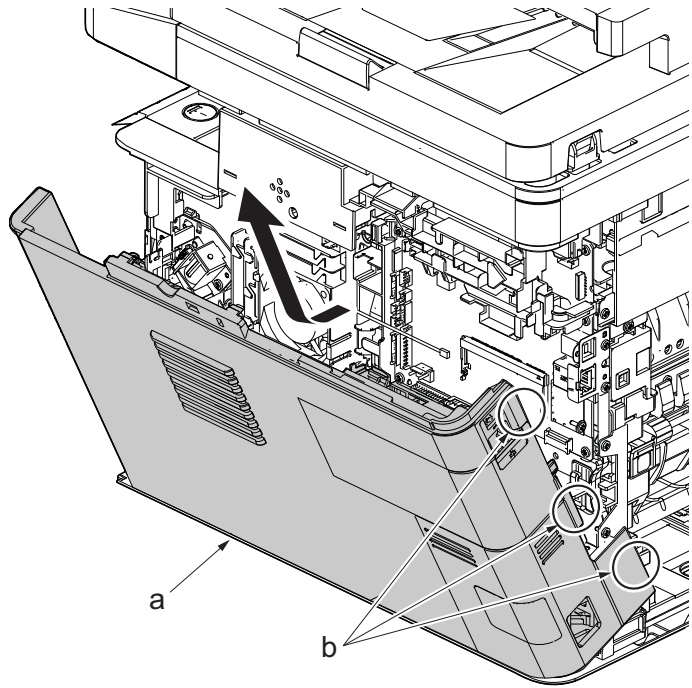


Figure 4-114

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

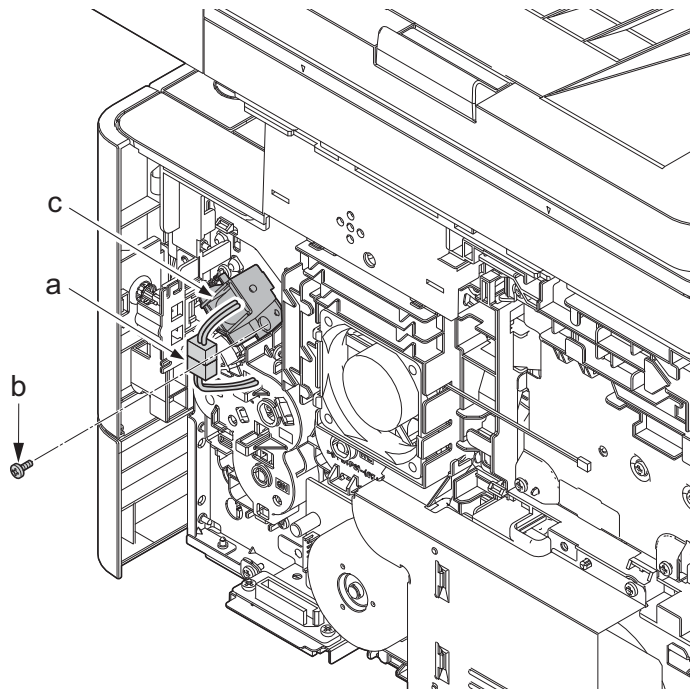


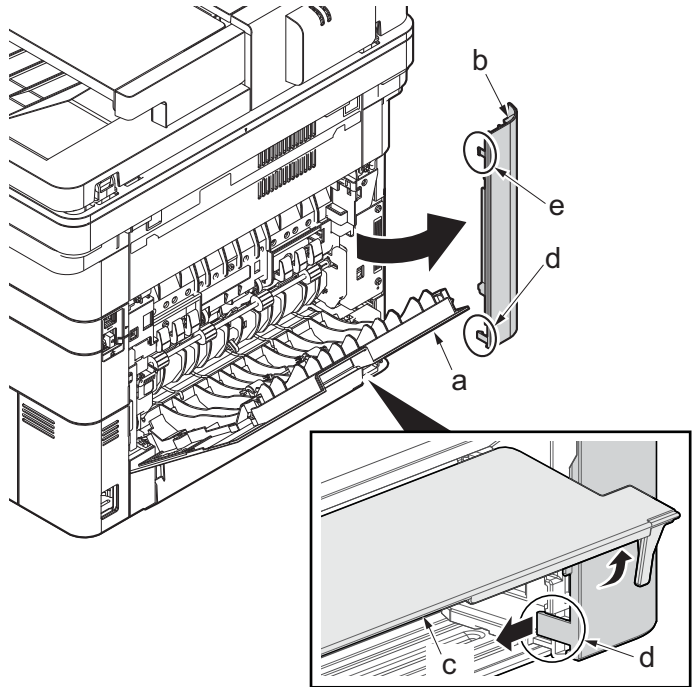
Figure 4-115

(3-4) Detaching reattaching the clutch.**Procedures**

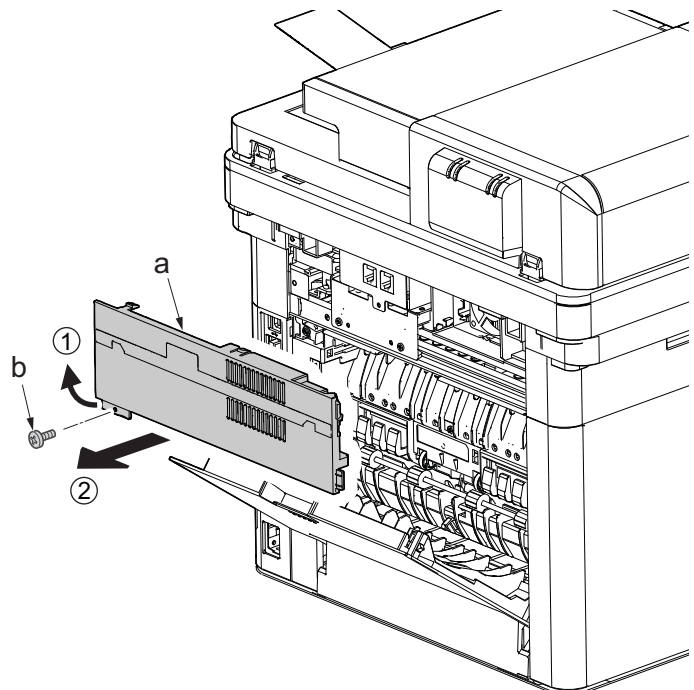
1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:

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

**Figure 4-116**

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

**Figure 4-117**

7. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
8. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

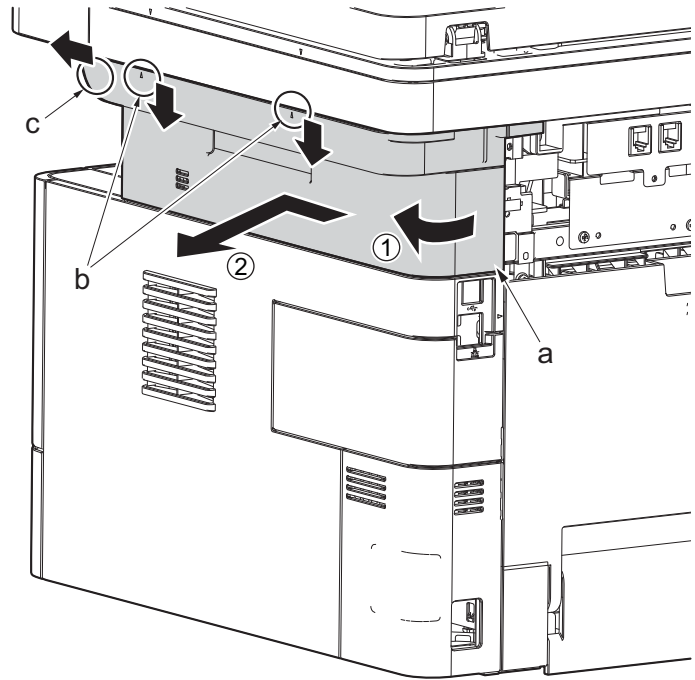


Figure 4-118

9. After twisting the DIMM cover(a), remove it while sliding it

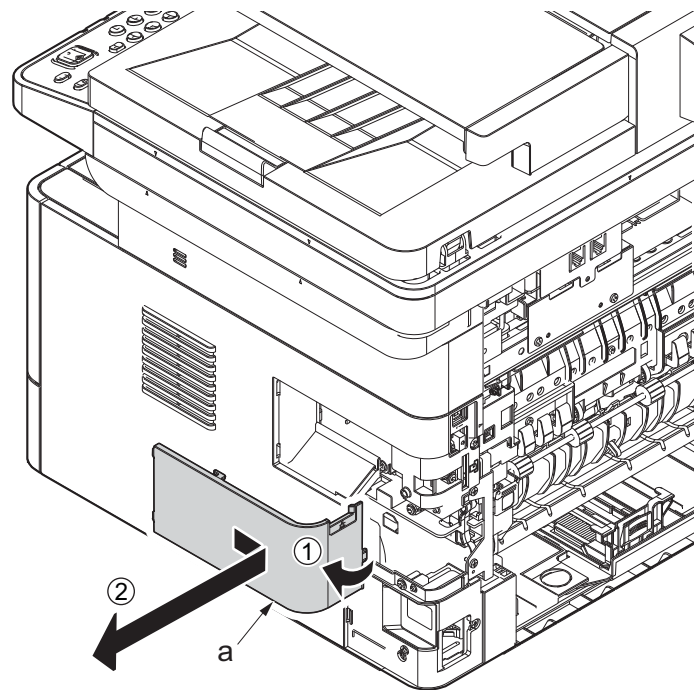


Figure 4-119

10. Twist the right rear cover (a) and detach it while sliding it.

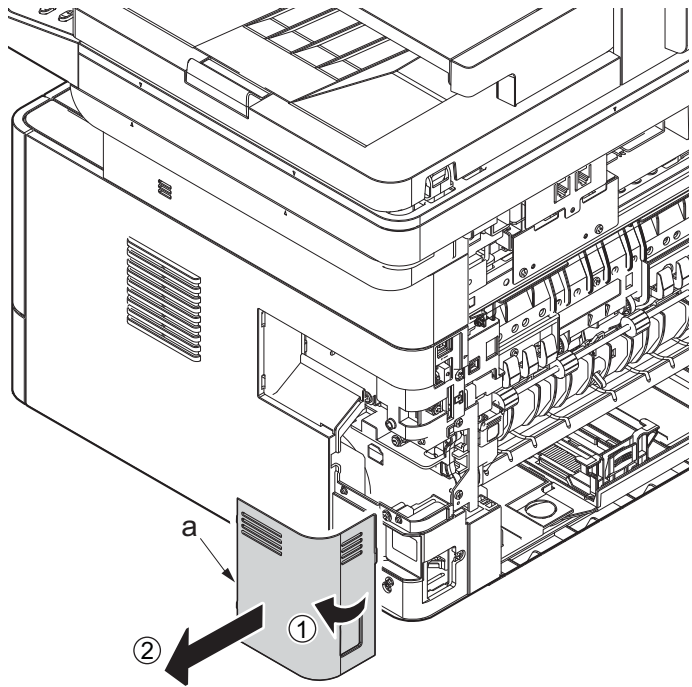


Figure 4-120

11. Detach the cassette
 12. Open the front cover (a).
 13. Detach two hooks (b) at the front side of the right cover (a).

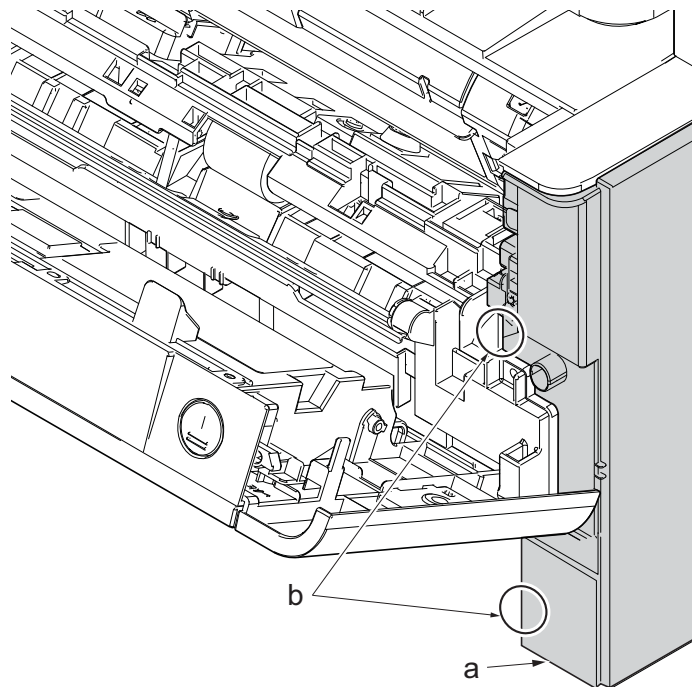


Figure 4-121

14. Release three hooks (b) at the rear side of the right cover (a).
15. Tilt the right cover (a) and detach it.

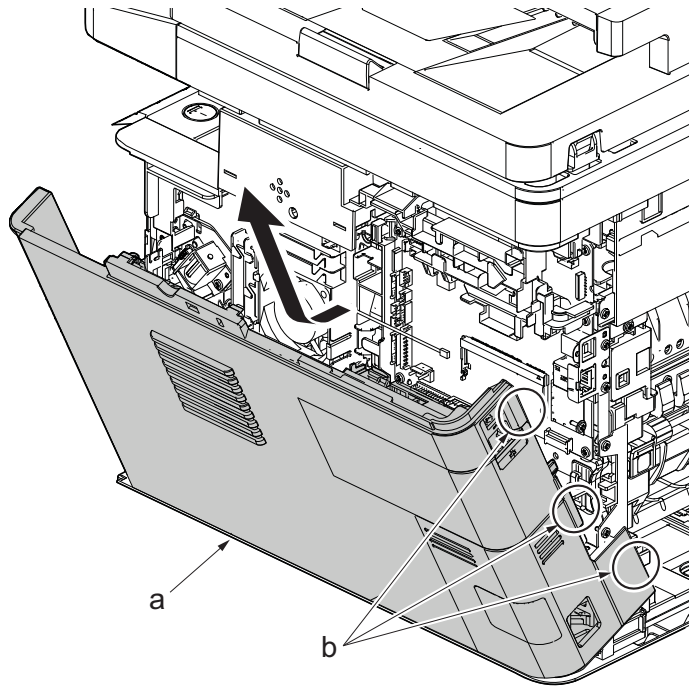


Figure 4-122

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

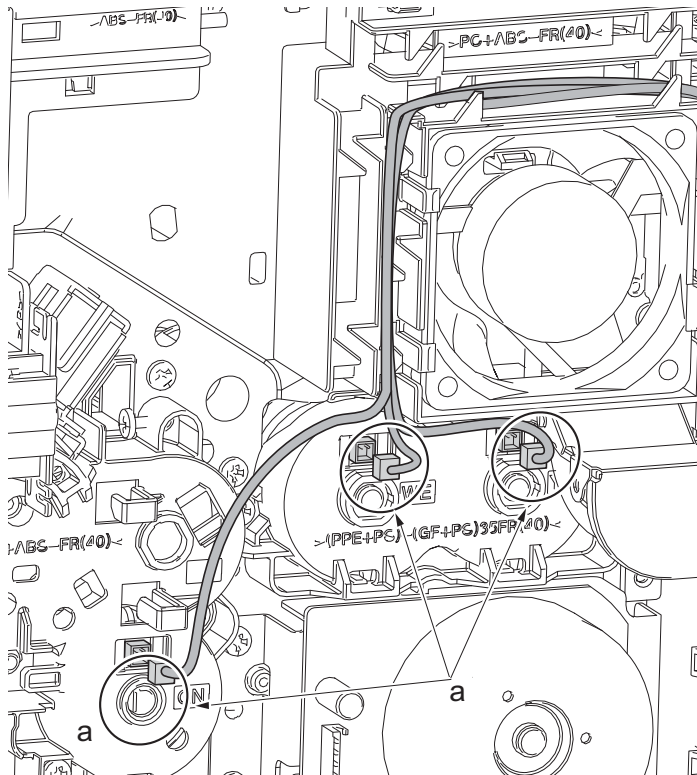
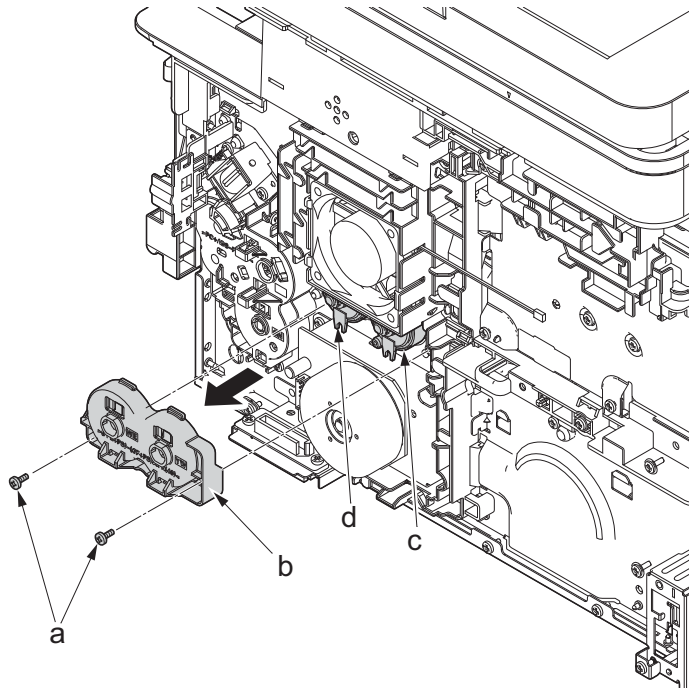
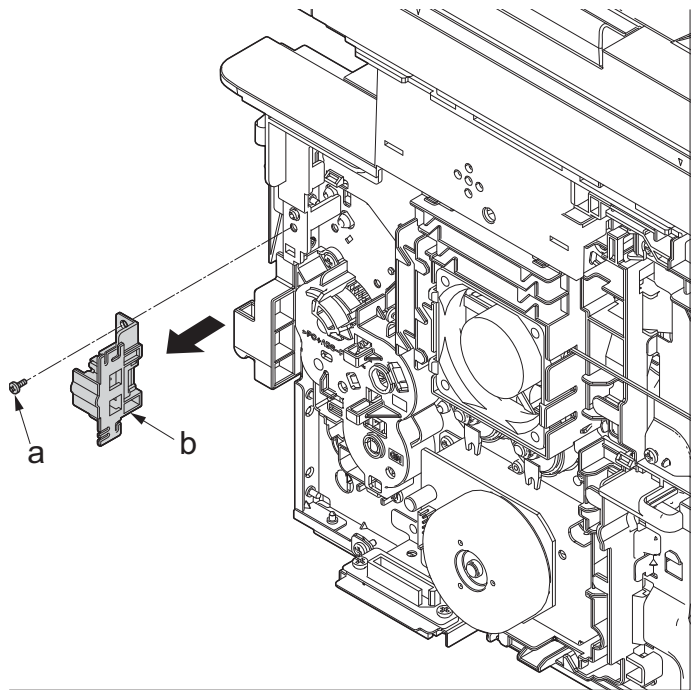


Figure 4-123

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

**Figure 4-124**

19. Remove the screw(M3x8P tight)(a) and detach the power switch(b).

**Figure 4-125**

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

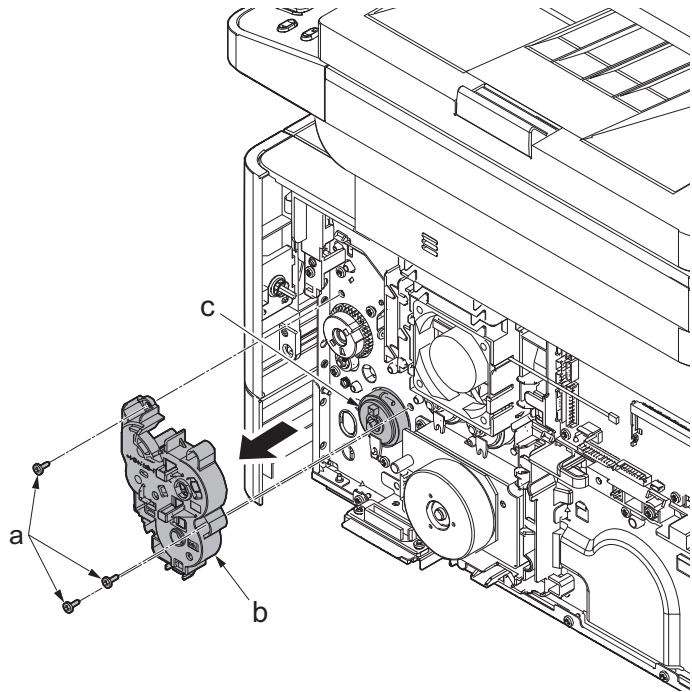


Figure 4-126

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

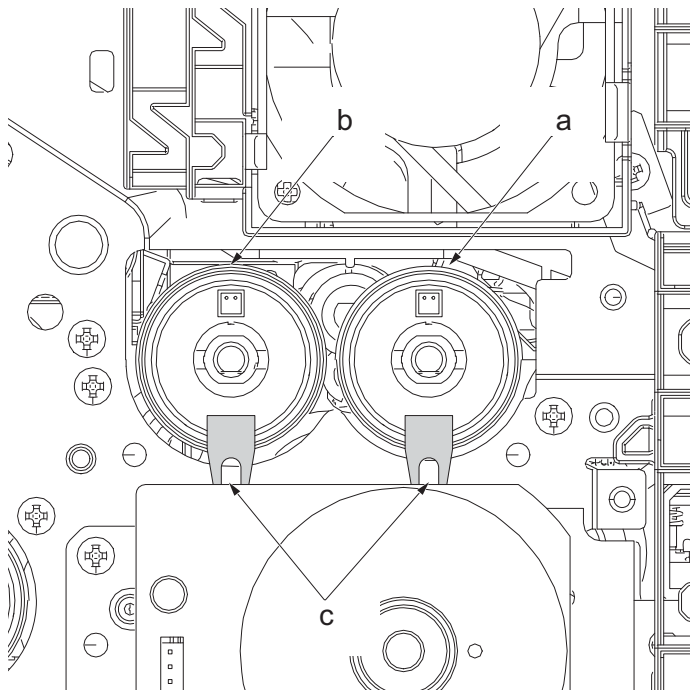


Figure 4-127

(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.

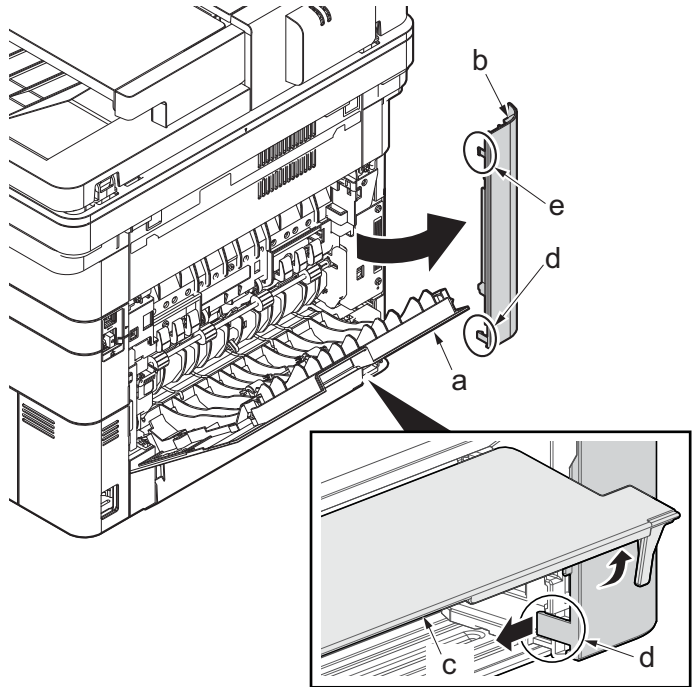


Figure 4-128

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

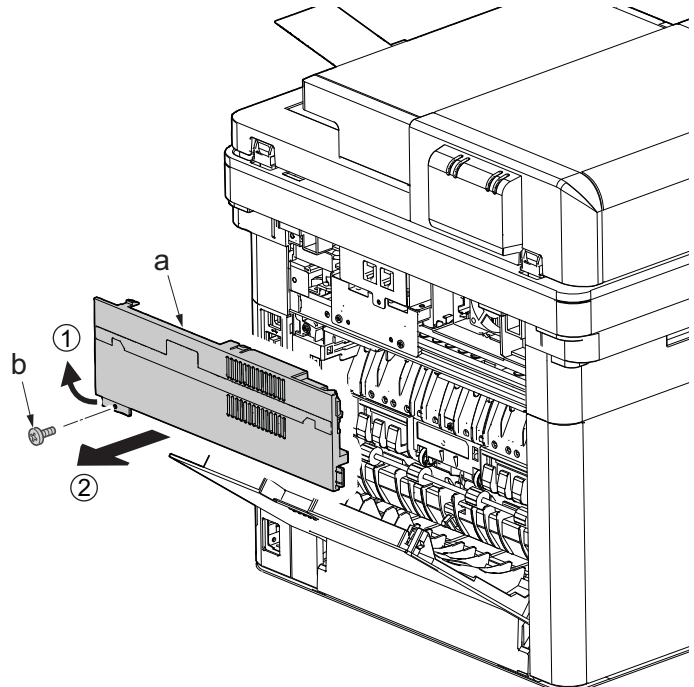


Figure 4-129

7. Remove the screw(M3×10TP)(b).
8. While twisting the ISU left cover (a), release two hooks (c) in the direction of the arrow.
9. Release the protrusion (d) of the ISU left cover (a) in the direction of the arrow and detach it.

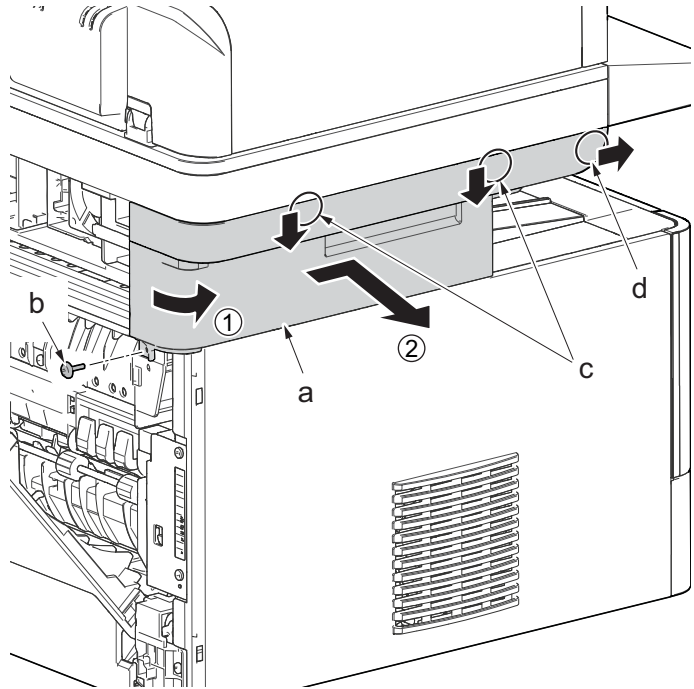


Figure 4-130

10. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
11. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

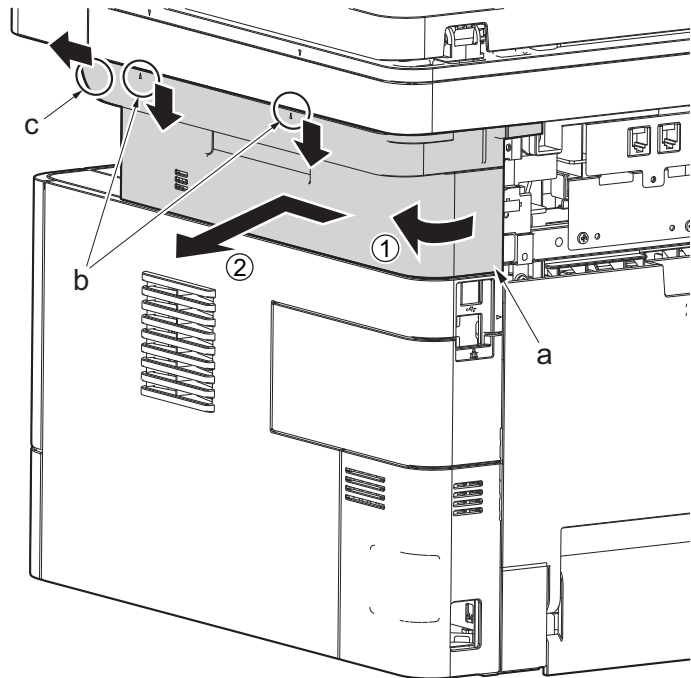


Figure 4-131

12. Detach the cassette
13. Open the front cover (a).
14. Release four hooks (b) at the front side of the left cover (a).

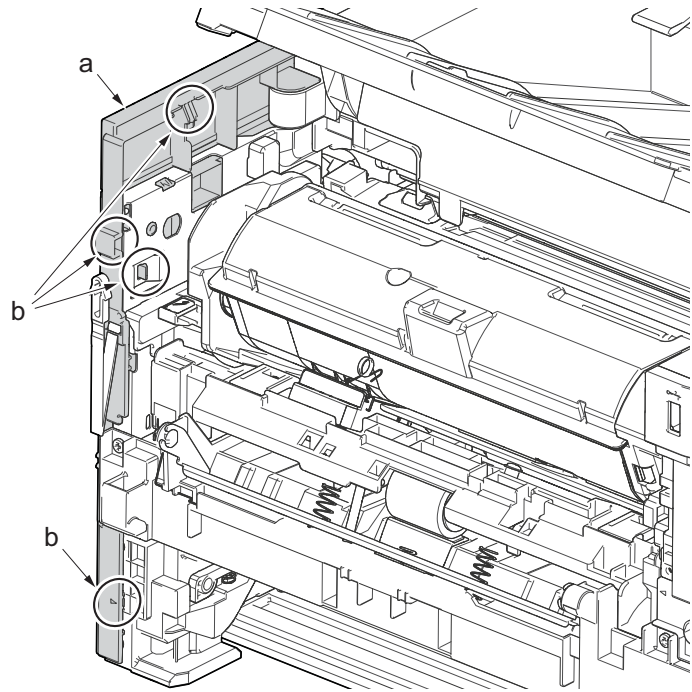


Figure 4-132

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

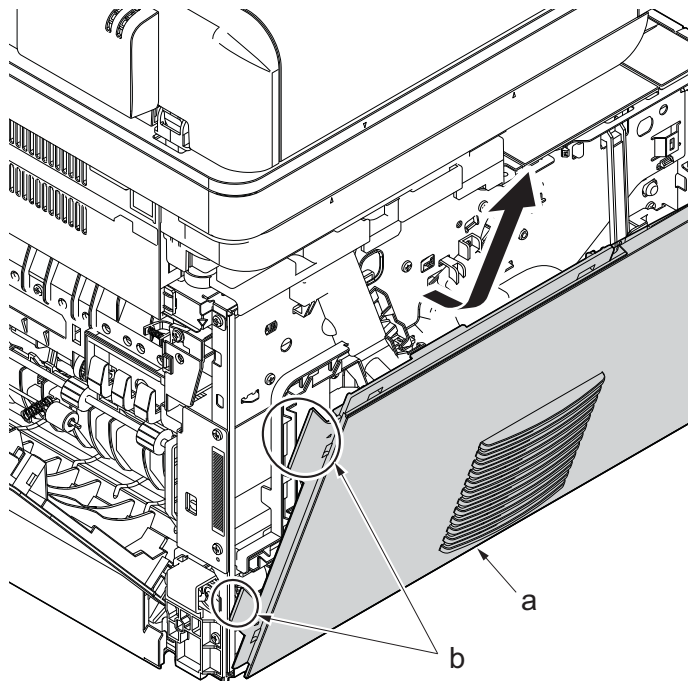


Figure 4-133

17. After twisting the DIMM cover(a), remove it while sliding it

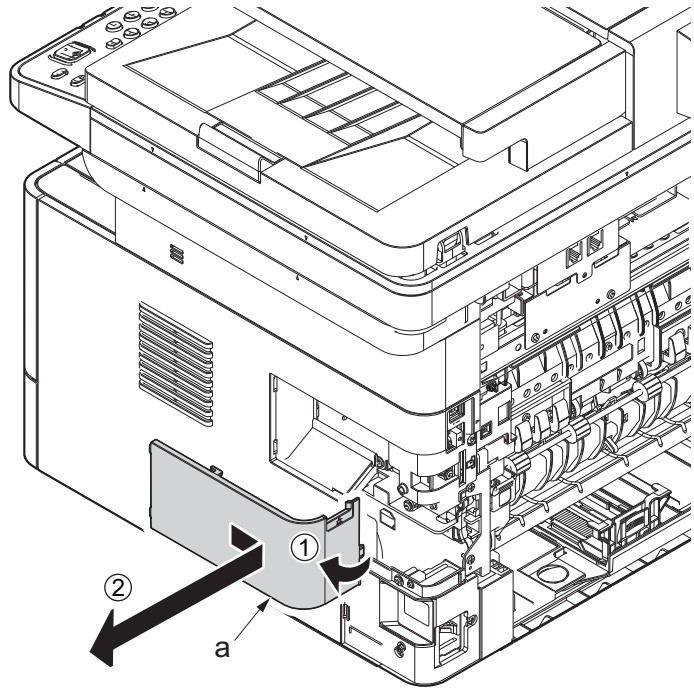


Figure 4-134

18. Twist the right rear cover (a) and detach it while sliding it.

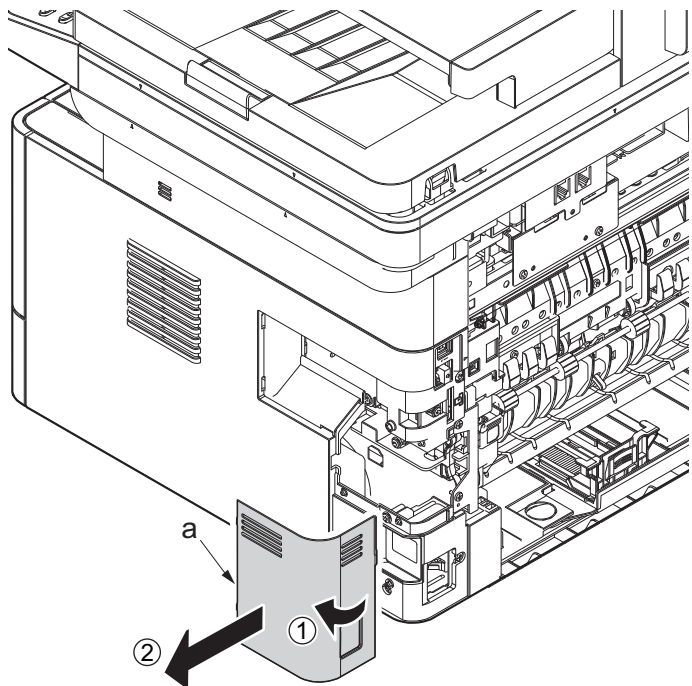


Figure 4-135

19. Detach two hooks (b) at the front side of the right cover (a).

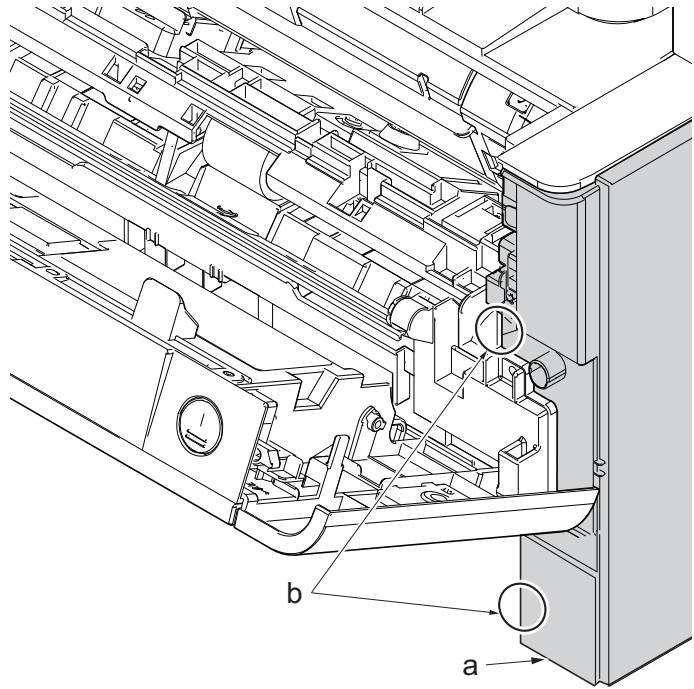


Figure 4-136

20. Release three hooks (b) at the rear side of the right cover (a).
21. Tilt the right cover (a) and detach it.

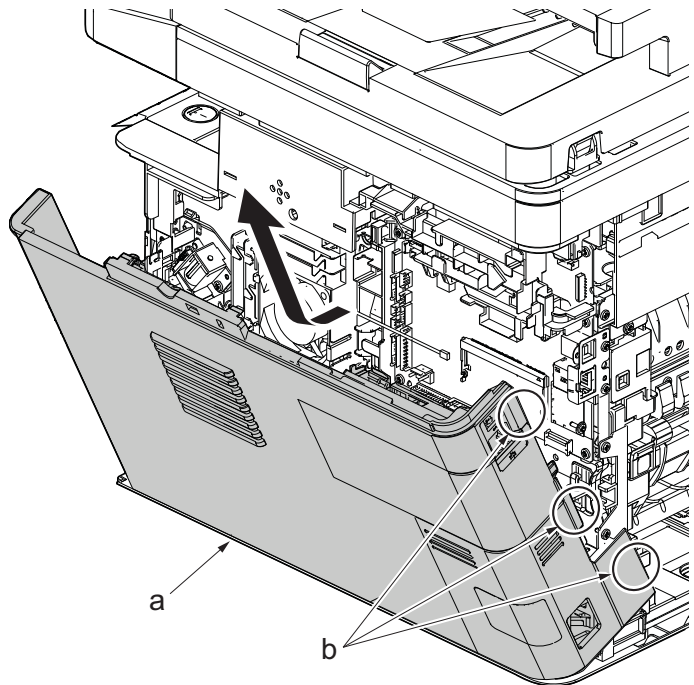


Figure 4-137

22. 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.

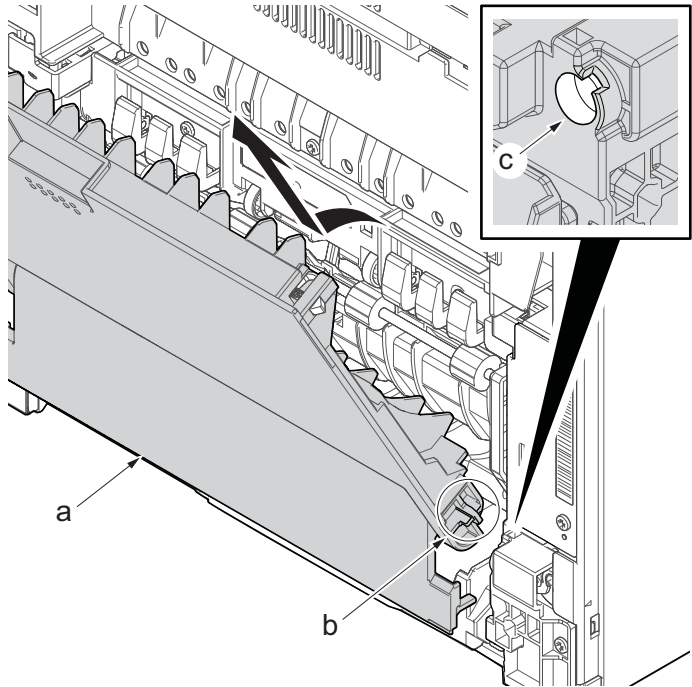


Figure 4-138

23. Remove the screw (M3×8S tight) (a), remove the ground terminal.

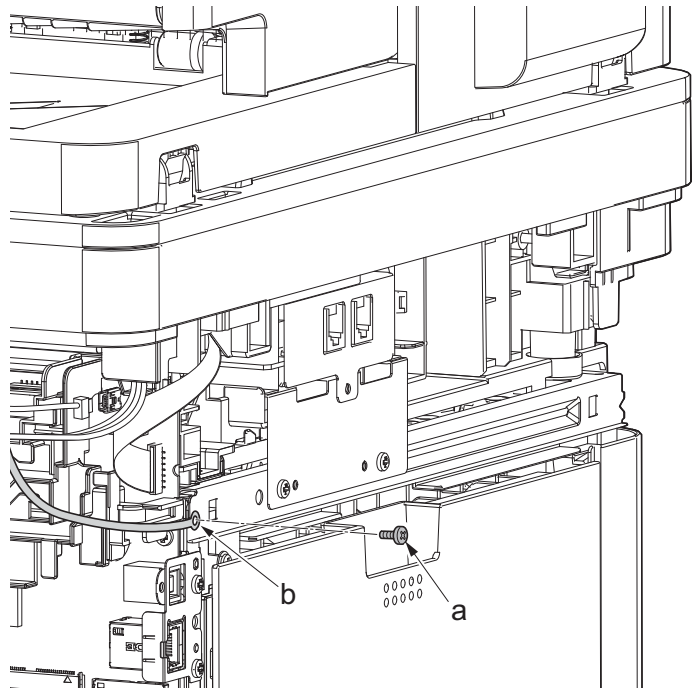


Figure 4-139

24. Disconnect six connectors (b), the connector (c)*1, USB connector (d)*1, FFC (e) and FFC (f)*2 from the main/engine PWB (a).

*1: TSI model only

*2: 40 ppm model only

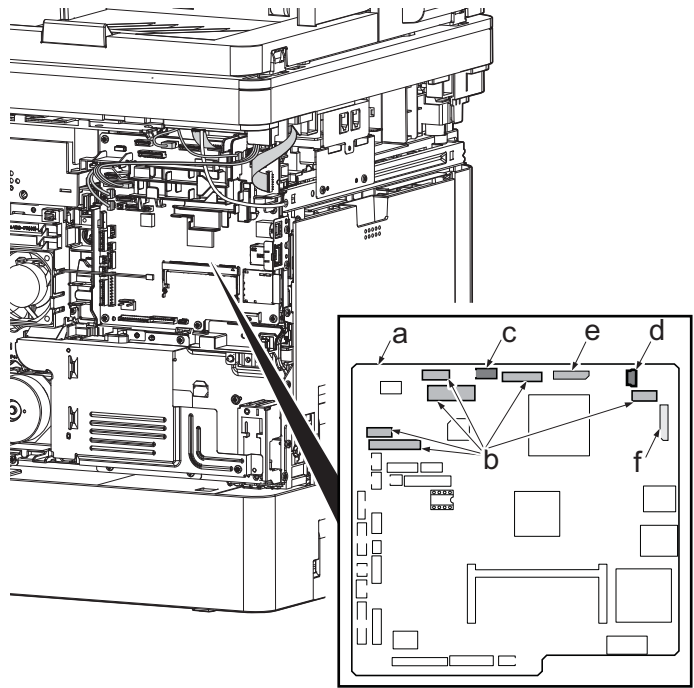


Figure 4-140

25. TSI model: remove the screw (M3x8B).
 26. Remove two screws (b)(M4x12).
 27. Align the image scanner unit(c) and document processor (d) in the direction of the arrow to release the hooks and detach them.

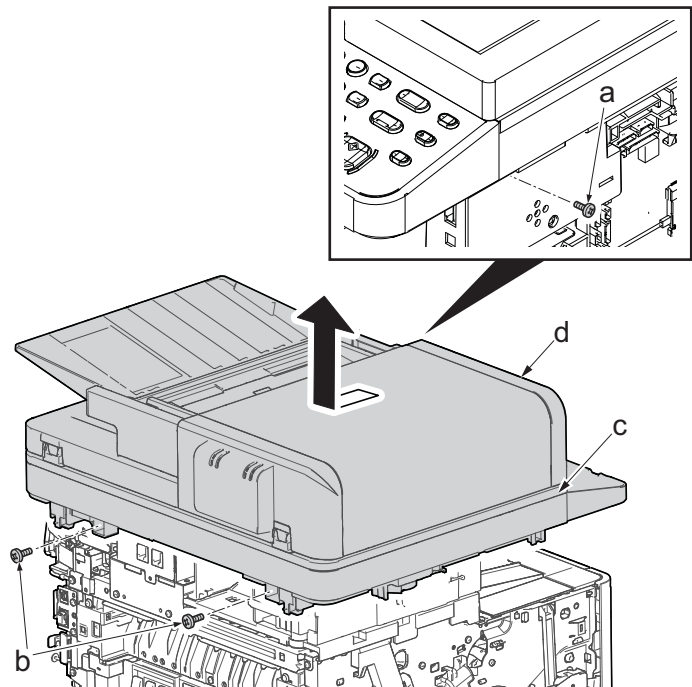


Figure 4-141

28. Remove two screws(M3x8S tight)(a), detach ISU left holder(b).

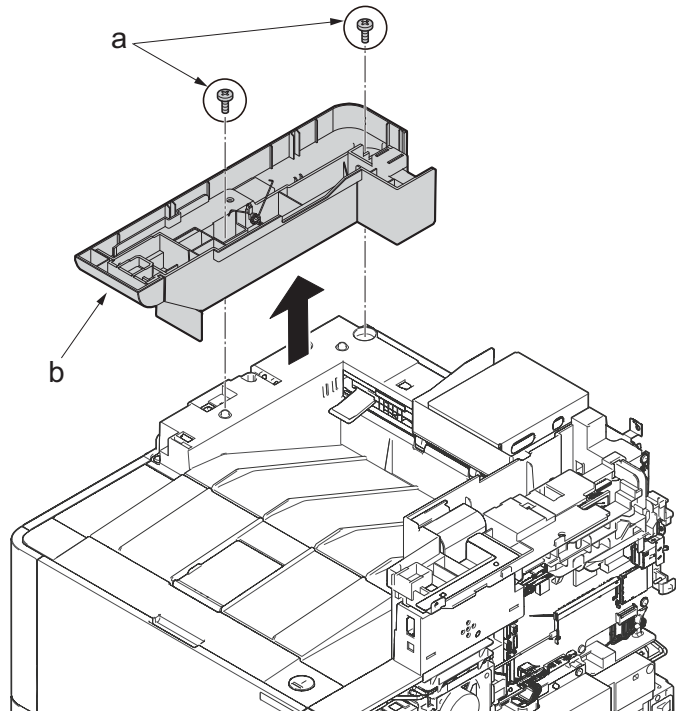


Figure 4-142

29. Disconnect the relay connector (a) of the speaker.
30. Disconnect the connector (c) from the main/engine PWB (b).

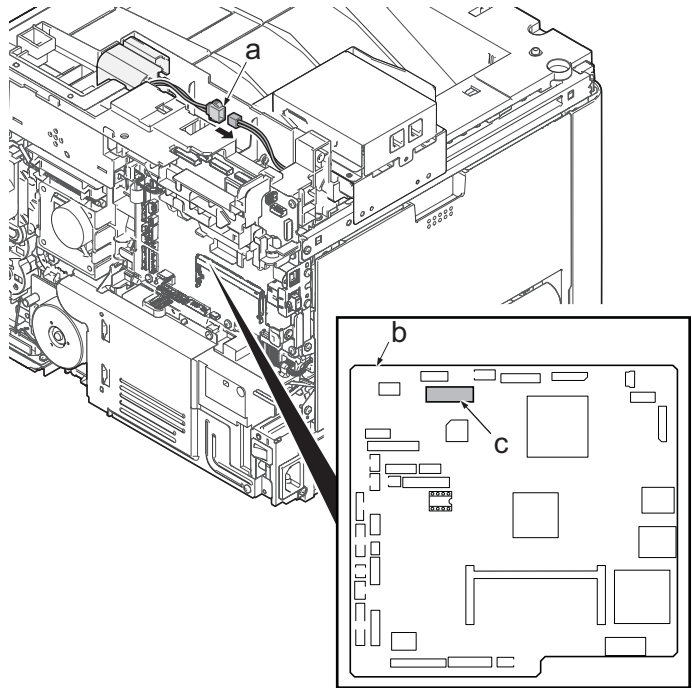
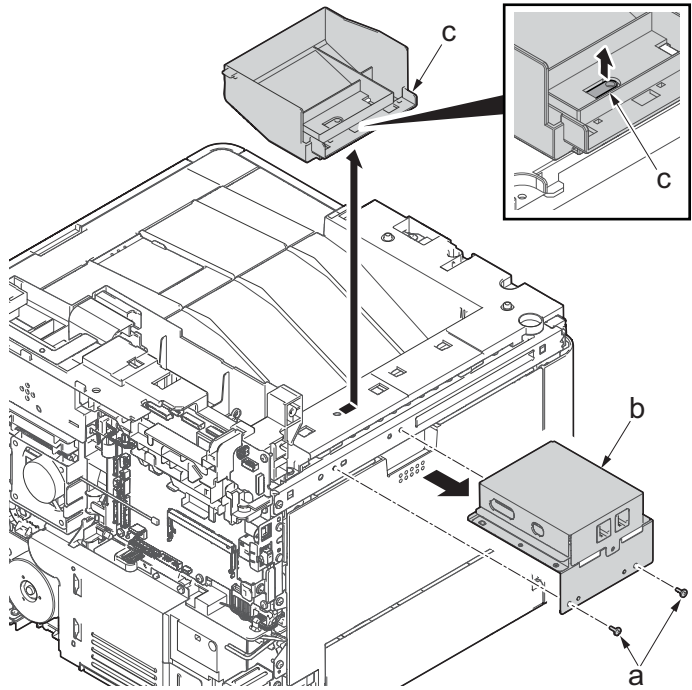
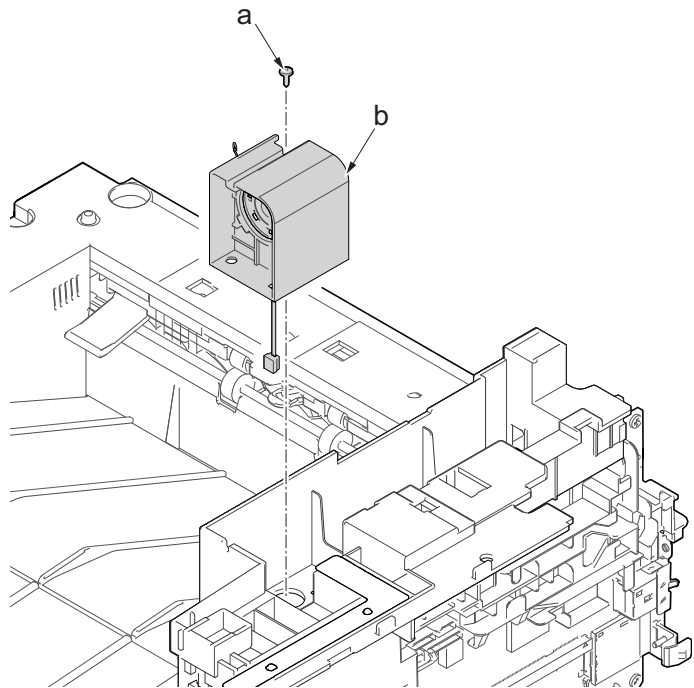


Figure 4-143

31. Remove two screws (a)(M3x8S tight) and detach the FAX PWB assembly(b).
32. Lift up the hook (d) of FAX PWB lower cover (c) and detach it while sliding it in the direction of the arrow.

**Figure 4-144**

33. Remove the screw(M3x8P tight)(a), detach the speaker holder (b).

**Figure 4-145**

34. Remove three screws(M3x8S tight)(a), detach ISU right holder(b).

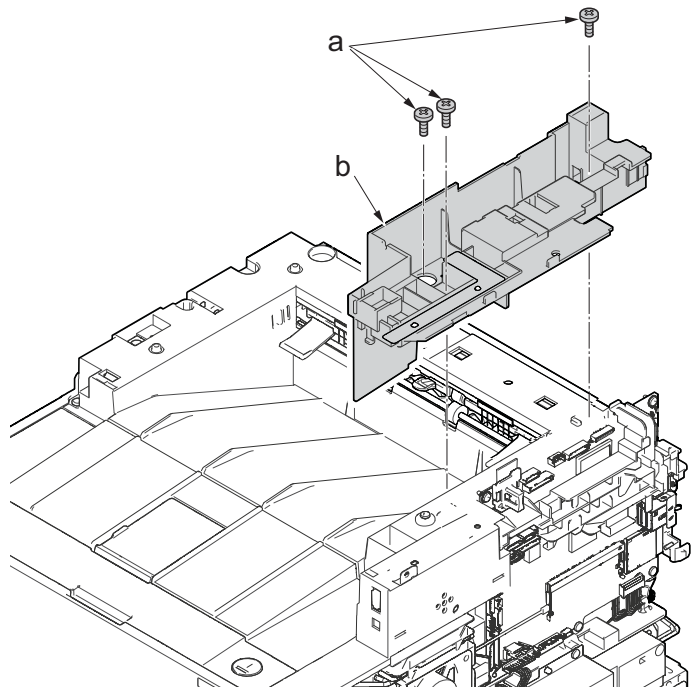


Figure 4-146

35. Open the top cover (a).
36. ?Remove the stop ring (b), ?remove the upper cover rack (c) from the upper cover (a).

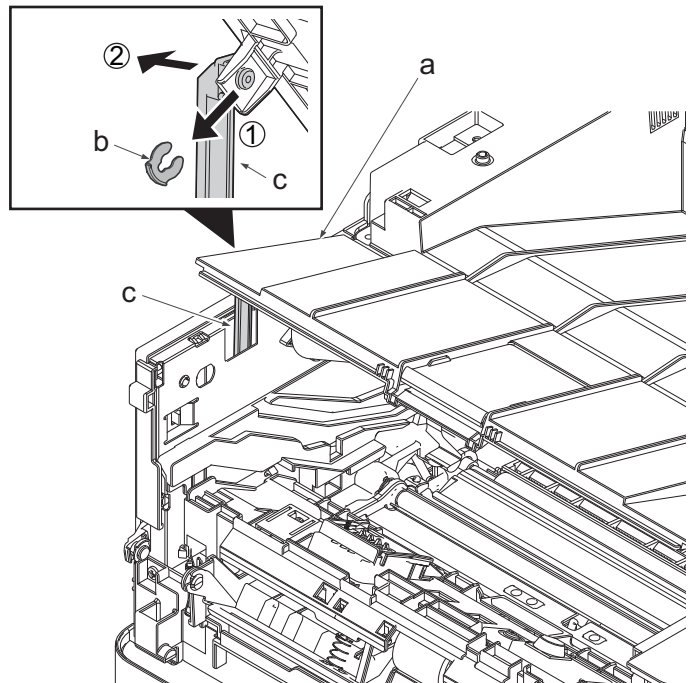


Figure 4-147

37. Remove two screws(M3×8TP)(a) and remove the eject tray (b) in the upper direction.

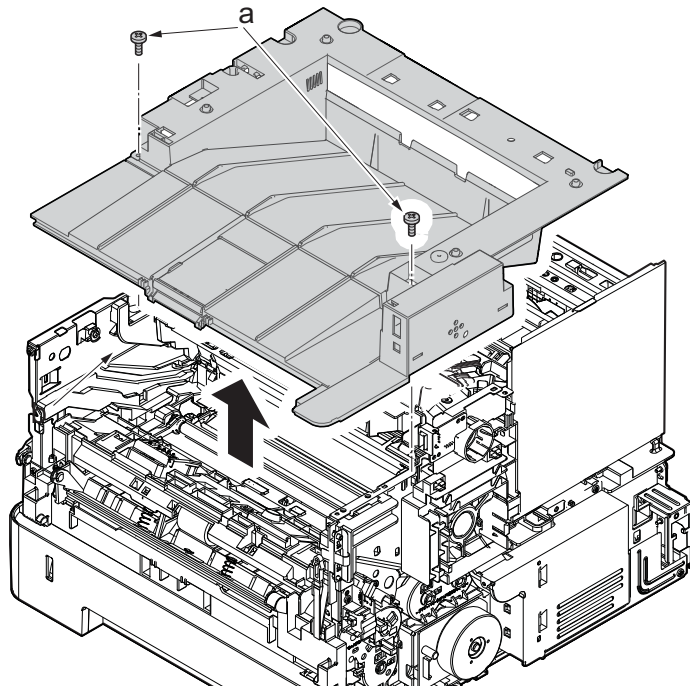


Figure 4-148

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

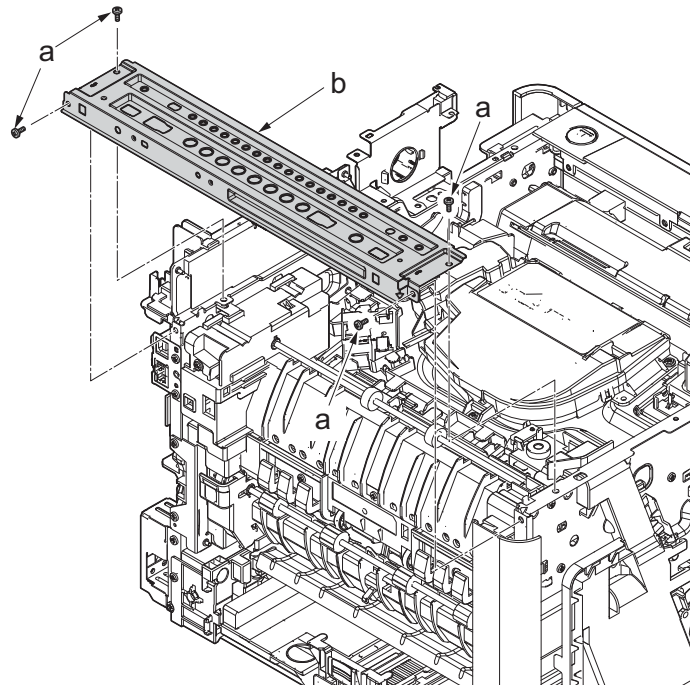


Figure 4-149

39. Disconnect the connector (a).

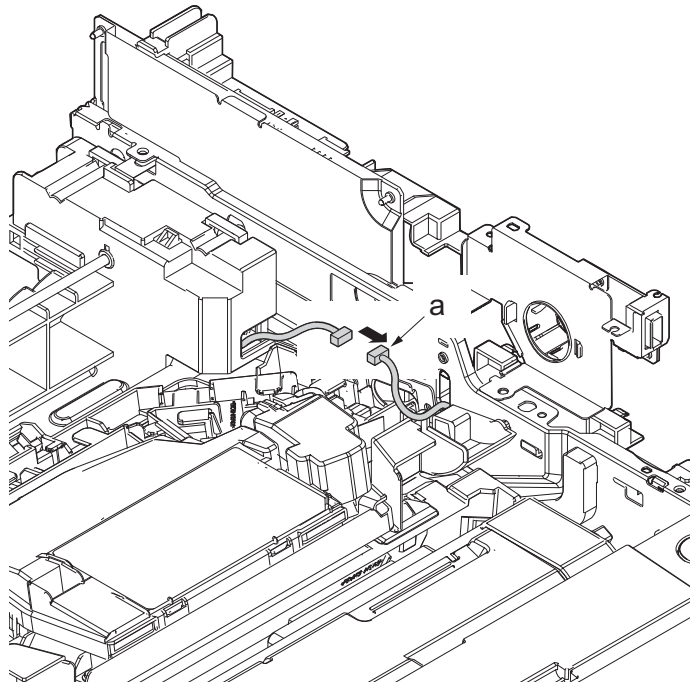


Figure 4-150

40. Remove the screw(M3×8S tight)(a).

41. Remove the screw(M3×8P tight)(b).

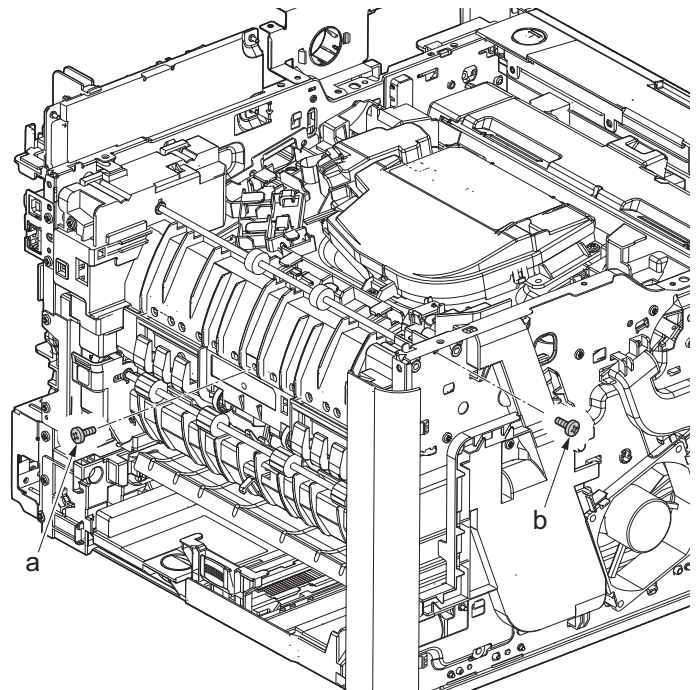


Figure 4-151

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

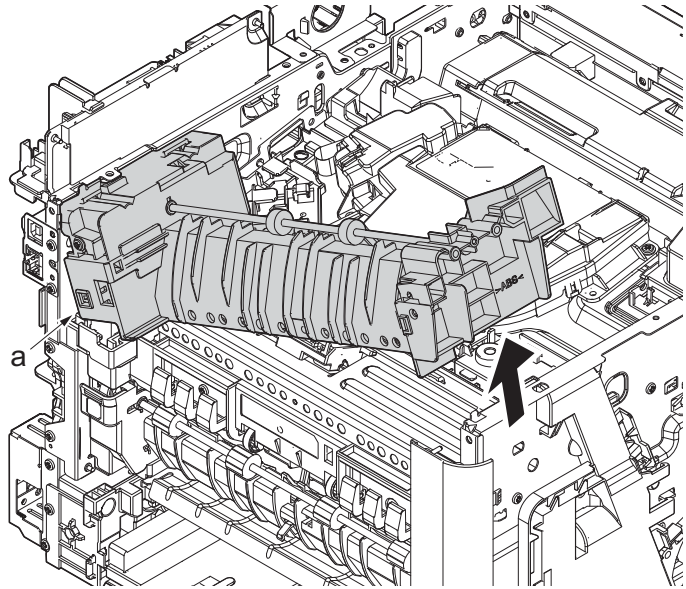


Figure 4-152

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

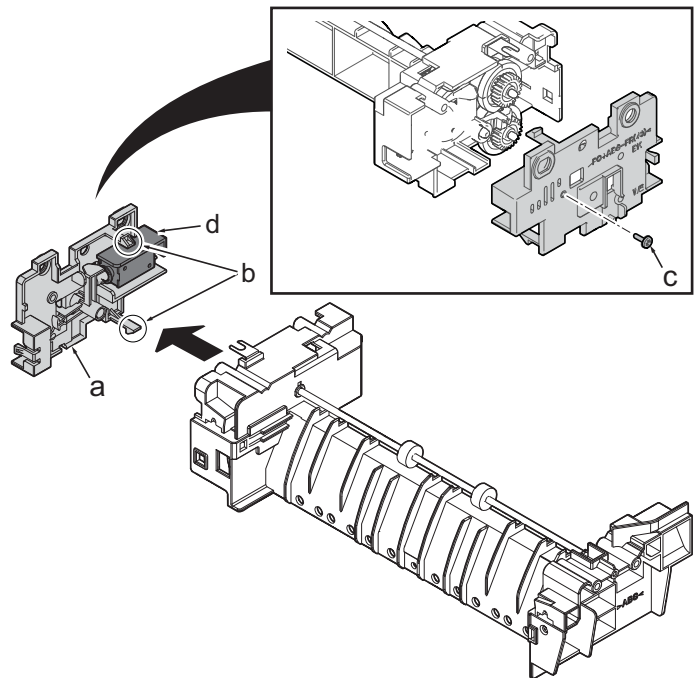


Figure 4-153

(4) Others

(4-1) Detaching and reattaching the speaker

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.

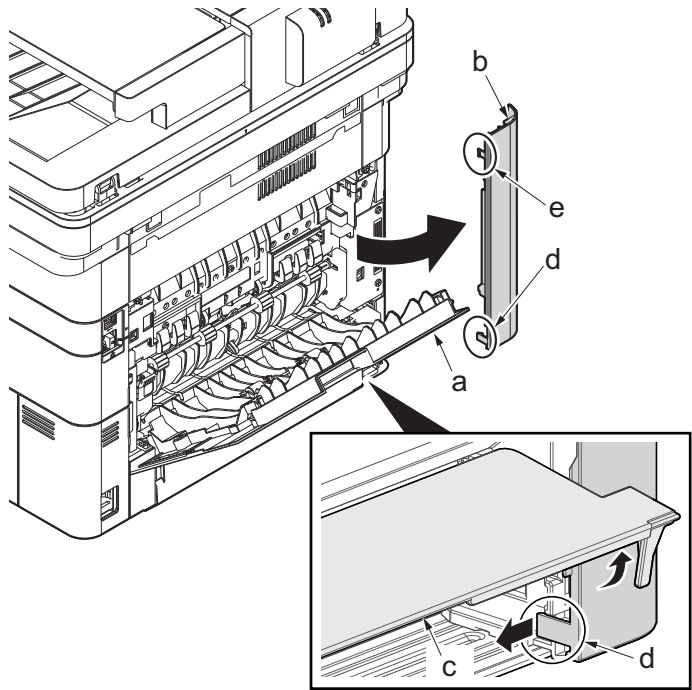


Figure 4-154

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

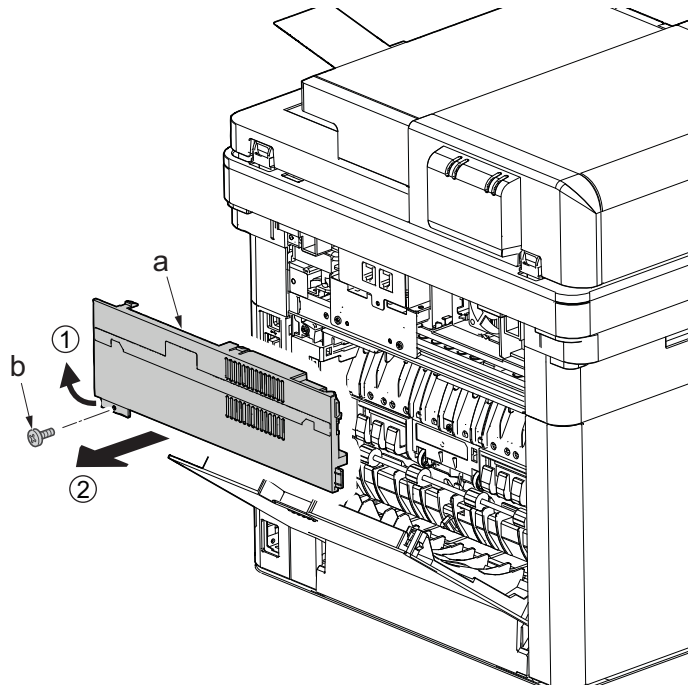


Figure 4-155

7. Remove the screw(M3×10TP)(b).
8. While twisting the ISU left cover (a), release two hooks (c) in the direction of the arrow.
9. Release the protrusion (d) of the ISU left cover (a) in the direction of the arrow and detach it.

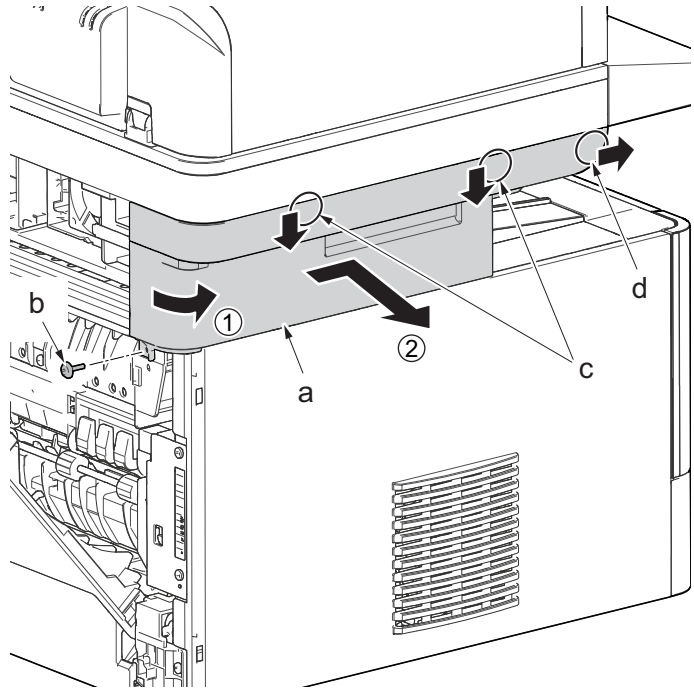


Figure 4-156

10. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
11. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

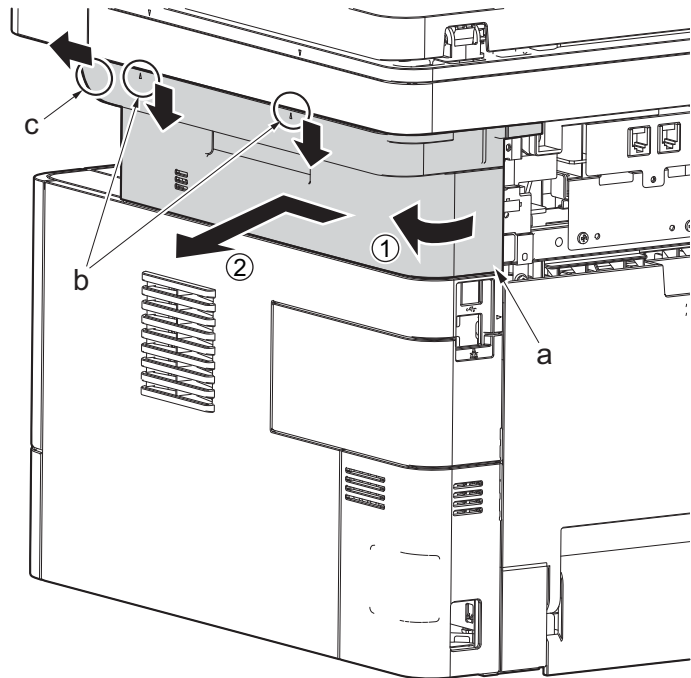


Figure 4-157

12. After twisting the DIMM cover(a), remove it while sliding it

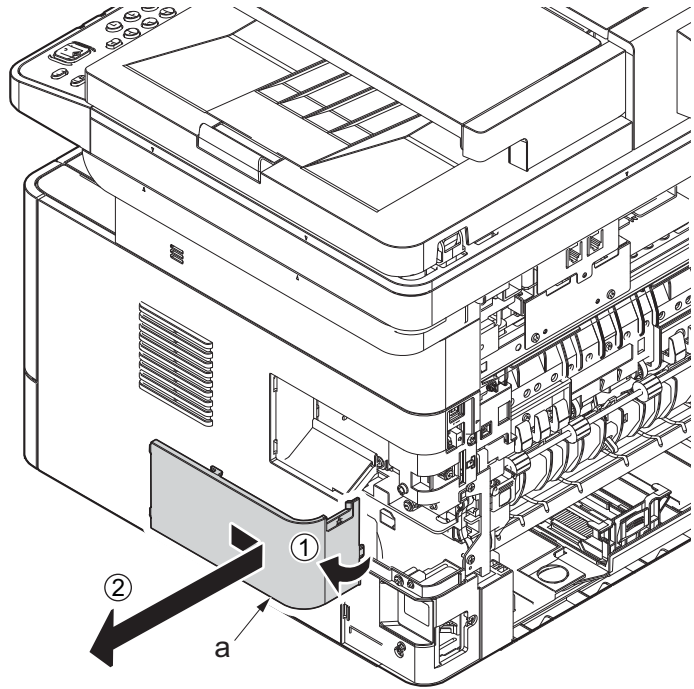


Figure 4-158

13. Twist the right rear cover (a) and detach it while sliding it.

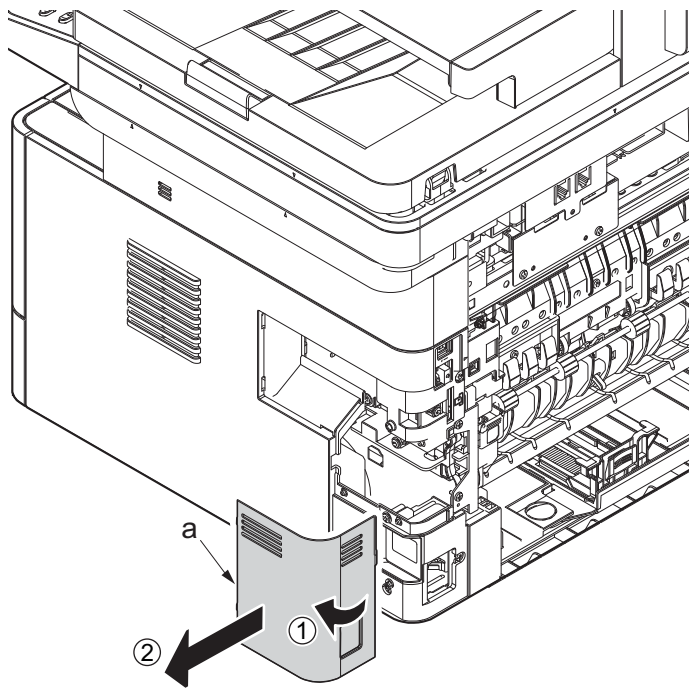


Figure 4-159

14. Detach the cassette
15. Open the front cover (a).
16. Detach two hooks (b) at the front side of the right cover (a).

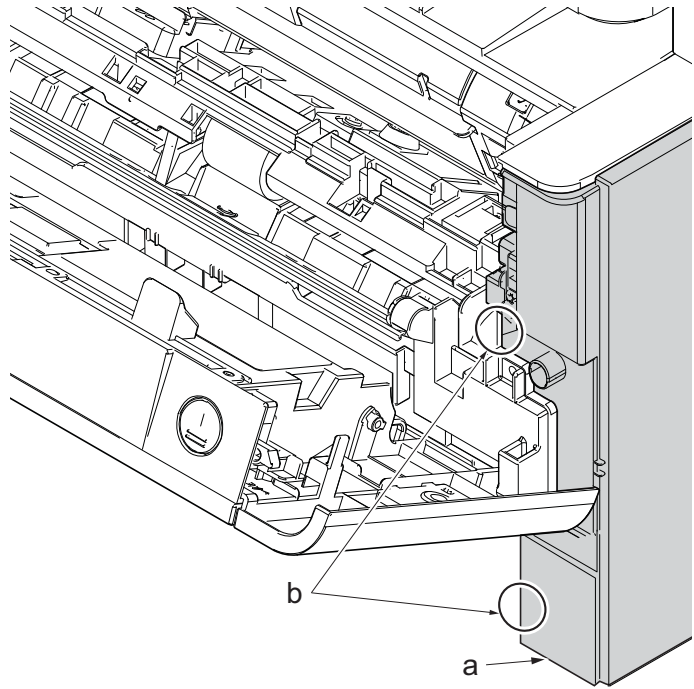


Figure 4-160

17. Release three hooks (b) at the rear side of the right cover (a).
18. Tilt the right cover (a) and detach it.

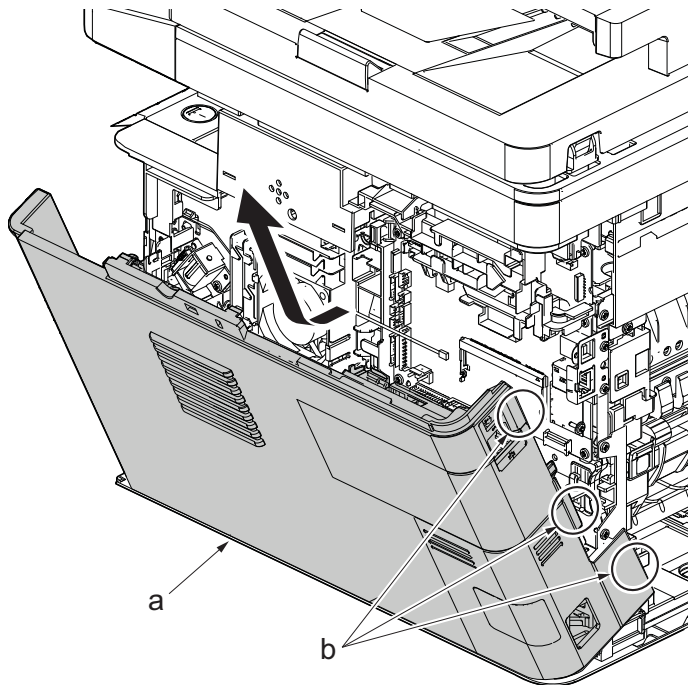


Figure 4-161

19. Remove the screw(M3×8S tight)(a), remove the ground terminal.

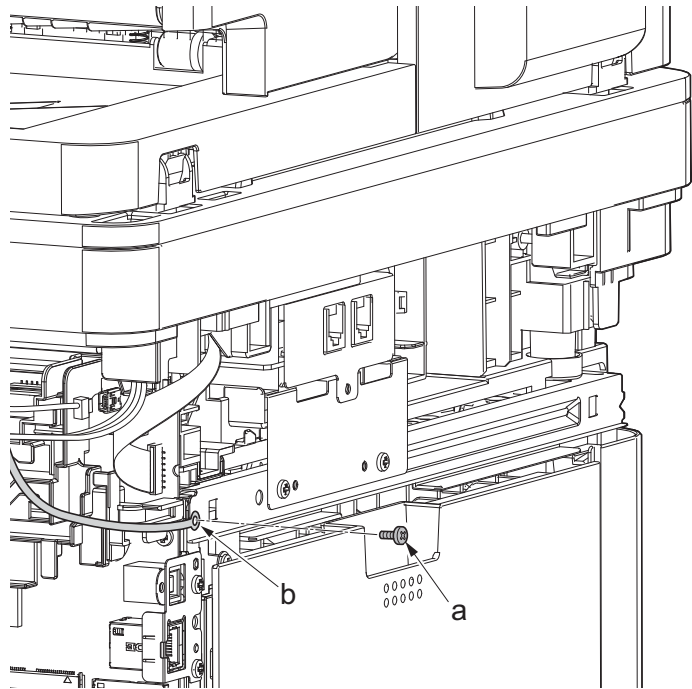


Figure 4-162

20. Disconnect six connectors (b), the connector (c)*1, USB connector (d)*1, FFC (e) and FFC (f)*2 from the main/engine PWB (a).

