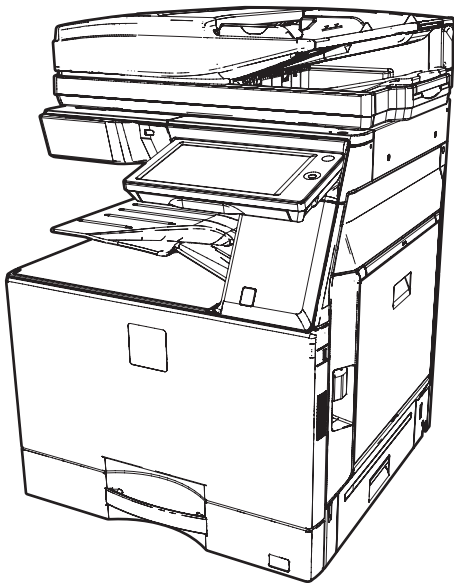


SHARP SERVICE MANUAL

CODE: 00ZMXM6070S1E



DIGITAL MULTIFUNCTIONAL SYSTEM

MX-M3070/M3570

MX-M4070/M5070

MX-M6070

MX-M3050/M3550

MX-M4050/M5050

MODEL MX-M6050

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Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

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NOTE FOR SERVICE

1. Precautions for servicing

- When servicing, disconnect the power plug, the printer cable, the network cable, and the telephone line from the machine, except when performing the communication test, etc.
It may cause an injury or an electric shock.
- There is a high temperature area inside the machine. Use extreme care when servicing.
It may cause a burn.
- There is a high voltage section inside the machine which may cause an electric shock. Be careful when servicing.
- Do not disassemble the laser unit. Do not insert a reflective material such as a screwdriver in the laser beam path.
It may damage eyes by reflection of laser beams.
- When servicing with the machine operating, be careful not to squeeze your hands by the chain, the belt, the gear, and other driving sections.
- Do not leave the machine with the cabinet disassembled.
Do not allow any person other than a serviceman to touch inside the machine. It may cause an electric shock, a burn, or an injury.
- When servicing, do not breathe toner, developer, and ink excessively. Do not get them in the eyes.
If toner, developer, or ink enters your eyes, wash it away with water immediately, and consult a doctor if necessary.
- The machine has got sharp edges inside. Be careful not to damage fingers when servicing.
- Do not throw toner or a toner cartridge in a fire. Otherwise, toner may ignite and burn you.
- When replacing a lithium battery on a PWB, only use the specified replacement battery.
If a battery of different specification is used, it may cause a machine malfunction or breakdown.
- When carrying a unit with PWB or electronic parts installed to it, be sure to put it in an anti-static-electricity bag.
It may otherwise cause a machine breakdown or malfunction.

CAUTION
DOUBLE POLE/NEUTRAL FUSING

2. Warning for servicing

- Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements.
Avoid complex wiring, which may lead to a fire or an electric shock.
It may cause a fire or an electric shock.
- If there is any abnormality such as a smoke or an abnormal smell, interrupt the job and disconnect the power plug.
It may cause a fire or an electric shock.
- Be sure to connect the grounding wire. If an electric leakage occurs without grounding, a fire or an electric shock may result.
To protect the machine and the power unit from lightening, grounding must be made.
- When connecting the grounding wire, never connect it to the following points.
 - Gas tube
 - Lightning conductor
 - A water pipe or a water faucet, which is not recognized as a grounding object by the authorities.
 - Grounding wire for telephone lineIt may cause an explosion, a fire or an electric shock.

- Do not damage, break, or stress the power cord.
Do not put heavy objects on the power cable. Do not stress, forcibly bend, or pull the power cord.
It may cause a fire or an electric shock.
- Keep the power cable away from a heat source.
Do not insert the power plug with dust on it into a power outlet.
It may cause a fire or an electric shock.
- Do not place liquids or foreign metallic objects inside the machine.
It may cause a fire or an electric shock.
- Do not touch the power cord, insert the phone jack, operate the machine, or perform service on the machine with wet or oily hands.
It may cause an electric shock.

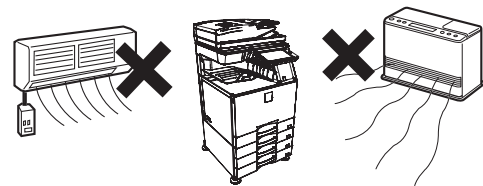
3. Note for installing site

Do not install the machine at the following sites.

- **Place of high temperature, high humidity, low temperature, low humidity, place under an extreme change in temperature and humidity.**

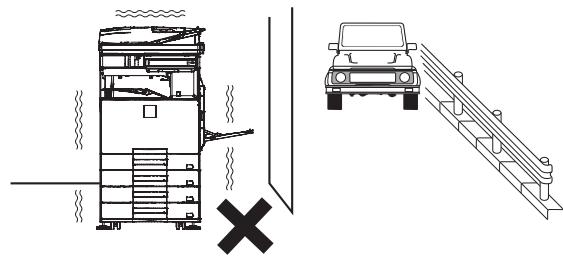
Paper may get damp and form condensation inside the machine, causing paper jam or copy dirt.

For operating and storing conditions, refer to the specifications described later.



- **Place of extreme vibrations**

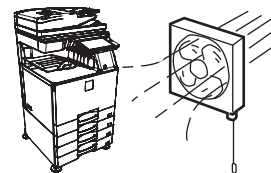
It may cause a breakdown.



- **Poorly ventilated place**

An electrostatic type copier will produce ozone.

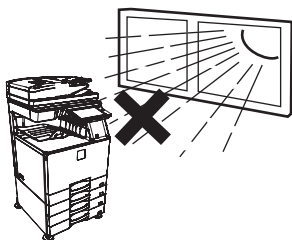
The quantity of ozone produced is designed to a low level so as not to affect human bodies. However, continuous use of such a machine may produce an ozone smell. Install the machine in a well ventilated place.



- **Place of direct sunlight.**

Plastic parts and ink may be deformed, discolored, or may undergo qualitative change.

It may cause a breakdown or output quality problems.



- **Place which is full of organic gases such as ammonium**

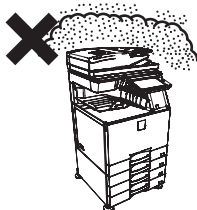
The organic photo-conductor (OPC) drum used in the machine may undergo qualitative change due to organic gases such as ammonium.

Installation of this machine near a diazo-type copier and blue print machine may result in poor quality output.



- **Place of much dust**

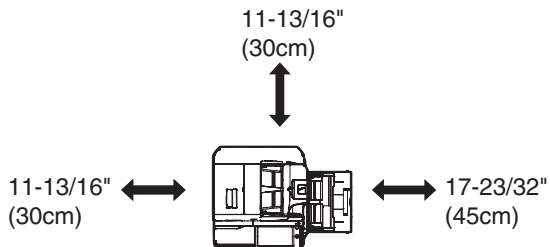
When dust or contaminants enters the machine, it may cause a breakdown or poor quality output.



- **Place near a wall**

The machine will require ventilation.

If ventilation is not proper, poor output or machine failure may result.



- **Unstable or irregular surface**

If the machine is dropped or tips over, it may cause injury or machine malfunction.

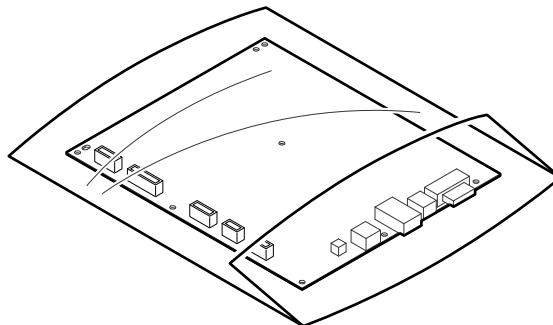
Use an optional desk or an exclusive-use desk.

When using the optional desk, be sure to fix the adjuster and lock the casters.

4. Note for handling PWB and electronic parts

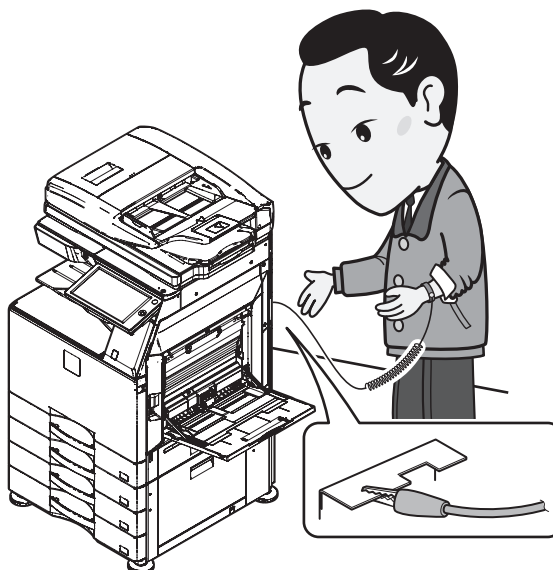
When handling the PWB and the electronic parts, be sure to observe the following precautions in order to prevent against damage by static electricity.

- When in transit or storing, put the parts in an anti-static bag or an anti-static case and do not touch them with bare hands.

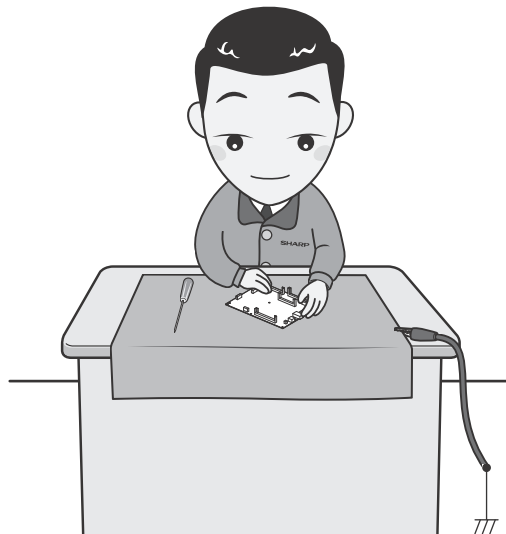


- When and after removing the parts from an anti-static bag (case), use an earth band as shown below:

- Put an earth band to your arm, and connect it to the machine.



- When repairing or replacing an electronic part, perform the procedure on an anti-static mat.



5. Note for repairing/replacing the LSU

When repairing or replacing, be sure to observe the following items.

- When repairing or replacing the LSU, be sure to disconnect the power plug from the power outlet.
- When repairing or replacing the LSU, follow the procedures described in this Service Manual.
- When checking the operations after repairing the LSU, keep all the parts including the cover installed and perform the operation check.
- Do not modify the LSU.
- When visually checking the inside of the machine for the operation check, be careful not to allow laser beams to enter the eyes.

If the above precaution is neglected or the LSU is modified, one's safety may be at risk.

6. Note for handling the drum unit, the transfer unit, the developing unit

When handling the OPC drum unit, the transfer unit, and the developing unit, strictly observe the following items.

If these items are neglected, a trouble may be generated in the copy and print image quality.

Drum unit

- Avoid working at a place with strong lights.
- Do not expose the OPC drum to lights including interior lights for a long time.
- When the OPC drum is removed from the machine, cover it with light blocking material. (When using paper, use about 10 sheets of paper to cover it.)
- Be careful not to attach fingerprints, oil, grease, or other foreign material on the OPC drum surface.

Transfer unit

- Be careful not to leave fingerprints, oil, grease, or other foreign material on the transfer roller.

Developing unit

- Be careful not to leave fingerprints, oil, grease, or other foreign material on the developing unit.

7. Screw tightening torque

The screws used in this machine are largely classified into three types. These types are classified according to the shape of the screw grooves and use positions.

The table below shows the types of the screws and the tightening torques depending on the use position.

When tightening the screws for repair or maintenance, refer to the table.

However, for the other conditions of tightening screws than specified on this table, or under special circumstances, the details are described on the separate page. Refer to the descriptions on such an exception.

Important

Especially for the screw fixing positions where there is an electrode or a current flows, use enough care to tighten securely to avoid loosening.

Screw kinds and tightening torques

Normal screws, set screws (including step screws)

Screw diameter	Material to be fixed	Tightening torque (N·m)	Tightening torque (kgf·cm)	Tightening torque (lbft)
M2.6	Steel plate	0.8 - 1.0	8 - 10	0.6 - 0.7
M3	Steel plate	1.0 - 1.2	10 - 12	0.7 - 0.9
M4	Steel plate	1.6 - 1.8	16 - 18	1.2 - 1.3

Tapping screws (for iron)

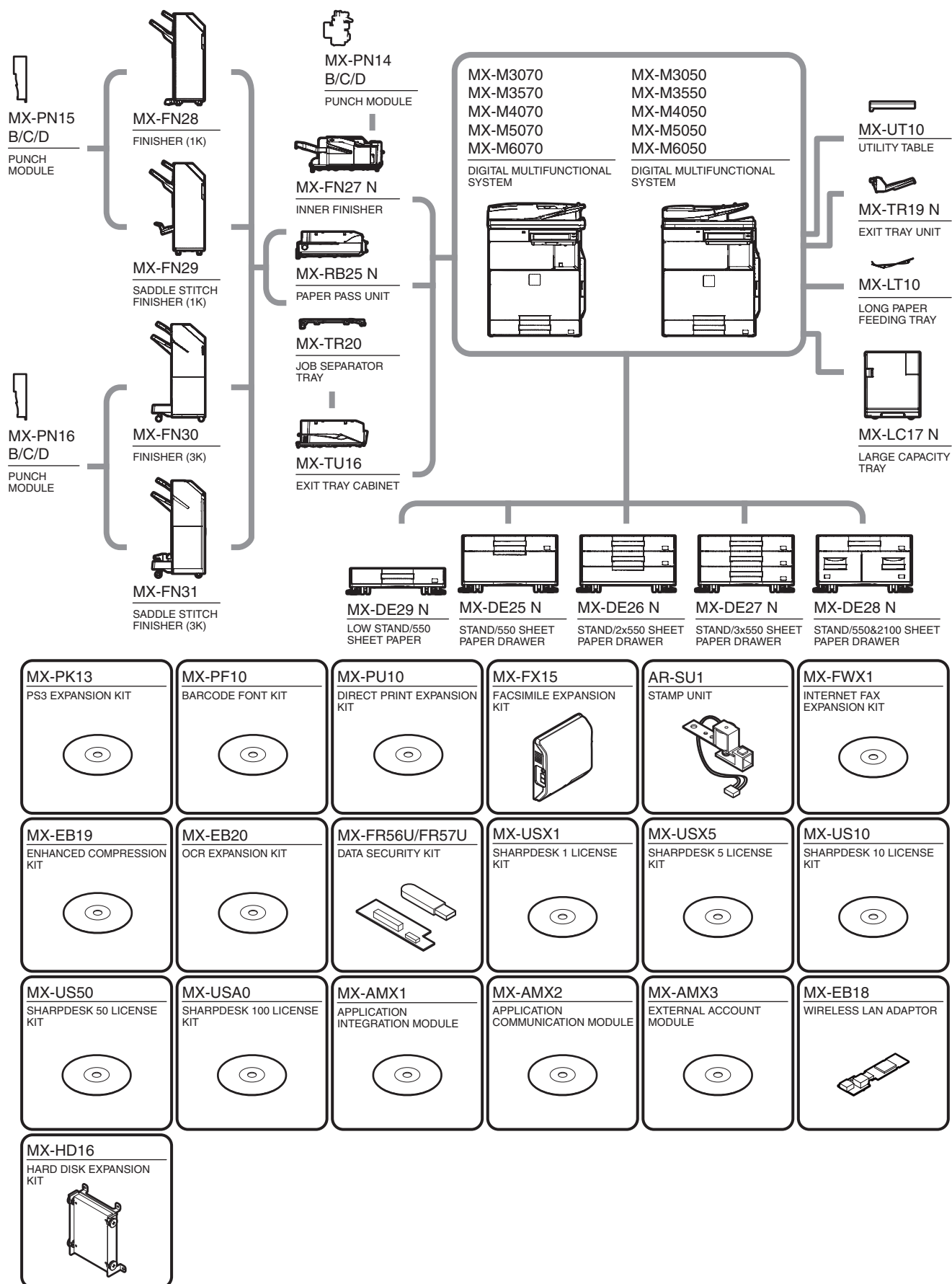
Screw diameter	Material to be fixed	Tightening torque (N·m)	Tightening torque (kgf·cm)	Tightening torque (lbft)
M3	Steel plate (Plate thickness 0.8mm or above)	1.0 - 1.2	10 - 12	0.7 - 0.9
M4	Steel plate (Plate thickness 0.8mm or above)	1.6 - 1.8	16 - 18	1.2 - 1.3
M3	Steel plate (Plate thickness less than 0.8mm)	0.6 - 0.8	6 - 8	0.4 - 0.6
M4	Steel plate (Plate thickness less than 0.8mm)	1.2 - 1.4	12 - 14	0.9 - 1.0

Tapping screw (for plastic)

Screw diameter	Material to be fixed	Tightening torque (N·m)	Tightening torque (kgf·cm)	Tightening torque (lbft)
M3	Plastic resin	0.6 - 0.8	6 - 8	0.4 - 0.6
M4	Plastic resin	1.0 - 1.2	10 - 12	0.7 - 0.9

[1] PRODUCT OUTLINE

1. System diagram



2. Option list

	Model Name	Description	MX-M3070 MX-M3570 MX-M4070 MX-M5070 MX-M6070	MX-M3050 MX-M3550 MX-M4050 MX-M5050 MX-M6050	Remarks
Document Feed System	—	REVERSING SINGLE PASS FEEDER	—	STD	
	—	DUPREX SINGLE PASS FEEDER	STD	—	
Paper Feed System	MX-DE25 N	STAND/550 SHEET PAPER DRAWER	OPT	OPT	
	MX-DE26 N	STAND/2x550 SHEET PAPER DRAWER	OPT	OPT	
	MX-DE27 N	STAND/3x550 SHEET PAPER DRAWER	OPT	OPT	
	MX-DE28 N	STAND/550&2100 SHEET PAPER DRAWER	OPT	OPT	
	MX-DE29 N	LOW STAND/550 SHEET PAPER	OPT	OPT	
	MX-LC17 N	LARGE CAPACITY TRAY	OPT	OPT	
	MX-LT10	LONG PAPER FEEDING TRAY	OPT	OPT	
Paper Exit System	MX-TR19 N	EXIT TRAY UNIT	OPT	OPT	
	MX-TU16	EXIT TRAY CABINET	STD/OPT	STD/OPT	*1
	MX-TR20	JOB SEPARATOR TRAY	OPT	OPT	
	MX-FN27 N	FINISHER	OPT	OPT	
	MX-PN14B	PUNCH MODULE	OPT	OPT	For MX-FN27 N
	MX-PN14C		OPT	OPT	
	MX-PN14D		OPT	OPT	
	MX-FN28	FINISHER (1K)	OPT	OPT	
	MX-FN29	SADDLE STITCH FINISHER (1K)	OPT	OPT	
	MX-RB25 N	PAPER PASS UNIT	OPT	OPT	
	MX-PN15B	PUNCH MODULE	OPT	OPT	For MX-FN28/FN29
	MX-PN15C		OPT	OPT	
	MX-PNX5D		OPT	OPT	
	MX-FN30	FINISHER (3K)	OPT	OPT	
	MX-FN31	SADDLE STITCH FINISHER (3K)	OPT	OPT	
	MX-PN16B	PUNCH MODULE	OPT	OPT	For MX-FN30/FN31
	MX-PN16C		OPT	OPT	
	MX-PN16D		OPT	OPT	
Printer Expansion	MX-PK13	PS3 EXPANSION KIT	STD	OPT	
	MX-PF10	BARCODE FONT KIT	OPT	OPT	
	MX-PU10	DIRECT PRINT EXPANSION KIT	STD	OPT	
Image Send Expansion	MX-FX15	FACSIMILE EXPANSION KIT	OPT	OPT	*2
	AR-SU1	STAMP UNIT	OPT	OPT	
	MX-FWX1	INTERNET FAX EXPANSION KIT	OPT	OPT	
	MX-EB19	ENHANCED COMPRESSION KIT	STD	OPT	
	MX-EB20	OCR EXPANSION KIT	STD	OPT	
Authentication / Security	MX-FR56U	DATA SECURITY KIT	—	OPT	
	MX-FR57U	DATA SECURITY KIT	OPT	—	
Application / Solution	MX-USX1	SHARPDESK 1 LICENSE KIT	OPT	OPT	
	MX-USX5	SHARPDESK 5 LICENSE KIT	OPT	OPT	
	MX-US10	SHARPDESK 10 LICENSE KIT	OPT	OPT	
	MX-US50	SHARPDESK 50 LICENSE KIT	OPT	OPT	
	MX-USA0	SHARPDESK 100 LICENSE KIT	OPT	OPT	
	MX-AMX1	APPLICATION INTEGRATION MODULE	OPT	OPT	
	MX-AMX2	APPLICATION COMMUNICATION MODULE	STD/OPT	OPT	*1
Other	MX-AMX3	EXTERNAL ACCOUNT MODULE	STD/OPT	OPT	*1
	MX-UT10	UTILITY TABLE	OPT	OPT	
	MX-EB18	WIRELESS LAN ADAPTOR	STD	OPT	*2
	—	KEYBOARD	STD	—	*2
	MX-HD16	HARD DISK EXPANSION KIT	—	STD/OPT	*1

STD: Standard equipment

OPT: Installable option

*1: Option in some regions

*2: No support in some regions

[2] SPECIFICATIONS

1. Basic specifications

A. Engine specification

Photo Conductor	OPC (Diameter : φ30mm)
Recording method	Electronic Photo (Laser)
Development method	Dry-Type Dual-Component Magnetic Brush Development
Charging method	Charged Saw-Tooth Method
Transfer method	Transfer roller
Separation method	Natural Separation Method pawl is equipped.
Cleaning method	Counter Blade
Fusing method	Belt Method
Waste toner disposal	Toner Collecting Container

B. Engine speed (ppm)

(1) Tray1-4,LCC

	30 ppm	35 ppm	40 ppm	50 ppm	60 ppm
A3	15	17	19	24	28
8K	15	17	19	24	28
11x17	15	17	19	24	27
B4, 8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5	17	20	22	27	31
A4, B5, 8.5x11, 16K, A5	30	35	40	50	60
A4R, 16KR, 8.5x11R, B5R, 7.25x10.5R	19	22	25	32	35
A5R, 5.5x8.5R	19	22	25	32	35
A3W, 12x18	14	16	18	23	26
Extra (- 210mm) and the length of horizontal scanning is 257mm and over.	30	35	40	50	60
Extra (210.1 - 215.9mm) and the length of horizontal scanning is 257mm and over.	30	35	40	50	60
Extra (216 - 225mm) and the length of horizontal scanning is 257mm and over.	24	28	31	38	43
Extra (- 225mm) and the length of horizontal scanning is less than 257mm.	19	22	25	32	35
Extra (225.1 - 297mm)	19	22	25	32	35
Extra (297.1mm -)	14	16	18	23	26
Heavy Paper (A3, 11x17, 8K)	15	15	15	16	16
Heavy Paper (B4, 8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5)	15	15	15	16	16
Heavy Paper (A4, B5, 8.5x11, 16K, A5R, 5.5x8.5R, A5)	26	26	26	28	28
Heavy Paper (A4R, 16KR, 8.5x11R, B5R, 7.25x10.5R)	19	21	21	22	22
Heavy Paper (A3W, 12x18)	14	14	14	15	15
Heavy Paper (Extra: - 215.9mm)	26	26	26	28	28
Heavy Paper (Extra:216 - 225mm)	24	25	25	27	27
Heavy Paper (Extra:225.1 - 297mm)	19	21	21	22	22
Heavy Paper (Extra:297.1mm -)	14	14	14	15	15

(2) Bypass

	30 ppm	35 ppm	40 ppm	50 ppm	60 ppm
A3	15	17	19	24	27
8K	15	17	19	24	28
11x17	15	17	19	23	27
B4, 8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5	17	20	21	27	30
A4, 16K	30	35	40	49	51
8.5x11	30	35	40	48	50
B5, A5	30	35	40	49	51

	30 ppm	35 ppm	40 ppm	50 ppm	60 ppm
A4R, 16KR, 8.5x11R B5R, 7.25x10.5R	19	22	25	31	35
A5R, 5.5x8.5R	19	22	25	32	35
A3W, 12x18	14	16	18	22	25
OHP (A4, 8.5x11)	25	25	25	25	25
OHP (A4R, 8.5x11R)	19	20	20	20	20
Extra	14	16	18	22	25
Extra (- 210mm)	30	35	40	49	51
Extra (- 215.9mm) and the length of horizontal scanning is 257mm and over.	30	35	40	49	50
Extra (216 - 225mm) and the length of horizontal scanning is 257mm and over.	24	28	31	37	42
Extra (- 225mm) and the length of horizontal scanning is less than 257mm.	19	22	25	32	35
Extra (225.1 - 297mm)	19	22	25	31	35
Extra (297.1mm -)	14	16	18	22	25
Envelope (Monarch, Com-9, Com- 10, DL, C4, C5, C6)	17	17	17	17	17
Heavy Paper (A3, 11x17, 8K)	17	19	19	19	19
Heavy Paper (B4, 8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5)	15	15	15	15	51
Heavy Paper (A4, 8.5x11, 16K, B5, A5R, 5.5x8.5R, A5)	25	25	25	25	25
Heavy Paper (A4R, 16KR, 8.5x11R, B5R, 7.25x10.5R)	19	20	20	20	20
Heavy Paper (A3W, 12x18)	14	14	14	14	14
Heavy Paper (Extra)	14	14	14	14	14
Heavy Paper (Extra: - 215.9mm)	25	25	25	25	25
Heavy Paper (Extra:216 - 225mm)	24	25	25	25	25
Heavy Paper (Extra:225.1 - 297mm)	19	20	20	20	20
Heavy Paper (Extra:297.1mm -)	14	14	14	14	14

C. First copy time

Engine	30 ppm	35 ppm	40 ppm	50 ppm	60 ppm
OC	4.5sec	4.5sec	4.5sec	3.7sec	3.5sec
DSPF	7.4sec	7.4sec	7.4sec	6.6sec	6.3sec
RSPF	7.4sec	7.4sec	7.4sec	6.6sec	6.3sec

D. Printable area

Loss width (Void area)	Top: 4±1mm Rear: 2mm or more, 5mm or less, Total 8mm or less FR total: 4mm±2mm
Max printable area	299mm x 1,292mm

E. Engine resolution

MX-Mxx70 series

Resolution	Copy		Writing	
	Print		Writing	
Tone (equivalent to 256 levels)	Copy	Writing		
		600x600dpi		4bit
		9,600 (equivalent)x600dpi		---
		1,200x1,200dpi		1bit
	Print	Writing		
		PCL	600x600dpi	1bit, 4bit
			9,600 (equivalent)x600dpi	---
			1,200x1,200dpi	1bit
		PS	600x600dpi	1bit, 4bit
			9,600 (equivalent)x600dpi	---
			1,200x1,200dpi	1bit

MX-Mxx50 series

Resolution	Copy	Writing 600x600dpi 9,600 (equivalent)x600dpi	
	Print	Writing 600x600dpi 9,600 (equivalent)x600dpi	
Tone (equivalent to 256 levels)	Copy	Writing	
		600x600dpi	4bit
		9,600 (equivalent)x600dpi	---
	Print	Writing	
		PCL 600x600dpi	1bit, 4bit
		9,600 (equivalent)x600dpi	---
	PS	600x600dpi	1bit, 4bit
		9,600 (equivalent)x600dpi	---

F. Scanner section

(1) Resolution / Gradation

Scan Resolution for Copying (dpi)	OC	600x600dpi (default) 600x400dpi
	DSPF	600x600dpi 600x400dpi (default) 600x300dpi
	RSPF	600x600dpi 600x400dpi (default)
Transmission Resolution (dpi)	Refer to the Image Send function	
Exposure Lamp	White LED	
Scan Levels	10bit	
Output Levels for transmit	B&W : 1bit (2 levels) Grayscale : 8bit Full color : each color RGB 8bit	

G. Document feeder

(1) Basic Specifications

DSPF

Type	DSPF (Duplex single pass feeder)	
Document setup Direction	Upward standard (1toN feeding standard)	
Document standard position	Center standard (Rear one-side standard for random feeding)	
Document transport method	Sheet-through method	
Mix feeding (same AB or inch system, same width)	Available (Simplex/Duplex)	
Random feeding (different combination of AB/inch system, different width)	Available (Simplex/Duplex) (Combination allowed: A3&B4, B4&A4R, A4&B5, B5&A5, 11&8.5-inch.)	
Document weight	Simplex	Thin paper: 35 to 49g/m ² , 9 to 13- lb. Bond Plain paper: 50 to 128g/m ² , 13 to 32 lb. Bond
	Duplex	50 to 128 g/m ² , 13 to 32 lb. Bond
Document capacity	Max. 180 sheets (64g/m ² , 17 lb. Bond) Max. 150 sheets (80g/m ² , 20 lb. Bond) or max. 19.5mm, 50/64inch or less	
Types of document that may not be transported	The following documents are NOT allowed; Transparency, second original drawing, tracing paper, carbon paper, thermal paper, wrinkled / broken / torn document, document with cuts and pastes, documents printed by an ink ribbon, and perforated document except 2-punched/ 3-punched (Perforated document by punch unit is allowed.)	
Paper detection	Yes	
Paper Feeding Direction	Right hand feeding	
Stamp	Option	
Power Source	Provided from the main unit	
Dimensions	W 615 x D 482 x H 159 mm, W 24_1/4 x D 19 x H 2_3/8inch	
Weight	Approx. 14.8 kg, Approx. 32.6 lb.	

RSPF

Type	RSPF (Reversing single pass feeder)	
Document setup Direction	Upward standard (1toN feeding standard)	
Document standard position	Center standard (Rear one-side standard for random feeding)	
Document transport method	Sheet-through method	
Mix feeding (same AB or inch system, same width)	Available (Simplex/Duplex)	
Random feeding (different combination of AB/ inch system, different width)	Available (Duplex is not available) (Combination allowed: A3&B4, B4&A4R, A4&B5, B5&A5, 11&8.5-inch.) AMS effective. 2-sided scanning is disabled during random feeding.)	
Document weight	Simplex	Thin paper: 35 to 49g/m ² , 9 to 13- lb. Bond Plain paper: 50 to 128g/m ² , 13 to 32 lb. Bond
	Duplex	50 to 105 g/m ² , 13 to 28 lb. Bond
Document capacity	Max. 120 sheets (64g/m ² , 17 lb. Bond) Max. 100 sheets (80g/m ² , 20 lb. Bond) or max. 13mm, 1/2inch or less	
Types of document that may not be transported	The following documents are NOT allowed; Transparency, second original drawing, tracing paper, carbon paper, thermal paper, wrinkled / broken / torn document, document with cuts and pastes, documents printed by an ink ribbon, and perforated document except 2-punched/ 3-punched (Perforated document by punch unit is allowed.)	
Paper detection	Yes	
Paper Feeding Direction	Right hand feeding	
Stamp	Option	
Power Source	Provided from the main unit	
Dimensions	W 580 x D 465 x H 155 mm, W 22_53/64 x D 18_20/64 x H 6_7/64inch	
Weight	Approx. 6.7 kg, Approx. 14.8 lb.	

(2) Scan Speed

DSPF

Mode	Monochrome (A4 / 8.5x11)	Color (A4 / 8.5x11)
Copy	Single : 100 sheets/minute (600x300dpi, 4bit) 80 sheets/minute (600x400dpi, 4bit) 53 sheets/minute (600x600dpi, 4bit)	N/A
	Duplex : 200 pages/minutes (600x300dpi, 4bit) 160 pages/minutes (600x400dpi, 4bit) 106 pages/minutes (600x600dpi, 4bit)	
	Thin paper mode 54 sheets/minutes (600x300dpi) 46 sheets/minutes (600x400dpi) 36 sheets/minutes (600x600dpi)	
Fax*1	Single : 100 sheets/minute (200x200dpi, 1bit) Duplex : 200 pages/minute (200x200dpi, 1bit)	N/A
Internet FAX*1	Single : 100 sheets/minute (200x200dpi, 1bit) Duplex : 200 pages/minute (200x200dpi, 1bit)	N/A
Scanner *1	Single : 100 sheets/minute (200x200dpi, 1bit) Duplex : 200 pages/minute (200x200dpi/300x300dpi, 1bit)	Single : 100 sheets/minute (200x200dpi, 8bit) Duplex : 200 pages/minute (200x200dpi/300x300dpi, 8bit)

*1 : Default 200x200dpi

RSPF

Mode	Monochrome (A4 / 8.5x11)	Color (A4 / 8.5x11)
Copy	Single : 80 sheets/minute (600x400dpi, 4bit) 53 sheets/minute (600x600dpi, 4bit) Duplex : 25 pages/minutes (600x400dpi, 4bit) 22 pages/minutes (600x600dpi, 4bit) Thin paper mode 36 sheets/minutes (600x400dpi) 25 sheets/minutes (600x600dpi)	N/A
Fax	Single : 80 sheets/minute (200x200dpi, 1bit) Duplex : 25 pages/minute (200x200dpi, 1bit)	N/A
Internet FAX	Single : 80 sheets/minute (200x200dpi, 1bit) Duplex : 25 pages/minute (200x200dpi, 1bit)	N/A
Scanner	Single : 80 sheets/minute (200x200dpi, 1bit) Duplex : 25 pages/minute (200x200dpi, 1bit)	Single : 80 sheets/minute (200x200dpi, 8bit) Duplex : 25 pages/minute (200x200dpi, 8bit)

H. Paper feed section

(1) Basic specification

		Description
Form	Standard	1 Tray + Multi bypass
	Maximum	1 Tray (Std) + Tandem desk + Multi bypass + LCC
Heater		Service part

Details of Paper Feeding Section

Tray		Tray 1	Multi Bypass
Paper Capacity	Standard paper (80g/m ²)	600 sheets	100 sheets
Paper Size Detection		Available	Available
Paper Type Settings		Yes	
Method to change paper size		By user	By user
Default Paper Size Settings	Inch-system	8.5x11	---
	AB-system	A4	---
Detection of Remaining Paper		None and 3 levels (100%, 67%, 33%, None)	Available Detect "None" status only.

(2) Extra Paper Capacity

Paper type	Feeding Tray	Multi Bypass
Envelope	Yes	20 sheets
OHP	N/A	20 sheets
	106 - 220g/m ² :200 sheets, 221 - 300g/m ² :100sheets	106 - 256g/m ² :40sheets 257 - 300g/m ² :20sheets
Tab paper	N/A	20 sheets
Glossy paper	N/A	1 sheet
Others	N/A	1 sheet

(3) Feedable Paper Type

		Main unit	Options					Std.	
		Tray1	Tray2	Tray3	Tray4	Tandem Left	Tandem Right	LCC	Multi Bypass
Min.paper weight		60g/m ²	60g/m ²	60g/m ²	60g/m ²	60g/m ²	60g/m ²	60g/m ²	55g/m ²
Max.paper weight		300g/m ²	300g/m ²	300g/m ²	300g/m ²	105g/m ²	105g/m ²	220g/m ²	300g/m ²
Paper Type	Thin paper 55-59g/m ² 13-16 lb. bond	-	-	-	-	-	-	-	Yes
	Plain paper 1 60-89g/m ² 16-24 lbs bond	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Plain paper 2 90-105g/m ² 24-28 lbs bond	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Recycled Paper	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Colored Paper	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Letter head	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Pre printed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Pre Punched	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Heavy Paper 106-176g/m ² 28 lbs bond-65 lbs Cover	Yes	Yes	Yes	Yes	-	-	Yes	Yes
	Heavy Paper 177-220g/m ² 65 lbs Cover-80 lbs Cover	Yes	Yes	Yes	Yes	-	-	Yes	Yes
	Heavy Paper 221-256g/m ² 80 lbs Cover-140 lbs Index	Yes	Yes	Yes	Yes	-	-	-	Yes
	Heavy Paper 257-300g/m ² 140 lbs Index-110 lbs Cover	Yes	Yes	Yes	Yes	-	-	-	Yes
	Envelope	-	-	-	-	-	-	-	Yes
	Transparency	-	-	-	-	-	-	-	Yes
	Label	-	-	-	-	-	-	-	Yes
	Tab Paper *2	-	-	-	-	-	-	-	Yes
	Glossy Paper	-	-	-	-	-	-	-	Yes
User setting 1-7		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

			Main unit	Options						Std.
			Tray1	Tray2	Tray3	Tray4	Tandem Left	Tandem Right	LCC	Multi Bypass
Paper Size	12x18 (A3W)	305x457	Yes	Yes	Yes	Yes	-	-	-	Yes
	Ledger (11x17)	279x432	Yes	Yes	Yes	Yes	-	-	-	Yes
	Legal (8.5x14)	216x356	Yes	Yes	Yes	Yes	-	-	-	Yes
	Asian Legal (8.5x13.5)	216x343	Yes	Yes	Yes	Yes	-	-	-	Yes
	Mexican Legal (8.5x13.4)	216x340	Yes	Yes	Yes	Yes	-	-	-	Yes
	Foolscap (8.5x13)	216x330	Yes	Yes	Yes	Yes	-	-	-	Yes
	Letter (8.5x11)	279x216	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Letter-R (8.5x11R)	216x279	Yes	Yes	Yes	Yes	-	-	-	Yes
	Executive-R (7.25x10.5R)	184x266	Yes	Yes	Yes	Yes	-	-	-	Yes
	Invoice-R(5.5x8.5R)	140x216	Yes	Yes	Yes	Yes	-	-	-	Yes
	A3	297x420	Yes	Yes	Yes	Yes	-	-	-	Yes
	B4	257x364	Yes	Yes	Yes	Yes	-	-	-	Yes
	A4	297x210	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	A4R	210x297	Yes	Yes	Yes	Yes	-	-	-	Yes
	B5	257x182	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes
	B5R	182x257	Yes	Yes	Yes	Yes	-	-	-	Yes
	A5	210x148	Yes	-	-	-	-	-	-	Yes
	A5R	148x210	Yes	Yes	Yes	Yes	-	-	-	Yes
	8K	270x390	Yes	Yes	Yes	Yes	-	-	-	Yes
	16K	270x195	Yes	Yes	Yes	Yes	-	-	-	Yes
	16KR	195x270	Yes	Yes	Yes	Yes	-	-	-	Yes
	Monarch	98x191	-	-	-	-	-	-	-	Yes
	COM9	98.4x225.4	-	-	-	-	-	-	-	Yes
	COM10	105x241	-	-	-	-	-	-	-	Yes
	DL	110x220	-	-	-	-	-	-	-	Yes
	C4	229x324	-	-	-	-	-	-	-	Yes
	C5	162x229	-	-	-	-	-	-	-	Yes
	C6	114x162	-	-	-	-	-	-	-	Yes
	Custom-Custom Size		-	-	-	-	-	-	-	Yes
	Extra		-	-	-	-	-	-	-	Yes
	Custom range	Min X	182mm / 7_1/4inch		-	-	-	-	-	140mm/ 5_1/2inch *1
		Max X	457mm / 18inch		-	-	-	-	-	457mm/ 18inch
		Min Y	132mm / 5_1/4inch		-	-	-	-	-	90mm/ 3_5/8inch
		Max Y	305mm / 12 inch		-	-	-	-	-	305mm / 12 inch
	Long paper	Width: 90~305mm Length: 458~1300mm	-	-	-	-	-	-	-	Yes

*1: 148mm/5_7/8inch when output to inner finisher.

*2: Tab width: A4(12 - 20mm), 8.5x11(6.1 - 17mm)

I. Paper exit section

(1) Basic specification

Exit Location	Center (Job Separator) : OPT	Center : OPT	Right side : OPT
Exit Method	Face down		
Exit Capacity	100 sheets (A4 / 8.5x11) (80g/m ²)	250 sheets (A4 / 8.5x11) (80g/m ²)	100 sheets (A4 / 8.5x11) (80g/m ²)
Shifting function	No	Yes	No
Exit Paper Detection	Yes	No	Yes
Exit Tray Full Detection	No (Counting number of output paper)	Yes	Yes

(2) Usable Paper Size

			Duplex section	Center Tray			Right Exit Tray
				Upper tray (Job Separator)	Lower tray	Offset	
Paper Type	Thin paper 55-59g/m ² 13-16 lb. bond		-	Yes	Yes	Yes	Yes
	Plain paper 1 60-89g/m ² 16-24 lbs bond		Yes	Yes	Yes	Yes	Yes
	Plain paper 2 90-105g/m ² 24-28 lbs bond		Yes	Yes	Yes	Yes	Yes
	Recycled Paper		Yes	Yes	Yes	Yes	Yes
	Colored Paper		Yes	Yes	Yes	Yes	Yes
	Letter head		Yes	Yes	Yes	Yes	Yes
	Pre printed		Yes	Yes	Yes	Yes	Yes
	Pre Punched		Yes	Yes	Yes	Yes	Yes
	Heavy Paper 106-176g/m ² 28 lbs bond-65 lbs Cover		Yes	Yes	Yes	Yes	Yes
	Heavy Paper 177-220g/m ² 65 lbs Cover-80 lbs Cover		Yes	Yes	Yes	Yes	Yes
	Heavy Paper 221-256g/m ² 80 lbs Cover-140 lbs Index		Yes	Yes	Yes	Yes	Yes
	Heavy Paper 257-300g/m ² 140 lbs Index-110 lbs Cover		-	-	Yes	Yes	-
	Envelope		-	-	Yes	-	-
	Transparency		-	Yes	Yes	-	Yes
	Label		-	Yes	Yes	-	Yes
	Tab Paper *2		-	-	Yes	-	-
	Glossy Paper		-	-	Yes	Yes	-
	User setting 1-7		Yes	Yes	Yes	Yes	Yes
Paper Size	12x18 (A3W)	305x457	Yes	Yes	Yes	-	Yes
	Ledger (11x17)	279x432	Yes	Yes	Yes	Yes	Yes
	Legal (8.5x14)	216x356	Yes	Yes	Yes	Yes	Yes
	Asian Legal (8.5x13.5)	216x343	Yes	Yes	Yes	Yes	Yes
	Mexican Legal (8.5x13.4)	216x340	Yes	Yes	Yes	Yes	Yes
	Foolscap (8.5x13)	216x330	Yes	Yes	Yes	Yes	Yes
	Letter (8.5x11)	279x216	Yes	Yes	Yes	Yes	Yes
	Letter-R (8.5x11R)	216x279	Yes	Yes	Yes	Yes	Yes
	Executive-R (7.25x10.5R)	184x266	-	Yes	Yes	Yes	Yes
	Invoice-R (5.5x8.5R)	140x216	Yes	Yes	Yes	Yes	Yes
	A3	297x420	Yes	Yes	Yes	Yes	Yes
	B4	257x364	Yes	Yes	Yes	Yes	Yes
	A4	297x210	Yes	Yes	Yes	Yes	Yes
	A4R	210x297	Yes	Yes	Yes	Yes	Yes
	B5	257x182	Yes	Yes	Yes	Yes	Yes
	B5R	182x257	Yes	Yes	Yes	Yes	Yes
	A5	216x148	-	Yes	Yes	Yes	Yes
	A5R	148x210	Yes	Yes	Yes	Yes	Yes
	8K	270x390	Yes	Yes	Yes	Yes	Yes
	16K	270x195	Yes	Yes	Yes	Yes	Yes
	16KR	195x270	Yes	Yes	Yes	Yes	Yes
	Monarch	98x191	-	-	Yes	-	-
	COM9	98.4x225.4	-	-	Yes	-	-
	COM10	105x241	-	-	Yes	-	-
	DL	110x220	-	-	Yes	-	-
	C4	229x324	-	-	Yes	-	-
	C5	162x229	-	-	Yes	-	-
	C6	114x162	-	-	Yes	-	-
	Custom-Custom Size		Yes	Yes	Yes	-	Yes
	Extra		-	Yes	Yes	-	Yes
	Custom range	Min X	182mm / 7_1/ 4inch	140mm/5_1/2inch	140mm/5_1/2inch	-	140mm/5_1/2inch *1
		Max X	457mm / 18inch	457mm / 18inch	457mm/ 18inch	-	457mm/ 18inch
		Min Y	132mm / 5_1/ 4inch	90mm/ 3_5/8inch	90mm/ 3_5/8inch	-	90mm/ 3_5/8inch
		Max Y	305mm / 12inch	305mm / 12inch	305mm / 12inch	-	305mm / 12inch
	Long paper	Width: 90~305mm Length: 458~1300mm	-	Yes	Yes	-	-

*1: 148mm/5_7/8inch when output to inner finisher.