*1: TSI model only

*2: 40 ppm model only

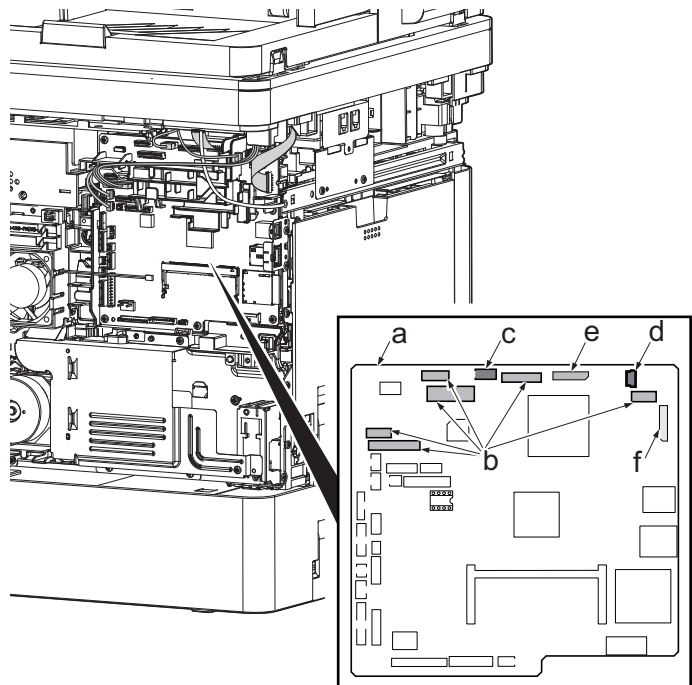


Figure 4-163

21. TSI model: remove the screw (M3x8B).
22. Remove two screws (b)(M4x12).
23. Align the image scanner unit(c) and document processor (d) in the direction of the arrow to release the hooks and detach them.

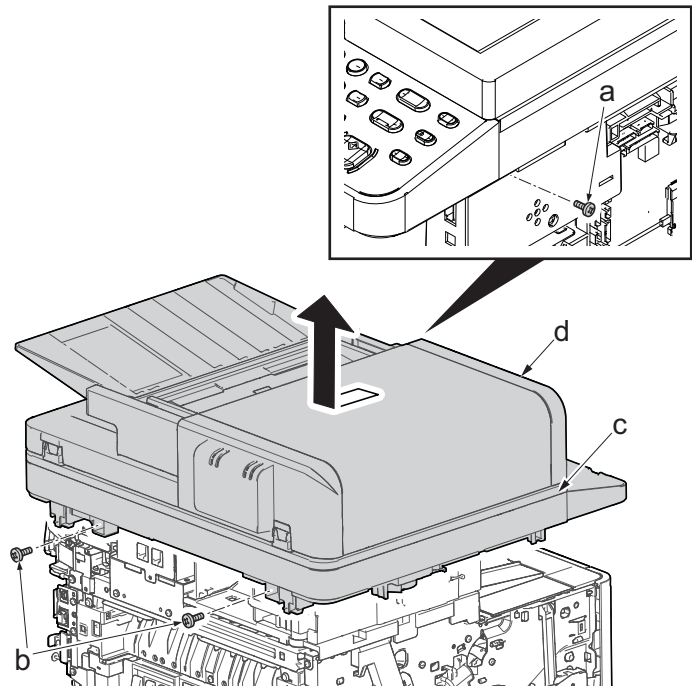


Figure 4-164

24. Remove the screw(M3x8P tight)(a), detach the speaker holder (b).
25. Check the speaker(b), and clean or replace it.
26. Reattach the parts in the original position.

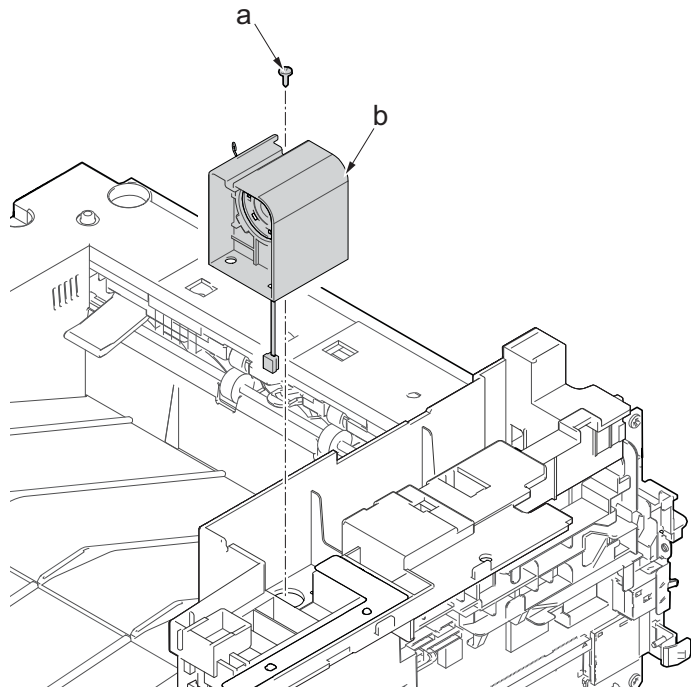
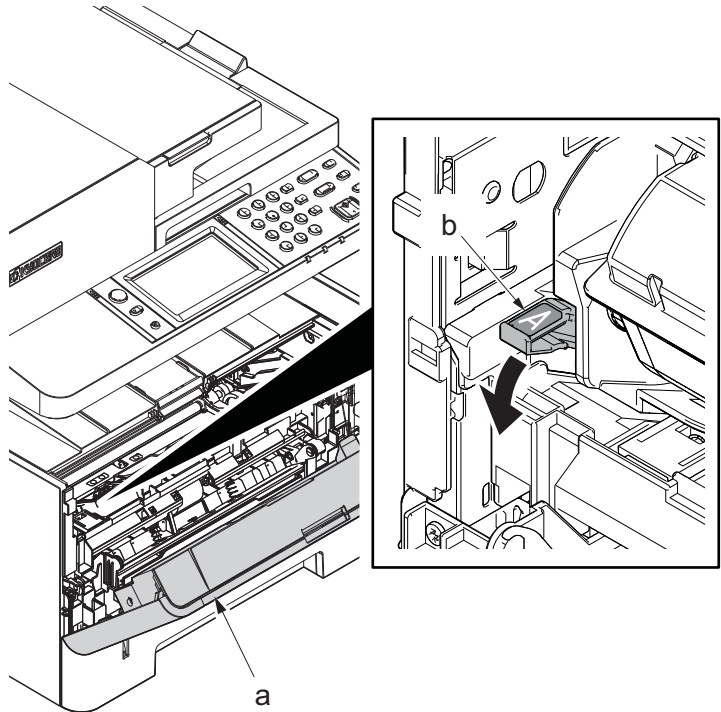


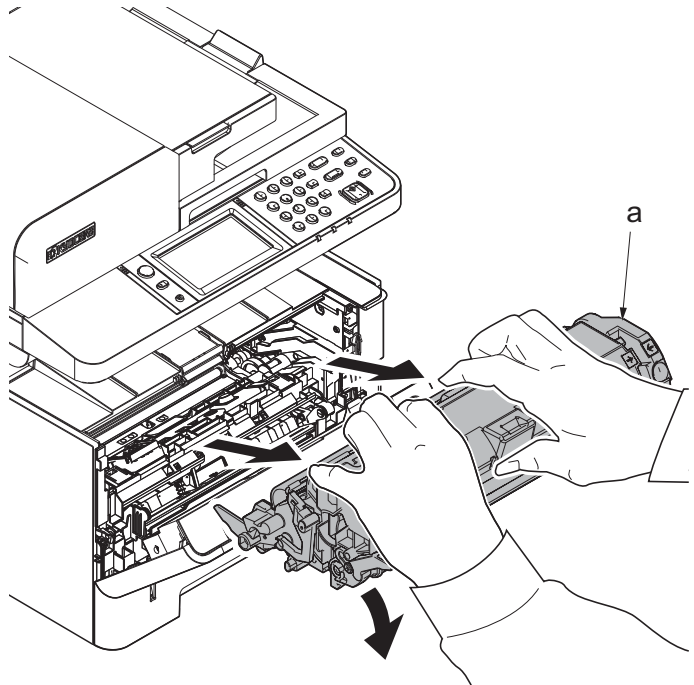
Figure 4-165

(4-2) Detaching and reattaching the eraser**Procedures**

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

**Figure 4-166**

3. Detach the developer unit (a).

**Figure 4-167**

4. Detach the drum unit (b).

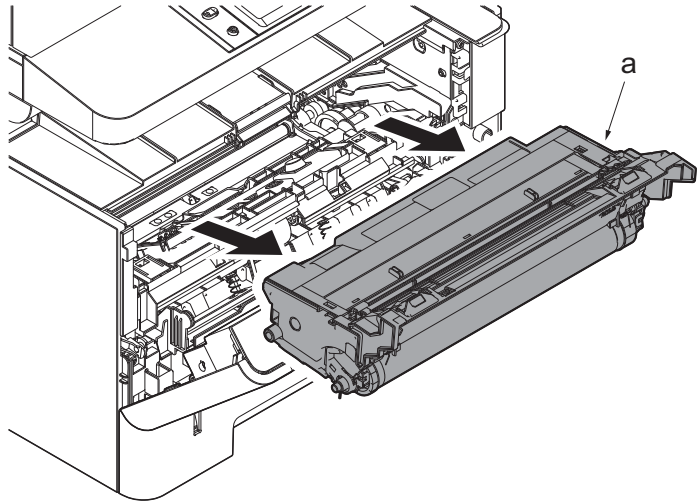


Figure 4-168

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.

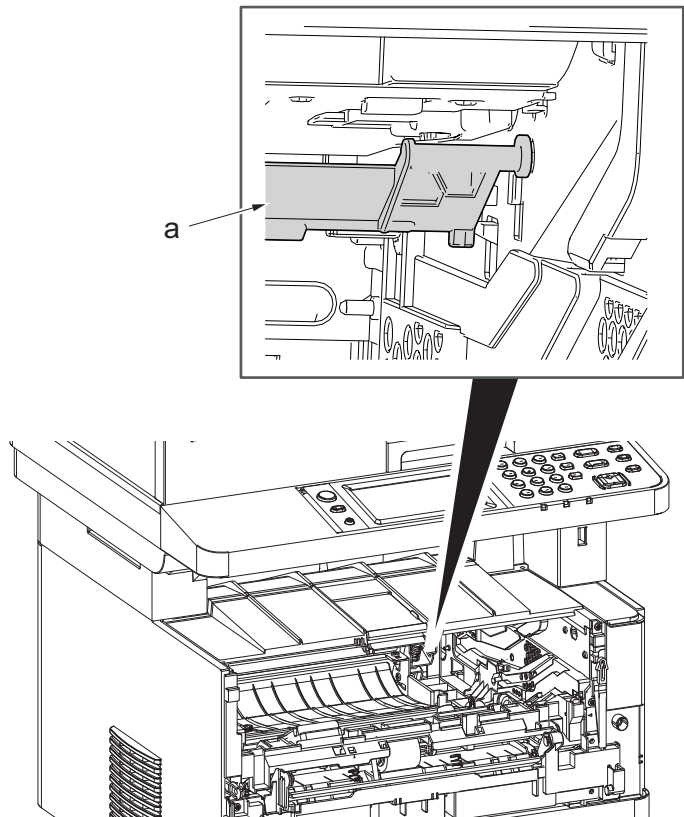


Figure 4-169

(4-3) Replacing the language sheet (TSI model)

Procedures

1. Open the document processor.
2. While lifting up the leading edge, slide two points of the operation covers (b) in the direction of the arrow.
3. Detach the operation panel cover (b) from the operational section (a).

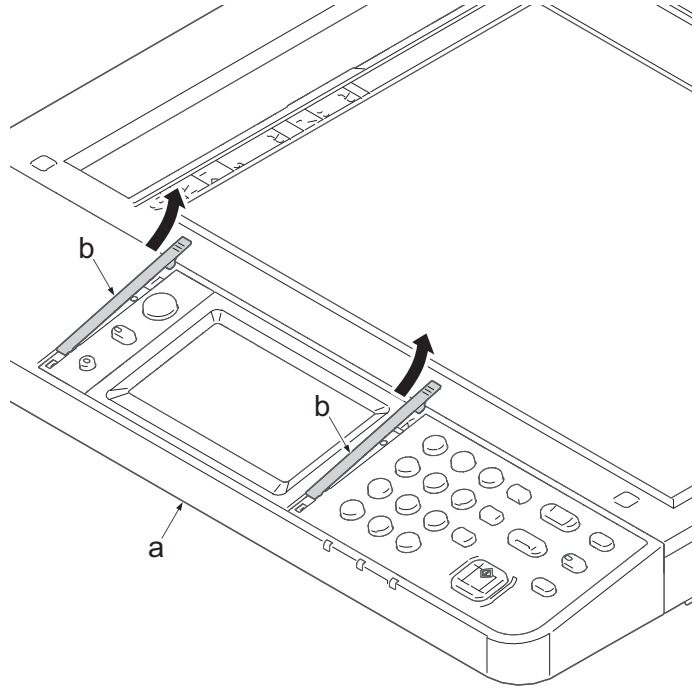


Figure 4-170

4. Detach the clear panel (b) and (c) from the operation panel (a).
5. Next detach the operation panel sheet (d) and (e).
6. Replace the operation panel sheet of the applicable language.
7. Reattach the parts in the original position.

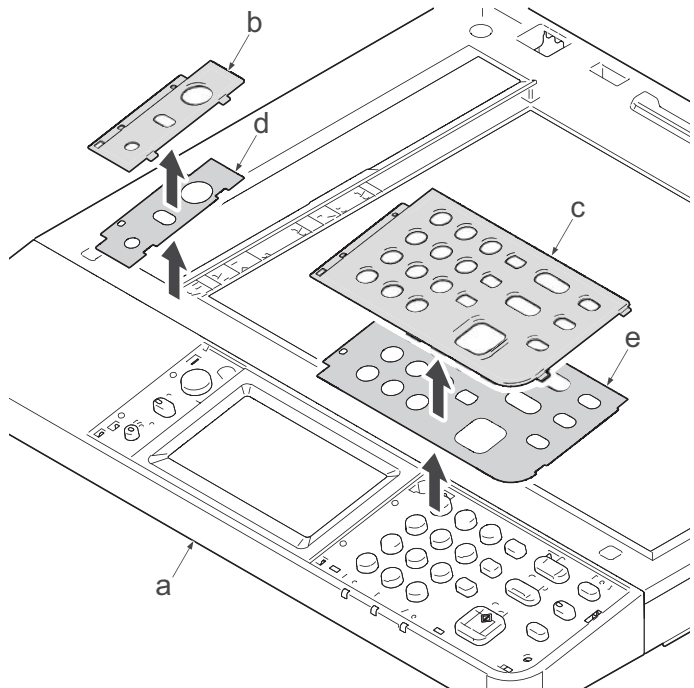
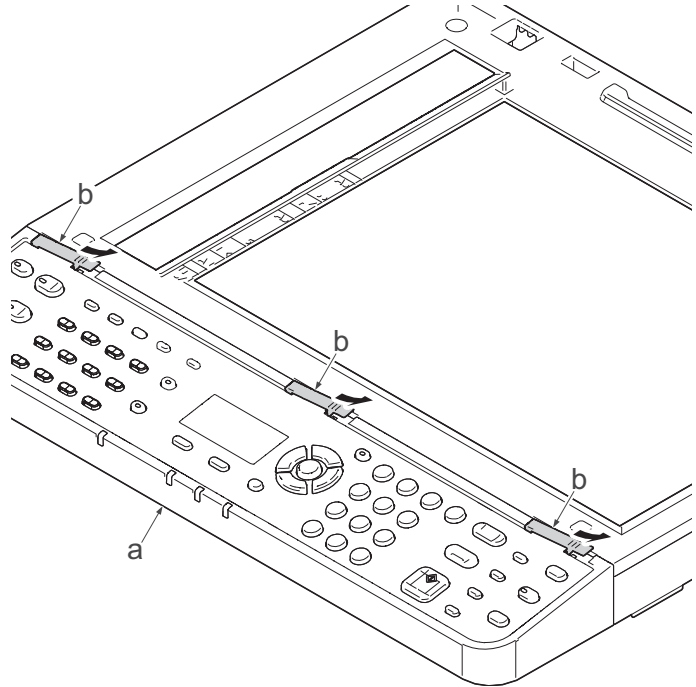


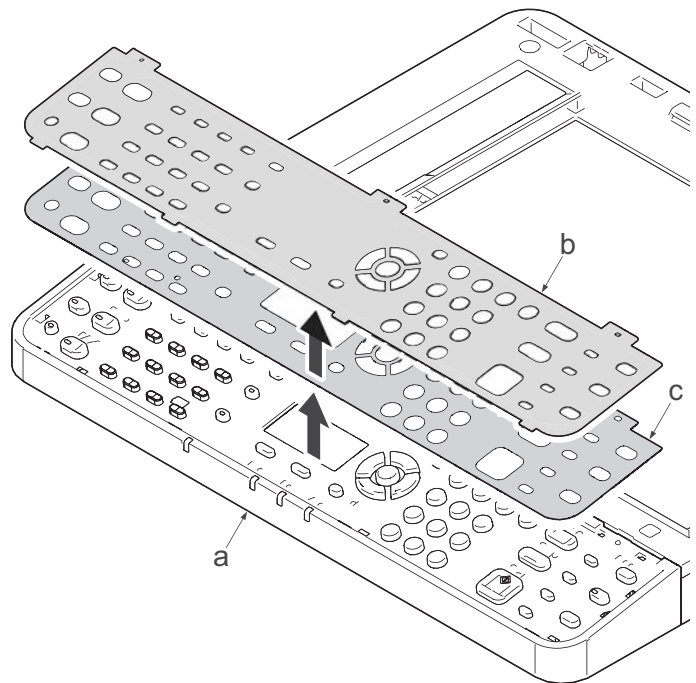
Figure 4-171

(4-4) Replacing the language sheet (LCD model)**Procedures**

1. Open the document processor.
2. While lifting up the leading edge, slide three points of the operation covers (b) in the direction of the arrow.
3. Detach the operation panel cover (b) from the operational section (a).

**Figure 4-172**

4. Detach the clear panel (b) from the operation panel (a).
5. Next detach the operation panel sheet (c).
6. Replace the operation panel sheet of the applicable language.
7. Reattach the parts in the original position.

**Figure 4-173**

(4-5) 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).

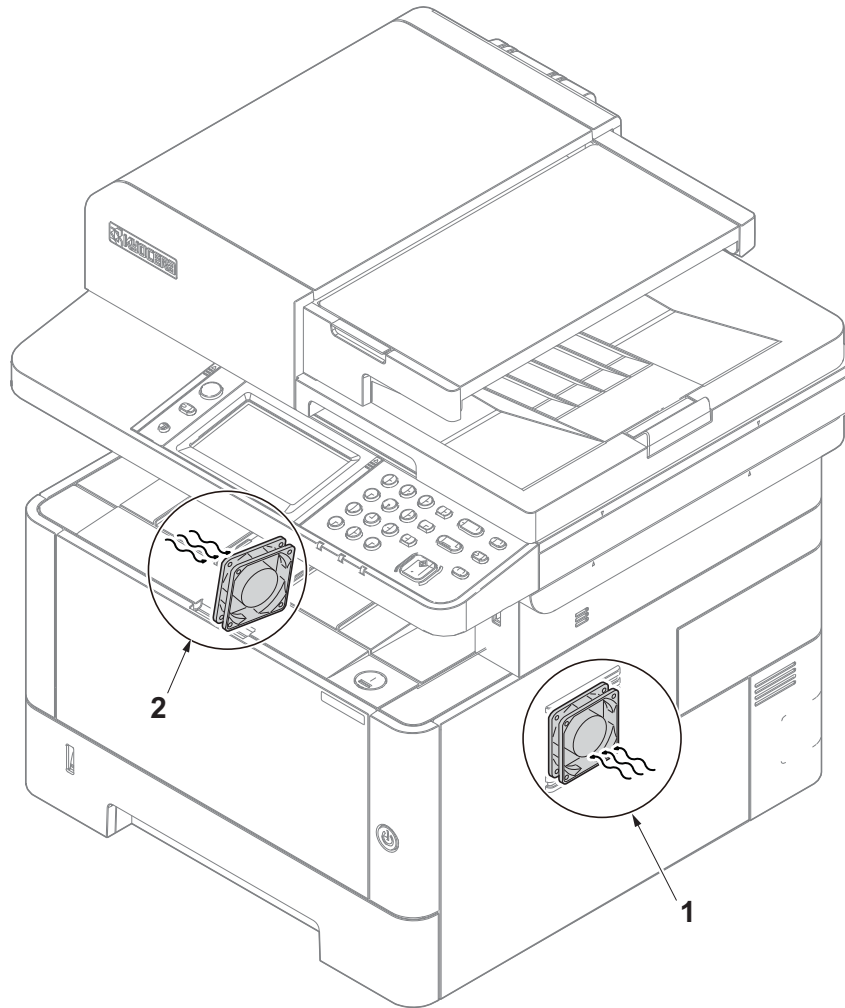


Figure 4-174

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.

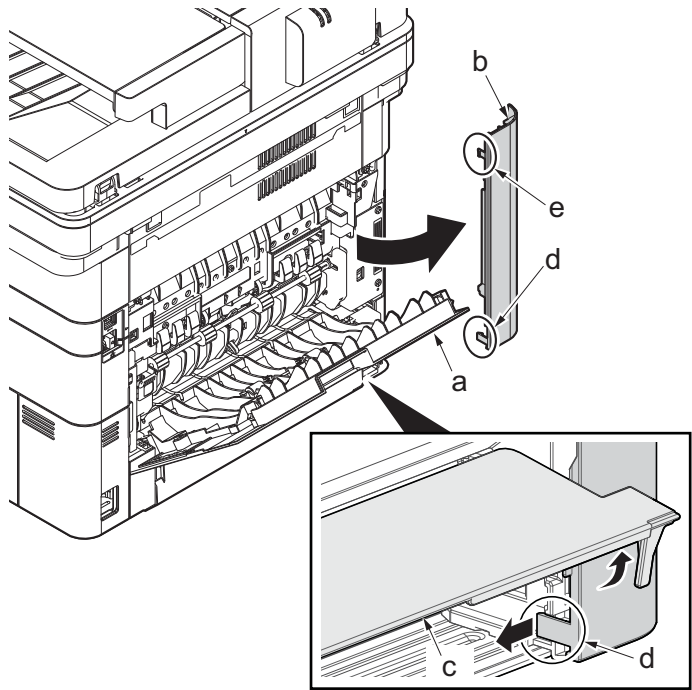


Figure 4-175

5. Remove the screw(M3×10TP)(b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

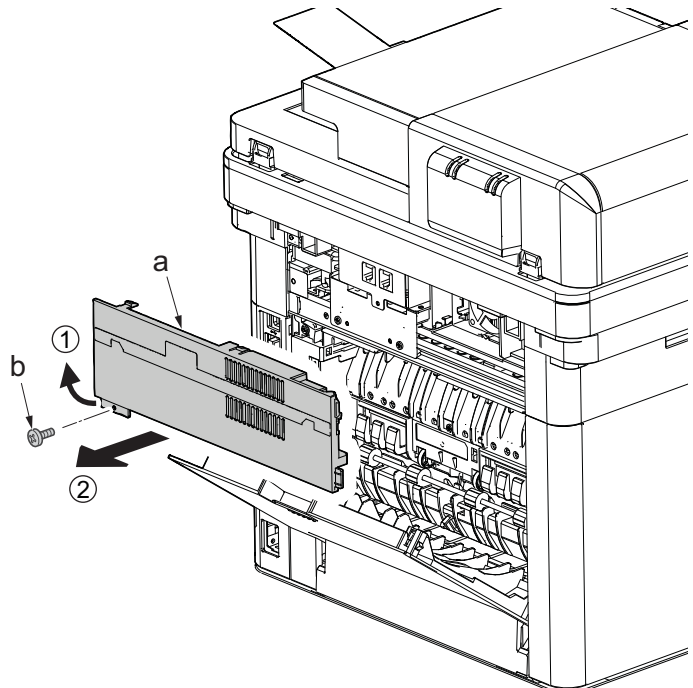


Figure 4-176

7. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
8. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

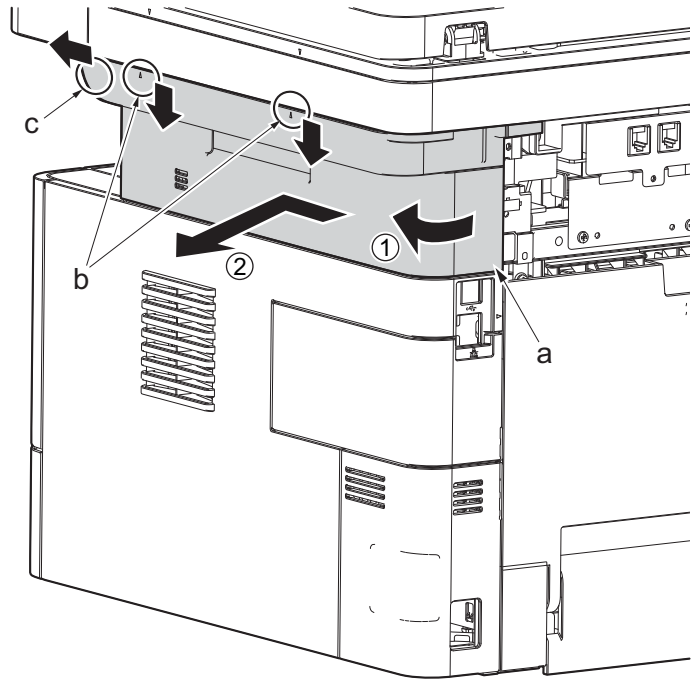


Figure 4-177

9. Detach the Wi-Fi PWB (a).

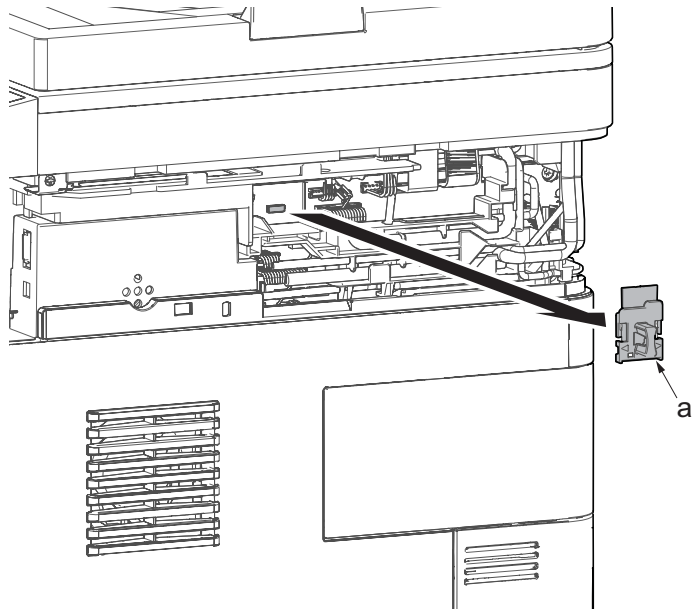


Figure 4-178

10. After twisting the DIMM cover(a), remove it while sliding it

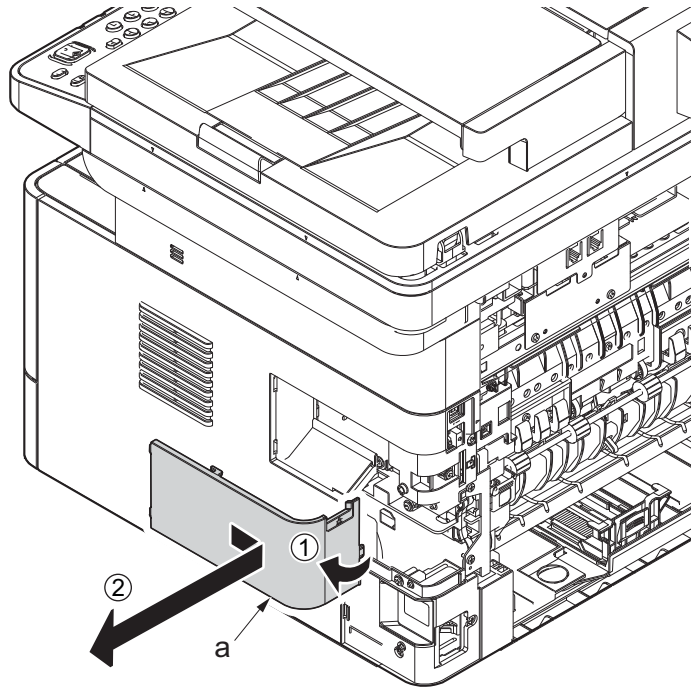


Figure 4-179

11. Twist the right rear cover (a) and detach it while sliding it.

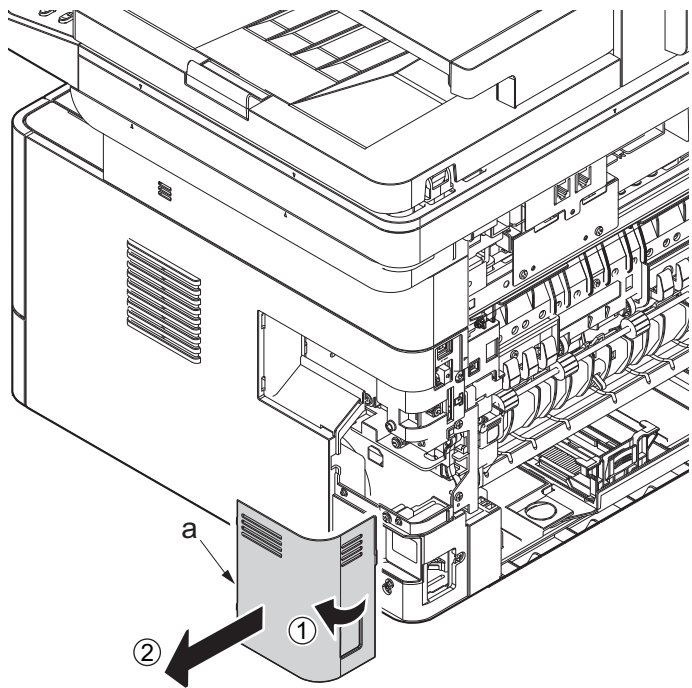


Figure 4-180

12. Detach two hooks (b) at the front side of the right cover (a).

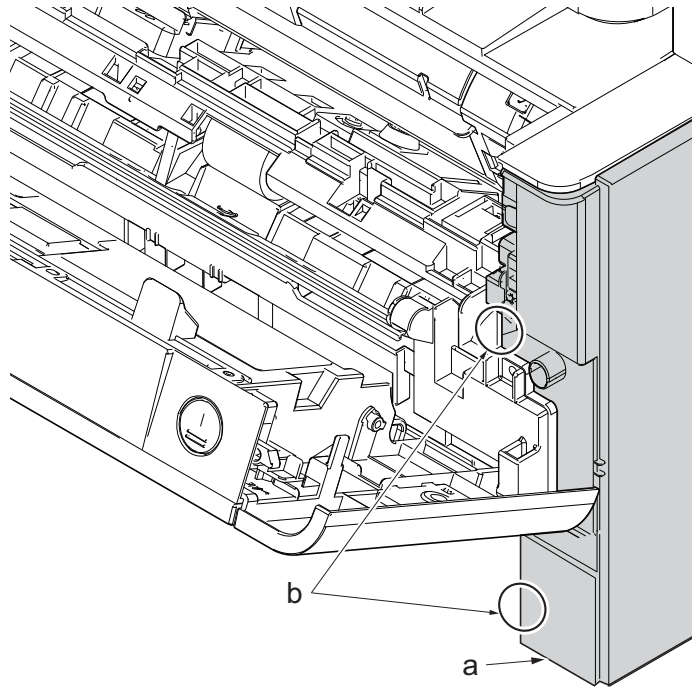


Figure 4-181

13. Release three hooks (b) at the rear side of the right cover (a).
14. Tilt the right cover (a) and detach it.

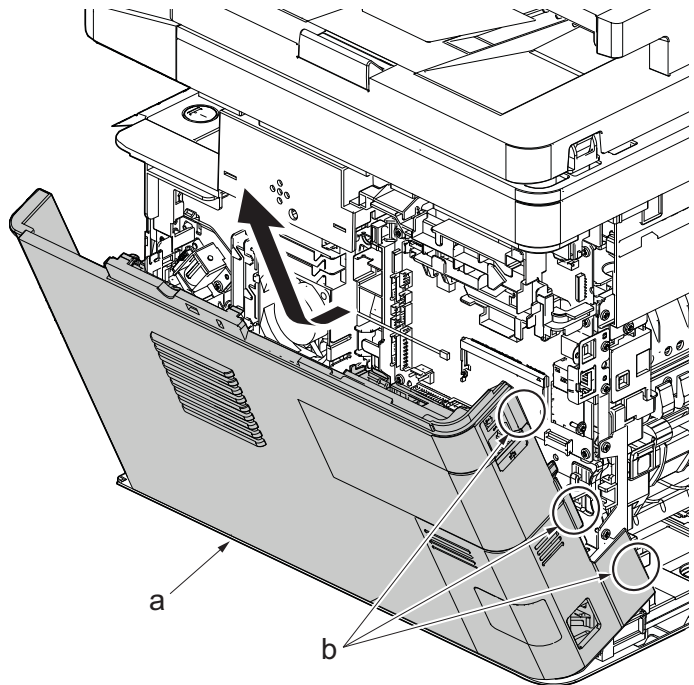


Figure 4-182

15. Remove two screws(M3x8S tight)(a) and detach the USB earth plate (b).

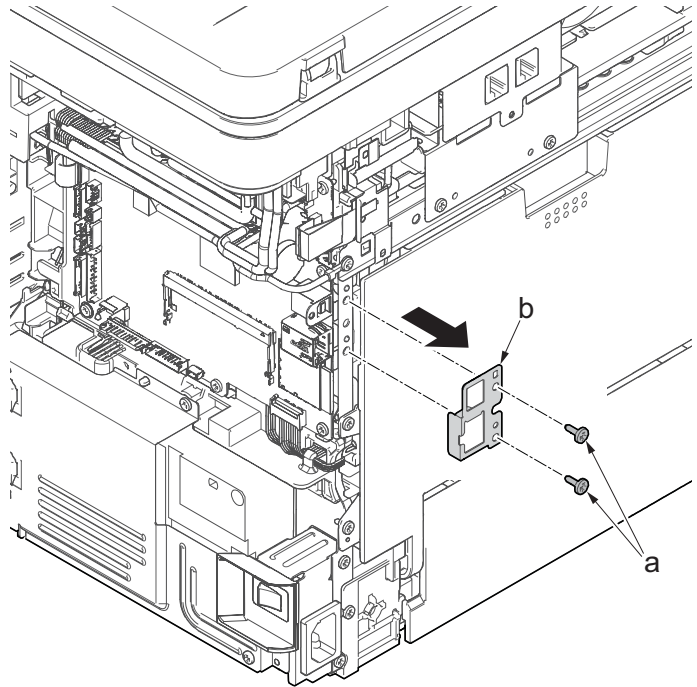


Figure 4-183

16. Disconnect all the connectors and FFCs from the main/engine PWB (a).
17. Release the wire from the wire guide (b) and remove it.

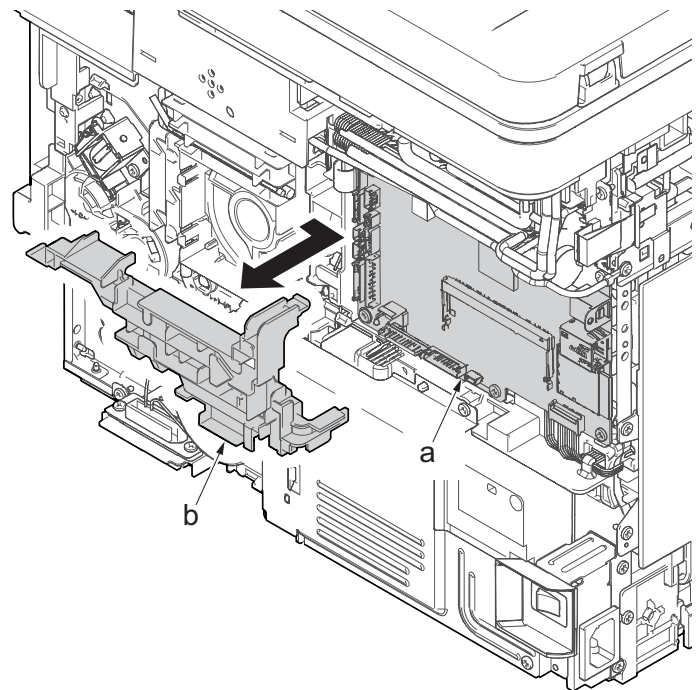


Figure 4-184

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

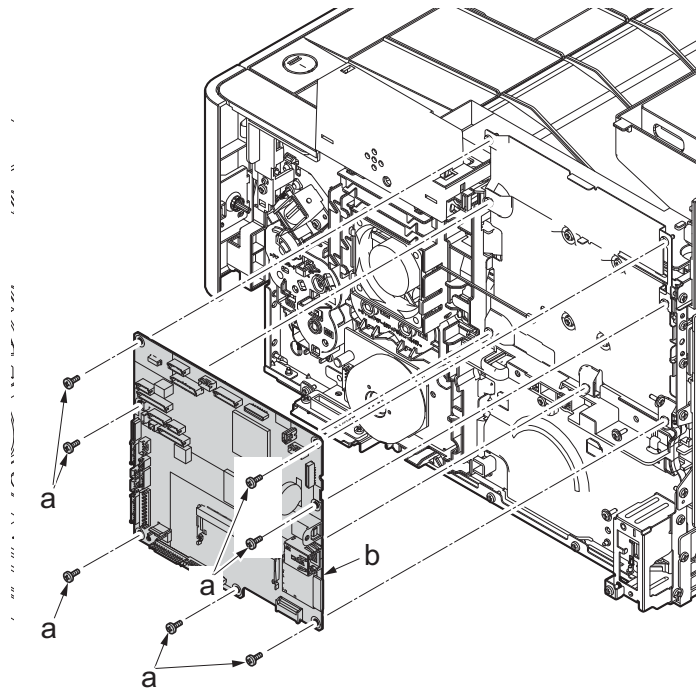


Figure 4-185

20. 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).

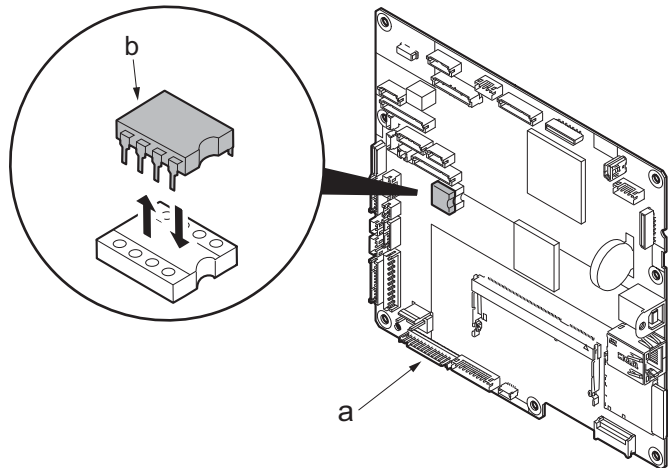


Figure 4-186

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.

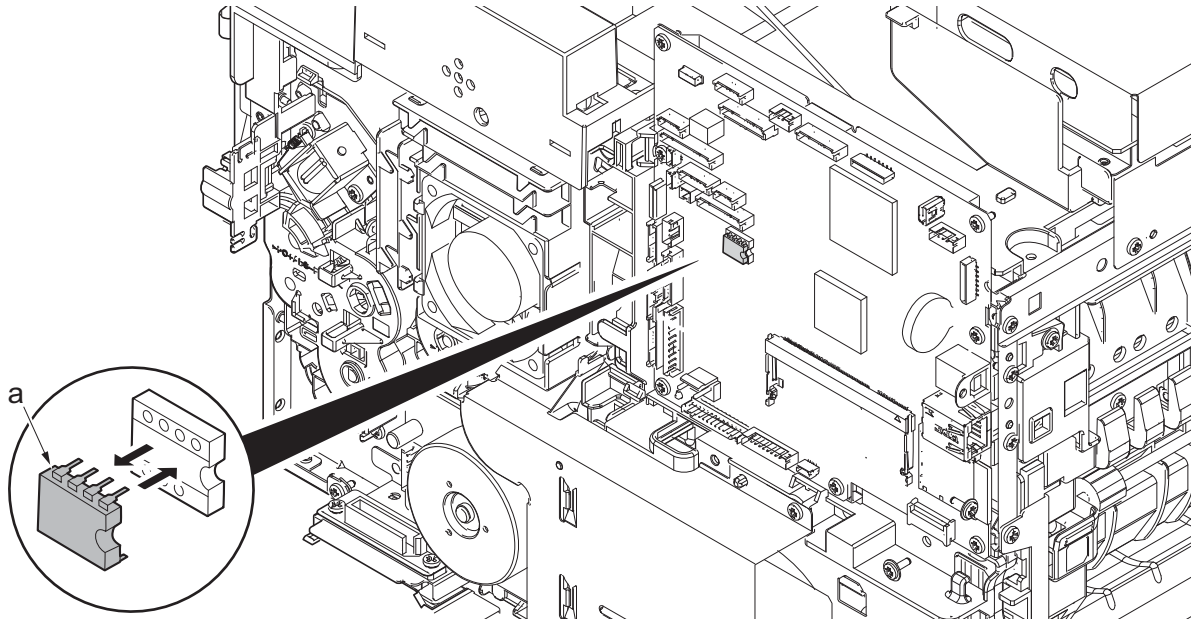


Figure 4-187

Note when replacing the main/engine PWB

- *: When replacing the main/engine PWB, in order to take over user information, insert the USB memory before replacing the main/engine PWB, execute U917, and export the data. (See page P.6-101)
- *: 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. Machine No. (maintenance mode U004)
 - *:If the C0180 error occurs, execute U004 to match the serial numbers in the PWBs.
 - (1)Input "004" using the numeric keys and press the [Start] key.
 - (2)Select [Execute] and press the [Start] key.
 - (3)Turn the power switch off then on. Wait more than 5 seconds between the power off and on.
2. Firmware update (See page P.5-1)
 - *:Check the latest firmware and upgrade it.
3. Adjusting the scanner automatically (maintenance mode U411)
 - Adjusting the table scanning automatically
 - (1)Set the specified original (P/N: 302NM94340) on the table.
 - (2)Enter maintenance item U411.
 - (3)Select [Target].
 - (4)Press [Left/Right] cursor key or [#], [*] key and select [Auto].
 - (5)Press the [Up/Down] cursor key and select [Table(ChartA)].
 - (6)Press the [Start] key to read the barcode of the original chart and to start the automatic adjustment.
 - (7)When automatic adjustment has normally completed, [OK] is displayed.

DP 1st side scanning auto adjustment

- (1) Set the specified original (P/N: 302NM94330) face-up on the DP.
- (2) Enter maintenance item U411.
- (3) Select [DP FU(ChartB)].
- (4) Press the [Start] key to start Auto adjustment.
- (5) When automatic adjustment has normally completed, [OK] is displayed.

*: If there is a problem with the 2nd side timing after adjusting the scanner, execute [DP FD(ChartB)].
Also, if there is a problem with the DP 1st side color, execute [DP FU(ChartA)].

4. Insert the USB memory and execute U917 to import data.

5. 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.

6. Resetting the initial settings

Reset the user default setting and FAX default setting (e.g. the local FAX information) from the System Menu or Command Center.

7. Resetting the maintenance mode

Reset the following maintenance mode if necessary.

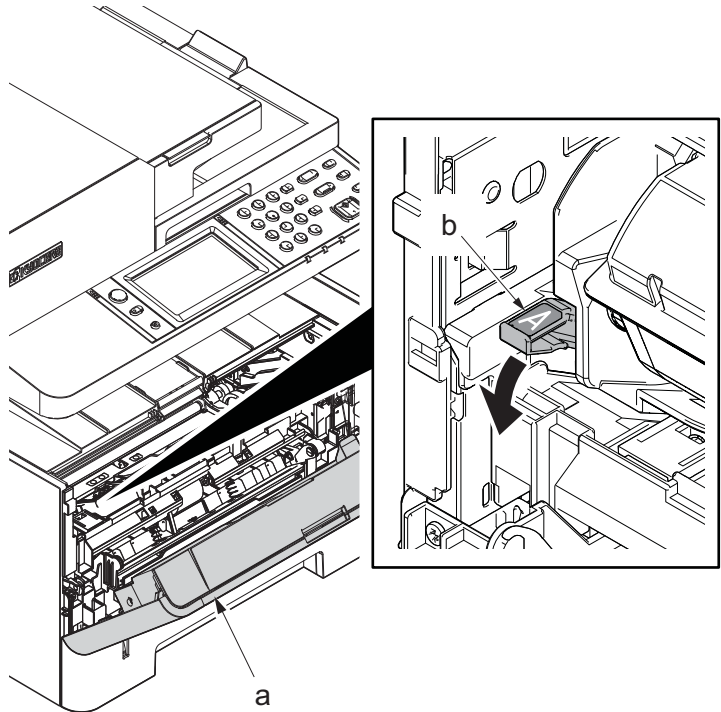
No.	Maintenance mode relating to the main unit	No.	Maintenance mode relating to the main unit
U250	Maintenance counter preset	U603	User data 1
U251	Maintenance counter clear	U604	User data 2
U253	Double/single count switch	U610	System 1
U260	Feed/eject counter switch	U611	System 2
U345	Maintenance timing pre-caution setting	U612	System 3
U402	Print margin adjustment	U625	Communication Setting
U403	Scanning margin adjustment (table)	U695	FAX function customization
U404	Scanning margin adjustment (DP)		
U425	Target adjustment		

8. Exiting from the maintenance mode

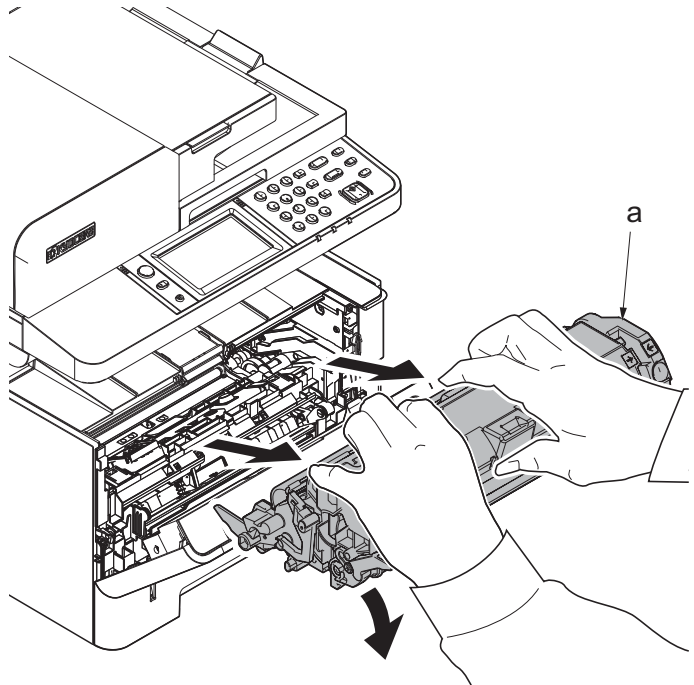
Input "001" using the numeric keys and press the [Start] key.

(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 4-188**

3. Detach the developer unit (a).

**Figure 4-189**

4. Detach the drum unit (b).

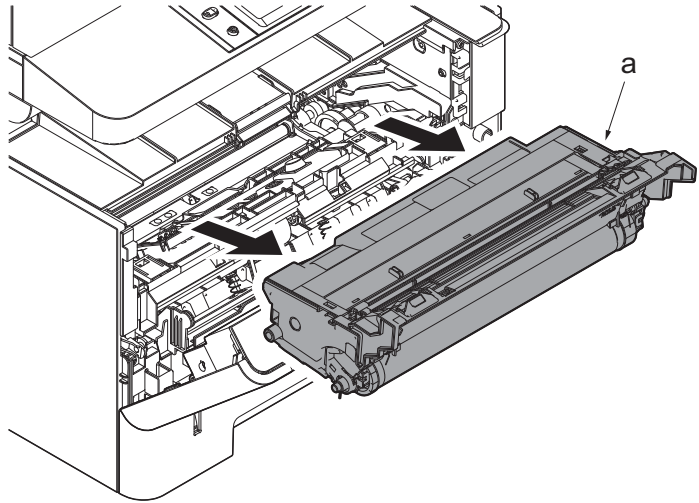


Figure 4-190

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.

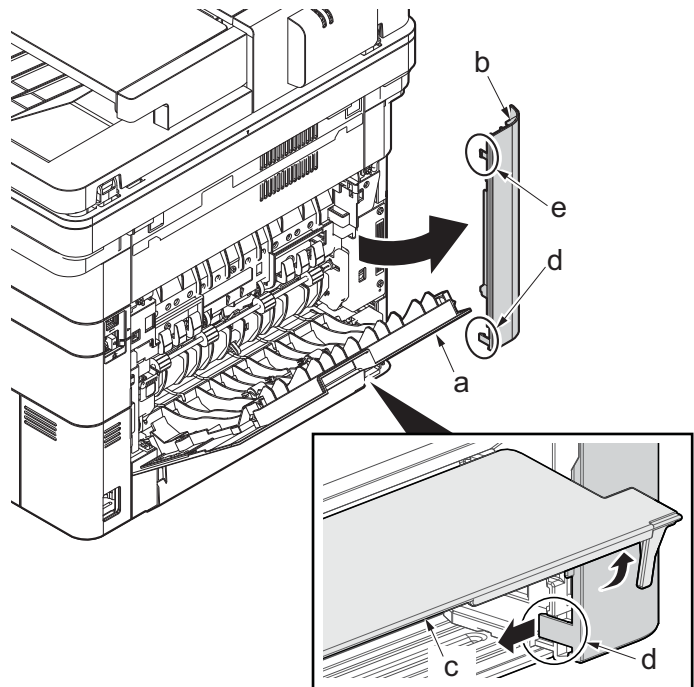


Figure 4-191

9. Remove the screw(M3×10TP)(b).
10. Detach ISU rear cover (a) by holding the lower left portion of it.

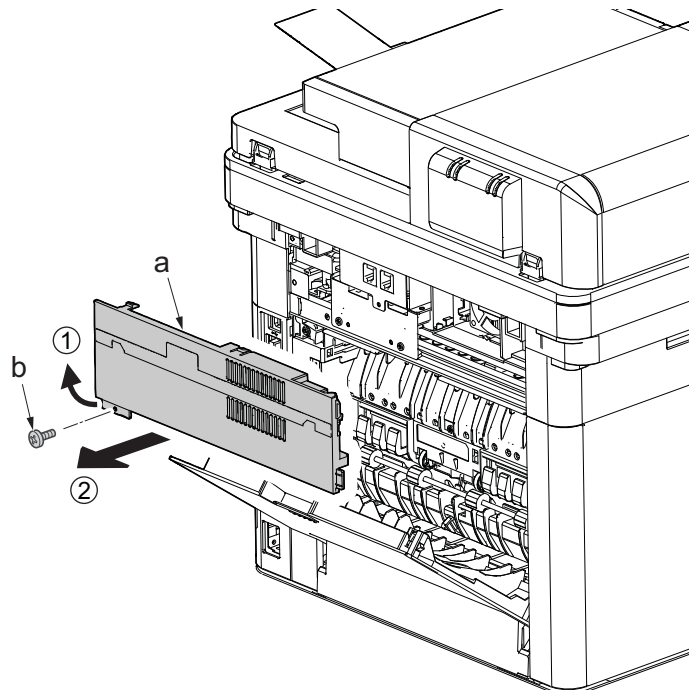


Figure 4-192

11. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
12. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

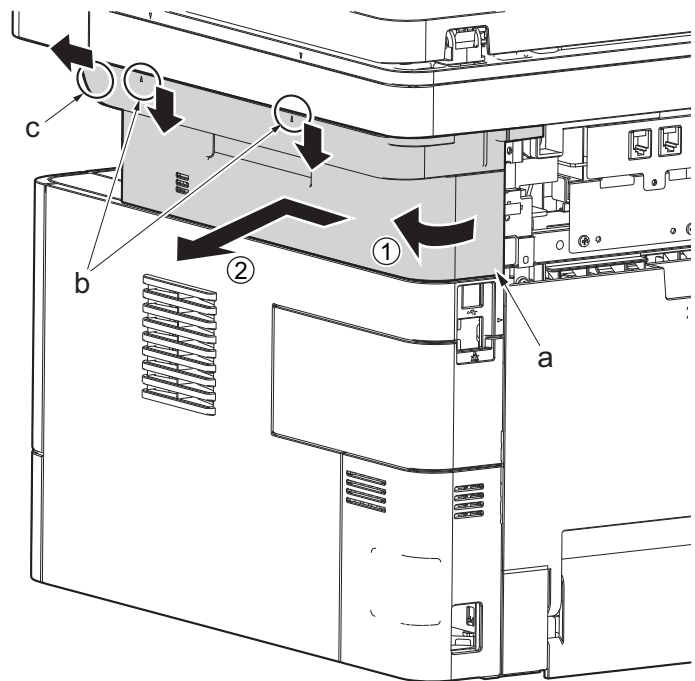


Figure 4-193

13. After twisting the DIMM cover(a), remove it while sliding it

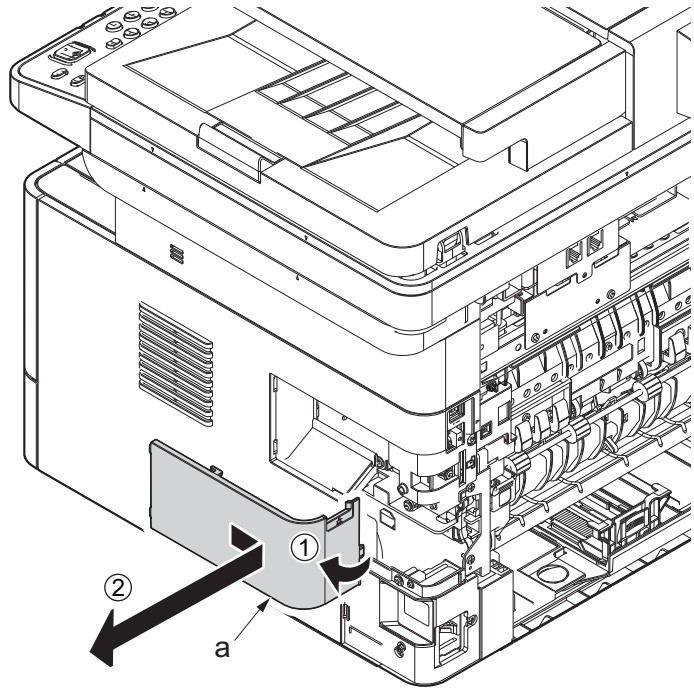


Figure 4-194

14. Twist the right rear cover (a) and detach it while sliding it.

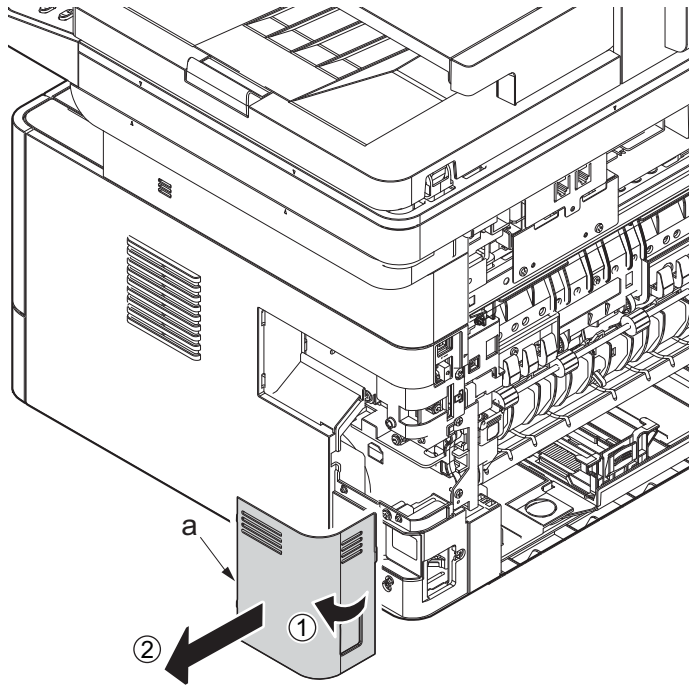


Figure 4-195

15. Detach the cassette
16. Detach two hooks (b) at the front side of the right cover (a).

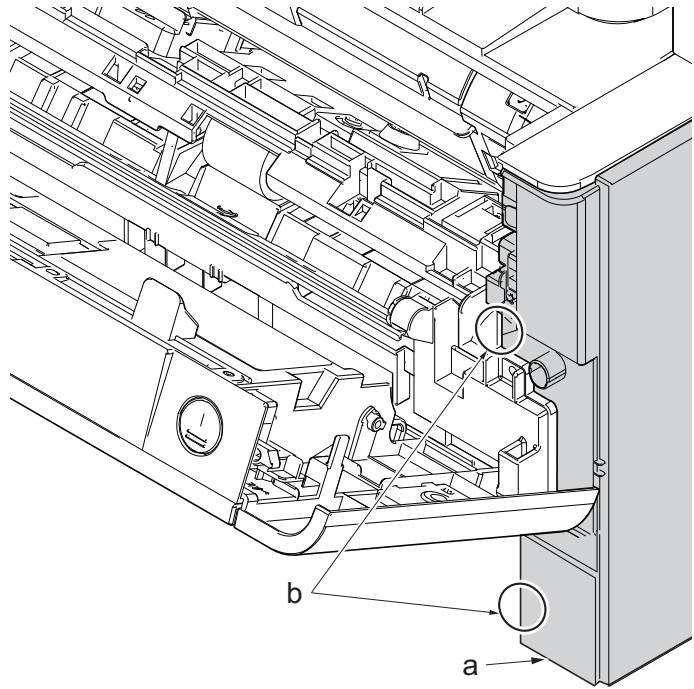


Figure 4-196

17. Release three hooks (b) at the rear side of the right cover (a).
18. Tilt the right cover (a) and detach it.

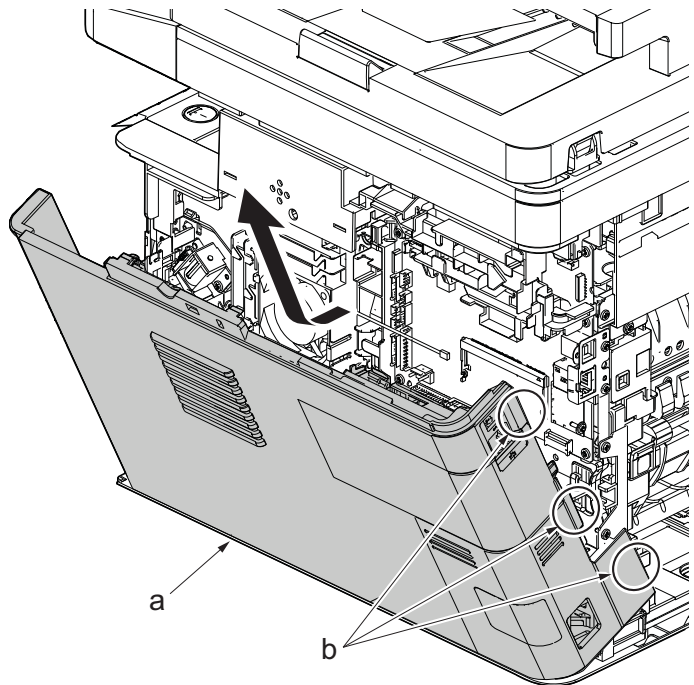


Figure 4-197

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

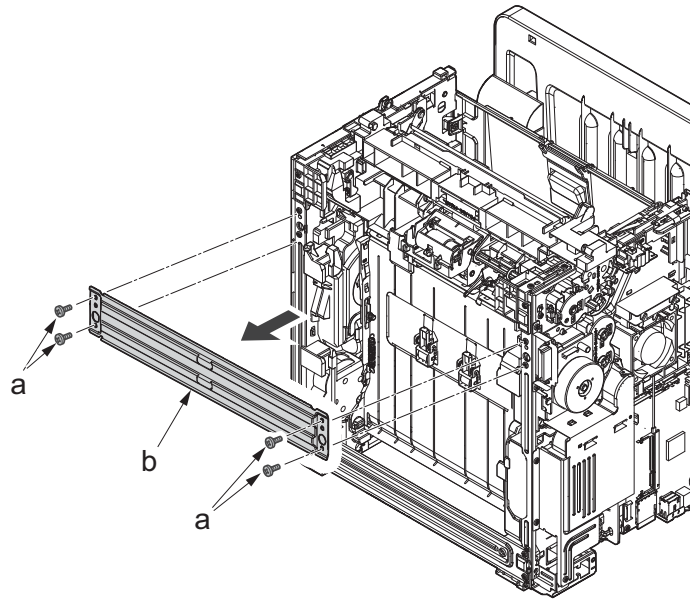


Figure 4-198

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

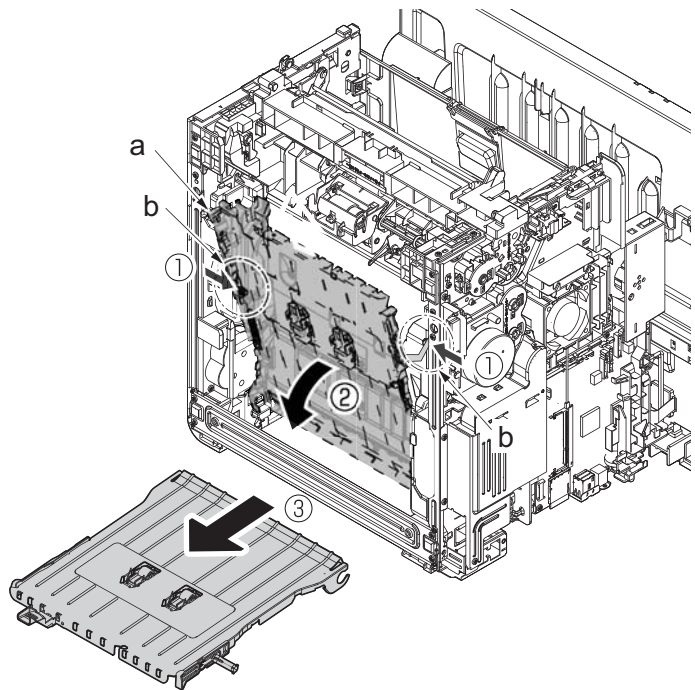


Figure 4-199

23. Remove three screws(M4×12P tight)(a).
24. Lift up the lower base cover (b) and detach it.
25. Disconnect the connector (c).

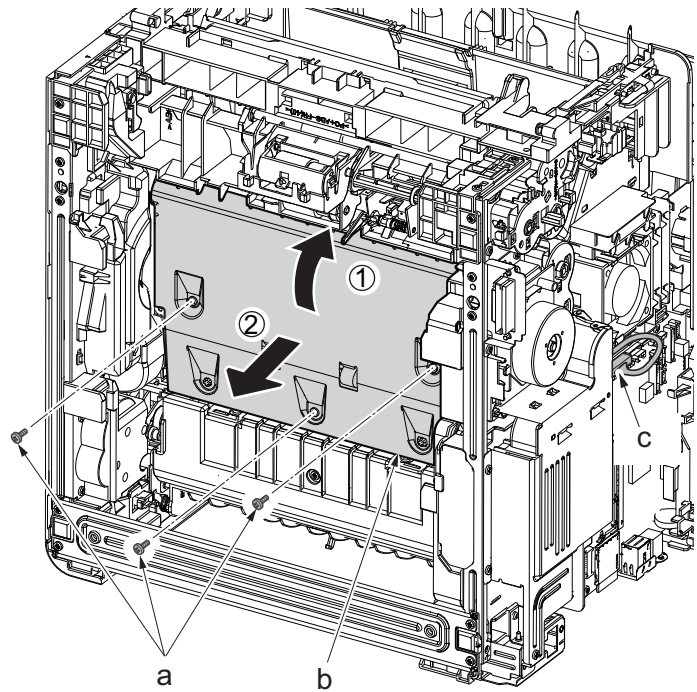


Figure 4-200

26. Remove the screw(M3×8Ptight) (b) and three screws(M3×8Stight)(c) securing the low voltage power source PWB cover (a) .
27. 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.

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

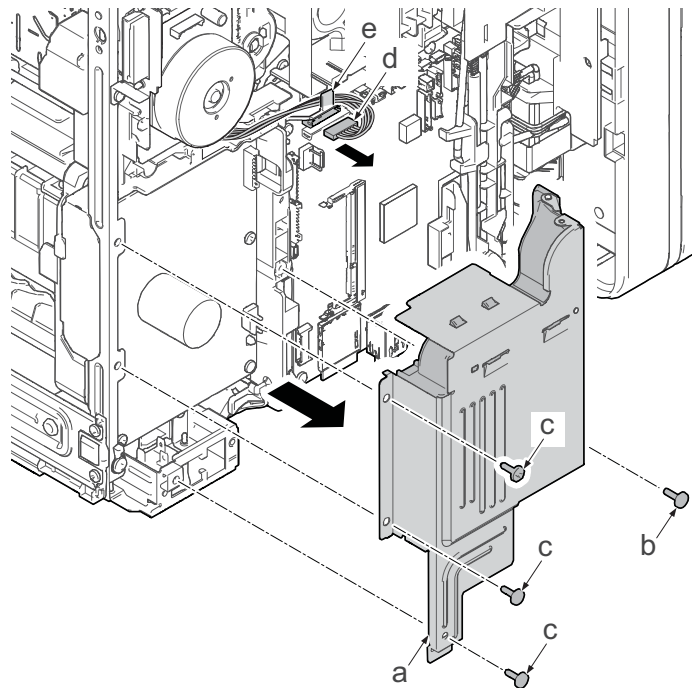


Figure 4-201

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

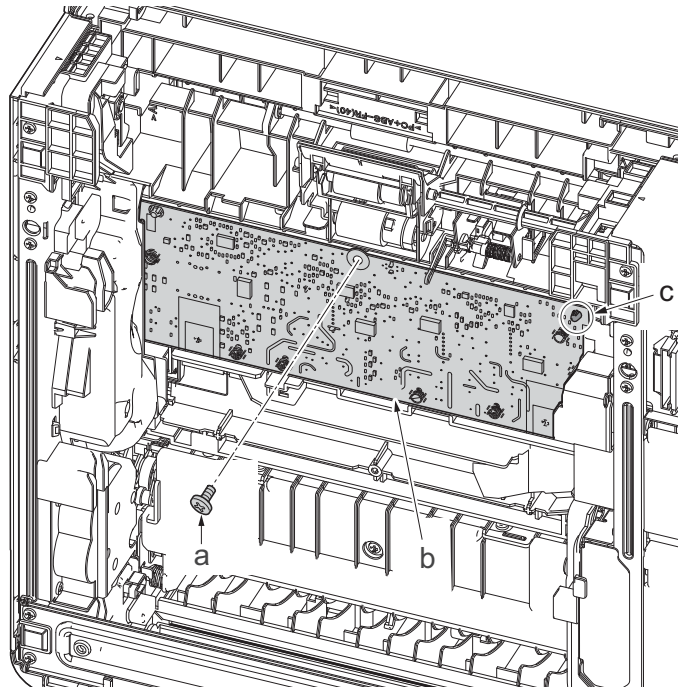


Figure 4-202

(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.

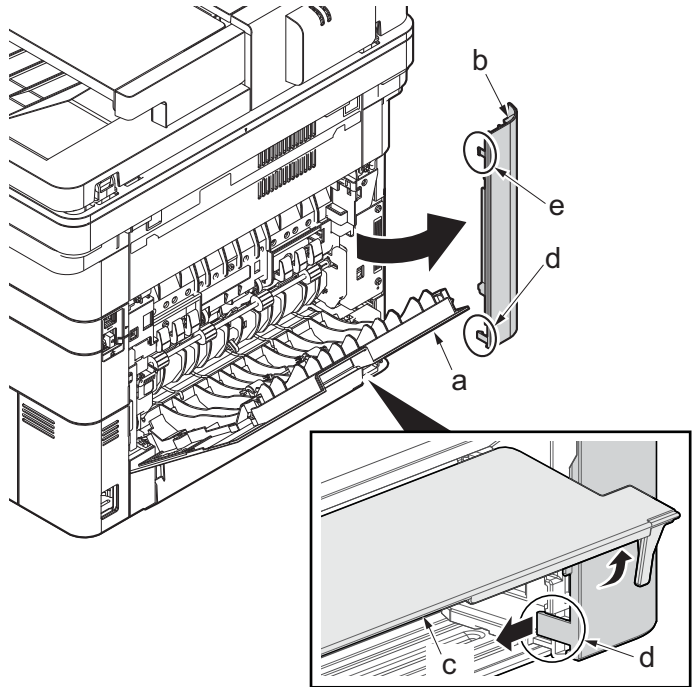


Figure 4-203

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

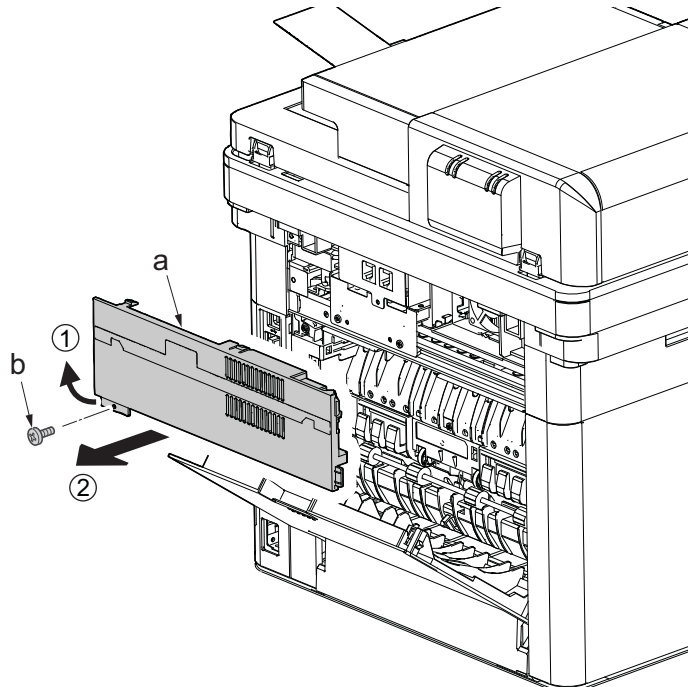
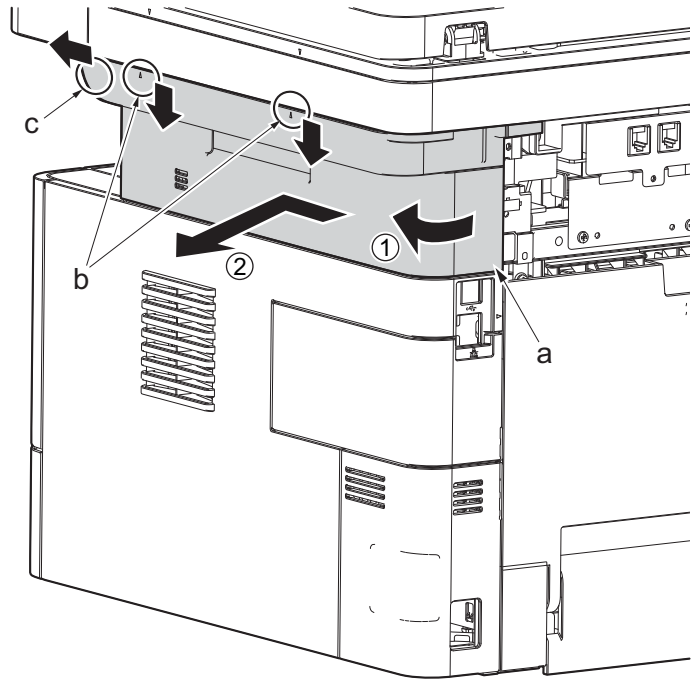
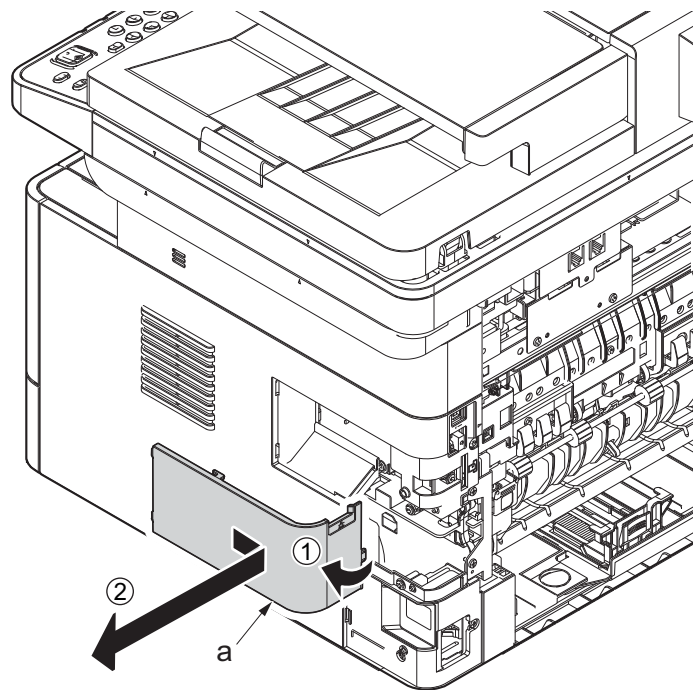


Figure 4-204

7. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
8. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

**Figure 4-205**

9. After twisting the DIMM cover(a), remove it while sliding it

**Figure 4-206**

10. Twist the right rear cover (a) and detach it while sliding it.

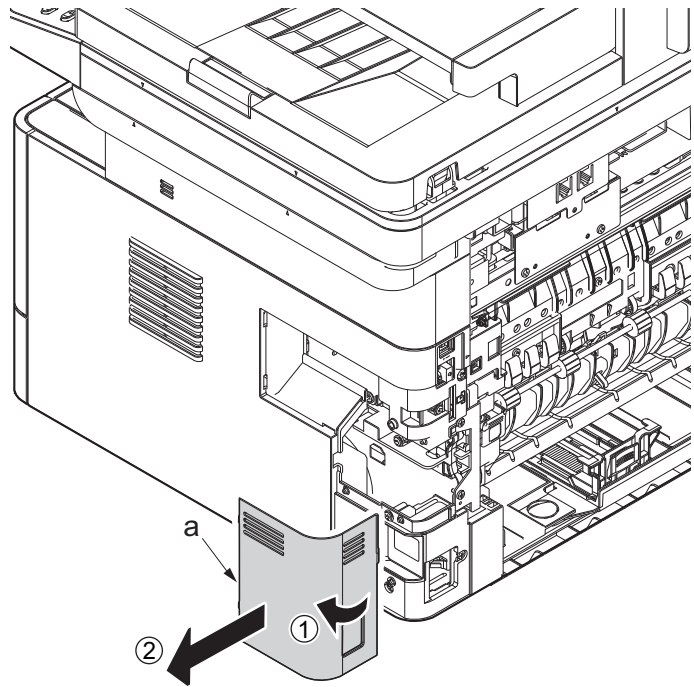


Figure 4-207

11. Detach the cassette
 12. Open the front cover (a).
 13. Detach two hooks (b) at the front side of the right cover (a).