*2: Tab width: A4(12 - 20mm), 8.5x11(6.1 - 17mm)

J. Operation panel

(1) Display Device

LCD

Size	10.1 inch
Form	Dot matrix LCD, Touch panel
Number of Display Dot	1024 x 600 dot (WSVGA)
Color	Yes
LCD Drive Display Area (WxD)	222.72x125.28mm
LCD Back Light	LED backlight method
LCD Contrast Adjustment	Yes
Angle/Position Adjustment	Yes (free stop)
Touch Panel Method	Resistive touch display (effective 2-point touch)

K. Controller board

CPU	ARM11 600MHz ARM9 400MHz (1W energy saving mode 75MHz)		
SOC	Cortex-A53 Quad 1.4GHz		
Interface			
IEEE1284 Parallel	No		
Ethernet	1 port		
	Interface	10Base-T, 100Base-TX, 1000Base-T	
	Support Protocol	TCP/IP(IPv4, IPv6) : Supported IPX/SPX : Not Supported EtherTalk : Not Supported	
USB 2.0 (High speed) (Host)		ARM11	Not used
	2 port	SOC	For Wireless LAN module (internal)
		USB HUB (4 port)	Front port
			For IC card reader (internal)
			Keyboard (internal) (For MX-Mxx70)
			Rear port
	USB 2.0 (High speed) (device)		1 port

L. Memory-Hard disk

(1) Capacity

MX-Mxx70 series

Flash memory	eMMC PWB	ICU PWB		HDD*1
		REUS	SOC	
		On board	On board	
2MB	16GB	1GB(STD)	4GB(STD)	500GB

*1 : HDD capacity may vary depending on the procurement condition.

MX-Mxx50 series *2

Flash memory	mSATA SSD	eMMC PWB	ICU PWB		HDD*1
			REUS	SOC	
			On board	On board	
2MB	16GB	16GB	1GB(STD)	4GB(STD)	500GB (OPT)

*1 : HDD capacity may vary depending on the procurement condition.

*2 : Refer to MX-Mxx70 series for North America.

(2) eMMC PWB

Utilized memory Area	Boot/Program area FAX data storage area: 1GB
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M. Wireless LAN

Item	Specification	
Compliant regulation	IEEE802.11 n/g/b	
Transmission method	IEEE802.11n/g	IEEE802.11n/g
	IEEE802.11b	IEEE802.11b
HOST I/F	USB 2.0 Type A → Connect the module to MFP's internal USB I/F	
DEVICE I/F	IEEE802.11 n/g/b	
Antenna type	Integrated antenna	
Access mode	Infrastructure mode, Software AP mode	
Security	WEP, WPA/WPA2-mixed PSK, WPA/WPA2-mixed EAP*, WPA2 PSA, WPA2 EAP* *Not applicable to Software AP mode	

N. Warm-up time

		30 ppm	35 ppm	40 ppm	50 ppm	60 ppm
Warm up time	Main power SW on	27sec	27sec	27sec	29sec	31sec
	Sub Power SW on	14sec	14sec	14sec	16sec	18sec
Availability of Preheat mode		Yes	Yes	Yes	Yes	Yes
Jam recovery time		14sec	14sec	14sec	16sec	18sec

O. Power source

	100V	200V
Voltage / Current	110-127V 12A	220-240V 8 A
Frequency	60Hz	50/60Hz
Power source cord	Fixed type (Direct)	Inlet type
Power switch	2 switches Primary switch : in the front cover. Secondary switch (momentary SW): on the operation panel.	

P. Power consumption

	100V	200V
Max. rated power consumption*1	1.44 kW	1.84 kW
Fax waiting power consumption is 1W or less/ *Condition of Standing by Network: Connect with TCP/IP protocol only.	Yes *Depends on usage environment for North America	No
Time to move into Preheat mode	1 minute (Default)	
Recovery time from Preheat mode	30/35/40 ppm: 6seconds 50/60 ppm: 11seconds	
Time to move into Sleep mode	1 minute (Default)	Europe : 11 minutes Other : 1minute
	*Printer mode: 1 second. (Default)	

Q. Security

Admin/Service password scheme	YES
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2. Copy function

A. Copy Magnification Ratio

Copy ratio	Same size 1:1±0.8% AB system : 25%, 50%, 70%, 81%, 86%, 100%, 115%, 122%, 141%, 200%, 400% Inch system : 25%, 50%, 64%, 77%, 100%, 121%, 129%, 200%, 400%
Zoom	25 - 400% (25 - 200% for the document feeder)
Preset magnification ratio	4 levels (Reduction : 2 levels / Enlargement : 2 levels)
XY zoom	Yes
Auto Ratio calculation	The copy ratio is automatically calculated by specifying the original size and copy size manually. (Selected from standard sizes / input directly)

B. Density / Copy Image Quality Processing

Exposure mode	Automatic, Text/Printed Photo, Printed Photo, Text/Photo, Photo, Map and Pale-color document
Mode of Copy original	Auto, Text, Text/Printed Photo, Printed Photo
Mode of Highlighted Lines	Except OSA/Reprint/Simple mode
Manual levels	9 levels

3. Printer function

A. Printer driver supported OS

	OS *1	Custom PCL6 SPDL2	Custom PCL5c	Custom PS	PPD	PC-Fax	TWAIN
Windows	Server 2008	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2008 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 7	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 7 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2008 R2 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2012 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 8.1	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 8.1 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2012 R2 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 10	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
Mac	Windows 10 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2016 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	X10.6	No	No	CD-ROM	No	No	No
	X10.7	No	No	CD-ROM	No	No	No
	X10.8	No	No	CD-ROM	No	No	No
	X10.9	No	No	CD-ROM	No	No	No
	X10.10	No	No	CD-ROM	No	No	No
	X10.11	No	No	CD-ROM	No	No	No
	X10.12	No	No	CD-ROM	No	No	No

B. PDL emulation-Font

PDL (command)		Pre-installed font	Optional Font
PCL5 compatible/ PCL6 compatible	STD	European outline font =80 styles Line printer font (BMP) =1 style	Barcode font =28 styles
Genuine Postscript3	STD	European outline font =139 styles	—
Font for List Print Scalable font	STD	Arfic mobile font	—

4. Image send function

A. Mode

Mode	Sub mode
Scanner	E-mail
	FTP server
	Shared folder (SMB)
	Desktop
	USB memory
	HDD
Internet Fax/ Direct SMTP	-
Fax	-
Data input (metadata)	E-mail
	FTP server
	Shared folder (SMB)
	Desktop
Remote PC scan	-

B. Support image

Mode	Format / Compression method	Item
Scanner	File format (Mono 2 gradation)	TIFF, PDF, PDF/A-1b, PDF/A-1a, Encrypted PDF, XPS, Searchable PDF, Office file (pptx, xlsx, docx), Text file (TXT) (UTF-8), Rich text file (RTF)
	File format (Color/ Grayscale)	Color TIFF, JPEG, PDF, PDF/A-1b, PDF/A-1a, Encrypted PDF, High compression PDF, XPS, Searchable PDF, Office file (pptx, xlsx, docx), Text file (TXT) (UTF-8), Rich text file (RTF)
Scanner	Compression method (Mono 2 gradation)	Non-compression, G3 (1-dimensional) = MH (Modified Huffman), G4 = MMR (Modified MR)
	Compression method (Color/ Grayscale)	JPEG (High/Middle/Low), High compression PDF, Black Letter Emphasis
Internet Fax Direct SMTP	File format (Monochrome)	TIFF-FX (TIFF-F / TIFF-S)
	Compression method (Monochrome)	G3 (1-dimensional) = MH (Modified Huffman), G4 = MMR (Modified MR)
Fax	Compression method (Monochrome)	MH/ MR/ MMR/JBIG
File per page (Setting of the number of pages available)		

C. Image processing

(1) Color Mode

	Scanner	Internet Fax/ Direct SMTP	Fax
B&W	Yes	Yes	Yes
Grayscale	Yes	N/A	N/A
Full color	Yes	N/A	N/A
Auto Color Selection	Yes	N/A	N/A

(2) Resolution

Level	Scanner	Internet Fax/ Direct SMTP	Fax
1	100x100dpi	200x100 dpi (Half Tone: N/A.)	Standard: 203.2x97.8 dpi (Half Tone: N/A.)
2	150x150dpi	N/A	N/A
3	200x200dpi	200x200dpi	Fine (203.2x195.6 dpi)
4	300x300dpi	200x400dpi	Super Fine (203.2x391 dpi)
5	400x400dpi	400x400dpi	Ultra Fine (406.4x391 dpi)
6	600x600dpi	600x600dpi	N/A

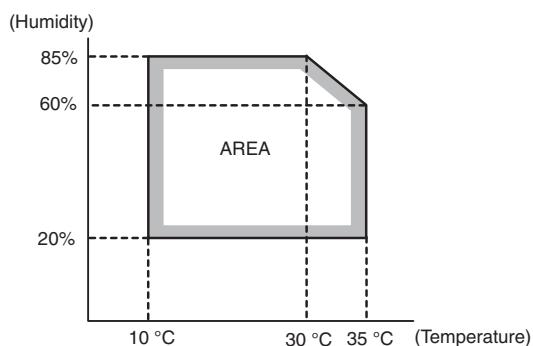
(3) Exposure / Original Type

Mode		Scanner	Internet Fax/ Direct SMTP	Fax
Halftone reproduction		Equivalent to 256 gradations	←	←
Exposure Adjustment	Auto	Yes	←	←
	Manual	5 levels	←	←
Original document type (Selectable in manual mode)	Text	Yes	N/A	N/A
	Text / Photo	Yes	N/A	N/A
	Text /Printed photo	Yes	N/A	N/A
	Photo	Yes	N/A	N/A
	Printed photo	Yes	N/A	N/A
	Map	Yes	N/A	N/A
Selection of image quality		N/A	Halftone (B&W only) ON/OFF	Halftone (B&W only) ON/OFF

5. Dimension and weight

Outer dimensions (WxDxH)	616 x 660 x 838 (mm) 24_17/64 x 25_63/64 x 33 (inch)
Dimensions occupied by machine	1009 x 660 (mm) 39_47/64 x 25_63/64 (inch) when extending Multi bypass sub tray
Weight (Including Drum and developer cartridge. Not including consumables (Toner cartridge and developer)).	MX-Mxx70 series 100V series 72.1(kg) 200V series 71.9(kg) MX-Mxx50 series 100V series 63.9(kg) 200V series 63.7(kg)

6. Environmental conditions



[3] CONSUMABLE PARTS

1. Supply system table

A. 30 ppm machine

(1) North America, Central America, South America

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561NT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561NV	Developer	1	500K	10	
Drum	MX-560DR	Drum	1	250K	10	

(2) Europe, Australia, New Zealand

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561GT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561GV	Developer	1	500K	10	
Drum	MX-560DR	Drum	1	250K	10	

(3) Asia, Hong Kong

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561AT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561AV	Developer	1	500K	10	
Drum	MX-560DR	Drum	1	250K	10	

(4) Middle East, Africa, Taiwan, Philippines, Israel

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561FT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561FV	Developer	1	500K	10	
Drum	MX-560DR	Drum	1	250K	10	

B. 35 ppm machine

(1) North America, Central America, South America

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561NT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561NV	Developer	1	560K	10	
Drum	MX-560DR	Drum	1	280K	10	

(2) Europe, Australia, New Zealand

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561GT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561GV	Developer	1	560K	10	
Drum	MX-560DR	Drum	1	280K	10	

(3) Asia, Hong Kong

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561AT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561AV	Developer	1	560K	10	
Drum	MX-560DR	Drum	1	280K	10	

(4) Middle East, Africa, Taiwan, Philippines, Israel

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561FT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561FV	Developer	1	560K	10	
Drum	MX-560DR	Drum	1	280K	10	

C. 40 ppm / 50 ppm / 60 ppm machine**(1) North America, Central America, South America**

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561NT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561NV	Developer	1	600K	10	
Drum	MX-560DR	Drum	1	300K	10	

(2) Europe, Australia, New Zealand

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561GT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561GV	Developer	1	600K	10	
Drum	MX-560DR	Drum	1	300K	10	

(3) Asia, Hong Kong

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561AT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561AV	Developer	1	600K	10	
Drum	MX-560DR	Drum	1	300K	10	

(4) Middle East, Africa, Taiwan, Philippines, Israel

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-561FT	Toner cartridge	1	40K	10	*Life: A4/Letter size at area coverage 6%
Developer	MX-561FV	Developer	1	600K	10	
Drum	MX-560DR	Drum	1	300K	10	

2. Maintenance parts list

A. 30 ppm machine

(1) North America, Central America, South America

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Fusing belt kit	MX-609FB	Fusing belt	1	250K	10	
		Pressure oscillation guide	1			
		Insulation bush	2			
		Separation plate spacer	2			
Heat roller kit	MX-609HR	Heat roller	1	250K	10	
Fusing roller kit	MX-609HK	Fusing roller	1	250K	10	
Pressure roller kit	MX-609LH	Pressure roller	1	250K	10	
Transfer kit	MX-609TK	Transfer roller	1	250K	10	
		Discharge plate	1			
DV filter kit	MX-609FK	DV filter unit	1	500K	10	
Cleaning kit	MX-609CH	Cleaning blade	1	250K	10	
		Side seal F-R	1			
		Drum separation pawl unit	4			
		Toner reception seal F-R	1			
MC unit	MX-609MC	MC unit	1	125K	10	
Toner collection container	MX-609HB	Toner collection container	1	300K	10	
Filter kit	MX-607FL	Ozone filter	1	250K	10	
Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	AR-SC2	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC11	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC12	Staple cartridge	4	2000 times x 4	32	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge	2		20	
Fusing unit	MX-501FU1	Fusing unit (120V series)	1		1	

(2) Europe

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Fusing belt kit	MX-609FB	Fusing belt	1	250K	10	
		Pressure oscillation guide	1			
		Insulation bush	2			
		Separation plate spacer	2			
Heat roller kit	MX-609HR	Heat roller	1	250K	10	
Fusing roller kit	MX-609HK	Fusing roller	1	250K	10	
Pressure roller kit	MX-609LH	Pressure roller	1	250K	10	
Transfer kit	MX-609TK	Transfer roller	1	250K	10	
		Discharge plate	1			
DV filter kit	MX-609FK	DV filter unit	1	500K	10	
Cleaning kit	MX-609CH	Cleaning blade	1	250K	10	
		Side seal F-R	1			
		Drum separation pawl unit	4			
		Toner reception seal F-R	1			
MC unit	MX-609MC	MC unit	1	125K	10	
Toner collection container	MX-609HB	Toner collection container	1	300K	10	
Filter kit	MX-607FL	Ozone filter	1	250K	10	
Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	AR-SC2	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC11	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC12	Staple cartridge	4	2000 times x 4	32	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge	2		20	
Fusing unit	MX-609FU	Fusing unit (200V series)	1		1	

(3) Australia, New Zealand, Asia, Middle East

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Fusing belt kit	MX-609FB	Fusing belt	1	250K	10	
		Pressure oscillation guide	1			
		Insulation bush	2			
		Separation plate spacer	2			
Heat roller kit	MX-609HR	Heat roller	1	250K	10	
Fusing roller kit	MX-609HK	Fusing roller	1	250K	10	
Pressure roller kit	MX-609LH	Pressure roller	1	250K	10	
Transfer kit	MX-609TK	Transfer roller	1	250K	10	
		Discharge plate	1			
DV filter kit	MX-609FX	DV filter unit	1	500K	10	
Cleaning kit	MX-609CH	Cleaning blade	1	250K	10	
		Side seal F-R	1			
		Drum separation pawl unit	4			
		Toner reception seal F-R	1			
MC unit	MX-609MC	MC unit	1	125K	10	
Toner collection container	MX-609HB	Toner collection container	1	300K	10	
Filter kit	MX-607FL	Ozone filter	1	250K	10	
Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	AR-SC2	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC11	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC12	Staple cartridge	4	2000 times x 4	32	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge	2		20	
Fusing unit	MX-609FU	Fusing unit (200V series)	1		1	

B. 35 ppm machine

(1) North America, Central America, South America

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Fusing belt kit	MX-609FB	Fusing belt	1	280K	10	
		Pressure oscillation guide	1			
		Insulation bush	2			
		Separation plate spacer	2			
Heat roller kit	MX-609HR	Heat roller	1	280K	10	
Fusing roller kit	MX-609HK	Fusing roller	1	280K	10	
Pressure roller kit	MX-609LH	Pressure roller	1	280K	10	
Transfer kit	MX-609TK	Transfer roller	1	280K	10	
		Discharge plate	1			
DV filter kit	MX-609FK	DV filter unit	1	560K	10	
Cleaning kit	MX-609CH	Cleaning blade	1	280K	10	
		Side seal F-R	1			
		Drum separation pawl unit	4			
		Toner reception seal F-R	1			
MC unit	MX-609MC	MC unit	1	140K	10	
Toner collection container	MX-609HB	Toner collection container	1	300K	10	
Filter kit	MX-607FL	Ozone filter	1	280K	10	
Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	AR-SC2	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC11	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC12	Staple cartridge	4	2000 times x 4	32	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge	2		20	
Fusing unit	MX-501FU1	Fusing unit (120V series)	1		1	

(2) Europe

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Fusing belt kit	MX-609FB	Fusing belt	1	280K	10	
		Pressure oscillation guide	1			
		Insulation bush	2			
		Separation plate spacer	2			
Heat roller kit	MX-609HR	Heat roller	1	280K	10	
Fusing roller kit	MX-609HK	Fusing roller	1	280K	10	
Pressure roller kit	MX-609LH	Pressure roller	1	280K	10	
Transfer kit	MX-69TK	Transfer roller	1	280K	10	
		Discharge plate	1			
DV filter kit	MX-609FK	DV filter unit	1	560K	10	
Cleaning kit	MX-609CH	Cleaning blade	1	280K	10	
		Side seal F-R	1			
		Drum separation pawl unit	4			
		Toner reception seal F-R	1			
MC unit	MX-609MC	MC unit	1	140K	10	
Toner collection container	MX-609HB	Toner collection container	1	300K	10	
Filter kit	MX-607FL	Ozone filter	1	280K	10	
Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	AR-SC2	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC11	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC12	Staple cartridge	4	2000 times x 4	32	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge	2		20	
Fusing unit	MX-609FU	Fusing unit (200V series)	1		1	

(3) Australia, New Zealand, Asia, Middle East

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Fusing belt kit	MX-609FB	Fusing belt	1	280K	10	
		Pressure oscillation guide	1			
		Insulation bush	2			
		Separation plate spacer	2			
Heat roller kit	MX-609HR	Heat roller	1	280K	10	
Fusing roller kit	MX-609HK	Fusing roller	1	280K	10	
Pressure roller kit	MX-609LH	Pressure roller	1	280K	10	
Transfer kit	MX-609TK	Transfer roller	1	280K	10	
		Discharge plate	1			
DV filter kit	MX-609FK	DV filter unit	1	560K	10	
Cleaning kit	MX-609CH	Cleaning blade	1	280K	10	
		Side seal F-R	1			
		Drum separation pawl unit	4			
		Toner reception seal F-R	1			
MC unit	MX-609MC	MC unit	1	140K	10	
Toner collection container	MX-609HB	Toner collection container	1	300K	10	
Filter kit	MX-607FL	Ozone filter	1	280K	10	
Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	AR-SC2	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC11	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC12	Staple cartridge	4	2000 times x 4	32	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge	2		20	
Fusing unit	MX-609FU	Fusing unit (200V series)	1		1	

C. 40 ppm / 50 ppm / 60 ppm machine

(1) North America, Central America, South America

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Fusing belt kit	MX-609FB	Fusing belt	1	300K	10	
		Pressure oscillation guide	1			
		Insulation bush	2			
		Separation plate spacer	2			
Heat roller kit	MX-609HR	Heat roller	1	300K	10	
Fusing roller kit	MX-609HK	Fusing roller	1	300K	10	
Pressure roller kit	MX-609LH	Pressure roller	1	300K	10	
Transfer kit	MX-609TK	Transfer roller	1	300K	10	
		Discharge plate	1			
DV filter kit	MX-609FK	DV filter unit	1	600K	10	
Cleaning kit	MX-609CH	Cleaning blade	1	300K	10	
		Side seal F-R	1			
		Drum separation pawl unit	4			
		Toner reception seal F-R	1			
MC unit	MX-609MC	MC unit	1	150K	10	
Toner collection container	MX-609HB	Toner collection container	1	300K	10	
Filter kit	MX-607FL	Ozone filter	1	300K	10	
Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	AR-SC2	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC11	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC12	Staple cartridge	4	2000 times x 4	32	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge	2		20	
Fusing unit	MX-501FU1	Fusing unit (120V series)	1		1	For 40/50 ppm machine
Fusing unit	MX-609FU1	Fusing unit (120V series)	1		1	For 60 ppm machine

(2) Europe

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Fusing belt kit	MX-609FB	Fusing belt	1	300K	10	
		Pressure oscillation guide	1			
		Insulation bush	2			
		Separation plate spacer	2			
Heat roller kit	MX-609HR	Heat roller	1	300K	10	
Fusing roller kit	MX-609HK	Fusing roller	1	300K	10	
Pressure roller kit	MX-609LH	Pressure roller	1	300K	10	
Transfer kit	MX-609TK	Transfer roller	1	300K	10	
		Discharge plate	1			
DV filter kit	MX-609FK	DV filter unit	1	600K	10	
Cleaning kit	MX-609CH	Cleaning blade	1	300K	10	
		Side seal F-R	1			
		Drum separation pawl unit	4			
		Toner reception seal F-R	1			
MC unit	MX-609MC	MC unit	1	150K	10	
Toner collection container	MX-609HB	Toner collection container	1	300K	10	
Filter kit	MX-607FL	Ozone filter	1	300K	10	
UFP filter kit	MX-609UF	UFP filter	1	300K	10	For 50/60 ppm machine
Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	AR-SC2	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC11	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC12	Staple cartridge	4	2000 times x 4	32	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge	2		20	
Fusing unit	MX-501FU	Fusing unit (200V series)	1		1	For 40/50 ppm machine
Fusing unit	MX-609FU	Fusing unit (200V series)	1		1	For 60 ppm machine

(3) Australia, New Zealand, Asia, Middle East

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Fusing belt kit	MX-609FB	Fusing belt	1	300K	10	
		Pressure oscillation guide	1			
		Insulation bush	2			
		Separation plate spacer	2			
Heat roller kit	MX-609HR	Heat roller	1	300K	10	
Fusing roller kit	MX-609HK	Fusing roller	1	300K	10	
Pressure roller kit	MX-609LH	Pressure roller	1	300K	10	
Transfer kit	MX-609TK	Transfer roller	1	300K	10	
		Discharge plate	1			
DV filter kit	MX-609FK	DV filter unit	1	600K	10	
Cleaning kit	MX-609CH	Cleaning blade	1	300K	10	
		Side seal F-R	1			
		Drum separation pawl unit	4			
		Toner reception seal F-R	1			
MC unit	MX-609MC	MC unit	1	150K	10	
Toner collection container	MX-609HB	Toner collection container	1	300K	10	
Filter kit	MX-607FL	Ozone filter	1	300K	10	
Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	AR-SC2	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC11	Staple cartridge	3	5000 times x 3	20	
Staple cartridge	MX-SC12	Staple cartridge	4	2000 times x 4	32	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge	2		20	
Fusing unit	MX-501FU	Fusing unit (200V series)	1		1	For 40/50 ppm machine
Fusing unit	MX-609FU	Fusing unit (200V series)	1		1	For 60 ppm machine

3. Definition of developer/drum life end

When the developer / drum counter reaches the specified count.

When the developer / drum rpm reaches the specified count

When either of the above reach the specified count, it is judged as life end

When correction or warm-up operation is performed as well as output operation, the developer and the drum rotates

Therefore the developer / drum consuming level cannot be determined only by the copy / print quantity

When therefore the rpm reaches the specified amount, it is judged as life end

To check the developer / drum life, use SIM22-13

Developer

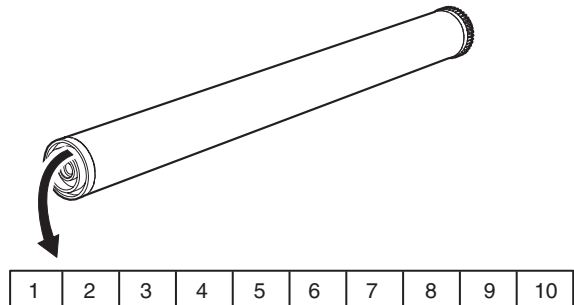
	Counter	Rotation
30 ppm machine	500K	2400K
35 ppm machine	560K	
40/50/60 ppm machine	600K	

drum

	Counter	Rotation
30 ppm machine	250K	1200K
35 ppm machine	280K	
40/50/60 ppm machine	300K	

4. Production number identification

A. OPC drum

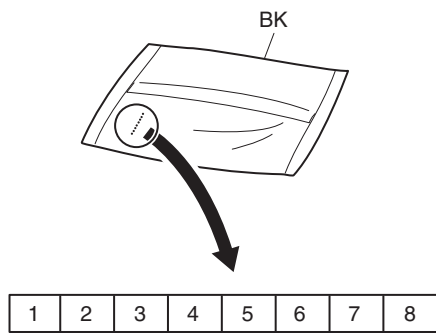


The lot number is of 10 digits. Each digit indicates the content as follows.

The number is printed on the flange on the front side.

Digit	Character type	Content
1	Number	For this model, this digit is 2.
2	Alphabet	Indicates the model conformity code.
3	Number	Indicates the end digit of the production year.
4	Number or X, Y, Z	Indicates the production month. X stands for October, Y November, and Z December.
5	Number	Indicates the day of the production date.
6		
7	Number or X, Y, Z	Indicates the day of the month of packing. X stands for October, Y November, and Z December.
8	Number	Indicates the day of the packing date.
9		
10	Alphabet	Indicates the production factory.

B. Developer



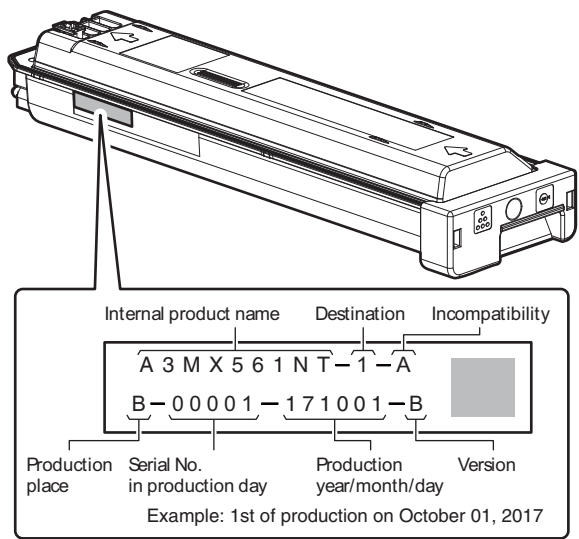
The lot number is of 8 digits. Each digit indicates the content as follows.

The number is printed on the right under side of the back surface of the developer bag.

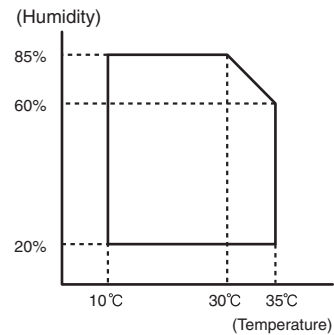
Digit	Character type	Content
1	Alphabet	Indicates the production factory.
2	Number	Indicates the production year.
3	Number	Indicates the production month.
4		
5	Number	Indicates the production day.
6		
7	Hyphen	
8	Number	Indicates the production lot.

C. Toner cartridge

The label indicating the management number is attached to the side of the toner cartridge.



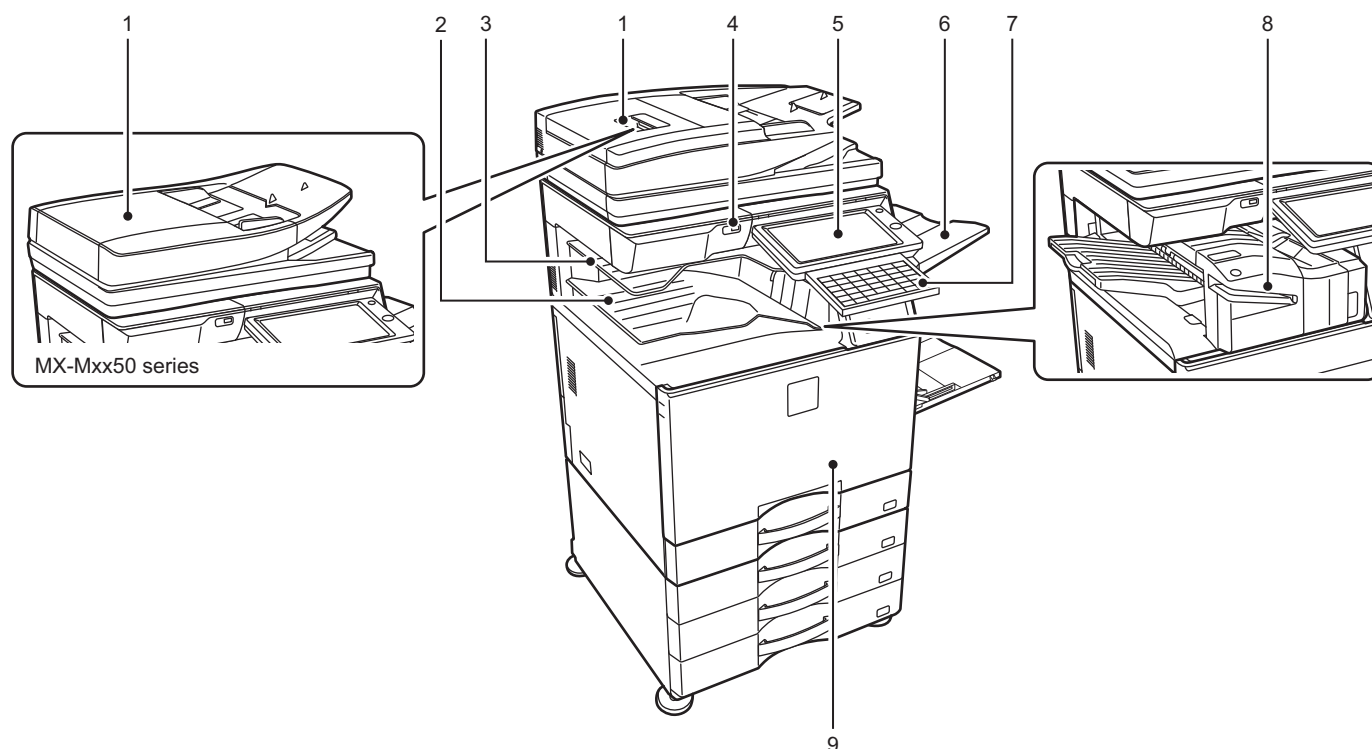
5. Environmental conditions



Standard environmental conditions	Temperature	21 – 25 °C
	Humidity	50 ± 10 %RH
Usage environmental conditions	Temperature	10 – 35 °C
	Humidity	20 – 85 %RH
Storage period	Toner/Developer: 24 months from the manufactured month (Production lot) under unsealed state Drum: 36 months from the manufactured month under unsealed state	

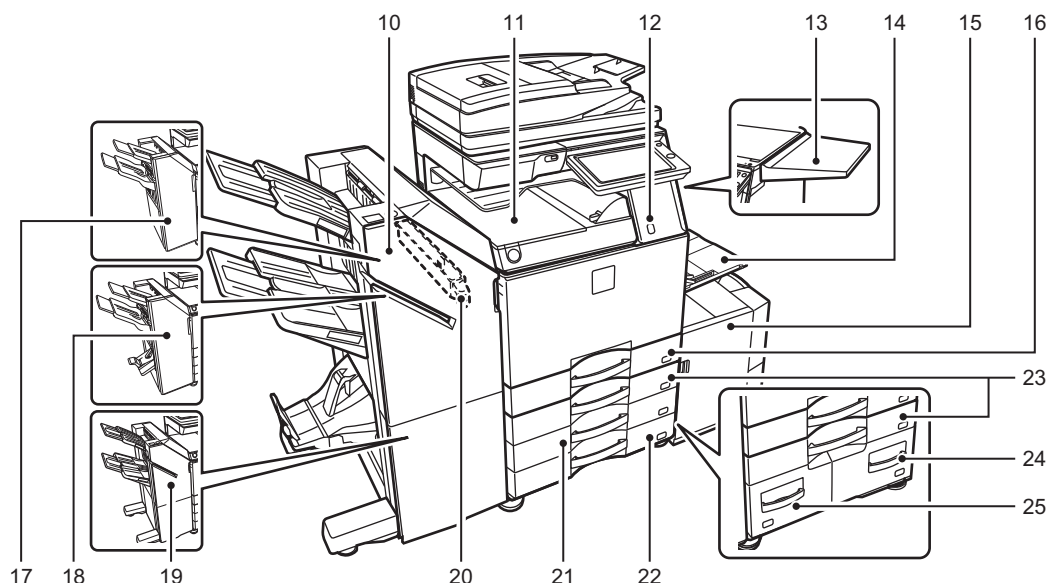
[4] EXTERNAL VIEW AND INTERNAL STRUCTURE

1. External view



No.	Name	Function/Operation
1	Automatic document feeder	It automatically feeds and scans multiple originals. 2-sided originals can be automatically scanned. For the MX-Mxx70 series, both sides of 2-sided originals can be automatically scanned at one time.
2	Output tray (exit tray cabinet)*1	Received faxes and printed papers are delivered to this tray.
3	Job separator tray (upper tray)*1	Output is delivered to this tray. You can also output jobs to the job separator (center tray) when a relay unit is installed.
4	USB port (A type)	This is used to connect a USB device such as a USB memory device to the machine. Supports USB 2.0 (Hi-Speed).
5	Operation panel	This panel hosts the [Power] button, [Power Save] button/indicator, error indicator, [Home Screen] button, main power button, data notification indicator and touch panel. Use the touch panel to operate each of these functions. An NFC touch point area also appears. (MX-Mxx70 series)
6	Exit tray unit (right tray)*1	Set this tray as the output tray if needed.
7	Keyboard*1	Use this as a substitute for the soft keyboard displayed on the touch panel. When not being used, it can be stored under the operation panel.
8	Inner finisher*1	This staples paper. A punch module can also be installed to punch holes in output paper. You can also perform stapling manually.
9	Front cover	Open this cover to switch the main power switch to "On" or "Off" to replace a toner cartridge.

*1 Optional

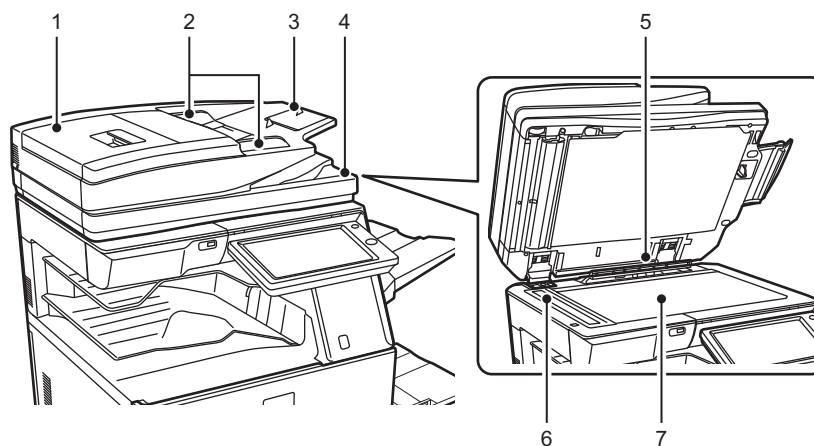


No.	Name	Function/Operation
10	Saddle Stitch Finisher (large stacker)*1	This staples and folds paper. A punch module can also be installed to punch holes in output paper. You can also perform stapling manually.
11	Paper pass unit*1	Relay between the machine and the finisher, finisher (large stacker), saddle stitch finisher or saddle stitch finisher (large stacker).
12	Motion sensor*2	This sensor detects the presence of a person that approaches the machine, and automatically wakes the machine from sleep mode (Motion Sensor Mode Only).
13	Utility table*1	<p>You can use this as a work platform, or temporarily place originals or a mobile device.</p> <p>Important</p> <ul style="list-style-type: none"> Do not place anything that weighs more than 5kg or otherwise apply a load. Do not place a container that contains water or other liquid. Risk of fire and electrical shock if the liquid spills and enters the machine. Working on the table while the machine is in operation may cause poor image quality or other problems.
14	Bypass tray	Use this tray to feed paper manually. When loading paper larger than 8-1/2" x 11"R or A4R, pull out the extension guide.
15	Tray 5 (when a large capacity tray is installed)*1	Store paper in this tray.
16	Tray 1	Store paper in this tray.
17	Finisher*1	This staples paper. A punch module can also be installed to punch holes in output paper.
18	Saddle Stitch Finisher*1	This staples and folds paper. A punch module can also be installed to punch holes in output paper.
19	Finisher (large stacker)*1	This staples paper. A punch module can also be installed to punch holes in output paper. You can also perform stapling manually.
20	Punch module*1	This is used to punch holes in output. Requires an inner finisher, finisher, finisher (large stacker), saddle stitch finisher or saddle stitch finisher (large stacker).
21	Tray 3 (when a stand/2x550/3x550 sheet paper drawer is installed)*1	Store paper in this tray.
22	Tray 4 (when a stand/3x550 sheet paper drawer is installed)*1	Store paper in this tray.
23	Tray 2 (when a low stand/550 sheet paper drawer or stand/550/2x550/3x550/550&2100 sheet paper drawer is installed)*1	Store paper in this tray.
24	Tray 4 (when a stand/550&2100 sheet paper drawer is installed)*1	Store paper in this tray.
25	Tray 3 (when a stand/550&2100 sheet paper drawer is installed)*1	Store paper in this tray.

*1 Optional

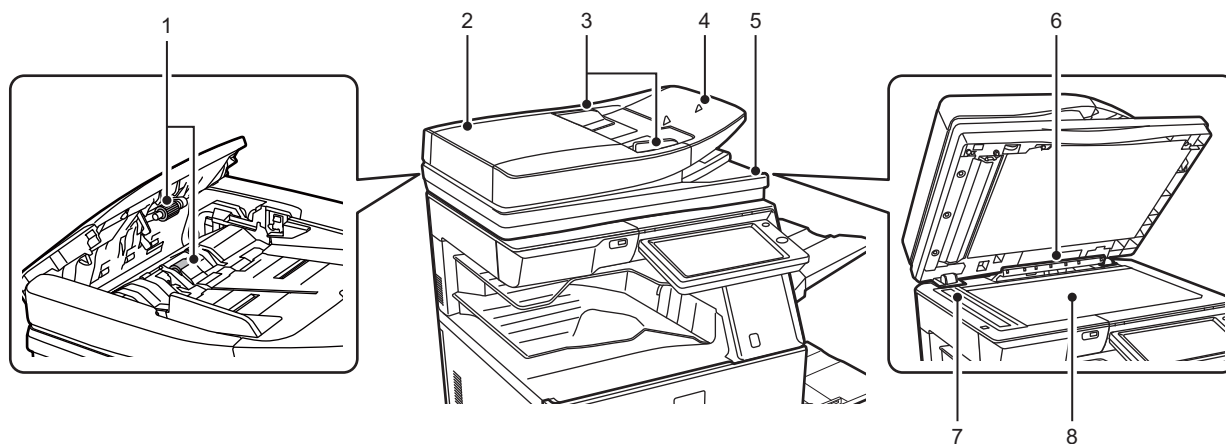
*2 Can only be used on the MX-Mxx70 series.

A. DUPLEX SINGLE PASS FEEDER



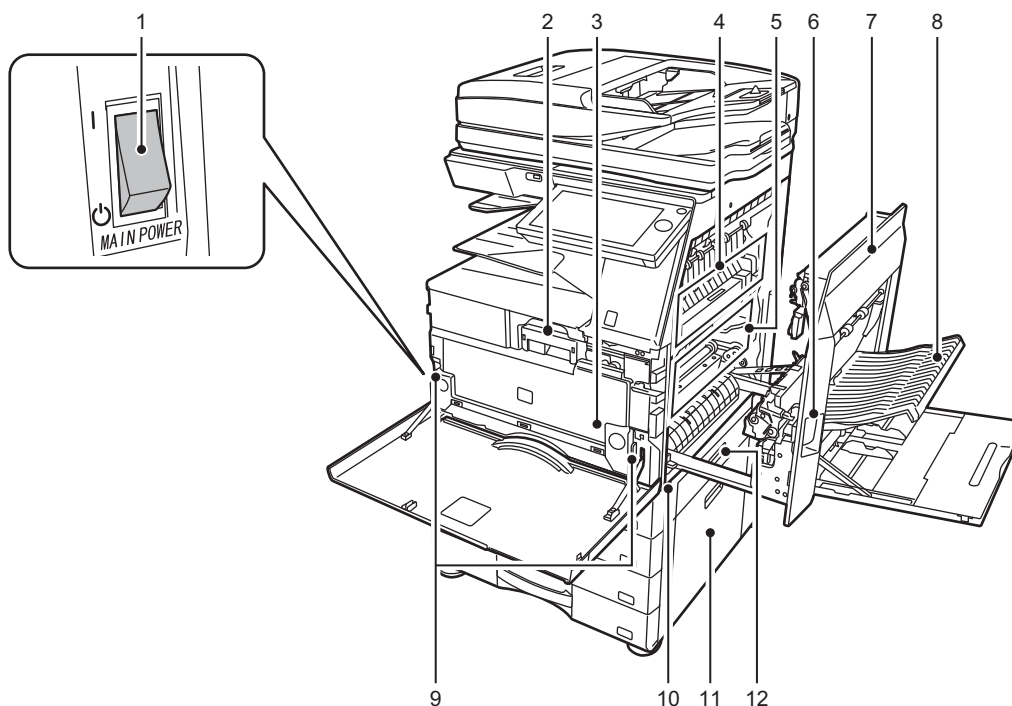
No.	Name	Function/Operation
1	Document feeding cover	Open this cover to remove an original misfeed.
2	Original guides	These guides help ensure that the original is scanned correctly. Adjust the guides to the width of the original.
3	Document feeder tray	Place the original. Place the original with the print side facing up.
4	Original exit tray	The original is discharged to this tray after scanning.
5	Original size detector	This unit detects the size of an original placed on the document glass.
6	Scanning area	Originals placed in the automatic document feeder are scanned here.
7	Document glass	If you want to scan books or other thick originals that cannot be fed through the automatic document feeder, place them on this glass.