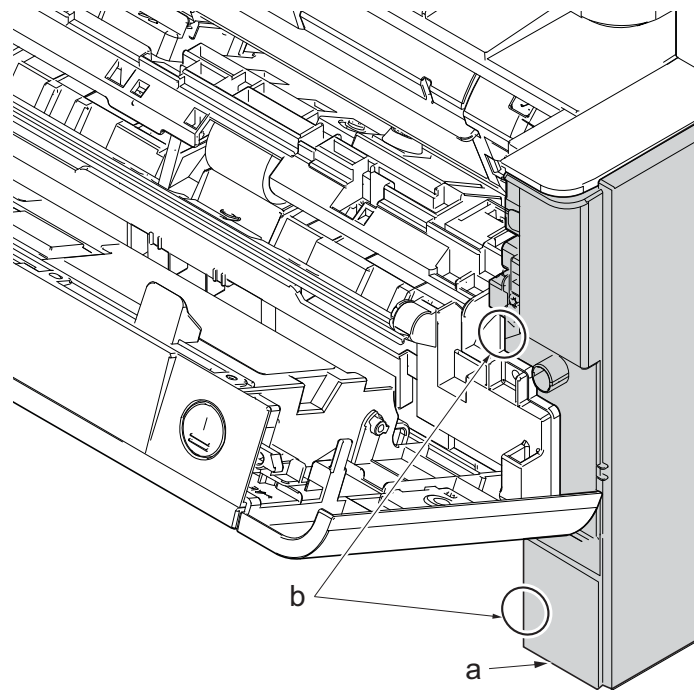


Figure 4-208

14. Release three hooks (b) at the rear side of the right cover (a).
15. Tilt the right cover (a) and detach it.

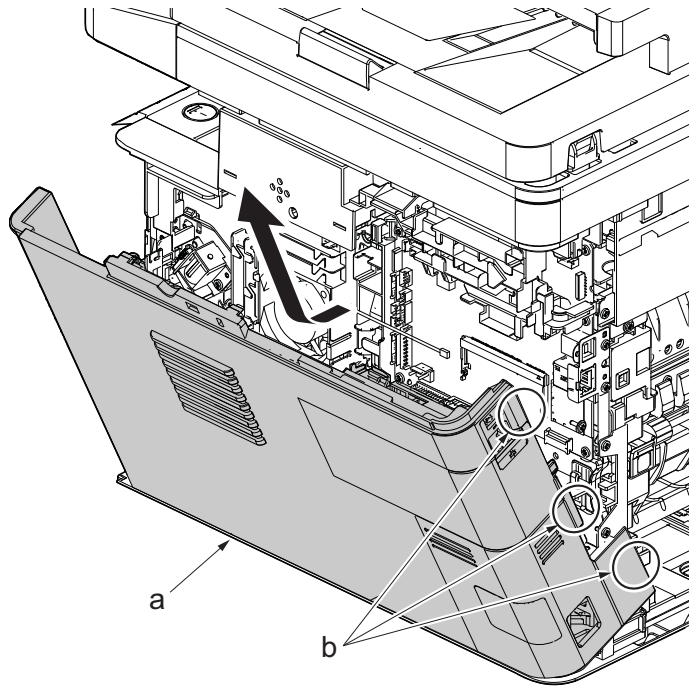


Figure 4-209

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

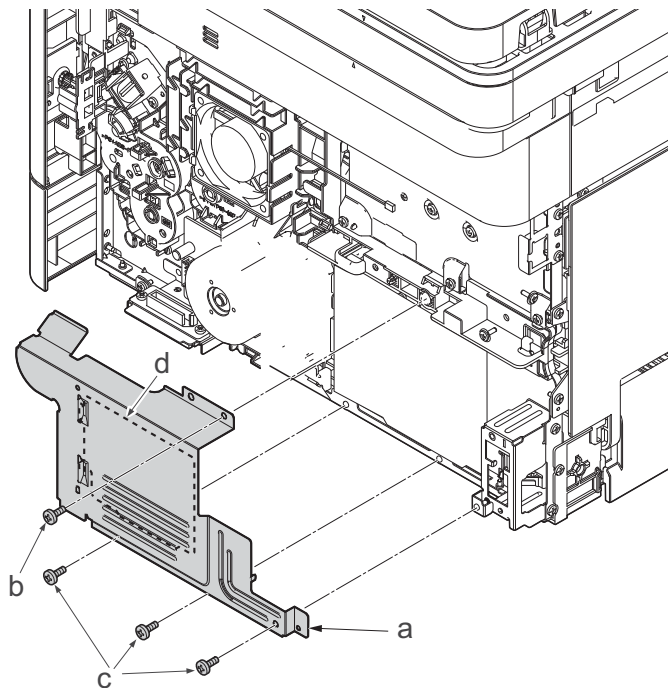


Figure 4-210

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

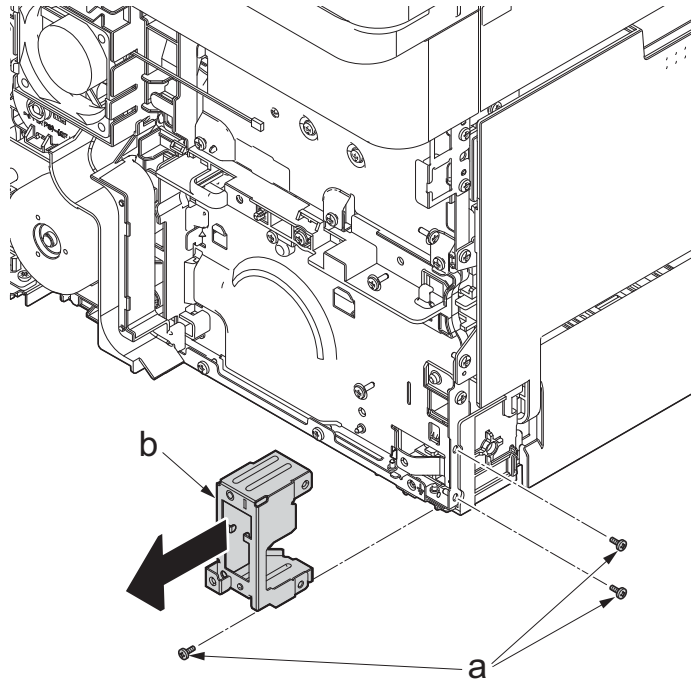


Figure 4-211

19. Disconnect two connectors (a).
20. Remove the screw(M4x8S tight)(b), remove the ground wire(c).

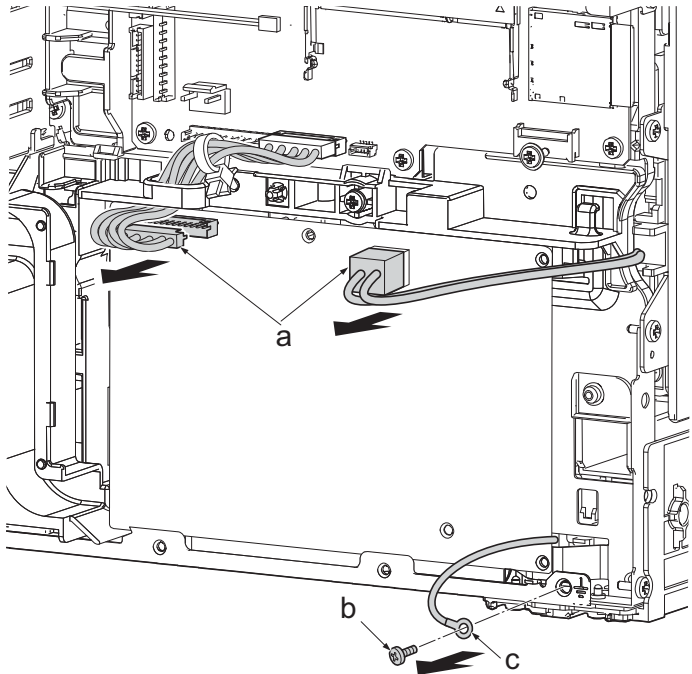


Figure 4-212

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

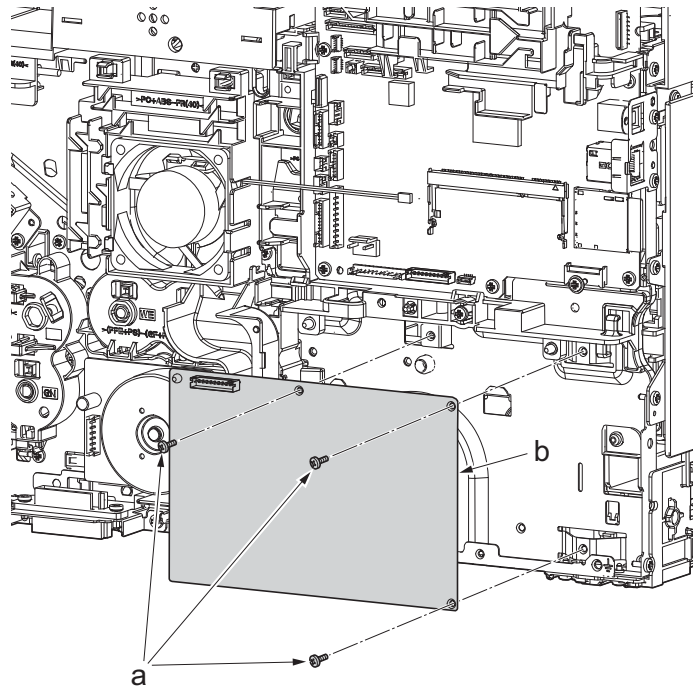


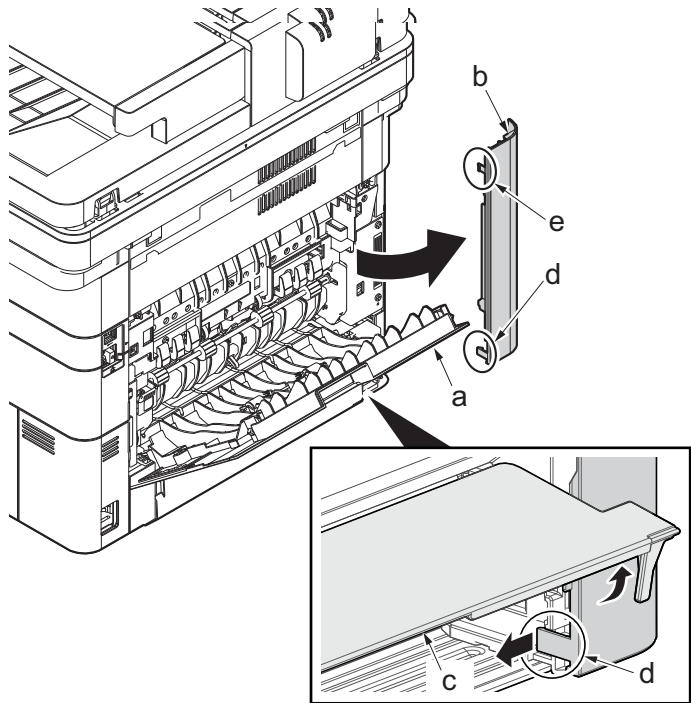
Figure 4-213

(5-4) Detaching and reattaching the FAX PWB**Procedures**

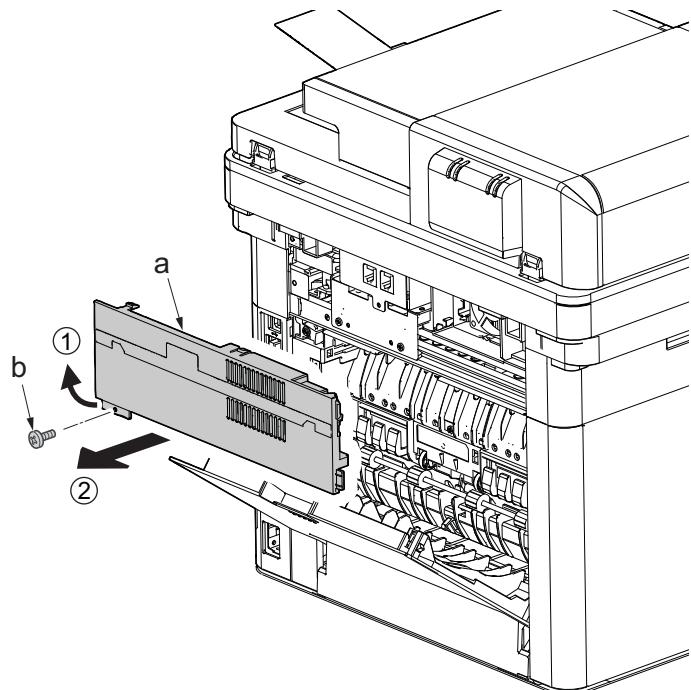
1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:

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

**Figure 4-214**

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

**Figure 4-215**

7. Remove the screw(M3×10TP)(b).
8. While twisting the ISU left cover (a), release two hooks (c) in the direction of the arrow.
9. Release the protrusion (d) of the ISU left cover (a) in the direction of the arrow and detach it.

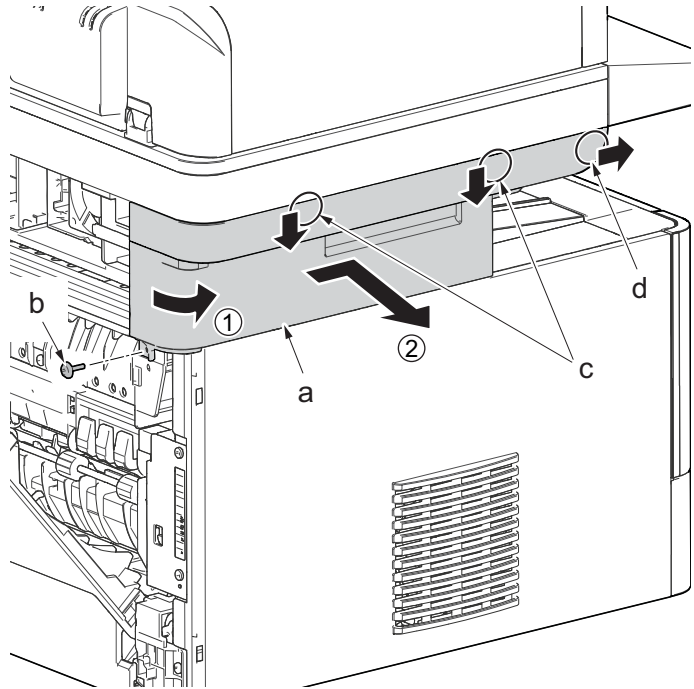


Figure 4-216

10. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
11. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

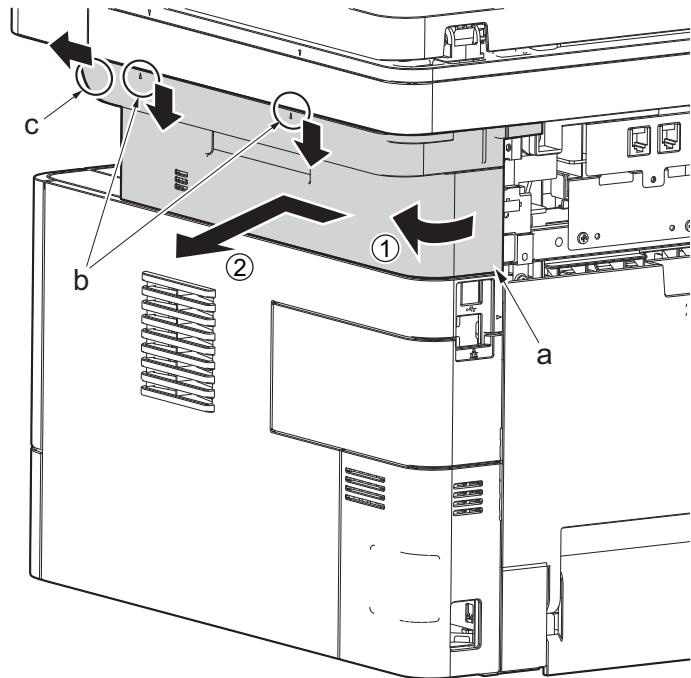


Figure 4-217

12. After twisting the DIMM cover(a), remove it while sliding it

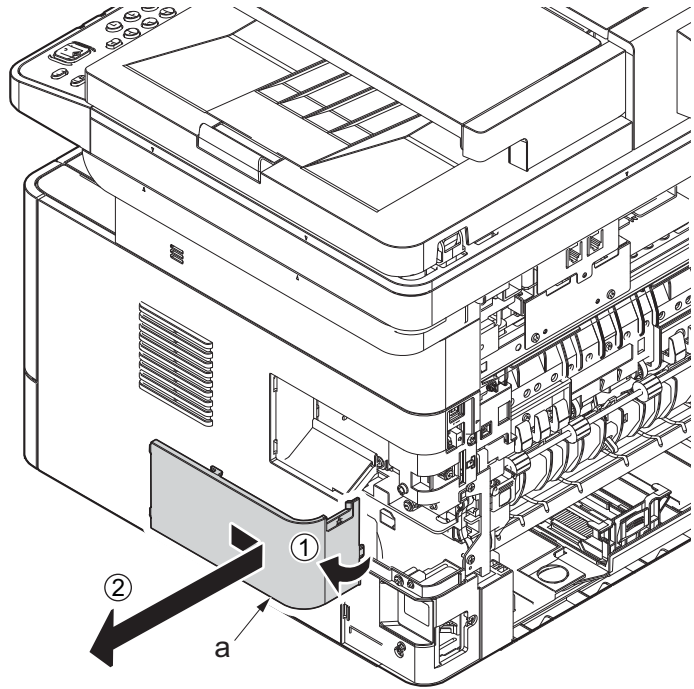


Figure 4-218

13. Twist the right rear cover (a) and detach it while sliding it.

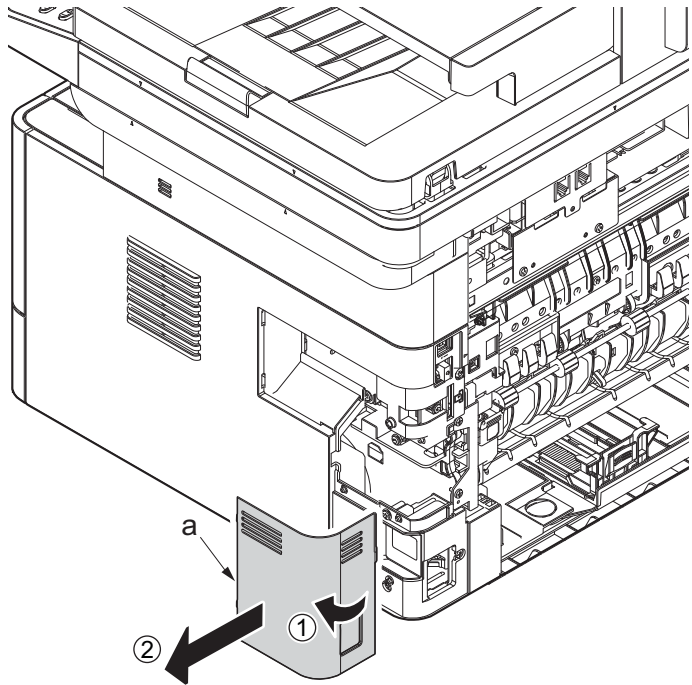


Figure 4-219

14. Detach the cassette
15. Open the front cover (a).
16. Detach two hooks (b) at the front side of the right cover (a).

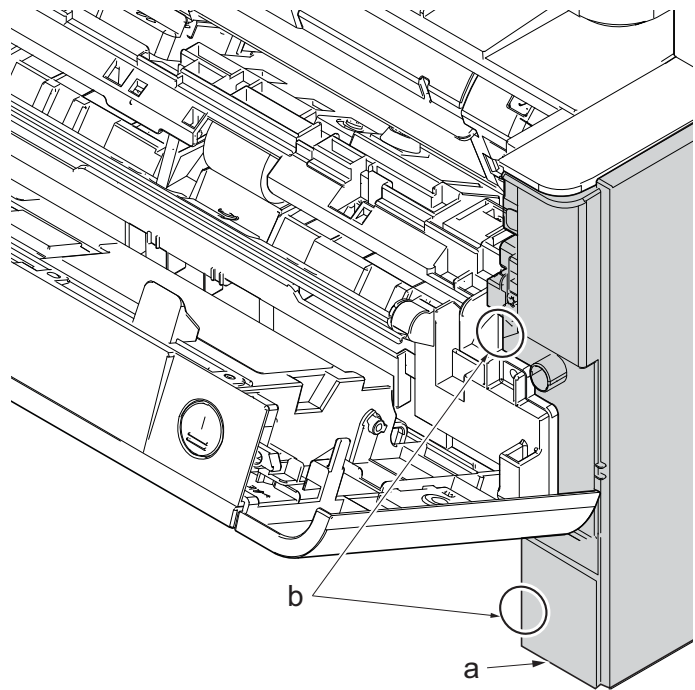


Figure 4-220

17. Release three hooks (b) at the rear side of the right cover (a).
18. Tilt the right cover (a) and detach it.

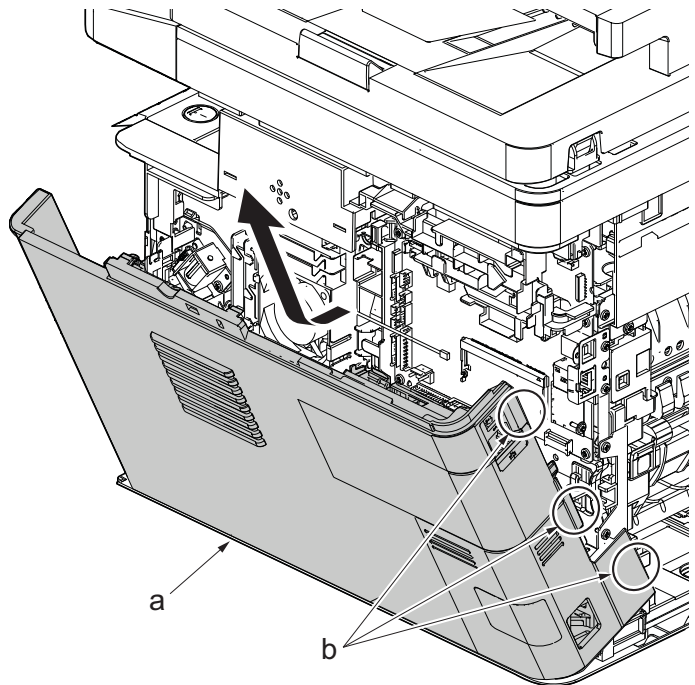


Figure 4-221

19. Remove the screw(M3×8S tight)(a), remove the ground terminal(b).

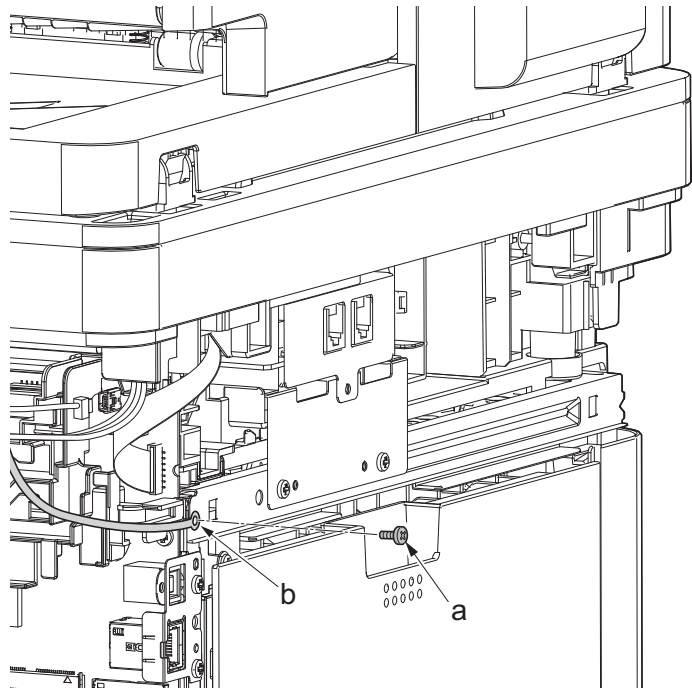


Figure 4-222

20. Disconnect six connectors (b), the connector (c)*1, USB connector (d)*1, FFC (e) and FFC (f)*2 from the main/engine PWB (a).

*1: TSI model only

*2: 40 ppm model only

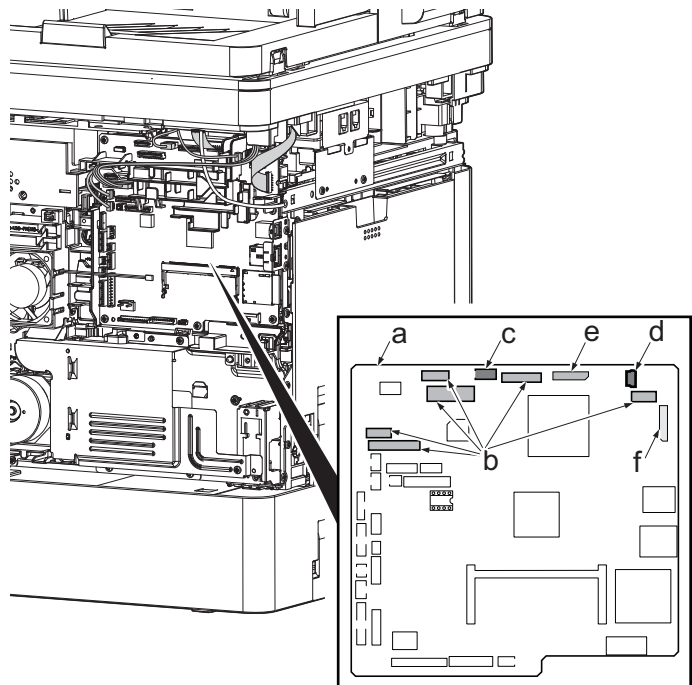


Figure 4-223

21. TSI model: remove the screw (M3x8B)(a).
22. Remove two screws (M4x12)(b).
23. Align the image scanner unit(c) and document processor (d) in the direction of the arrow to release the hooks and detach them.

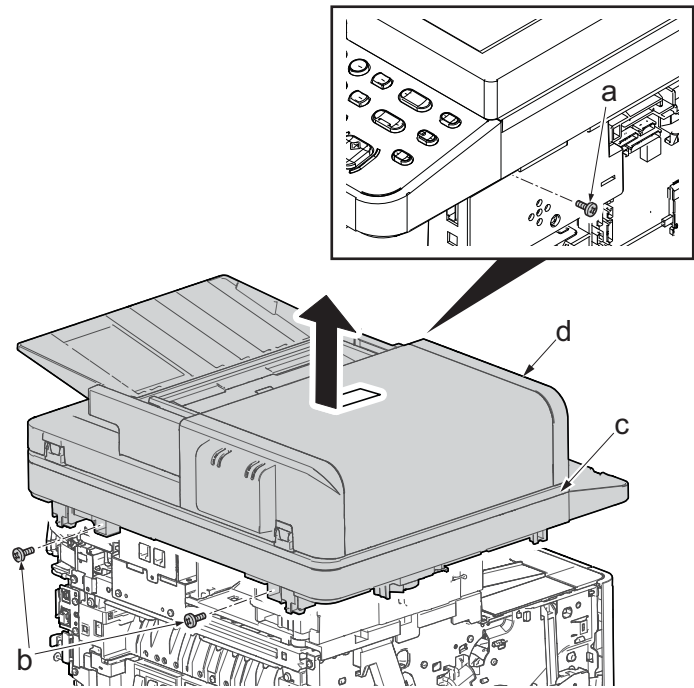


Figure 4-224

24. Disconnect the relay connector (a) of the speaker.
25. Disconnect the connector (c) from the main/engine PWB (b).

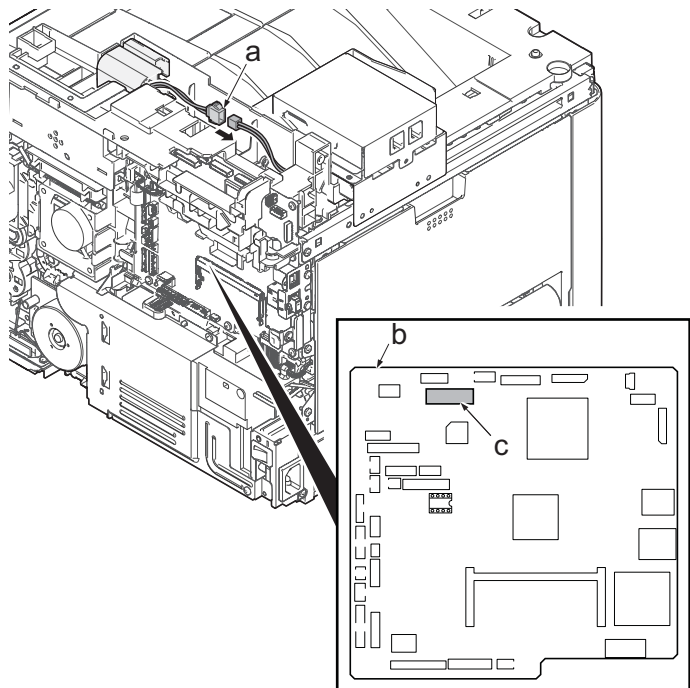


Figure 4-225

26. Remove two screws (a)(M3x8S tight) and detach the FAX PWB assembly(b).

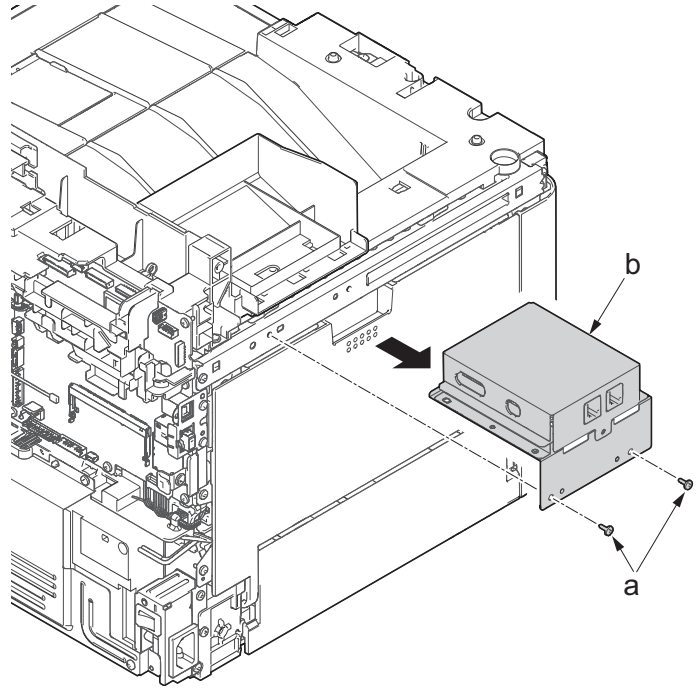
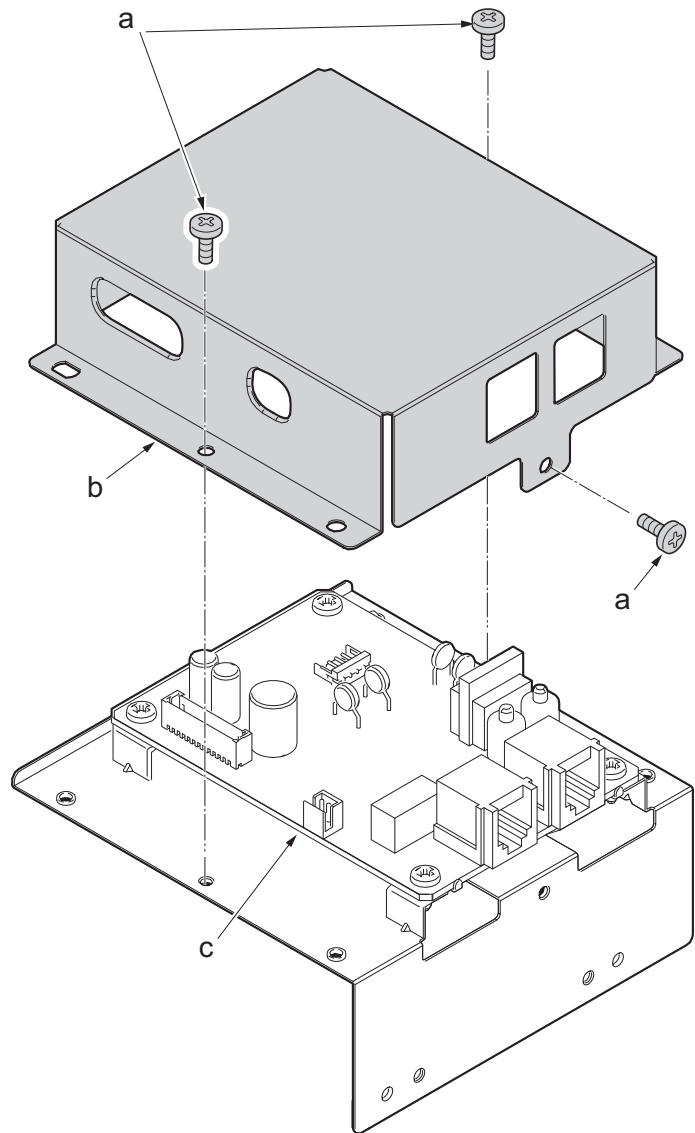


Figure 4-226

27. Remove three screws(M3x8S tight)(a), detach the cover(b).
28. Check or replace the FAX PWB (c), and then reattach the parts which are removed in the original position.

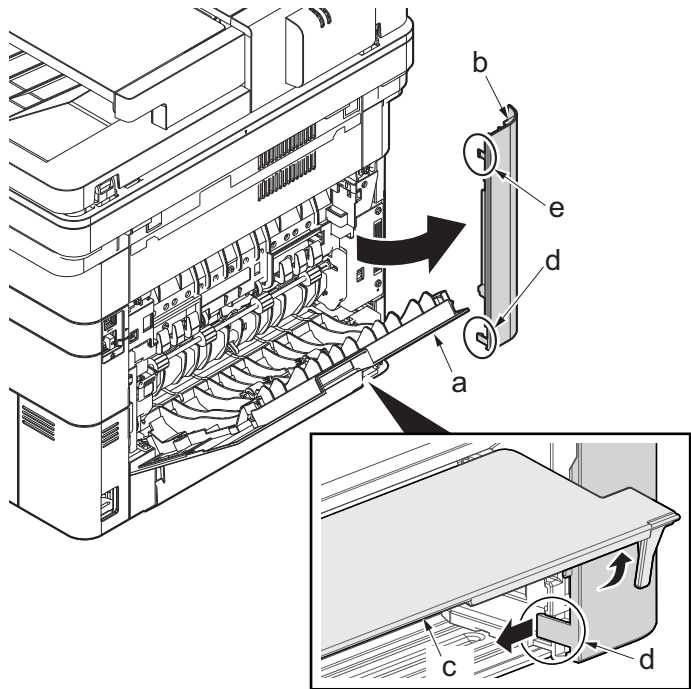
**Figure 4-227**

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

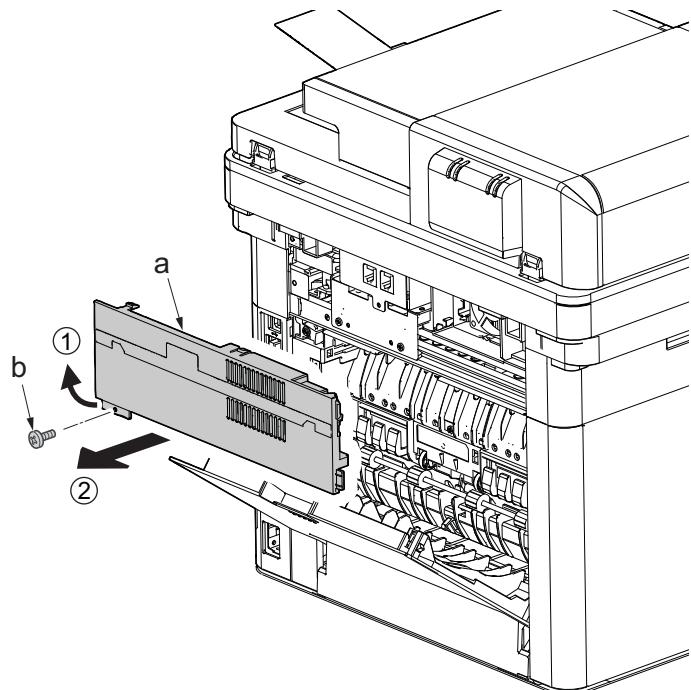
1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:

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

**Figure 4-228**

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

**Figure 4-229**

7. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
8. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

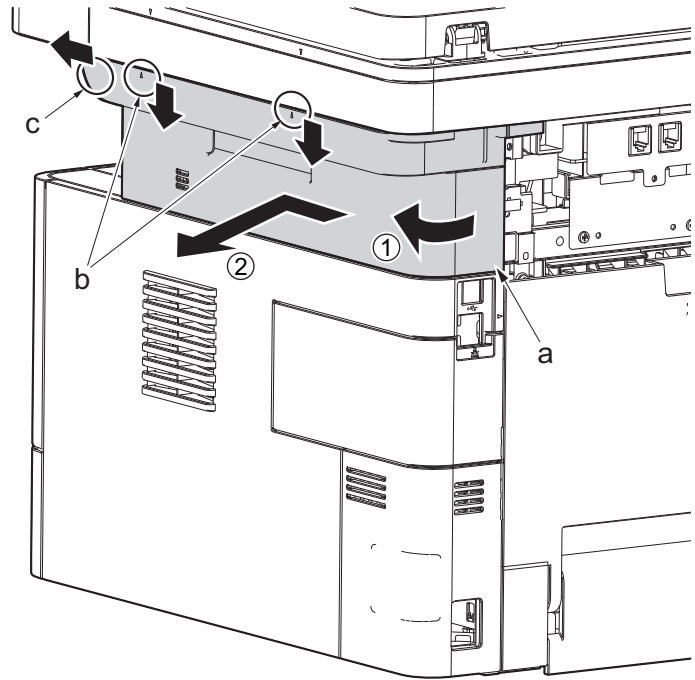


Figure 4-230

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

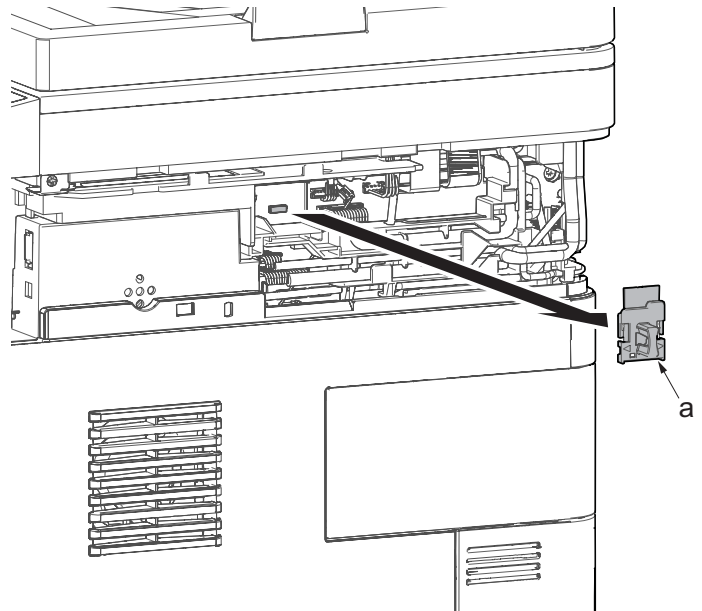


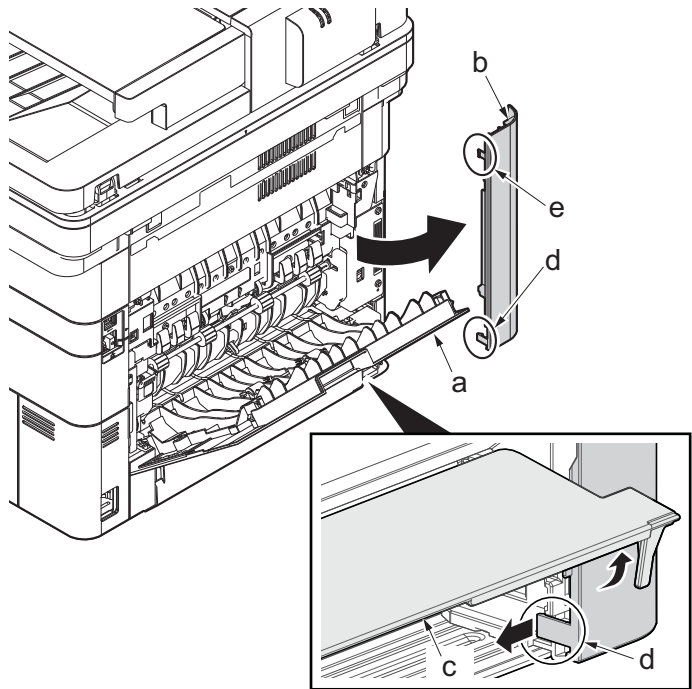
Figure 4-231

(5-6) Detaching and reattaching the USB PWB.**Procedures**

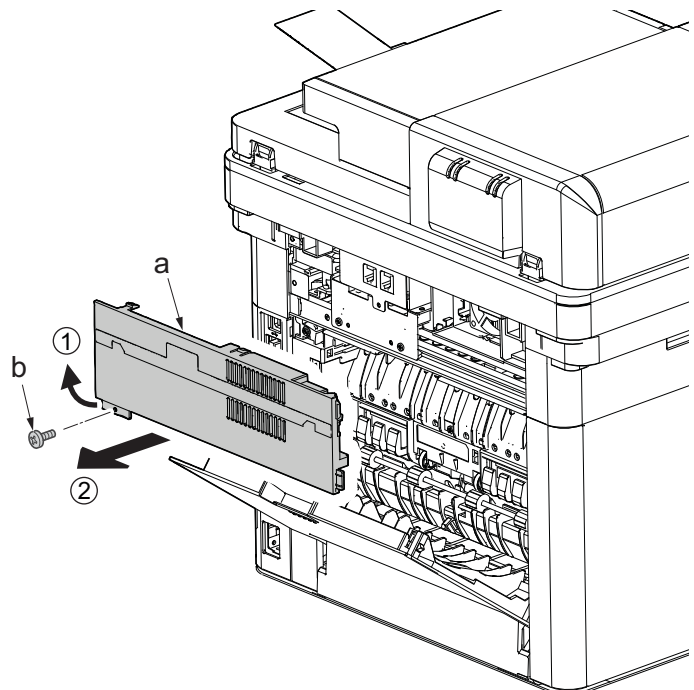
1. Slightly pull out the cassette
2. Open the rear cover (a).
3. Open the cassette cover (c) and release the hook (d) of the left rear cover (b) in the direction of the arrow.
4. Twist the rear left cover (b) to release the hook (e) and detach it.

Attention:

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

**Figure 4-232**

5. Remove the screw (M3×10TP) (b).
6. Detach ISU rear cover (a) by holding the lower left portion of it.

**Figure 4-233**

7. Remove the screw(M3×10TP)(b).
8. While twisting the ISU left cover (a), release two hooks (c) in the direction of the arrow.
9. Release the protrusion (d) of the ISU left cover (a) in the direction of the arrow and detach it.

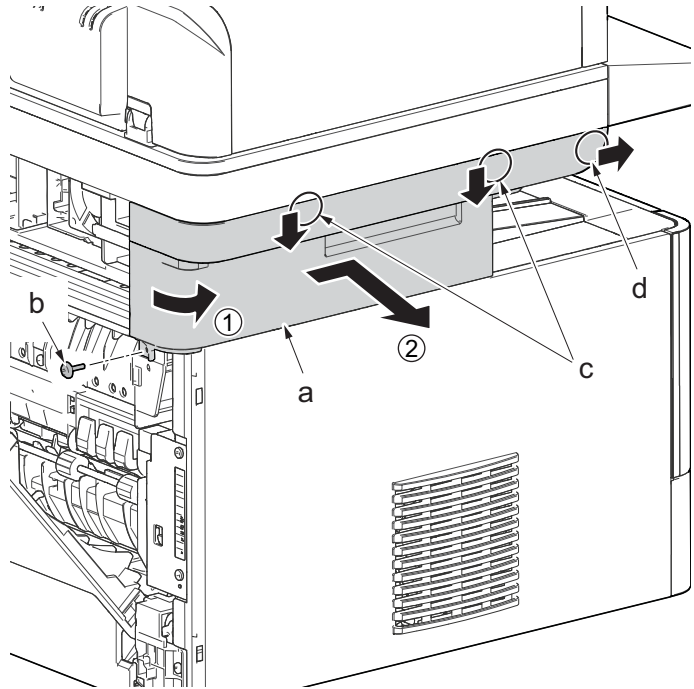


Figure 4-234

10. Twist the ISU right cover (a) and release two hooks (b) in the direction of the arrow.
11. Release the protrusion (c) of ISU right cover (a) in the direction of the arrow and detach it.

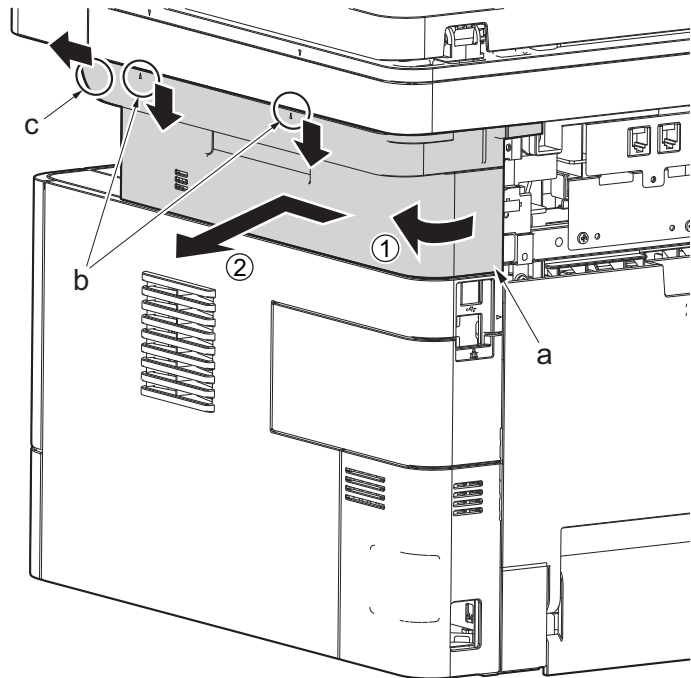


Figure 4-235

12. Detach the cassette
13. Open the front cover (a).
14. Release four hooks (b) at the front side of the left cover (a).

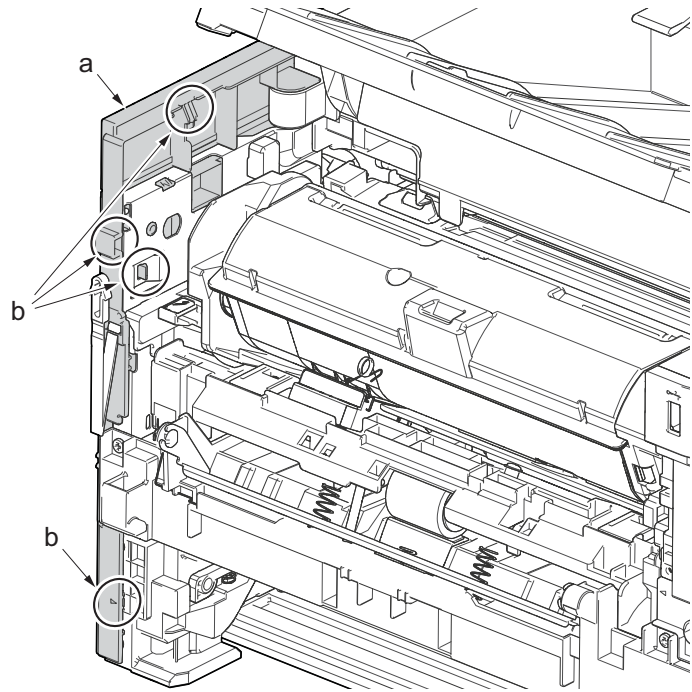


Figure 4-236

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

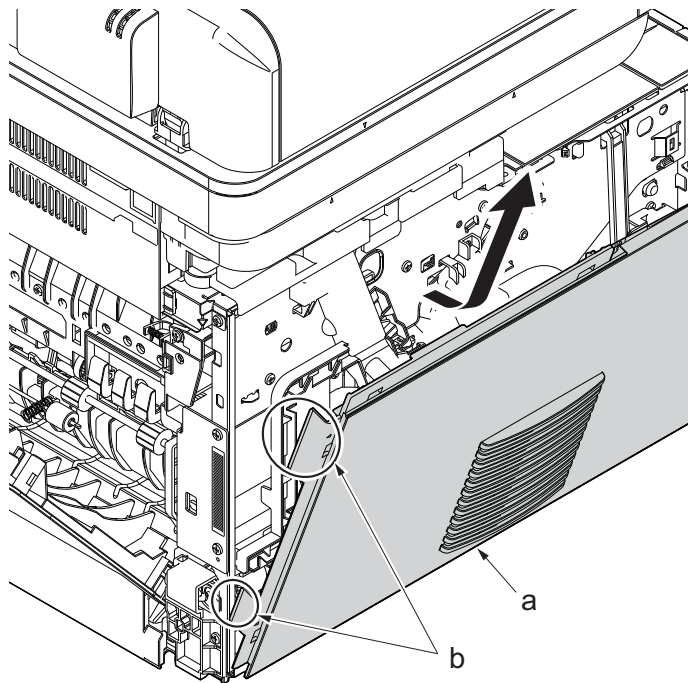


Figure 4-237

17. After twisting the DIMM cover(a), remove it while sliding it

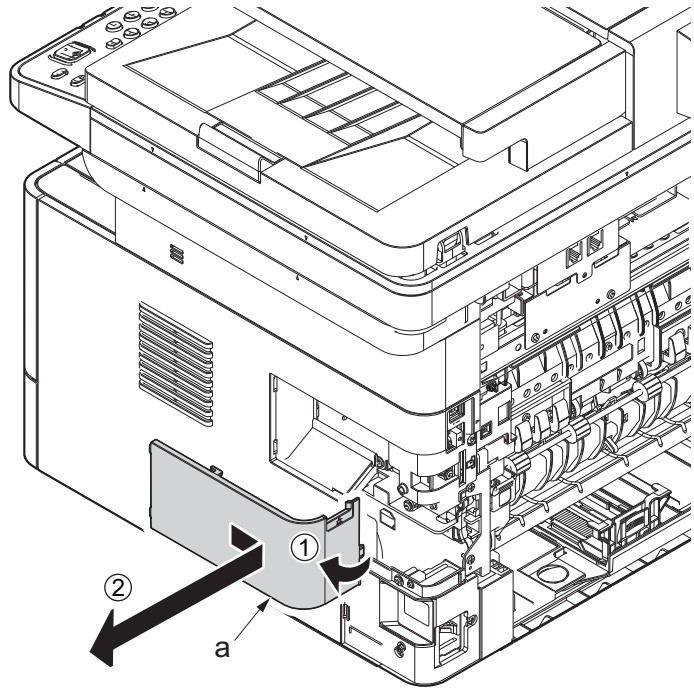


Figure 4-238

18. Twist the right rear cover (a) and detach it while sliding it.

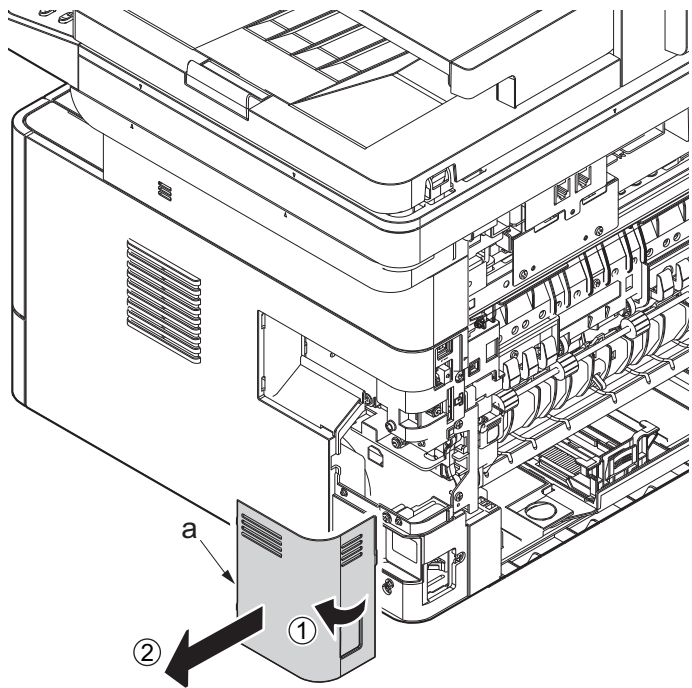


Figure 4-239

19. Detach two hooks (b) at the front side of the right cover (a).

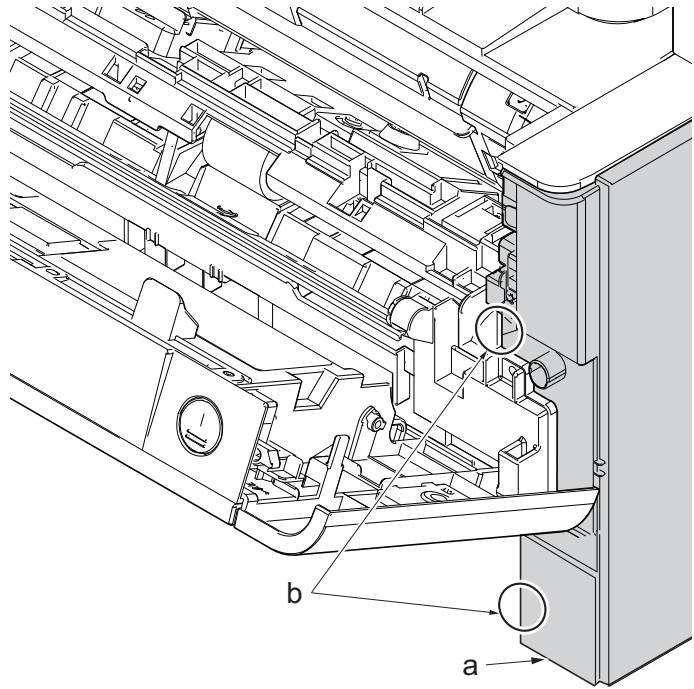


Figure 4-240

20. Release three hooks (b) at the rear side of the right cover (a).
21. Tilt the right cover (a) and detach it.

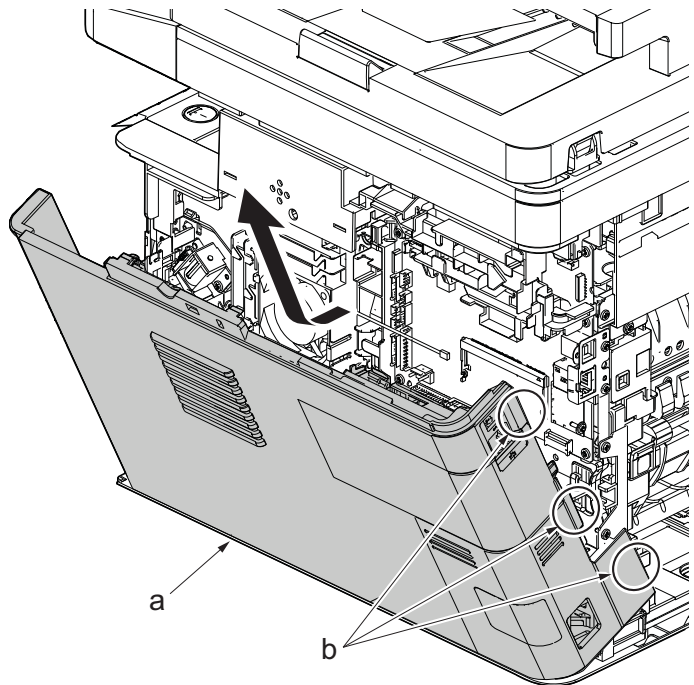


Figure 4-241

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

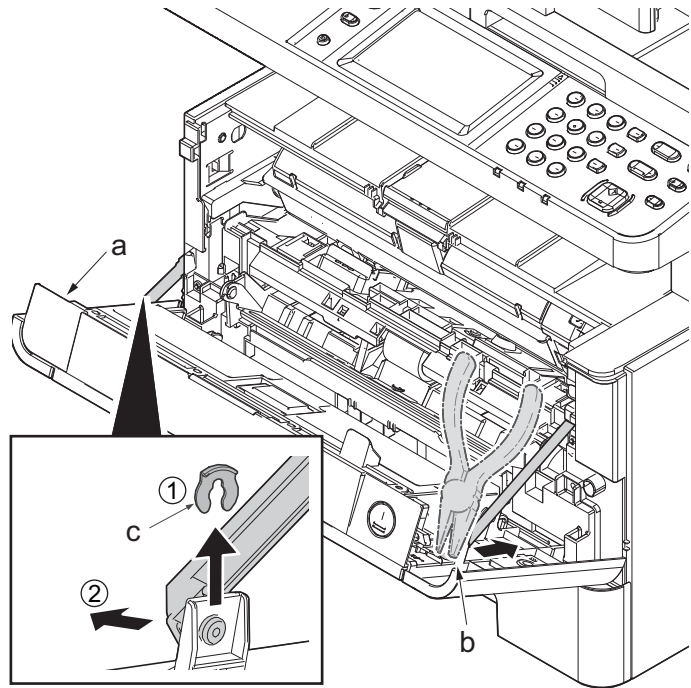


Figure 4-242

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

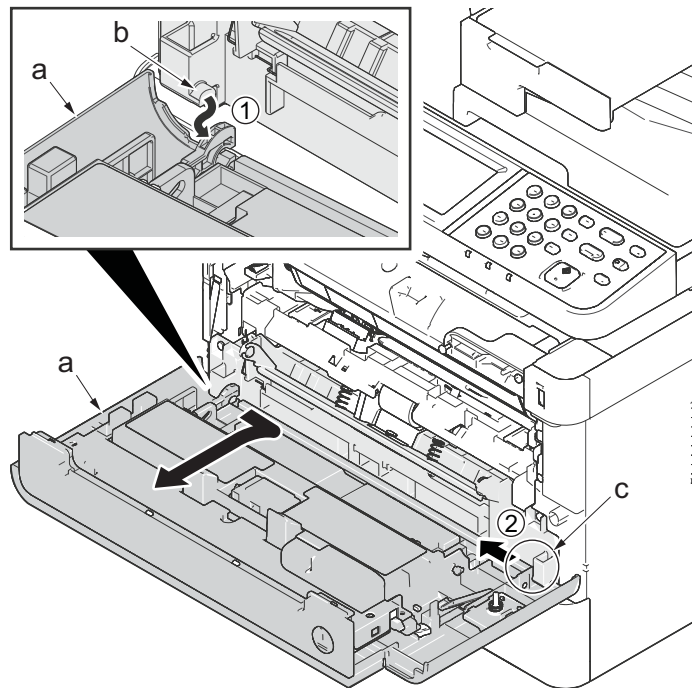


Figure 4-243

26. 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.

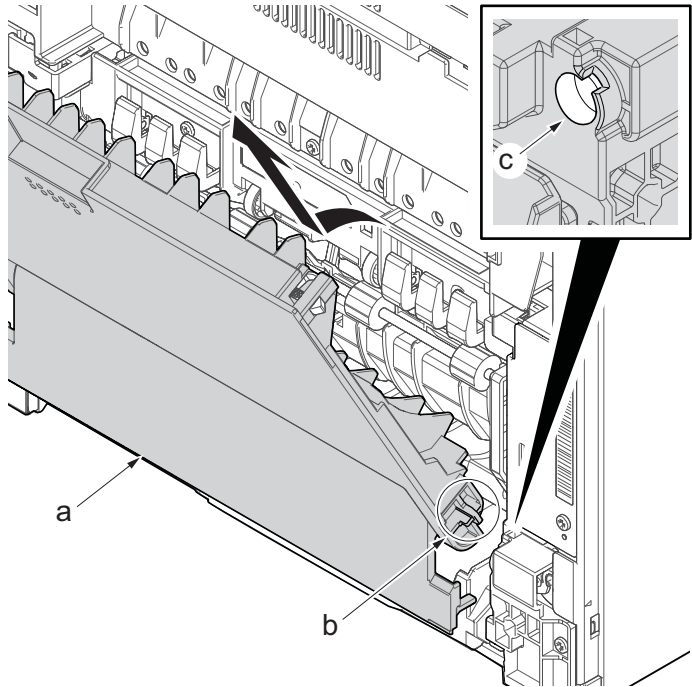


Figure 4-244

27. Remove the screw (M3x8S tight) (a), remove the ground terminal.

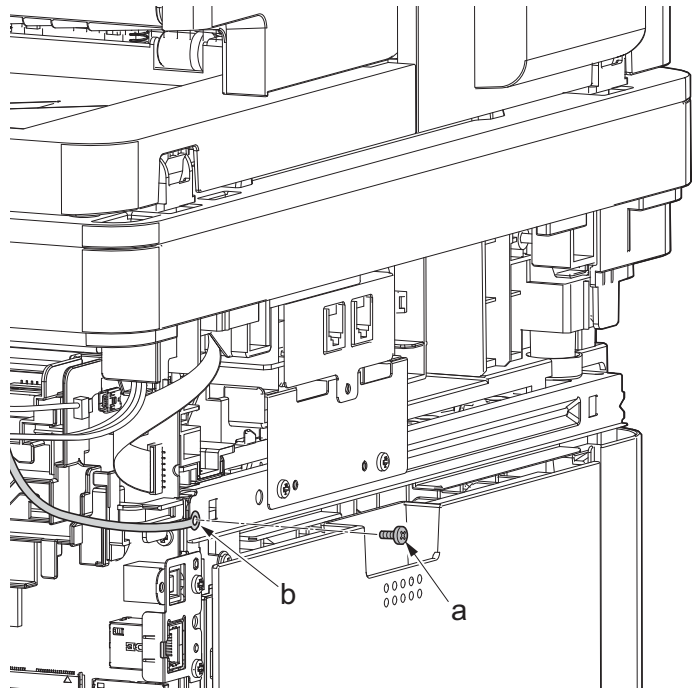


Figure 4-245

28. Disconnect six connectors (b), the connector (c)*1, USB connector (d)*1, FFC (e) and FFC (f)*2 from the main/engine PWB (a).

*1: TSI model only

*2: 40 ppm model only

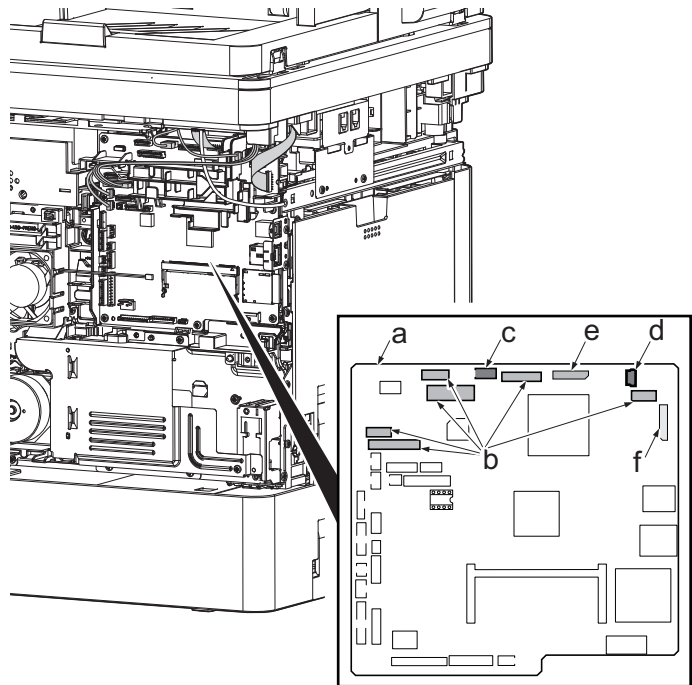


Figure 4-246

29. TSI model: remove the screw (M3x8B).
 30. Remove two screws (b)(M4x12).
 31. Align the image scanner unit(c) and document processor (d) in the direction of the arrow to release the hooks and detach them.

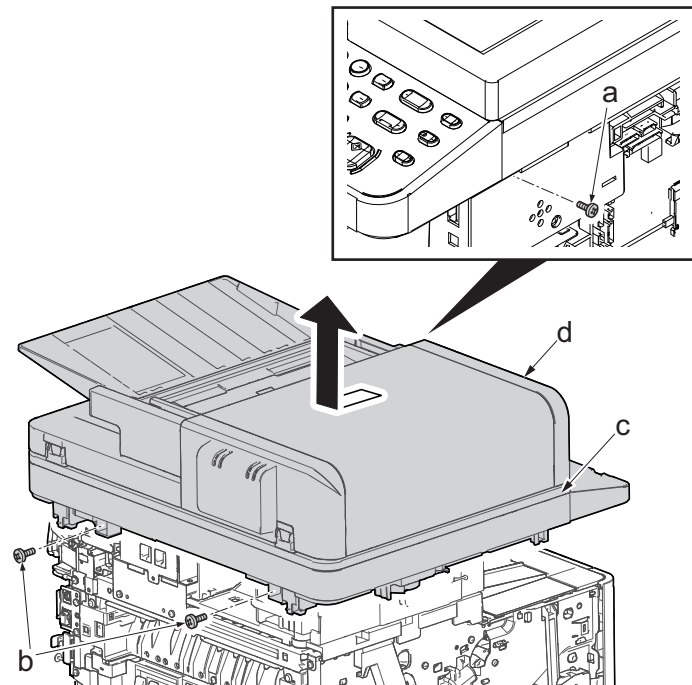


Figure 4-247

32. Remove two screws(M3x8S tight)(a), detach ISU left holder(b).

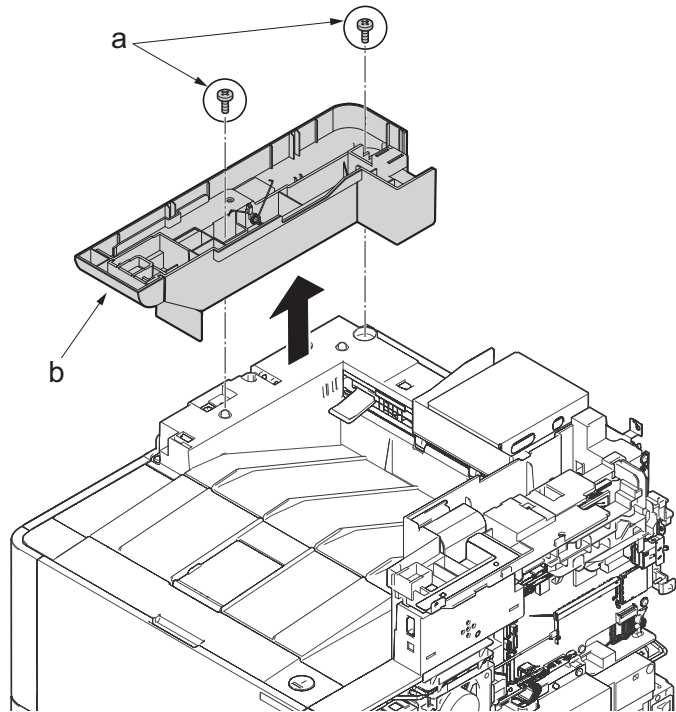


Figure 4-248

33. Disconnect the relay connector (a) of the speaker.
34. Disconnect the connector (c) from the main/engine PWB (b).

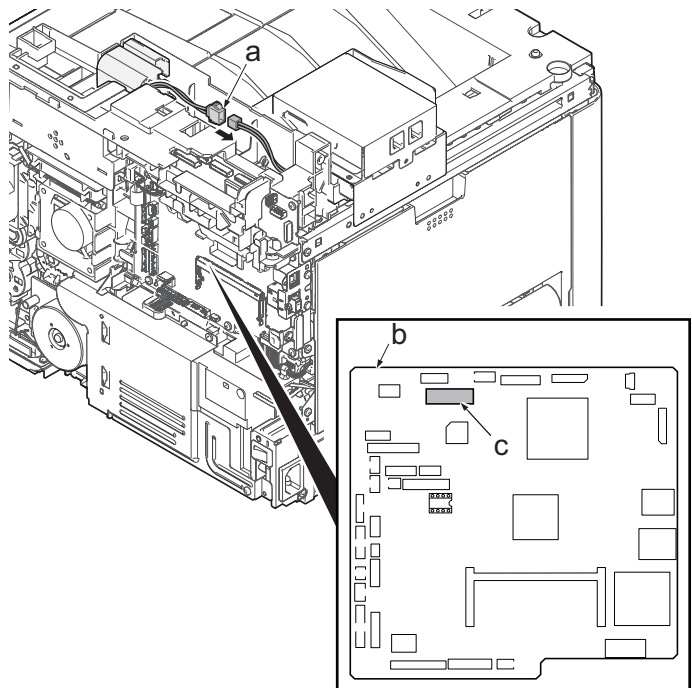


Figure 4-249

35. Remove two screws (a)(M3x8S tight) and detach the FAX PWB assembly (b).
36. Lift up the hook (d) of FAX PWB lower cover (c) and detach it while sliding it in the direction of the arrow.

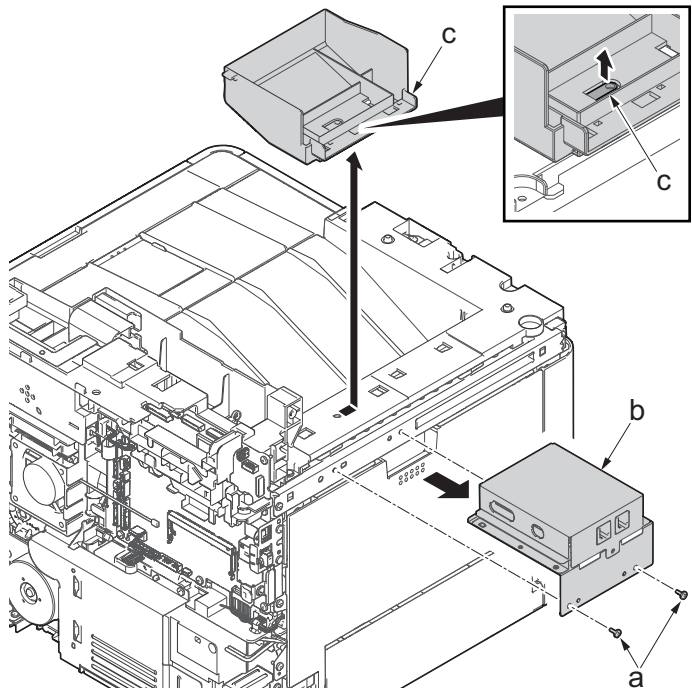


Figure 4-250

37. Remove the screw(M3x8P tight)(a), detach the speaker holder (b).

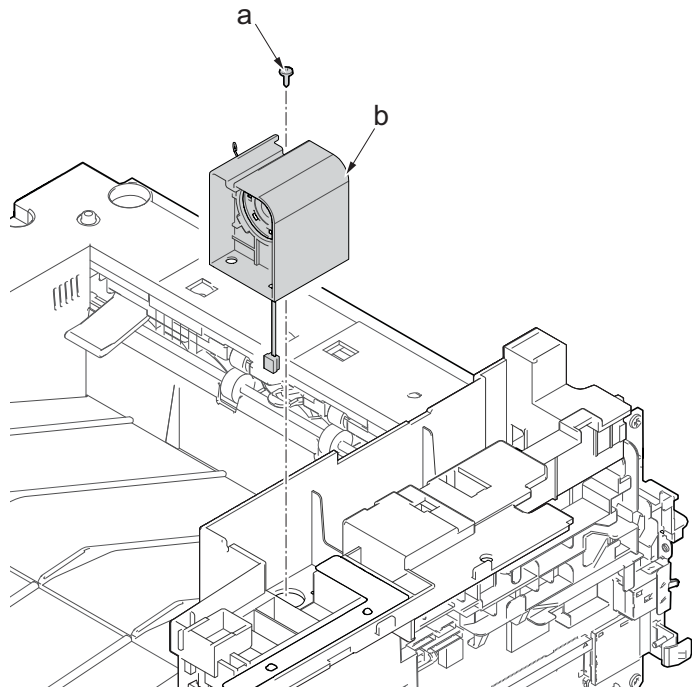


Figure 4-251

38. Remove three screws(M3x8S tight)(a),
detach ISU right holder(b).

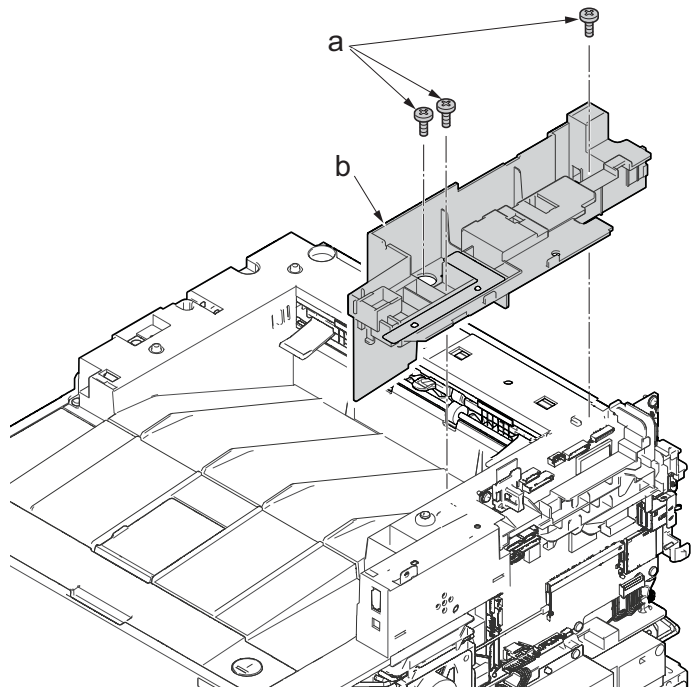


Figure 4-252

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

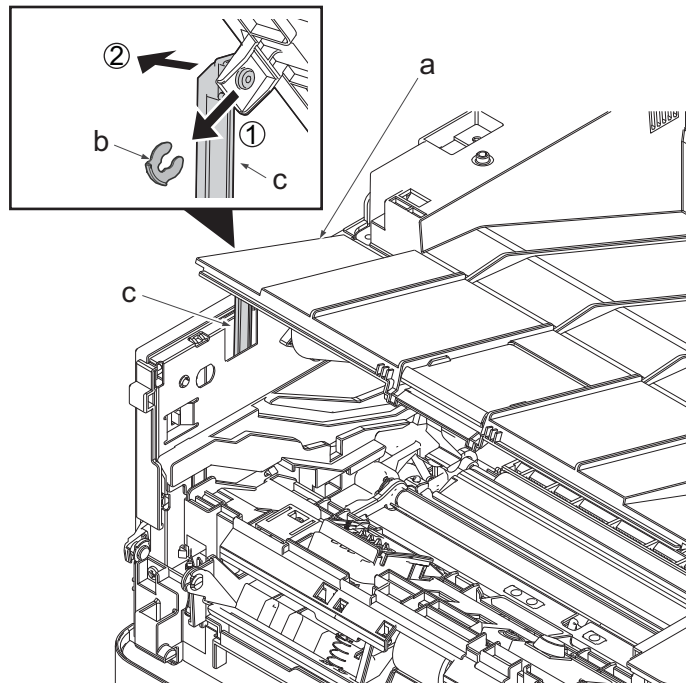


Figure 4-253

41. Remove two screws(M3×8TP)(a) and remove the eject tray (b) in the upper direction.

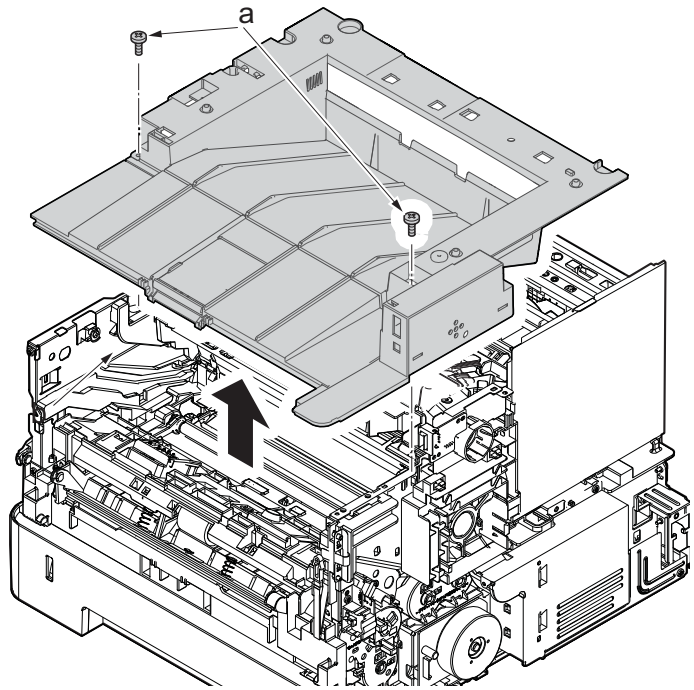


Figure 4-254

42. Remove two screws (M3×8P tight)(b) from the eject tray(a).
 43. Detach the USB PWB assembly (c).
 44. Check or replace the USB PWB (c), and then reattach the parts which are detached in the original position.