B. REVERSING SINGLE PASS FEEDER



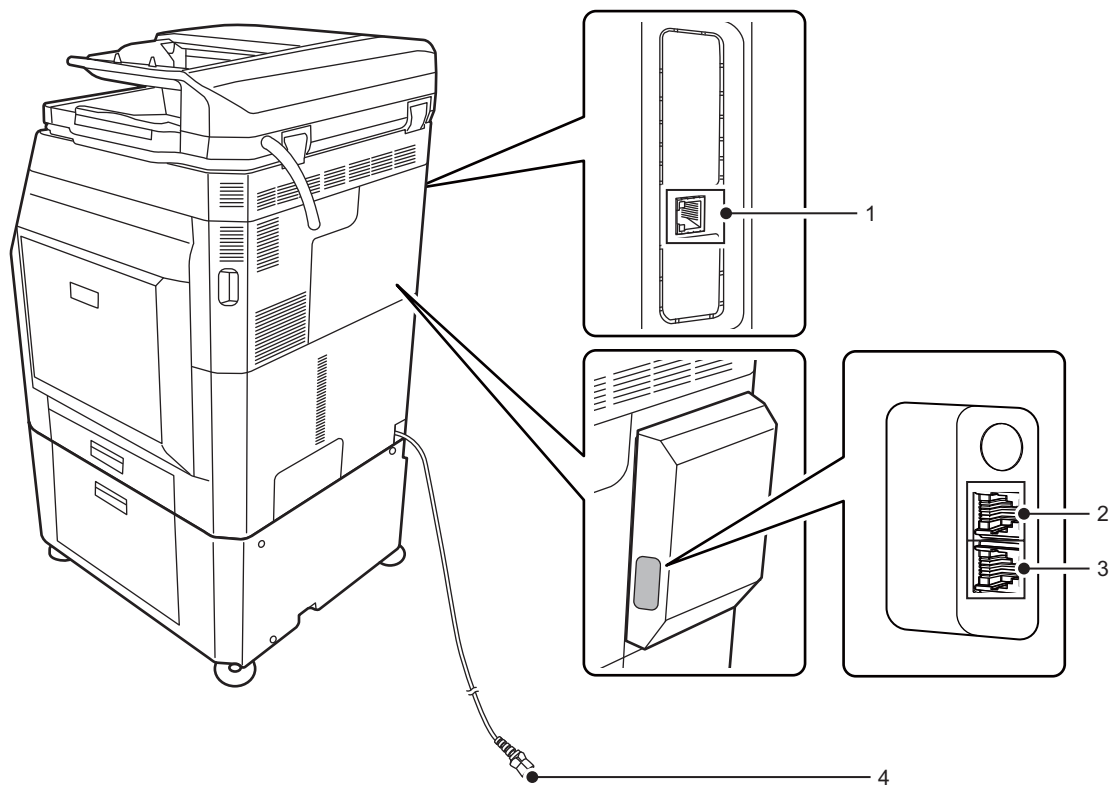
No.	Name	Function/Operation
1	Paper feed roller	This roller rotates to automatically feed the original. This cover is also opened to clean the paper feed roller.
2	Document feeding cover	Open this cover to remove an original misfeed.
3	Original guides	These guides help ensure that the original is scanned correctly. Adjust the guides to the width of the original.
4	Document feeder tray	Place the original. Place the original with the print side facing up.
5	Original exit tray	The original is discharged to this tray after scanning.
6	Original size detector	This unit detects the size of an original placed on the document glass.
7	Scanning area	Originals placed in the automatic document feeder are scanned here.
8	Document glass	If you want to scan books or other thick originals that cannot be fed through the automatic document feeder, place them on this glass.

2. Internal structure



No.	Name	Function/Operation	Note
1	The main power switch	Use this switch to turn on the power for the machine. When using the fax or Internet fax functions, always keep this switch in the "I" position.	
2	Toner cartridge	This cartridge contains toner. When the toner in a cartridge runs out, replace with new one.	
3	Waste toner box	This container collects excess toner that remains after printing.	<div>Note</div> A service technician collects replaced waste toner box.
4	Fusing unit	Heat is applied here to fuse the transferred image onto the paper.	<div>Important</div> The fusing unit is hot. Take care not to burn yourself when removing a misfeed.
5	Photoconductive drum	Images are formed on the photoconductive drum.	<div>Important</div> Do not touch or damage the transfer belt. This may cause a defective image.
6	Right side cover release lever	To remove a paper misfeed, pull and hold this lever up to open the right side cover.	
7	Right side cover	Open this cover to remove a paper misfeed.	
8	Paper reversing section cover	This unit is used for reversing paper when 2-sided printing is performed. Open this cover to remove a paper misfeed.	
9	Waste toner box release button	Press this button when you need to release the waste toner box lock to replace the waste toner box.	
10	Handle	Pull this out and grasp it when moving the machine.	
11	A low stand/550 sheet paper drawer or stand/550/2x550/3x550/550&2100 sheet paper drawer right-side cover	Open this to remove a paper misfeed in tray 2, 3 and 4.	
12	Paper tray right side cover	Open this to remove a paper misfeed in tray 1.	

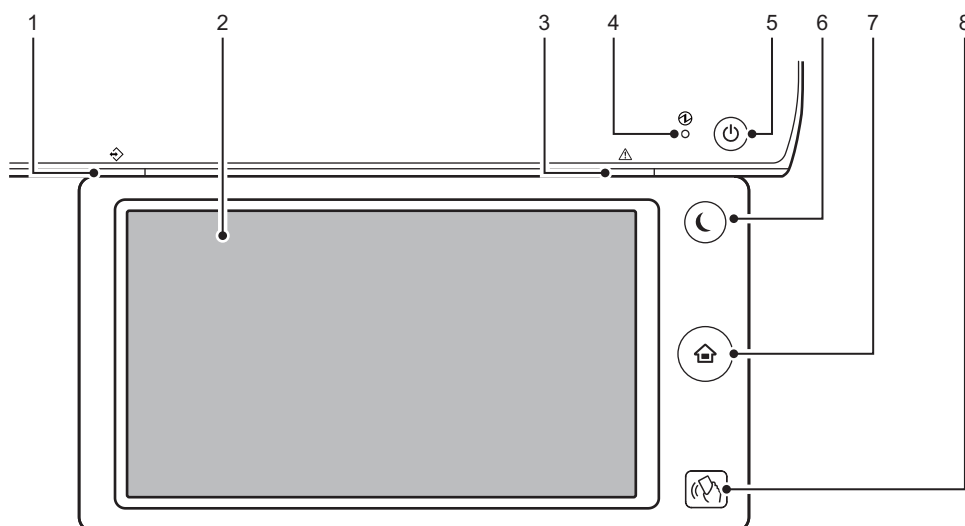
3. I/F connectors



No.	Name	Function/Operation
1	LAN connector	Connect the LAN cable to this connector when the machine is used on a network. Use a shielded LAN cable.
2	Extension phone jack (TEL)*	When the fax function of the machine is used, an extension phone can be connected to this jack.
3	Telephone line jack (LINE)*	When the fax function of the machine is used, the telephone line is connected to this jack.
4	Power plug	

* Optional

4. Operation panel



No.	Name	Function/Operation
1	Data notification indicator	The indicator lights solidly or blinks to indicate the status of a job. When the Job separator or Exit tray unit (right tray) is used for output, this blinks until the output is removed.
2	Touch panel	Messages and keys appear on the touch panel display. Operate the machine by directly tapping the displayed keys.
3	Error indicator	Lights solidly or blinks to indicate the status of the error.
4	Main power indicator	This lamp lights up when the machine's main power switch is in the "I" position. Blinks green during the time that the [Power] button does not operate immediately after the main power switch is switched on.
5	[Power] button	Use this button to turn the machine's power on and off.
6	[Power Save] button/indicator	Use this button to set the machine to Sleep mode for energy saving. [Power Save] button blinks when the machine is in Sleep Mode.
7	[Home Screen] key	Use this button to display the home screen.
8	NFC touch point area (MX-Mxx70 series)	You can easily connect a mobile device to the machine by touching the mobile device.

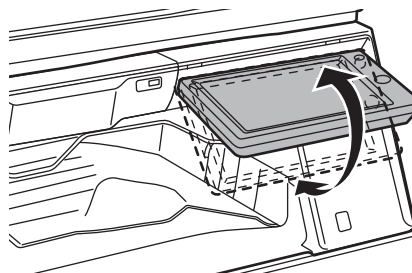
Important

[Home Screen] key

Use your finger to touch the [Home Screen] key. If you use a pen or other tool to touch the key, it may not operate properly. Risk of malfunctioning if you use with jewelry or other accessories.

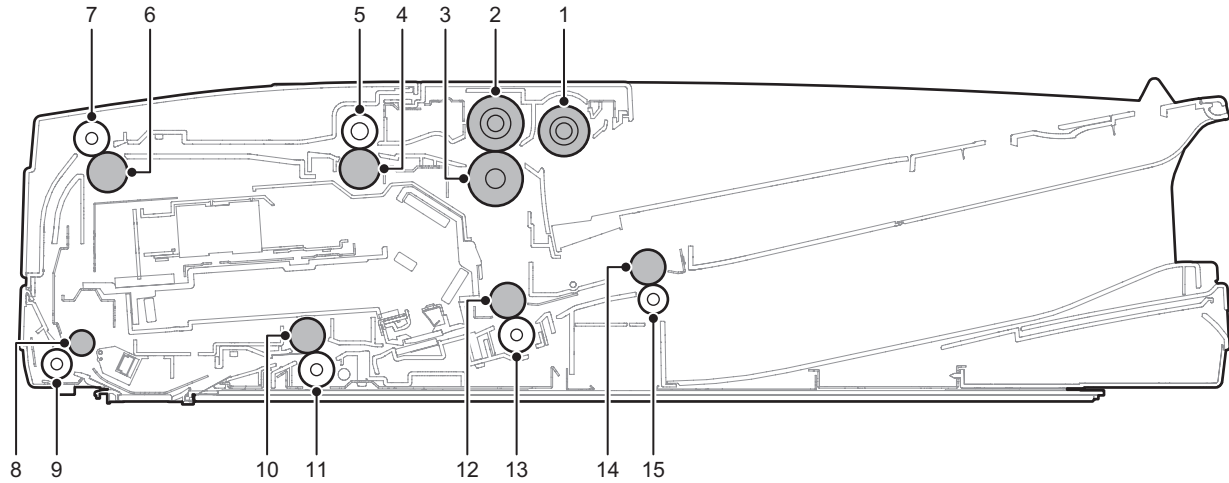
Note

You can change the angle of the touch panel.



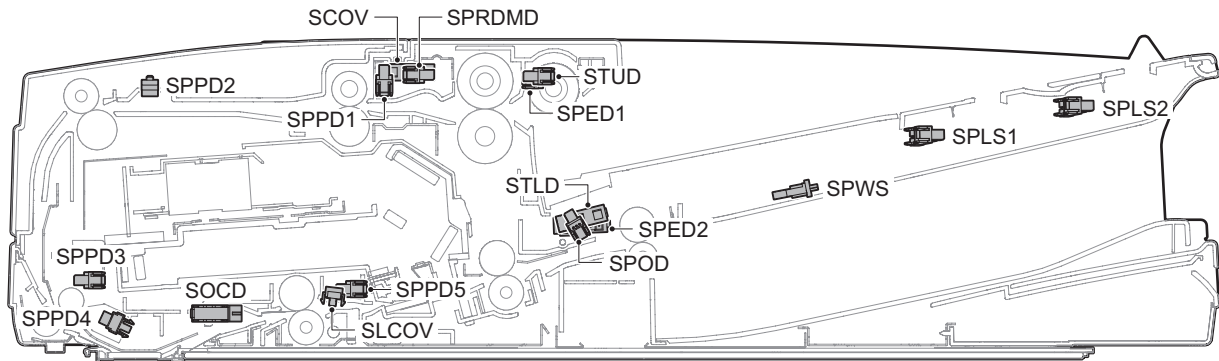
5. DSPF

A. Rollers



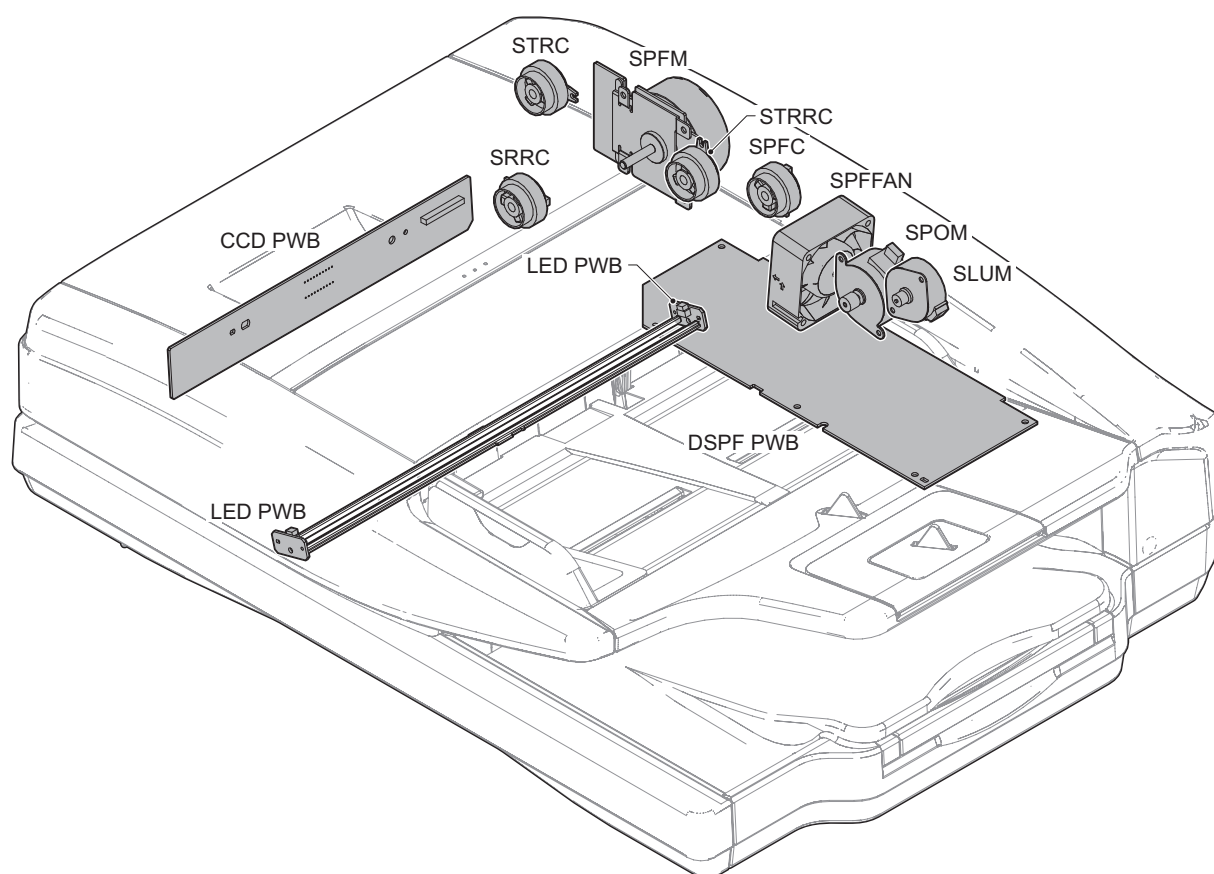
No.	Name	Function and operation
1	Pickup roller	Picks up document and feed it to the document feed roller
2	Document feed roller	Perform the document feed operation of documents
3	Separation roller	Separate a document to prevent against double feed
4	Transport roller 1 (Drive)	Transports document from paper feed roller to transport roller 2
5	Transport roller 1 (Idle)	Applied a pressure to document and the transport roller, and provides transport power of the transport roller to document
6	Transport roller 2 (Drive)	Transports document from transport roller to registration roller
7	Transport roller 2 (Idle)	Applied a pressure to document and the transport roller, and provides the transport power of the transport roller to document
8	Registration roller (Drive)	Performs resist of document transport
9	Registration roller (Idle)	Applies a pressure to document and the registration roller, and provides transport power of the registration roller to document
10	Transport roller 3 (Drive)	Transports document from the No.1 scan section to the transport roller 4
11	Transport roller 3 (Idle)	Applies a pressure to document and the transport roller and provides transport power of the transport roller to document
12	Transport roller 4 (Drive)	Transports document from the transport roller 3 to the document exit roller
13	Transport roller 4 (Idle)	Applies a pressure to document and the transport roller and provides transport power of the transport roller to document
14	Document exit roller (Drive)	Discharges document
15	Document exit roller (Idle)	Applies a pressure to document and the document exit roller and provides transport power of the document exit roller to document

B. Sensors and switches



Signal name	Name	Type	Function and Operation
SCOV	Upper cover sensor	Transmission type	Detects open/close of the upper cover
SLCOV	Lower cover sensor	Micro switch	Detects open/close of the lower cover
SOC D	SPF sensor	Transmission type	Detects open/close of the SPF unit
SPED1	Document sensor 1	Transmission type	Detects document empty of the document feed tray
SPED2	Document sensor 2	Transmission type	Detects document empty of the document feed tray
SPLS1	Document length sensor 1	Transmission type	Detects the document length of the document feed tray
SPLS2	Document length sensor 2	Transmission type	Detects the document length of the document feed tray
SPOD	Document exit sensor	Transmission type	Detects document exit of the document
SPPD1	Document pass sensor 1	Transmission type	Detects pass of the document
SPPD2	Document pass sensor 2	Reflection type	Detects pass of the document
SPPD3	Document pass sensor 3	Transmission type	Detects pass of the document
SPPD4	Document pass sensor 4	Transmission type	Detects pass of the document
SPPD5	Document pass sensor 5	Transmission type	Detects pass of the document
SPRDM D	Document random sensor	Transmission type	Detects the document size in random document feed
SPWS	Document width sensor	Volume type resistor	Detects the document width of the document feed tray
STLD	Document feed tray lower limit sensor	Transmission type	Detects the lower limit of the document feed tray
STUD	Document feed tray upper limit sensor	Transmission type	Detects the upper limit of the document feed tray

C. Motors/Clutches/PWB/Lamps/Fan

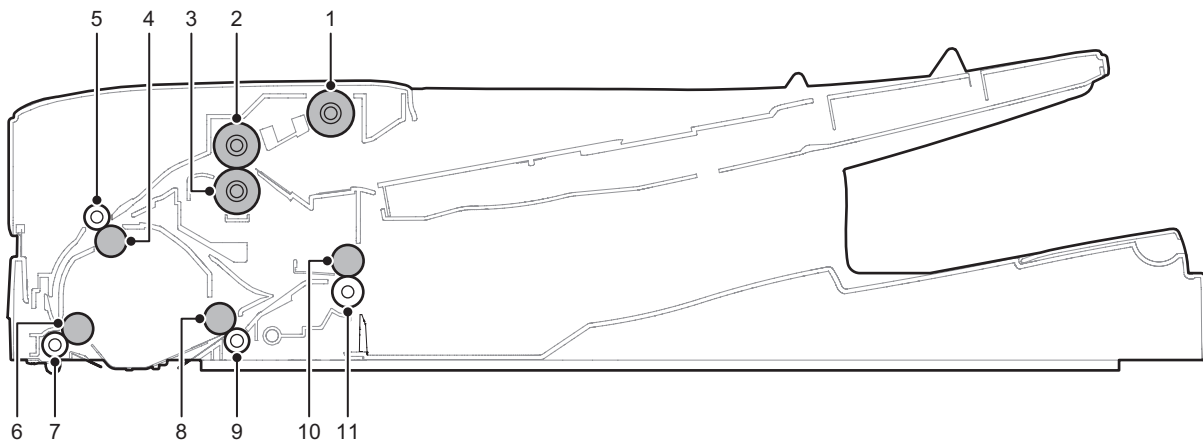


Signal name	Name	Type	Function and operation
SLUM	Lift motor	PM step motor	Lifts up or moves down the document feed tray
SPFC	Document feed clutch	Electromagnetic clutch	Controls ON/OFF of the rollers in the document feed section
SPFFAN	SPF fan	DC brushless motor	Cools the motors and the clutches
SPFM	Transport motor	DC brushless motor	Drives the transport roller
SPOM	Document exit motor	PM step motor	Drives the document exit roller
SRRC	Registration roller clutch	Electromagnetic clutch	Controls ON/OFF of registration roller
STRC	Transport roller 2 clutch	Electromagnetic clutch	Controls ON/OFF of the transport roller 2
STRRC	Transport roller 1 clutch	Electromagnetic clutch	Controls ON/OFF of the transport roller 1

Name	Function and operation
DSPF PWB	Controls the image data process and all the DSPF
CCD PWB	Scans document images and perform A/D conversion of the scanning signal
LED PWB	Radiates light onto a document for the CCD to scan the document image