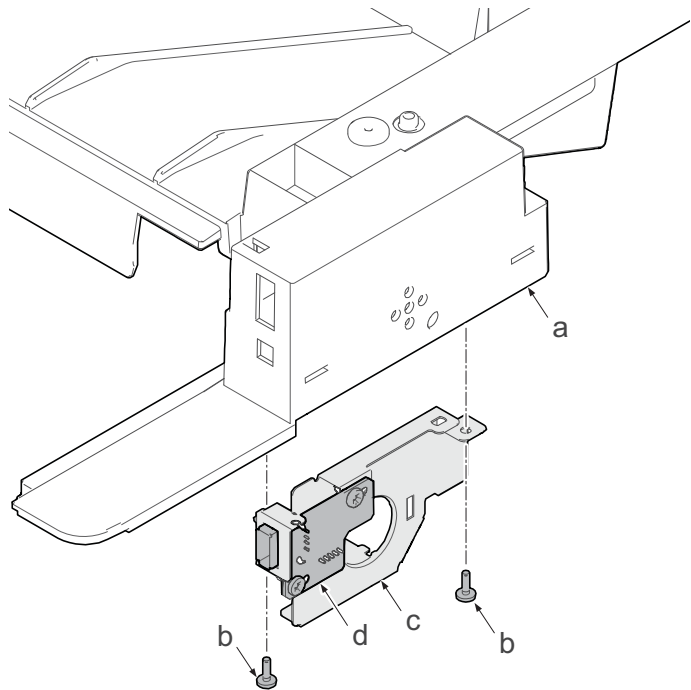
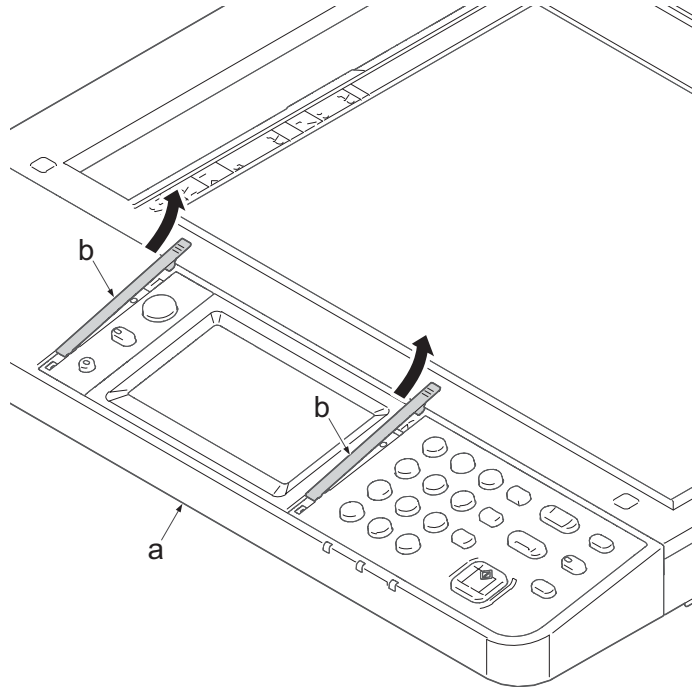


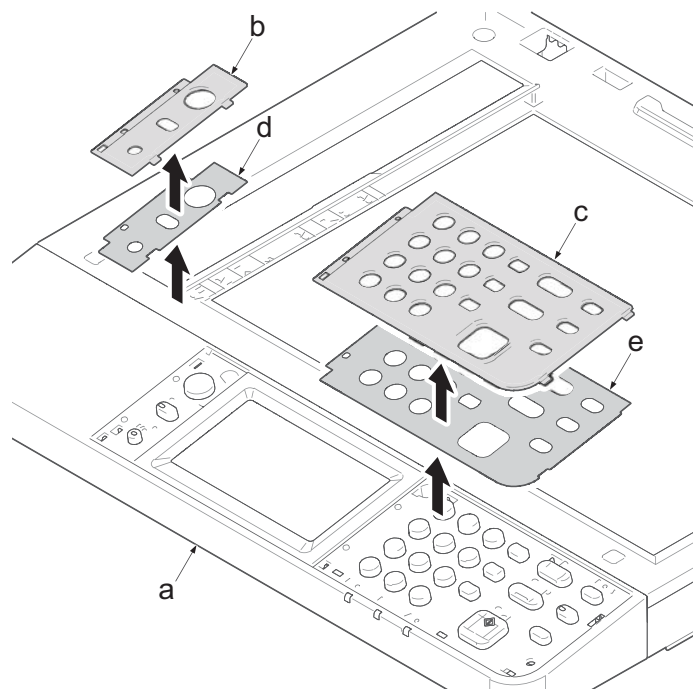
Figure 4-255

(5-7) Detaching and reattaching the operation panel PWB (TSI model)**Procedures**

1. Open the document processor.
2. While lifting up the leading edge, slide two points of the operation covers (b) in the direction of the arrow.
3. Detach the operation panel cover (b) from the operational section (a).

**Figure 4-256**

4. Detach the clear panel (b) and (c) from the operation panel (a).
5. Next detach the operation panel sheet (d) and (e).

**Figure 4-257**

6. Remove two screws (c) (M3×8S tight).
7. Lift up the front side of operation cover (a) and release four hooks (b).

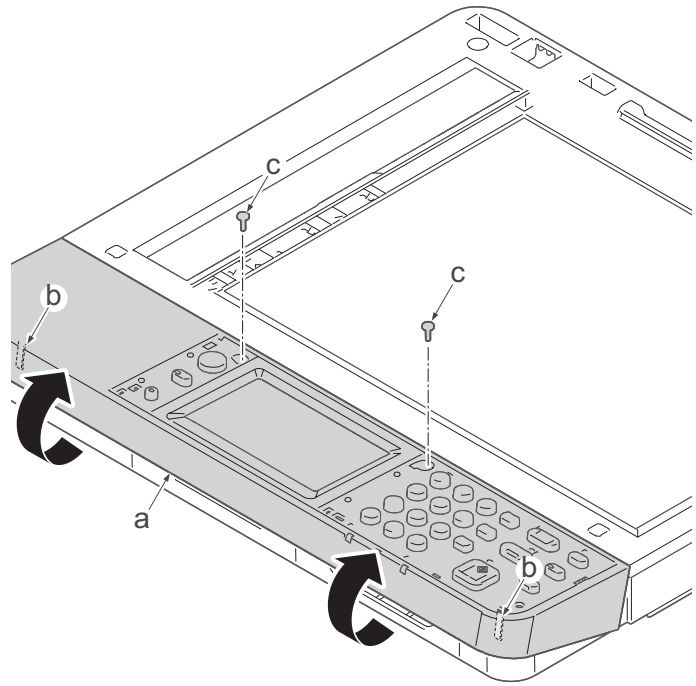


Figure 4-258

8. Turn over the operation cover (a).
9. Disconnects two connectors (c), the USB connector (d) and the grounding terminal (e) of operational cover PWB (b).

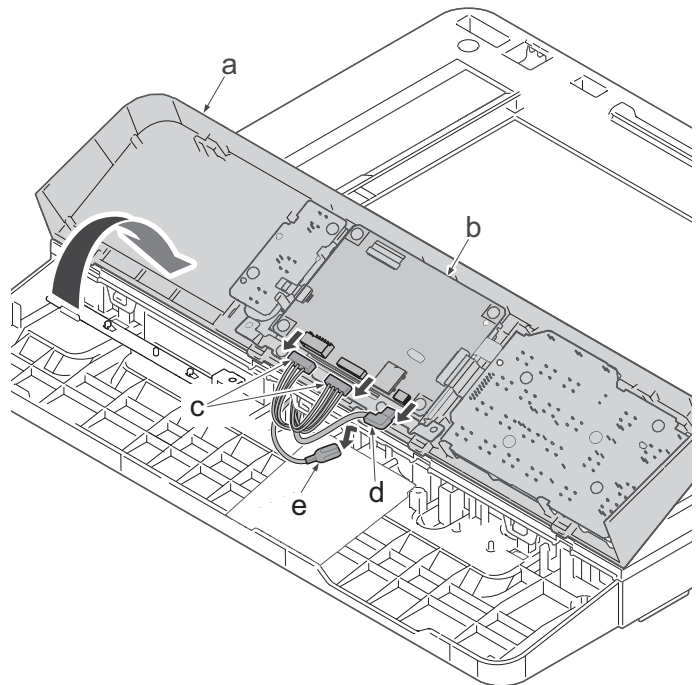


Figure 4-259

10. Disconnect all the connectors and FFC from the operational panel PWB (a).
11. Remove four screws(M3x8S tight)(c), detach the operational panel PWB (b) from the operational cover (a).
12. Check the status of the operation panel PWB (b) and if necessary clean or replace it.
13. Reattach the parts in the original position.

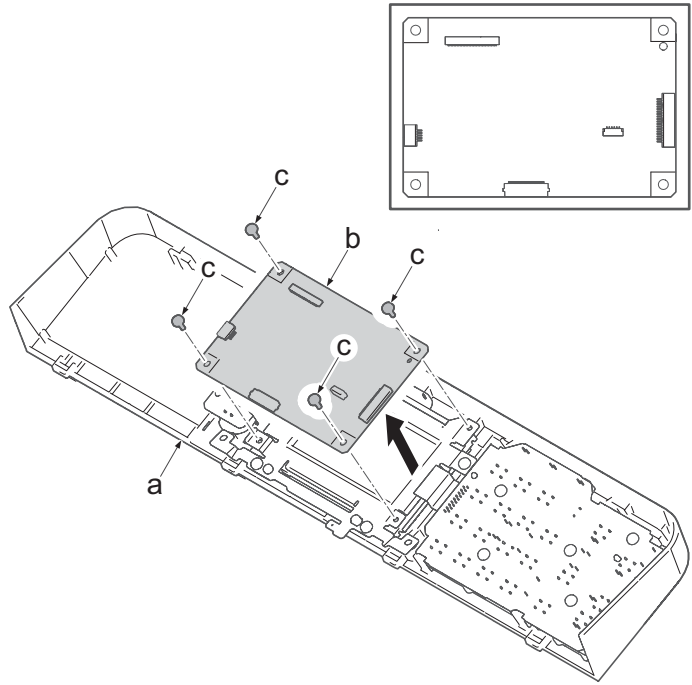
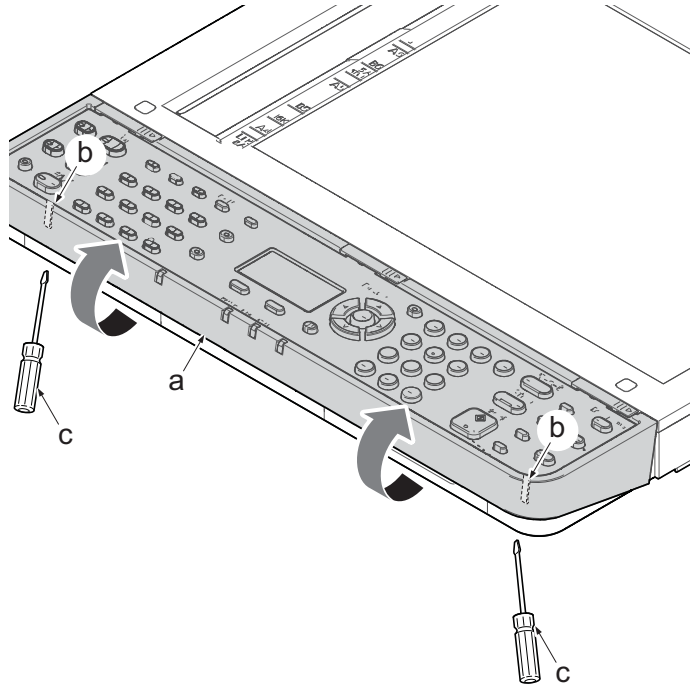


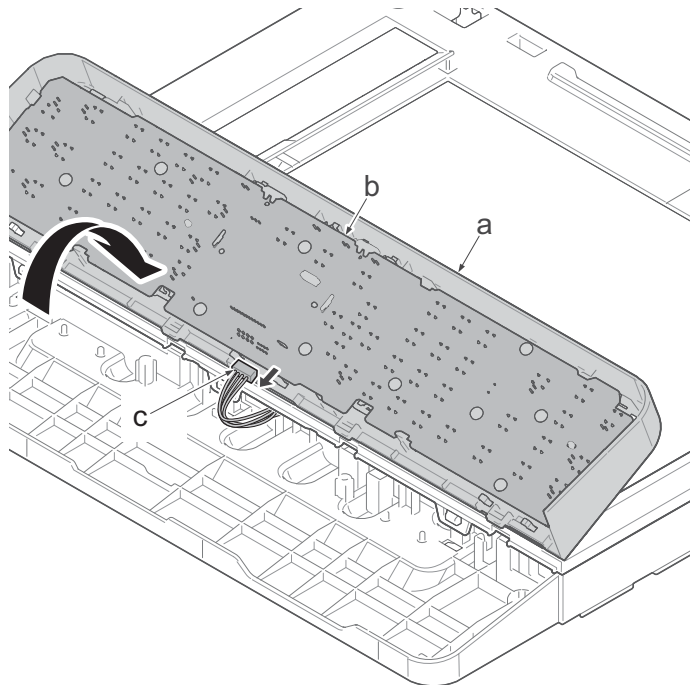
Figure 4-260

(5-8) Detaching and reattaching the operation panel PWB (LCD model)**Procedures**

1. Open the document processor.
2. Release two hooks (b) by using a flat-head screwdriver (c).
3. Open the operational cover (a) while lifting up the front side of it.

**Figure 4-261**

4. Turn over the operation cover (a).
5. Disconnects the connector (c) of operational cover PWB (b).

**Figure 4-262**

6. Remove ten screws(M3x8P tight)(c), detach the operational panel PWB(b) from the operational cover(a).
7. Check the status of the operation panel PWB (b) and if necessary clean or replace it.
8. Reattach the parts in the original position.

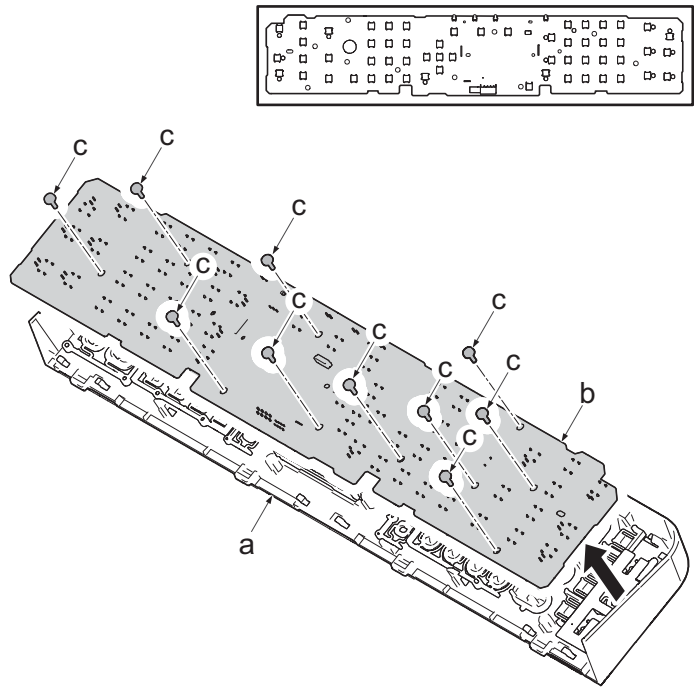


Figure 4-263

(6) Detaching and reattaching the document processor

(6-1) Detaching and reattaching the DP pick up pulley, DP paper feed roller and DP separation pad

Procedures

1. Open the DP upper cover (a).
2. Twist two hooks (c) of the DP front cover to release them and detach the DP front cover (b).

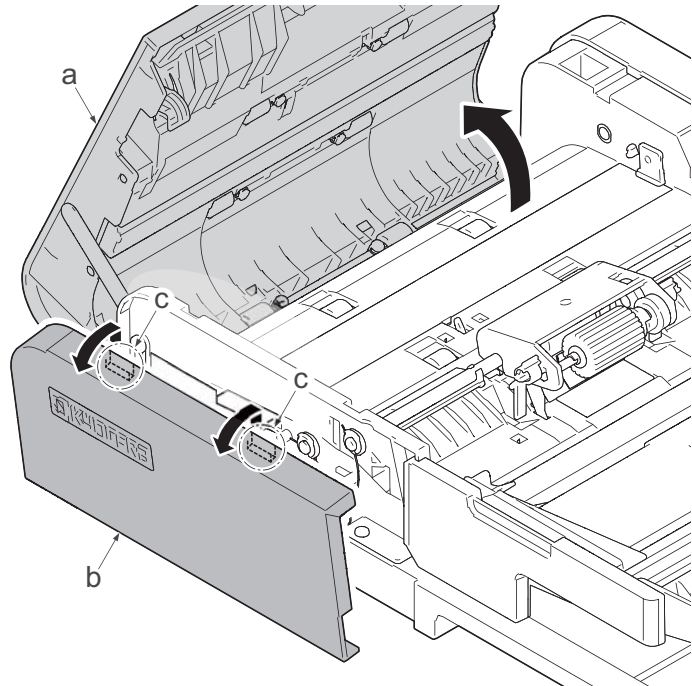


Figure 4-264

3. Twist two hooks (b) of the DP rear cover to release them and detach the DP rear cover (a).

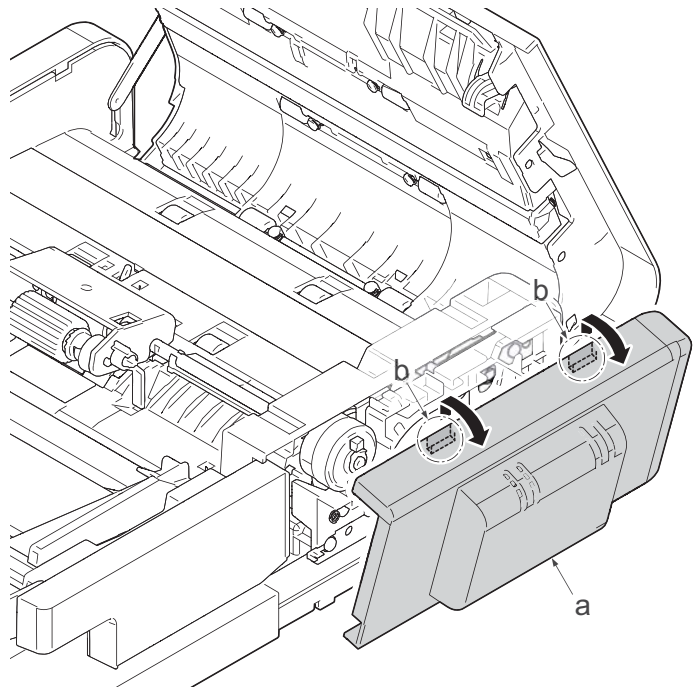


Figure 4-265

4. Detach two guides (b) from the DP paper feed roller shaft (a).
5. Detach the stop ring(c) and the bearing(d) from DP paper feed roller shaft(a).

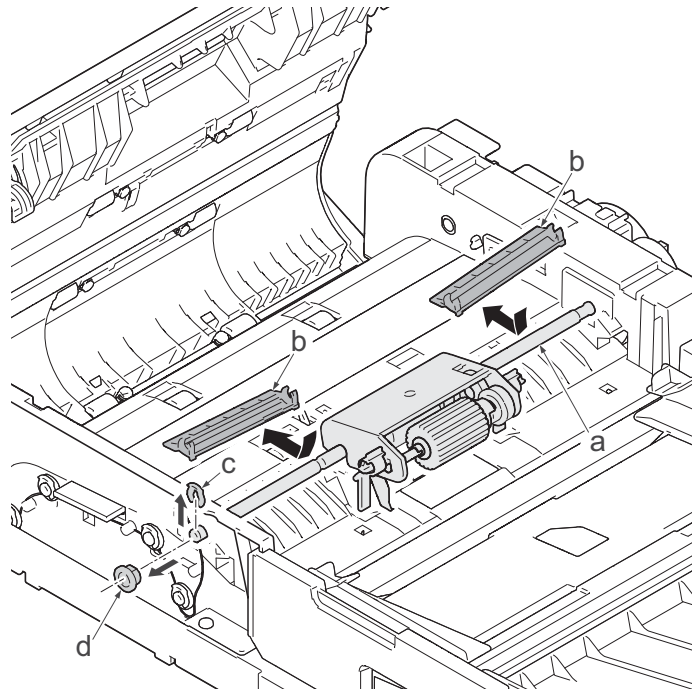


Figure 4-266

6. Remove two stop rings(d) and the clutch(e) and the bearing(f) from the paper feed roller shaft(c).
7. Slide the DP paper feed roller shaft (c) in the direction of the arrow and detach the DP paper feed roller assembly (a) from the document processor (b).

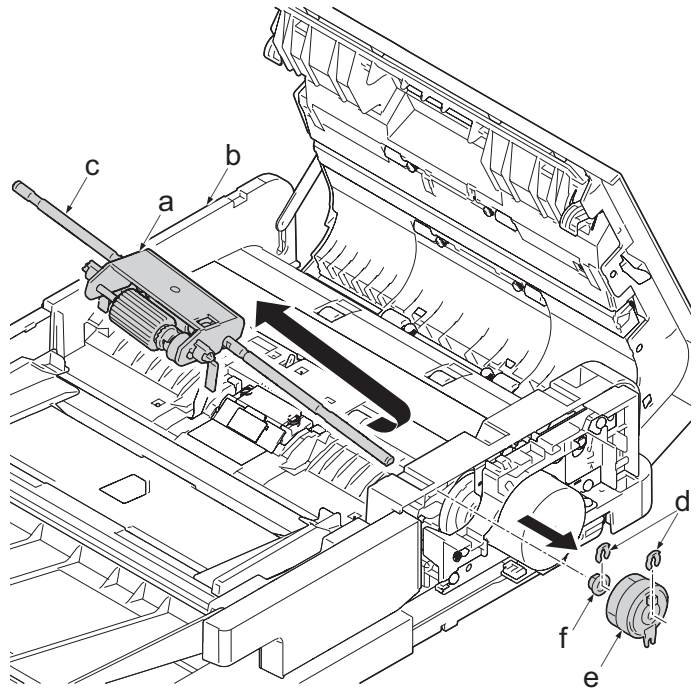


Figure 4-267

8. Push both side hooks (b) of DP separate pad assembly (a) inside and detach it from the document processor (c).
9. Check the pickup pulley, DP paper feed roller and DP separate pad assembly (a) and clean or replace it.
10. Reattach the parts in the original position.

IMPORTANT

When replacing with new DP paper feed roller assembly or DP separation pad assembly, pay attention not to touch the roller surface.

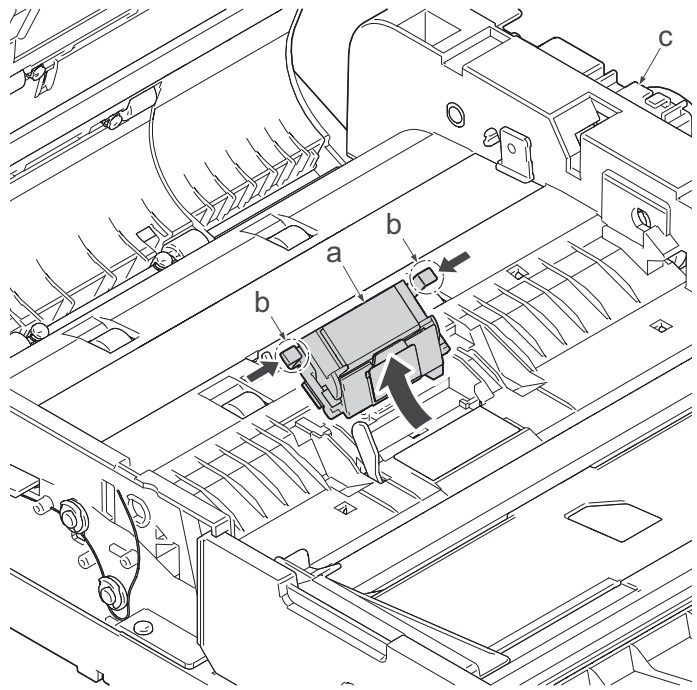


Figure 4-268

(6-2) Detaching and reattaching the DP front cover

Procedures

1. Open the DP upper cover (a).
2. Twist two hooks (c) of the DP front cover to release them and detach the DP front cover (b).

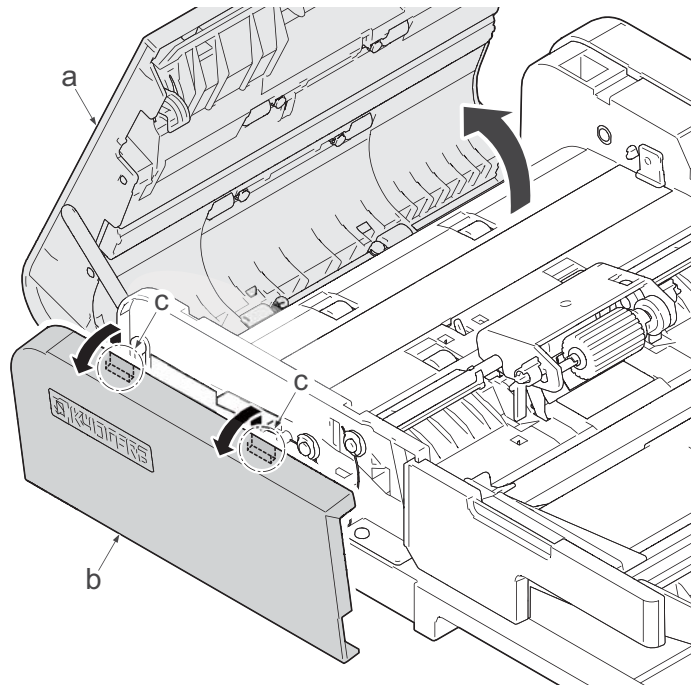


Figure 4-269

(6-3) Detaching and reattaching the DP rear cover

Procedures

1. Open the DP upper cover (a).
2. Twist two hooks (c) of the DP rear cover to release them and detach the DP rear cover (b).

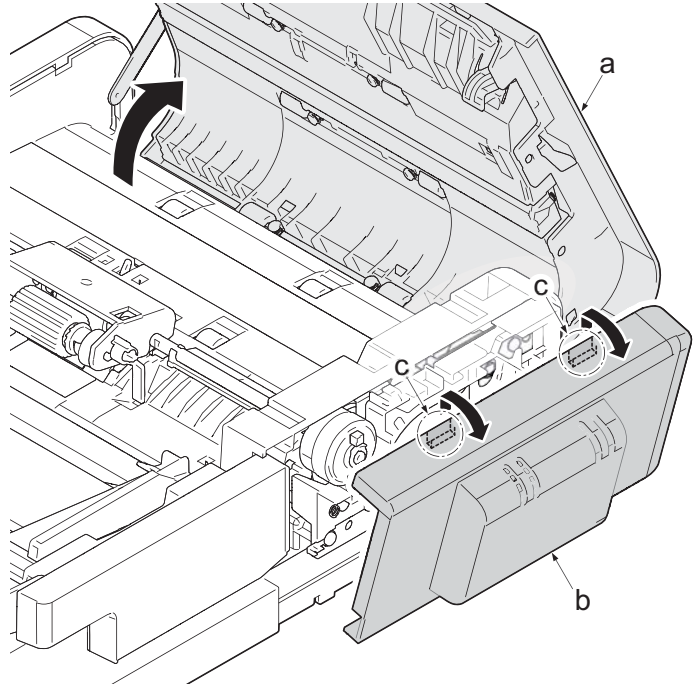


Figure 4-270

(6-4) Detaching and reattaching the DP main motor

Procedures

1. Open the DP upper cover (a).
2. Twist two hooks (c) of the DP rear cover to release them and detach the DP rear cover (b).

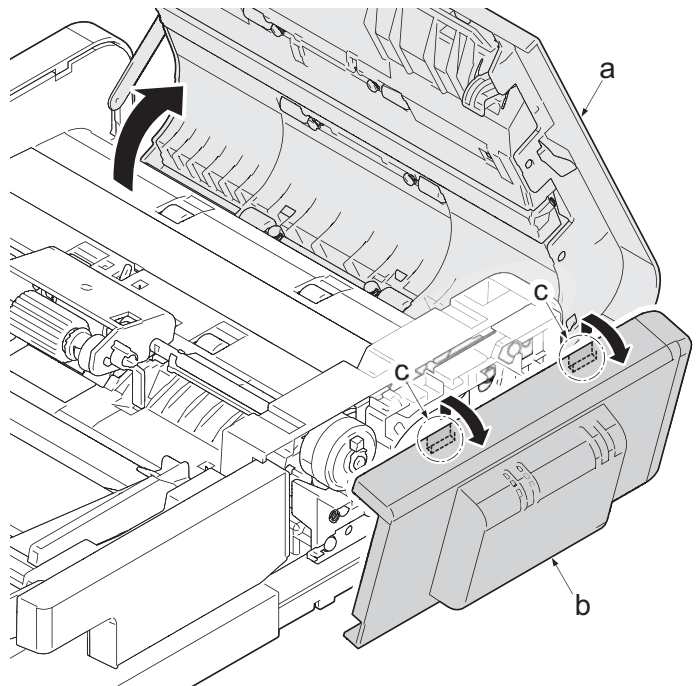


Figure 4-271

3. Disconnect the connector (c).
4. Remove two screws(M3×8)(b), detach the DP main motor (a).
5. Check the main motor (a) and clean or replace it.
6. Reattach the parts in the original position.

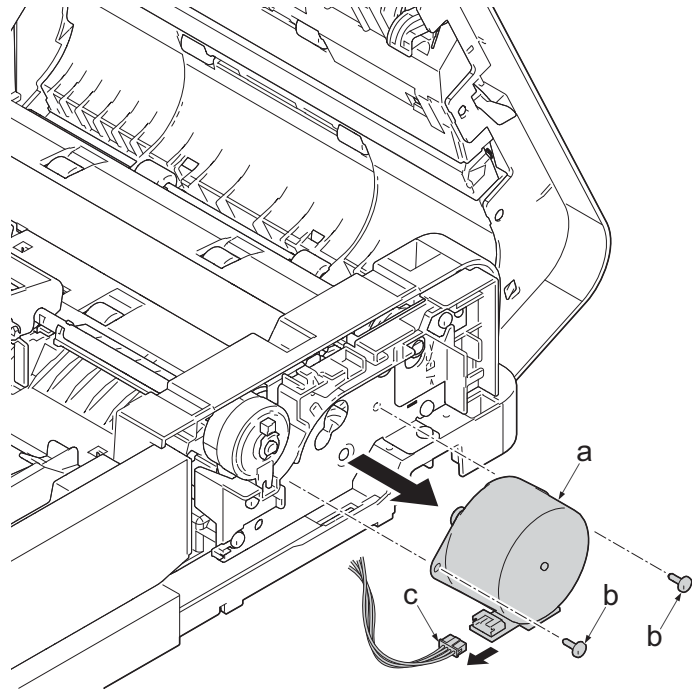


Figure 4-272

4-5 Maintenance 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.

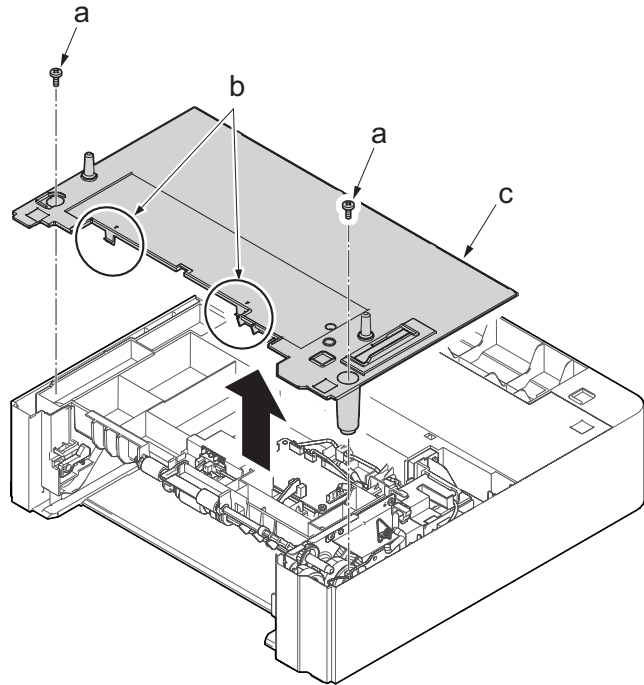


Figure 4-273

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.

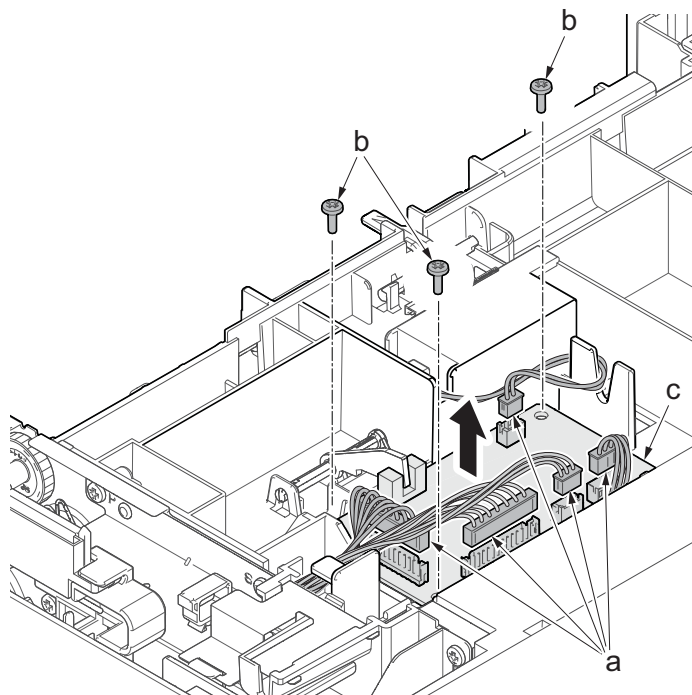
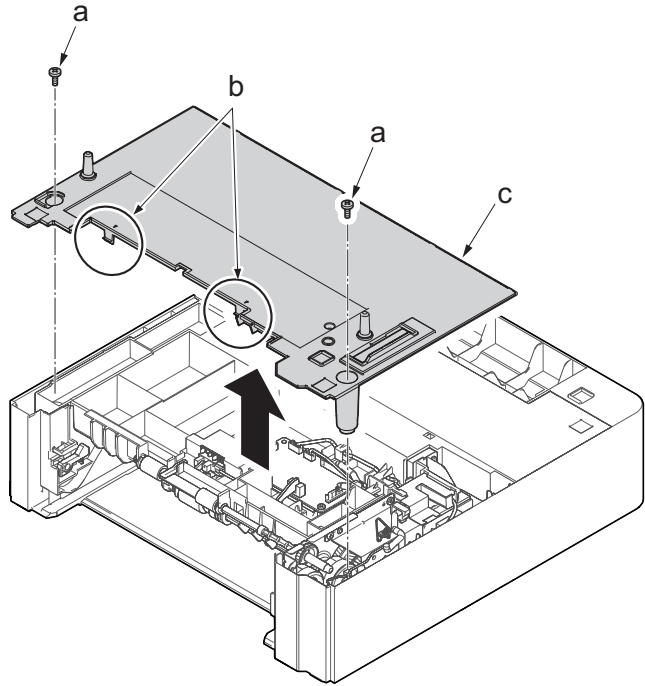


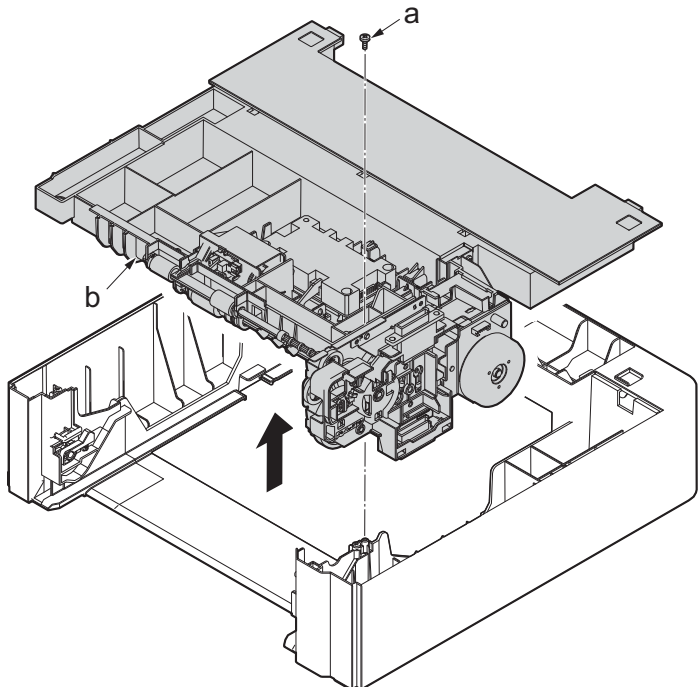
Figure 4-274

(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 4-275**

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

**Figure 4-276**

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).

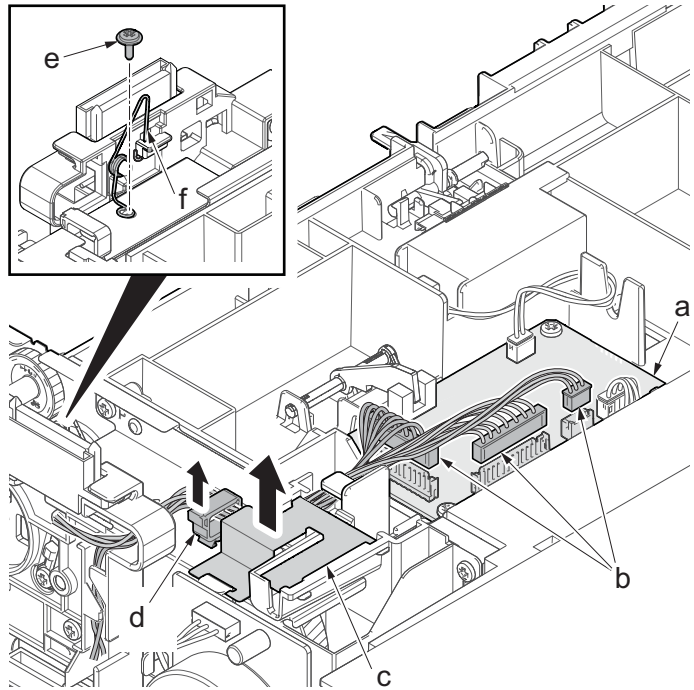


Figure 4-277

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).

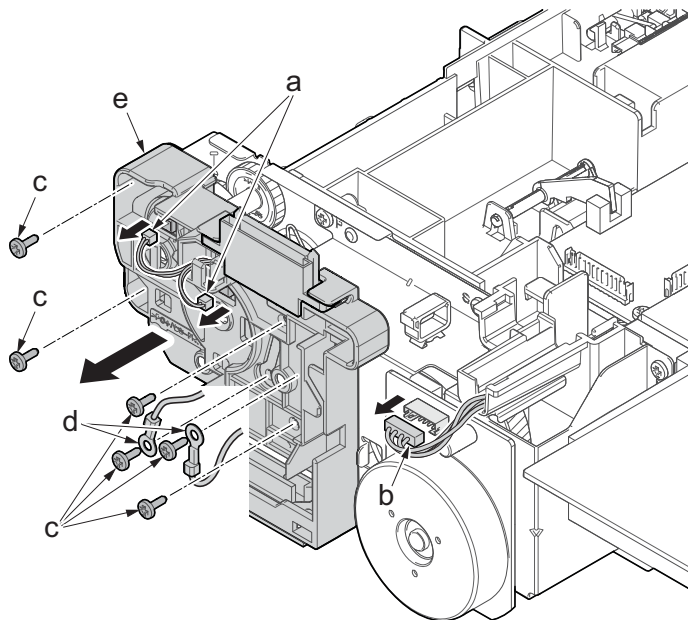


Figure 4-278

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

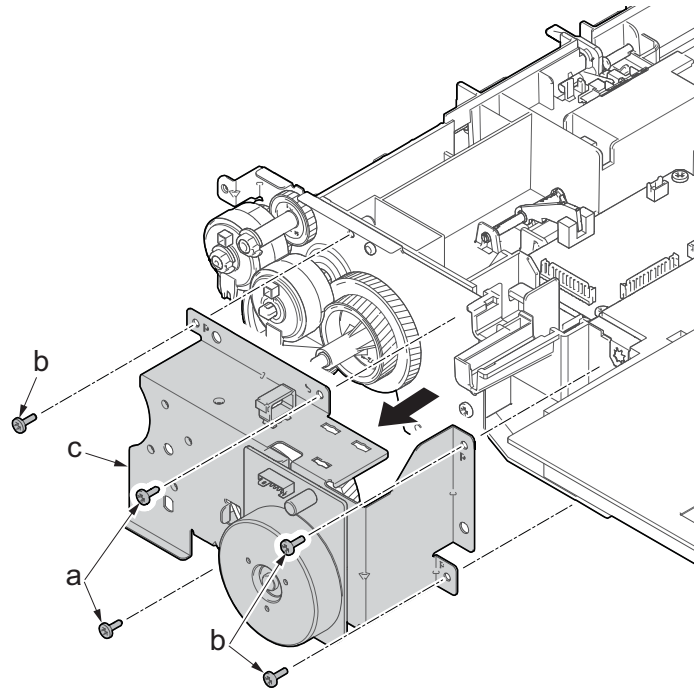


Figure 4-279

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.

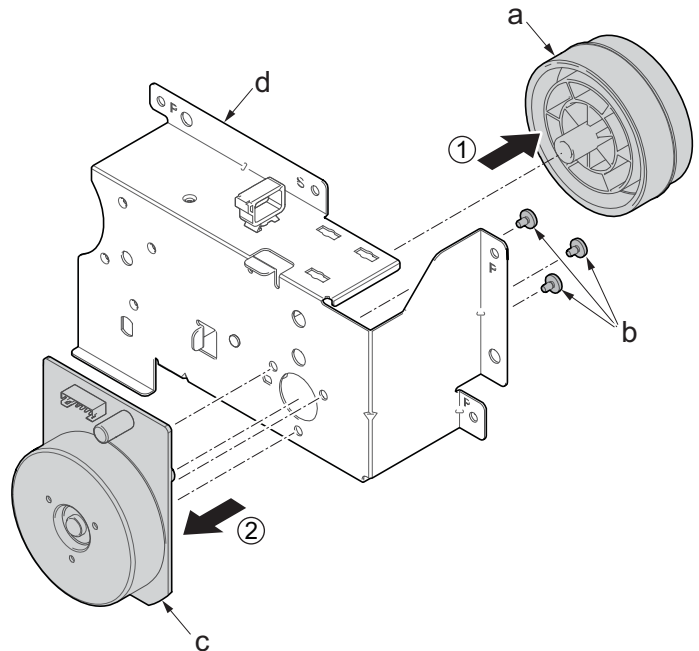
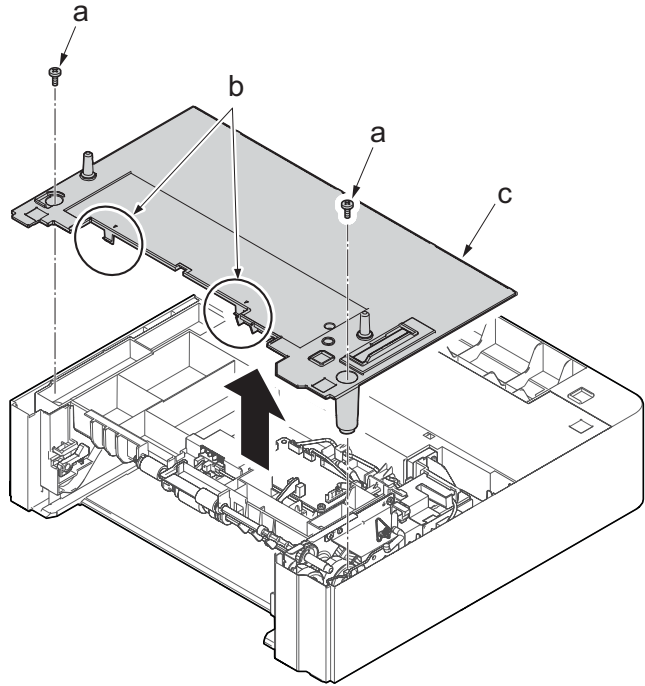


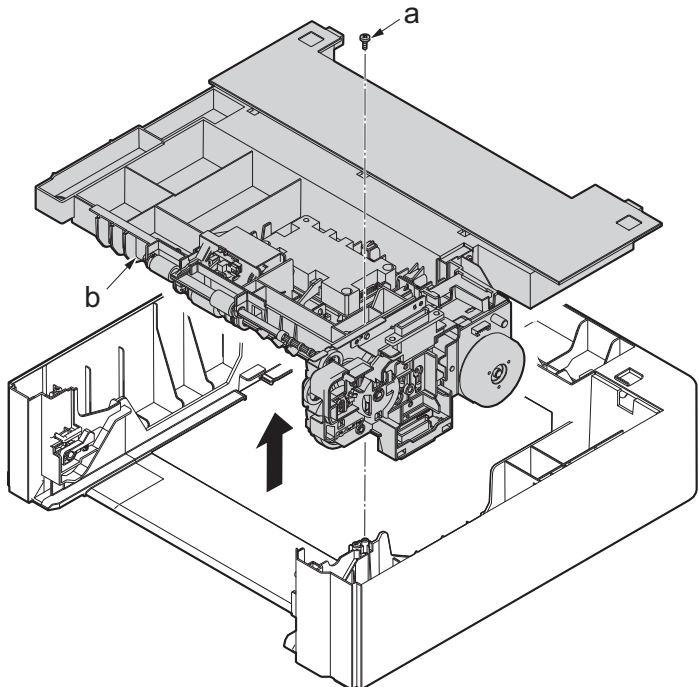
Figure 4-280

(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 4-281**

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

**Figure 4-282**

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).

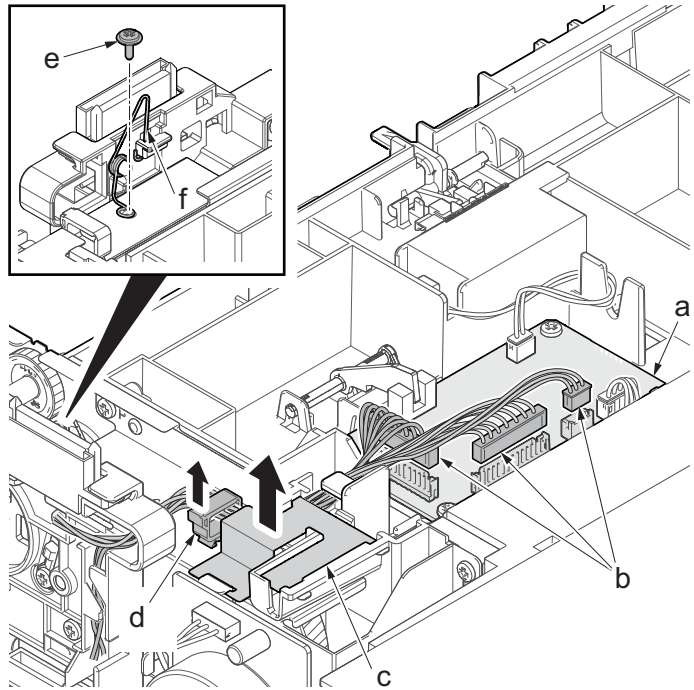


Figure 4-283

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).

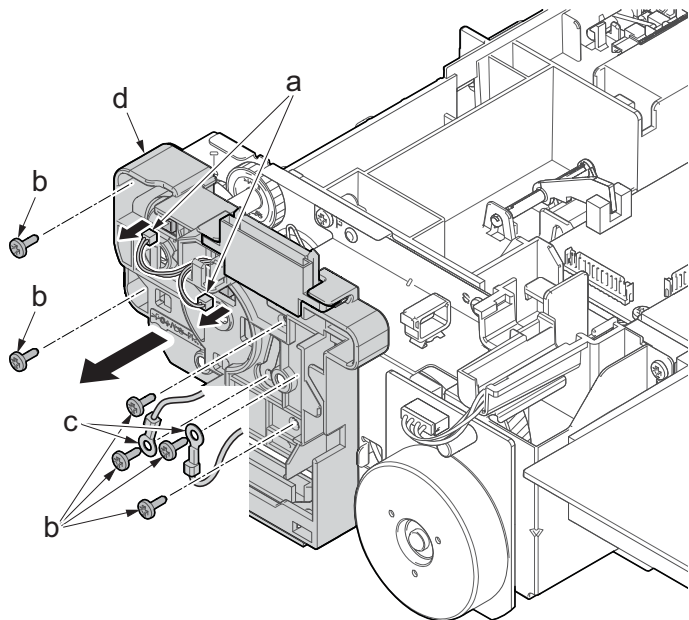


Figure 4-284

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.

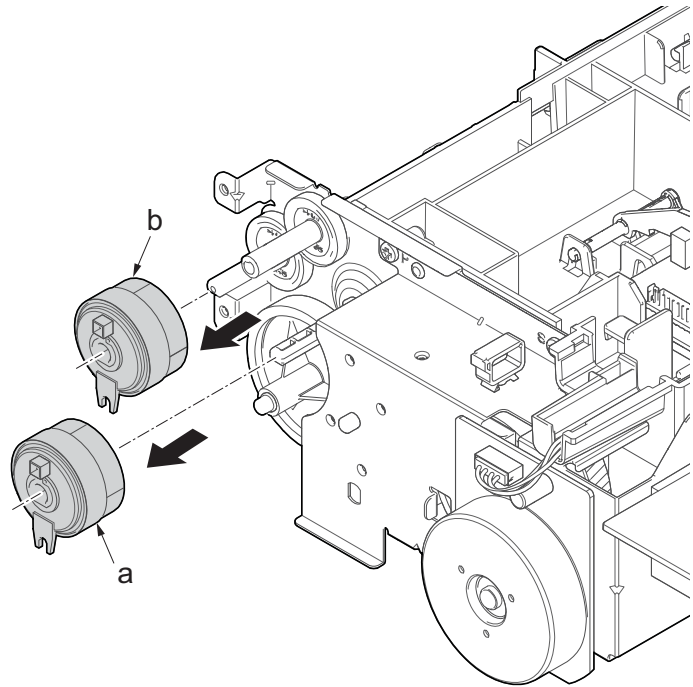


Figure 4-285

5 Firmware

5-1 Firmware update (TSI 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.2S5	CTRL
2	Optional language data 1(for controller)	DL_OPT_xx.2S5*1	OPT1
3	Optional language data 2(for controller)	DL_OPT_xx.2S5*1	OPT2
4	Optional language data 3(for controller)	DL_OPT_xx.2S5*1	OPT3
5	Optional language data 4(for controller)	DL_OPT_xx.2S5*1	OPT4
6	Optional language data 5(for controller)	DL_OPT_xx.2S5*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.2S0	ENGN

[GROUP4 UPDATE]: No applicable firmware is available.

[GROUP5 UPDATE]

Update order	Target	Master file name	Message
1	Optional language data 1 (for operation panel)	DL_OPT_xx.2S5*1	OPT1
2	Optional language data 2	DL_OPT_xx.2S5*1	OPT2
3	Optional language data 3	DL_OPT_xx.2S5*1	OPT3
4	Optional language data 4	DL_OPT_xx.2S5*1	OPT4
5	Optional language data 5	DL_OPT_xx.2S5*1	OPT5
6	Dictionary data	DL_DIC.2ND	DIC
7	Browser data	DL_BRWS.2R4 *2	BRWS
8	Panel firmware	DL_PANL.2S5	PNL

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

*2: TSI 40 ppm model only.

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	2S5_CTRL_sign.bin	2R7_CTRL_cert.pem
Panel data	2R5_PANL_sign.bin	2R7_PANL_cert.pem
Dictionary data	2ND_DIC_sign.bin	2ND_DIC_cert.pem
Browser data	2R4_BRWS_sign.bin	2R4_BRWS_cert.pem
Optional language data *1	2S5_OPT_xx_sign.bin	2S5_OPT_xx_cert.pem
Engine PWB	2S0_ENGN_sign.bin	2S0_ENGN_cert.pem
Data for optional language deletion	2S5_OPT_ER_sign.bin	2S5_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.

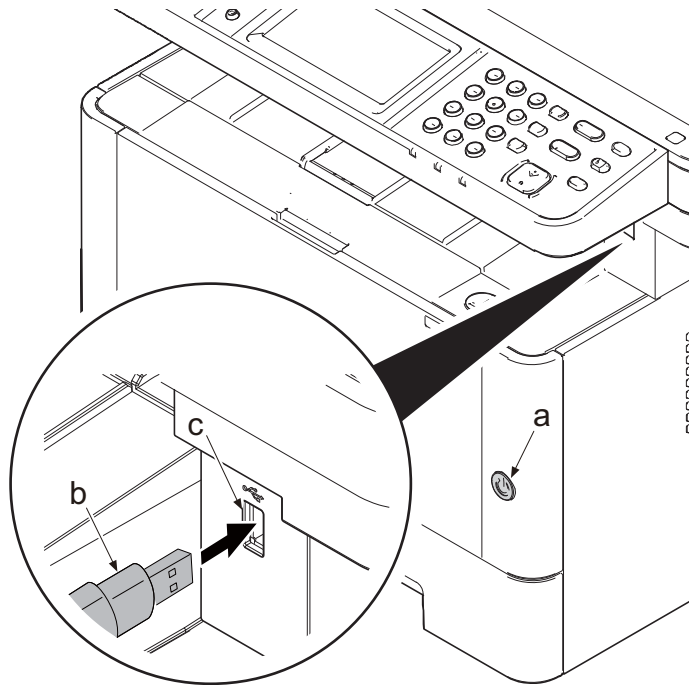


Figure 5-1

4. [FW-UPDATE] and the progress indicator are displayed.

*: Several kinds of firmware updates are processed simultaneously.



Figure 5-2

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

6. Check if the new firmware versions are displayed.

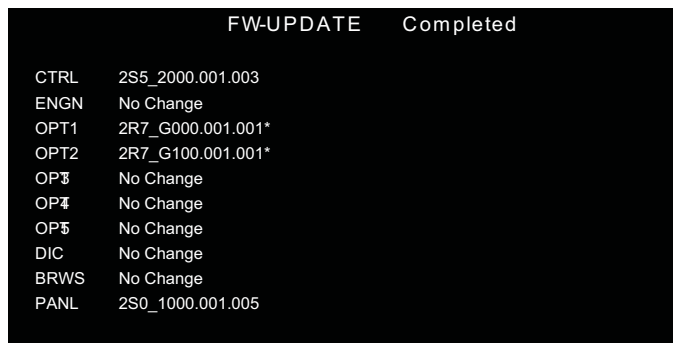


Figure 5-3

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

* is displayed after the firmware version update that has been skipped.

*: -----is displayed when the FAX PWB, the option equipment, etc. is not installed.

In case of the error completion.

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

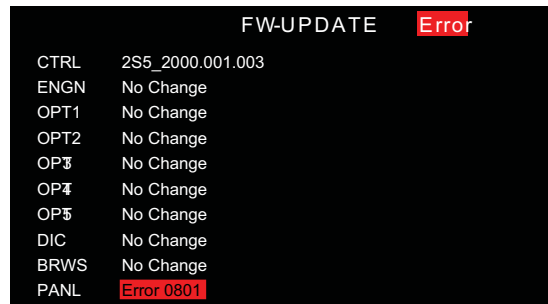


Figure 5-4

Error code

Code	Error contents	Code	Error contents
0000	Others	S000	Other signature verification error *1
0100	There is no master file.	S001	Official signature verification file is short.
0200	Master file version discrepancy	N001	Unable to connect the network *2 (There is no target to update.)
03xx*4	There is no download file (No.xx).	N002	Can not connect to the network *3 (There is the target to update.)
04xx*4	File (No.xx) check sum discrepancy		
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: Since the normal start-up is available next time, it is restarted automatically and starts up normally.

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

*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	APPL1
Panel data	01	BOOT
	02	KERNEL
	03	INTRD
	04	LOGO
	05	APPLI
	06	T.B.D
	07	DIC
	08	BRWS
Optional language data	01	M_OPT_ALL
	02	P_OPT_MSG
Dictionary data	01	DIC
Browser	01	BRWS
Engine PWB	01	ENGN

Each master file code is "00".

*: TSI 40 ppm model only,

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

7. Unplug the power cord and disconnect the USB memory.

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

9. 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 (LCD model)

Execute the following to update the firmware below.

*: The processing time is reduced with simultaneous processing by group.

[GROUP1 UPDATE]

FAX model

Update order	Target	Master file name	Message
1	Controller firmware	DL_CTRL.2S1	CTRL
2	Optional language data 1	DL_OPT_xx.2S0*1	OPT1
3	Optional language data 2	DL_OPT_xx.2S0*1	OPT2
4	Optional language data 3	DL_OPT_xx.2S0*1	OPT3
5	Optional language data 4	DL_OPT_xx.2S0*1	OPT4
6	Optional language data 5	DL_OPT_xx.2S0*1	OPT5

Without FAX

Update order	Target	Master file name	Message
1	Controller firmware	DL_CTRL.2S0	CTRL
2	Optional language data 1	DL_OPT_xx.2S0*1	OPT1
3	Optional language data 2	DL_OPT_xx.2S0*1	OPT2
4	Optional language data 3	DL_OPT_xx.2S0*1	OPT3
5	Optional language data 4	DL_OPT_xx.2S0*1	OPT4
6	Optional language data 5	DL_OPT_xx.2S0*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.2S0	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

FAX model

Target	Signature file name	Firmware certificate file name
Controller data	2S1_CTRL_sign.bin	2S1_CTRL_cert.pem
Optional language data *1	2S0_OPT_xx_sign.bin	2S0_OPT_xx_cert.pem
Engine PWB	2S0_ENGN_sign.bin	2S0_ENGN_cert.pem
Data for optional language deletion	2S0_OPT_ER_sign.bin	2S0_OPT_ER_cert.pem

Without FAX

Target	Signature file name	Firmware certificate file name
Controller data	2S0_CTRL_sign.bin	2S0_CTRL_cert.pem
Optional language data *1	2S0_OPT_xx_sign.bin	2S0_OPT_xx_cert.pem
Engine PWB	2S0_ENGN_sign.bin	2S0_ENGN_cert.pem
Data for optional language deletion	2S0_OPT_ER_sign.bin	2S0_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.

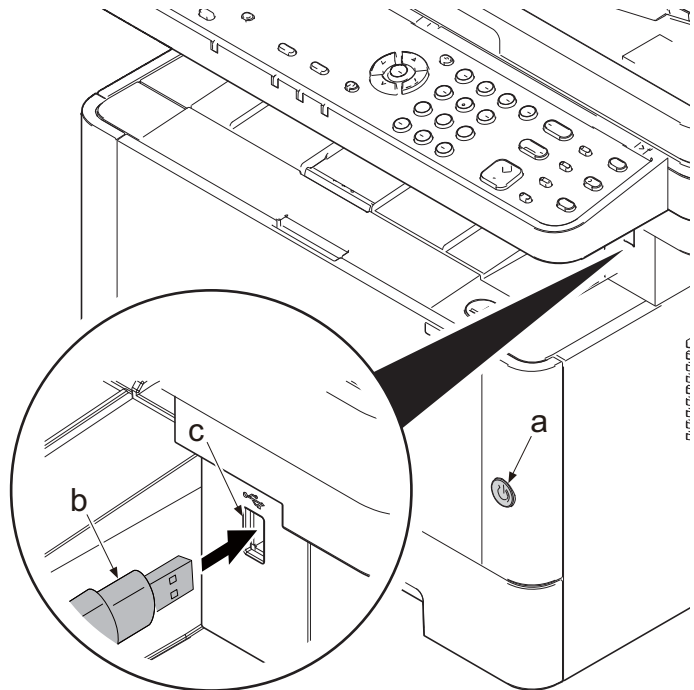


Figure 5-5

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)

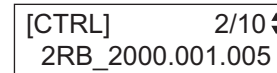


(The second and subsequent pages)

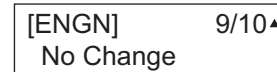
The first line: "CTRL", (the character string applicable to the update target)

Page number/total page number and upper and lower key icon are displayed.

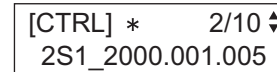
The second line: (Updated version)



*: 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"

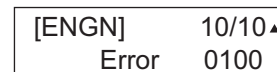


(The second and subsequent pages)

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 *1
0100	There is no master file.	S001	The signature verification file is insufficient.
0200	Master file version mismatch.	N001	Unable to connect the network *2 (There is no target under the 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		
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: Since the normal start-up is available next time, it is restarted automatically and starts up 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.

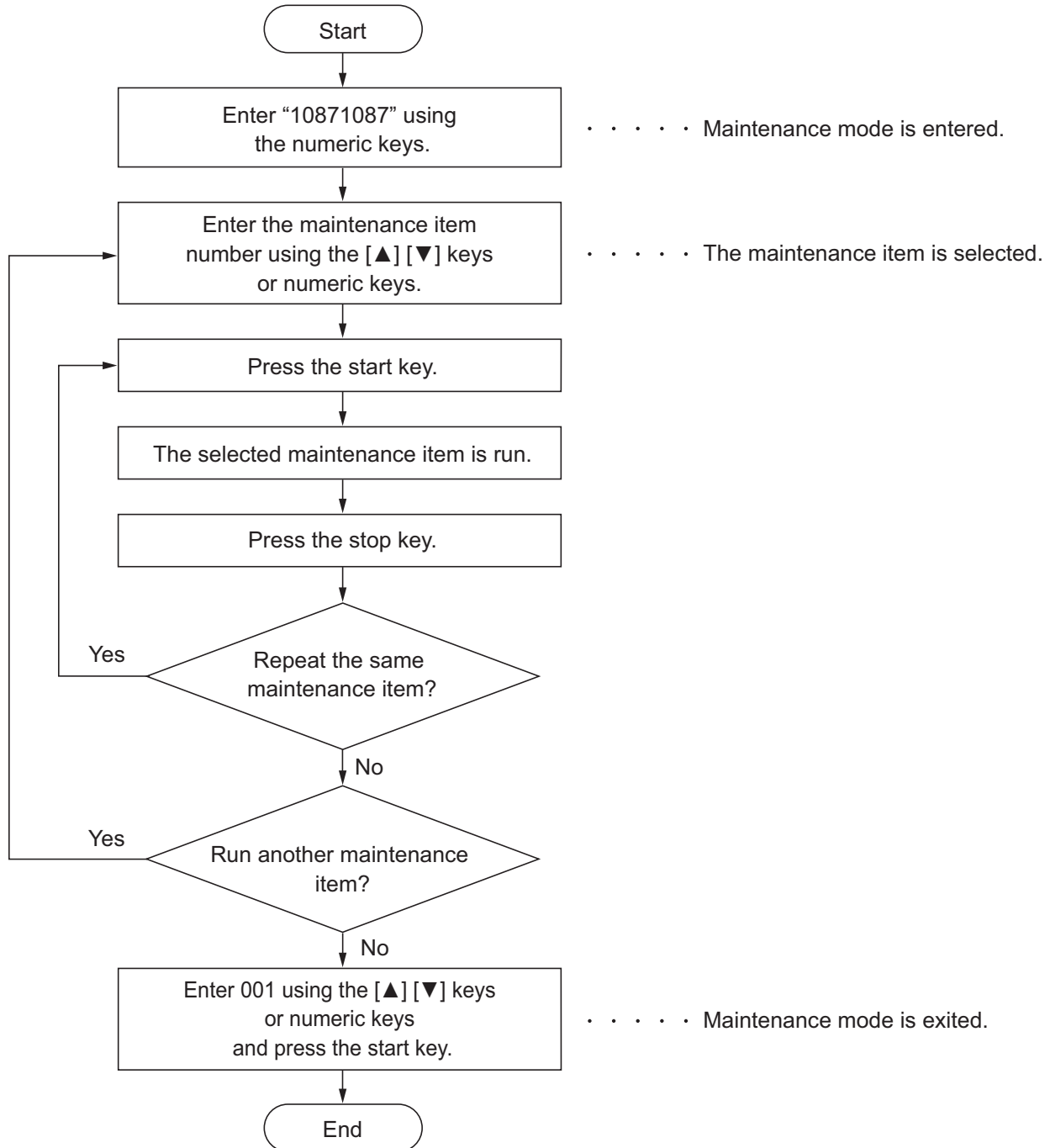
*: The firmware update that was already completed before power shut-down is skipped.

6 Maintenance mode

6-1 Maintenance mode

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

(1) Executing the maintenance mode



Operational caution

There is a difference of a way of selecting each item by operational section type(TSI or LCD mode).
Read "Select xxx item" in each procedure as follows.

TSI model: Touching the item on the screen and select it.

LCD model: Using the [] or [] key, select the item.

(In order to move to the adjustment screen, Press the [OK] key or [START] key.)

(2) Maintenance modes list

Section	No.	Maintenance item	Outline
General	U000	Printing Maintenance Report	Printing the reports and exporting them to a USB memory
	U001	Exiting the maintenance mode	Exiting from the maintenance mode
	U002	Set Factory Default	Initializing to the factory-default setting
	U004	Machine number	Display of the machine serial number and setting
	U010	Setting the maintenance mode ID	Setting the maintenance mode ID
	U019	Firmware Version	Displays the firmware version of the PWB
Initializa- tion	U021	Initializes Memory	Initializing the backup RAM
	U025	Firmware update (S)	Updates the firmware
Drive Paper feed Convey- ing Cooling	U034	Paper timing adjustment	Adjusting the leading edge timing and the center line
Optical	U065	Adjusting the magnification for table scanning	Adjusting the magnification for table scanning
	U066	Adjusting the table scanning timing	Adjusting the leading edge timing for table scanning
	U067	Adjusting the table scanning center line	Adjusting the center line for table scanning
	U068	DP scanning position adjustment	Adjusting the starting position for DP scanning
	U070	DP magnification adjustment	Adjusting the magnification for DP scanning
	U071	Adjusting the DP leading edge Timing	Adjusting the DP scanning timing
	U072	Adjusting the DP original center	Adjusting the center line for DP scanning
High volt- age sys- tem	U110	Drum counter	Displays/cleas the drum counter
	U120	Drum counter	Displays/clears the drum driveing distance counter
Devel- oper sys- tem	U130	Developer initial setting	Set the toner install mode on or off.
	U158	Developer counter	Displays/sets the developer counter
Opera- tion sec- tion / Support equip- ment	U201	Initializing the touch panel	Correct the X and Y axis position of the touch panel
	U222	Setting the IC card type	Sets the ID card type

Section	No.	Maintenance item	Outline
Mode Setting	U250	Changing the preset maintenance counter value	Display or set the maintenance counter preset value.
	U251	Clearing/checking the maintenance counter	Display, set or clear the maintenance counter.
	U252	Destination	Sets the machine operation and indication depending on the specification of the destination
	U253	Switching the double/single counts	Sets the counter by color mode
	U260	Select Copy Count	Setting the count-up timing
	U285	Set Service Status Page	Setting the print coverage report output
	U287	Set Auto Reset Function	Enable/disable the auto recovery after error
	U290	Setting the drive to save the HyPAS application	Sets the drive to save the HyPAS application
	U332	Adjusting the black coverage coefficient	Setting the coefficient of the custom size
Mode Setting	U345	Set Service Status Page	Setting the counter to display close to time for maintenance
	U346	Selecting Sleep Mode	Setting the BAM related sleep mode
Image processing	U402	Adjusting the printing margins	Adjusts the scan image margins
	U403	Adjusting margins for scanning an original on the contact glass	Adjusts the margin for scanning originals
	U404	Adjusting margins for scanning an original from the document processor	Adjusts the margin for scanning originals
Image processing	U407	Adjusting the writing timing (Duplex/Reversal)	Adjusting the writing timing when duplex printing
	U411	Scanner auto adjustment	Adjusting the scanner and DP automatically
	U425	Set Target	Inputs the Lab value printed on an adjustment original
	U520	TDRS setting	Checking/setting the TDRS
FAX	U600	Initialize: All Data	Initializes all data and image memory.
	U601	Initialize: Keep data	Initializing the software switches of other than the machine data
	U603	User data 1	Makes user settings to enable the use as a FAX
	U604	User data 2	Makes user settings to enable the use as a FAX
	U605	Data clear	Initializing the FAX communication data
	U610	System 1	Set the number of lines to be ignored when receiving a FAX at 100% magnification and in the auto reduction mode.
	U611	System 2	Number of adjustment lines for automatic reduction.

Section	No.	Maintenance item	Outline
FAX	U612	System 3	Setting regarding the FAX communication operation
	U620	FAX system	Sets the signal detection method for remote switching
	U625	Communication settings	Sets the auto redialing interval and the number of times of auto redialing
	U630	Communication control procedures 1	Setting the FAX communication
	U631	Communication control procedures 2	Sets the FAX communication
	U632	Communication control procedures 3	Setting the FAX communication
	U633	Communication control procedures 4	Setting the FAX communication
	U634	Communication control procedures 5	Set the acceptable error when judging the received TCF signal
	U640	Communication time setting 1	Setting the detection time by remote switching mode
	U641	Communication time setting 2	Sets the time-out time for the fax communication
	U650	Modem 1	Sets the G3 transmission cable equalizer
	U651	Modem 2	Sets the modem output level
	U660	Ring setting	Setting the NCU (network control unit)
	U670	List output	Outputting the list of the fax communication data
	U695	FAX function customization	FAX batch transmission is set up.
	U699	Software switch: Set	Sets the software switches individually
Others	U910	Black rate data	Clearing the print coverage data and its period
	U917	Read/Write Backup Data	Reading/writing the backup data to a USB memory
	U920	Billing counter	Displays the billing count
Others	U927	Clearing all the billing/life counters	Clearing the billing count and machine life count
	U928	Machine life counter	Displays the machine life count
	U964	Log check	Transfer the log files to a USB memory
	U977	Setting the data capture mode	Stores the data sent to the main unit into a USB memory

(2-1) Content of the maintenance mode

U000	Printing Maintenance Report (Message: Mainte Report)
-------------	---

Contents

Prints the list of the current settings of the maintenance items, paper jam and service call error occurrences. Output the event log and service status page.

Also, sends output data to a USB memory.

Purpose

Checks the current settings of the maintenance items, paper jam and service call error occurrences.

Before initializing or replacing the backup memory, print the list of the current settings of the maintenance items to reenter the settings after initialization or replacement.

Method

1. Press the [Start] key.
2. Select the item to output.

Items	Output list
Maintenance	Maintenance mode setting list
User Status	Output User Status Page
Svc Status	Output Service Status Page
Event	Output the event log report
NW Status	Output Network Status Page
All	All reports output

3. Press the [Start] key to output the list.

* :If A4 paper is available, it is output with this size. If A4 paper is unavailable, select the paper cassette. Output status is displayed.

Method: when sending output data to a USB memory

1. Press the [Start] key.
2. Insert a USB memory into the USB memory slot.
3. Select the item to send.
4. Select [USB(Text)] or [USB(HTML)].

Items	Output list
Print	A report is printed.
USB(Text)	Destination: send to USB memory (text format)
USB(HTML)	Destination: send to USB memory (HTML format)

5. Press the [Start] key.

* :The output data is sent to the USB memory.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

Detail of event log (1)

Event Log

MFP
ECOSYS M2640idw

(1) Firmware version 2S5_2000.000.000 2014.09.19

(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	2014/8/15 10:00
9	9999999	4003.01.00.00.00	2014/8/11 10:00
8	9999999	4003.01.00.00.00	2014/7/05 10:00
7	9999999	4003.01.00.00.00	2014/7/04 10:00
6	9999999	4003.00.00.00.00	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	2013/11/30 10:00
1	9999999	4003.00.00.00.00	2013/11/24 10:00

(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




1

Figure 6-1

6-6

Detail of event log (2)

Event Log		KYOCERA	
MFP		XXXXXXXXXXXXXXXXXX	
ECOSYS M2640idw		(2) 2014/10/19 15:15	
(1) Firmware version 2S5_2000.000.000 2014.09.19	[XXXXXXXXXX]	(3) [XXXXXXXXXX]	(4) [XXXXXXXXXX]
(6) Machine No.:Z7T0000000	(7) Life Count:100000	(5)	
(12) Counter Log			
(f) J0000 : 1	J0035 : 999		
J0001 : 2	J0036 : 999		
J0002 : 3	J0037 : 999		
J0003 : 4	J0038 : 999		
J0004 : 5	J0039 : 999		
J0005 : 6	J0040 : 999		
J0006 : 7	(g)C0001 : 1		
J0007 : 8	C0002 : 2		
J0008 : 9	C0003 : 3		
J0009 : 10	C0004 : 4		
J0010 : 20	C0005 : 5		
J0011 : 30	C0006 : 6		
J0012 : 40	C0007 : 7		
J0013 : 50	C0008 : 8		
J0014 : 60	C0009 : 9		
J0015 : 70	C0010 : 10		
J0016 : 80	C0011 : 11		
J0017 : 90	C0012 : 12		
J0018 : 100	C0013 : 13		
J0019 : 110	C0014 : 14		
J0020 : 120	C0015 : 15		
J0021 : 130	C0016 : 16		
J0022 : 140	C0017 : 17		
J0023 : 150	C0018 : 18		
J0024 : 160	C0019 : 19		
J0025 : 170	C0020 : 20		
J0026 : 180	CF245: 21 (0)		
J0027 : 190	CF248: 22 (11)		
J0028 : 200	CF345: 222 (111)		
J0029 : 300	(h)T00 : 10		
J0030 : 400	T01 : 20		
J0031 : 500	T02 : 30		
J0032 : 600	T03 : 40		
J0033 : 700	M00 : 50		
J0034 : 800	M01 : 60		
J0035 : 900	M02 : 70		
	M03 : 80		
	M04 : 90		



2

Figure 6-2

Description of event log

No.	Items	Contents		
(1)	System version			
(2)	System date			
(3)	Engine firmware version			
(4)	Engine boot version			
(5)	Operation panel firmware version			
(6)	Machine serial number			
(7)	Life counter			
(8)	Paper Jam Log	#	Count.	Event
		Remembers 1 to 16 of occurrence. If the past paper jam occurrence is less than 16, all of them are indicated. The oldest log is deleted when exceeding 16 events.	The total page count at the time of a paper jam.	Log code (5 types in hexadecimal) (a) Cause of paper jam (b) Paper source (c) Paper size (d) Paper type (e) Paper eject
		(a)Detail of Cause of paper jam (Hexadecimal)		
		:Refer to "17-1 Paper Misfeed Detection" (See page),for the detail of Cause of paper jam. (7-8)		
		(b) Detail of paper source (Hexadecimal)		
		00: MP tray 01: Cassette 1 02: Cassette 2 (paper feeder) 03 to 09: Reserved		
		(c) Detail of paper size (Hexadecimal)		
		00: Not specified 01: Monarch 02: Business 03: International DL 04: International C5 05: Executive 06: Letter-R 08: Letter-E 07: Legal 08: A4R 88: A4E 09: B5R 89: B5E 0A: A3	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	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

No.	Items	Contents		
(8) cont.	Paper Jam Log	(d) Detail of paper type (Hexadecimal)		
		01: Plain 02: Transparency 03: Preprinted 04: Labels 05: Bond 06: Recycled 07: Vellum 08: Rough 09: Letterhead	0A: Color 0B: Prepunched 0C: Envelope 0D: Cardstock 0E: Coated 0F: 2nd side 10: Media 16 11: High quality	15: Custom 1 16: Custom 2 17: Custom 3 18: Custom 4 19: Custom 5 1A: Custom 6 1B: Custom 7 1C: Custom 8
(9)	Service Call Log	#	Count.	Service Code
		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.	The total page count at the time of the self diagnostic error.	Self diagnostic error code (See page 7-14) Example: 01.6000 Self diagnostic error6000: Self diagnostic error code number
(10)	Maintenance Log	#	Count.	item
		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.	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.	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

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 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.