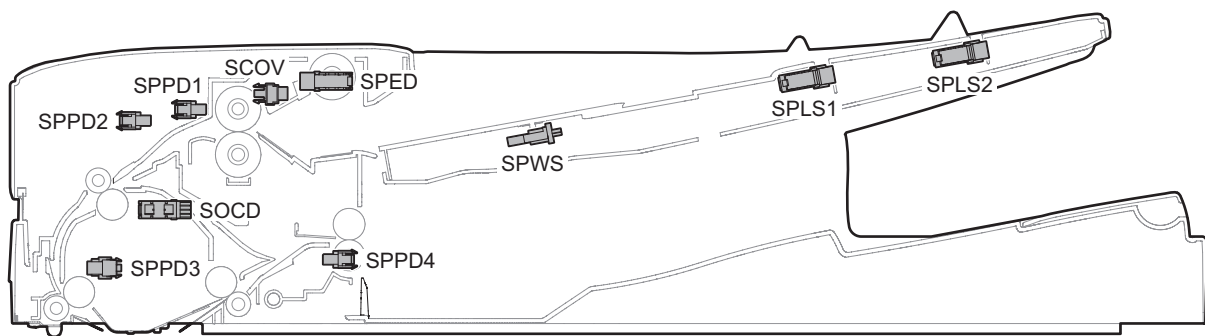
6. RSPF

A. Rollers



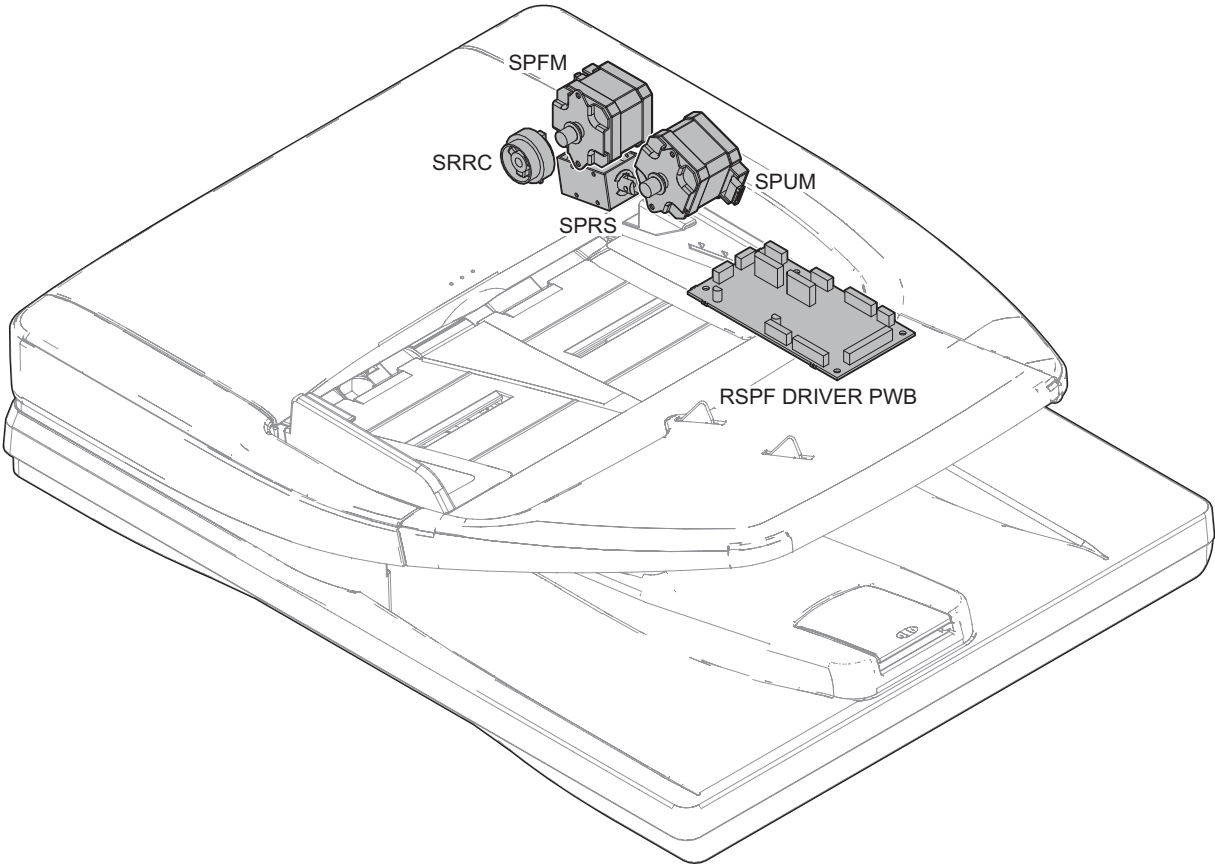
No.	Name	Function and operation
1	Pickup roller	Picks up document and feed it to the document feed roller
2	Document feed roller	Feeds a document to the transport section. Makes a buckle on paper between the registration roller and this roller to correct the start position of document skew and document image scan
3	Separation roller	Separates a document to prevent double-feeding
4	Registration roller (Drive)	Transports a document to the transport roller 1 / Controls the transport timing of the document and adjusts the document scanning timing
5	Registration roller (Idle)	Apply a pressure to a document and the registration roller to provide the transport power of the transport roller to the document
6	Transport roller 1 (Drive)	Transports a document transported from the registration roller to the document scanning section
7	Transport roller 1 (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document
8	Transport roller 2 (Drive)	Transports a document transported from the document scanning section to the paper exit roller
9	Transport roller 2 (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document
10	Document exit roller (Drive)	Discharges a document. Switchbacks the document and transports it to the registration roller when scanning the back surface
11	Document exit roller (Idle)	Apply a pressure to a document and the document exit roller to provide the transport power of the document exit roller to the document

B. Sensors and switches



Signal name	Name	Type	Function and operation
SCOV	Cover sensor	Transmission type	Detects open/close of the cover
SOCD	SPF sensor	Transmission type	Detects open/close of the SPF unit
SPED	Document sensor	Transmission type	Detects document empty of the document feed tray
SPLS1	Document length sensor 1	Transmission type	Detects the document length of the document feed tray
SPLS2	Document length sensor 2	Transmission type	Detects the document length of the document feed tray
SPPD1	Document pass sensor 1	Transmission type	Detects document feed and the document size in random paper feed
SPPD2	Document pass sensor 2	Transmission type	Detects document pass
SPPD3	Document pass sensor 3	Transmission type	Detects document pass
SPPD4	Document pass sensor 4	Transmission type	Detects document exit and switchback
SPWS	Document width sensor	Volume type resistor	Detects the document width of the document feed tray

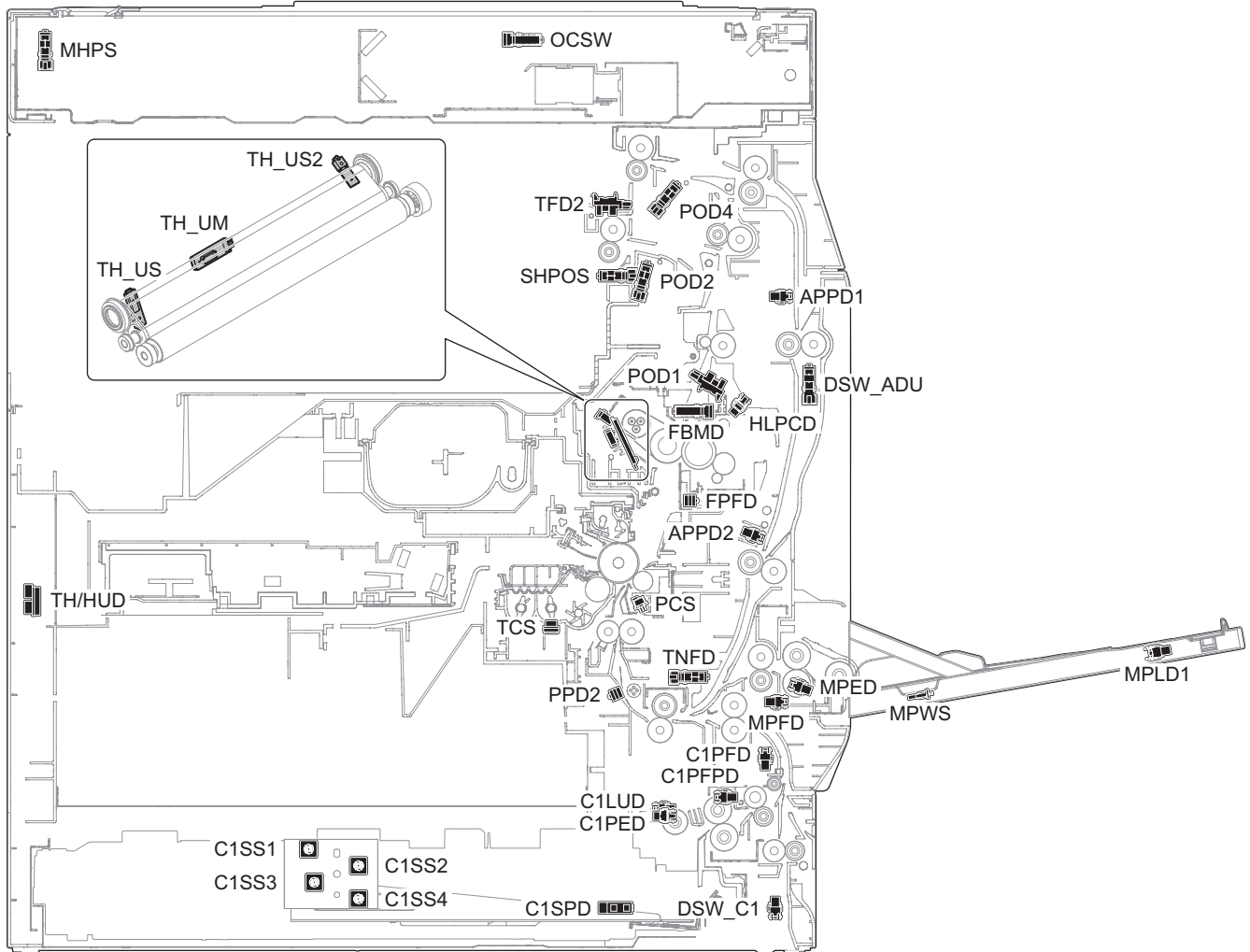
C. Motors/Clutches/Solenoids/PWB



Signal name	Name	Type	Function and operation
SPFM	Transport motor	Stepping motor	Drives the transport roller
SPRS	Document exit roller solenoid	Electromagnetic solenoid	Controls ON/OFF of the power of the document exit roller
SPUM	Document feed motor	Stepping motor	Drives the document feed roller
SRRC	Registration roller clutch	Electromagnetic clutch	Controls ON/OFF of registration roller

Name	Function and operation
RSPF DRIVER PWB	Drives the motor, the solenoid and the clutch in the SPF section

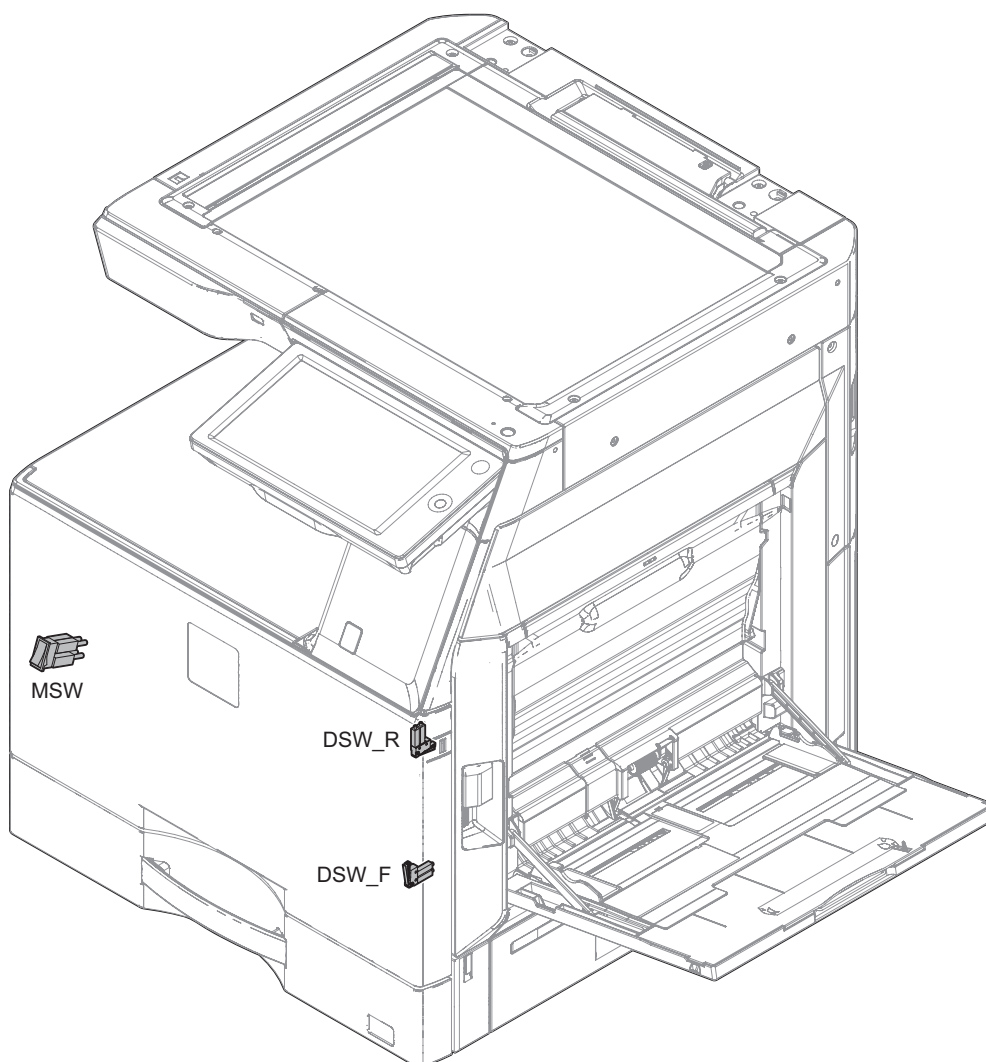
7. Sensors



Signal name	Name	Type	Function and operation
APPD1	ADU paper transport sensor1	Transmission type	Detects paper entry and paper pass in the ADU section
APPD2	ADU paper transport sensor2	Transmission type	Detects paper pass of the transport roller 10 in the ADU section
C1LUD	Paper feed tray upper limit sensor	Transmission type	Detects the upper limit of the paper lift up (Paper feed tray1)
C1PED	Paper empty sensor	Transmission type	Detects paper empty (Paper feed tray1)
C1PFD	Paper transport sensor	Transmission type	Detects paper pass in the paper transport section (Paper feed tray1)
C1PFPD	Paper pass sensor	Transmission type	Detects paper pass in the paper transport section (Paper feed tray1)
C1SPD	Paper remaining quantity sensor	Transmission type	Detects the paper remaining quantity (Paper feed tray1)
C1SS1 - 4	Paper size sensor	Tact switch	Detects paper size (Paper feed tray1)
DSW_ADU	ADU cover sensor	Transmission type	Detects open/close of the ADU cover
DSW_C1	Transport cover sensor	Transmission type	Detects open/close of the transport section cover (Paper feed tray1)
FBMD	Fusing belt sensor	Transmission type	Detects meandering of the fusing belt
FPDF	Fusing paper entry sensor	Reflection type	Detects paper pass before entering fusing section
HLPD	Fusing pressure sensor	Transmission type	Detects the fusing pressure state
MHPS	Scanner home position sensor	Transmission type	Detects the scanner home position
MPED	Paper empty sensor	Transmission type	Detects presence of paper (Manual paper feed tray)
MPFD	Paper feed sensor	Transmission type	Detects paper pass (Manual paper feed tray)
MPLD1	Paper length sensor	Transmission type	Detects the paper length (Manual paper feed tray)
MPWS	Paper width sensor	Volume type resistor	Detects the paper width (Manual paper feed tray)
OCSW	Paper size detection trigger sensor	Transmission type	Detects generation of the paper size detection trigger signal
PCS	Image density sensor	Reflection type	Detects toner patch density
POD1	Paper exit sensor1	Transmission type	Detects paper transport from the fusing section
POD2	Paper exit sensor2	Transmission type	Detects paper transport to the center paper exit tray
POD4	Paper exit sensor4	Transmission type	Detects paper transport to the upper paper exit tray
PPD2	Paper transport sensor2	Reflection type	Detects paper pass in the transport roller 5 and registration roller
SHPOS	Shifter home position sensor	Transmission type	Detects the shifter home position
TCS	Toner sensor	Magnetic sensor	Detects toner supply from the toner cartridge Detects the toner density
TFD2	Paper exit tray full sensor	Magnetic sensor	Detects paper full in the center paper exit tray

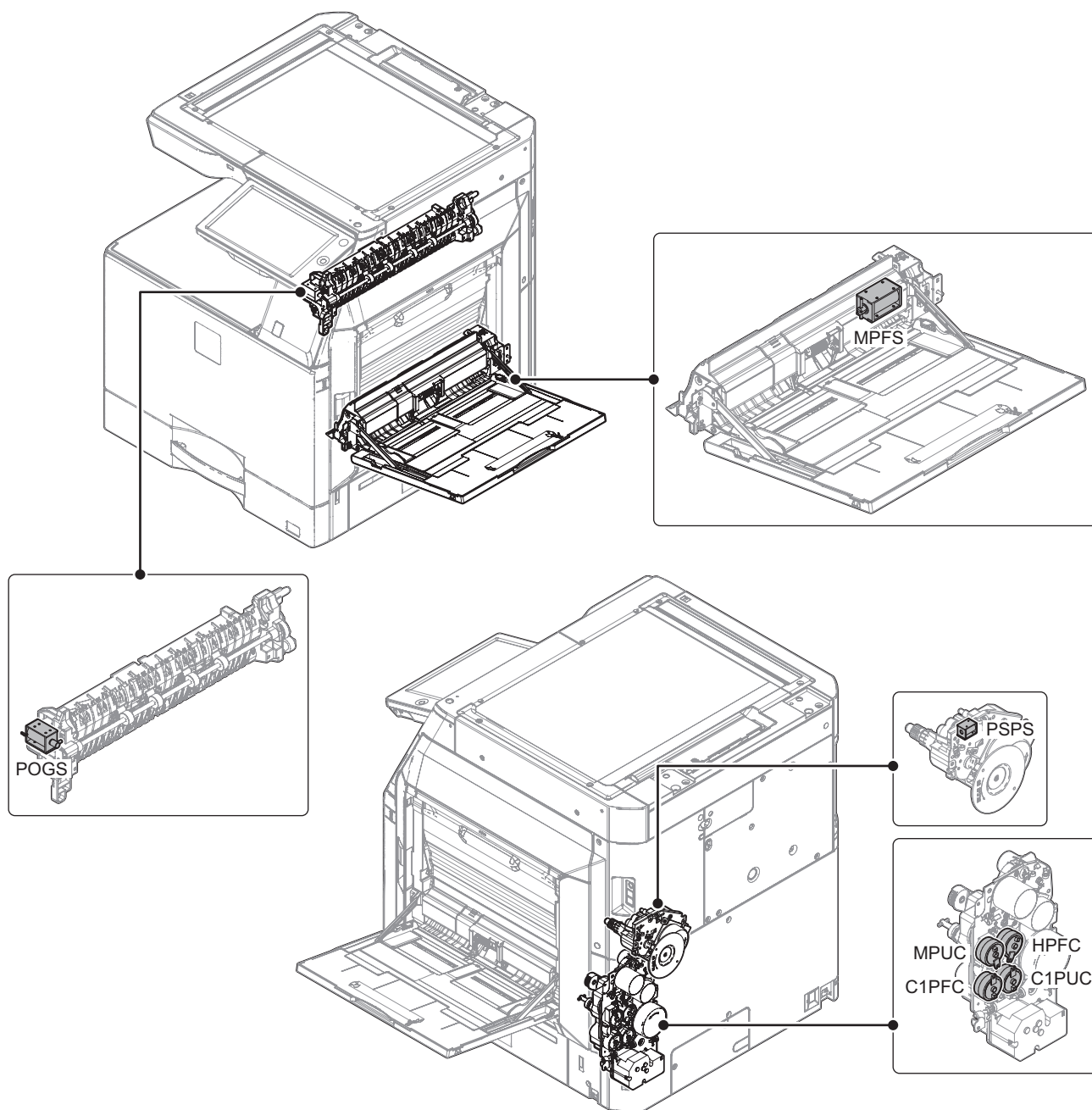
Signal name	Name	Type	Function and operation
TH/HUD	Temperature / humidity sensor	Thermistor	Detects the temperature and the humidity
TH_UM	Fusing temperature sensor (main)	Thermistor	Detects the surface temperature at the center of the fusing belt
TH_US	Fusing temperature sensor (sub)	Thermistor	Detects the surface temperature at the edge section of the fusing belt
TH_US2	Fusing temperature sensor (sub2)	Thermistor	Detects the surface temperature at the edge section of the fusing belt
TNFD	Waste toner sensor	Transmission type	Detects full of waste toner

8. Switches



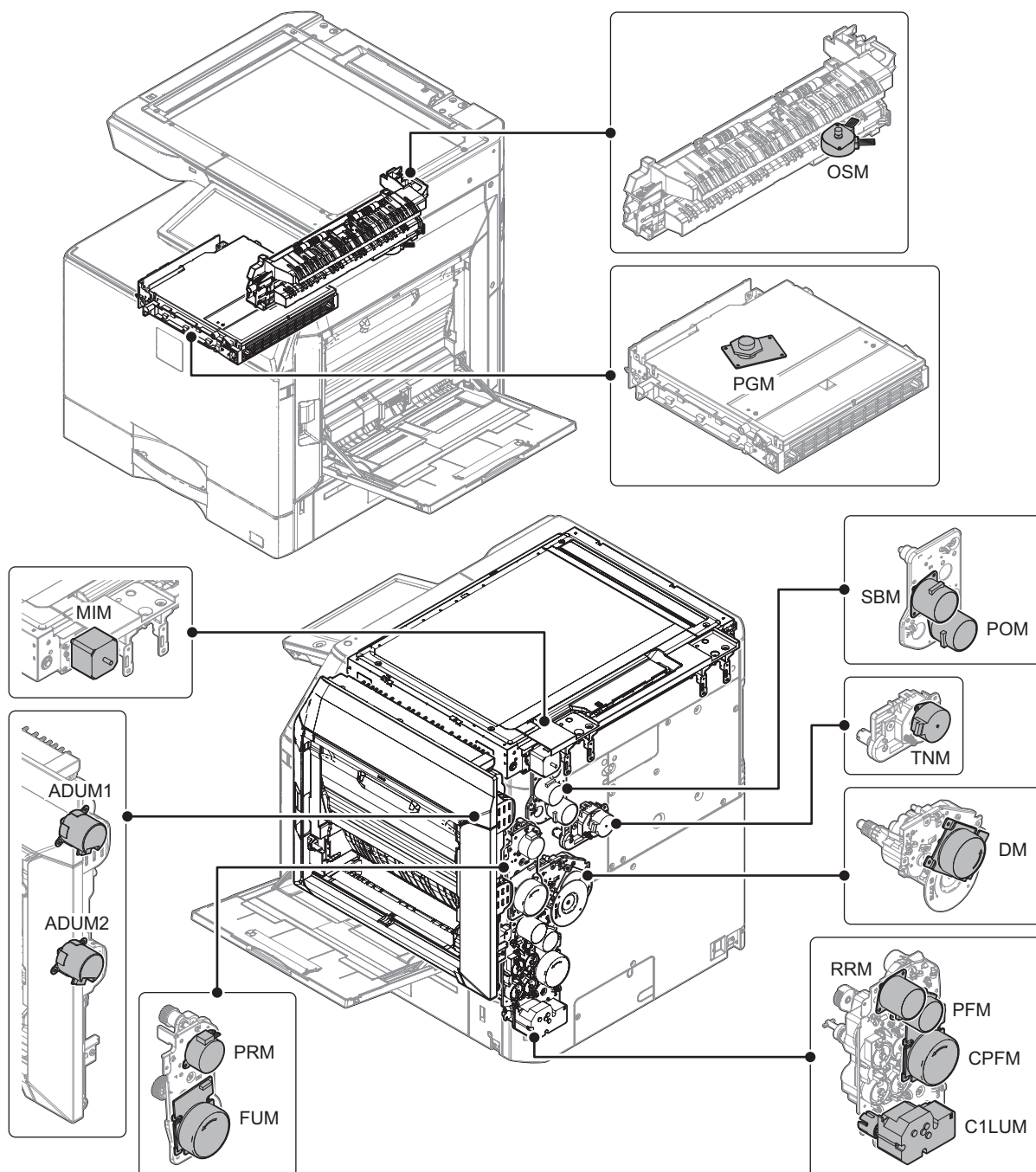
Signal name	Name	Type	Function and Operation
DSW_F	Front door switch	Micro switch	Detects open/close of the front door. Detects ON/OFF of the power line of the fusing unit, the motors, and the LSU laser.
DSW_R	Right transport unit (right door) switch	Micro switch	Detects open/close of the right paper transport section (right door). Detects ON/OFF of the power line of the fusing unit, the motors, and LSU laser.
MSW	Main power switch	Seesaw switch	Turns ON/OFF the main power.