Detail of service status page (1)

Service Status Page		(6)	[XXXXXXXXXX]
MFP		(2)	2014/10/30 15:15
ECOSYS M2640idw		(3)	(4)
(1) Firmware Version 2S5_2000.000.000 2014.10.30		(5)	[XXXXXXXXXX] [XXXXXXXXXX] [XXXXXXXXXX]

Controller Information		(28) FRPO Status		
Memory status		User Top Margin	A1+A2/100	0.0
Standard Size	1.0 GB	User Left Margin	A3+A4/100	0.0
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			
(11) Paper Feeder2	Installed			
(12) SD Card	Not Installed			
(13) Card Authentication Kit (B)	Installed			
(14) UG-33	Installed			
(15) USB Keyboard	Installed			
(16) USB Keyboard Type	US-English			
(17) Print Coverage				
Average(%)	/Usage Page(A4/Letter Conversion)			
(18) Total				
K: 1.10	/ 1111111.11			
(19) Copy		e-MPS error contro	Y6	0
K: 1.10	/ 1111111.11			
		RP Code		
(20) Printer		(29) 1234 5678 9012		
K: 1.10	/ 1111111.11	(30) 5678 9012 3456		
		(31) 9012 3456 7890		
		(32) 3456 7890 1234		
(21) FAX				
K: 1.10	/ 1111111.11			
(22) Period	(27/10/2010 - 03/11/2010 08:40)			
(23) Last Page K(%)	1.00			
FAX Information				
(24) Rings (Normal)	3			
(25) Rings (FAX/TEL)	3			
(26) Rings (TAD)	3			
(27) Option DIMM Size	-			

1

Figure 6-3

Detail of service status page (2)

Service Status Page		[ZE76100020]
MFP		2016/03/09 19:45
ECOSYS M2640idw		
Firmware Version 2S5_2000.001.123 2016.02.18 [2S5_1000.001.083] [2S5_1100.001.002] [2S5_4000.002.123]		
<hr/>		
Controller Information		Engine Information
Print Settings (33) MP Tray Priority MP Tray Priority (34) Altitude Adjustment Status Normal Send Information (35) Date and Time 14/03/05 15:30 (36) Address mail@bjd.ne.jp		(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) 0000064/0000000/0000064/0000000/0000063/0000063/0000063/0000063/ 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/ (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/ (68) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/ (69) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/ (70) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/ (71) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/ (72) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/ (73) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/ (74) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/ (75) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/ (76) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/ (77) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/ (78) 0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/0000000000000000/ (79) 0300A000/00000000/544B2D353234314B5300000000000000/363132463033355800000000000000/0078/00/00 0300A000/00000000/544B2D35323431435300000000000000/363132463031365700000000000000/0078/00/00 0300A000/00000000/544B2D353234314B5300000000000000/363132453236325A0000000000000000/0078/00/00 0300A000/00000000/544B2D35323431595300000000000000/363132453239314200000000000000/0078/00/00 (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/ 1/0/5.0/12.0/ (86) (87) (88) (89) 0/5/ (90) (91) 0/0/15.47/0/ (92) (93) (94) (95)		

Figure 6-4

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)	USB keyboard connection status	Connected/Not connected
(16)	Type of the USB keyboard	US-English/US-English with Euro symbol/German France
(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)	Average coverage for copy	Black
(20)	Average printer coverage	Black
(21)	Average coverage for FAX	Black
(22)	Cleared date and output date	-
(23)	Coverage on the last output page	-
(24)	Number of rings	0 to 15
(25)	Number of rings before automatic switching	0 to 15
(26)	Number of rings before connecting to the answering machine	0 to 15
(27)	Optional DIMM size	-
(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.

No.	Items	Contents
(32)	RP code	Code the main software version and the date of the previous update.
(33)	MP tray priority setting	Off/Auto/Always
(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	<p>_ 1F3 1225 _ 1F3 1225</p> <p>(a)(b)(c)(d)(e)(f)</p> <p>(a) Consistency of the current firmware version and the database</p> <p>_ (underscore): OK</p> <p>* (Asterisk): NG</p> <p>(b) Database version</p> <p>(c) The oldest time stamp of database version</p> <p>(d) Consistency of the present software version and the ME firmware version</p> <p>_ (underscore): OK</p> <p>* (Asterisk): NG</p> <p>(e) ME firmware version</p> <p>(f) The oldest time stamp of the ME firmware version</p> <p>Normal if (a) and (d) are underscored, and (b) and (e) are identical with (c) and (f).</p>
(38)	FAX firmware version	-
(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 offset / 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

No.	Items	Contents
(49)	Paper handling information	0: Paper source select 1: Paper source fixed
(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 humidity information	-
(59)	LSU 2 humidity 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 Fuser settings 0: Light 0: High 1: Normal 1 1: Middle 2: Normal 2 2: Low 3: Normal 3 3: Vellum 4: Heavy 1 5: Heavy 2 Duplex settings 6: Heavy 3 0: Disable 7: Extra Heavy 1: Enable
(66)	IO Calibration information	-
(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	-

No.	Items	Contents
(76)	Paper loop correction patch amount	-
(77)	Calibration information	-
(78)	Calibration information	-
(79)	RFID information (K,C,M,Y)	-
(80)	RFID reader/writer version	-
(81)	Optional paper feeder firmware version	-
(82)	Color table version	-
(83)	Color table 2 version	-
(84)	Maintenance information	-
(85)	MC correction	1 to 7
(86)	Automatic judgment of the color conversion process	0: Off 1: On
(87)	Configuring the toner coverage counters	0: Full-color count display 1: Color coverage count display
(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

U001	Exiting the maintenance mode (Message: Exit Mainte)
-------------	--

Contents

Exits the maintenance mode and returns to the normal copy mode.

Purpose

Exit the maintenance mode.

Method

- 1.Press the [Start] key.
- 2.The normal copy mode is entered.

U002	Set Factory Default (Message: Set Factory Def)
-------------	---

Contents

Sets the machine initial setting values to the factory default.

Purpose

Executes the machine initial settings when shipping from factory.

Method

- 1.Press the [Start] key.
- 2.Select [Mode1(All)].
- 3.Press the [Start] key.

Items	Contents
(No Action) *1	Malfunction preventing item
Mode1(All)	Sets the machine initial setting values to the factory default.

*1: LCD model only

- 4.Turn the power switch off.

* :An error code is displayed in case of the initialization error.

When errors occur, turn the power switch off then on, and execute initialization using maintenance mode U002.

Wait more than 5 seconds between the power off and on.

Error codes

Codes	Contents
0001	Controller (Entity error)
0002	Controller (Counter error)
0003	Controller (OS error)
0020	Engine error

U004	Machine number (Message: Machine No.)
-------------	--

Contents

Sets or displays the machine serial number.

Purpose

Checks the machine serial number

After the main/engine PWB replacement, execute if the "C0180 machine number mismatch" occurs.

Method

1.Press the [Start] key.

When the machine serial number in the engine PWB matches the one in the main PWB,

Items	Contents
Machine No.	Displays the machine serial number.

When the machine serial number in the engine PWB does not match the one in the main PWB,

Items	Contents
Machine No.(Main)	Displays the machine serial number in the main PWB.
Machine No.(Eng)	Displays the machine serial number in the engine PWB.

Setting

Execute if the serial numbers do not match.

1.Select [Execute].

2.Press the [Start] key.

* :The serial number writing starts.

3.Turn the power switch off then on. Wait more than 5 seconds between the power off and on.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U010	Setting the maintenance mode ID (Message: Set Mainte ID)
-------------	---

Contents

Change the maintenance mode ID for service.

Purpose

Modify maintenance mode ID for service for more security.

Method

1. Press the [Start] key.
 2. Select the item to set.
- * :The screen for setting is displayed.

Items	Contents
Change	Change the maintenance mode ID for service.
Initialize	Initializes the maintenance mode ID for service.

Setting: Change

1. Select [New ID].

Items	Contents
New ID	Enter a new 8-digit maintenance ID
New ID(Reconfirm)	Enter a new 8-digit maintenance ID (to confirm)
Execute	Change the maintenance mode ID for service.

2. Press ten keys (0–9, *, #) to enter a new 8-digit ID.
- * :Either [*] or [#] must be included.
3. Press the [Start] key to set the setting value.
 4. Select [New ID(Reconfirm)].
 5. Press ten keys (0–9, *, #) to re-enter the new 8-digit ID.
 6. Select [Execute].
 7. Press the [Start] key to set the setting value.

Method: Initialize

1. Select [Execute].

Items	Contents
Execute	Initializes the maintenance mode ID for service.

2. Press the [Start] key to initialize the maintenance mode ID.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

Error codes

Codes	Contents
0001	Do not include "#" or "*" in the ID.
0002	ID does not match.
0003	8-digit ID is not input

U019	Firmware Version (Message: Firm Version)
-------------	---

Contents

Displays the firmware version installed in each PWB.

Purpose

Check the firmware version installed in each PWB

Method

1.Press the [Start] key.

* :The firmware version is displayed.

2.Change the screen using the [Up/Down cursor] key.

Items	Contents
Main	Main firmware
MMI	Operation firmware
Browser *1	Panel Boot
Engine	Engine firmware
Engine Boot	Engine boot
Dictionary *1	Dictionary firmware
Option Language 1	Optional language firmware 1
Option Language 2	Optional language firmware 2
Option Language 3	Optional language firmware 3
Option Language 4	Optional language firmware 4
Option Language 5	Optional language firmware 5
Cass2	Cass2 firmware
Cass3	Cass3 firmware
HyPAS EMB API *1	HyPAS EMB API firmware
Application Name1-16 *1	Color table 1-16

* :*1: TSI model only

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U021	Initializes Memory (Message: Init Memory)
-------------	--

Contents

Initializes all settings, except those pertinent to the type of machine, namely each counter, service call error history and mode setting. Also, initializes the backup RAM according to the area specification selected in the maintenance mode U252 (Setting the destination).

Purpose

Initialize the backup data except machine settings to the factory default in the field

Method

1. Press the [Start] key.
2. Select [Execute].

Items	Contents
(No Action) *1	Malfunction preventing item
Execute	Initialize data according to the destination information.

*1: LCD model only

3. Press the [Start] key.

* :All data other than for adjustments is initialized by the destination setting.

4. Turn the power switch off then on. Wait more than 5 seconds between the power off and on.

* :An error code is displayed in case of the initialization error.

When errors occur, turn the power switch off then on, and execute initialization using maintenance mode U021.

Error codes

Items	Contents
0001	Controller (Entity error)
0002	Controller (Counter error)
0020	Engine error
0040	Scanner error

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U025	Firmware update (S) (Message: Firm Update(S))
-------------	--

Contents

Executes Firmware-Update from the USB memory while "Very High" is selected in the Security Level settings under the System Menu.

Supplement

Initiate the firmware upgrade by a service person by executing U025 while a USB memory is inserted

Method

- 1.Press the [Start] key.
- 2.Select [Execute].

Items	Contents
(No Action) *1	Malfunction preventing item
Execute	Updates the firmware

*1: LCD model only

- 3.Press the [Start] key.

* :This is not executable when a USB memory is not installed.

- 4.After normal completion, turn the power switch off then on. Wait more than 5 seconds between the power off and on.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U034	Paper timing adjustment (Message: Adj Paper Timing)
-------------	---

Contents

Adjust the leading edge registration or center line.

Purpose

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

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

Method

1.Press the [Start] key.

2.Select the item to adjust.

* :The screen for adjusting is displayed.

Items	Contents
LSU Out Top	Leading edge registration.
LSU Out Left	Adjusts the center line

Adjustment: LSU Out Top

1.Select the item to adjust.

2.Press the [System Menu] key.

3.Press the [Start] key to output a test pattern.

4.Press the [System Menu] key.

Items	Contents	Setting range	Initial setting	Data variation
Top	Adjust the reference value of the leading-edge timing.	0 to 1180	600	0.1mm
MPT	Adjust the leading-edge timing for the MP tray	-70 to 70	0	0.1mm
Cass	Adjust the leading-edge timing for cassette feed	-70 to 70	0	0.1mm
Dup	Adjust the leading-edge timing when copying in duplex.	-70 to 70	0	0.1mm

5.Press the [] [] keys or the numeric keys to change the counter value.

For the test pattern 1, increase the setting value.

For the test pattern 2, decrease the setting value.

* :When the setting value is increased, the image moves backward, and it moves forward when the setting value is decreased.

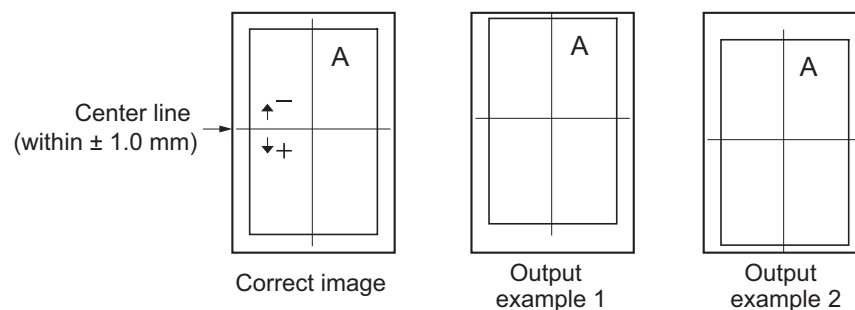


Figure 6-5

6. Press the [Start] key to set the setting value.

Precautions

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

U034 > U066(6-26) > U071(6-30)

Adjustment: LSU Out Left

1. Select the item to adjust.
2. Press the [System Menu] key.
3. Press the [Start] key to output a test pattern.
4. Press the [System Menu] key.

Items	Contents	Setting range	Initial setting	Data variation
Left	Adjust the reference value of the center line	0 to 1180	600	0.1mm
MPT	Adjust the center line for the MP tray	-70 to 70	0	0.1mm
Cass1	Adjust the center line for cassette 1 feed	-70 to 70	0	0.1mm
Cass2	Adjust the center line for cassette 2 (Optional unit) feed	-70 to 70	0	0.1mm
Dup	Adjusting the center line when duplex copying (Back page)	-70 to 70	0	0.1mm

5. Press the [] [] keys or the numeric keys to change the counter value.

For the test pattern 1, increase the value.

For the test pattern 2, decrease the value.

* :When the setting value is increased, the image moves to right, and it moves to left when the setting value is decreased.

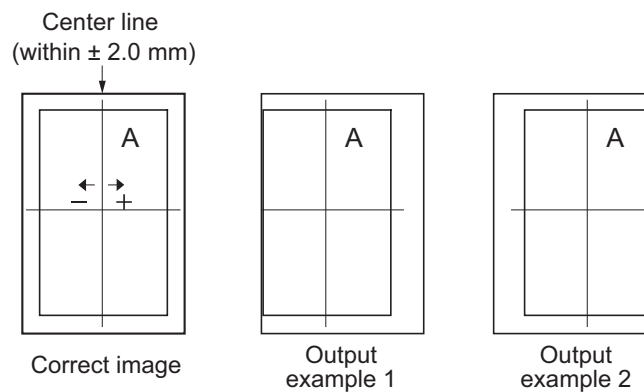


Figure 6-6

6. Press the [Start] key to set the setting value.

Precautions

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

U034 < U067(6-27) < U072(6-32)

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U065	Adjusting the magnification for table scanning (Message: Adj Scn)
-------------	--

Contents

Adjust the magnification in the sub scanning direction of the table scanning.

Purpose

Adjusts the magnification in the sub scanning direction of the table scanning if the above incorrect.

Method

1. Press the [Start] key.
2. Press the [System Menu] key.
3. Place an original and press the [Start] key to make a test copy.
4. Press the [System Menu] key.
5. Select [Sub Scan].

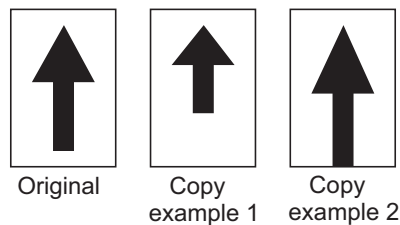
Items	Contents	Setting range	Initial setting	Data variation
Sub Scan	Adjusts scanner magnification in the sub-scanning direction	-25 to 25	0	0.1%

6. Press the [] [] keys or the numeric keys to change the counter value.

In the case of the copy example 1, raise the setting value.

In the case of the copy example 2, lower the setting value.

* :When the setting value is increased, the image get longer, and it shortens when the setting value is decreased.

**Figure 6-7**

7. Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U066	Adjusting the table scanning timing (Message: Table Timing)
-------------	--

Contents

Adjusts the leading edge timing for the table scanning.

Purpose

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

Adjustment

1. Press the [Start] key.
2. Press the [System Menu] key.
3. Place an original and press the [Start] key to make a test copy.
4. Press the [System Menu] key.
5. Select the item to adjust.

Items	Contents	Setting range	Initial setting	Data variation
Front	Adjusts the scanner leading edge margin.	-45 to 45	0	0.085 mm

6. Press the [] [] keys or the numeric keys to change the counter value.

In the case of the copy example 1, raise the setting value.

In the case of the copy example 2, lower the setting value.

* :When the setting value is increased, the image moves forward, and it moves backward when the setting value is decreased.

Leading edge registration of the copy image (+1.0/-1.5 mm or less)

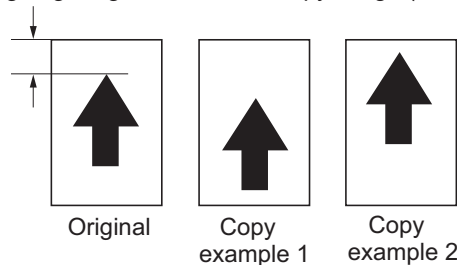


Figure 6-8

7. Press the [Start] key to set the setting value.

Precautions

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

U034(6-23) > U065(6-25) > U066

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U067	Adjusting the table scanning center line (Message: Table Center)
-------------	---

Contents

Adjusts the center line for the table scanning.

Purpose

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

Adjustment

1. Press the [Start] key.
2. Press the [System Menu] key.
3. Place an original and press the [Start] key to make a test copy.
4. Press the [System Menu] key.

Items	Contents	Setting range	Initial setting	Data variation
Front	Adjusts the scanner center line	-40 to 40	0	0.085 mm

1. Press the [] [] keys or the numeric keys to change the counter value.

In the case of the copy example 1, raise the setting value.

In the case of the copy example 2, lower the setting value.

* :When the setting value is increased, the image moves to right, and it moves to left when the setting value is decreased.

Center line of the copy image (within ± 2.0 mm)

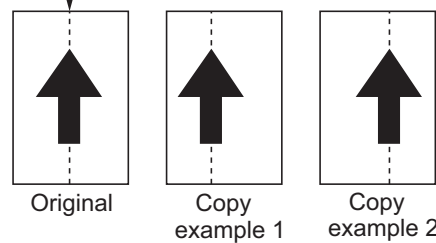


Figure 6-9

2. Press the [Start] key to set the setting value.

Precautions

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

U034(6-23) > U065(6-25) > U067

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U068	DP scanning position adjustment (Message: DP Scn Start Pos)
-------------	--

Contents

Adjusts the starting position for scanning originals from the DP.
Execute test copy at the four scanning positions after adjustment.

Purpose

Adjust if the image fogging occurs because the scanning position is not proper when the DP is used

* :Execute U071 to adjust the timing of the DP leading edge when the scanning position is changed.

Method

- 1.Press the [Start] key.
- 2.Select the item to adjust.

Items	Contents	Setting range	Initial setting	Data variation
DP Read	Adjusts the starting position for scanning originals.	-33 to 33	0	0.085 mm
Black Line	Adjusts the scanning position for the test copy originals.	0 to 3	0	-

Adjustment: DP Read

- 1.Select [DP Read].
- 2.Press the [] or [] keys or the numeric keys to change the setting value.
* :When the setting value is increased, the image moves backward, and it moves forward when the setting value is decreased.
- 3.Press the [Start] key to set the setting value.

Adjustment: Black Line

- 1.Select [Black Line].
- 2.Press the [] or [] keys or the numeric keys to change the setting value.
- 3.Press the [Start] key to set the setting value.
- 4.Set the original (the one of which density is known) in the DP and press the [System Menu] key.
- 5.Press the [Start] key to execute the test copy.
- 6.Perform the test copy at each scanning position with the setting value from 0 to 3 and check that no black line appears and the image is normally scanned.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U070	DP magnification adjustment (Message: Adj DP Motor)
-------------	--

Contents

Adjusting the magnification for DP scanning.

Purpose

Adjusted if the magnification is incorrect in the auxiliary scanning direction when the DP is used

Adjustment

1. Press the [Start] key.
2. Press the [System Menu] key.
3. Place an original on the DP and press the [Start] key to make a test copy.
* :Check the duplex scanning by setting [Duplex] when test copying.
4. Press the [System Menu] key.
5. Select the item to adjust.

Items	Contents	Setting range	Initial setting	Data variation
Sub Scan (F)	Adjusts the 1st side magnification in the sub-scanning direction when scanning in simplex	-25 to 25	0	0.1%

6. Press the [] [] keys or the numeric keys to change the counter value.

In the case of the copy example 1, raise the setting value.

In the case of the copy example 2, lower the setting value.

* :When the setting value is increased, the image get longer, and it shortens when the setting value is decreased.

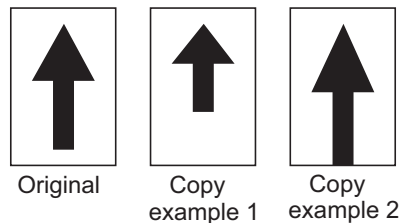


Figure 6-10

7. Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U071	Adjusting the DP leading edge Timing (Message: DP Timing)
-------------	--

Contents

Adjusts the DP original scanning timing.

Purpose

Adjusted if there is a regular error between the leading or trailing edges of the original and the copy image when the DP is used

Method

1. Press the [Start] key.
2. Press the [System Menu] key.
3. Place an original on the DP and press the [Start] key to make a test copy.
* : Check the duplex scanning by setting [Duplex] when test copying.
4. Press the [System Menu] key.
5. Select the item to adjust.

Items	Contents	Setting range	Initial setting	Data variation
Front Head	Leading edge registration. (Front page)	-32 to 32	0	0.195 (mm)
Front Tail	Trailing edge registration. (Front page)	-32 to 32	0	0.195 (mm)
Back Head *1	Leading edge registration. (Back page)	-32 to 32	0	0.195 (mm)
Back Tail *1	Trailing edge registration. (Back page)	-32 to 32	0	0.195 (mm)

*1: 40 ppm model only

Adjustment: Front Head/Back Head

1. Press the [] [] keys or the numeric keys to change the counter value.

In the case of the copy example 1, raise the setting value.

In the case of the copy example 2, lower the setting value.

*: When the setting value is increased, the image moves forward, and it moves backward when the setting value is decreased.

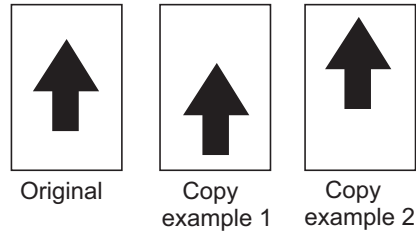


Figure 6-11

2. Press the [Start] key to set the setting value.

Precautions

Check the 2nd side after adjusting the 1st side. Adjust if necessary.

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

U034(6-23) > U071

Adjustment: Front Tail/Back Tail

1. Press the [] [] keys or the numeric keys to change the counter value.

In the case of the copy example 1, raise the setting value.

In the case of the copy example 2, lower the setting value.

*: When the setting value is increased, the image gets longer, and it shortens when the setting value is decreased.

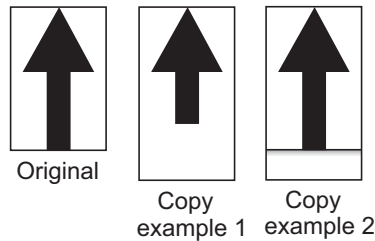


Figure 6-12

2. Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

*: The screen for selecting a maintenance item No. is displayed.

U072	Adjusting the DP original center (Message: DP Center)
-------------	--

Contents

Adjusts the DP original center line.

Purpose

Adjusted if there is a regular error between the center lines of the original and the copy image when the DP is used

Adjustment

1. Press the [Start] key.
2. Press the [System Menu] key.
3. Place an original on the DP and press the [Start] key to make a test copy.
* :Check the duplex scanning by setting [Duplex] when test copying.
4. Press the [System Menu] key.
5. Select the item to adjust.

Items	Contents	Setting range	Initial setting	Data variation
Front	DP center line. (Front page)	-40 to 40	0	0.085 mm
Back *1	DP center line. (Back page)	-40 to 40	0	0.085 mm

*1: 40ppm model only

6. Press the [] [] keys or the numeric keys to change the counter value.

In the case of the copy example 1, lower the setting value.

In the case of the copy example 2, raise the setting value.

* :When the setting value is increased, the image moves to left, and it moves to right when the setting value is decreased.

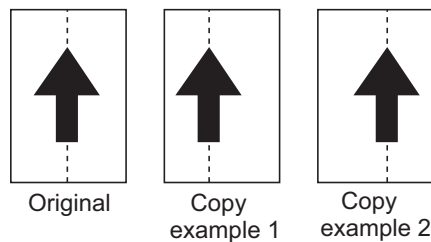


Figure 6-13

7. Press the [Start] key to set the setting value.

Precautions

Check the 2nd side after adjusting the 1st side. Adjust if necessary.

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

U034(6-23) > U065(6-25) > U067(6-27) > U072

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U110	Drum counter (Message: Drum Cnt)
-------------	---

Contents

Displays the drum counter values.

Purpose

Execute to check the drum usage status.

Method

1.Press the [Start] key.

* :The drum counter is displayed.

Items	Contents
K	Display the drum counter value.
Clear	Clear the drum counter values.

Method

1.Press the [Clear] key.

2.Press the [Start] key.

* :The drum counter value is cleared.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U120	Drum counter (Message: Drum Cnt)
-------------	---

Contents

Displays the drum driving distance counter values.

Purpose

Execute to check the drum usage status.

Method

1.Press the [Start] key.

* :The drum counter is displayed.

Items	Contents
K	Display the drum driving distance counter value.
Clear	Clear the drum driving distance counter values.

Method

1.Press the [Clear] key.

2.Press the [Start] key.

* :The drum driving distance counter value is cleared.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U130	Developer initial setting (Message: Set Toner Install)
-------------	---

Contents

Set the toner install mode on or off.

Purpose

Execute the toner installation when setting up the machine.

Method

- 1.Press the [Start] key.
- 2.Select [Mode].

Items	Contents
Mode	Set the toner install mode

* :If setting On (1), the toner installation is executed when turning the power on next time.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U158	Developer counter (Message: Dev Cnt)
-------------	---

Contents

Displays the developer counter

Purpose

Execute to check the developer unit usage status.

Method

- 1.Press the [Start] key.
- * :The developer count is displayed.

Items	Contents
K	Displaying the developer counter value
Clear	Clear the developer counter values.

Method

- 1.Press the [Clear] key.
- 2.Press the [Start] key.
- * :The developer counter value is cleared.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U201	Initializing the touch panel (Message: Init Touch Panel)
-------------	---

*: TSI model only

Contents

Adjusts touch panel detecting positions.

Purpose

Correct and confirm the touch panel detecting positions, when the panel PWB or the operation panel is replaced or if the detecting positions are not aligned.

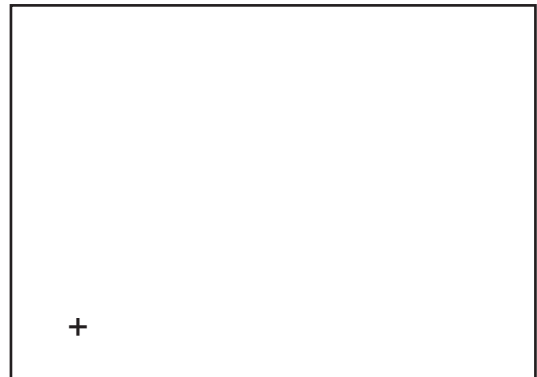
Method

- 1.Press the [Start] key.
 - 2.Select the item to execute.
 - 3.Press the [Start] key.
- * :The screen for executing is displayed.

Items	Contents
Initialize	Automatically corrects the touch panel display position
Check	Checks the touch panel display position

Method: Initialize

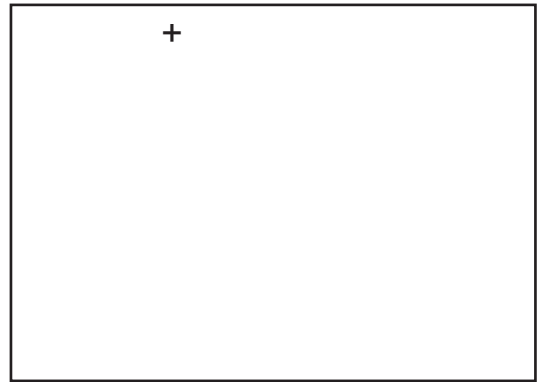
- 1.Press the center of "+".



- 2.Press the center of "+".



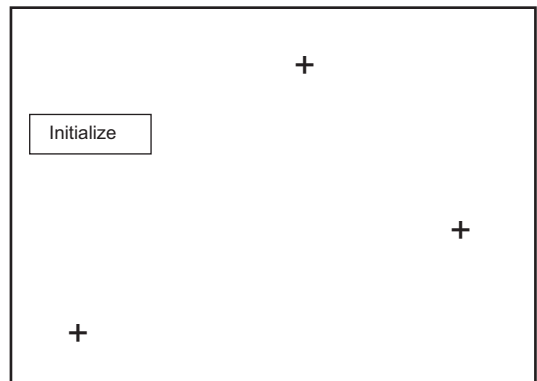
3. Press the center of "+".
4. The touch panel is automatically corrected after setting.
5. After finishing setting, the [Check] screen is automatically displayed.



Method: Check

1. Press the indicated three "+", and then check the display position.
2. Check that the gap of the X and Y axis of the displayed coordinate is 6 or less.

* :If out of the specified value, select [Initialize] and press the [Start] key to return to Step.1.



Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U222	Setting the IC card type (Message: Set IC Card Type)
-------------	---

*: Only when the ID card is installed

Contents

Sets the ID card type

Purpose

Change the type of ID card

Setting

- 1.Press the [Start] key.
- 2.Select the item to set.

Items	Contents
Other	Select when the ID card type is other than SSFC.
SSFC	Select when the ID card type is SSFC.

* :Initial setting: Other

* :SSFC: Shared Security Formats Cooperation

- 3.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U250	Changing the preset maintenance counter value (Message: Mnt Cnt Pre-set)
-------------	---

Contents

Display/set the maintenance counter preset value which decides the time to display the message which promotes to replace the maintenance kit.

Purpose

Used to check or change the maintenance counter preset

Setting

- 1.Press the [Start] key.
- 2.Select [M.Cnt A].

Items	Contents
M.Cnt A	Display the preset value of maintenance counter (A).
Clear	Clear the preset value of maintenance counter (A).

- 3.Press the [Start] key and display the preset value.

Method

- 1.Press the [Clear] key.
 - 2.Press the [Start] key.
- * :Clear the preset value of maintenance counter (A).

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U251	Clearing/checking the maintenance counter (Message: Clr Mnt Cnt)
-------------	---

Contents

Display, set or clear the maintenance counter.

Purpose

Used to check, change and reset the maintenance counter

Setting

- 1.Press the [Start] key.
- 2.Select [M.Cnt A].

Items	Contents
M.Cnt A	Display the maintenance counter (A) value.
Clear	Clear all the maintenance counter (A) values.

- 3.Press the [Start] key to display the counter value.

Method

- 1.Press the [Clear] key.
 - 2.Press the [Start] key.
- * :The maintenance counter (A) value is cleared.

Completion

Press the [Stop] key.

- * :The screen for selecting a maintenance item No. is displayed.

U252	Destination (Message: Set Dest)
-------------	--

Contents

Switch the operations and screens of the main unit according to the destination.

Purpose

Execute after initializing the backup RAM, in order to return the setting to the value before replacement or initialization

Method

- 1.Press the [Start] key.
- 2.Select the item to set.

Items	Contents
(No Action) *3	Malfunction preventing item
Europe Metric *2	Europe Metric
Inch *2	Inch
Asia Pacific *2	Asia Pacific
Japan Metric *1	Japan metric
Australia *2	Australia
China *2	China
Korea *2	Korea

*1: 100V model only, *2: Except 100V model, *3: LCD model only

* :Initial setting: Destination

- 3.Press the [Start] key.

* :Initializes according to the destination.

- 4.Turn the power switch off then on. Wait more than 5 seconds between the power off and on.

* :An error code is displayed when an error occurs.

When errors occur, turn the power switch off then on, and execute initialization using maintenance mode U252.

Error codes

Items	Contents
0001	Controller (Entity Error)
0002	Controller error
0020	Engine error
0040	Scanner error

U253	Switching the double/single counts (Message: Set D/S Count)
-------------	--

Contents

Switches the count timing for the total counter and other counters by color mode. (Single/Double Count)

Purpose

Select, according to user's request (copy service provider), if the maximum size paper is to be counted as one sheet (single count) or two sheets (double count)

Setting

1. Press the [Start] key.
2. Select [B/W].

Items	Contents
Color	Switch the counter for full color mode
B/W	Switch the counter for B/W mode

3. Select [SGL(All)] or [DBL(Folio)].

Items	Contents
SGL(All)	Sets single count for all the paper sizes
DBL(Folio)	Set double count for Folio size or larger

* :Initial setting: DBL(Folio)

4. Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U260	Select Copy Count (Message: Set Count Mode)
-------------	--

Contents

Switches the count timing for the total counter and other counters between paper feed and eject.

Purpose

Change the count timing according to the user's request

Setting

1. Press the [Start] key.
2. Selects the copy count timing.

Items	Contents
Feed	When secondary paper feed starts.
Eject	Selects the paper eject timing

* :Initial setting: Eject

3. Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U285	Set Service Status Page (Message: Set Svc Sts Page)
-------------	--

Contents

Determines whether to display the digital dot coverage report on the report print.

Purpose

Change the setting according to the user's request

Setting

1. Press the [Start] key.
2. Select the item to set.

Items	Contents
On	Displays the digital dot coverage.
Off	Not to display the digital dot coverage.

* :Initial setting: On

3. Press the [Start] key. Set the setting value.

Completion

4. Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U287	Set Auto Reset Function (Message: Set Reset Func)
-------------	--

Contents

Enables/disables the auto recovery function after service call error or system error.

Purpose

Sets to enable/disable the auto recovery function after service call error or system error.

Setting

- 1.Press the [Start] key.
- 2.Select the item to set.

Items	Contents
C0XXX	ENABLE/DISABLE THE AUTO RECOVERY AFTER ERROR
C1XXX	Enables/disables the auto recovery function after C1xxx error
C2XXX	Enables/disables the auto recovery function after C2xxx error
C3XXX	Enables/disables the auto recovery function after C3xxx error
C4XXX	Enables/disables the auto recovery function after C4xxx error
C5XXX	Enables/disables the auto recovery function after C5xxx error
C6XXX	Enables/disables the auto recovery function after C6xxx error
C7XXX	Enables/disables the auto recovery function after C7xxx error
C8XXX	Enables/disables the auto recovery function after C8xxx error
C9XXX	Enables/disables the auto recovery function after C9xxx error
CFXXX	Enable/disable the auto recovery after CF error

- 3.Press the [Start] key. Set the setting value.

Completion

- 4.Press the [Stop] key.
- * :The screen for selecting a maintenance item No. is displayed.

U290	Setting the drive to save the HyPAS application (Message: Set Drive App)
-------------	---

*: Tsi 40 ppm model only
 *: Only when the SD card or SSD is installed

Contents

Sets the drive to save the HyPAS application

* :Indicated when the HyPAS application is not installed in the SD card and SSD.

Purpose

Sets to save to the SD card or optional SSD.

Setting

- 1.Press the [Start] key.
- 2.Select the item to set.

Items	Contents
SD Card	Set in the SD card
SSD	Set in the SSD

* :Initial setting: SD card (0)

- 3.Press the [Start] key. Set the setting value.

- 4.Turn the power switch off then on. Wait more than 5 seconds between the power off and on.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U332	Adjusting the black coverage coefficient (Message: Adj Calc Rate)
-------------	---

Contents

Sets the coefficient of custom size with A4/Letter size. The coefficient set here is used to convert the black ratio in relation to the A4/Letter size and to display the result in the service status page. Setting the display of the coverage counter and the coverage threshold for color copy and color print.

Purpose

Set the coefficient for converting the black ratio for custom sizes in relation to the A4/Letter size

Setting

1. Press the [Start] key.
2. Select the item to set.
3. Press the [] or [] keys or the numeric keys to change the setting value.

Items	Contents	Setting range	Initial setting
Rate	Set the coefficient for converting the black ratio for custom sizes in relation to the A4/Letter size.	0.1 to 3.0	1.0
Mode	Switching the full-color count display and color coverage counter display	0: Full color 1: Color coverage	1.0
Level1	Low coverage threshold value	0.1 to 99.8	10 Display: 1.0
Level2	Middle coverage threshold value	0.1 to 99.8	2.5 Display: 2.5

4. Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U345	Set Service Status Page (Message: Set Mnt Time Disp)
-------------	---

Contents

Setting the counter to display close to time for maintenance

Displays the maintenance count has reached at the count deducting this setting value from the maintenance cycle count.

Purpose

If the maintenance counter value becomes the preset value or more, the message "Time for maintenance is soon" is displayed and promotes replacing the maintenance kit.

Setting

- 1.Press the [Start] key.
- 2.Select [Cnt].
- 3.Press the [] [] keys or the numeric keys to change the counter value.

Items	Contents
Cnt	Setting the counter to display close to time for maintenance
Clear	Clearing the counter

- 4.Press the [Start] key. Set the setting value.

Method

- 1.Select [Clear].
- 2.Press the [Start] key to clear the counter value.

Completion

- 3.Press the [Stop] key.
- * :The screen for selecting a maintenance item No. is displayed.

U346	Selecting Sleep Mode (Message: Slct Sleep Mode)
-------------	--

Contents

Changes the sleep mode settings.

Purpose

Changes the sleep mode settings.

Method

1.Press the [Start] key.

2.Select the item to set.

* :The screen for setting is displayed.

Items	Contents
Timer/Sleep Level	BAM conformity country setting
Auto sleep	Switches AutoSleep function setting

Setting: Timer/Sleep Level

1.Select the item to set.

Items	Contents
More Energy Save	BAM conformity setting On Sleep mode is disabled (Quick Recovery setting is disabled)
Less Energy Save	BAM conformity setting Off Sets Sleep Level (Quick Recovery or Energy Saver)

* :Initial setting: More Energy Save

2.Press the [Start] key. Set the setting value.

3.Turn the power switch off then on. Wait more than 5 seconds between the power off and on.

Setting: Auto sleep

1.Select the item to set.

Items	Contents
On	The sleep mode is enabled from the system menu.
Off	The sleep mode is disabled from the system menu.

* :Initial setting: On

2.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U402	Adjusting the printing margins (Message: Print Margin)
-------------	---

Contents

Adjusts the scan image margins.

Purpose

Make the adjustment if margins are incorrect

* :If the leading edge margin is less than the specified value, it may cause jam at the fuser.

* :If there is no bottom margin, when continuously printing, it may cause an image smudge on the second page.

Adjustment

- 1.Press the [Start] key.
- 2.Press the [System Menu] key.
- 3.Press the [Start] key to output a test pattern.
- 4.Press the [System Menu] key.
- 5.Select the item to set.

Items	Contents	Setting range	Initial setting	Data variation
Lead	Adjusts the printer leading edge margin	0.0 to 10.0	4.0	0.1 mm
A Margin	Printer left margin	0.0 to 10.0	3.0	0.1 mm
C Margin	Printer right margin	0.0 to 10.0	3.0	0.1 mm
Trail	Printer trailing edge margin	0.0 to 10.0	3.9	0.1 mm

- 6.Press the [] [] keys or the numeric keys to change the counter value.

* :When the setting value is increased, the margin widens, and it narrows when the setting value is decreased.

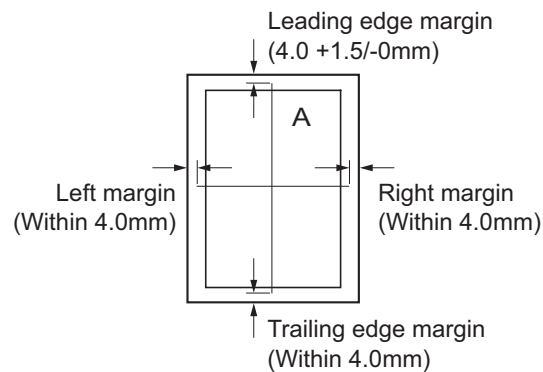


Figure 6-14

- 7.Press the [Start] key to set the setting value.

Precautions

Appropriate margins are not obtained after this adjustment, execute the following maintenance mode.

U034(6-23) > U402

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U403	Adjusting margins for scanning an original on the contact glass (Message: Adjust Scanning Margin(Table))
-------------	---

Contents

Adjusts the margins for the table scanning.

Purpose

Make the adjustment if margins are incorrect

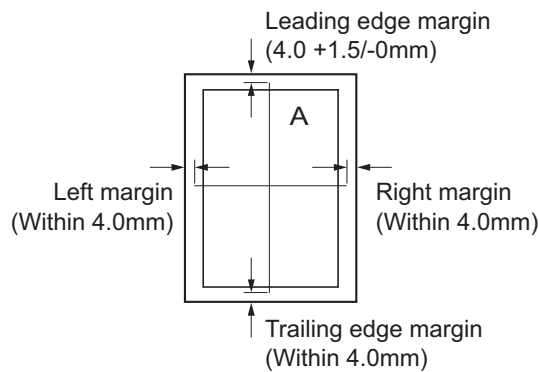
Adjustment

- 1.Press the [Start] key.
- 2.Press the [System Menu] key.
- 3.Place an original and press the [Start] key to make a test copy.
- 4.Press the [System Menu] key.
- 5.Select the item to adjust.

Items	Contents	Setting range	Initial setting	Data variation
A Margin	Adjusts the scanner left margin	0.0 to 10.0	2.0	0.5mm
B Margin	Adjusts the scanner leading edge margin.	0.0 to 10.0	2.0	0.5mm
C Margin	Adjusts the scanner right margin	0.0 to 10.0	2.0	0.5mm
D Margin	Adjusts the scanner trailing edge margin	0.0 to 10.0	2.0	0.5mm

- 6.Press the [] [] keys or the numeric keys to change the counter value.

* :When the setting value is increased, the margin widens, and it narrows when the setting value is decreased.

**Figure 6-15**

- 7.Press the [Start] key to set the setting value.

Precautions

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

U034(6-23) > U402(6-47) > U403

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U404	Adjusting margins for scanning an original from the document processor (Message: Scan Margin DP)
-------------	---

Contents

Adjusts the margins for DP scanning.

Purpose

Make the adjustment if margins are incorrect

Adjustment

1. Press the [Start] key.
2. Press the [System Menu] key.
3. Place an original on the DP and press the [Start] key to make a test copy.
4. Press the [System Menu] key.
5. Select the item to adjust.

Items	Contents	Setting range	Initial setting	Data variation
A Margin	Adjusts the DP left margin	0.0 to 10.0	3.0	0.5mm
B Margin	Adjusts the DP leading edge margin	0.0 to 10.0	2.5	0.5mm
C Margin	Sets the DP right margin	0.0 to 10.0	3.0	0.5mm
D Margin	Adjusts the DP trailing edge margin	0.0 to 10.0	4.0	0.5mm
A Margin(B) *1	Adjusts the DP left margin (2nd side)	0.0 to 10.0	3.0	0.5mm
B Margin(B) *1	Adjusts the DP leading edge margin (2nd side)	0.0 to 10.0	2.5	0.5mm
C Margin(B) *1	Adjusts the DP right margin (2nd side)	0.0 to 10.0	3.0	0.5mm
D Margin(B) *1	Adjusts the DP trailing edge margin (2nd side)	0.0 to 10.0	4.0	0.5mm

*1: 40ppm model only

6. Press the [] [] keys or the numeric keys to change the counter value.

* :When the setting value is increased, the margin widens, and it narrows when the setting value is decreased.

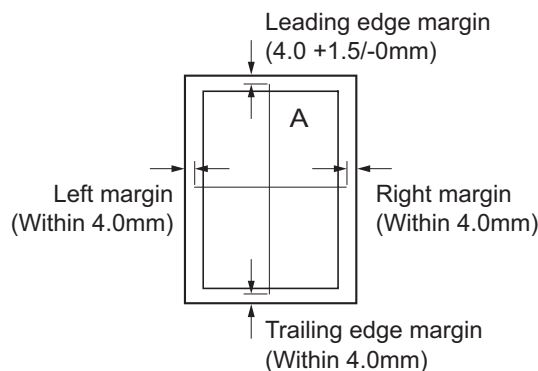


Figure 6-16

7. Press the [Start] key to set the setting value.

Precautions

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

U034(6-23) > U402(6-47) > U403(6-48) > U404

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U407	Adjusting the writing timing (Duplex/Reversal) (Message: WR DR Timing)
-------------	---

Contents

Adjusts the writing timing when duplex printing.

Purpose

Adjusted when the back page image of duplex copying is printed in rotated 180 degrees from the scanner reading image (image on the memory)

Precautions

Adjust this after finishing the following maintenance modes.

U034(6-23) > U402(6-47) > U66(6-26)>

U403(6-48) > U71(6-30) > U404(6-49) > U407

Adjustment

- 1.Press the [Start] key.
- 2.Press the [System Menu] key.
- 3.Place an original on the DP and press the [Start] key to make a test copy.
- 4.Press the [System Menu] key.
- 5.Select [Adj Data].

Items	Contents	Setting range	Initial setting	Data variation
Adj Data	Adjusts the leading edge timing when writing the image in the memory	-47 to 47	0	1dot

- 6.Press the [] or [] keys or the numeric keys to change the setting value.

In the case of the copy example 1, raise the setting value.

In the case of the copy example 2, lower the setting value.

* :When the setting value is increased, the image moves forward, and it moves backward when the setting value is decreased.

Leading edge registration of the copy image (+1.0/-1.5 mm or less)

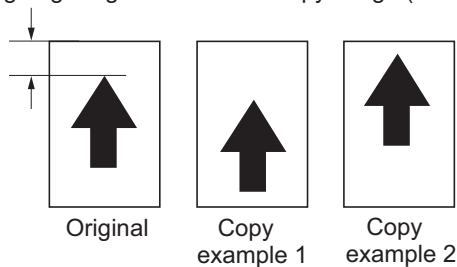


Figure 6-17

- 7.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

Error codes

Codes	Occurrence position	Contents	Continuing the adjustment
S001	Scanner	Original reference patch is not detected	Available
S002		Original deviation is in excess in the main scanning direction	Available
S003		Original deviation is in excess in the sub-scanning direction	Available
S004		Original skew is in excess	Available
S005		Original type error	Available
SFFF		Other scanner error	Unavailable
E001	Engine	Engine status error	Unavailable
E002		Adjustment result error	Unavailable
EFFF		Other engine error	Unavailable
C001	Controller	Pause status	Unavailable
C002		Adjustment result error	Unavailable
C110		Adjustment value (increase amount) value error (black)	Unavailable
C120		Adjustment value (increase amount) value error (cyan)	Unavailable
C140		Adjustment value (increase amount) value error (magenta)	Unavailable
C180		Adjustment value (increase amount) value error (yellow)	Unavailable
C210		Adjustment value (increase rate) error (black)	Unavailable
C220		Adjustment value (increase rate) value error (cyan)	Unavailable
C240		Adjustment value (increase rate) value error (magenta)	Unavailable
C280		Adjustment value (increase rate) value error (yellow)	Unavailable
CFFF		Other controller error	Unavailable

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U411	Scanner auto adjustment (Message: Auto Adj Scn)
-------------	--

Contents



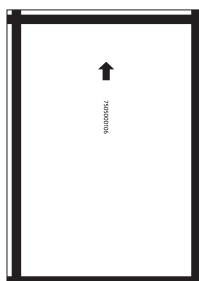
Uses the specified originals and automatically adjusts the following items in the scanner and the DP scanning sections.

Scanner section: Original size magnification, leading edge timing, center line, chromatic aberration in main/sub scanning direction, MTF correction, color/monochrome input gamma, color correction matrix automatic adjustment

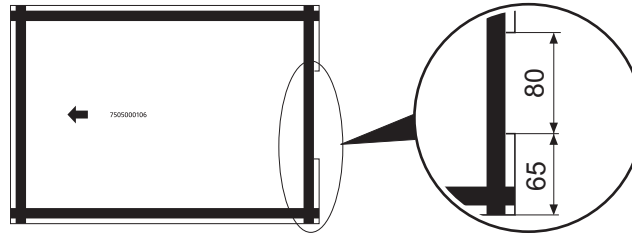
DP scanning section: Original size magnification, leading edge timing and center line, MTF correction, Input gamma, automatic adjustment of color correction matrix

Purpose

Automatically adjusts the scanner and the DP scanning sections.

Items	Contents	Original for adjustment (P/N)
Table (Chart A)	Automatically adjusts the table scanning. Scanning timing (Leading edge timing / Center line / Sub-scanning direction) Input gamma correction coefficient for color Color correction matrix coefficient Black line detection correction value LED light intensity adjustment Tentative white reference correction coefficient	302NM94340 
DP FU(ChartA)	Execute the 1st side automatic adjustment in the DP scanning section. Input gamma correction coefficient for color Color correction matrix coefficient Input gamma correction coefficient for monochrome	
DP FD(ChartA)	Execute the 2nd side automatic adjustment in the DP scanning section. Input gamma correction coefficient for color Color correction matrix coefficient	
DP FU(ChartB) DP FD(ChartB)	Execute the 1st side automatic adjustment in the DP scanning section. Execute the 2nd side automatic adjustment in the DP scanning section. Magnification in the sub-scanning direction Leading edge timing Center line Trailing edge timing	
Target	Set-up for obtaining the target value	302NM94340 

*: Cut the trailing edge of the DP adjustment original (ChartB) as shown below.



Method: Table (Chart A)

Automatic input of the target value

* :Usually, it adjusts here.

- 1.Set the specified original (P/N: 302NM94340) on the table.
- 2.Enter maintenance item U411.
- 3.Select [Target].
- 4.Select [Auto].
- 5.Press the [Start] key.
- 6.Select [Table(ChartA)].
- 7.When pressing the [Start] key, the bar code of the original chart is read and the automatic adjustment is started.
- 8.When automatic adjustment has normally completed, [OK] is displayed.

*: When the error code "1e" or "1f" is displayed during the automatic adjustment in the table scanning and the barcode is not read, adjust the following after manually inputting the target value.

Manual input of the target value

- 1.Enter the target values which are shown on the lower part of the front page of the adjustment original (P/N: 302NM94340) by executing the maintenance mode U425.
- 2.Set the specified original (P/N: 302NM94340) on the table.
- 3.Enter maintenance item U411.
- 4.Select [Target].
- 5.Select [U425].
- 6.Press the [Start] key.
- 7.Select [Table(ChartA)].
- 8.Press the [Start] key to start Auto adjustment.
- 9.When automatic adjustment has normally completed, [OK] is displayed.

If the image position is shifted largely at the DP adjustment below, an error might occur when adjusting it with ChartA. First, use ChartB (image position) to adjust it and then use ChartA (color).

Method: DP FU (Chart B)

* :Adjusting the first side of the DP duplex scanning

- 1.Set the specified original (P/N: 302NM94330) face-up on the DP.
- 2.Enter maintenance item U411.
- 3.Select [DP FU(ChartB)].
- 4.Press the [Start] key to start Auto adjustment.
- 5.When automatic adjustment has normally completed, [OK] is displayed.

Method: DP FD (Chart B)

* :Adjusting the second side of the DP duplex scanning

- 1.Set the specified original (P/N: 302NM94330) face-down on the DP.
- 2.Enter maintenance item U411.
- 3.Select [DP FD(ChartB)].
- 4.Press the [Start] key to start Auto adjustment.
- 5.When automatic adjustment has normally completed, [OK] is displayed.

Method: DP FU (Chart A)**Automatic input of the target value**

1. Set the specified original (P/N: 302NM94340) face-up on the DP.
2. Enter maintenance item U411.
3. Select [Target].
4. Select [Auto].
5. Press the [Start] key.
6. Select [DP FU(ChartA)].
7. Press the [Start] key to read the barcode of the original chart and to start the automatic adjustment.
8. When automatic adjustment has normally completed, [OK] is displayed.

*: When the error code "1e" or "1f" is displayed during the automatic adjustment in the DP scanning and the barcode is not read, adjust the following after manually inputting the target value.

Manual input of the target value

1. Enter the target values which are shown on the lower part of the front page of the adjustment original (P/N: 302NM94340) by executing the maintenance mode U425.
2. Set the specified original (P/N: 302NM94340) face-up on the DP.
3. Enter maintenance item U411.
4. Select [Target].
5. Select [U425].
6. Press the [Start] key.
7. Select [DP FU(ChartA)].
8. Press the [Start] key to start Auto adjustment.
9. When automatic adjustment has normally completed, [OK] is displayed.

Method: DP FD (Chart A)**Automatic input of the target value**

1. Set the specified original (P/N: 302NM94340) face-up on the DP.
2. Enter maintenance item U411.
3. Select [Target].
4. Select [Auto].
5. Press the [Start] key.
6. Select [DP FD(ChartA)].
7. Press the [Start] key to read the barcode of the original chart and to start the automatic adjustment.
8. When automatic adjustment has normally completed, [OK] is displayed.

*: When the error code "1e" or "1f" is displayed during the automatic adjustment in the DP scanning and the barcode is not read, adjust the following after manually inputting the target value.

Manual input of the target value

1. Enter the target values which are shown on the lower part of the front page of the adjustment original (P/N: 302NM94340) by executing the maintenance mode U425.
2. Set the specified original (P/N: 302NM94340) face-up on the DP.
3. Enter maintenance item U411.
4. Select [Target].
5. Select [U425].
6. Press the [Start] key.
7. Select [DP FD(ChartA)].
8. Press the [Start] key to start Auto adjustment.
9. When automatic adjustment has normally completed, [OK] is displayed.

*: When automatic adjustment has normally completed, [OK] is displayed. If an error occurs during auto adjustment, error code "NGXX" is displayed and operation stops. In this case, check the error and execute the automatic adjustment again.

Error codes

Codes	Contents	Corrective action
00	Automatic adjustment success	-
01	Black band detection error (Table scanning leading edge skew in the sub-scanning direction)	1. Set the original correctly and execute the adjustment again. 2. Check lighting of the lamp or replace it.
04	Black band is not detected (Table leading edge in the sub-scanning direction)	
05	Black band is not detected (Table far end in the main scanning direction)	
06	Black band is not detected (Table near end in the main scanning direction)	
07	Black band is not detected (Table trailing edge in the sub-scanning direction)	
08	Black band is not detected (DP far end in the main scanning direction)	1. Check the attachment position of DP. 2. Check lighting of the lamp or replace it. 3. Check the back and front of the adjustment original.
09	Black band is not detected (DP near end in the main scanning direction)	
0a	Black band is not detected (DP leading edge in the sub-scanning direction)	
0b	Black band is not detected (Original check of DP leading edge in the sub-scanning direction)	
0c	Black band is not detected (DP trailing edge in the sub-scanning direction)	
0d	White band is not detected (DP trailing edge in the sub-scanning direction)	
0e	DMA time out	Turn the power switch off then on, and execute again.
0f	Magnification error in the sub-scanning direction	1. Turn the power switch off then on, and execute again. 2. Adjust manually. (U065 to U067, U070 to U072)
10	Leading edge error in the sub-scanning direction	
11	Trailing edge error in the sub-scanning direction	
12	DP skew error in the sub-scanning direction	
13	Maintenance request error	Turn the power switch off then on, and execute again.
14	Center line error in the main scanning direction	1. Turn the power off and on, and execute again. 2. Adjust manually. (U065 to U067, U070 to U072)
15	DP skew error in the main scanning direction	
16	Magnification error in the main scanning direction	

Codes	Contents	Corrective action
17	Service call error	Turn the power off and on, and execute again.
18	DP paper jam error	Set the original correctly and execute it again.
19	PWB replacement error	-
1a	Original error	1. Clean the contact glass and slit glass. 2. Exchange the adjustment original.
1b 1c 1d	Input gamma adjustment original error Matrix adjustment original error Original for the white reference correction coefficient error	Set the original correctly and execute it again.
1e	Lab value detection error	Check the following and execute it again. Is the bar code dirty? Is the original position correct? Is the bar code position correct?
1f	Lab value comparison error	Check the following and execute it again. Is the acquired bar code the same? Is the original position correct? Is the bar code position correct?
20 21 30	Input gamma correction coefficient error Color correction matrix coefficient error Chromatic aberration adjustment original error	Set the original correctly and execute it again.
50	White reference correction ratio error	Set the original correctly and execute it again.
63	Completed to obtain the test RAW	-

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U425	Set Target (Message: Set Target Adjustment Value)
-------------	--

Contents

Enter the lab values which are shown on the back page of the adjustment original (P/N: 302NM94340).

Purpose

Enter data in order to correct for differences in originals during the automatic adjustment

Method

- 1.Press the [Start] key.
- 2.Select the item to set.

Items	Contents
ChartA	Setting the adjustment value of the table scanning
ChartB	Sets the adjustment value of the DP scanning

Method: ChartA

- 1.Press the [Start] key.
- 2.Select the item to set.

Items	Contents
White	Setting the white patch for the adjustment original
Black	Setting the black patch for the adjustment original
Gray1	Setting the Gray1 patch for the adjustment original
Gray2	Setting the Gray2 patch for the adjustment original
Gray3	Setting the Gray3 patch for the adjustment original
C	Setting the cyan patch for the adjustment original
M	Setting the magenta patch for the adjustment original
Y	Setting the yellow patch for the adjustment original
R	Setting the red patch for the adjustment original
G	Setting the green patch for the adjustment original
B	Setting the blue patch for the adjustment original
Adjust Original	Setting the main scanning and sub-scanning directions

Setting: White

- 1.Select the item to set.
- 2.By using [Left/Right cursor] keys or the numeric keys, enter the values which are shown on the back page of the adjustment original.

Items	Contents	Setting range	Initial setting	Data variation
L	L parameter setting	0.0 to 100	93.6	-
a	A value setting	-200 to 200	0.9	-
b	B value setting	-200 to 200	-0.4	-

- 3.Press the [Start] key to set the setting value.

Setting: Black

1. Select the item to set.
2. By using [Left/Right cursor] keys or the numeric keys, enter the values which are shown on the back page of the adjustment original.

Items	Contents	Setting range	Initial setting	Data variation
L	L parameter setting	0.0 to 100	10.6	-
a	A value setting	-200 to 200	-0.2	-
b	B value setting	-200 to 200	-0.7	-

3. Press the [Start] key to set the setting value.

Setting: Gray1

1. Select the item to set.
2. By using [Left/Right cursor] keys or the numeric keys, enter the values which are shown on the back page of the adjustment original.

Items	Contents	Setting range	Initial setting	Data variation
L	L parameter setting	0.0 to 100	76.2	-
a	A value setting	-200 to 200	-0.2	-
b	B value setting	-200 to 200	1.2	-

3. Press the [Start] key to set the setting value.

Setting: Gray2

1. Select the item to set.
2. By using [Left/Right cursor] keys or the numeric keys, enter the values which are shown on the back page of the adjustment original.

Items	Contents	Setting range	Initial setting	Data variation
L	L parameter setting	0.0 to 100	25.2	-
a	A value setting	-200 to 200	-0.2	-
b	B value setting	-200 to 200	-0.2	-

3. Press the [Start] key to set the setting value.

Setting: Gray3

1. Select the item to set.
2. By using [Left/Right cursor] keys or the numeric keys, enter the values which are shown on the back page of the adjustment original.

Items	Contents	Setting range	Initial setting	Data variation
L	L parameter setting	0.0 to 100	51.3	-
a	A value setting	-200 to 200	-0.3	-
b	B value setting	-200 to 200	0.3	-

3. Press the [Start] key to set the setting value.

Setting: C

1. Select the item to set.
2. By using [Left/Right cursor] keys or the numeric keys, enter the values which are shown on the back page of the adjustment original.

Items	Contents	Setting range	Initial setting	Data variation
L	L parameter setting	0.0 to 100	72.6	-
a	A value setting	-200 to 200	-32.8	-
b	B value setting	-200 to 200	-11.5	-

3. Press the [Start] key to set the setting value.

Setting: M

1. Select the item to set.
2. By using [Left/Right cursor] keys or the numeric keys, enter the values which are shown on the back page of the adjustment original.

Items	Contents	Setting range	Initial setting	Data variation
L	L parameter setting	0.0 to 100	48.1	-
a	A value setting	-200 to 200	69.9	-
b	B value setting	-200 to 200	-6.1	-

3. Press the [Start] key to set the setting value.

Setting: Y

1. Select the item to set.
2. By using [Left/Right cursor] keys or the numeric keys, enter the values which are shown on the back page of the adjustment original.

Items	Contents	Setting range	Initial setting	Data variation
L	L parameter setting	0.0 to 100	86.2	-
a	A value setting	-200 to 200	-18.6	-
b	B value setting	-200 to 200	81.7	-

3. Press the [Start] key to set the setting value.

Setting: R

1. Select the item to set.
2. By using [Left/Right cursor] keys or the numeric keys, enter the values which are shown on the back page of the adjustment original.

Items	Contents	Setting range	Initial setting	Data variation
L	L parameter setting	0.0 to 100	46.7	-
a	A value setting	-200 to 200	54.2	-
b	B value setting	-200 to 200	38.6	-

3. Press the [Start] key to set the setting value.

Setting: G

1. Select the item to set.
2. By using [Left/Right cursor] keys or the numeric keys, enter the values which are shown on the back page of the adjustment original.

Items	Contents	Setting range	Initial setting	Data variation
L	L parameter setting	0.0 to 100	67.8	-
a	A value setting	-200 to 200	-51.3	-
b	B value setting	-200 to 200	48.9	-

3. Press the [Start] key to set the setting value.

Setting: B

1. Select the item to set.
2. By using [Left/Right cursor] keys or the numeric keys, enter the values which are shown on the back page of the adjustment original.

Items	Contents	Setting range	Initial setting	Data variation
L	L parameter setting	0.0 to 100	38.8	-
a	A value setting	-200 to 200	25.3	-
b	B value setting	-200 to 200	-22.8	-

3. Press the [Start] key to set the setting value.

Setting: Adjust Original

* :This setting is usually unnecessary.

Items	Contents	Setting range	Initial setting	Data variation
Lead	Set the adjustment value of the leading edge.	4.0 to 6.0	5.0	0.1mm
Main Scan	Sets the adjustment value of the left edge.	9.0 to 11.0	10.0	0.1mm
Sub Scan	Set the adjustment value of the trailing edge.	265.0 to 267.0	266.0	0.1mm

1. Measure the distances "A", "B" and "C" from the upper edge of black belt 1 to the lower edge of black belt 3 of the adjustment original.
Measurement procedure
1) Measure the distance "A", "B" and "C" between two points as follows. (A: 30mm from the left edge, B: 105mm from the left edge, C: 180mm from the left edge)
?Measure the distance from the leading edge to the top edge of black belt 1.
2) Apply the following formula for the values obtained: $((A+B+C)/3)$
2. Enter the value solved in "Lead" using the [] [] keys.
3. Press the [Start] key to set the setting value.
4. Measure the distance "F" from the left edge to the right edge of black belt 2 on the adjustment original.
Measurement procedure
Measure the distance "F" from the left edge at 21mm from the top edge of black belt 1 to the right edge of black belt 2.
5. Enter the values measured in "Main Scan" using the [] [] keys.
6. Press the [Start] key to set the setting value.

7. Measure the distance "D" and "E" from the top edge of black belt 1 to the bottom edge of black belt 3 on the adjustment original at two positions.

Measurement procedure

1) Measure the distance "D" and "E" between two points as follows. (D: Measure the distance from the leading edge to the trailing edge of black belt 3 on the adjustment original at 30mm of the left edge and deduct A. E: Measure the distance from the leading edge to the trailing edge of black belt 3 on the adjustment original at 180mm of the left edge and deduct C.)

2) Apply the following formula for the values obtained: $(D/2 + E/2)$

8. Enter the value solved in "Sub Scan" using the [] [] keys keys.

9. Press the [Start] key to set the setting value.

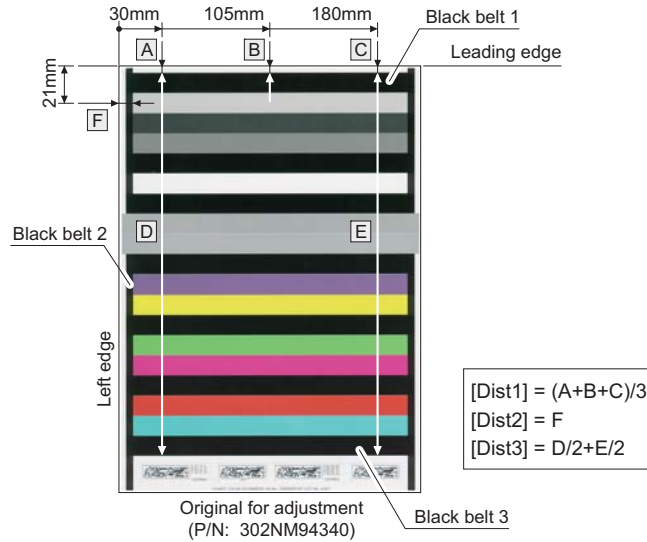


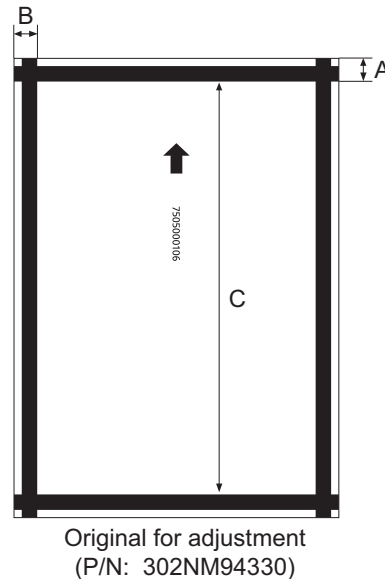
Figure 6-18

Setting: DP(CharB)

* :This setting is usually unnecessary.

Items	Contents	Setting range	Initial setting	Data variation
Lead	Set the adjustment value of the leading edge.	14.0 to 16.0	15.0	0.1mm
Main Scan	Sets the adjustment value of the left edge.	14.0 to 16.0	15.0	0.1mm
Sub Scan	Set the adjustment value of the trailing edge.	265.0 to 269.0	267.0	0.1mm

- 1.Measure the distance "A" from the leading edge to the black belt (inside) on the adjustment original.
- 2.Enter the values measured in "Lead" using the [] [] keys.
- 3.Measure the distance "B" from the left edge to the black belt (inside) on the adjustment original.
- 4.Enter the values measured in "Main Scan" using the [] [] keys.
- 5.Measure the distance "C" from the leading black belt (inside) to the trailing black belt (inside) on the adjustment original.
- 6.Enter the values measured in "Sub Scan" using the [] [] keys.
- 7.Press the [Start] key to set the setting value.

**Figure 6-19****Completion**

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U520	TDRS setting (Message: Set TDRS)
-------------	---

Contents

Checks/sets the TDRS

Purpose

Execute to check/set the TDRS

Method

- 1.Press the [Start] key.
- 2.Select the item to set.

Items	Contents
Registration *1	Changes to the TDRS Manager registration dialog
Information *1	Transition to the Device Agent description dialog
On/Off Config	Changes to the TDRS features setting dialog

*1: displayed only when TDRS function is enabled.

Setting: Registration

- 1.Select the item to set.

Items	Contents
TDRS User	Registering process for user and password
Access Code	Registers Access Code

Setting: TDRS User

- 1.Select the item to set.

Items	Contents
Regist	Registers in the TDRS Manager
TDRS Server	Sets the TDRS server URL
TDRS User	Sets the TDRS Username
Proxy Server	Sets the TDRS proxy server URL
Proxy Port	Sets the TDRS proxy port number
Proxy User	Sets the TDRS proxy username
Text	Sets the TDRS description

Setting: Access Code

1. Select the item to set.

Items	Contents
Regist	Registers in the TDRS Manager
TDRS Server	Sets the TDRS server URL
Access Code	Sets the TDRS access code
Proxy Server	Sets the TDRS proxy server URL
Proxy Port	Sets the TDRS proxy port number
Proxy User	Sets the TDRS proxy username
Text	Sets the TDRS description

* :[Regist] is not executable if a USB memory is not installed.

* :When the USB memory is inserted, TDRS information is automatically retrieved and displayed.

After obtaining the TDRS information, select [Regist] and then register the TDRS information by pressing the [OK] or [Start] key.

* :After the normal completion, [Complete] is indicated in the status information of the item that was performed.

When an error occurs, the following numbers are indicated in the status information of the item that has been operated.

* :If [User/Processing Registration using a Password] is selected in the previous dialog, the "TDRS User" will be indicated.

If [Processing Registration using an Access Code] is selected, the "Access Code" will be indicated.

Error codes

Items	Contents	Items	Contents
e0001	HDD is unavailable.	t0001	Fatal error
e0002	The USB memory is unavailable.	t0002	Error in processing the network
e0003	The file to import does not exist in the USB memory.	t0003	An illegal parameter error
e0004	Reading from the USB memory has failed.	t0004	Insufficient resource
e0005	Unmounting the USB memory has failed.	t0005	Communication error
e0006	Moving or renaming the file has failed.	t0006	Error in processing communication.
e0007	Opening the file has failed.	t0007	Login error
e0008	Closing the file has failed.	t0008	External error
e0009	Error in reading the file	t0009	Authentication error
e000A	Copying the file has failed.	t000A	HTTP error: Request error
e000B	Opening the directory has failed.	t000B	HTTP error: Error due to the server
e000C	Creating the working directory has failed.	t000C	HTTP error: Error due to the client.
e000D	Deleting the working file has failed.		

Setting: Information

1. Displays the set contents.

Items	Contents
Agent ID	Agent ID
Agent Type	Agent Type
Model	Displays the model name.
Serial No	Display of the machine serial number
Offline	Display of the TDRS connection state

Setting: On/Off Config

1. Select the item to set.

Items	Contents
On	Enables TDRS
Off	Disables TDRS

* :Initial setting: Off

2. Press the [Start] key to set the setting value.

3. Turn the power switch off then on. Wait more than 5 seconds between the power off and on.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U600	Initialize: All Data (Message: Initialize: All Data)
-------------	---

Contents

Initializes software switches, and all data and image memory in the backup data on the FAX PWB according to the destination and OEM setting.

Initializes the file system and then initializes the communication record and the registered contents if the file system is checked and an error is detected there.

Purpose

Initialize the FAX PWB

Method

1.Press the [Start] key.

2.Select [Execute].

* :The screen for entering the destination code and OEM code is displayed.

Items	Contents
Execute	Executing data initialization

3.Select [Country Code] and enter a destination code using the numeric keys.

* :Refer to the following destination code list.

Items	Contents
Country Code	Setting Destination code
OEM Code	Sets the OEM code

* :No need to change the default value of [OEM Code].

4.Press the [Start] key to set the setting value.

* :Data initialization starts.

Press the [Stop] key to cancel the data initialization.

5.The firmware version is displayed after the data initialization.

The firmware version of 3 types of application, boot and IPL is displayed.

* :When initialization is successful, "Completed" is displayed for one second.

* :Where an irregular value is input, when it initializes, the following errors are displayed.

Kind of error
Unknown Country (When Country Code is unknown)
Unknown OEM (When OEM Code is unknown)
Unknown Country (When both are unknown)

Destination code list

Destina- tion code	Destination	Destina- tion code	Destination
000	Japan	253	CTR21 (European nations)
007	Argentina	↑	Italy
009	Australia	↑	Germany
		↑	Spain
038	China	↑	U.K.
080	Hong Kong	↑	Netherlands
084	Indonesia	↑	Sweden
088	Israel	↑	France
097	Korea	↑	Austria
181	U.S.A.	↑	Switzerland
250	Russia	↑	Belgium
108	Malaysia	↑	Denmark
115	Mexico	↑	Finland
126	New Zealand	↑	Portugal
136	Peru	↑	Ireland
137	Philippines	↑	Norway
152	Middle East	254	Taiwan
156	Singapore		
159	South Africa		
169	Thailand		

U601	Initialize: Keep data (Message: Initialize: Keep Data)
-------------	---

Contents

Initializes software switches other than the machine data on the FAX PWB according to the destination and OEM setting.

Purpose

Initialize the FAX PWB without changing the user registration data and the factory defaults

Method

1.Press the [Start] key.

2.Select [Execute].

* :The screen for entering the destination code and OEM code is displayed.

Items	Contents
Execute	Executing data initialization

3.Select [Country Code].

4.Press the [] or [] keys or the numeric keys to change the setting value.

* :Refer to the destination code list. (See page 6-67)

Items	Contents
Country Code	Setting Destination code
OEM Code	Sets the OEM code

* :No need to change the default value of [OEM Code].

5.Press the [Start] key to set the setting value.

* :Data initialization starts.

Press the [Stop] key to cancel the data initialization.

6.The firmware version is displayed after the data initialization.

The firmware version of 3 types of application, boot and IPL is displayed.

* :When initialization is successful, "Completed" is displayed for one second.

U603	User data 1 (Message: User Data 1)
-------------	---

Contents

Sets the line type for FAX use

Purpose

Execute as required

Method

- 1.Press the [Start] key.
- 2.Select [Line Type].

Items	Contents
Line Type	Line Type

- 3.Select the item to set.

Items	Contents
DTMF	DTMF
10PPS	10PPS
20PPS	20PPS

- 4.Press the [Start] key to set the setting value.
* : "Completed" is displayed.

Completion

Press the [Stop] key.

- * : The screen for selecting a maintenance item No. is displayed.

U604	User data 2 (Message: User Data 2)
-------------	---

Contents

Sets the number of rings for the automatic FAX/telephone switching for FAX use

Purpose

Adjust the number of rings to longer or shorter at the automatic FAX/telephone switching

Method

1. Press the [Start] key.
2. Select [Rings(F/T)].
3. Press the [] or [] keys or the numeric keys to change the setting value.

Items	Contents	Setting range	Initial setting
Rings (F/T)	Number of fax/telephone rings	0 to 15	-

* :If the default is set to "0", the main unit will start FAX reception without any ringing.

4. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U605	Data clear (Message: Clear Data)
-------------	---

Contents

Initializes data related to the fax transmission such as transmission history or various ID.

Purpose

Clear the communication history

Method

1. Press the [Start] key.
2. Select [Clear Com.Rec.].

Items	Contents
(No Action) *1	Malfunction preventing item
Clear Com.Rec.	Delete data of communication history and protocol list of displayed port

*1: LCD model only

3. Press the [Start] key.

* : When initialization is successful, "Completed" is displayed for one second.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U610	System 1 (Message: System Setting 1)
-------------	---

Contents

Set the number of lines to be ignored when receiving a fax at 100% magnification and in the auto reduction mode.

Method

1. Press the [Start] key.
2. Select the item to set.

Items	Contents
Cut Line: A4	Set the number of lines to be ignored when receiving a fax (A4R/LetterR) in the auto reduction mode.
Cut Line: 100%	Set the number of lines to be ignored when receiving a fax at 100% magnification.
Cut Line: Auto	Number of lines to be ignored when receiving in the auto reduction mode.