9. Clutches and solenoids



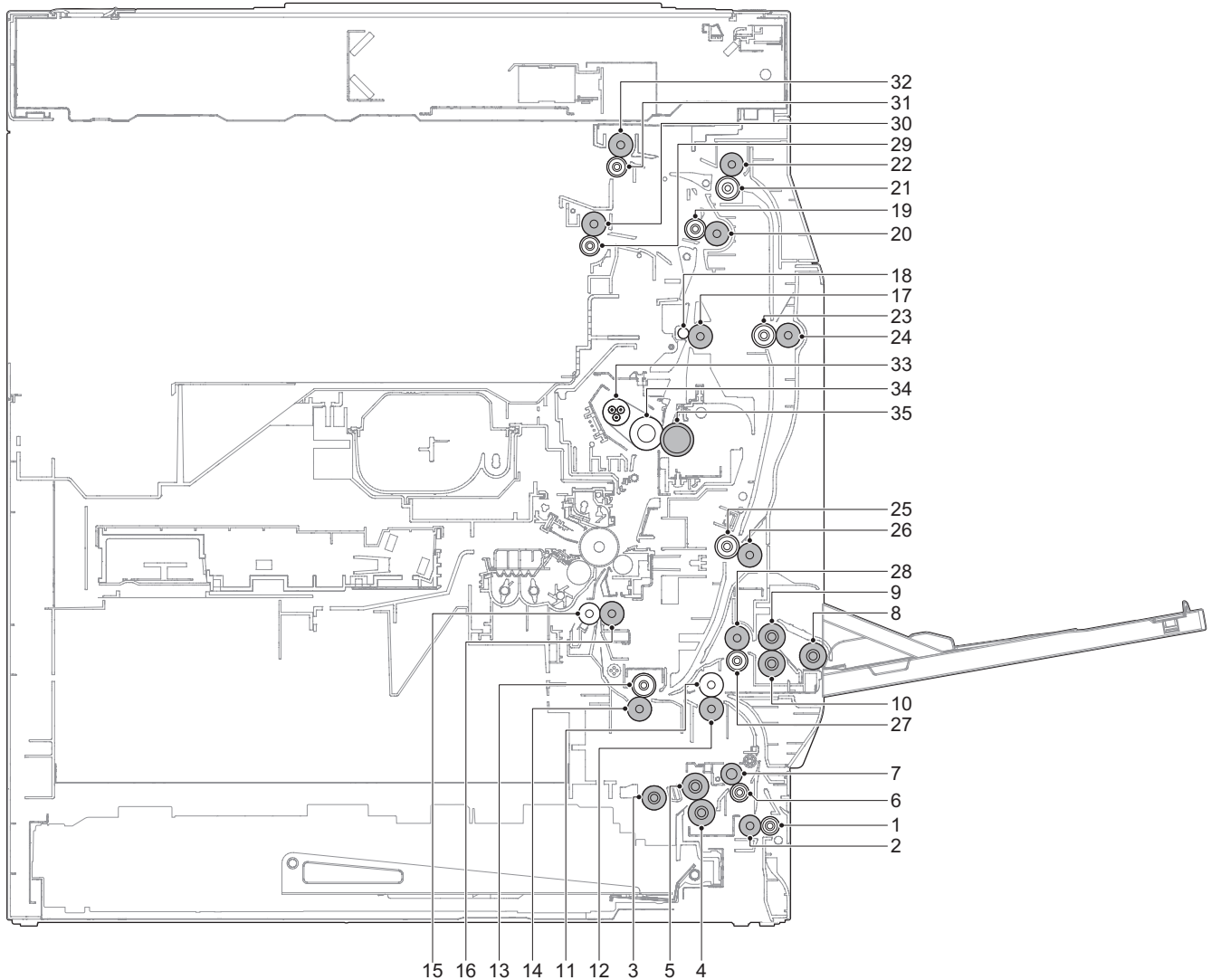
Signal name	Name	Type	Function and Operation
C1PFC	Vertical transport clutch	Magnetic clutch	Controls the transport roller (Paper feed tray1)
C1PUC	Paper feed clutch	Magnetic clutch	Controls ON/OFF of the paper feed roller (Paper feed tray1)
HPFC	Horizontal transport clutch	Magnetic clutch	Controls ON/OFF of the transport roller (Paper feed tray1, Manual paper feed tray)
MPFS	Paper feed solenoid	Magnetic solenoid	Controls the paper feed roller (Manual paper feed tray)
MPUC	Manual paper feed clutch	Magnetic clutch	Controls ON/OFF of the paper feed roller (Manual paper feed)
POGS	Gate solenoid	Magnetic solenoid	Controls ON/OFF of the gate solenoid selecting upper tray and lower tray
PSPS	Separation solenoid	Magnetic solenoid	Separates paper from the OPC drum section

10. Drive motors



Signal name	Name	Type	Function and Operation
ADUM1	ADU motor1	DC brushless motor	Drives the transport roller in the right door and right paper exit section
ADUM2	ADU motor2	DC brushless motor	Drives the transport roller in the right door section
C1LUM	Paper tray lift motor	DC brush motor	Lifts the lift plate of the paper feed tray (Paper feed tray1)
CPFM	Paper feed motor	DC brushless motor	Drives the paper feed section
DM	Drum motor	DC brushless motor	Drives the OPC drum/developing section
FUM	Fusing motor	DC brushless motor	Drives the fusing section
MIM	Scan motor	Stepping motor	Drives the scanner unit (scan, return operations)
OSM	Offset motor	Stepping motor	Offsets (shifts) paper
PFM	Transport motor	DC brushless motor	Drives the transport roller 5
PGM	Polygon motor	DC brushless motor	Scans laser beams
POM	Paper exit motor	DC brushless motor	Drives the roller in the paper exit section
PRM	Fusing pressure motor	Stepping motor	Controls ON/OFF of the fusing roller pressure and meandering correction for the fusing belt
RRM	Registration motor	DC brushless motor	Drives the registration roller (Controls the timing of the transfer image for the paper)
SBM	Reverse motor	DC brushless motor	Drives the transport roller in duplex mode
TNM	Toner motor	Stepping motor	Supplies toner from the toner cartridge to the developing unit

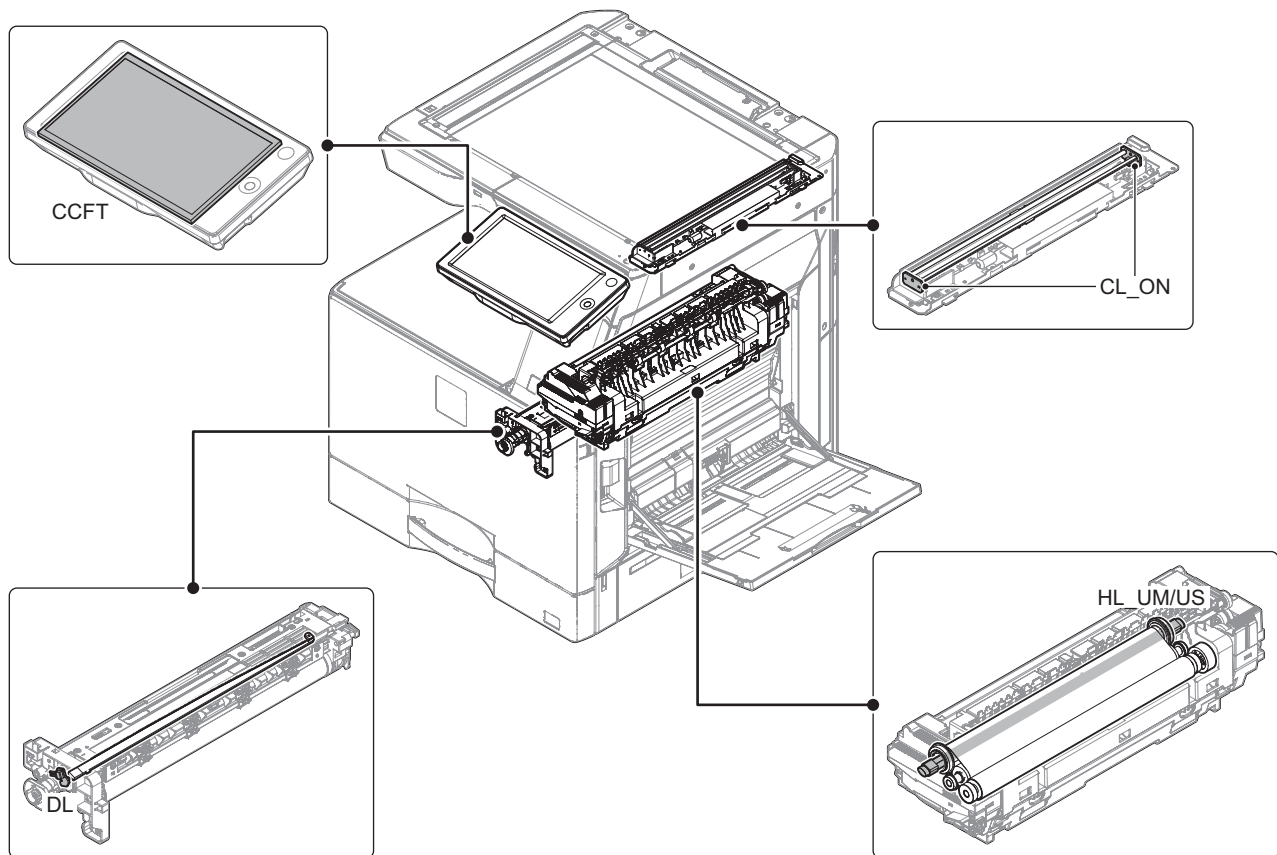
11. Rollers



No.	Name	Function and Operation
1	Transport roller 1 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
2	Transport roller 1 (Drive)	Transports paper fed from the paper feed tray to the transport roller 4
3	Paper pickup roller	Feeds paper to the paper feed roller (Paper feed tray1)
4	Separation roller	Separates paper to prevent double feeding (Paper feed tray1)
5	Paper feed roller	Feeds paper to the paper transport section (Paper feed tray1)
6	Transport roller 2 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
7	Transport roller 2 (Drive)	Transports paper fed from the paper feed tray 1 to the transport roller 3
8	Paper pickup roller	Feeds paper to the paper feed roller (Manual paper feed tray)
9	Paper feed roller	Feeds paper to the paper transport section (Manual paper feed tray)
10	Separation roller	Separate paper to prevent double feeding (Manual paper feed tray)
11	Transport roller 4 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
12	Transport roller 4 (Drive)	Transports paper from the transport roller 1 and 3 to the transport roller 5
13	Transport roller 5 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
14	Transport roller 5 (Drive)	Transports paper to the registration roller. Paper is buckled between the registration roller and this roller to correct the paper skew and the relation between images and paper
15	Registration roller (Idle)	Apply a pressure to paper and the registration roller to provide the transport power of the transport roller to paper
16	Registration roller (Drive)	Transports paper to the transfer section. Controls the transport timing of paper and adjusts relative position between the images and paper
17	Transport roller 6 (Drive)	Transports paper to the paper exit section
18	Transport roller 6 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
19	Transport roller 7 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
20	Transport roller 7 (Drive)	Transports paper to the paper exit section
21	Transport roller 8 (Drive)	Apply a pressure to paper and the paper exit roller to provide the transport power of the transport roller to paper
22	Transport roller 8 (Drive)	Transports paper to transport roller 9
23	Transport roller 9 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
24	Transport roller 9 (Drive)	Transports paper transported from the switchback section to the transport roller 10

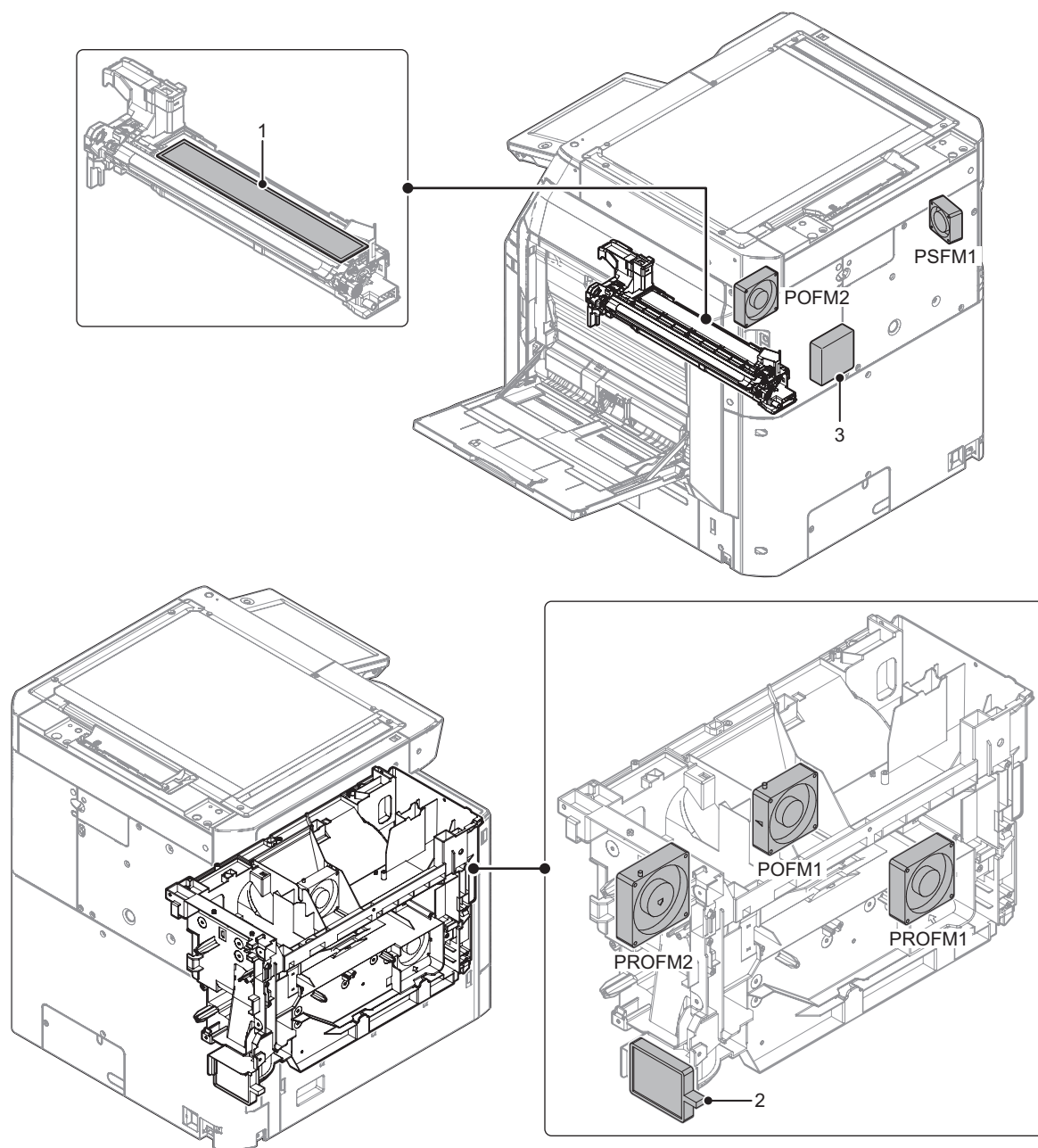
No.	Name	Function and Operation
25	Transport roller 10 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
26	Transport roller 10 (Drive)	Transports paper transported from transport roller 9 to the transport roller 5
27	Transport roller 11 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
28	Transport roller 11 (Drive)	Transports paper transported from manual paper tray to the transport roller 5
29	Paper exit roller 2 (Idle)	Apply a pressure to paper and paper exit roller to provide the transport power of the paper exit roller to paper
30	Paper exit roller 2 (Drive)	Transports paper to the lower paper exit tray
31	Paper exit roller 1 (Idle)	Apply a pressure to paper and paper exit roller to provide the transport power of the paper exit roller to paper
32	Paper exit roller 1 (Drive)	Transports paper to the upper paper exit tray or switchback to the ADU section
33	Heat roller	Heats the fusing belt
34	Fusing roller	The sponge layer of the roller forms a wide nip between the fusing belt and fusing roller
35	Pressure roller	Heats the back surface of paper to fuse toner on the paper

12. Lamps



Signal name	Name	Type	Function and Operation
CCFT	LCD backlight	LED	LCD backlight
CL_ON	Scanner lamp	LED	Radiates light onto a document for the CCD to scan the document image
DL	Discharge lamp	LED	Discharges electric charges on the OPC drum
HL_UM/US	Heater lamp	Halogen lamp	Heats the fusing roller and the fusing belt

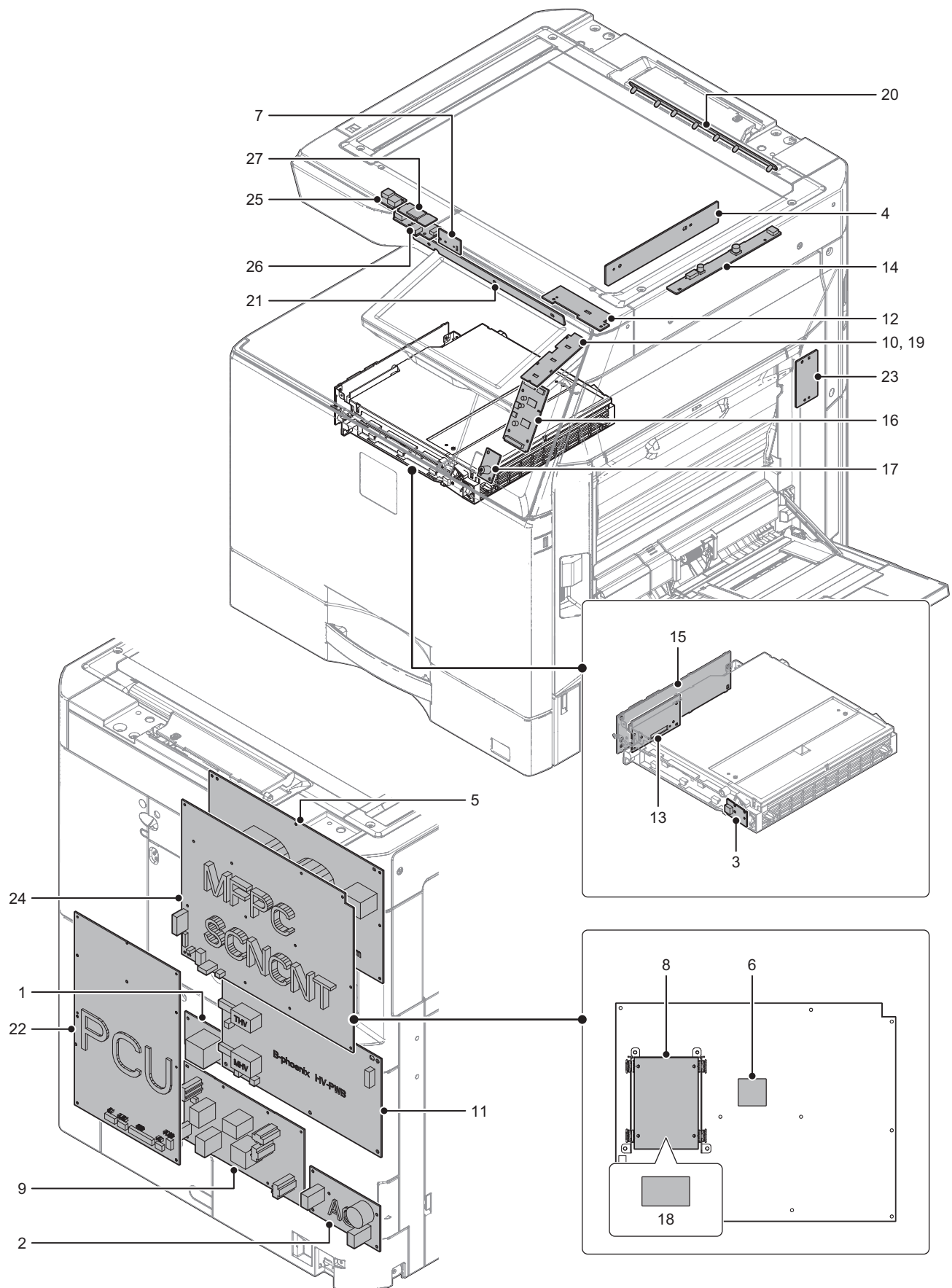
13. Fans and filter



Signal name	Name	Function and Operation
POFM1	Paper exit fan 1	Cools the fusing section and the paper exit section
POFM2	Paper exit fan 2	Cools the fusing section and the paper exit section
PROFM1	Process fan 1	Discharges air and cools the process section
PROFM2	Process fan 2	Discharges air and cools the process section
PSFM1	Power supply fan 1	Cools the power supply unit