Setting: Cut Line: A4

Set the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when the data is recorded in the auto reduction mode onto A4R or Letter R paper. If the number of excess lines is below the setting, those lines are ignored. If over the setting, the entire data on a page is further reduced so that it can be recorded on the same page.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting	Data variation
Number of lines to be ignored when receiving in the A4R auto reduction mode.	0 to 22	0	-

* :Increase the setting value if a page received in the reduction mode is reduced too much with the trailing edge margin. Decrease the value if there is dropout in received image.

2. Press the [Start] key to set the setting value.

Setting: Cut Line(100%)

Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when recording the data at 100% magnification. If the number of excess lines is below the setting, those lines are ignored. If it is over the setting, they are recorded on the next page.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting	Data variation
Set the number of lines to be ignored when receiving a fax at 100% magnification.	0 to 22	3	-

* :Increase the setting value if a blank second page is output in the full magnification reception. Decrease the value if there is dropout in received image.

2. Press the [Start] key to set the setting value.

Setting: Cut Line: Auto

Set the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when the data is recorded in the auto reduction mode.

If the number of excess lines is below the setting, those lines are ignored. If over the setting, the entire data on a page is further reduced so that it can be recorded on the same page.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting	Data variation
Number of lines to be ignored when receiving in the auto reduction mode.	0 to 22	0	-

* :Increase the setting value if a page received in the reduction mode is reduced too much with the trailing edge margin. Decrease the value if there is dropout in received image.

2. Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U611	System 2 (Message: System Setting 2)
-------------	---

Contents

Sets the number of adjustment lines for automatic reduction.

Purpose

Sets the number of adjustment lines for automatic reduction.

Method

1. Press the [Start] key.
2. Select the item to set.

Items	Contents
Adj lines	Sets the number of adjustment lines for automatic reduction.
Adj lines(A4)	Number of adjustment lines for automatic reduction when A4 paper is set.
Adj lines(LT)	Number of adjustment lines for automatic reduction when letter size paper is set.

Setting: Adj lines

Sets the number of adjustment lines for automatic reduction.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting	Data variation
Number of adjustment lines for automatic reduction.	0 to 22	7	-

2. Press the [Start] key to set the setting value.
* : "Completed" is displayed.

Setting: Adj lines(A4)

Sets the number of adjustment lines for automatic reduction.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting	Data variation
Number of adjustment lines for automatic reduction when A4 paper is set.	0 to 22	22	-

2. Press the [Start] key to set the setting value.
* : "Completed" is displayed.

Setting: Adj lines(LT)

Sets the number of adjustment lines for automatic reduction when letter size paper is set.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting	Data variation
Number of adjustment lines for automatic reduction when letter size paper is set.	0 to 22	26	-

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U612	System 3 (Message: System Setting 3)
-------------	---

Contents

Sets the FAX operation and automatic printing of the protocol list.

Method

1. Press the [Start] key.
 2. Select the item to set.
- * :The screen for setting is displayed.

Items	Contents
Auto reduct	Selects auto reduction in the sub-scanning direction
Protocol List	Sets the automatic protocol list printing.

Setting: Auto Reduct

Sets whether to receive a long document by automatically reducing it in the sub-scanning direction or at 100% magnification.

1. Select the item to set.

Items	Contents
On	Auto reduction is executed if the received document is longer than the FAX paper.
Off	Auto reduction is not performed.

* :Initial setting: On

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: Protocol List

Sets the automatic protocol list printing.

1. Select the item to set.

Items	Contents
Off	The protocol list is not printed out automatically.
Err	Automatically printed if a communication error occurs.
On	Automatically printed out after communication.

* :Initial setting: Off

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U620	FAX system (Message: FAX System)
-------------	---

Contents

Sets the signal detection method for remote switching.

Change the setting according to the type of telephone connected to the main unit.

Purpose

Sets the remote switching conditions according to the user's telephone type, preference, etc.

Setting

1.Press the [Start] key.

2.Select [Remote Mode] and press the [Start] key.

Items	Contents
Remote Mode	Setting the remote switching mode

3.Select the item to set.

Items	Contents
One	Sets the one-shot type detection
Cont	Sets the continuous type detection

* :Initial setting: One

4.Press the [Start] key to set the setting value.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U625	Communication settings (Message: Set Communication)
-------------	--

Contents

Sets the auto redialing interval and the number of times of auto redialing.

Purpose

FAX transmission may not be available if redialing interval is short. If long, it takes much time to complete transmission. Changes the setting to prevent the following problems.

Method

1. Press the [Start] key.
2. Select the item to set.

Items	Contents
Interval	Sets the auto redialing interval
Times	Sets the number of times of auto redialing

Setting: Interval

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting	Data variation
Sets the redialing interval	1 to 9 minutes	3 minutes	-

2. Press the [Start] key to set the setting value.
* : "Completed" is displayed.

Setting: Times

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting	Data variation
Sets the number of times of redialing	0 to 15 times	3 times	-

2. Press the [Start] key to set the setting value.
* : "Completed" is displayed.

Completion

Press the [Stop] key.

- * : The screen for selecting a maintenance item No. is displayed.

U630	Communication control procedures 1 (Message: Communication Control 1)
-------------	--

Contents

Sets the FAX communication.

Purpose

Sets the following to correspond to field claims

Reducing the transmission time to improve the accuracy of reception when using a low quality line

Improving the accuracy of communication during the international communication

Method

1.Press the [Start] key.

2.Select the item to set.

* :The screen for setting is displayed.

Items	Contents
TX Speed	Sets the communication starting speed.
RX Speed	Sets the reception speed.
TX Echo	Sets the waiting period to prevent echo problems at the sender.
RX Echo	Sets the reception speed.

Setting: TX Speed

Sets the transmission speed of the sender. When the destination unit has the V.34 capability, V.34 is selected for transmission regardless of this setting.

1.Select the communication speed.

Items	Contents
14400bps/V17	V.17 14400bps
9600bps/V29	V.29 9600bps
4800bps/V27ter	V.27ter 4800bps
2400bps/V27ter	V.27ter 2400bps

* :Initial setting: 14400bps/V17

2.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: RX Speed

Sets the reception capacity to advise the transmitter by the DIS/NSF signal. When the destination unit has the V.34 capability, V.34 is selected for transmission regardless of this setting.

1.Select the reception speed.

Items	Contents
14400bps	V.17, V.33, V.29, V.27ter
9600bps	V.29, V.27ter
4800bps	V.27ter
2400bps	V.27ter (fallback only)

* :Initial setting: 14400bps

2.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: TX Echo

Sets the time to send the DCS signal after the DIS signal is received. Execute when an error occurs with echo at the transmitter side.

1. Select the item to set.

Items	Contents
500	Sends the DCS 500 ms after receiving a DIS.
300	Sends the DCS 300 ms after receiving a DIS.

* : Initial setting: 300

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: RX Echo

Sets the time to send the NSF, CSI or DIS signal after the CED signal is received. Execute when an error occurs with echo at the receiver side.

1. Select the item to set.

Items	Contents
500	Sends the NSF, CSI or DIS 500ms after receiving the CED.
75	Sends the NSF, CSI or DIS 75ms after receiving the CED.

* : Initial setting: 75

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U631	Communication control procedures 2 (Message: Communication Control 2)
-------------	--

Contents

Sets the FAX communication.

Purpose

Sets the transmission and reception of ECM

Sets the CED frequency

Method

1.Press the [Start] key.

2.Select the item to set.

* :The screen for setting is displayed.

Items	Contents
ECM TX	Sets ECM transmission.
ECM RX	Sets ECM reception.
CED Freq	The frequency of CED is set up.

Setting: ECM TX

Set to OFF when the reduction of transmission costs is of higher priority than image quality.

* :Do not set it to Off when connecting to the IP telephone line.

1.Select the item to set.

Items	Contents
On	ECM transmission is enabled.
Off	ECM transmission is disabled.

* :Initial setting: On

2.Press the [Start] key. Set the setting value.

* :Completed is displayed.

Setting: ECM RX

Set to OFF when the reduction of transmission costs is of higher priority than image quality.

* :Do not set it to OFF when connecting to the IP (Internet Protocol) telephone line.

1.Select the item to set.

Items	Contents
On	ECM reception is enabled.
Off	ECM reception is disabled.

* :Initial setting: On

2.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: CED Freq

Sets the CED frequency. Execute it as one of the communication accuracy improvement measures for the international communication.

1.Select the item to set.

Items	Contents
2100	2100Hz
1100	1100Hz

* :Initial setting: 2100

2.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U632	Communication control procedures 3 (Message: Communication Control 3)
-------------	--

Contents

Sets the FAX communication.

Purpose

Reducing the error communication when using a low quality line

Corresponds to field claims when automatic FAX/telephone switching

Method

1.Press the [Start] key.

1.Select the item to set.

* :The screen for setting is displayed.

Items	Contents
DIS 4Byte	Sets the DIS signal to 4 bytes.
Num OF CNG(F/T)	Sets the number of the CNG detection in the automatic FAX/telephone switching mode.

Setting: DIS 4Byte

Sets whether to send bit 33 and later bits of the DIS/DTC signal.

1.Select the item to set.

Items	Contents
On	Bit 33 and later bits of the DIS/DTC signal are not sent.
Off	Bit 33 and later bits of the DIS/DTC signal are sent.

* :Initial setting: Off

2.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: Num OF CNG(F/T)

Sets the CNG detection times in the automatic FAX/telephone switching mode.

1.Select the item to set.

Items	Contents
1Time	Detects CNG once.
2Time	Detects CNG twice.

* :Initial setting: 1Time (100 V model)/2Time (Others)

2.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U633	Communication control procedures 4 (Message: Communication Control 4)
-------------	--

Contents

Sets the FAX communication.

Purpose

Reducing the error communication when using a low quality line

Method

1.Press the [Start] key.

2.Select the item to set.

* :The screen for setting is displayed.

Items	Contents
V.34	Enables or disables the V.34 communication.
V.34-3429Hz	Sets the V.34 symbol speed (3429 Hz).
DIS 2Res	Sets the number of times of DIS signal reception.
RTN Check	Sets the reference for the RTN signal output.

Setting: V.34

Sets whether to enable/disable the V.34 communication individually for transmission and reception.

1.Select the item to set.

Items	Contents
On	V.34 communication is enabled for both transmission and reception.
TX	V.34 communication is enabled for transmission only.
RX	V.34 communication is enabled for reception only.
Off	V.34 communication is disabled for both transmission and reception.

* :Initial setting: On

2.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: V.34-3429Hz

Sets if the V.34 symbol speed 3429 Hz is used.

1.Select the item to set.

Items	Contents
On	V.34 symbol speed 3429 Hz is used.
Off	V.34 symbol speed 3429 Hz is not used.

* :Initial setting: On

2.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: DIS 2Res

Sets the number of times to receive the DIS signal to once or twice. Execute it as one of the corrective measures for transmission errors and other problems.

1. Select the item to set.

Items	Contents
Once	Responds to the first signal.
Twice	Responds to the second signal.

* :Initial setting: Once

1. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: RTN Check

Sets the error line rate to be a reference to the RTN signal transmission. If transmission errors occur frequently due to the line quality, lower this setting to reduce them.

1. Select the item to set.

Items	Contents
5%	Error line rate of 5%
10%	Error line rate of 10%
15%	Error line rate of 15%
20%	Error line rate of 20%

* :Initial setting: 15%

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U634	Communication control procedures 5 (Message: Communication Control 5)
-------------	--

Contents

Sets the maximum number of error bytes judged acceptable when receiving a TCF signal. Execute it as one of measures to ease transmission conditions if transmission errors occur.

Purpose

* :Relax the communication conditions

Setting

- 1.Press the [Start] key.
- 2.Select [TCF Check].
- 3.Press the [] or [] keys or the numeric keys to change the setting value.

Items	Contents	Setting range	Initial setting
TCF Check	Sets the allowed error bytes when detecting the TCF signal	1 to 255	0

- 4.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U640	Communication time setting 1 (Message: Communication Time 1)
-------------	---

Contents

Sets the detection time when one-shot detection is selected for remote switching.

Sets the detection time when continuous detection is selected for remote switching.

Purpose

Sets the remote switching conditions according to the user's telephone type, preference, etc.

Method

1.Press the [Start] key.

2.Select the item to set.

3.Press the [] [] keys or the numeric keys to change the counter value.

Items	Contents	Setting range	Initial setting
Time(One)	Sets the one-shot detection time for remote switching.	0 to 255	7 1 (New Zealand)
Time (Cont)	Sets the continuous detection time for remote switching.	0 to 255	80

4.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U641	Communication time setting 2 (Message: Communication Time 2)
-------------	---

Contents

Sets the time-out time for the fax communication.

Purpose

Mainly, executed to improve the accuracy of communication for international communication

Method

1. Press the [Start] key.
1. Select the item to set.

Items	Contents
T0 TIME OUT	Sets the T0 time-out time.
T1 TIME OUT	Sets the T1 time-out time.
T2 TIME OUT	Sets the T2 time-out time.
Ta TIME OUT	Sets the Ta time-out time.
Tb1 TIME OUT	Sets the Tb1 time-out time.
Tb2 TIME OUT	Sets the Tb2 time-out time.
Tc TIME OUT	Sets the Tc time-out time.
Td TIME OUT	Sets the Td time-out time.

Setting: T0 Time Out

Sets the time before detecting a CED or DIS signal after a dialing signal is sent.

Sets to prevent disconnection of a line that occurs depending on the quality of the exchange, or when the destination unit sets the auto switching function.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting
Sets the T0 time-out time.	30 to 90 s	56 58 (100 V model)

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: T1 Time Out

Sets the time before receiving the correct signal after call reception.

*This setting is usually unnecessary.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting
Sets the T1 time-out time.	30 to 90 s	36 38 (100 V model)

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: T2 Time Out

The T2 time-out time is specified as follows.

From CFR signal output to image data reception

From image data reception to the next signal reception

In ECM, from RNR signal detection to the next signal reception

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting
Sets the T2 time-out time.	1 to 255	69

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: Ta Time Out

Sets the time to start ringing for an operator through the external telephone after receiving a call in the FAX/telephone automatic switching mode. (See figure 1-3-18). If either receiving a FAX signal within this time or passing this time, the mode automatically switches to the FAX reception mode. Execute when a reception error occurs when in the automatic FAX/telephone switching.

1. Press the [] or [] keys or the numeric keys to change the setting value.

Contents	Setting range	Initial setting
Sets the Ta time-out time.	1 to 255 s	30

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

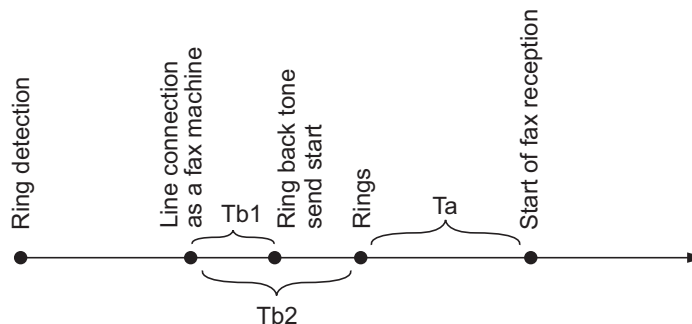


Figure 6-20 Ta/Tb1/Tb2 time-out time

Setting: Tb1 Time Out

Sets the time to start sending the ring back tone after receiving a call as a fax machine in the FAX/telephone automatic switching mode, (See figure 1-3-18). Execute when a reception error occurs when in the automatic FAX/telephone switching.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting
Sets the Tb1 time-out time.	1 to 255	20

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: Tb2 Time Out

Sets the time to start ringing for an operator through the external telephone after receiving a call in the FAX/telephone automatic switching mode. (See figure 1-3-27). Execute when a reception error occurs when in the automatic FAX/telephone switching.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting
Sets the Tb2 time-out time.	1 to 255	80

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: Tc Time Out

In the TAD mode, set the time to check if there are any triggers for shifting to FAX reception after a connected handset receives a call. Unless switched to FAX reception during this period, operated as a normal phone after this.

In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting
Sets the Tc time-out time.	1 to 255 s	60

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: Td Time Out

Sets the length of time to determine silent status, one of the triggers for Tc time check.

In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call. Be sure not to set too short, otherwise the mode may be switched to fax while the unit is being used as a telephone.

1. Press the [] [] keys or the numeric keys to change the counter value.

Contents	Setting range	Initial setting
Sets the Td time-out time.	1 to 255	6 30 (100 V model) 9 (120V model)

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U650	Modem 1 (Message: Modem 1)
-------------	---

Contents

Sets the G3 cable equalizer. Sets the modem detection level.

Purpose

Adjusts the equalizer to be compatible with the line characteristics

Set to Improve the accuracy of communication when using a low quality line

Method

- 1.Press the [Start] key.
- 2.Select the item to set.

Items	Contents
Reg G3 TX Eqr	Sets the G3 transmission cable equalizer.
Reg G3 RX Eqr	Sets the G3 reception cable equalizer.
RX Mdm Level	Sets the modem detection level.

Setting: Reg G3 TX Eqr

- 1.Select [0dB], [4dB], [8dB] or [12dB].
* :Initial setting: 0dB
- 2.Press the [Start] key to set the setting value.
* : "Completed" is displayed.

Setting: Reg G3 RX Eqr

- 1.Select [0dB], [4dB], [8dB] or [12dB].
* :Initial setting: 0dB
- 2.Press the [Start] key to set the setting value.
* : "Completed" is displayed.

Setting: RX Mdm Level

- 1.Select [-33dBm], [-38dBm], [-43dBm] or [-48dBm].
* :Initial setting: -43dBm
- 2.Press the [Start] key to set the setting value.
* : "Completed" is displayed.

Completion

Press the [Stop] key.

- * :The screen for selecting a maintenance item No. is displayed.

U651	Modem 2 (Message: Modem 2)
-------------	---

Contents

Sets the modem output level.

Purpose

Adjust to make the equalizer compatible with the line characteristics when installing the main unit

Setting

1. Press the [Start] key.
2. Select the item to set.
3. Press the [] [] keys or the numeric keys to change the counter value.

Items	Contents	Setting range	Initial setting
Sgl LVL Modem	Sets the modem output level	-15 to 0	11 10 (100 V model) 12 (Australia)
DTMF LEV (Cent)	DTMF output level (center value)	-15.0 to 0.0	-8 -9 (100 V model) -7 (Australia) -6 (120V model)
DTMF LEV (Diff)	Sets the DTMF output level (level difference)	0 to 5.5	2 1.5 (Australia) 1 (New Zealand)

4. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U660	Ring setting (Message: Set Calls)
-------------	--

Contents

Sets the NCU (network control unit).

Purpose

Execute as required

Method

1.Press the [Start] key.

2.Select the item to set.

* :The screen for setting is displayed.

Items	Contents
Exchange	Setting the PBX/PSTN connection
Dial Tone	Sets the PSTN dial tone detection.
Busy Tone	Sets the busy tone detection.
PBX Setting	Setting the PBX connection
DC Loop	Sets the loop current detection before dialing.

Setting: Exchange

Selects if the FAX is connected to either a PBX or public switched telephone network.

1.Select the item to set.

Items	Contents
PSTN	Connected to the public switched telephone network.
PBX	Connecting to the PBX

* :Initial setting: PSTN

2.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: Dial Tone

Selects whether or not to check for a dial tone to check if the telephone is off the hook when a fax is connected to a public switched telephone network.

1.Select the item to set.

Items	Contents
On	The dial tone is detected.
Off	The dial tone is not detected.

* :Initial setting: On

2.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: Busy Tone

Sets whether the line is disconnected immediately after a busy tone is detected, or the busy tone is not detected and the line remains connected until T0 time-out time, when a FAX signal is sent FAX transmission may fail due to incorrect busy tone detection. When setting it to OFF, this problem may be improved. However, the line is not disconnected within the T0 time-out time even if the destination line is busy.

1. Select the item to set.

Items	Contents
On	Detects the busy tone.
Off	Does not detect the busy tone.

* :Initial setting: On/Off (Australia)

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: PBX Setting

Selects the mode to connect an outside call when connected to a PBX.

* According to the type of the PBX connected, select the mode to connect an outside call.

1. Select the item to set.

Items	Contents
Flash	Flashing mode
Loop	Code number mode

* :Initial setting: Loop

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: DC Loop

Sets if the loop current is detected before dialing.

1. Select the item to set.

Items	Contents
On	Detects the loop current before dialing.
Off	Detects the loop current before dialing.

* :Initial setting: On

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U670	List output (Message: Output List)
-------------	---

Contents

Outputs the list of fax communication data.

* :Printing a list is disabled either when a job is remaining in the buffer or when [Pause All Print Jobs] is pressed to halt printing.

Purpose

Check conditions of use, settings and transmission procedures of the FAX.

Method

- 1.Press the [Start] key.
- 2.Select the item to execute.
- 3.Press the [Start] key.
- 4.Output selected list.

Items	Contents
Sys Conf Report	Prints the list of software switches, local telephone number, confidential boxes, firmware versions and other information.
Action List	Prints the list of the error logs and communication lines.
Self Sts Report	Prints the list of FAX communication settings only in the maintenance mode (self-status report).
Protocol List	Outputs a list of communication procedures.
Error List	Output the error list.
Addr List(No.)	Outputs address book in the IDs order
Addr List(Idx)	Outputs address book in the order of names.
One-touch List	Outputs a list of one-touch.
Group List	Outputs the group list.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U695	FAX function customization (Message: Customize FAX Function)
-------------	---

Contents

FAX package transmission is set up. Changes print size priority when receiving small size.

Purpose

Execute as required

Method

1. Select the item to set.

Items	Contents
FAX Bulk TX	FAX batch transmission is set up.
A5 Pt Pri Chg	Change of print size priority at the time of small size reception.

Setting: FAX Bulk TX

1. By using [] [] keys, select [On] or [Off].

Items	Contents
On	FAX batch transmission is enabled.
Off	FAX batch transmission is disabled.

* :Initial setting: On

2. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Setting: A5 Pt Pri Chg

1. By using [] [] keys, select [On] or [Off].

Items	Contents
On	At the time of A5 size reception: A5 > B5 > A4 > B4 > A3
Off	At the time of A5 size reception: A5 > A4 > B5 > A3 > B4

2. Initial setting: Off

3. Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* : The screen for selecting a maintenance item No. is displayed.

U699	Software switch: Set (Message: Set: Soft SW)
-------------	---

Contents

Sets the software switches on the FAX PWB individually.

Purpose

Change the setting when a problem such as split output of received originals occurs

* :Since the communication performance is largely affected, normally this setting need not be changed.

Method

- 1.Press the [Start] key.
- 2.Select [SW No.].
- 3.Enter the desired software switch number (3 digits) using the numeric keys and press the [Start] key.

Items	Contents
SW No.	Specifies the software switch number (2 to 3 digits)

- 4.Press the keys of bit 0 to 7 to switch each bit between 0 and 1.

Items	Contents
Bit	Set the software switch bit (8bit).

- 5.Press the [Start] key to set the setting value.

* : "Completed" is displayed.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

List of software switches which can be configured
Communication control procedures

No.	Bit	Contents
36	7654	Coding format in transmission
	3210	Coding format in reception
37	5	33600bps/V34
	4	31200bps/V34
	3	28800bps/V34
	2	26400bps/V34
	1	24000bps/V34
	0	21600bps/V34
38	7	19200bps/V34
	6	16800bps/V34
	5	14400bps/V34
	4	12000bps/V34
	3	9600bps/V34
	2	7200bps/V34
	1	4800bps/V34
	0	2400bps/V34

No.	Bit	Contents
41	3	FSK detection in V.8
42	4	4800 bps transmission when low-speed setting is active
	2	FIF length when transmitting DIS/DTC signal 4 times or more

Communication time setting

No.	Bit	Contents
53	76543210	T3 timeout setting
54	76543210	T4 timeout setting (auto transmission)
55	76543210	T5 timeout setting
60	76543210	Time before transmission of CNG (1100 Hz) signal
63	76543210	T0 timeout setting (manual transmission)
64	7	Phase C timeout in ECM reception
66	76543210	Timeout 1 in countermeasures against echo
68	76543210	Timeout for FSK detection start in V.8

Modem setting

No.	Bit	Contents
89	76543	RX gain adjust

NCU setting

No.	Bit	Contents
121	7654	Dial tone/busy tone detection pattern
122	7654	Busy tone detection pattern
	1	Busy tone detection in FAX/TEL automatic switching
125	76543210	Registering the access code for connection to PSTN
126	7654	Ringback tone ON/OFF cycle for the automatic FAX/telephone switching
68	76543210	Timeout for FSK detection start in V.8

Calling time setting

No.	Bit	Contents
133	76543210	DTMF signal transmission time
134	76543210	DTMF signal pause time
141	76543210	Ringer detection cycle (minimum)
142	76543210	Ringer detection cycle (maximum)
143	76543210	Ringer ON time detection
144	76543210	Ringer OFF time detection
145	76543210	Ringer OFF time undetected
147	76543210	Dial tone detection time (continuous tone)
148	76543210	Allowable dial tone interruption time

No.	Bit	Contents
149	76543210	Time for transmitting selection signal after closing the DC circuit
151	76543210	Ringer frequency detection invalid time

U910	Black rate data (Message: Clr Coverage Dat)
-------------	--

Contents

Clears the accumulated data for the print coverage per A4 size paper and its period of time (as shown on the service status page).

Purpose

Clears data as required at the time such as maintenance

Method

- 1.Press the [Start] key.
- 2.Select [Execute].

Items	Contents
(No Action) *1	Malfunction preventing item
Execute	Clears the print coverage data.

*1: LCD model only

- 3.Press the [Start] key to clear the print coverage data.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U917	Read/Write Backup Data (Message: R/W Bkup Data)
-------------	--

Contents

Retrieves the backup data to a USB memory from the main unit, or writes the data from the USB memory to the main unit.

Purpose

Makes a back up of the main unit information, and import or export to restore the main unit information

Setting

1. Turn the power switch off.
2. Insert a USB memory into the USB memory slot.
3. Turn the power switch on.
- * : Wait for about 10 seconds until the main unit recognizes a USB memory.
4. Press the [Start] key.
5. Select the item to set.

Items	Contents
Import	Imports data from the USB memory to the main unit.
Export	Retrieving data from the main unit to the USB memory.

Method: Import/Export

1. Select the item to execute.

Items	Contents	Depending data*
Address	Address book information	-
Job Acct	Job accounting information	-
One Touch	One-touch key information	Address book information
User	User management information	Job accounting information
Document	Document box information	Job accounting, User information
Shortcut *2	Short-cut information	Job accounting, User, Document Box information
Fax Fwd *1	FAX forward information	Job accounting, User, Document Box information
System	System setting information	-
Network	Network setting information	-
Job Set	Job setting information	-
Printer	Printer setting information	-
Fax Set *1	FAX setting information	-
Program	Program information	Information of Address book, Job accounting, User management, Document box, FAX transfer and FAX setting

Items	Contents	Depending data*
Panel Set	Panel setting information	Information of Address book, Job accounting, User management, Document box, FAX transfer, FAX setting and Program

*1: Only when FAX is attached, *2: TSI model only

* :Since data are dependent with each other, data other than selected are also retrieved or written.

2.Press the [Start] key. Starts reading or writing.

* :The progress of selected item is displayed in %.

* :When an error occurs, the operation is canceled and an error code appears.

3.[Finish] appears after normal completion.

4.When selecting [Import], turn the power switch off then on, after completing writing. Wait more than 5 seconds between the power off and on.

Error codes

Codes	Contents
e000	Unspecified error
e0001	Parameter error
e0002	Generating a dummy file has failed.
e0003	The XML file to import does not exist
e0004	The exported file does not exist
e0100 to e01ff	Error in handling addressbook
e0200 to e02ff	Error in handling One-touch
e0300 to e03ff	Error in handling user management
e0400 to e04ff	Error in handling panel program data
e0500 to e05ff	Error in handling forwarding FAX data
e0600 to e06ff	Error in handling the system configuration
e0700 to e07ff	Error in handling network parameters
e0800 to e08ff	Error in handling job accounting
e0900 to e09ff	Error in handling short-cuts
e0a00 to e0aff	Error in handling job information
e0b00 to e0bff	Error in handling FAX data
e0c00: to e0cff	Error in handling printer data
e0d00 to e0dff	Error in handling panel data
e0e00 to e0eff	Error in handling document boxes
e1000 to e1fff	Error in the device-related process
e2000 to e2fff	Error in handling SOAP IF
e3000 to e3fff	Error in handling KM-WSDL IF
e4000 to e4fff	Error in process for import (e4002) A file mandatory for importing is missing (e4008) Invalid file header
e5000 to e5fff	Error in the SOAP data rewriting process

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U920	Billing counter (Message: Chg Cnt)
-------------	---

Contents

Displays the billing count.

Purpose

Execute to check the current billing counts

Method

1.Press the [Start] key.

2.Select the item to display.

* :Switched to each display screen.

Items	Contents
Col Copy H	Color copy counts (Coverage: High)
Col Copy M	Color copy counts (Coverage: Middle)
Col Copy L	Color copy counts (Coverage: Low)
B/W Copy	B/W copy count is displayed.
Col Prn H	Color print counts (Coverage: High)
Col Prn M	Color print counts (Coverage: Middle)
Col Prn L	Color print counts (Coverage: Low)
B/W Prn	B/W print count is displayed
B/W FAX	FAX count
Simplex	Simplex print count is displayed
Duplex	Duplex print count is displayed
Comb(Off)	Combine print counts (Off) is displayed
Comb(2in1)	Combine print counts (2in1) is displayed
Comb(4in1)	Combine print counts (4in1) is displayed

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U927	Clearing all the billing/life counters (Message: Clear All Charge/Life Counter (one time only))
-------------	--

Contents

Clears all charge counts and machine life counts.

Supplement

The total charge counts and the machine life counts can be cleared only once if all count values are 1000 or less.

Method

- 1.Press the [Start] key.
- 2.Select [Execute].

Items	Contents
(No Action) *1	Malfunction preventing item
Execute	Initializes the billing count and machine life count.

*1: LCD model only

- 3.Press the [Start] key.

* :Clears all charge counts and machine life counts.

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U928	Machine life counter (Message: Machine Life Counter)
-------------	---

Contents

The current machine life counts is displayed.

Purpose

Executed to check the machine life count

Method

- 1.Press the [Start] key.
- * :The current machine life counts is displayed.

Items	Contents
Cnt	Displays the machine life count

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U964	Log check
-------------	------------------

Contents

Transfer the log files save in the HDD to a USB memory.

*: Transfer screenshots at log and log acquisition.

Purpose

Transfer the log file saved in the HDD to a USB memory for investigation when a failure occurs.

Method

- 1.Check the LED display is off and turn the power switch off.
- 2.Insert a USB memory into the USB memory slot.
- 3.Turn the power switch on.
- 4.Enter maintenance item U952.
- 5.Select [Execute].

Items	Contents
(No Action) *1	Malfunction preventing item
Execute	Transfer the log file.

*1: LCD model only

- 6.Press the [Start] key.

* :Starts transferring the log files saved in the HDD to a USB memory.

[Processing] is displayed. (About 3 to 5 minutes)

- 7.[Completed] appears after normal completion.

- 8.Turn the power switch off then on. Wait more than 5 seconds between the power off and on.

* :An error code appears when there is an error.

Supplement

How to retrieve the log when the operation panel freezes

Log retrieving starts when pressing four keys on the operation panel (*, 8, 6, Clear) for 3 to 6 seconds.

The memory lamp is blinking during retrieving and turns off when completed.

The log retrieved this way can be saved in a USB memory.

Error codes

Display	Contents
No USB Storage	The USB memory is not installed
No File	No file
Mount Error	USB memory mount error
File Delete Error	Failed to delete existing files in the USB memory
Copy Error	HDD to USB memory copy failure
Unmount Error	USB memory unmount error
Other Error	Other error

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

U977	Setting the data capture mode (Message: Set Data Capture)
-------------	--

Contents

Stores the data sent to the main unit into a USB memory.

Purpose

Store the data sent to the main unit into a USB memory to check it.

Method

1. Press the [Start] key.
2. Select [Execute].

Items	Contents
(No Action) *1	Malfunction preventing item
Execute	Stores data in a USB memory.

*1: LCD model only

3. Press the [Start] key.

* :When the operation is completed abnormally, an error code is displayed.

Error codes

Items	Contents
1	USB memory is broken. USB memory was disconnected during data processing or is write-protected.
4	USB memory is full.
50	Other error occurs

Completion

Press the [Stop] key.

* :The screen for selecting a maintenance item No. is displayed.

6-2 Service modes

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

(1) TSI model

(1-1) Executing the service mode

[Message Display]

Ready to copy

1. Press the System Menu Key.

System Menu:

Easy Set Up
Language
Report
Counter

Cassette/MP Tray Settings
Common Setting
Home
Copy

Send
Document Box
FAX
Application

Address Book/One Touch
User Login/Job Accounting
Printer
System/Network

Date/Timer/Energy Saver
Adjustment/Maintenance

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

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

Adjustment/Maintenance:

Density Adjustment
Contrast Adjustment
Background Density Adj.

Print Density
Auto Color Correction
Correcting Black Line
Display Brightness

Drum Refresh
Service Setting

4. Select the item to be set using the [▲] [▼] keys.

Service Setting:

Test Page
New Developer
FAX Country Code
Altitude Adj.

MC
Memory diagnosis

Service settings

Items	Contents	page
Test Page	Outputs the test page formed in halftone	6-109
Developer	Enforce to supply toner when replacing the developer unit.	6-110
FAX Country Code	Initializes all data and image memory.	6-111
Altitude Adjustment	Sets the altitude adjustment mode.	6-112
MC	Sets the main charger output.	6-112
Memory diagnosis	Memory Diagnosis at power-up is executed to check whether read/write are executable.	6-112

(1-2) Descriptions of service modes

Test Page

Contents

Outputs the test page in 16-level halftone.

Purpose

Outputs the test page to judge the cause is at the engine or scanner when an image failure occurs.

Method

1. Enter the Service Setting menu.
2. Select [Test Page].
3. Press [OK].

* :Outputs the test page.

Gray scale
(16 levels)

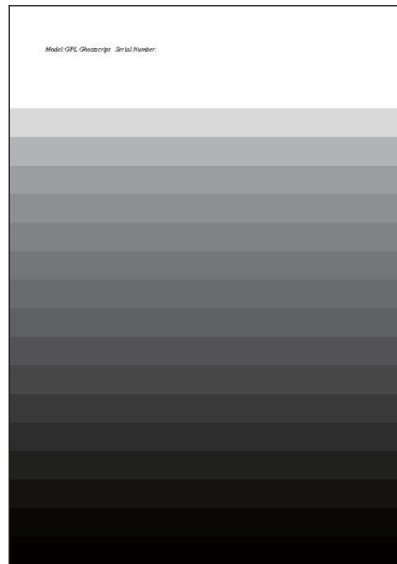


Figure 6-21

Completion

Press the [System Menu/Counter] key.

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. Select [Developer].
3. Press the [Start] key.
4. [Received] is displayed.
5. After turning the power switch off and on, the toner installation mode is executed.

Completion

Press the [Menu] key.

FAX Country Code

Contents

Initializes software switches, and all data and image memory in the backup data on the FAX PWB according to the destination and OEM setting.

Purpose

To initialize the FAX PWB.

Method

1. Enter the Service Setting menu.
 2. Select [FAX Country Code].
 3. Enter the destination code by using the numeric keys.
 4. Press the [OK] key to set the setting value.
- * :Data initialization starts.

Destination code list

Destina- tion code	Destination	Destina- tion code	Destination
000	Japan	253	CTR21 (European nations)
007	Argentina	↑	?Italy
009	Australia	↑	?Germany
022	Brazil	↑	?Spain
038	China	↑	?U.K.
080	Hong Kong	↑	?Netherlands
084	Indonesia	↑	?Sweden
088	Israel	↑	?France
097	Korea	↑	?Austria
181	U.S.A.	↑	?Switzerland
250	Russia	↑	?Belgium
108	Malaysia	↑	?Denmark
115	Mexico	↑	?Finland
126	New Zealand	↑	?Portugal
136	Peru	↑	?Ireland
137	Philippines	↑	?Norway
152	Middle East	254	Taiwan
156	Singapore		
159	South Africa		
169	Thailand		

Completion

Press the [System Menu/Counter] key.

Altitude Adj.

Description

Sets the altitude adjustment mode.

Purpose

Execute when print quality deteriorates in the installation at the altitude of 1,001 meters or higher

Method

1. Enter the Service Setting menu.
2. Select [Altitude adjustment].
3. Select [Normal], [1001 - 2000m], [2001 - 3000m] or [3001 - 3500m] and confirm the setting value.

Completion

Press the [System Menu/Counter] key.

MC

Contents

Sets the main charger output.

Purpose

Execute it when the image density deterioration, background image or offset image has occurred.

Method

1. Enter the Service Setting menu.
2. Select [MC].
3. Using the [] or [] key, select the setting "1" to "7" and set the setting value.

Completion

Press the [System Menu/Counter] key.

Memory diagnostics

Contents

Diagnose memory at power-up (whether reading and writing are executable).

Purpose

Check if the memory device is defective that may cause an unresolvable F-code error, locking or abnormal images. Checks the memory failure.

Method

1. Enter the Service Setting menu.
2. Select [Memory diagnosis].
3. Press [Start].
4. Turn the power switch off then on. Wait more than 5 seconds between the power off and on.

Completion

Press the [System Menu/Counter] key.

(2) LCD model

(2-1) Executing the service mode

[Message Display]

Ready to copy

1. Press the System Menu Key.

Report
Counter
System/Network

User Login/Job Accounting
Common Setting
Copy

Counter
Send
FAX

Document Box
Application
Edit Distination

Adjustment/Maint.

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

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

Adjustment/Maint.:
Copy Denst. Adj.
Send/Box Density

Contrast
Color Calibration
Color Regist.

Correct. Bk Line
Service Setting

4. Select the item to be set
using the [▲] [▼] keys.

Service Status
Network Status
Test Page

New Developer
Drum Refresh
Alutitude Adj.

MC
FAX Country Code
Remote Diag.Set.

Remote Diag. ID
Memory Diagnostics

Service settings

Items	Contents	page
Service Status	Outputs the service status page.	6-115
Network Status	Outputs the network status page.	6-115
Test Page	Outputs the test page formed in halftone	6-116
New Developer	Enforce to supply toner when replacing the developer unit.	6-117
Drum Refresh	Cleans the drum surface.	6-117
Altitude Adj.	Sets the altitude adjustment mode.	6-118
MC	Sets the main charger output.	6-118
FAX Country Code	Initializes all data and image memory.	6-119
Remote Diag.Set.	Sets the remote diagnostics	6-120
Remote Diag. ID	Sets the remote diagnosis ID	6-120
Mem.Diagnostics	Memory Diagnosis at power-up is executed to check whether read/write are executable.	6-120

(2-2) Descriptions of service modes

Service Status

Contents

Output the service status page.

Purpose

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

Method

1. Enter the Service Setting menu.
2. Using the [] [] key, select [Service Status].
3. Press the [OK] key.
4. Select [Yes] by the [Left select] key.

Output the service status page.

* :Refer to maintenance mode U000 for detailed contents. (See page 6-23)

Completion

Select [Exit] by the [Right select] key.

Network Status

Contents

Outputs the network status page.

Purpose

Acquires the network setting information.

Method

1. Enter the Service Setting menu.
2. Using the [] [] key, select [Network Status].
3. Press the [OK] key.
4. Select [Yes] by the [Left select] key.

Outputs the network status page.

Completion

Select [Exit] by the [Right select] key.

Test Page**Contents**

Outputs the test page in 16-level halftone.

Purpose

Outputs the test page to judge the cause is at the engine or scanner when an image failure occurs.

Method

1. Enter the Service Setting menu.
2. Using the [] [] key, select [Test Page].
3. Press the [OK] key.
4. Select [Yes] by the [Left select] key. Outputs the test page.

Gray scale
(16 levels)

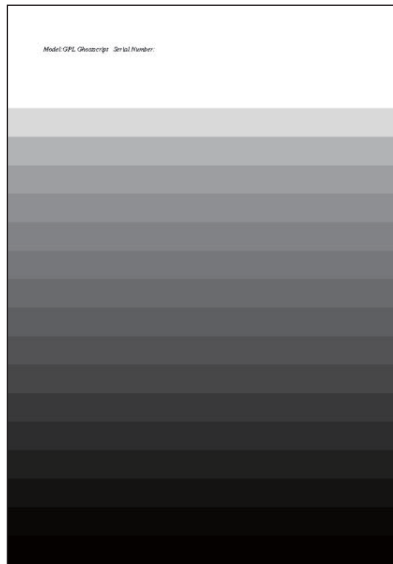


Figure 6-22

Completion

Select [Exit] by the [Right select] key.

New 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. Select [Developer].
3. Press the [Start] key.
4. [Received] is displayed.
5. After turning the power switch off and on, the toner installation mode is executed.

Completion

Press the [Menu] key.

Drum Refresh

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 [] [] key, select [Drum Refresh].
3. Press the [OK] key.
4. Select [Yes] by the [Left select] key. Execute Drum refreshing.

Completion

Select [Exit] by the [Right select] key.

Altitude Adj.

Description

Sets the altitude adjustment mode.

Purpose

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

Method

1. Enter the Service Setting menu.
2. Using the [] 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

Select [Exit] by the [Right select] key.

MC

Contents

Sets the main charger output.

Purpose

Execute it when the image density deterioration, background image or offset image 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

Select [Exit] by the [Right select] key.

FAX Country Code

Contents

Initializes software switches, and all data and image memory in the backup data on the FAX PWB according to the destination and OEM setting.

Purpose

To initialize the FAX PWB.

Method

1. Enter the Service Setting menu.
2. Using the [] [] key, select [FAX Country Code].
3. Press the [OK] key.
4. Enter the destination code by using the numeric keys.
5. Press the [OK] key to set the setting value.
6. Press the [OK] key. Data initialization starts.

Destination code list

Destina- tion code	Destination	Destina- tion code	Destination
000	Japan	253	CTR21 (European nations)
007	Argentina	↑	?Italy
009	Australia	↑	?Germany
022	Brazil	↑	?Spain
038	China	↑	?U.K.
080	Hong Kong	↑	?Netherlands
084	Indonesia	↑	?Sweden
088	Israel	↑	?France
097	Korea	↑	?Austria
181	U.S.A.	↑	?Switzerland
250	Russia	↑	?Belgium
108	Malaysia	↑	?Denmark
115	Mexico	↑	?Finland
126	New Zealand	↑	?Portugal
136	Peru	↑	?Ireland
137	Philippines	↑	?Norway
152	Middle East	254	Taiwan
156	Singapore		
159	South Africa		
169	Thailand		

Completion

Select [Exit] by the [Right select] key.

Remote Diag.Set.

Contents

Sets the remote diagnostics

Purpose

Executed to remotely diagnose the main unit from the service center when a problem arises.

Method

1. Enter the Service Setting menu.
2. Using the [] [] key, select [Remote Diag.Set.].
3. Press the [OK] key.
4. Select [On].
5. Press the [OK] key to set the setting value.

Completion

Select [Exit] by the [Right select] key.

Remote Diag. ID

Contents

Sets the remote diagnostics ID

Purpose

An ID is registered to diagnose the main unit by using the communication from the service center when a problem arises.

Method

1. Enter the Service Setting menu.
2. Using the [] [] key, select [Remote Diag. ID].
3. Press the numeric keys to input the pre-designated remote diagnostic ID (0000-9999).
4. Press the [OK] key to set the setting value.

Completion

Select [Exit] by the [Right select] key.

Mem.Diagnostics

Contents

Diagnose memory at power-up (whether reading and writing are executable).

Purpose

The defective memory device may be regarded as one of an unresolvable factor when F-code error, lock-up or abnormal images occurs. Checks the memory failure.

Method

1. Enter the Service Setting menu.
2. Using the [] [] key, select [Mem. Diagnostic].
3. Press the [OK] key.
4. Select [Start] by the [Left] key.
5. Turn the power switch off then on. Wait more than 5 seconds between the power off and on.

Completion

Select [Exit] by the [Right select] key.

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.	When there is no margin from the paper leading edge to 4.0mm(+1.5/-0.0mm), and, when there is no check line (fuser jam) on 20mm(+/-1mm) from the paper leading edge of the test pattern that is output in U034, adjust the leading margin at U402.	Executing U034
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.	

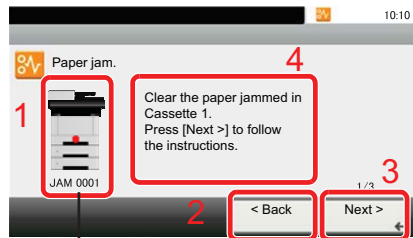
(2) Paper jam indication

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.

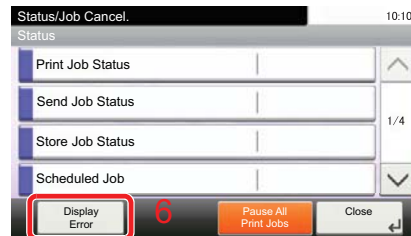
*: The location and clearing method are displayed on the operation panel when a paper jam has occurred.

Jam location indication

(TSI model)

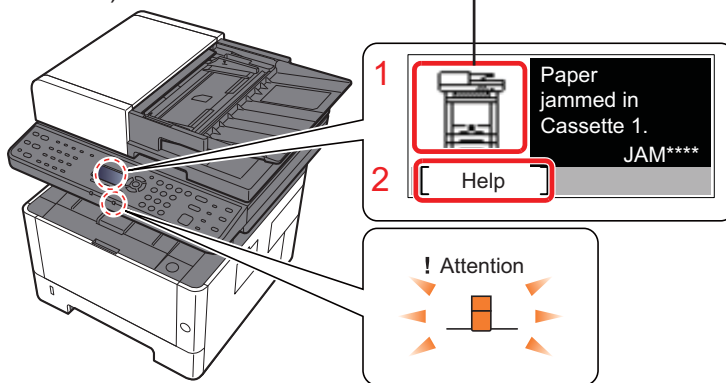


- 1 Shows the location of a paper jam.
- 2 Shows the previous step.
- 3 Shows the next step.
- 4 Shows the removal procedure.



- 5 Selecting [Status/Job Cancel] key displays [Hold]. Selecting [Hold] displays status screen, and the status of jobs can be checked.
- 6 Select [Display Error] to return to the paper jam guidance.

(LCD model)



- 1 Shows the location of a paper jam.
- 2 Displays the Help screen.

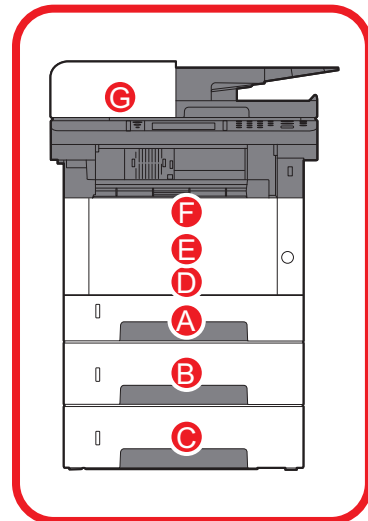
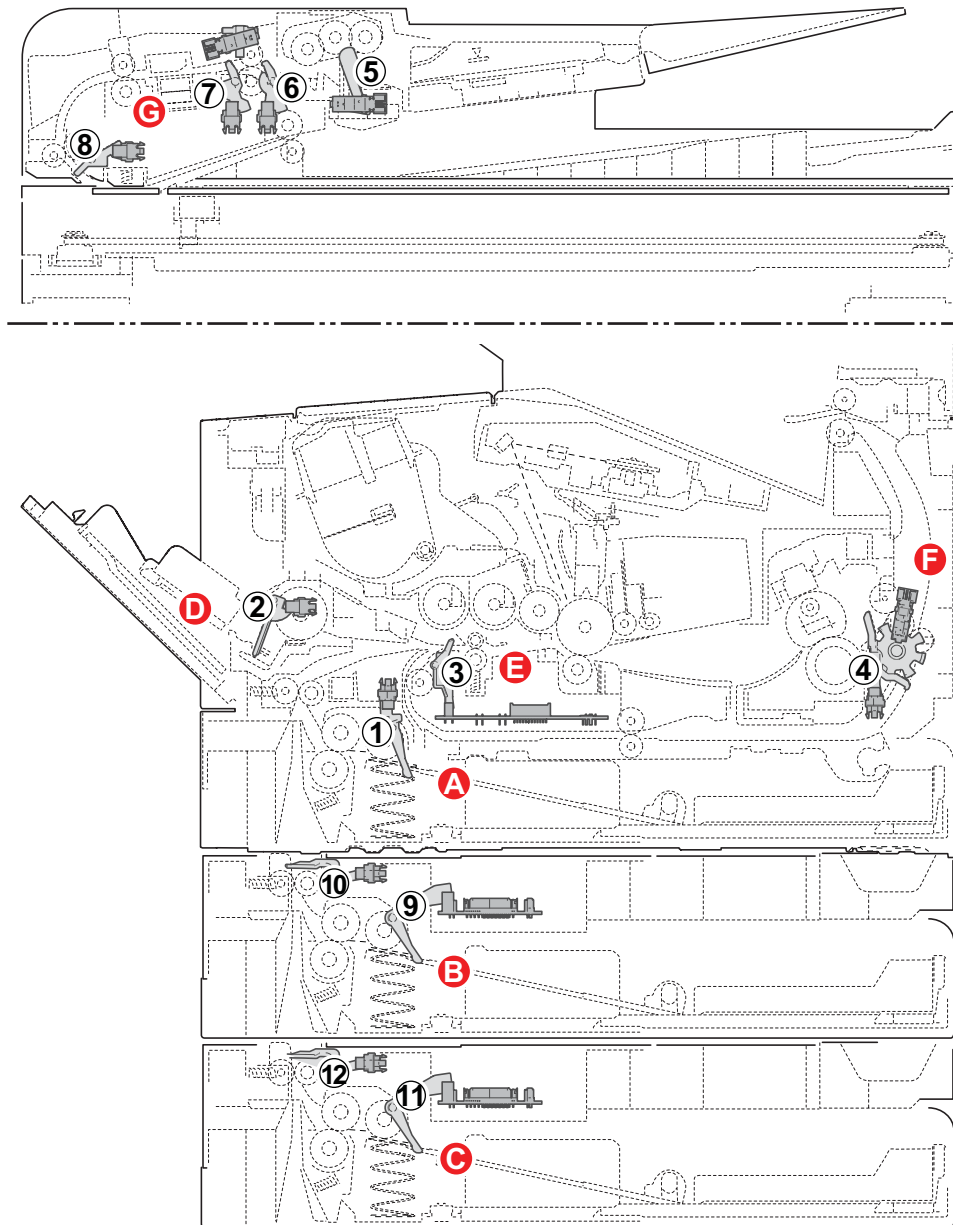


Figure 7-1

- A. Paper jam in the cassette 1
- B. Paper jam in the cassette 2
- C. Paper jam in the cassette 3
- D. MP tray paper jam

- E. Paper jam inside machine
- F. Paper jam inside the rear cover
- G. Paper jam in document processor

(3) Paper jam detection condition**Main unit + document processor + paper feeder (option)****Figure 7-2****[Paper jam location]**

- A. Paper jam in the cassette 1
- B. Paper jam in the cassette 2
- C. Paper jam in the cassette 3
- D. MP tray paper jam
- E. Paper jam inside machine
- F. Paper jam inside the rear cover
- G. Paper jam in document processor

- 1. Paper sensor
- 2. MP paper sensor
- 3. Registration sensor
- 4. Eject sensor
- 5. DP original sensor
- 6. DP feed sensor
- 7. DP backside timing sensor *1
- 8. DP front side timing sensor
- 9. PF paper sensor 1
- 10. PF feed sensor 1
- 11. PF paper sensor 2
- 12. PF feed sensor 2

***1: 40 ppm models only**

For more information, see the user manual.

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.	A
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.	C
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.	D
0511	Multiple sheets jam	Registration sensor does not turn off during paper feed from cassette 1.	E
0512		The PF paper feed sensor 1 does not turn off during paper feed from cassette 2.	E
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.	E
0519		Registration sensor does not turn off during paper feed from MP tray.	E
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	Registration 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	Registration 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.	E
4202		Eject sensor does not turn on during paper feed from cassette 2.	E
4203		Eject sensor does not turn on during paper feed from cassette 3.	E
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.	E
4211	Fuser sensor stay jam	Eject sensor does not turn off during paper feed from cassette 1.	F
4212		Eject sensor does not turn off during paper feed from cassette 2.	F
4213		Eject sensor does not turn off during paper feed from cassette 3.	F
4218		Eject sensor does not turn off during paper feed from duplex section.	F
4219		Eject sensor does not turn off during paper feed from MP tray.	F
9000	DP original non-feed jam	DP feed sensor does not turned on when feeding originals from the DP. (5 retrials)	G
9002	Initial jam	The sensor in the paper conveying path turns on when starting the paper conveying.	-
9010	Document processor open	Document processor is opened during original conveying.	-
9061	The conveying motor continues driving	The DP conveying motor does not stop when passing the time of the jam timer after driving the DP conveying motor.	-
9110	DP feed sensor stay jam	The DP feed sensor does not turn off when passing the specified time after the DP original front side timing sensor turned on.	G

Codes	Content	Detection condition	JAM Location*
9300	DPCIS sensor non arrival jam	The DP backside timing sensor does not turn on when passing the specified time after the DP feed sensor turned on.	G
9310	DPCIS sensor stay jam	The DP backside timing sensor does not turn off when passing the specified time after DP feed sensor turned off.	G
9400	DP timing sensor non arrival jam	DP original front side timing sensor does not turned on when passing the specified time after DP feed sensor turned on.	G
9410	DP timing sensor stay jam	DP original front side timing sensor does not turn off when passing the specified time after DP feed sensor turned off.	G

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

(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 ± 2.5 mm from the leading edge of paper.	If there is no margin of 4.0 ± 2.5 mm from the leading edge, adjust the leading margin by U402. (see page 6-47)
	2. Check the operation panel if the paper size is correctly set. (Multi feed jam)(MFP: Output Event Log in U000, check if the paper size in the case of jam and the loading paper size are consistent or inconsistent with the size of the original and the paper.) (See page 6-5)	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.

Check items	Check description	Corrective action
Rear cover	Check if the rear cover of the main unit is slightly pulled or closed	Open the rear cover and close it firmly.
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 transfer 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
0030	FAX PWB system error The FAX process cannot be continued due to the malfunction of the FAX PWB.	FAX PWB	Replace the FAX PWB. (see page 4-116)
0070	FAX PWB incompatible detection error In the initial communication with the FAX PWB,	FAX PWB	Replace the FAX PWB. (see page 4-116)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
0100	Backup memory device error Outputs an abnormal status from the flash memory.	Flash memory	Replace the main/engine PWB. (see page 4-94)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
0120	MAC address data error In case MAC address is invalid data	Flash memory	Replace the main/engine PWB. (see page 4-94)
0130	Backup memory Read/write error Read/write to the NAND memory cannot be executed.	Flash memory	Replace the main/engine PWB. (see page 4-94)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
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 4-94)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
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 4-94)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
		EEPROM(YS1)	Contact the service support.

Indication	Contents	Related parts	Check procedures/corrective measures
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 4-94)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
		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 4-94)
		EEPROM(YS1)	Contact the service support.
0180	Machine number mismatch When the power is turned on, the machine number does not match between the main and engine side.	Main/Engine PWB	Execute U004 machine number setting (see page 6-18)
		EEPROM(YS1)	Contact the service support.
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 4-94)
		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 4-94)
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 4-94)
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 4-94)
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 4-94)
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 4-94)

Indication	Contents	Related parts	Check procedures/corrective measures
0830	FAX PWB flash program area checksum error The program stored in the flash memory on the FAX PWB is broken and cannot be executed.	FAX PWB	Replace the FAX PWB. (see page 4-116)
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 4-94)
0870	FAX PWB large data transmission error DMA transmission failed between the main/engine PWB and FAX PWB	FAX PWB	Reattach the FAX PWB. (see page 4-116)
		FAX PWB or main/engine PWB	Replace the FAX PWB or main/engine PWB. (see page 4-116,4-94)
0920	Fax file system error The backup data is not retained for file system abnormality of the flash memory of the FAX PWB.	FAX PWB	Replace the FAX PWB. (see page 4-116)
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 4-110)
		Main/Engine PWB	Replace the main/engine PWB and check the operation. (see page 4-94)
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 4-148)
		Main/ Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the main/engine PWB. (see page 4-94)

Indication	Contents	Related parts	Check procedures/corrective measures
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 4-148)
		Main/ Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the main/engine PWB. (see page 4-94)
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 replace the wire if there is no continuity. (see page 4-49)
		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 4-49)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
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 replace the wire if there is no continuity. (see page 4-49)
		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 4-49)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)

Indication	Contents	Related parts	Check procedures/corrective measures
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 connector is not inserted enough, reinsert it. Or check the wire's continuity and replace the wire if there is no continuity. (see page 4-149)
		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 4-149)
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 replace the wire if there is no continuity. (see page 4-149)
		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 4-149)

Indication	Contents	Related parts	Check procedures/corrective measures
3100	Carriage error 1) While the HP sensor is interrupted at the initial drive, it is not released when driven by 66.1mm toward the scanning direction 2) During the initial drive while the HP sensor is released, the HP sensor is not interrupted when driving it by 379.5mm toward the return direction	Scanner motor	1. Move the scanner manually to check if there is too much load. 2. Check that the scanner drive belt is not disengaged. 3. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. Scanner motor - Main/engine PWB (YC31) 4. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 5. Replace the scanner motor.
		Home position sensor	1. Check that the sensor is correctly positioned. 2. Confirm that the wiring connector is firmly connected, Insert the connector all the way in. Home position sensor - Main/engine PWB (YC17) 3. Replace the home position sensor.
		CIS	Replace the scanner carriage and execute U411. (see page 1-4-50, 1-6-53)
		Main/ Engine PWB	Replace the main/engine PWB. (see page 4-94)
3200	CIS lamp error The white reference data obtained when the lamp is turned on at the time of initialization is lower than the rated value.	CIS	Replace the scanner carriage and execute U411. (see page 4-48,6-53)
		Main/ Engine PWB	Replace the main/engine PWB. (see page 4-94)
3210	DP CIS lamp error The white reference data obtained when the lamp is turned on at the time of initialization is lower than the rated value. (40 ppm model only)	DP CIS	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. DPCIS - Main/Engine PWB(YC509) 2. Replace DPCIS and execute U411. (see page 6-53)

Indication	Contents	Related parts	Check procedures/corrective measures
3300	CIS AGC error An error was detected when processing the front side AGC	CIS	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. CIS - Main/Engine PWB (YC506) 2. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 3. Replace the scanner carriage and execute U411 (see page 4-48,6-53)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
3310	DP CIS AGC error An error was detected when processing the back side AGC (40 ppm model only)	DP CIS	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. DPCIS - Main/Engine PWB(YC509) 2. Replace DPCIS and execute U411. (see page 6-53)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
3500	Scanner - ASIC communication error A communication error is detected during communication. (Read-back values are different.)	CIS	1. Confirm that the wiring connector is firmly connected, and if necessary, connect the connector all the way in. CIS - Main/Engine PWB (YC506) 2. If the wiring is disconnected, short-circuited or has a ground fault, replace the wire. 3. Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)

Indication	Contents	Related parts	Check procedures/corrective measures
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 4-28)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the main/engine PWB. (see page 4-94)
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 4-28)
		Main/Engine PWB	1. Check the engine firmware and upgrade to the latest version if necessary. 2. Replace the main/engine PWB. (see page 4-94)
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 4-28)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)

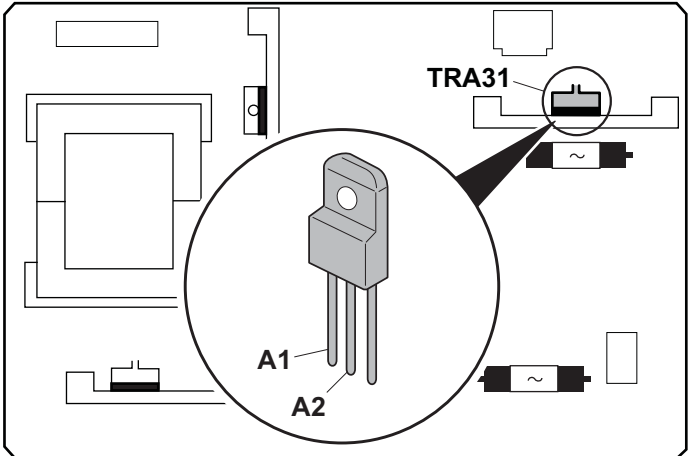
Indication	Contents	Related parts	Check procedures/corrective measures
6000	Broken fuser heater wire (main) During warm-up, the temperature detected by the thermopile does not reach 100?/212 °F when turning the heater on for consecutive 10s During warm up, the temperature detected by the thermopile does not reach the ready temperature when passing 30s after reaching 60 ?/ 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 4-110)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
6020	Fuser thermopile high temperature error (main) During drive, the thermopile detected 200?/392 °F for 5s The temperature detected by the thermopile rose 18?/65 °F or more when passing 1s or more after the drive is stopped Detected temperature at that time is 200?/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 4-110)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)

Indication	Contents	Related parts	Check procedures/corrective measures
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 4-94)
6050	Fuser thermopile low temperature error (main) During printing, the temperature detected by the thermopile is less than 100°F/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 4-110)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)

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 ?/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?/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 4-110)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)

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 4-110)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
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 4-94)

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 4-110)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)

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 4-110)
		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 4-110)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
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 4-94)

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 4-94)
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 4-94)
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 4-94)

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±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 4-94)
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 4-94)
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 replace the wire if there is no continuity.
		Operation panel PWB	Replace the operation panel PWB. (TSI: see page 4-138, LCD: see page 4-141)
		Main/Engine PWB	Replace the main/engine PWB. (see page 4-94)
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 4-94)
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 4-94)
		Expansion memory (DIMM)	Replace the expansion memory (DIMM) (see page 1-14)

Indication	Contents	Related parts	Check procedures/corrective measures
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 4-94)
F041	Main/engine PWB - Scanner PWB communication error	Main/Engine PWB	Turn the power switch off and on If not corrected, replace the main/engine PWB. (see page 4-94)
F050	Main/engine PWB engine checksum error	Main/Engine PWB	Download the engine firmware again (TSI: see page 4-138, LCD: see page 4-141)
		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 4-94)
F051	No scan engine main program	Main/Engine PWB	Turn the power switch off and on If not corrected, replace the main/engine PWB. (see page 1-4-97)

(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.

Num-ber	Contents	Verification procedure & check point	Remarks	TSI model	LCD 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) U021 Controller backup initialization is carried out and an operation check is performed. (4) Exchange a Panel PWB and perform an operation check. (5) Exchange a Main/Engine PWB and perform an operation check. (6) It will get, if USBLOG is obtainable, and contact service headquarters.		*Note 70 [s] or immediately displayed [Main<=>Panel I/F] Main/Engine PWB: YC507, YC511, YC514 Panel PWB: YC4, YC6, YC17	*Note 60 [s] [Main<=>Panel I/F] Main/Engine PWB: YC507 Panel PWB: YC2
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) U021 Controller backup initialization is carried out and an operation check is performed. (4) Exchange a Main/Engine PWB and perform an operation check. (5) Exchange a Panel PWB and perform an operation check. (6) It will get, if USBLOG is obtainable, and contact service headquarters.		[Main<=>Panel I/F] Main/Engine PWB: YC507, YC511, YC514 Panel PWB: YC4, YC6, YC17	[Main<=>Panel I/F] Main/Engine PWB: YC507 Panel PWB: YC2
F12X	Abnormality detecting in a Scan control section	(1) Check the harness between Scan/DP<=>Main/Engine PWBs, and the connection state of a connector, and perform an operation check. (2) U021 Controller backup initialization is carried out and an operation check is performed. (3) Exchange a Scan/DP board and perform an operation check. (4) Exchange a Main/Engine PWB and perform an operation check. (5) Get USBLOG and contact service headquarters.		[Main<=>Scan] Main/Engine PWB: YC506, YC31 ISU side: CIS, sensor, motor [Main<=>DP] Main/Engine PWB: YC509, YC33, YC34 DP side: cis. sensor, motor	[Main<=>Scan] Main/Engine PWB: YC506, YC31 ISU side: CIS, sensor, motor [Main<=>DP] Main/Engine PWB: YC509, YC33, YC34 DP side: cis. sensor, motor

Num-ber	Contents	Verification procedure & check point	Remarks	TSI model	LCD model
F14X	Abnormality detecting in a FAX control part	(1) Check the harness between FAX<=>Main/Engine PWBs, and the connection state of a connector, and perform an operation check. (2) U021 Controller backup initialization is carried out and an operation check is performed. (3) Perform a deed operation check for DIMM Clear by U671. * Notes(Since it disappears when received data remain, cautions are required.) (4) Exchange a FAX board and perform an operation check. (5) Exchange a Main/Engine PWB and perform an operation check. (6) Get USBLOG and contact service headquarters.		[Checking FAX connector connection] I/F dedicate to FAX (Not eKUIO) [Main<=>FAX] Main/Engine PWB: YC508 FAX PWB: CN4	[Checking FAX connector connection] I/F dedicate to FAX (Not eKUIO) [Main<=>FAX] Main/Engine PWB: YC508 FAX PWB: CN4
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) Carry out U021 Main backup initialization and perform an operation check. (3) Exchange a Main/Engine PWB and perform an operation check. (4) 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) U021 Controller backup initialization is carried out and an operation check is performed. (3) Exchange a Main/Engine PWB and perform an operation check. (4) 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
F1DX	Abnormality detecting of the image memory Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) Get USBLOG and contact service headquarters.	* Poor arrangement of F1D4:Random Access Memory (1) Initialization of a set point (U021)	[Main/Engine PWB<=>Option DIMM] YS500	[Main/Engine PWB<=>Option DIMM] YS500
F21X, F22X, F23X	Abnormality detecting in an image-processing part	(1) Check contact of a DDR memory and perform an operation check. (2) Carry out U021 Main backup initialization 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<=>Option DIMM] YS500	[Main/Engine PWB<=>Option DIMM] YS500
F24X	Abnormality detecting in the system Management Department	(1) Check contact of a DDR memory and perform an operation check. (2) Carry out U021 Main backup initialization and perform an operation check. (3) Exchange a Main/Engine PWB and perform an operation check. (4) 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.	Support [Controller failure] Cleared by turning power off and on only USB log is required for investigation [Main/Engine PWB<=>Option DIMM]YS500	Support [Controller failure] Cleared by turning power off and on only USB log is required for investigation [Main/Engine PWB<=>Option DIMM] YS500
F25X	Abnormality detecting in a network management department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) 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

Num-ber	Contents	Verification procedure & check point	Remarks	TSI model	LCD model
F26X, F27X, F28X, F29X, F2AX	Abnormality detecting in the system Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) Get USBLOG and contact service headquarters.		(SSM:F26X) [Main/Engine PWB<=>Option DIMM] YS500	(SSM:F26X) [Main/Engine PWB<=>Option DIMM] YS500
F2BX, F2CX, F2DX, F2EX, F2FX, F30X, F31X, F32X	Abnormality detecting in a network control part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) 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
F33X	Abnormality detecting in the Scan Management Department	(1) Check the harness between Scan/DP<=>Main/Engine PWBs, and the connection state of a connector, and perform an operation check. (2) U021 Controller backup initialization is carried out and an operation check is performed. (3) Exchange a Scan/DP board and perform an operation check. (4) Exchange a Main/Engine PWB and perform an operation check. (5) Get USBLOG and contact service headquarters.		[Main<=>Scan] Main/Engine PWB: YC506, YC31 ISU side: CIS, sensor, motor [Main<=>DP] Main/Engine PWB: YC509, YC33, YC34 DP side: cis. sensor, motor	[Main<=>Scan] Main/Engine PWB: YC506, YC31 ISU side: CIS, sensor, motor [Main<=>DP] Main/Engine PWB: YC509, YC33, YC34 DP side: cis. sensor, motor
F34X	Abnormality detecting in the Panel Management Department	(1) Check the harness between Panel<=>Main/Engine PWBs, and the connection state of a connector, and perform an operation check. * Notes (2) U021 Controller backup initialization is carried out and an operation check is performed. (3) Exchange a Panel board and perform an operation check. (4) Exchange a Main/Engine PWB and perform an operation check. (5) Get USBLOG and contact service headquarters.		Error in panel process (Command response timeout, etc.) Regarding hardware factor, Panel-Main/Engine PWB harness connector disconnection can be considered [Main<=>Panel I/F] Main/Engine PWB: YC507, YC511, YC514 Panel PWB: YC4, YC6, YC17	Error in panel process (command response timeout, etc.) Not occurring with hardware factor [Main<=>Panel I/F] Main/Engine PWB: YC507, YC511, YC514 Panel PWB: YC4, YC6, YC17
F35X	Abnormality detecting in the printing controlling Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) Get USBLOG and contact service headquarters.		*Combined PWB of Main and Engine [Main/Engine PWB<=>Video device] Main/Engine PWB: YC1, YC2, YC3, YC5, YC6, YC7, YC9, YC10, YC14, YC21, YC23	*Combined PWB of Main and Engine [Main/Engine PWB<=>Video device] Main/Engine PWB: YC1, YC2, YC3, YC5, YC6, YC7, YC9, YC10, YC14, YC21, YC23
F37X	Abnormality detecting in the FAX Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) Get USBLOG and contact service headquarters.		No flash memory for FAX data [Main<=>FAX] Main/Engine PWB: YC508 FAX PWB: CN4	No flash memory for FAX data [Main<=>FAX] Main/Engine PWB: YC508 FAX PWB: CN4
F38X	Abnormality detecting in the authentication authorized Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) 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

Num-ber	Contents	Verification procedure & check point	Remarks	TSI model	LCD model
F3AX, F3BX, F3CX, F3DX, F3EX, F3FX, F40X, F41X, F42X, F43X, F44X, F45X	Abnormality detecting in the Entity Management Department	(1) Carry out U021 Main backup initialization 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<=>Option DIMM] YS500	[Main/Engine PWB<=>Option DIMM] YS500
F46X	Abnormality detecting of a printer rendering part	(1) Exchange a Main/Engine PWB 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.	[Main/Engine PWB<=>Option DIMM] YS500	[Main/Engine PWB<=>Option DIMM] YS500
F47X, F48X, F49X	Abnormality detecting of an image editing processing part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) Get USBLOG and contact service headquarters.		Not Support(F49X) [Main/Engine PWB<=>Option DIMM] YS500	Not Support(F49X) [Main/Engine PWB<=>Option DIMM] YS500
F4DX, F4EX	Abnormality detecting in the Entity Management Department	(1) Carry out U021 Main backup initialization 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<=>Option DIMM] YS500	[Main/Engine PWB<=>Option DIMM] YS500
F4FX	Abnormality detecting in the JOB Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.	[Main/Engine PWB<=>Option DIMM] YS500	[Main/Engine PWB<=>Option DIMM] YS500
F50X	Abnormality detecting in the FAX Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.	No flash memory for FAX data HDD non-standard [Main<=>FAX] Main/Engine PWB: YC508 FAX PWB: CN4	No flash memory for FAX data HDD non-standard [Main<=>FAX] Main/Engine PWB: YC508 FAX PWB: CN4
F51X, F52X, F53X, F55X, F56X, F57X	Abnormality detecting in a JOB execution part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.	[Main/Engine PWB<=>Option DIMM] YS500	[Main/Engine PWB<=>Option DIMM] YS500
F58X, F59X, F5AX, F5BX, F5CX, F5DX, F5EX	Abnormality detecting in the various-services Management Department	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) 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.	F5DX (especially X is 9, A, B, C or D) occurs at Fax reception or URDS related process. Check transmission data from PC [Main/Engine PWB<=>Option DIMM] YS500	F5DX (especially X is 9, A, B, C or D) occurs at Fax reception or URDS related process. Check transmission data from PC [Main/Engine PWB<=>Option DIMM] YS500

Num-ber	Contents	Verification procedure & check point	Remarks	TSI model	LCD model
F5FX	Abnormality detecting in a service execution part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) Get USBLOG and contact service headquarters.	Since the USB log immediately after occurrence is needed for analysis, please give me cooperation of acquisition.	[Main/Engine PWB<=>Option DIMM] YS500	[Main/Engine PWB<=>Option DIMM] YS500
F62X	Abnormality detecting in a service execution part	(1) Carry out U021 Main backup initialization and perform an operation check. (2) Exchange a Main/Engine PWB and perform an operation check. (3) 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.	Please cooperate to retrieve USB log that is necessary for analysis [Main/Engine PWB<=>Option DIMM] YS500	Please cooperate to retrieve USB log that is necessary for analysis [Main/Engine PWB<=>Option DIMM] YS500
F63X	Abnormality detecting in a device control section	(1) Carry out U021 Main backup initialization 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<=>Option DIMM] YS500	[Main/Engine PWB<=>Option DIMM] YS500
F69X, F6AX, F6BX, F6CX,	Abnormality detecting in a HyPAS-E part	(1) Carry out U021 Main backup initialization 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<=>Option DIMM] YS500 TSI model only	

7-3 Image formation failure

Isolate the place of the image failure occurrence.

<How to isolate the cause>

Print Test Page to check an image failure.

[System Menu] > [Adjustment/Maintenance] > [Service Setting]

Yes: Engine factor

No: Scanner factor

Check if image failure is enlarged or reduced in the zoom mode.

Yes: Scanner factor

1. Scanner factor: Refer to [Image failure at Copy or Send](see page7-38).
(LED lamp for originals on the contact glass --> CIS failure at scanning factor)

Isolate with the original scanning position.

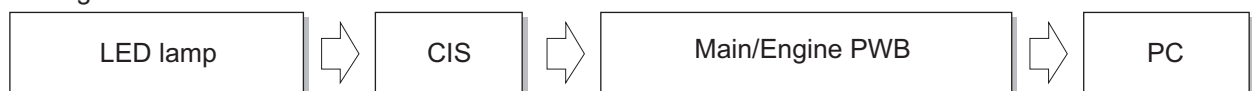
- a. DP surface, on the contact glass (scan by the main unit CIS)
 - b. DP back side (scan by DPCIS) (40 ppm model only)
2. Refer to image failure with engine factor (see page 7-65).
(Main charge --> Drum --> LSU --> Developer --> Transfer image formation process failure)

<Image data flow>

Copying :

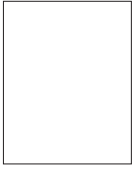


Sending :



Printing data from PC :



(1) Poor image (due to DP and scanner reading)

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



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



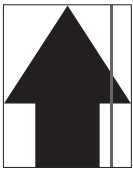
(1-3)The entire image is faint



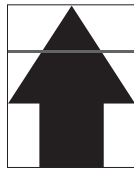
(1-4)The background is colored



(1-5)Vertical white streaks or bands appear



(1-6)Vertical white streaks or bands appear



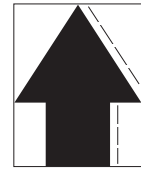
(1-7)Horizontal black streaks appear



(1-8)The image is partly dark or bright



(1-9)Black dots appear in the image



(1-10)Characters are blurred



(1-11)Regular error images arise at the leading edge of the original and copy.



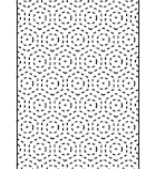
(1-12)The image is partly missing



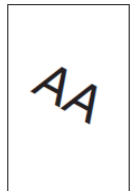
(1-13)The image is blurred



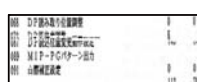
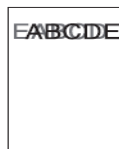
(1-14)Image center does not align with the original center



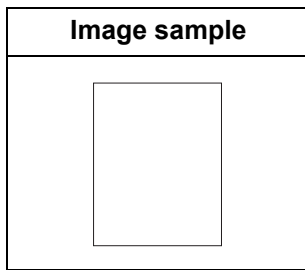
(1-15)Moire



(1-16)Skewed image



(1-17)Abnormal image

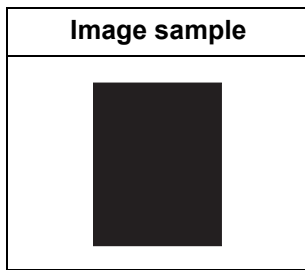
(1-1) No image appears (entirely white)**1. Table scanning**

	Trouble location	Check	Measures
1	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
2	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
3	Home position sensor	Check the location where the home position sensor is attached.	If the home position sensor is out of position, reattach it.
4	Scanner drive belt	Check that the scanner drive belt is loosely attached.	If the scanner drive belt is attached loosely, secure the screw again.
5	Scanner drive gear	Check that the scanner drive gear is loosely attached.	If the scanner drive gear is attached loosely, secure the screw again.
6	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
7	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

	Trouble location	Check	Measures
1	Original	Check the side of set original document.	Set the original again if the set side of it is incorrect.
2	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
3	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
4	Home position sensor	Check the location where the home position sensor is attached.	If the home position sensor is out of position, reattach it.
5	Scanner drive belt	Check that the scanner drive belt is loosely attached.	If the scanner drive belt is attached loosely, secure the screw again.

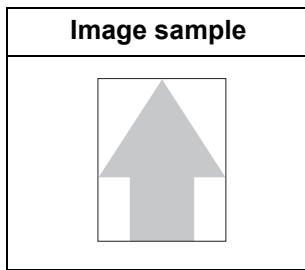
	Trouble location	Check	Measures
6	Scanner drive gear	Check that the scanner drive gear is loosely attached.	If the scanner drive gear is attached loosely, secure the screw again.
7	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
8	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

(1-2) No image appears (entirely black)**1. Table scanning**

	Trouble location	Check	Measures
1	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
2	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
3	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

	Trouble location	Check	Measures
1	DP scanning position	Check the value using maintenance mode U068 [DPRead].	If a large value is included in maintenance mode U068 [DPRead], adjust it. (see page 6-28)
2	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
3	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
4	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

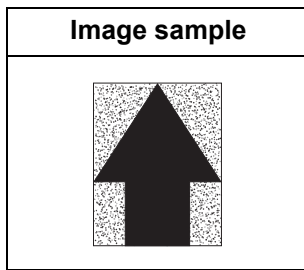
(1-3) The entire image is faint**1. Table scanning**

	Trouble location	Check	Measures
1	Density adjustment	Check the setting of the density adjustment.	Deactivate EcoPrint if it is activated. Or, if the density is too low, choose an image quality that suits the original document type. Increase density. Perform the background color adjustment using the system menu.
2	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U411 [Table] (Chart A) to adjust automatically. (see page 6-53)
3	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
4	Home position sensor	Check the location where the home position sensor is attached.	If the home position sensor is out of position, reattach it.
5	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
6	Scanner carriage	Check the location where the scanner carriage is attached.	If the scanner carriage is out of position, reattach it.
7	LED	Check if the LED is lit.	If the LED is not lighted, replace the scanner carriage and execute U411. (see page 4-48,6-53)
8	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
9	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

	Trouble location	Check	Measures
1	Density adjustment	Check the setting of the density adjustment.	Deactivate EcoPrint if it is activated. Or, if the density is too low, choose an image quality that suits the original document type. Increase density. Perform the background color adjustment using the system menu.

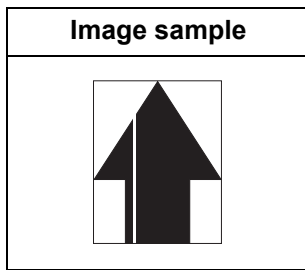
	Trouble location	Check	Measures
2	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U411 [DP] to adjust automatically. (see page 6-53)
3	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
4	Home position sensor	Check the location where the home position sensor is attached.	If the home position sensor is out of position, reattach it.
5	DP scanning position	Check if the DP scanning position is shifted.	If the DP scanning position is shifted, adjust it using the maintenance mode U068 [DPRead]. (see page 6-28)
6	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
7	Scanner carriage	Check the location where the scanner carriage is attached.	If the scanner carriage is out of position, reattach it.
8	LED PWB	Check if the LED is lit.	If the LED is not lighted, replace the scanner carriage and execute U411. (see page 4-48,6-53)
9	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
10	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

(1-4) The background is colored**1. Table scanning**

	Trouble location	Check	Measures
1	Original	1. Check if the background density of the original document is too dense. 2. Check if the original document is floated during scanning.	1. If the background density of the original document is too dense, perform automatic background adjustment. Or, adjust density with background adjustment. 2. If the original document is floated during scanning, press down it.
2	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U411 [Table] to adjust automatically. (see page 6-53)
3	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
4	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
5	Home position sensor	Check the location where the home position sensor is attached.	If the home position sensor is out of position, reattach it.
6	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
7	Scanner carriage	Check the location where the scanner carriage is attached.	If the scanner carriage is out of position, reattach it.
8	LED	Check if the LED is lit.	If the LED is not lighted, replace the scanner carriage and execute U411. (see page 4-48,6-53)
9	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
10	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

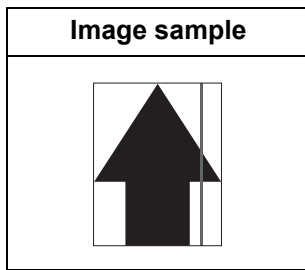
	Trouble location	Check	Measures
1	Original	1. Check if the background density of the original document is too dense. 2. Check if the original document is floated during scanning.	1. If the background density of the original document is too dense, perform automatic background adjustment. Or, adjust density with background adjustment. 2. If the original document is floated during scanning, press down it.
2	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U411 [Table] to adjust automatically. (see page 6-53)
3	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it. (see page 4-48)
4	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
5	Home position sensor	Check the location where the home position sensor is attached.	If the home position sensor is out of position, reattach it.
6	DP installing	Check if the DP frame is deformed or the hinge is broken.	Replace the DP if broken.
7	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
8	Scanner carriage	Check the location where the scanner carriage is attached.	If the scanner carriage is out of position, reattach it.
9	LED PWB	Check if the LED is lit.	If the LED is not lighted, replace the scanner carriage and execute U411. (see page 4-48,6-53)
10	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
11	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

(1-5) Vertical white streaks or bands appear**1. Table scanning**

	Trouble location	Check	Measures
1	Original	Check if the original document is dirty.	Replace the original document if it is dirty.
2	Contact glass Shading plate	Check if the contact glass and shading plate are dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it. (see page 4-48)
3	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
4	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
5	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

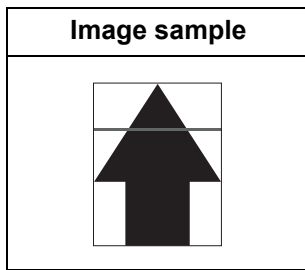
	Trouble location	Check	Measures
1	Original	Check if the original document is dirty.	Replace the original document if it is dirty.
2	Slit glass Shading plate	Check if the slit glass is dirty.	If the slit glass is dirty, clean it.
3	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
4	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
5	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

(1-6) Vertical white streaks or bands appear**1. Table scanning**

	Trouble location	Check	Measures
1	Original	Check if the original document is dirty.	Replace the original document if it is dirty.
2	Original	Check if the original document size and its detected size match.	In case the original document size and its detected original document size are different, set the correct original document size or activate border erase.
3	Contact glass Shading plate	Check if the contact glass and shading plate are dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it. (see page 4-48)
4	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
5	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
6	Scanner adjustment	Check if there are streaks or bands outside the original document.	1. Execute maintenance mode U067 [Front] to adjust. (see page 6-27) 2. Execute maintenance mode U411 [Table] to adjust automatically. (see page 6-53)
7	CIS	Check if dust adheres to the CIS glass surface.	1. If dust adheres to the CIS glass surface, clean it with air blower brush. 2. If the mirror are dirty, clean them.
8	Mirror	Check if the mirror dropped off or it is dirty.	Replace the scanner carriage and execute U411 if the mirror is dropped off due to drop shock. (see page 4-48,6-53)
9	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
10	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

	Trouble location	Check	Measures
1	Original	Check if the original document is dirty.	Replace the original document if it is dirty.
2	Original	Check if the original document size and its detected size match.	In case the original document size and its detected original document size are different, set the correct original document size or activate border erase.
3	DP scanning position	Check if the DP scanning position is shifted.	If the DP scanning position is shifted, adjust it using the maintenance mode U068 [DPRead]. (see page 6-28)
4	Slit glass	Check if the slit glass is dirty.	If the slit glass is dirty, clean it.
5	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
6	CIS	Check if dust adheres to the CIS glass surface.	If dust adheres to the CIS glass surface, clean it with air blower brush.
7	Scanner adjustment	Check if there are streaks or bands outside the original document.	1. Execute maintenance mode U067 [Front] to adjust. (see page 6-27) 2. Execute maintenance mode U411 [Table] to adjust automatically. (see page 6-53)
8	CIS	CIS is defective.	Replace the image scanner carr6-53)
9	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

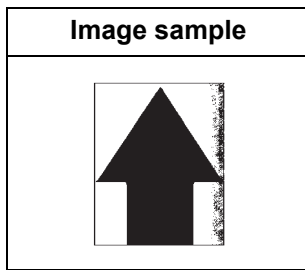
(1-7) Horizontal black streaks appear**1. Table scanning**

	Trouble location	Check	Measures
1	Original	Check if the original document is dirty.	Replace the original document if it is dirty.
2	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
3	Scanner adjustment	Check if the image at the backside of the size indication plate appears.	1. If the image at the backside of the size indication plate appears, adjust it using the maintenance mode U066 [Front]. (see page 6-26) 2. Execute maintenance mode U411 [Table] to adjust automatically. (see page 6-53)
4	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
5	LED PWB	Check if the LED is lit.	If the lamp is not lit, replace the scanner carriage and execute U411. (see page 4-48,6-53)
6	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

	Trouble location	Check	Measures
1	Original	Check if the original document is dirty.	Replace the original document if it is dirty.
2	Slit glass	Check if the slit glass is dirty.	If the slit glass is dirty, clean it.
3	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
4	LED PWB	Check if the LED is lit.	If the lamp is not lit, replace the scanner carriage and execute U411. (see page 4-48,6-53)

	Trouble location	Check	Measures
5	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

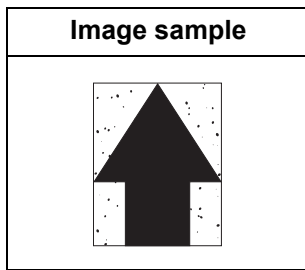
(1-8) The image is partly dark or bright**1. Table scanning**

	Trouble location	Check	Measures
1	Original	Check if the original document is dirty.	Replace the original document if it is dirty.
2	Original	Check if the original document has folds or creases.	If the original document has folds or creases, straighten it.
3	Platen mat	Check if the DP or platen mat position is shifted.	If the DP or platen mat position is shifted, refit it.
4	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
5	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
6	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
7	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
8	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

	Trouble location	Check	Measures
1	Original	Check if the original document is dirty.	Replace the original document if it is dirty.
2	Original	Check if the original document has folds or creases.	If the original document has folds or creases, straighten it.
3	DP scanning guide	Check if the scanner guide moves smoothly.	Reattach the DP scanning guide if it does not move smoothly.
4	Slit glass	Check if the slit glass is dirty.	If the slit glass is dirty, clean it with the shading plate at the backside.
5	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.

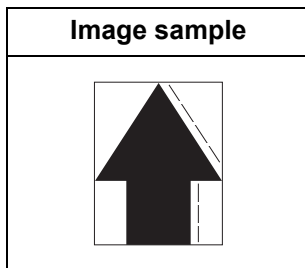
	Trouble location	Check	Measures
6	Scanner carriage	Check if dust or dirt adheres the scanner carriage.	If dust or dirt adheres to the scanner carriage, remove it from the optical path.
7	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
8	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

(1-9) Black dots appear in the image**1. Table scanning**

	Trouble location	Check	Measures
1	Original	Check if the original document is dirty.	Replace the original document if it is dirty.
2	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
3	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
4	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

	Trouble location	Check	Measures
1	Original	Check if the original document is dirty.	Replace the original document if it is dirty.
2	Slit glass	Check if the slit glass is dirty.	If the slit glass is dirty, clean it with the shading plate at the backside.
3	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
4	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

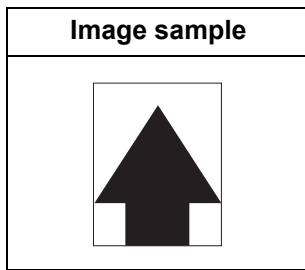
(1-10) Characters are blurred**1. Table scanning**

	Trouble location	Check	Measures
1	Optical rail	Check if the scanner carriage moves smoothly.	If the scanner carriage does not move smoothly, remove foreign objects on the optical rails.
2	Scanner shaft	Check if the scanner carriage moves smoothly.	If the scanner carriage does not move smoothly, clean the scanner shaft.
3	Scanner carriage	Check if the scanner carriage moves smoothly.	If the scanner carriage contacts the frame while moving and does not move smoothly, reattach it.
4	Scanner drive section	Check if there is any foreign substance in between the scanner drive belt and the scanner drive gear.	Remove foreign objects if mixed up.
5	Scanner drive belt	Check if foreign objects adhere to the scanner drive belt or it is scratched.	If foreign objects adhere to the scanner drive belt, remove them. Or, replace it if scratched.

2. DP scanning

	Trouble location	Check	Measures
1	DP conveying pulley	Check if the DP conveying pulley smoothly rotates.	Reassemble the conveying pulley and spring if the DP conveying pulley does not move smoothly.
2	DP installation	Check how DP is attached to the main unit.	If attachment to the main unit is faulty, reattach it after confirming the positioning.
3	Hinge	Check if the vertical motion of the DP hinge is smooth and it can continue opened.	Replace the hinges if the DP does not move smoothly or it cannot continue opened.
4	DP original mat	Check the position where the DP original mat position is attached.	If the original mat is out of position, reattach it.
5	Original	Check the leading edge of the original document is folded.	If the leading edge of the original document is folded, straighten it.
6	DP scanning guide	Check if the scanner guide is deformed.	Replace the scanner guide if deformed.

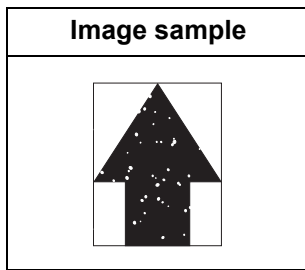
	Trouble location	Check	Measures
7	DP conveying roller (Before and after scanning)	Check if the DP conveying roller is contaminated.	Clean the DP conveying roller if contaminated.
8	Drive belt	Check the drive belt jumping.	If the drive belt jumps, readjust the belt tension.

(1-11) Regular error images arise at the leading edge of the original and copy.**1. Table scanning**

	Trouble location	Check	Measures
1	Original	Check if the original document is set correctly.	If the original document is not set correctly, set it again.
2	Scanner carriage fixing	Check the carriage fixing of the scanner drive belt.	Check if the scanner drive belt is securely set at the carriage fix part.
3	Scanner adjustment	Check the scanner position adjustment.	1. Execute maintenance mode U066 [Front] to adjust. (see page 6-26) 2. Execute maintenance mode U411 [Table] to adjust automatically. (see page 6-53)
4	Home position sensor	Check the location where the home position sensor is attached.	If the home position sensor is out of position, reattach it.
5	Scanner drive belt	Check if the tension of the scanner drive belt is loosely attached.	If the scanner drive belt tension is loose, give it tension.
6	Scanner drive gear	Check that the scanner drive gear is loosely attached.	If the scanner drive gear is attached loosely, secure the screw again.

2. DP scanning

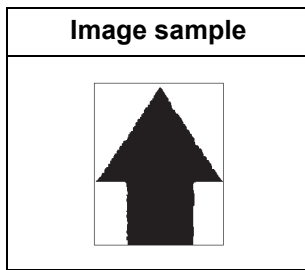
	Trouble location	Check	Measures
1	Scanner adjustment	Check the DP scanning position adjustment.	1. Execute maintenance mode U071 [CIS Head] to adjust. (see page 6-30) 2. Execute maintenance mode U411 [DP] to adjust automatically. (see page 6-53)
2	Original conveying roller	Check if the original document conveying roller is dirty or worn.	If the original document conveying roller is dirty, clean it and bushing. Replace the roller if it is worn.
3	DP drive motor	Check if the DP drive motor rotation is unstable.	Apply grease to the drive gear if the DP drive motor rotation is unstable. Replace the DP drive motor if no improvement is observed.

(1-12) The image is partly missing**1. Table scanning**

	Trouble location	Check	Measures
1	Original	Check if the original document is set correctly.	If the original document is not set correctly, set it again.
2	Original	Check if the original document size and paper size match in the operation panel indication.	If the original document size and paper size do not match in the operation panel indication, manually set the original document size.
3	Contact glass	Check if the contact glass is dirty.	If the contact glass is dirty, clean it and the shading plate at the backside of it.
4	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
5	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
6	Scanner carriage	Check the location where the scanner carriage is attached.	If the scanner carriage is out of position, reattach it.
7	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
8	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

	Trouble location	Check	Measures
1	Original	Check if the original document is set correctly.	If the original document is not set correctly, set it again.
2	Original	Check if the original document size and paper size match in the operation panel indication.	If the original document size and paper size do not match in the operation panel indication, manually set the original document size.
3	Slit glass	Check if the slit glass is dirty.	If the slit glass is dirty, clean it.
4	FFC cable CIS	Check the FFC cable connection between the CIS sensor and main PWB / Engine PWB). Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
5	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
6	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

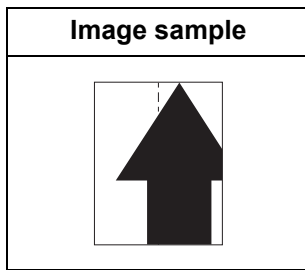
(1-13) The image is blurred**1. Table scanning**

	Trouble location	Check	Measures
1	Original	Check if the original document is wavy.	If the original document is wavy, straighten it to plain. Or, replace.
2	Contact glass	Check if the contact glass is condensed.	If the contact glass is condensed, remove it.
3	Scanner carriage	Check if the scanner carriage is condensed inside.	If the scanner carriage is condensed inside, remove it.
4	CIS	Check if the CIS glass surface has condensed.	If the CIS sensor glass surface has condensed, remove it.
5	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U411 [Table] to adjust automatically. (see page 6-53)
6	Scanner carriage	Check the position of the lens and CIS.	If the position of the lens and CIS is shifted, replace the scanner carriage and execute U411. (see page 4-48,6-53)
7	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

	Trouble location	Check	Measures
1	Original	Check if the original document is wavy.	If the original document is wavy, straighten it to plain. Or, replace.
2	Slit glass	Check if the slit glass is condensed.	If the slit glass is condensed, remove it.
3	Scanner carriage	Check if the scanner carriage is condensed inside.	If the scanner carriage is condensed inside, remove it.
4	CIS	Check if the CIS glass surface has condensed.	If the CIS glass surface has condensed, remove it.
5	Scanner adjustment	Check the scanner automatic adjustment.	Execute maintenance mode U411 [Table] to adjust automatically. (see page 4-48,6-53)
6	Scanner carriage	Check the position of the lens and CIS.	If the position of the lens and CIS is shifted, replace the scanner carriage and execute U411. (see page 4-48,6-53)

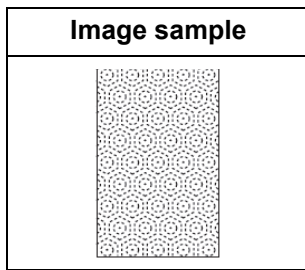
	Trouble location	Check	Measures
7	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

(1-14) Image center does not align with the original center**1. Table scanning**

	Trouble location	Check	Measures
1	Original	Check if the original document is set correctly.	If the original document is not set correctly, set it again.
2	Contact glass assy	Check the position where the contact glass is attached.	If the contact glass is dislocated, reattach it.
3	Scanner adjustment	Check the scanner position adjustment.	1. Execute maintenance mode U067 [Front] to adjust. (see page 6-27) 2. Execute maintenance mode U411 [Table] to adjust automatically. (see page 6-53)

2. DP scanning

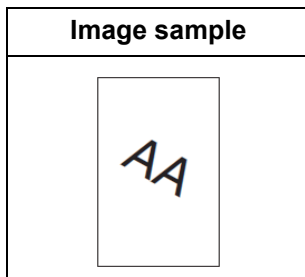
	Trouble location	Check	Measures
1	Original	Check if the original document is set correctly.	If the original document is not set correctly, set it again.
2	Scanner adjustment	Check the DP scanning position adjustment.	1. Execute maintenance mode U072 [Front] to adjust. (see page 6-32) 2. Execute maintenance mode U411 [DP] to adjust automatically. (see page 6-53)

(1-15) Moire**1. Table scanning**

	Trouble location	Check	Measures
1	Print quality mode	Check if the moire changes depending on the print quality mode.	If the moire changes depending on the print quality mode, change it. 1. Print in Text mode or Printer mode. 2. Weaken (reduce) the sharpness.
2	Original	Check if moire is generated depending on original document scanning direction.	If moire is generated, rotate the original document set direction 90 degrees.
3	Magnification setting	Check if it occurs in 100% magnification.	Slightly reduce the magnification in main scanning direction using maintenance mode U065. (see page 6-25)
4	Scanner adjustment	Check if the scanner automatically adjustment has been executed.	Execute maintenance mode U411 [Table] to adjust automatically. (see page 6-53)

2. DP scanning

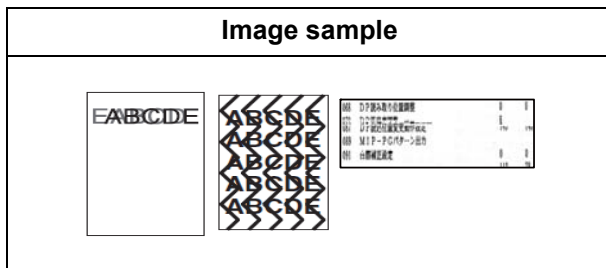
	Trouble location	Check	Measures
1	Print quality mode	Check if the moire changes depending on the print quality mode.	If the moire changes depending on the print quality mode, change it. 1. Print in Text mode or Printer mode. 2. Weaken (reduce) the sharpness.
2	Scanner adjustment	Check if the scanner automatically adjustment has been executed.	Execute maintenance mode U411 [DP] to adjust automatically. (see page 6-53)

(1-16) Skewed image**1. Table scanning**

	Trouble location	Check	Measures
1	Original	Check if the original document is placed askew.	If the original document is placed askew, place it correctly.
2	Main unit and scanner unit level	Check if the scanner height position is distorted or shifted.	If the scanner height position is distorted or shifted, adjust the entire scanner unit height.
3	Scanner carriage	Check the location where the scanner carriage is attached.	If the scanner carriage is out of position, reattach it.

2. DP scanning

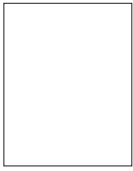
	Trouble location	Check	Measures
1	Original	Check if the original document has folds or creases.	If the original document has folds or creases, straighten it.
2	DP document feeding	Check if the original document is fed askew.	If the original document is skew fed, set the original document side registration guide again.
3	Scanner carriage	Check the location where the scanner carriage is attached.	If the scanner carriage is out of position, reattach it.
4	Original feed roller	Check if the original document feed roller is dirty.	Clean the original document feed roller if it is dirty. Replace it if it is not improved after cleaning it.
5	DP registration roller	Check if the DP registration roller is dirty and its rotation.	Clean the DP registration roller. If the rotation is not smooth, clean the busing and reattach it.
6	Original set	Check if cursors are aligned to original documents.	Align the cursor to fit the original document, if necessary.

(1-17) Abnormal image**1. Table scanning**

	Trouble location	Check	Measures
1	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
2	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
3	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

2. DP scanning

	Trouble location	Check	Measures
1	FFC cable CIS	Check the FFC cable connection between the CIS and the main PWB / the engine PWB. Or, check the wire's continuity.	If the connector is not inserted enough, reinsert it. Replace the wire if there is no continuity.
2	CIS	CIS is defective.	Replace the image scanner carriage and execute U411. (see page 4-48,6-53)
3	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

(2) Poor image (Image forming factor)

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



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



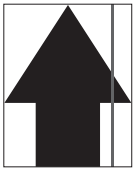
(2-3) The entire image is faint



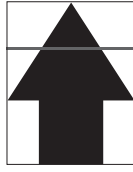
(2-4) It is foggy at the background image



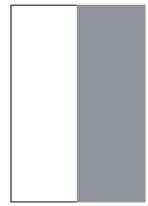
(2-5) Vertical white streaks or bands appear



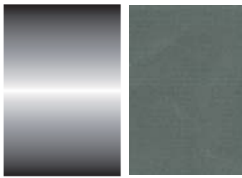
(2-6) Vertical white streaks or bands appear



(2-7) There are horizontal bands in white or black



(2-8) Uneven density vertically



(2-9) Uneven density horizontally



(2-10) Black dots appear in the image



(2-11) Offset occurs



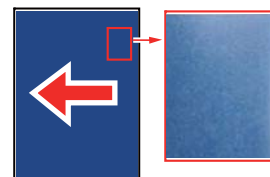
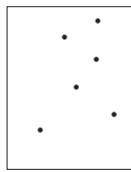
(2-12) The image is partly missing



(2-13) The image is blurred

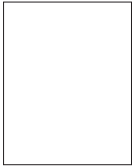


(2-14) Irregular horizontal white streaks appear in the image Dots appear in the image




(2-15) Granular image (low solid image density)

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

Image sample	Factor
	<ol style="list-style-type: none"> 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.

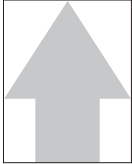
	Trouble location	Check	Measures
1	Developer unit	Check insertion of the lock shaft.	If the lock shaft is not inserted properly, insert it securely. (see page 4-10)
		Check if the developer drive gear is broken.	Replace the developer unit if broken. (see page 4-10)
		Check if the developer roller can 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	<ol style="list-style-type: none"> 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, 	<ol style="list-style-type: none"> 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 4-102)
4	Laser scanner unit (LSU)	Check the connector contact. Or, check the wire's continuity.	<ol style="list-style-type: none"> 1. Reinsert the FFC cable if it is incompletely inserted. Replace the wire if there is no continuity. 2. Replace the LSU. (see page 4-28)
5	Main/Engine PWB	Check if the main/engine PWB control signal is not output.	Replace the main/engine PWB. (see page 4-94)

(2-2) 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 4-102)
5	Laser scanner unit (LSU)	Failure in turning the laser diode on/off control failure on the LSU PWB.	Replace the LSU. (see page 4-28)
6	Main/Engine PWB	Video data output failure in the main/engine PWB.	Replace the main/engine PWB. (see page 4-94)

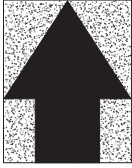
(2-3) The entire image is faint

Image sample	Factor
	<ol style="list-style-type: none"> 1. Variance in environments (dew formation) 2. Toner is insufficient. Or it is deteriorated (becomes hard 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. <ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 1. Correct the terminal if it is deformed so that it contacts. 2. Replace the high voltage PWB. (see page 4-102)
5	Transfer roller	Check the transfer roller attachment to confirm it contact with the drum.	<ol style="list-style-type: none"> 1. Reattach the transfer roller. 2. Replace the PF PWB. (see page 4-148)
		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 4-102)
7	LSU	<ol style="list-style-type: none"> 1. LSU laser beam power failure. 2. Internal mirror contamination 	Replace the LSU. (see page 4-28)


	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 4-94)

(2-4) It is foggy at the background image

Image sample	Factor
	<ol style="list-style-type: none"> 1. Toner is deteriorated (becomes hard 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 4-102)
4	Main/Engine PWB	Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

(2-5) Vertical white streaks or bands appear

Image sample	Factor
	<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 1. Clean the?LSU slit glass if it is dirty. 2. Replace the LSU if it is dirty inside. (see page 4-28)
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)

(2-6) 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)

(2-7) There are horizontal bands in white or black

Image sample	Factor
	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 1. Check the print image on paper has a problem in the interval of the circumference of the drum. 2. Check the drum surface potential erasing failure. 3. Check if the drum is scratched. 4. Check the ground terminal of the drum or drum drive shaft. 	<p>Execute the drum refreshing. ([System Menu] > [Adjustment/Maintenance])</p> <p>Lower the MC (main charge) value. ([System Menu] > [Adjustment/Maintenance])</p> <p>Replace the drum unit. (see page 4-11)</p> <ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 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 4-110)
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 4-102)

(2-8) Uneven density vertically

Image sample	Factor
	<ol style="list-style-type: none"> 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

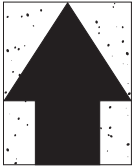
	Trouble location	Check	Measures
1	LSU	Laser is not output evenly from LSU. (Internal mirror drop-off)	Reattach the LSU. Or, replace. (see page 4-28)
2	Transfer roller	Check the attaching condition of the transfer roller. (Uneven pressure to the drum)	If the transfer roller is at incorrect position, correct it and reattach them. Or, replace the PF PWB. (see page 4-148)
3	Drum unit	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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) 	<ol style="list-style-type: none"> 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)

(2-9) Uneven density horizontally

Image sample	Factor
	<ol style="list-style-type: none"> 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.

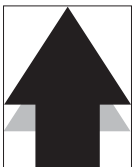
	Trouble location	Check	Measures
1	Main drive	Check to see if the drive mechanism for the developer unit and drum unit is smoothly operative.	<ol style="list-style-type: none"> 1. Check the fitting condition of the developer unit and drum unit and clean the drive transmission section and apply grease 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.	<ol style="list-style-type: none"> 1. Replace the drum unit. (see page 4-11)
3	Developer unit	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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 4-28)

(2-10) Black dots appear in the image

Image sample	Factor
	<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 1. Clean the developer roller. 2. Replace the developer unit. (see page 4-10)

(2-11) Offset occurs

Image sample	Factor
	<ol style="list-style-type: none"> 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)

(2-12) The image is partly missing

Image sample	Factor
	<ol style="list-style-type: none"> 1. Drum unit scratch or dirt. 2. Primary transfer belt surface deformation or dirt.

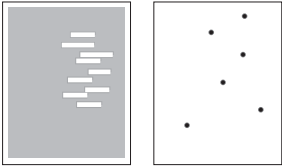
	Trouble location	Check	Measures
1	Drum unit	Check the print image on paper has a problem in the interval of the circumference of the drum.	Execute Drum Refresh if it appears on the image in the 94mm interval. ([System Menu] > [Adjustment/Maintenance])
2	Transfer roller	Check if the transfer roller surface is deformed or dirty.	If the surface is deformed or dirty, clean the transfer roller or replace the unit. (see page 4-148)

(2-13) The image is blurred

Image sample	Factor
	<ol style="list-style-type: none"> 1. Drum unit condensation. 2. LSU slit glass dirt.

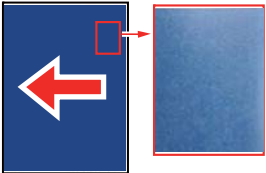
	Trouble location	Check	Measures
1	Drum unit	The drum surface is condensed.	Execute the drum refreshing. ([System Menu] > [Adjustment/Maintenance])
2	LSU	Check if the LSU slit glass is entirely dirty.	<ol style="list-style-type: none"> 1. Clean the LSU slit glass if it is dirty. 2. Replace the LSU. (see page 4-28)

(2-14) Irregular horizontal white streaks appear in the image
Dots appear in the image

Image sample	Factor
	<ol style="list-style-type: none"> 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) (TSI: see page 6-108,LCD: see page 6-114)
2	Drum unit	Check if there is contact failure between the main charger and high voltage PWB.	<ol style="list-style-type: none"> 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.

(2-15) Granular image (low solid image density)

Image sample	Factor
	<ol style="list-style-type: none"> 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) (TSI: see page 6-108,LCD: see page 6-114)
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. (P.1-4-113???)
	6. Fuse melt-down on the low voltage power PWB.	Replace the low voltage PWB after investigating the cause of melt-down. (see page 4-110)
	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 4-110)
	8. Low voltage power supply PWB is defective.	Replace the low voltage power supply PWB. (see page 4-110)
	9. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)
(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 4-94)
	3. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)
(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 4-94)
	3. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

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 4-94)
(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 4-94)
(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 4-94)
(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 4-94)
(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 4-89)
	3. Main/Engine PWB is defective.	Replace the main/engine PWB. (see page 4-94)

Failure status	Cause of failure	Check procedures/corrective measures
(9) Paper indicator is blinking 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 4-102)
	3. Eject sensor is defective.	Replace the eject sensor.
(11) Attention LED is lit after closing the front cover.	1. 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.
(12) The DP conveying motor does not rotate.	1. Defective connector cable or poor contact in the connector	If the connector is not inserted enough, reinsert it. Or check the wire's continuity and replace the wire if there is no continuity. DP paper feed motor and Main/Engine PWB (YC33)
	2. Defective drive transmission system.	Check if each gear and gear rotate smoothly. Apply grease to the busing and gears if they are faulty. Check each gear if it is damaged and replace it if there is damage.
	3. Motor is defective.	Replace the DP conveying motor.
	4. PWB is defective.	Replace the main/engine PWB. (see page P.4-94)
(13) The original jams upon turning the power on.	1. Paper pieces, etc. remain around the DP feed sensor, DP registration sensor.	Check if there are paper pieces and remove them if any.
	2. 2. Sensor is defective.	Replace the DP paper feed sensor or DP original document detection sensor.
	3. 3. PWB is defective.	Replace the main/engine PWB. (see page P.4-94)
(14) The cover open message display even if closing the DP upper cover.	1. 1. Wire failure or connection failure of the connector.	If the connector is not inserted enough, reinsert it. Or check the wire's continuity and replace the wire if there is no continuity. DP paper feed motor and Main/Engine PWB (YC33)
	2. 2. Sensor is defective.	Replace the DP cover open/close sensor.
	3. 3. PWB is defective.	Replace the main/engine PWB. (see page P.4-94)

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.

7-6 Error codes

Scan to PC (SMB/FTP/Email) transmission error codes, contents, checkpoints and remedies are described.

The error code not listed here may be the software failure.

Turn the power switch off then on, and execute again.

(1) Scan to SMB error code

Codes	Content	Check method and remedy
1101	The destination host does not exist in the network.	<ol style="list-style-type: none"> 1. Check the destination host name. 2. Check the network setting of the device. 3. Check the network setting connecting to the device.
1102	Login to the destination host has failed.	<ol style="list-style-type: none"> 1. Check user name and password. 2. Check the network setting connecting to the device. 3. Check sharing settings of the destination host and folder.
1103	The destination host, destination folder and file are invalid.	<ol style="list-style-type: none"> 1. Check if invalid characters are included in the destination host name, destination folder or file name. 2. Check if the destination folder name and file name conform with the naming syntax. 3. Check the destination host and destination folder.
1105	The SMB protocol is not valid.	<ol style="list-style-type: none"> 1. Check the SMB protocol setting of the device.
2101	Connection to the destination host has failed.	<ol style="list-style-type: none"> 1. Check the destination host name. 2. Check if the LAN cable is connected to the device. 3. Check the SMB port number. 4. Check the network setting of the device. 5. Check the network setting connecting to the device.
2201	Scanned data writing has failed.	<ol style="list-style-type: none"> 1. Check the transmission file name. 2. Check the network setting of the device. 3. Check the network setting connecting to the device.
2203	No response from the destination host more than the specified time	<ol style="list-style-type: none"> 1. Check the network setting connecting to the device. 2. Check if the LAN cable is connected to the device.

(2) Scan to FTP error code

Codes	Content	Check method and remedy
1101	The FTP server does not exist in the network.	<ol style="list-style-type: none"> 1. Check the FTP server name. 2. Check the network setting of the device. 3. Check the network setting connecting to the device.
1102	Logging in the FTP server failed.	<ol style="list-style-type: none"> 1. Check user name and password. 2. Check the FTP server.
1103	The destination folder is invalid.	<ol style="list-style-type: none"> 1. Check if invalid characters are included in the destination folder or file name. 2. Check the FTP server.
1105	The FTP protocol is invalid.	<ol style="list-style-type: none"> 1. Check the FTP protocol setting of the device.
1131	TLS initialization failed.	<ol style="list-style-type: none"> 1. Check the security setting of the device.
1132	The TLS negotiation failed.	<ol style="list-style-type: none"> 1. Check the security setting of the device. 2. Check the FTP server.
2101	Connection to the FTP server failed.	<ol style="list-style-type: none"> 1. Check the FTP server name. 2. Check if the LAN cable is connected to the device. 3. Check the FTP port number. 4. Check the network setting of the device. 5. Check the network setting connecting to the device. 6. Check the FTP server.
2102	Connection to the FTP server failed. DMA time out	<ol style="list-style-type: none"> 1. Check the FTP server name. 2. Check the FTP port number. 3. Check the network setting of the device. 4. Check the network setting connecting to the device. 5. Check the FTP server.
2103	The server is unable to communicate.	<ol style="list-style-type: none"> 1. Check the FTP server name. 2. Check the FTP port number. 3. Check the network setting of the device. 4. Check the network setting connecting to the device. 5. Check the FTP server.
2201	Communication with the FTP server failed.	<ol style="list-style-type: none"> 1. Check the network setting of the device. 2. Check the network setting connecting to the device. 3. Check the destination folder name. 4. Check the FTP server.
2202	Communication with the FTP server failed. (time out)	<ol style="list-style-type: none"> 1. Check the network setting of the device. 2. Check the network setting connecting to the device.
2203	No response from the server more than the specified time	<ol style="list-style-type: none"> 1. Check the network setting of the device. 2. Check the network setting connecting to the device.
2231	Communication with the FTP server failed. (FTPS communication)	<ol style="list-style-type: none"> 1. Check the network setting of the device. 2. Check the network setting connecting to the device.
3101	An error response is received from the FTP server.	<ol style="list-style-type: none"> 1. Check the network setting of the device. 2. Check the network setting connecting to the device. 3. Check the FTP server.

(3) Scan to E-mail error code

Codes	Content	Check method and remedy
1101	No SMTP/POP3 server exists in the network.	1. Check the SMTP/POP3 server name. 2. Check the network setting of the device. 3. Check the network setting connecting to the device.
1102	The SMTP/POP3 login failed.	1. Check user name and password. 2. Check the SMTP/POP3 server.
1104	The domain in the destination address is in the transmission denial designation by the domain restriction.	1. Check the SMTP setting of the device.
1105	The SMTP protocol is valid.	1. Check the SMTP protocol setting of the device.
1106	Sender address is not registered.	1. Check the SMTP protocol setting of the device.
2101	Connection to the SMTP/POP3 server failed.	1. Check the SMTP/POP3 server name. 2. Check if the LAN cable is connected to the device. 3. Check the SMTP/POP3 port number. 4. Check the network setting of the device. 5. Check the network setting connecting to the device. 6. Check the SMTP/POP3 server.
2102	Connection to the SMTP/POP3 server failed. DMA time out	1. Check the SMTP/POP3 server name. 2. Check the SMTP/POP3 port number. 3. Check the network setting of the device. 4. Check the network setting connecting to the device. 5. Check the SMTP/POP3 server.
2103	The server is unable to communicate.	1. Check the SMTP/POP3 server name. 2. Check the SMTP/POP3 port number. 3. Check the network setting of the device. 4. Check the network setting connecting to the device. 5. Check the SMTP/POP3 server.
2201	Communication with the SMTO/PO3 server failed.	1. Check the network setting of the device. 2. Check the network setting connecting to the device.
2202	Communication with the SMTP/POP3 failed. (time out)	1. Check the network setting of the device. 2. Check the network setting connecting to the device.
2204	The file size has exceeded.	1. Check the network setting of the device.
3101	An error response is received from the SMTP/POP3 server.	1. Check the network setting of the device. 2. Check the network setting connecting to the device. 3. Check the SMTP/POP3 server.
3102	Server response error	1. Check the SMTP/POP3 server. 2. Retry after a time interval.
3201	No SMTP authentication authority to support.	1. Check the SMTP server. 2. (SMTP authentication authorities are CRAM-MD5, DIGEST-MD5, PLAIN and LOGIN

Codes	Content	Check method and remedy
4803	Establishing the SSL session failed.	<ol style="list-style-type: none">1. Check the self-certificate of the device.2. Check the SMTP/POP3 server certificate.3. Check the SMTP/POP3 settings of the SMTP/POP3 server and device.

7-7 Error codes

(1) Error codes

Error codes are listed on the communication reports, activity report, etc. The codes consist of an error code indication U followed by a 5-digit number. (The V.34 error is indicated with E of the error code and 5-digit number)

Regarding the 5-digit number, upper 3 digits indicate error and large classification of cause, lower 2 digits small classification of cause. The lower 2 digits are 00 for the item not requiring the category.

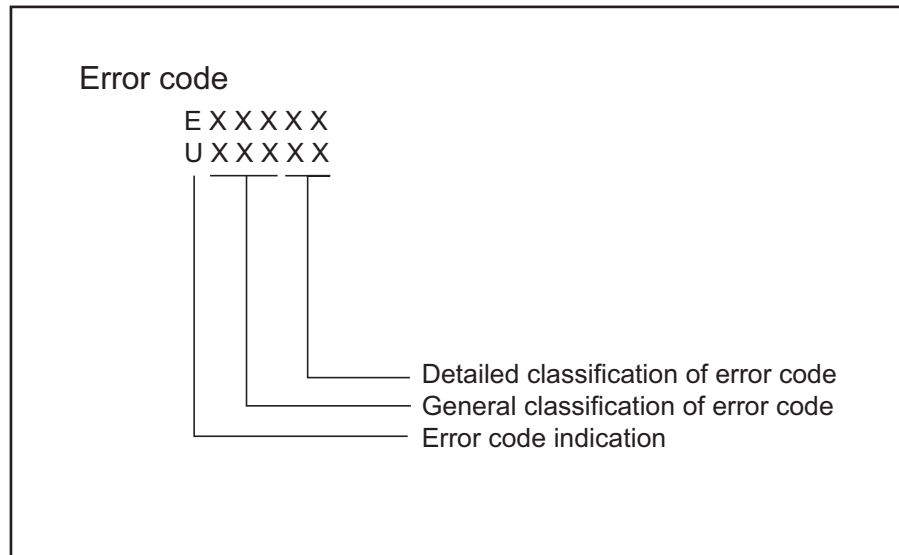


Figure 7-1

(2) Error codes

Error codes	Content
U00000/E00000	No response or busy every time though redialing in the specified times.
U00100/E00100	Press the [Stop] key.
U00200/E00200	Reception was interrupted by a press of the [Stop] key.
U00300/E00300	Destination receiver machine is out of paper during transmission.
U004XX/E004XX	Communication was interrupted due to the function unmatched when receiving the call (Receiver). Error corresponding to U004XX (Phase B interruption) (See page P.7-92).
U00500/E00500	Unable to call due to interruption during multi communications (destination not called after interruption).
U006XX/E006XX	Communication was interrupted due to trouble of the own machine. Error corresponding to U006XX (Machine problem) (See page P.7-93).
U00700/E00700	Communication was interrupted because of a problem in the destination unit.
U008XX/E008XX	Some pages were not correctly transmitted when transmitting in the G3 mode. Error corresponding to U008XX (Part of transmission error) (See page P.7-93).
U009XX/E009XX	Some pages were not correctly received when receiving in the G3 mode. Error corresponding to U009XX (Part of transmission error) (See page P.7-93).
U010XX/E010XX	Communication was interrupted due to signal errors during transmission in the G3 mode. Error corresponding to U010XX (Transmission in G3 mode) (See page P.7-94).
U011XX/E011XX	Communication was interrupted due to signal errors during reception in the G3 mode. Error corresponding to U011XX (Reception in G3 mode) (See page P.7-96).
U01400/E01400	Invalid one-touch key, etc. were designated during communication.
U01500/E01500	A communication occurred at V.8 mode when calling.
U01600/E01600	A communication error occurred in V.8 mode when answering the call.
U017XX/E017XX	A communication error occurred before starting the T.30 .protocol when transmitting in V.34 mode. Error corresponding to U017XX (Transmission in V.34 mode) (See page P.7-97).
U018XX/E018XX	A communication error occurred before starting the T.30 protocol when receiving in V.34 mode. Error corresponding to U018XX (Reception in V.34 mode) (See page P.7-98).
U02000/E02000	Relay multicast is denied by the relay station because permission ID and permission phone number do not match when instructing relay.
U02100/E02100	Destination machine (relay station) has no relay multicast function when instructing relay.
U02200/E02200	Instruction station instructs relay but unable to relay because of designating phone number not registered in relay station. Or, relay station is requested for relay but phone number not registered in relay station is designated and relay multicast is not available. Or, dialing registered in the interoffice sub address box is deleted and relay multicast is not available.
U023XX/E023XX	When receiving relay instruction, receiver information is not correctly received. Error corresponding to U023XX (relay instruction reception error) (See page P.7-98).
U02400/E02400	Interrupted because the interoffice sub address box No. designated when sending the interoffice sub address instruction between own company machines does not match.

Error codes	Content
U03000/E03000	Originals were not set on the destination machine at polling reception.
U03100/E03100	No document was present in the destination unit in the reverse polling but transmission finished.
U03200/E03200	Data is not accumulated in the box designated by the sender machine at the confidential polling reception. Or when receiving interoffice sub address bulletin board in interoffice, the data was not stored in the box specified by the destination unit.
U03300/E03300	Communication was interrupted since the permission ID number and permission phone number did not match at polling reception (Destination machine is our own). Or when receiving interoffice sub address bulletin board in interoffice, communication was interrupted since the permission ID number and permission phone number did not match.
U03400/E03400	Communication was interrupted since individual numbers did not match at polling reception (Destination machine is our own or other).
U03500/E03500	Designated confidential box No. is not registered in the destination machine at the confidential polling reception. Or when receiving the interoffice sub address bulletin board in interoffice, the specified interoffice sub address confidential box number was not registered in the destination unit. Or, it was during access.
U03600/E03600	Confidential polling reception is interrupted because designated confidential box ID No. does not match. Or when receiving interoffice sub address bulletin board in interoffice, it was interrupted because the specified interoffice sub address BOX ID number did not match.
U03700/E03700	Destination sender machine has no confidential polling function at the confidential polling reception. Or, no data is accumulated at any box of the destination sender machine. Or though receiving the interoffice sub address bulletin board in interoffice, the destination unit had no interoffice sub address bulletin board transmission function. Or data was not saved in any of the destination machine's confidential interoffice sub address box.
U04000/E04000	Confidential box designated at the confidential transmission is not registered in the destination receiver machine. Or, in interoffice sub address transmission mode, the specified sub address password was not registered in the destination unit. Or, it was during access.
U04100/E04100	Destination receiver machine has no confidential function at the confidential transmission. Or though transmitting interoffice sub address, the destination unit had no interoffice sub address reception function.
U04200/E04200	Confidential box designated at the encrypted transmission is not registered or not of encryption at the destination receiver machine. Or, the encryption box designated at the new encrypted transmission is not registered at the destination receiver machine.
U04300/E04300	The destination receiver machine did not have the encryption function at the encrypted transmission.
U044XX/E044XX	Communication was interrupted due to the encryption key error in the encrypted transmission. Or, Communication was interrupted due to the encryption key error in the new encrypted transmission. Error corresponding to U044XX (Encrypted transmission) (See page P.7-98).
U04500/E04500	Communication was interrupted since the encryption key did not match in the encrypted reception. Or, communication was interrupted since the encryption key did not match in the new encrypted reception.
U05000/E05000	Transmitted pages do not match the specified pages when transmitting with page setting.

Error codes	Content
U05100/E05100	Communication was interrupted since the permission number did not match due to the password check receipt or receipt restriction.
U05200/E05200	Communication was interrupted since the permission number did not match, the denial number matched or own phone number was not informed due to the password check receipt or receipt restriction.
U05300/E05300	Password check reception or restricted reception was interrupted because the permit ID's did not match, the rejected FAX number's did match, or the destination receiver did not return its phone number.
U09000/E09000	Destination is G2 machine when attempting G3 unique function.
U12000/E12000	Memory overflow occurs at reception when receiving relay multicast request from instructor station. Or, memory overflow occurs when receiving the interoffice sub address instruction.
U12100/E12100	Memory overflow occurs at the destination receiver machine (relay station) when instructing relay.
U14000/E14000	Memory overflow at the confidential reception. Or memory overflowed during the confidential interoffice sub address reception.
U14100/E14100	Memory overflow occurs at the destination receiver machine during confidential transmission. Or in the interoffice sub address transmission, memory overflowed in the destination receiver unit.
U19000/E19000	Memory overflowed during memory reception.
U19100/E19100	Destination receiver machine has memory overflow during reception.
U19200/E19200	Transmission fails due to decoding error at memory transmission
U19300/E19300	Transmission fails due to error when encoding JBIG.
U19400/E19400	Reception fails due to error when decoding JBIG.

(2-1) Error code table: U004XX Interrupted phase B

Error codes	Content
U00420/E00420	Relay requested from instructor station is interrupted because permission ID No. and permission phone No. do not match.
U00421/E00421	Interoffice sub address reception is interrupted because designated interoffice sub address box No. does not match.
U00430/E00430	(Confidential reception / Reverse) communication was interrupted by the permission number mismatch at polling request. (Sender's event) Or sub address bulletin board transmission request is received but communication is interrupted with permission number mismatch. (Sender's event)
U00431/E00431	Confidential polling transmission is interrupted because designated confidential box No. is not registered. Or communication was canceled since the interoffice sub address confidential box ID No. was not registered at interoffice sub address bulletin board transmission.
U00432/E00432	Confidential polling transmission is interrupted because confidential box ID no. does not match. Or, the interoffice sub address bulletin board transmission is interrupted because the interoffice sub address confidential box ID No. does not match.
U00433/E00433	No data is set in the confidential box when receiving confidential polling request. Or a sub address bulletin board transmission request was received but data was not present in the sub address box.
U00434/E00434	Confidential polling is interrupted because designated confidential box No. is for encryption.
U00435/E00435	Confidential polling is interrupted because designated confidential box No. is during access. Or, the interoffice sub address bulletin board transmission is interrupted because the interoffice sub address confidential box ID No. does not match.
U00440/E00440	Confidential reception is interrupted because designated confidential box No. is not registered. Or, the interoffice sub address confidential reception or the interoffice sub address reception is interrupted because designated interoffice sub address box No. is not registered. Or, the interoffice sub address confidential reception or the interoffice sub address relay reception is interrupted because designated interoffice sub address box No. is under access.
U00441/E00441	Interrupted because the confidential box No. is not registered at the encrypted reception.
U00450/E00450	Password check transmission or restricted transmission was interrupted because the permit ID's did not match.
U00460/E00460	Interrupted because the confidential box No. is not registered at the encrypted reception. Or, interrupted because designated encryption box No. is not registered at the new encrypted reception. Or, new encrypted reception is interrupted because designated encrypted box No. is under access.
U00461/E00461	Encrypted reception is interrupted because designated confidential box No. is not for encryption.
U00462/E00462	Encrypted reception is interrupted because encryption key for designated confidential box is not registered. Or, interrupted because designated the encryption key for encryption box No. is not registered at the new encrypted reception.

(2-2) Error code table: U006XX Problems with the unit

Error codes	Content
U00600/E00600	Cover of DP replacement opened.
U00601/E00601	Original feed jam or exceeding the maximum original length.
U00602/E00602	Scanning image writing section problem
U00603/E00603	No paper feeding jam occurred.
U00604/E00604	Document length exceeds the limit by bitmap memory capacity.
U00610/E00610	Cover of DP replacement opened.
U00611/E00611	Record paper is jammed.
U00613/E00613	Error in the optical writing section.
U00614/E00614	Record paper near-end is detected.
U00615/E00615	Record paper is used up.
U00620/E00620	Fuser of main unit error has occurred.
U00621/E00621	Fan error has occurred.
U00622/E00622	Drive motor of main unit error has occurred.
U00655/E00655	CTS is not active due to modem error after RTS is turned on.
U00656/E00656	No data is sent due to modem error after CTS is active.
U00670/E00670	Power is shut off during communication.
U00677/E00677	File to send does not exist at memory transmission.
U00690/E00690	System error has occurred.

(2-3) Error code table: U008XX Page transmission error

Error codes	Content
U00800/E00800	Some pages could not be sent since RTN or PIN signal was received.
U00811/E00811	Some pages were not correctly transmitted when resending in the ECM mode.

(2-4) Error code table: U009XX Page reception error

Error codes	Content
U00900/E00900	RTN or PIN signal was sent since some pages were not received correctly.
U00910/E00910	Some pages were not correctly received when receiving again in the ECM mode.

(2-5) Error code table: U010XX G3 transmission error

Error codes	Content
U01000/E01000	FTT signal was received after sending TCF signal at 2400bps (repeated the specified times). Or RTN signal was received in response to Q signal (except EOP) when transmitting at 2400bps.
U01001/E01001	The function indicated by the DIS signal does not match the own machine.
U01010/E01010	Command resending time is over because no significant signal is received after sending DNL (MS or EOM) signal (between own company machines).
U01011/E01011	A message signal cannot be received after sending the DCS, TCF signal and command resending time is exceeded.
U01012/E01012	A message signal cannot be received after sending the NSS1, NSS2(TCF) signal and command resending time is exceeded (between own models).
U01013/E01013	A message signal cannot be received after sending the NSS3, TCF signal and command resending time is exceeded (between own models).
U01014/E01014	A message signal cannot be received after sending the NPS signal and command resending time is exceeded.
U01015/E01015	Command send retrial times exceeds since significant signal is not received after sending EOM signal.
U01016/E01016	After sending the EOM signal, the MCF signal was received but no DIS signal and it lead to the T1 timeout.
U01017/E01017	Command send retrial times exceeds since significant signal is not received after sending EOP signal.
U01018/E01018	Command send retrial times exceeds since significant signal is not received after sending PRI-EOP signal.
U01019/E01019	A message signal cannot be received after sending the CNC signal and command resending time is exceeded (between own models).
U01020/E01020	A message signal cannot be received after sending the CTC signal and command resending time is exceeded (ECM).
U01021/E01021	could not receive the message signal after sending the EOR?Q signal and exceeded the command resending time (ECM).
U01022/E01022	A message signal could not received and command resending time is exceeded after sending the RR signal (ECM).
U01023/E01023	could not receive the message signal after sending the PSS?NULL signal and exceeded the command resending time (ECM).
U01024/E01024	Command send retrial times exceeds since significant signal is not received after sending PSS•MPS signal. (ECM)
U01025/E01025	Command send retrial times exceeds since significant signal is not received after sending PPS•EOM signal. (ECM)
U01026/E01026	Command send retrial times exceeds since significant signal is not received after sending PPS•EOP signal. (ECM)
U01027/E01027	Command send retrial times exceeds since significant signal is not received after sending PPS•PRI-EOP signal. (ECM)
U01028/E01028	The T5 timeout is detected at the ECM transmission (ECM).
U01040/E01040	No significant signal is received other than DCN signal when waiting for DIS signal reception.

Error codes	Content
U01041/E01041	DCN signal was received after sending DNL (MPS or EOM) signal (between own models).
U01042/E01042	DCN signal is received after sending DCS, TCF signal.
U01043/E01043	DCN signal is received after sending NSS1, NSS2(TCF) signal (between own models).
U01044/E01044	DCN signal is received after sending NSS3, TCF signal (between own models).
U01045/E01045	A DCN or other inappropriate signal was received after sending MPS signal.
U01046/E01046	A DCN or other inappropriate signal was received after sending EOM signal.
U01047/E01047	A DCN or other inappropriate signal was received after sending EOP signal.
U01048/E01048	DCN signal is received after sending PRI-EOP signal.
U01049/E01049	DCN signal is received after sending CNC signal (between own models).
U01050/E01050	DCN signal was received after sending CTC signal (ECM).
U01051/E01051	DCN signal is received after sending EPR?Q signal (ECM).
U01052/E01052	DCN signal is received after sending RR signal (ECM).
U01053/E01053	DCN signal is received after sending PPS?NULL signal (ECM).
U01054/E01054	DCN signal is received after sending PPS?MPS signal (ECM).
U01055/E01055	DCN signal is received after sending PPS?EOM signal (ECM).
U01056/E01056	DCN signal is received after sending PPS?EOP signal (ECM).
U01057/E01057	DCN signal is received after sending PPS?PRI-EOP signal (ECM).
U01070/E01070	Polarity invert is detected at handshake.
U01071/E01071	Polarity invert is detected during message transmission.
U01072/E01072	Loop current shutoff is detected during transmission.
U01073/E01073	No CM signal is received when transmitting after reception at the V.34 reverse polling (answerer side).
U01080/E01080	PIP signal was received after sending PPS.NULL signal.
U01091/E01091	Communication is interrupted because ten or more times of PPR signal is received after falling back to the lowest communication speed at the connected symbol speed in the V.34 transmission.
U01092/E01092	Communication was interrupted since the combination of symbol speed and communication speed do not match in V.34 mode.

(2-6) U011XX G3 reception error

Error codes	Content
U01100/E01100	The function indicated by the DCS signal does not match the own machine.
U01101/E01101	Functions indicated by the NSS signal (except communicating type) does not match the own machine.
U01102/E01102	DTC (NSC) signal was received without transmission data at the own machine.
U01110/E01110	No response is received after sending DIS signal.
U01111/E01111	No response is received after sending DTC (NSC) signal.
U01112/E01112	Training is not received after sending CFR signal.
U01113/E01113	No response is received after sending FTT signal.
U01114/E01114	No message is received after sending CFR signal.
U01115/E01115	No message is received after sending CFR signal.
U01116/E01116	No message is received after sending PPR signal.
U01117/E01117	No message is received after sending CTR signal.
U01118/E01118	No message is received after sending err signal.
U01119/E01119	No significant signal is received after receiving message.
U01120/E01120	No response is received after sending MCF signal.
U01121/E01121	No response is received after sending RTP signal.
U01122/E01122	No response is received after sending RTN signal.
U01123/E01123	No response is received after sending RIP signal.
U01124/E01124	No response is received after sending RIN signal.
U01125/E01125	No response is received after sending the CNS signal.
U01126/E01126	No response is received after sending PPR signal (ECM).
U01127/E01127	No response is received after sending ERR signal (ECM).
U01128/E01128	No response is received after sending RNR signal (ECM).
U01129/E01129	No response was received after sending SPA signal (Short protocol).
U01140/E01140	DCN signal is received after sending DIS signal.
U01141/E01141	DCN signal is received after sending DTC signal.
U01142/E01142	DCN signal is received after receiving DCS or NSS signal.
U01143/E01143	DCN signal is received after sending FTT signal.
U01144/E01144	DCN signal is received after sending CFR signal.
U01145/E01145	DCN signal is received after receiving DCN signal.
U01146/E01146	DCN signal is received after sending MCF signal. (Communication between own company machines such as the one after MPS, EOM signals and confidential)
U01147/E01147	DCN signal is received after sending RTP signal.
U01148/E01148	DCN signal is received after sending RTN signal.
U01149/E01149	DCN signal is received after sending PIP signal.
U01150/E01150	DCN signal is received after sending PIN signal.
U01151/E01151	DCN signal is received after sending PPR signal (ECM).
U01152/E01152	DCN signal was received after sending CTR signal (ECM).

Error codes	Content
U01153/E01153	DCN signal is received after sending ERR signal (ECM).
U01154/E01154	DCN signal is received after sending RNR signal (ECM).
U01155/E01155	DCN signal was received after sending SPA signal (Short protocol).
U01160/E01160	When receiving, the maximum transmission time per line has exceeded.
U01161/E01161	Error line exceeds the limit during message reception.
U01162/E01162	Loop current shutoff is detected during reception.
U01163/E01163	Polarity invert is detected during message reception.
U01164/E01164	Page length exceeds the specification during message reception.
U01170/E01170	Decoding error occurs during MMR message reception.
U01172/E01172	JM is not detected after sending CM when receiving after transmission at the V.34 reverse polling (calling side).
U01191/E01191	Communication was interrupted since an error occurred during the image data reception sequences in V.34 mode.
U01199/E01199	DIS signal with different FIF is received after sending DIS signal.

(2-7) Error code table: U017XX V.34 transmission error

Error codes	Content
U01700/E01700	A communication error occurred at Phase 2 (line probing).
U01720/E01720	A communication error occurred at Phase 4 (modem parameter exchange).
U01721/E01721	Communication was interrupted since the communication speed was not available to commonly use with the destination transmitter machine. (Or interrupted)

U01700: INF00/A/Abar?B/Bbar in case of polling?/INF0h could not be detected, etc.

A communication error occurring at the transmitter from INF00 sending to Phase 3 (primary channel equivalent device training)

U01720: PPh/ALT/MPh/E could not be detected, etc.

A communication error occurring at the transmitter from entering the control channel to entering the T.30 process in the control channel.

U01721: In case no communication speed is available commonly for sender and receiver when completing the MPh replacement (including the combination of impossible speed and symbol speed), DCN is received from the receiver and the line is disconnected.
(NSF), (CSI) and DIS is sent from the receiver, and the line is disconnected after sending the DCN.

(2-8) Error code table: U018XX V.34 reception error

Error codes	Content
U01800/E01800	A communication error occurred at Phase 2 (line probing).
U01810/E01810	A communication error occurred in phase 3 (primary channel equivalent device training).
U01820/E01820	A communication error occurred at Phase 4 (modem parameter exchange).
U01821/E01821	Communication was interrupted since the communication speed was not available to commonly use with the destination transmitter machine.

U01800: INF00/B/Bbar A/Abar in case of polling /probing tone could not be detected, etc.

A communication error at the receiver occurring from INF00 sending to Phase 3 (primary channel equivalent device training)

U01810: S/Sbar/PP/TRN could not be detected.

A communication error in Phase 3 (primary channel equivalent device training) at the receiver.

U01820: PPh/ALT/MPh/E could not be detected, etc.

A communication error from entering the control channel at the receiver to entering the T.30 steps in the control channel.

U01821: In case no communication speed is available commonly for sender and receiver when completing the MPh replacement (including the combination of impossible speed and symbol speed) and the line is disconnected by sending DCN to the destination.

(2-9) Error code table: U023XX Page reception error

Error codes	Content
U02303/E02303	Timeout when unable to receive correct DNL signal.
U02304/E02304	Signal other than MPS and EOM is received after receiving DNL signal.

(2-10) Error code table: U044XX Encrypted transmission error

Error codes	Content
U04400/E04400	Communication was interrupted since the encryption key did not match in the encrypted transmission.
U04401/E04401	A call failed since the encryption key was not registered in the encrypted transmission.

8 PWBs

8-1 Description for PWB

(1) Main/Engine PWB

Connector position

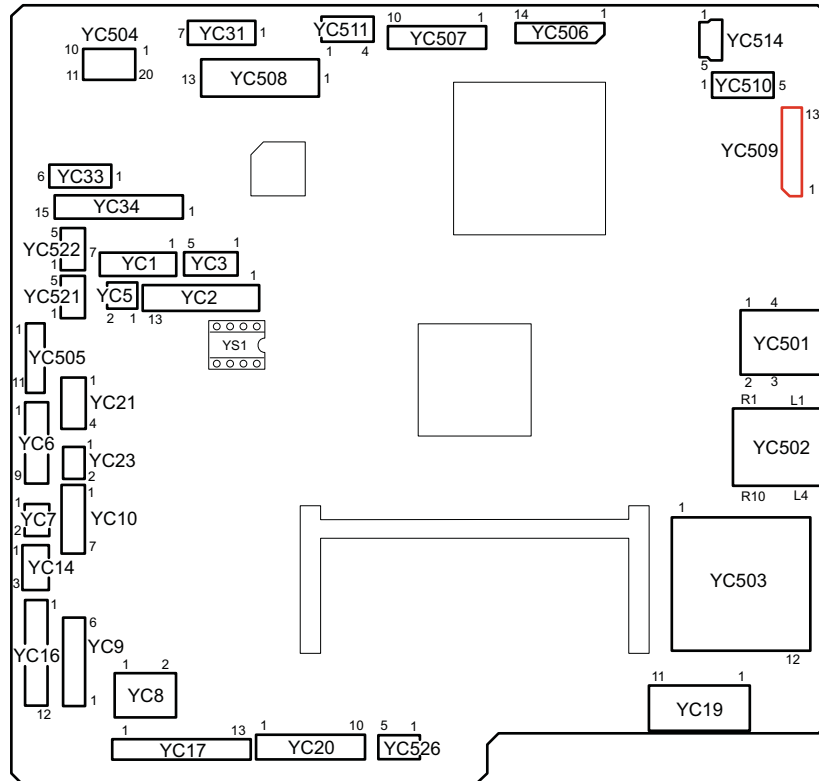


Figure 8-1

PWB photograph

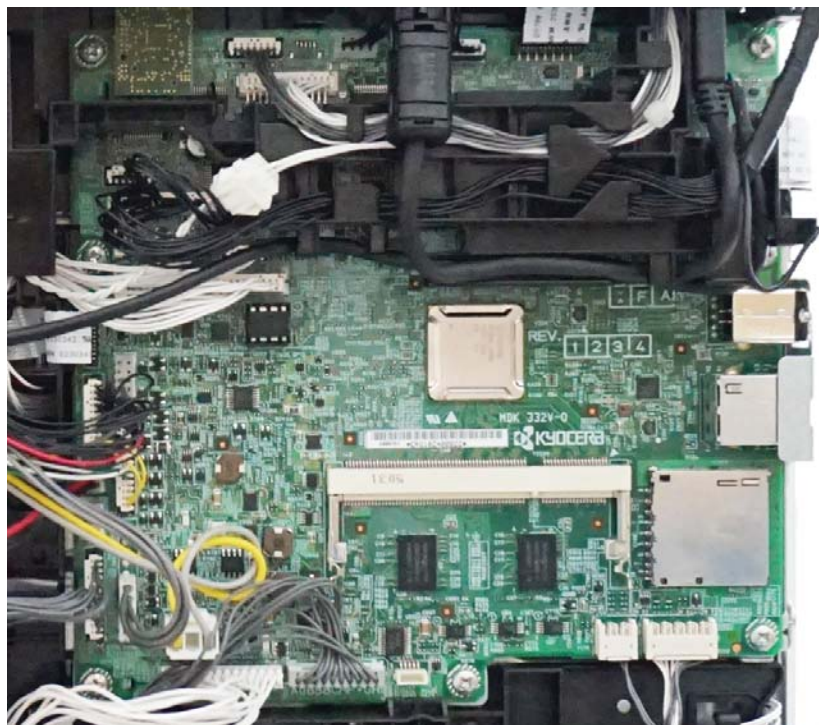


Figure 8-2

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
 YC31: Home position sensor, Scanner motor
 YC33: DP conveying motor, DP feed clutch
 YC34: DP opening and closing sensor, DP paper feed sensor, DP front side timing sensor, DP original detection sensor (35 ppm model only)
 YC34: DP opening and closing sensor, DP paper feed sensor, DP front side timing sensor, DP original detection sensor, DP back side timing sensor (40 ppm model only)
 YC501: USB
 YC502: EtherNet
 YC503: SD
 YC504: Wi-Fi
 YC505: APC PWB
 YC506: CIS
 YC507: Operation panel PWB(LCD model only)
 YC507: Operation panel PWB(TSI model only)
 YC508: FAX PWB (FAX model only)
 YC509: DPCIS (40 ppm model only)
 YC510: USB PWB
 YC511: Operation panel PWB(TSI model only)
 YC514: Operation panel PWB(TSI model only)
 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

Connector	Pin	Signal	I/O	Voltage	Description
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
	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	-	-	-	Not used
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

Connector	Pin	Signal	I/O	Voltage	Description
YC9	1	MAIMOTDIR	O	0/5 V DC	Main motor rotation'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
	5	+24V6FA	-	24 V DC	24 V DC power source
	6	DLPCLURE	I	0/24 V DC	Developer clutch drive
	7	-	-	-	Not used
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

Connector	Pin	Signal	I/O	Voltage	Description
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
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

Connector	Pin	Signal	I/O	Voltage	Description
YC23	1	POWERSW	I	0/3.3 V DC	Power source switch signal
	2	GND	-	0 V DC	Ground
YC31	1	+3.3V4LED	-	about1.2 V DC	Power for PI
	2	SGND	-	0 V DC	Ground
	3	ISUHPSE	I	0/3.3 V DC	HP detection signal
	4	ISUMOTA1	O	0/24 V DC	ISU motor A phase voltage
	5	ISUMOTA2	O	0/24 V DC	ISU motor A phase voltage
	6	ISUMOTB2	O	0/24 V DC	ISU motor B phase voltage
	7	ISUMOTB1	O	0/24 V DC	ISU motor B phase voltage
YC33	1	DPMOTA1	O	0/24 V DC	DP motor A phase voltage
	2	DPMOTA2	O	0/24 V DC	DP motor A phase voltage
	3	DPMOTB2	O	0/24 V DC	DP motor B phase voltage
	4	DPMOTB1	O	0/24 V DC	DP motor B phase voltage
	5	+24V6FA	-	24 V DC	24 V DC power source
	6	DPREGCLURE	O	0/24 V DC	DP Registration clutch drive
YC34 35 ppm model	1	+3.3V4LED	-	about1.2 V DC	Power for PI
	2	GND	-	0 V DC	Ground
	3	DPREGPAPSE	I	0/3.3 V DC	DP registration 2 sensor signal
	4	+3.3V4LED	-	about1.2 V DC	Power for PI
	5	GND	-	0 V DC	Ground
	6	DPFEEDPAPSE	I	0/3.3 V DC	DP paper feed sensor signal
	7	+3.3V4LED	-	about1.2 V DC	Power for PI
	8	GND	-	0 V DC	Ground
	9	ORGSETSE	I	0/3.3 V DC	DP document detection sensor signal
	10	+3.3V4LED	-	about1.2 V DC	Power for PI
	11	GND	-	0 V DC	Ground
	12	DPCOVER	I	0/3.3 V DC	DP cover opening and closing detection signal
YC34 40 ppm model	1	+3.3V4LED	-	about1.2 V DC	Power for PI
	2	GND	-	0 V DC	Ground
	3	DPREGPAPSE	I	0/3.3 V DC	DP registration 2 sensor signal
	4	+3.3V4LED	-	about1.2 V DC	Power for PI
	5	GND	-	0 V DC	Ground
	6	DPREGPAPSE1	I	0/3.3 V DC	DP registration 1 sensor signal
	7	+3.3V4LED	-	about1.2 V DC	Power for PI
	8	GND	-	0 V DC	Ground
	9	DPFEEDPAPSE	I	0/3.3 V DC	DP paper feed sensor signal

Connector	Pin	Signal	I/O	Voltage	Description
YC34 40 ppm model	10	+3.3V4LED	-	about1.2 V DC	Power for PI
	11	GND	-	0 V DC	Ground
	12	ORGSETSE	I	0/3.3 V DC	DP document detection sensor signal
	13	+3.3V4LED	-	about1.2 V DC	Power for PI
	14	GND	-	0 V DC	Ground
	15	DPCOVER	I	0/3.3 V DC	DP cover opening and closing detection signal
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_F	-	5 V DC	5 V DC power
YC506	1	SAAVO0	I	Analog	CIS signal out 1
	2	SGND	-	0 V DC	Ground
	3	SAAVO1	I	Analog	CIS signal out 2
	4	SGND	-	0 V DC	Ground
	5	SAAVO2	I	Analog	CIS signal out 3
	6	SGND	-	0 V DC	Ground
	7	+3.3V5	-	3.3 V DC	3.3 V DC power supply
	8	SAASP	O	0/3.3 V DC	Main scanning synchronization signal
	9	SGND	-	0 V DC	Ground
	10	SAACLK	O	0/3.3 V DC(pulse)	CIS clock
	11	SAALEDA	O	0/about18 V DC	Power source for CISLED
	12	SAALEDB	I	0 V DC	CISLED cathode BLUE
	13	SAALEDG	I	0 V DC	CISLED cathode GREEN
	14	SAALEDR	I	0 V DC	CISLED cathode RED

Connector	Pin	Signal	I/O	Voltage	Description
YC507 LCD model	1	GND	-	0 V DC	Ground
	2	P2C_SDAT	I	0/3.3 V DC	Panel communication data receiving signal
	3	INT_ENERGYSA EKEY_N	I	0/3.3 V DC	ESAVERKEY detection signal
	4	C2P_PRSTN	O	0/3.3 V DC	Panel reset signal
	5	INT_ANYKEY	I	0/3.3 V DC	INT_ANYKEY detection signal
	6	C2P_SDAT	O	0/3.3 V DC	Panel communication data sending signal
	7	+5V2	-	5 V DC	5 V DC power
	8	+3.3V2	-	3.3 V DC	3.3 V DC power supply
YC507 TSI model	1	GND	-	0 V DC	Ground
	2	PANEL_STATUS	-	-	There is no function in Libra.
	3	INT_ENERGYSA EKEY	I	0/3.3 V DC	ESAVERKEY detection signal
	4	FPRSTN	O	0/3.3 V DC	Panel reset signal
	5	LCDCON	O	0/3.3 V DC	LCD control signal
	6	24VSHUTDOWN	O	0/3.3 V DC	Sleep control signal
	7	LED_PROCESSI NG_N	I	0/5 V DC	LED control processing
	8	LED_ATTENTION _N	I	0/5 V DC	LED control attention
	9	LED_MEMORY_N	I	0/5 V DC	LED control memory
	10	PANEL_WAKEUP	O	0/3.3 V DC	Panel recovery signal
	11	BUZERCON	O	0/3.3 V DC	Buzzer control
YC508 FAX model	1	+24V4	-	24 V DC	24 V DC power source
	2	GND	-	0 V DC	Ground
	3	+3.3V2	-	3.3 V DC	3.3 V DC power supply
	4	RESB	O	0/3.3 V DC	Reset signal
	5	GND	-	0 V DC	Ground
	6	HSCLK	O	0/3.3 V DC(pulse)	SPI clock
	7	HSD	I	0/3.3 V DC	SPI data input
	8	GND	-	0 V DC	Ground
	9	HSAD	O	0/3.3 V DC	SPI data, address output
	10	HSCCSB	O	0/3.3 V DC	SPI chip select
	11	GND	-	0 V DC	Ground
	12	HINT	I	0/3.3 V DC	Interruption signal
	13	-	-	-	Not used

Connector	Pin	Signal	I/O	Voltage	Description
YC509 40 ppm model	1	ADFVO0	I	Analog	CIS signal out 1
	2	SGND	-	0 V DC	Ground
	3	ADFVO1	I	Analog	CIS signal out 2
	4	SGND	-	0 V DC	Ground
	5	ADFVO2	I	Analog	CIS signal out 3
	6	SGND	-	0 V DC	Ground
	7	+3.3V5	-	3.3 V DC	3.3 V DC power supply
	8	ADFSP	O	0/3.3 V DC	Main scanning synchronization signal
	9	SGND	-	0 V DC	Ground
	10	ADFCLK	O	0/3.3 V DC(pulse)	CIS clock
	11	ADFLEDA	O	0 V DC/about18V	Power source for CISLED
	12	ADFLEDB	I	0 V DC	CISLED cathode BLUE
	13	ADFLEDG	I	0 V DC	CISLED cathode GREEN
	14	ADFLEDR	I	0 V DC	CISLED cathode RED
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
YC511 TSI model	1	GND	-	0 V DC	Ground
	2	GND	-	0 V DC	Ground
	3	+5V2	-	5 V DC	5 V DC power
	4	+5V2	-	5 V DC	5 V DC power
YC514 TSI model	1	VBUS(+5V4)	-	5 V DC	5 V DC power
	2	DN	I/O	LVDS	Panel data signal
	3	DP	I/O	LVDS	Panel data signal
	4	-	-	-	Not used
	5	GND	-	0 V DC	Ground
	S	SHELL			

(2) High voltage PWB

Connector position

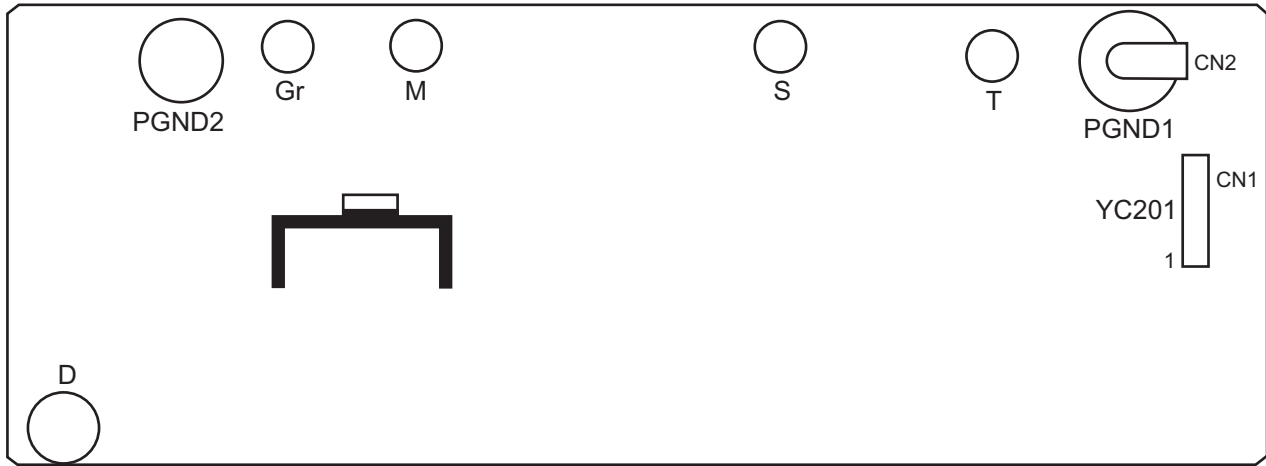


Figure 8-3

PWB photograph

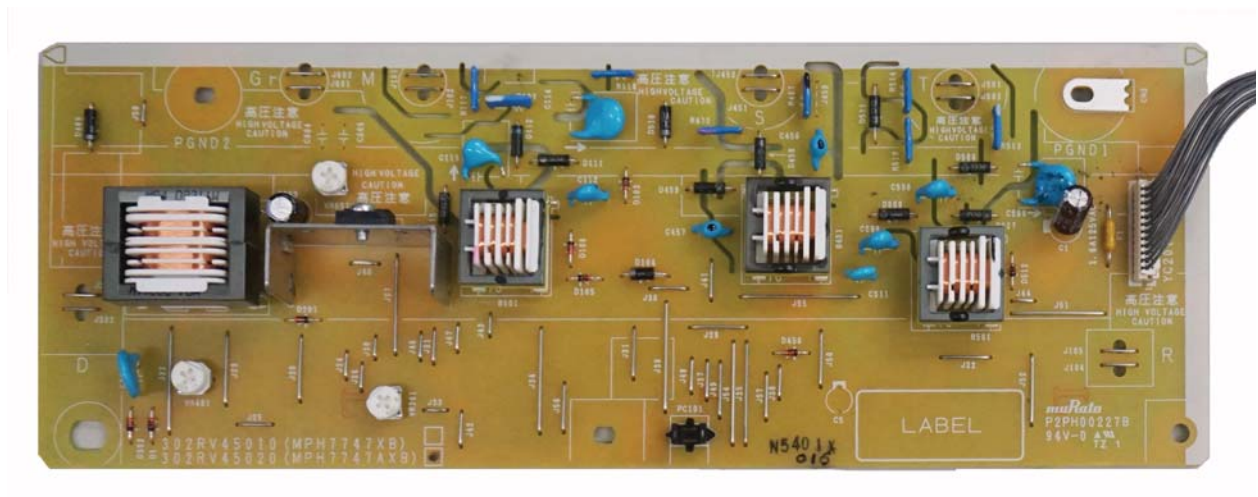


Figure 8-4

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

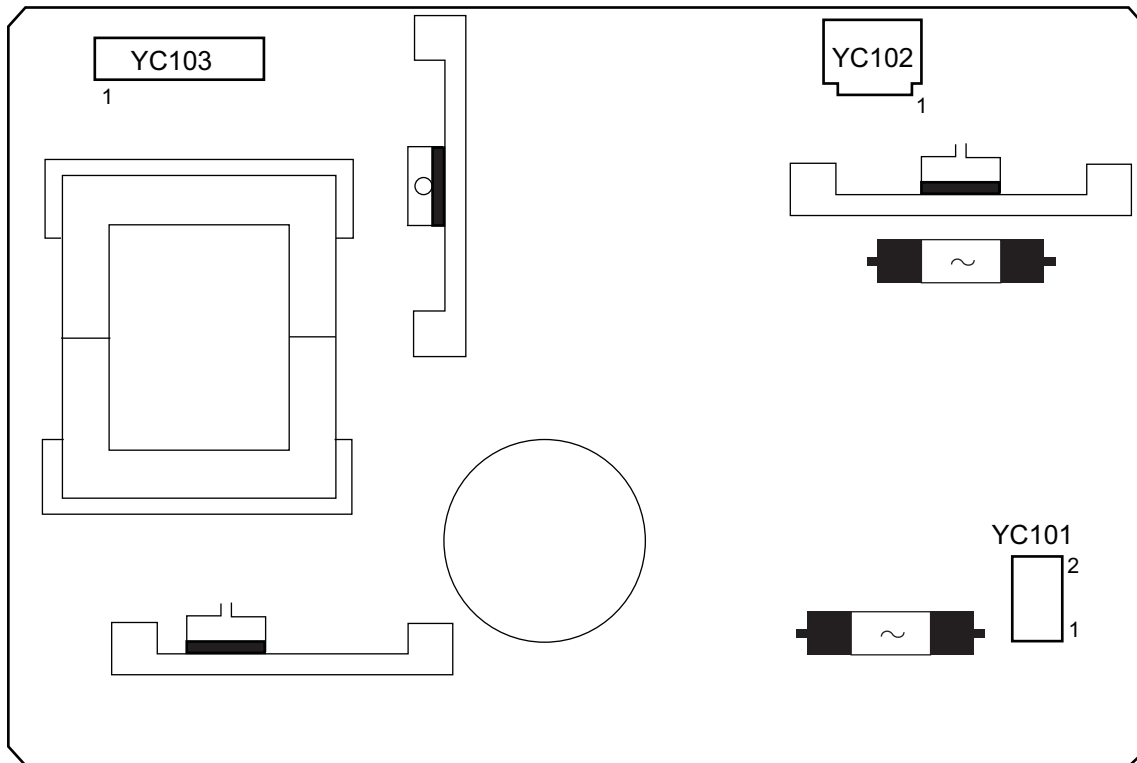


Figure 8-5

PWB photograph

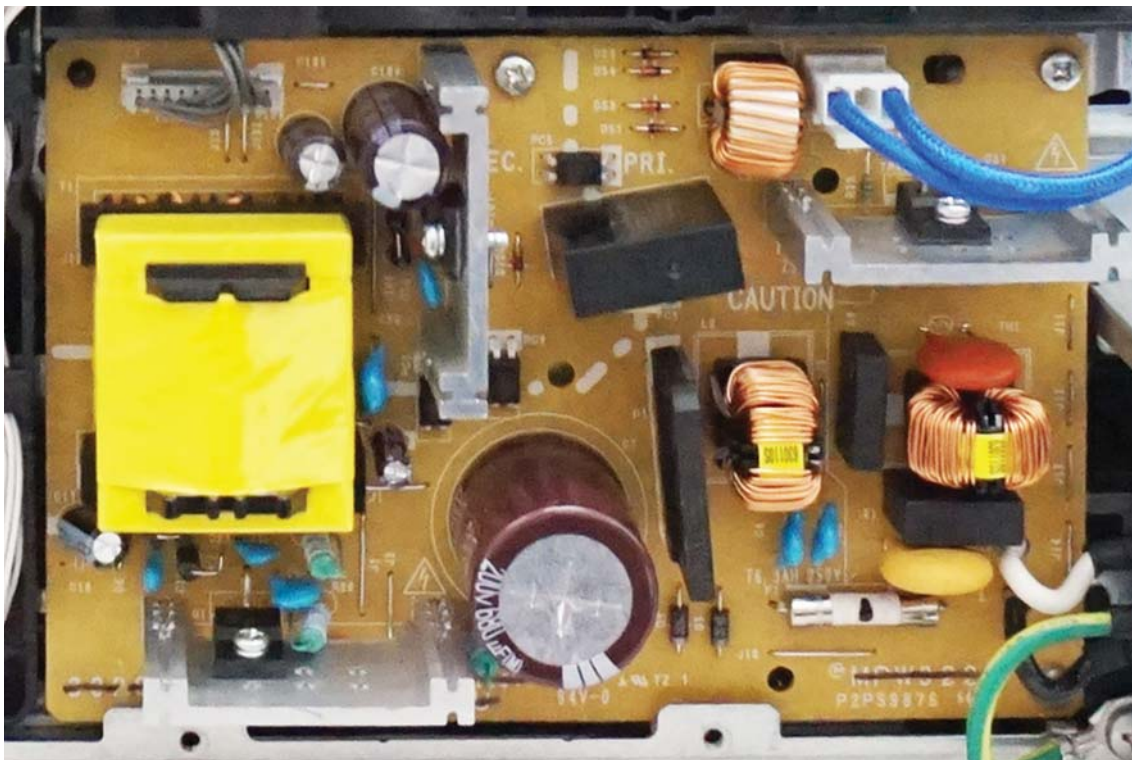


Figure 8-6

Connector access point

YC101: Inlet

YC102: Fuser heater, thermal cut-off

YC103: Main/Engine PWB

Connector	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 (TSI)

Connector position

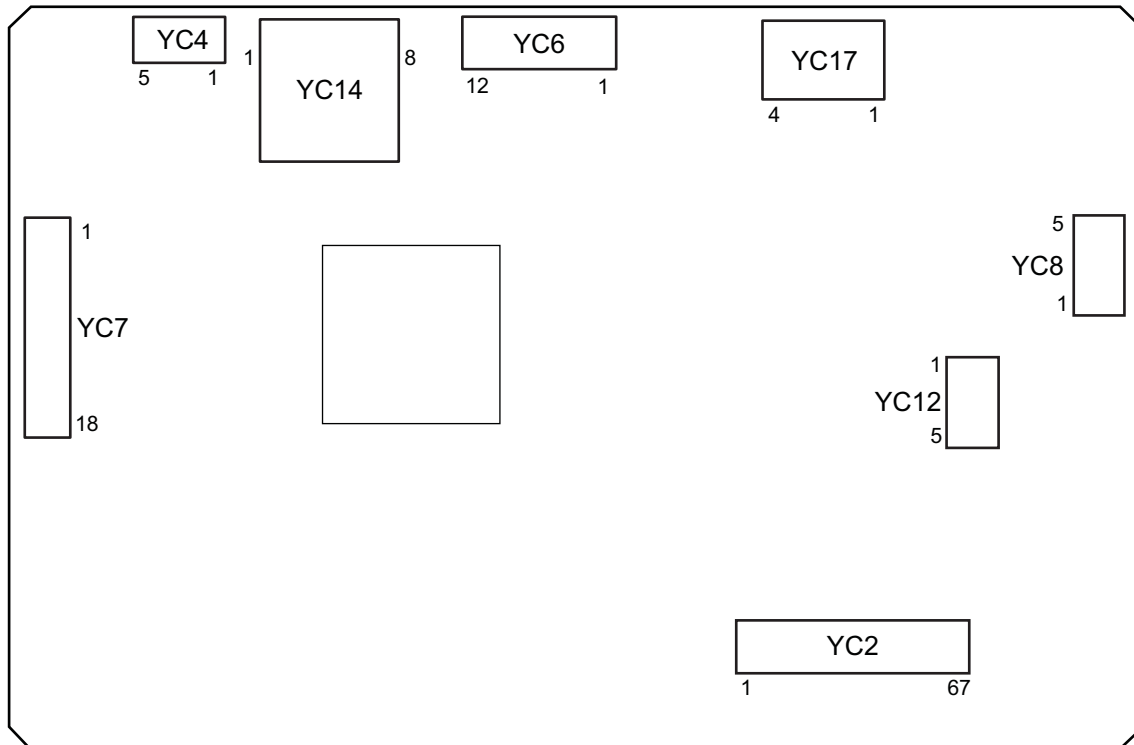


Figure 8-7

PWB photograph

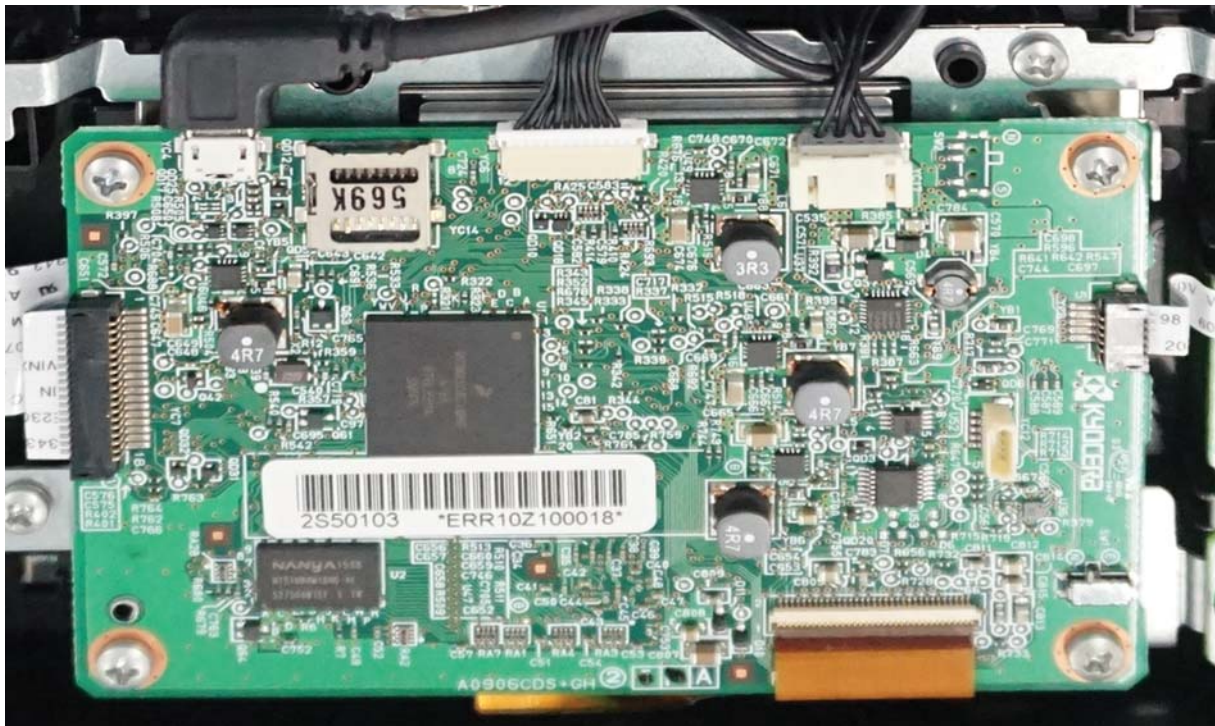


Figure 8-8

Connector access point

YC2: LCD

YC4: Main/Engine PWB

YC6: Main/Engine PWB

YC7: Right key PWB

YC8: Left key PWB

YC17: Main/Engine PWB

Connector	Pin	Signal	I/O	Voltage	Description
YC2	1/2	LED_C(-)/ LED_A(+)	-/-	(0/5 V DC)/(5 V DC/24V)	LED power input (Low)/LED power input (High)
	3/4	DGND1/X1(R)	-/I	-(0/2.5V DC)	Digital ground/Touch panel terminal (Right)
	5/6	Y2(B)/X2(L)	I/I	(0/1.5V DC)/(0/ 2.5V DC)	Touch panel terminal (Low)/Touch panel terminal (Left)
	7/8	Y1(T)/AGND1	I/-	(0/1.5V DC)/-	Touch panel terminal (Upper)/Analog ground
	9/10	VGH/C11P	-/-	(0/14V DC)/(3/6V DC(pulse))	
	11/12	C11N/C12P	-/-	(0/3 V DC(pulse)/ (3/6 V DC(pulse)	
	13/14	C12N/VGL	-/-	(0/3 V DC(pulse))(DC11 V/0V)	
	15/16	C13P/C13N	-/-	(0/3 V DC(pulse)/ (DC-3V/ 0V(pulse))	
	17/18	AGND2/DDVDH	-/-	-(0/6V DC)	Analog ground/
	19/20	C14P/C14N	-/-	(0/4V DC(pulse)/ (-4/0 V DC(pulse)	
	21/22	VCC/NC	-/-	(0/3.3 V DC)/-	Input voltage terminal for boosting volt- age/unconnection
	23/24	AGND3/VCL2	-/-	-(4/0 V DC)	Analog ground/
	25/26	C21P/C21N	-/-	(0/14 V DC (pulse)/(-5/14V DC (pulse)	
	27/28	IOVCC/RESB	-/O	(0/3.3 V DC)/(0/3/ 3V DC)	Power input for logic I/O/reset terminal
	29/30	DGND2/IOVCC	-/-	-(0/3.3 V DC)	Digital ground/Power input for logic I/O
	31/32	VDD/DGND3	-/-	(0/1.5V DC/-	/Digital ground
	33/34	SHUT/CSB	O/ O	(0/3.3 V DC)/(0/3/ 3V DC)	Sleep mode control terminal/Chip select terminal
	35/36	SDI/SCK	O/ O	(0/3.3 V DC)/(0/3/ 3V DC(pulse))	Data input terminal/clock input terminal
	37/38	AGND4/DEN	-/O	-(0/3.3 V DC(pulse)	Analog ground/Enable signal

Connector	Pin	Signal	I/O	Voltage	Description
YC2	39/40	B5/B4	O/ O	(0/3.3 V DC(pulse))/(0/3.3 V DC(pulse)	Blue data signal(MSB)/Blue data signal
	41/42	B3/B2	O/ O	(0/3.3 V DC(pulse))/(0/3.3 V DC(pulse)	Blue data signal/Blue data signal
	43/44	B1/B0	O/ O	(0/3.3 V DC(pulse))/(0/3.3 V DC(pulse)	Blue data signal/Blue data signal(LSB)
	45/46	G5/G4	O/ O	(0/3.3 V DC(pulse))/(0/3.3 V DC(pulse)	Green data signal(MSB)/Green data signal
	47/48	G3/G2	O/ O	(0/3.3 V DC(pulse))/(0/3.3 V DC(pulse)	Green data signal/Green data signal
	49/50	G1/G0	O/ O	(0/3.3 V DC(pulse))/(0/3.3 V DC(pulse)	Green data signal/Green data signal(LSB)
	51/52	R5/R4	O/ O	(0/3.3 V DC(pulse))/(0/3.3 V DC(pulse)	Red data signal(MSB)/Red data signal
	53/54	R3/R2	O/ O	(0/3.3 V DC(pulse))/(0/3.3 V DC(pulse)	Red data signal/Red data signal
	55/56	R1/R0	O/ O	(0/3.3 V DC(pulse))/(0/3.3 V DC(pulse)	Red data signal/Red data signal(LSB)
	57/58	VSYNC/HSYNC	O/ O	(0/3.3 V DC(pulse))/(0/3.3 V DC(pulse)	Vertical synchronizing signal/Horizontal synchronizing signal
	59/60	DOTCLK/VC11	O/-	(0/3.3 V DC (pulse))(0/3.3 V DC)	Clock signal/
	61/62	DGND4/VREG	-/-	-(0/4.6V DC)	Digital ground/
	63/64	VCOMH/VCOML	-/-	(0/3.3 V DC)/(-2/0 V DC)	
	65/66	DGND5/C22P	-/-	-(-5.5/9 V DC (pulse))	Digital ground/
	67	C22N	-	DC3V/-11V	
YC4	1	VBUS(+5V4)	-	5 V DC	VBUS signal
	2	DN	I/O	0/3.3 V DC	Highspeed
	3	DP	I/O	0/3.3 V DC	Highspeed
	4	-	-	-	Not used
	5	GND	-	-	Ground
	S	SHELL	-	-	Ground

Connector	Pin	Signal	I/O	Voltage	Description
YC6	1	GND	-	-	Ground
	2	BUZERCON	I	0/3.3 V DC	Notification sound rumbling signal when recovering from sleep
	3	PANEL_WAKEUP	I	0/3.3 V DC	Stop mode recovery signal
	4	LED_MEMORY_N	I	0/5 V DC	Memory LED light signal
	5	LED_ATTENTION_N	I	0/5 V DC	Attention LED light signal
	6	LED_PROCESSING_N	I	0/5 V DC	Processing LED light signal
	7	24VSHUTDOWN	I	0/3 V DC	LCD power off signal
	8	LCDCON	I	0/3.3 V DC	LCD display control signal when recovering from sleep
	9	FPRSTN	I	0/3.3 V DC	Software reset signal
	10	INT_ENERGYSAEKEY	O	0/3.3 V DC	Power source key interruption signal
	11	PANEL_STATUS	O	0/3.3 V DC	Panel status notification signal
	12	GND	-	-	Ground
YC7	1	KEY0	I	0/3.15 V DC	Key input signal 0
	2	SCAN2	O	0/3.15 V DC	Key scan signal 2
	3	SCAN3	O	0/3.15 V DC	Key scan signal 3
	4	KEY1	I	0/3.15 V DC	Key input signal 2
	5	ESAVEKEY	I	0/3.3 V DC	Energy Saver key input signal
	6	SCAN1	O	0/3.15 V DC	Key scan signal 1
	7	SCAN4	O	0/3.15 V DC	Key scan signal 4
	8	LED0	O	0/5 V DC(pulse)	LED lighting signal 0
	9	ESAVELED	O	0/5 V DC	Energy Saver LED light signal
	10	KEY2	I	0/3.15 V DC	Key input signal 2
	11	PROCESSING	O	0/5 V DC(pulse)	Processing LED light signal
	12	SCAN0	O	0/3.15 V DC	Key scan signal 0
	13	MEMORY	O	0/5 V DC(pulse)	Memory LED light signal
	14	LED1	O	0/5 V DC(pulse)	LED lighting signal 1
	15	ATTENTION	O	0/5 V DC(pulse)	Attention LED light signal
	16	BUZZER	O	0/5 V DC(pulse)	Buzzer control signal
	17	GND	-	-	Ground
	18	KEY3	I	0/3.15 V DC	Key input signal 3

Connec- tor	Pin	Signal	I/O	Voltage	Description
YC8	1	SCAN2	O	0/3.15 V DC	Key scan signal 2
	2	LED2	O	0/5 V DC(pulse)	LED lghting signal 2
	3	KEY4	O	0/3.15 V DC	Key input signal 4
	4	SCAN1	I	0/3.15 V DC	Key scan signal 1
	5	SCAN0	O	0/3.15 V DC	Key scan signal 0
YC17	1	+5V2	-	5 V DC	5 V DC power
	2	+5V2	-	5 V DC	5 V DC power
	3	GND	-	-	Ground
	4	GND	-	-	Ground

(5) Operation panel PWB (LCD)

Connector position

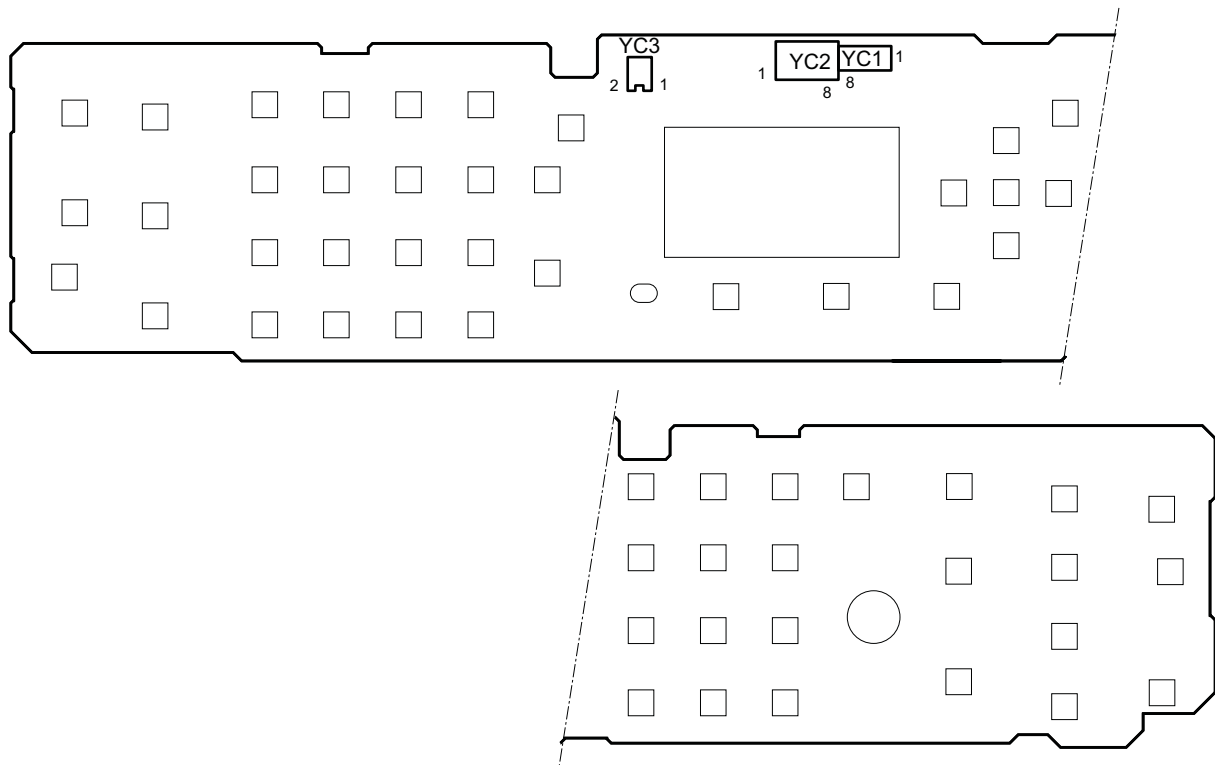


Figure 8-9

PWB photograph

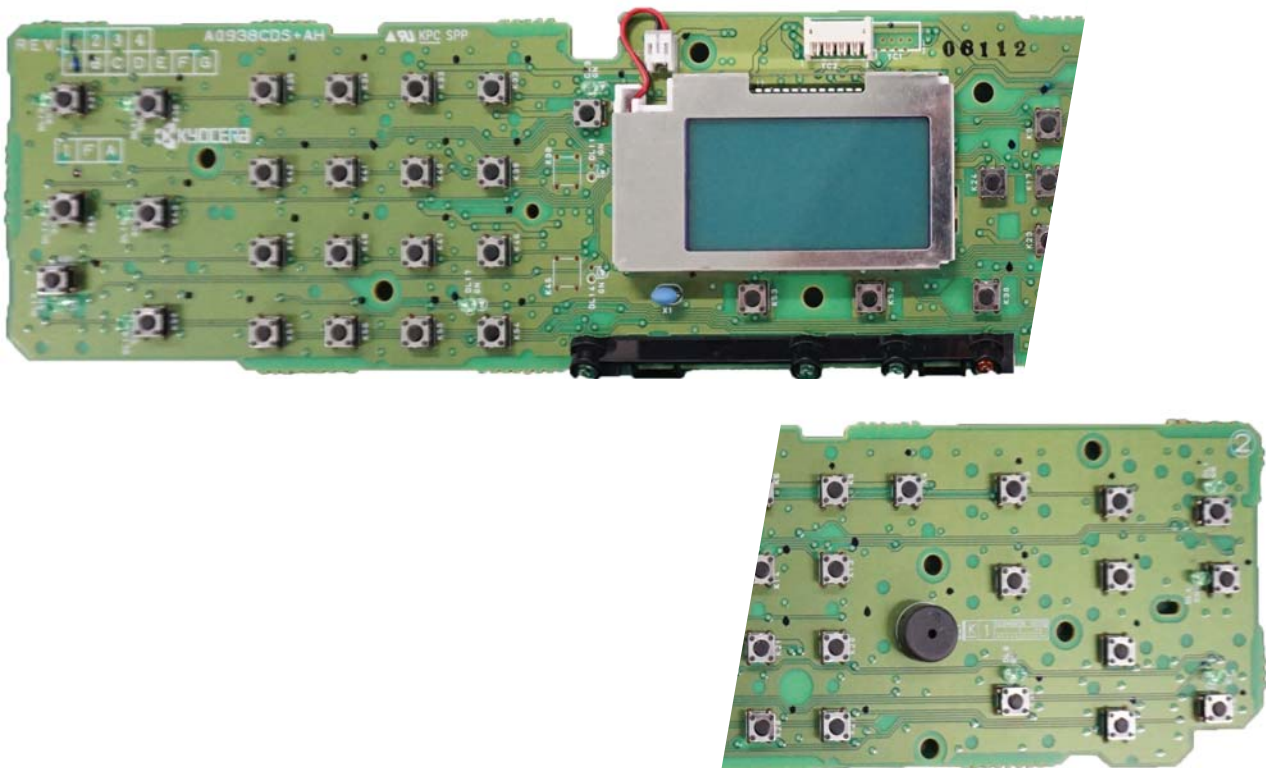


Figure 8-10

Connector access point

YC2: Main/Engine PWB

Connector	Pin	Signal	I/O	Voltage	Description
YC2	1	+3.3V2	-	0/3.3 V DC	3.3 V DC power supply
	2	+5V2	-	0/5 V DC	5 V DC power
	3	C2P_SDAT	I	0/3.3 V DC(pulse)	Panel communication data receiving signal
	4	INT_ANYKEY	O	0/3.3 V DC	Key input signal at sleep
	5	C2P_PRSTN	I	0/3.3 V DC	Software reset signal
	6	INT_ENERGYSA EKEY_N	O	0/3.3 V DC	Energy Saver key input signal
	7	P2C_SDAT	O	0/3.3 V DC(pulse)	Panel communication data sending signal
	8	GND	-	-	Ground

(6) PF main PWB (option)

Connector position

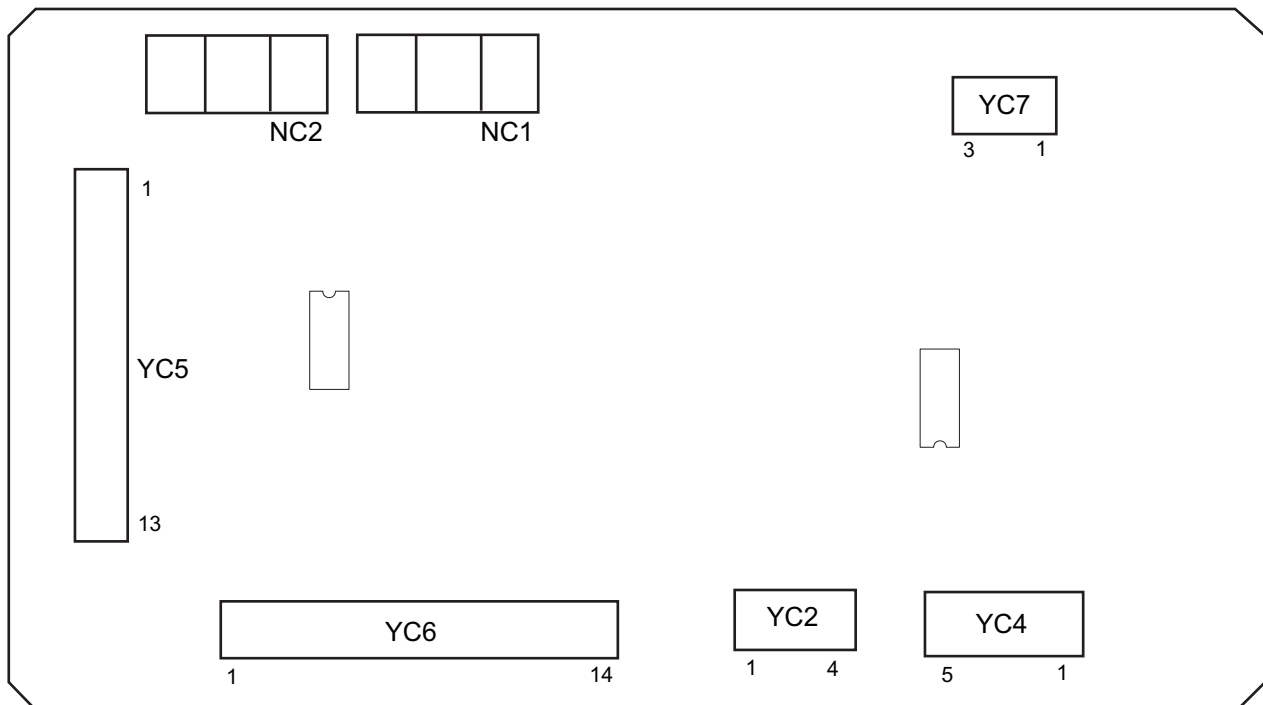


Figure 8-11

PWB photograph

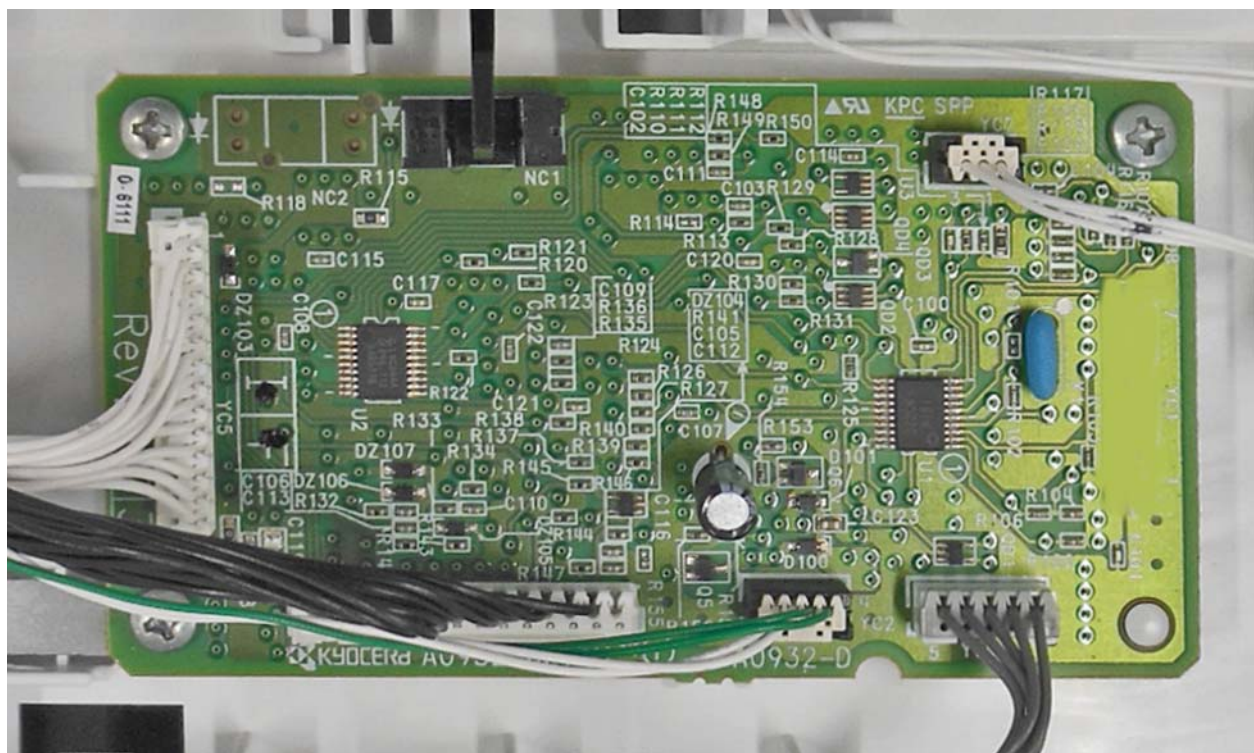


Figure 8-12

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

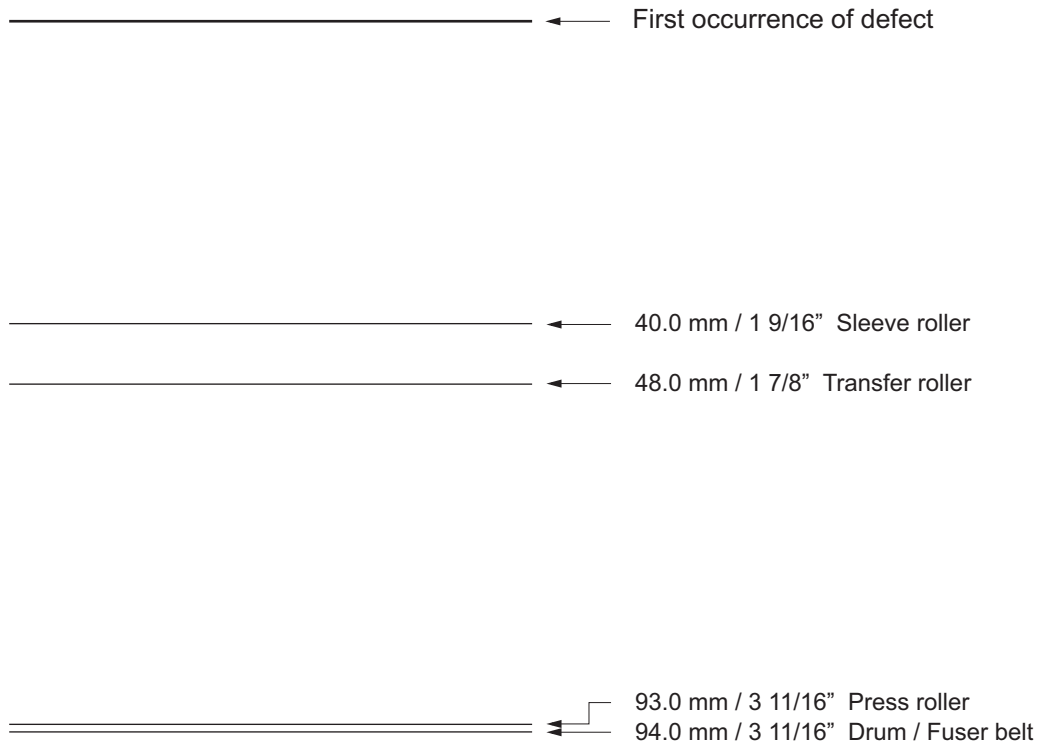
Connector	Pin	Signal	I/O	Voltage	Description
YC2	1	+24V6FB	O	24 V DC	24 V DC power output
	2	FEEDCLN	O	0/24 V DC	Paper feed clutch signal
	3	+24V6FB	O	24 V DC	24 V DC power output
	4	TRNSCLN	O	0/24 V DC	Conveying clutch signal
YC4	1	TMOTRDYN	I	0/3.3 V DC	Motor rotation stability signal
	2	TMOTCLK	O	0/5 V DC(pulse)	motor rotation standard clock
	3	TMOTDRVN	O	0/5 V DC	motor rotation start/stop signal
	4	GND	O	-	Ground
	5	+24V6	O	24 V DC	24 V DC power output
YC5	1	GND	I	-	Ground
	2	+3.3V4	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	+3.3V4	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

Connector	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	+3.3V4	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 (LCD model except 100V only)	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

Items	FRPO	Setting value	Factory setting
Horizontal offset (100 V model only) *	K0	-7 to +7 (Integer), unit: cm	0
	K1	-99 to +99 (Decimal), unit: 1/100 cm	0
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	0
		1: Mincho 40 dots	
		2: Gothic 40 dots	
		5: Mincho 48 dots	
		6: Gothic 48 dots	
New/old JIS code switching (100 V model only)	K6	0: JIS X 0208: 1990	0
		1: JIS X 0208: 1978	
		8: JIS X 0213: 2004	
Duplex printing mode selection	N4	0: OFF	0
		1: Long-edge mode (long-edge bind)	
		2: Short-edge mode (Short-edge bind)	
Sleep timer time-out time	N5	1 to 240 minutes	1
Ecoprint level	N6	0: OFF	0
		2: ON	
Default emulation mode	P1	6 : PCL6	6
		9 : KPDL	9: 120V
Carriage-return action	P2	0: Ignores	1
		1: CR	
		2: CR+LF?	
Linefeed action	P3	0: Ignores	1
		1: LF	
		2: CR+LF?	
KPDL auto switching	P4	0: None	0
		1: Auto switching	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 .	10
		0: All page eject commands	11: 120V
		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.	
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	S6	1 to 1024	400
RAM disk size	S7	0: RAM disk mode OFF 1: RAM disk mode ON	1
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)

Items	FRPO	Setting value	Factory setting
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
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

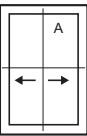
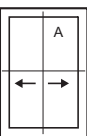
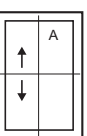
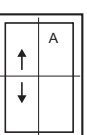

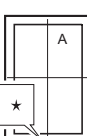
Items	FRPO	Setting value	Factory setting
ANK outline font size at start-up*	V0	Integer value of ANK outline font size at power-up Upper 2-digit/valid value: 00 to 09	0
	V1	Integer value of ANK outline font size at power-up Lower 2-digit/valid value: 00 to 99	12
	V2	Decimal value of ANK outline font size 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
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

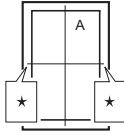
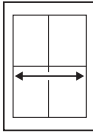
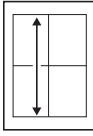
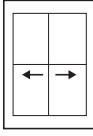
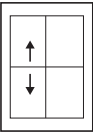
Items	FRPO	Setting value	Factory setting
Paper type for the MP tray	X0	1: Plain 2: Transparency 3: Preprinted 4: Labels 5: Bond 6: Recycled 7: Vellum 8: Rough (except 100 V model) 9: Letterhead 10: Color 11: Prepunched 12: Envelope 13: Hagaki 14: Coated 16: Thick 17: High quality 21 to 28 : Custom 1 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
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

Items	FRPO	Setting value	Factory setting
Paper error detection at duplex printing Paper size and type error detection at fixed paper source	Y3	0: Not detected 33: Detected	33
Forced duplex printing setting (Media type is Preprinted, Pre-punched 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) Chart of image adjustment procedures

Adjusting order	Item	Image	Maintenance mode		Page	Setting procedure		Remarks
			Item No.	Mode		Method	Setting	
1	Adjusting the center line of the MP tray (printing adjustment) Adjusting the LSU print start timing.		U034	LSU Out Left	P.6-23	1. Press the [Start] key. 2. Select [Lsu Out Left]. 3. Press the [System Menu] key. 4. Press the [Start] key. (output a test pattern) 5. Press the [System Menu] key. 6. Select [MPT].	1. Press the [][] keys or the numeric keys to change the counter value. 2. Press the [Start] key to set the setting value. Press the [Stop] key.	*When the setting value is increased, the image moves leftward. *Adjustment selects [Duplex] at the time of duplex mode.
2	Adjusting the center line of the cassettes (printing adjustment) Adjusting the LSU print start timing.		U034	LSU Out Left	P.6-23	1. Press the [Start] key. 2. Select [Lsu Out Left]. 3. Press the [System Menu] key. 4. Press the [Start] key. (output a test pattern) 5. Press the [System Menu] key. 6. Select?[Cass1] to [Cass3].	1. Press the [][] keys or the numeric keys to change the counter value. 2. Press the [Start] key to set the setting value. Press the [Stop] key.	*When the setting value is increased, the image moves leftward. *Adjustment selects [Duplex] at the time of duplex mode.
3	Adjusting the leading edge registration of the MP tray (printing adjustment) Changes the secondary feed timing.		U034	LSU Out Top Full	P.6-23	1. Press the [Start] key. 2. Select [Lsu Out Top Full]. 3. Press the [System Menu] key. 4. Press the [Start] key. (output a test pattern) 5. Press the [System Menu] key. 6. Select [MPT].	1. Press the [][] keys or the numeric keys to change the counter value. 2. Press the [Start] key to set the setting value. Press the [Stop] key.	*When the setting value is increased, the image moves downward. *Adjustment selects [Duplex] at the time of duplex mode.
4	Adjusting the leading edge registration of the cassette (printing adjustment) Changes the secondary feed timing.		U034	LSU Out Top Full	P.6-23	1. Press the [Start] key. 2. Select [Lsu Out Top Full]. 3. Press the [System Menu] key. 4. Press the [Start] key. (output a test pattern) 5. Press the [System Menu] key. 6. Select [Cass].	1. Press the [][] keys or the numeric keys to change the counter value. 2. Press the [Start] key to set the setting value. Press the [Stop] key.	*When the setting value is increased, the image moves downward. *Adjustment selects [Duplex] at the time of duplex mode.
5	Adjusting the leading edge margin (printing adjustment) Changes the LSU illumination start timing.		U402	Lead	P.6-47	1. Press the [Start] key. 2. Press the [System Menu] key. 3. Press the [Start] key. (output a test pattern) 4. Press the [System Menu] key. 5. Select [Lead].	1. Press the [][] keys or the numeric keys to change the counter value. 2. Press the [Start] key to set the setting value. Press the [Stop] key.	*When the setting value is increased, the margin widens.
6	Adjusting the trailing edge margin (printing adjustment) Changes the LSU illumination end timing.		U402	Trail	P.6-47	1. Press the [Start] key. 2. Press the [System Menu] key. 3. Press the [Start] key. (output a test pattern) 4. Press the [System Menu] key. 5. Select [Trail].	1. Press the [][] keys or the numeric keys to change the counter value. 2. Press the [Start] key to set the setting value. Press the [Stop] key.	*When the setting value is increased, the margin widens.

Adjusting order	Item	Image	Maintenance mode		Page	Setting procedure		Remarks
			Item No.	Mode		Method	Setting	
7	Adjusting the left and right margins (printing adjustment) Changes the LSU illumination start/end timing.		U402	A Margin C Margin (Original: test pattern)	P.6-47	1. Press the [Start] key. 2. Press the [System Menu] key. 3. Press the [Start] key. (output a test pattern) 4. Press the [System Menu] key. 5. Select [A Margin] or [C Margin].	1. Press the [] [] keys or the numeric keys to change the counter value. 2. Press the [Start] key to set the setting value. Press the [Stop] key.	*When the setting value is increased, the margin widens.
8	Adjusting magnification of the scanner in the main scanning direction Processes data.		U065	Main Scan (Original: test copy)	P.6-25	1. Press the [Start] key. 2. Press the [System Menu] key. 3. Place an original and press the [Start] key. (Test copy output) 4. Press the [System Menu] key. 5. Select [Main Scan].	1. Press the [] [] keys or the numeric keys to change the counter value. 2. Press the [Start] key to set the setting value. Press the [Stop] key.	U065: When using on the contact glass *When the setting value is increased, the image widens.
9	Adjusting magnification of the scanner in the sub scanning direction (scanning adjustment) Changes the original scanning speed.		U065 U070	Sub Scan Sub Scan(F) Sub Scan(B) Sub Scan(CIS) (Original: test copy)	P.6-25 P.6-29	1. Press the [Start] key. 2. Press the [System Menu] key. 3. Place an original and press the [Start] key. (Test copy output) 4. Press the [System Menu] key. 5. Select the item to be adjusted. U065: [Sub Scan] or [Rotate] U070: [Sub Scan(F)], [Sub Scan(B)] or [Sub Scan(CIS)]	1. Press the [] [] keys or the numeric keys to change the counter value. 2. Press the [Start] key to set the setting value. Press the [Stop] key.	U065: When using on the contact glass *When the setting value is increased, the image widens. U070: When using document processor *When the setting value is increased, the image get longer.
10	Adjusting the center line (scanning adjustment) Scan data is processed.		U067 U072	Front Rotate Front Back CIS (Original: test copy)	P.6-27 P.6-32	1. Press the [Start] key. 2. Press the [System Menu] key. 3. Place an original and press the [Start] key. (Test copy output) 4. Press the [System Menu] key. 5. Select the item to be adjusted. U067: [Front] or [Rotate] U072: [Front], [Back] or [CIS]	1. Press the [] [] keys or the numeric keys to change the counter value. 2. Press the [Start] key to set the setting value. Press the [Stop] key.	U067: When using on the contact glass *Adjustment at the time of rotate copy, select [Rotate]. *When the setting value is increased, the image moves leftward. U072: When copying from the document processor *Back adjustment selects [Back] at the time of duplex mode. *When the setting value is increased, the image moves rightward.
11	Adjusting the leading edge registration (scanning adjustment) Changes the original scan start timing.		U066 U071	Front Rotate Front Head Back Head (Original: test copy)	P.6-26 P.6-30	1. Press the [Start] key. 2. Press the [System Menu] key. 3. Place an original and press the [Start] key. (Test copy output) 4. Press the [System Menu] key. 5. Select the item to be adjusted. U066: [Front] or [Rotate] U071: [Front Head] or [Back Head]	1. Press the [] [] keys or the numeric keys to change the counter value. 2. Press the [Start] key to set the setting value. Press the [Stop] key.	U066: When using on the contact glass *Adjustment at the time of rotate copy, select [Rotate]. *When the setting value is increased, the image moves forward. U071: When using document processor *Back adjustment selects [Back Head] at the time of duplex mode. *When the setting value is increased, the image moves forward.

When maintenance item U411 (Automatic adjustment in the scanner) is run using the specified original (P/N 302NM94340), the following adjustments are automatically made:

- Scanner magnification adjustment in the sub scanning direction (U065)
- Adjusts the scanner leading edge registration (U066)
- Adjusting the scanner center line (U067)
- Chromatic aberration in the main scanning direction
- Chromatic aberration in the sub scanning direction
- MTF correction
- Input gamma correction coefficient for color
- Color correction matrix coefficient
- Input gamma correction coefficient for monochrome

When maintenance item U411 (Automatic adjustment in the scanner) is run using the specified original (P/N 302NM94330), the following adjustments are automatically made:

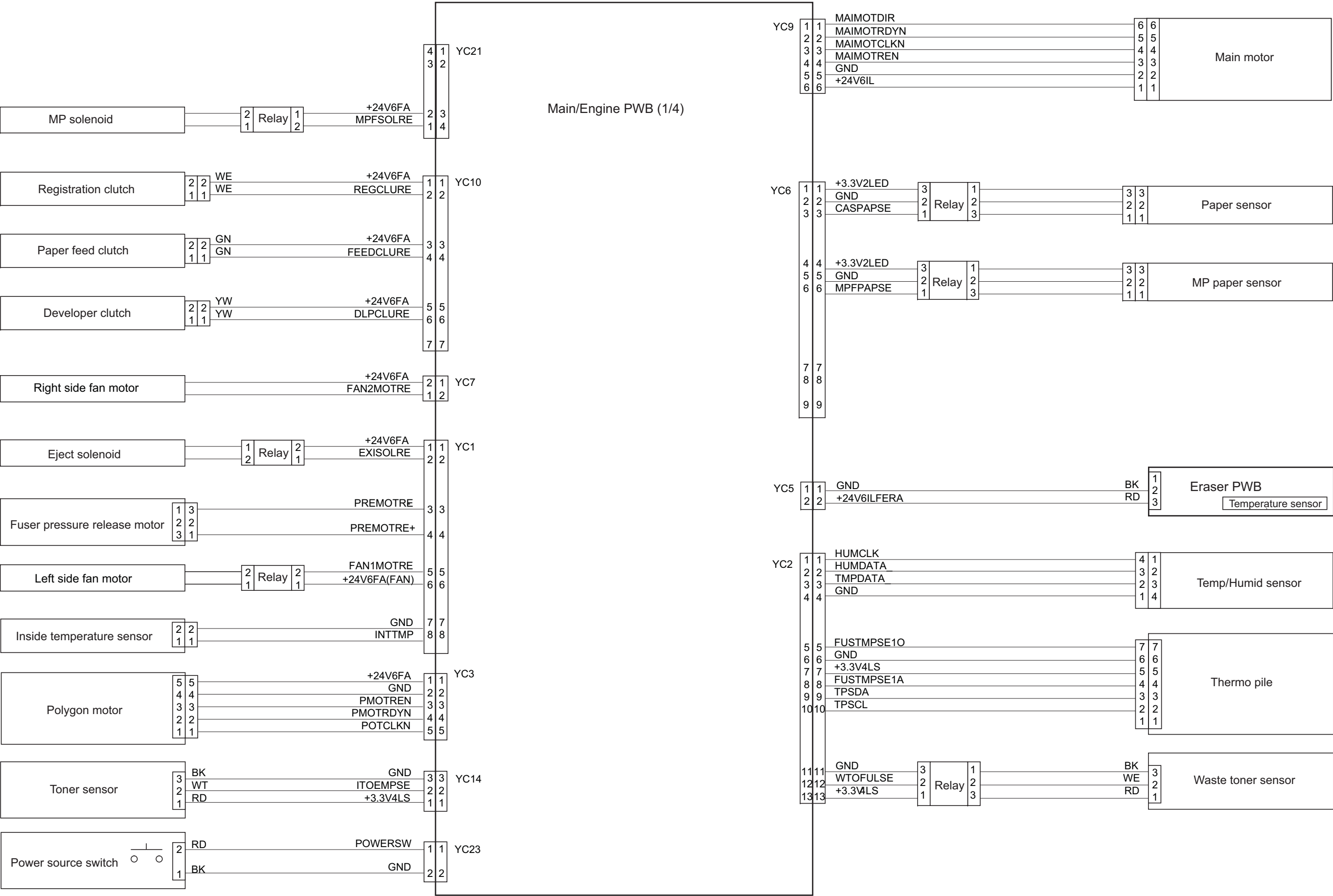
*:When running this test chart, you first must clean the feed rollers with alcohol and ensure the DP width guides are correctly positioned against the original.

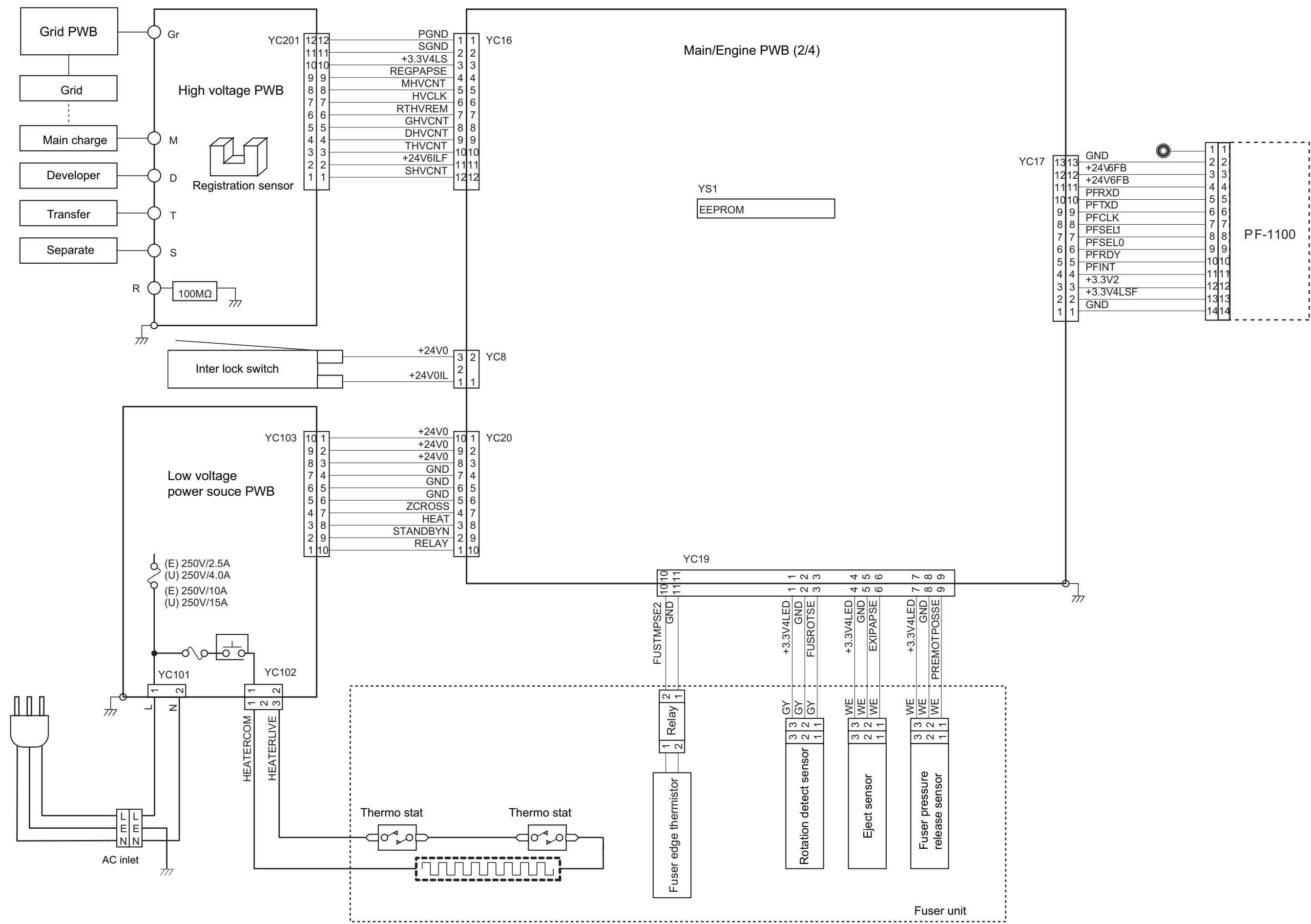
- Adjusting the DP magnification (U070)
- Adjusting the DP leading edge registration (U071)
- Adjusting the DP center line (U072)

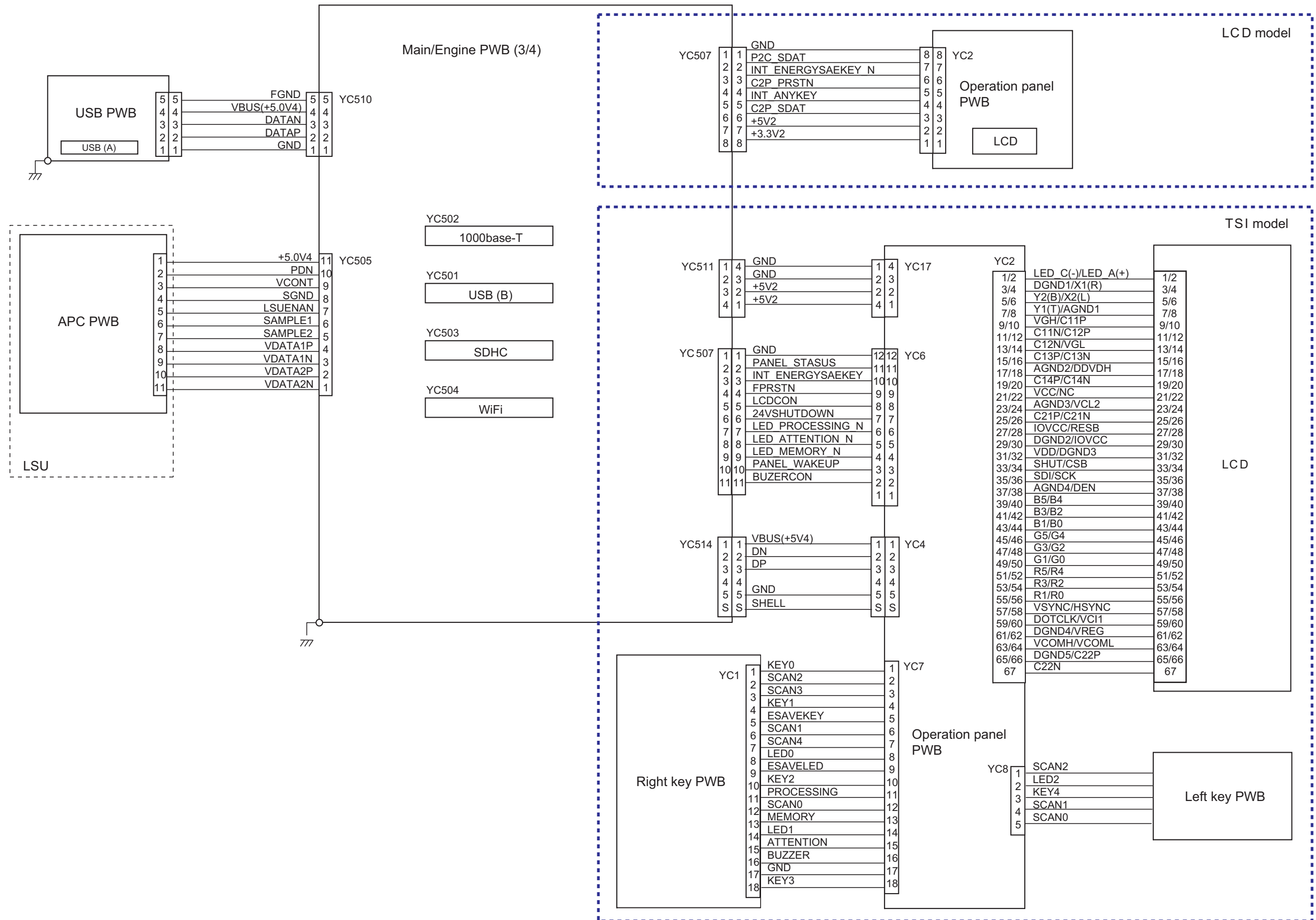
Image quality

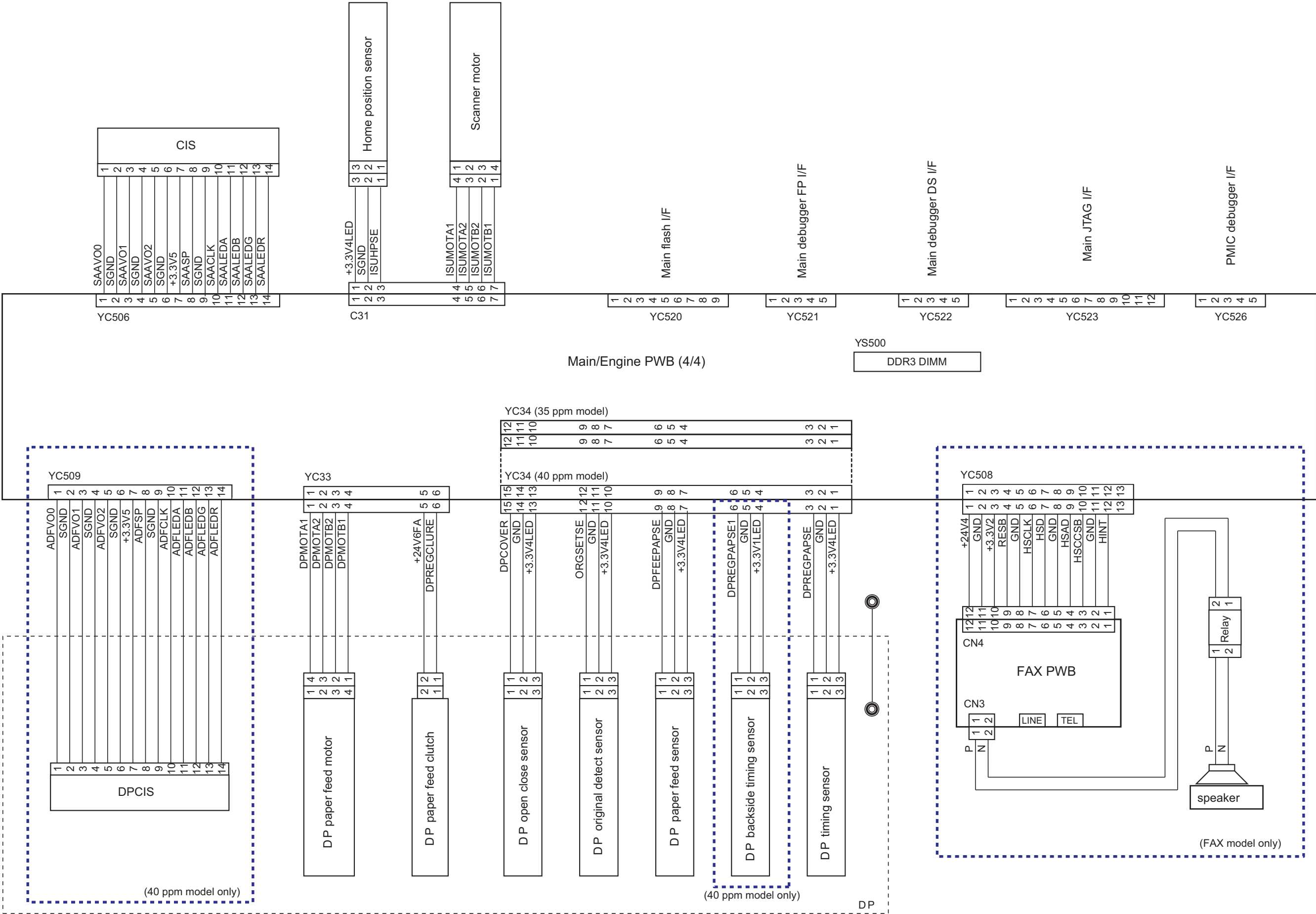
Items	Specifications
100% magnification	Printer: ±0.8% Copy: ±1.5% Using DP: ±2.0%
Magnificaiton	Copy: ±2.0% Using DP: ±2.5%
Lateral squareness	Copy: ±2.0mm/200mm Using DP: ±2.5mm/200mm
Leading edge timing	Print: 2.0 mm or less Copy: 2.0mm or less Using DP: 2.5mm or less
Skewed paper feed (left-right difference)	Print: 1.0mm / 10.0mm or less Copy: 1.0mm / 10.0mm or less (table) 1.5 mm / 10.0mm or less (DP)
Lateral image shifting	Print: ±2.0mm or less (cassette) ±3.0mm or less (MP tray) Copy: ±2.0mm or less(cassette) ±3.0mm or less (MP tray) Using DP: ±2.0mm or less(cassette) ±3.0mm or less (MP tray)

(4) Wiring diagram
(4-1)Standard

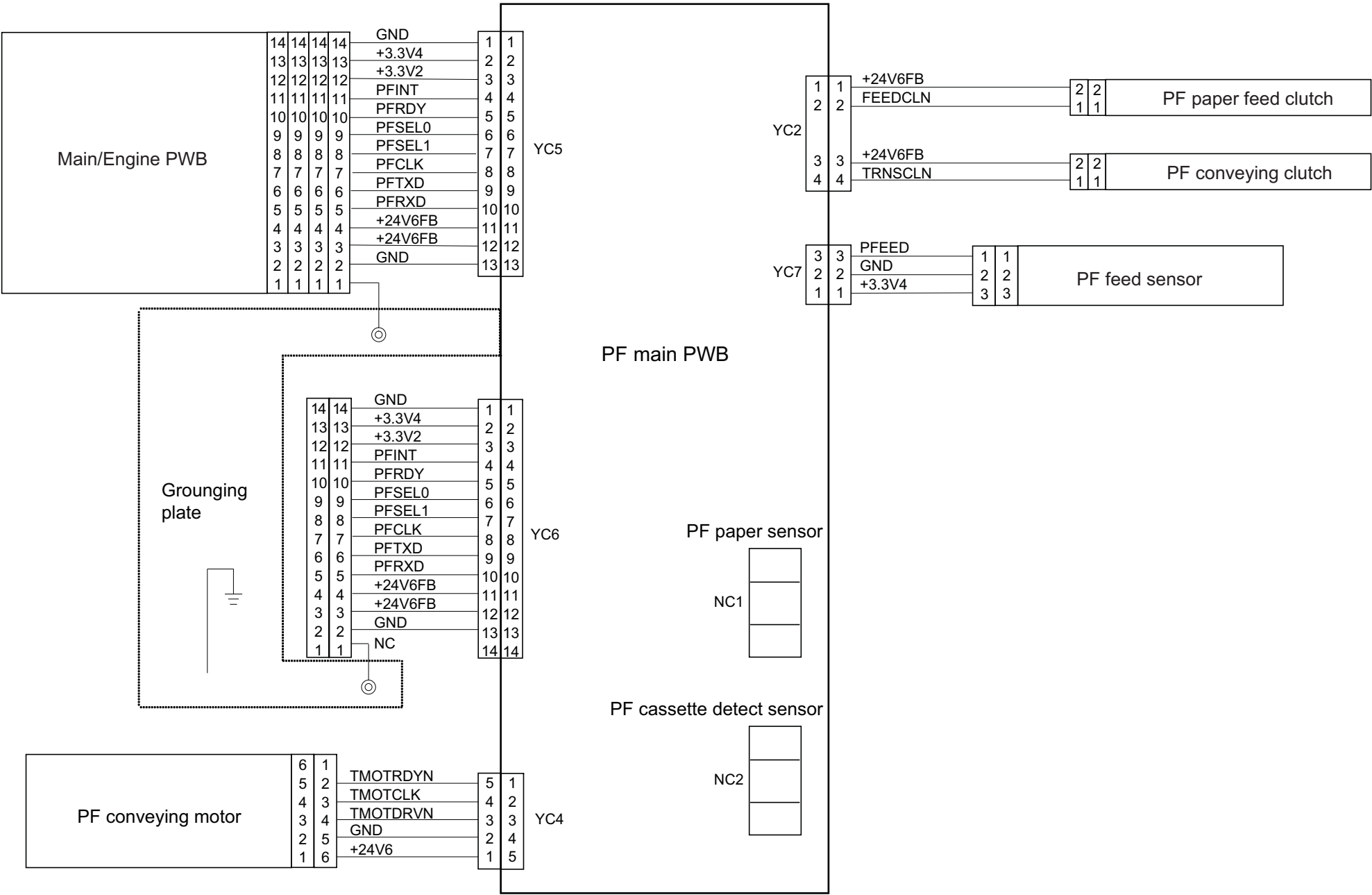








(4-2)PF-1100 (Options)



PF-1100

(250 sheets × 1 Paper Feeder)

Installation Guide

PF-1100

Installation Guide
Installationsanleitung
Guide d'installation

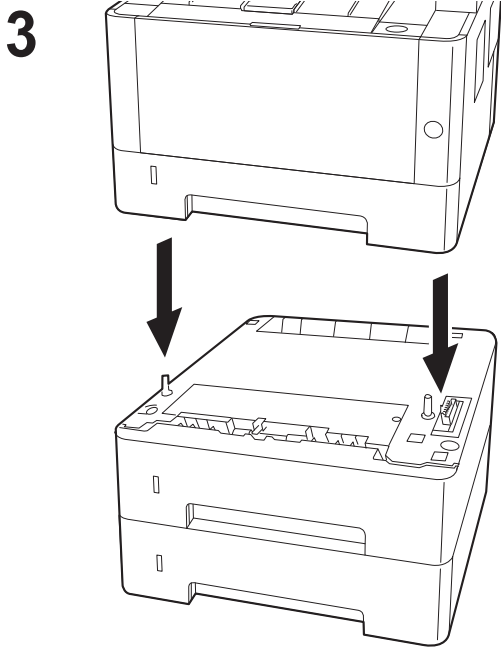
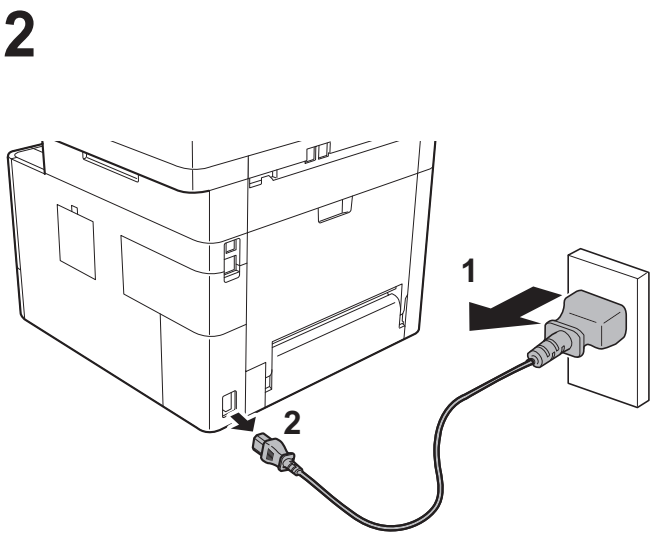
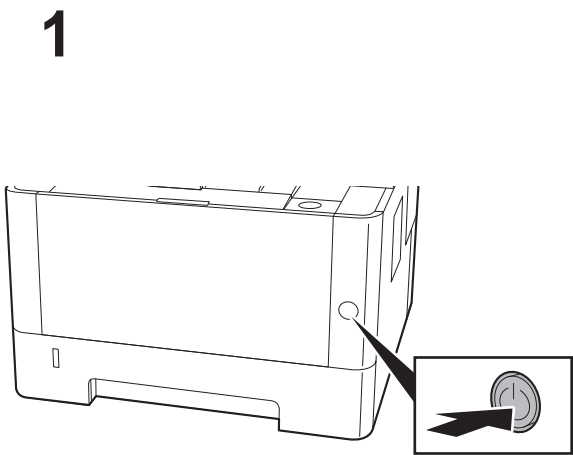
Guida all'installazione
Guía de instalación
Руководство по установке

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

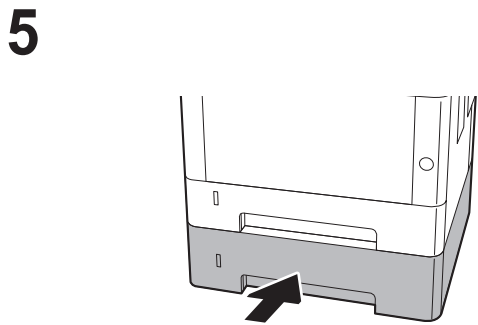
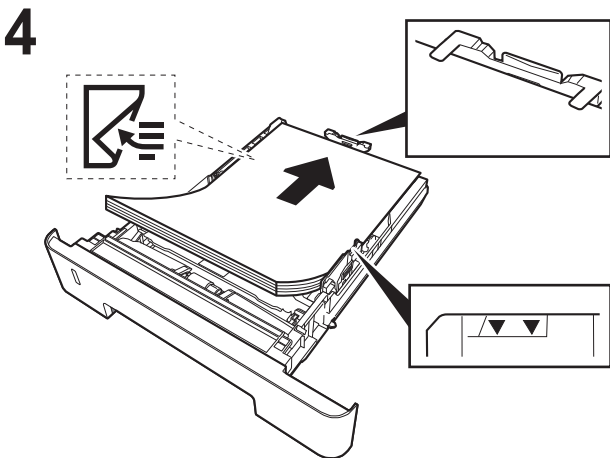
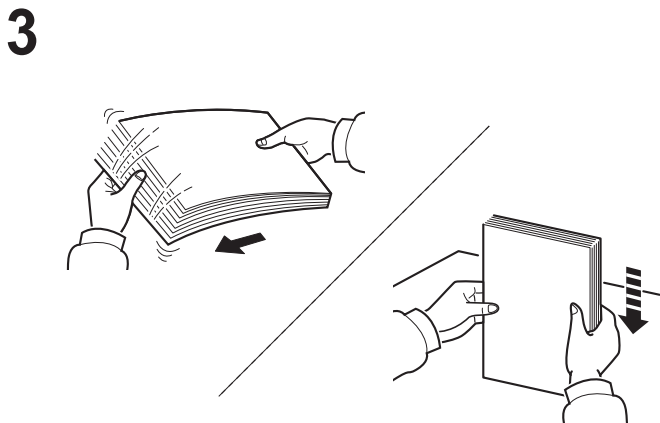
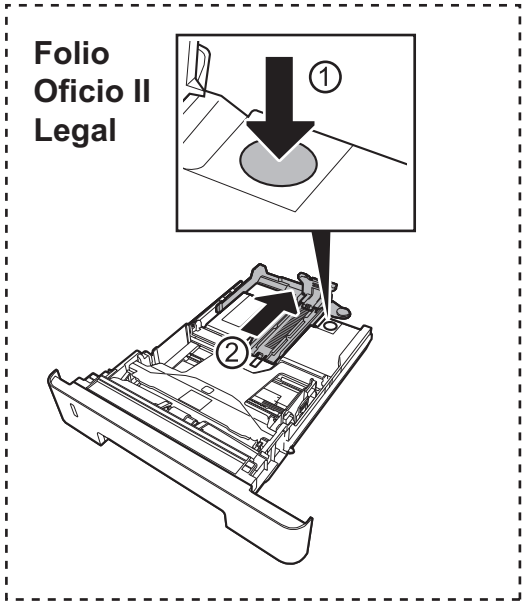
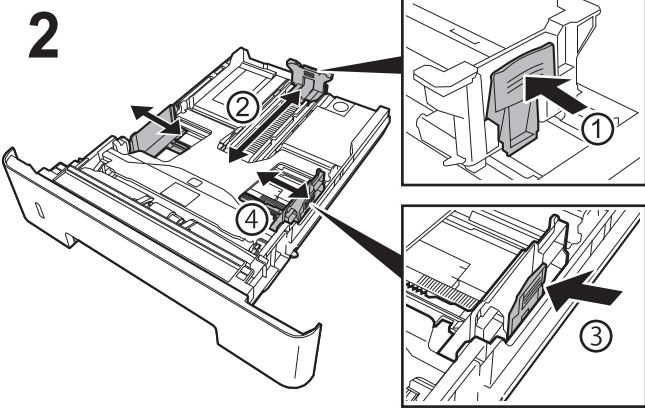
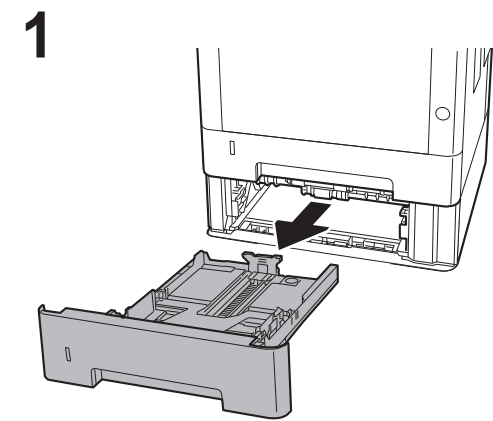
安裝PF-1100
PF-1100설치
PF-1100の設置



Loading paper
Ladenpapier
Papier de chargement

Carta da caricamento
Papel del cargamento
Загрузка бумаги

裝入紙張
용지 적재
用紙のセット



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