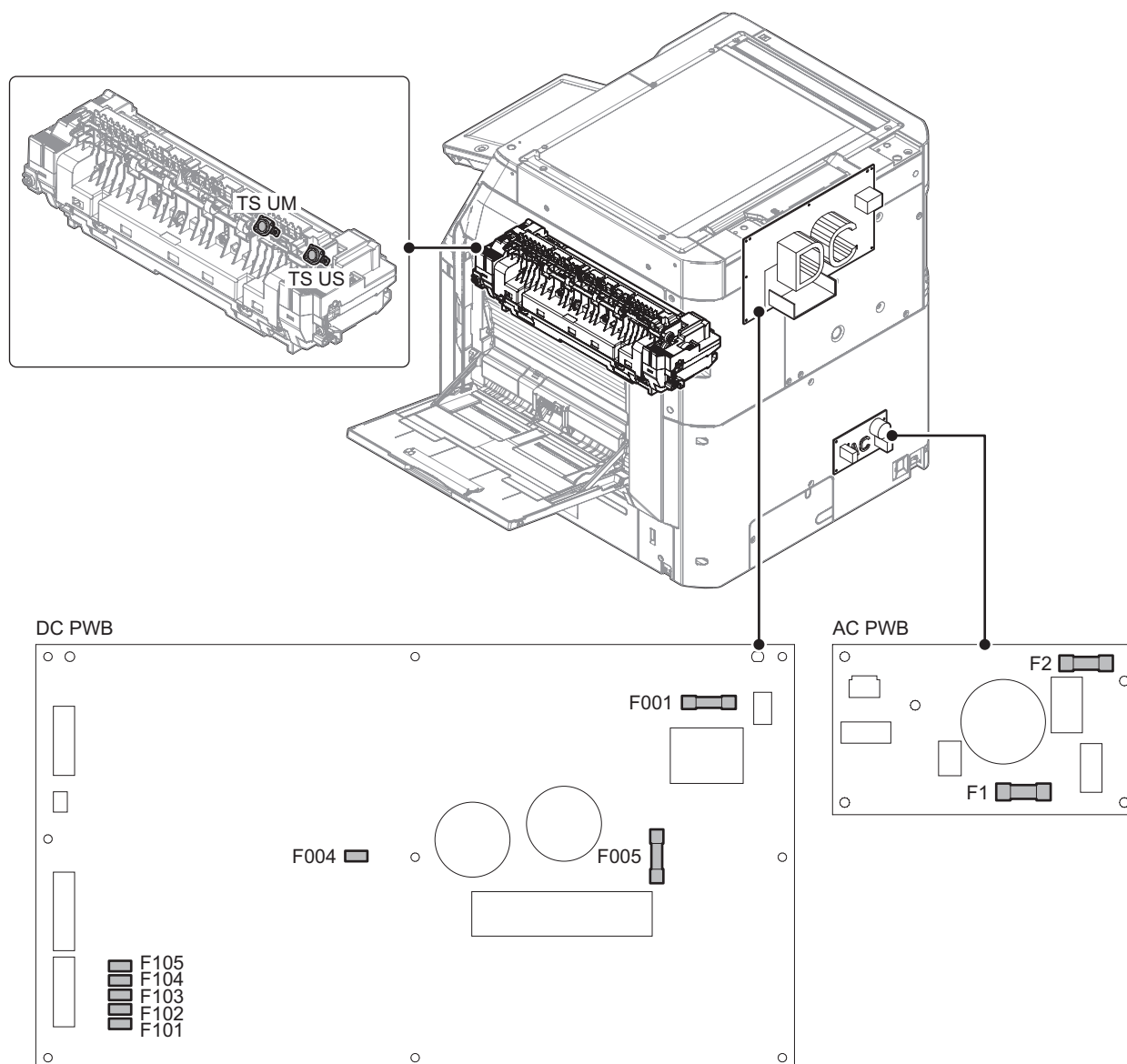
No.	Name	Function and Operation
1	Toner filter	Prevents toner splash
2	Ozone filter	Absorbs ozone generated in the image process section
3	UFP filter	Absorbs ultrafine particle (For 50/60 ppm machine for Europe)

14. PWB/memory device



No.	Name	Function and Operation
1	AC MONITOR PWB	Detects the input power voltage (for 50/60 ppm machine)
2	AC PWB	Noise filter for AC input power supply
3	BD PWB	Detects laser and outputs the synchronous signal
4	CCD PWB	Scan document images and performs A/D conversion of the scanning signal
5	DC PWB	Generates DC voltage
6	eMMC PWB	Stores the SOC program data, snapshot, the e-manual data, the watermark data, the log data
7	FRONT LED PWB	Display indication state of MFP
8	HDD	Stores the filing data, the log data and authentication data also used as a work memory
9	HL PWB	Drives the heater lamp
10	HOME KEY PWB	Outputs the key operation signal (For MX-Mxx50 series)
11	HV PWB	Generates the main charger voltage and the DV bias voltage Generates the transfer voltage
12	KEY PWB	Power switch, Buzzer, sound, power ON/OFF condition display LED, error display LED (red)
13	LD PWB	Drives the laser diode
14	LED DRIVER PWB	Drives the scanner lamp
15	LSU PWB	Controls the LSU and generates the video data. Controls laser diode and power
16	LVDS PWB	Converts the display data signal to the LCD display signal from SCN MFP PWB and controls the touch panel
17	MOTION SENSOR PWB	Detects the approach of human in energy saving mode.and send signal to SCN MFP PWB
18	mSATA SSD	Stores the filing data, the log data and authentication data also used as a work memory (For MX-Mxx50 except North America)
19	NFC HOME KEY PWB	Outputs the key operation signal and built in NFC tag (For MX-Mxx70 series)
20	ORS_LED	Drives the LED for the document size detection
21	ORS_PD	Outputs the document size detection signal
22	PCU PWB	Controls engine section
23	RD I/F PWB	Detects each sensor in the right door unit
24	SCN MFP PWB	Controls image data (compression, decompression and filing) and controls the whole machine. Converts print data into image data.
25	USB CN PWB	Connect WIRELESS LAN PWB and SCN MFP PWB
26	USB I/F PWB	USB interface
27	WIRELESS LAN PWB	Connect the network by the wireless LAN

15. Fuses and thermostats



Signal name	Name	Type	Section
F1	Fuse	20A 250V	AC PWB (For 100V series)
F1	Fuse	10A 250V	AC PWB (For 200V series)
F2	Fuse	10A 250V	AC PWB (For 200V series)
F001	Fuse	10A/250V	DC PWB
F004	Fuse	0.25A	DC PWB
F005	Fuse	2A	DC PWB
F101	Fuse	6.3A/250V	DC PWB
F102	Fuse	6.3A/250V	DC PWB
F103	Fuse	6.3A/250V	DC PWB
F104	Fuse	6.3A/250V	DC PWB
F105	Fuse	6.3A/250V	DC PWB

Signal name	Name	Type	Function and Operation
TS UM	Thermostat	Mechanical thermostat	Shuts down the heater lamp (HL_UM) circuit when the fusing section is overheated (center section)
TS US	Thermostat	Mechanical thermostat	Shuts down the heater lamp (HL_US) circuit when the fusing section is overheated (edge section)

[5] ADJUSTMENTS AND SETTINGS

1. General

Each adjustment item in the adjustment item list is associated with a specific Job number. Perform the adjustment procedures in the sequence of Job numbers from the smallest to the greatest.

However, there is no need to perform all the adjustment items. Perform only the necessary adjustments according to the need.

Unnecessary adjustments can be omitted even in this case however the sequence from the smallest to the greatest Job number must be observed.

If the above precaution should be neglected the adjustment would not complete normally or trouble may occur.

2. Adjustment item list

Job No.	Adjustment item list				Simulation	
ADJ 1	Developing unit adjustment	1-A	Toner density control reference value setting		25-2	
ADJ 2	High voltage value adjustment	2-A	Main charger grid voltage adjustment		8-2	
		2-B	Developing bias voltage adjustment		8-1	
		2-C	Transfer current and voltage adjustment		8-6	
ADJ 3	Print engine image distortion adjustment, print image magnification ration adjustment, print image position adjustment (print engine) (manual adjustment)	3-A	Print engine image distortion (LSU skew) adjustment		64-2	
		3-B	Print image magnification ratio adjustment (main scanning direction) (manual adjustment)		50-10	
		3-C	Print image position (main scanning direction, sub scanning direction) adjustment (print engine) (manual adjustment)		50-10	
ADJ 4	Scan image distortion adjustment (document table mode)	4-A	Scanner (reading) unit parallelism adjustment (sub scanning direction adjustment)			
		4-B	Scan image (main scanning direction) distortion adjustment			
ADJ 5	Scan image skew adjustment (DSPF/RSPF mode)	5-A	RSPF scan image skew adjustment			
		5-B	DSPF scan parallelism adjustment			
		5-C	DSPF skew adjustment (front surface mode)			
		5-D	DSPF skew adjustment (back surface mode)			
ADJ 6	Scan image focus adjustment	6-A	Image focus adjustment (document table mode, DSPF/RSPF front surface mode)		48-1	
		6-B	Image focus adjustment (DSPF back surface mode)			
ADJ 7	Scan image magnification ratio adjustment (manual adjustment)	7-A	Scan image magnification ratio adjustment (main scanning direction) (manual adjustment) (dosument table mode)		48-1	
		7-B	Scan image magnification ratio adjustment (sub scanning direction) (manual adjustment) (document table mode)		48-1/48-5	
		7-C	Scan image magnification ratio adjustment (main scanning direction) (manual adjustment) DSPF/RSPF mode)		48-1	
		7-D	Scan image magnification ratio adjustment (sub scanning direction) (manual adjustment) (DSPF/RSPF mode)		48-1	
ADJ 8	Scan image off center adjustment (manual adjustment)	8-A	Scan image off center adjustment (manual adjustment) (document table mode)		50-12	
		8-B	Scan image off center adjustment (manual adjustment) (DSPF/RSPF mode)		50-12/50-6	
ADJ 9	Copy image position and image loss adjustment (manual adjustment)	9-A	Copy image position and image loss adjustment (manual adjustment) (document table mode)		50-1	
		9-B	Image scanning position adjustment (manual adjustment) (DSPF/RSPF mode)		53-8	
		9-C	Copy image position and image loss adjustment (manual adjustment) (DSPF/RSPF mode)		50-6	
ADJ 10	Print lead edge image position adjustment (printer mode)				50-5	
ADJ 11	Gray balance and density adjustment		Note before execution of the gray balance and density adjustment			
			Relationship between the servicing job contents and the gray balance and density check and adjustment			
			Copy gray balance and density check			
			Printer gray balance and density check			
		11-A	Scanner calibration	11-A (1)	Scanner calibration (CCD calibration) (document table mode)	63-3
				11-A (2)	Shading adjustment (calibration) (DSPF mode)	63-2
				11-A (3)	Scanner calibration (CCD calibration) (DSPF mode)	63-3
		11-B	FR density variation correction	11-B (1)	FR density unevenness automatic correction	61-11
				11-B (2)	FR density unevenness visual inspection correction	61-12
		11-C	Copy/printer gray balance and density adjustment (automatic adjustment) (basic adjustment)			46-74
		11-D	Copy image quality adjustment (basic adjustment)	11-D (1)	Copy gray balance and density adjustment (automatic adjustment)	46-24
				11-D (2)	Copy gray balance and density adjustment (manual adjustment)	46-16
ADJ 16	Fusing belt meandering adjustment				6-8	

Job No.	Adjustment item list					Simulation
ADJ 11	Gray balance and density adjustment	11-E	Copy/image send/FAX image quality adjustment (individual adjustment)	11-E (1)	Copy density adjustment (for each copy mode) (separately for low density area and high density area) (normally not required)	46-2
				11-E (2)	Copy gray balance, gamma adjustment (for each copy mode) (normally not required)	46-10
				11-E (3)	Automatic (copy/scan/FAX) mode document density scanning operation (exposure operation) condition setting (normally not required)	46-19
				11-E (4)	Automatic (copy/scan/FAX) mode document low density image density reproduction adjustment (background density adjustment) (normally not required)	46-32
				11-E (5)	Copy/scan low density image density adjustment (for each mode) (normally not required)	46-63
				11-E (6)	Copy/scan/FAX mode color document reproduction adjustment (normally not required)	46-37
				11-E (7)	Copy, color scan mode sharpness adjustment (normally not required)	46-60
				11-E (8)	Copy high density image density reproduction setting (normally not required)	46-23
				11-E (9)	DSPF/RSPF mode (copy/scan/FAX) density adjustment (normally not required)	46-9
				11-E (10)	Copy gamma, gray balance adjustment for each dither (automatic adjustment)	46-54
				11-E (11)	Dropout color adjustment (scan mode) (normally not required)	46-55
				11-E (12)	Watermark adjustment (normally not required)	46-66
		11-F	Printer image quality adjustment (basic adjustment)	11-F (1)	Printer gray balance adjustment (automatic adjustment)	67-24
				11-F (2)	Printer gray balance adjustment (manual adjustment)	67-25
		11-G	Printer image quality adjustment (individual adjustment)	11-G (1)	Printer density adjustment (low density area density adjustment) (normally not required)	67-36
				11-G (2)	Printer high density image density reproduction setting (supporting high density area tone gap) (normally not required)	67-34
				11-G (3)	Printer gamma adjustment for each dither (automatic adjustment) (normally not required)	67-54
ADJ 12	Paper size sensor adjustment	12-A	Manual paper feed tray paper size (width) sensor adjustment		40-2	
		12-B	DSPF/RSPF paper feed tray document size (width) sensor adjustment		53-6	
ADJ 13	Document size detection adjustment	13-A	Sensitivity adjustment of the original size sensor			41-2
ADJ 14	Touch panel coordinate setting					65-1
ADJ 15	Fusing paper guide position adjustment					
ADJ 16	Fusing belt meandering adjustment					6-8

3. Details of adjustment

ADJ 1 Developing unit adjustment

1-A Toner density control reference value setting

This adjustment must be performed in the following cases

- * When developer is replaced

Important

Be sure to execute this adjustment only when developer is replaced. Never execute it in the other cases

Important

Perform the toner density reference control level adjustment with the toner cartridge removed.

If adjustment is performed with toner cartridge installed, the EE-EL trouble code or over toner condition may occur.

- 1) Remove toner cartridge
- 2) With the front cover opened, enter Sim 25-2
- 3) Close the front cover
- 4) When [EXECUTE] key is tapped, it is highlighted. The DV roller rotates and the toner density sensor detects toner density and the output value is displayed.

The above operation is executed for 1 minute and the average value of the toner density sensor detection level is set 分行 (save) as the reference toner density control value. When the reference toner density control adjustment operation is completed [EXECUTE] key returns to normal from highlight. This makes known about whether the adjustment operation is completed or not. The above operation is executed each of the lower speed mode and the middle speed mode and the reference toner density control value is set for each of them

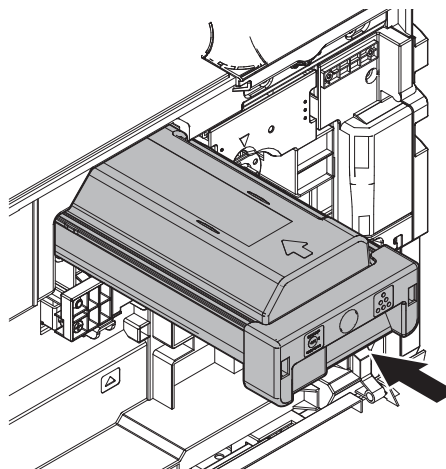
Important

If the operation is interrupted within 1 minute the adjustment result is not reflected. When [EXECUTE] key is tapped during the operation, the operation is stopped and [EXECUTE] key returns to the normal display. If [EE-EU] [EE-EL] or [EE-EC] is displayed, setting of the reference toner density control value is not completed normally. Troubleshoot the cause, remove the cause and perform setting again

Error display	Error name	Details of error
EE-EL	EL abnormality	Sensor output level less than 77 or control voltage over 207
EE-EU	EU abnormality	Sensor output level over 177 or control voltage less than 52
EE-EC	EC abnormality	Sensor output level other than 128±10

- 5) Cancel Sim25-2

- 6) Open the front cover and insert toner cartridge



Important

Do not forcibly insert the toner cartridge. Push it in until toner cartridge is securely locked in place

- 7) Close the front cover
- 8) Confirm that "Toner replacement in progress" is displayed and wait until display disappears (it takes 30 sec – 6 minutes)

ADJ 2 High voltage value adjustment

2-A Main charger grid voltage adjustment

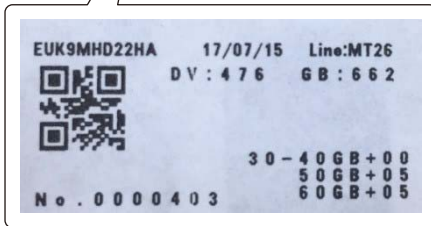
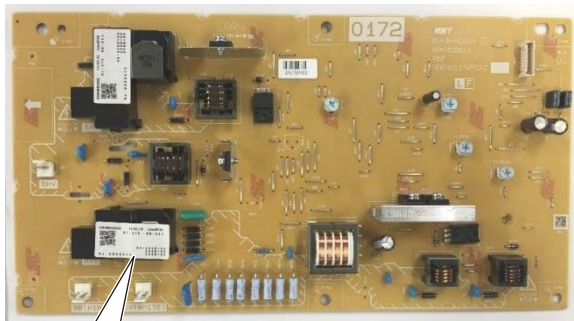
This adjustment must be performed in the following cases

- * When HV PWB has been replaced
- * When U2 trouble has been occurred
- * When PCU PWB has been replaced
- * When EEPROM on the PCU PWB has been replaced

- 1) Enter Sim 8-2 mode
- 2) Select item to be adjusted

Item / Display			Content	Setting range	Actual voltage	
					30/35/40 ppm machine	50/60ppm machine
MIDDLE	A	MIDDLE SPEED GB_K	Main charger grid voltage (middle speed)	150~850	-660V±5V	-665V±5V
LOW	A	LOW SPEED GB_K	Main charger grid voltage (low speed)	150~850	-660V±5V	-660V±5V

- 3) Enter the value in the middle speed mode and tap [OK] key.
Enter the value of "GB" which is specified on the label attached on the HV PWB
30/35/40ppm machine: +0 50/60ppm machine: +5



When [EXECUTE] key is tapped the voltage entered in the step 3) is outputted for 30 sec and set value is saved
When [EXECUTE] key is tapped again, the output is stopped

Important

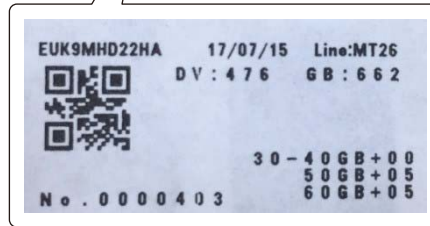
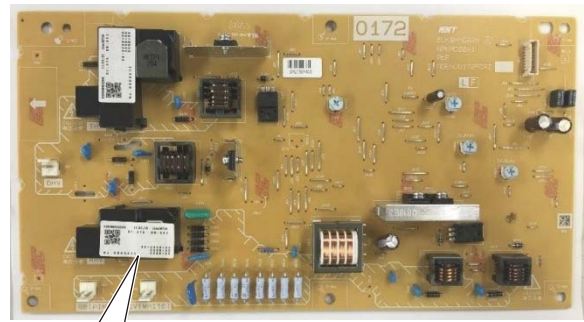
Note that the adjustment value may differ depending on the HV PWB. Since the adjustment value label is attached on the HV PWB, the PWB must be removed in order to check the adjustment value. This is a troublesome procedure. Therefore it is advisable to put down the adjustment value in advance.

When the adjustment value (specified value) of the middle speed mode is set, the adjustment value of the other models are automatically set according to the middle speed mode setting in a certain relationship

Important

Since the high voltage output cannot be checked with a digital multi meter in this model, judgement of the output must be made by checking the print image quality

- 3) Enter the value in the middle speed mode and tap [OK] key
Enter the value of "DV" which is specified on the label attached on the HV PWB
30/35/40ppm machine: +0 50/60ppm machine: +0



When [EXECUTE] key is tapped, the voltage entered in the step3) is outputted for 30 sec and the set value is saved.
When [EXECUTE] key is tapped again the output is stopped.

Important

Note that the adjustment value may differ depending on the HV PWB. Since the adjustment value label is attached on the HV PWB, the PWB must be removed in order to check the adjustment value. This is a troublesome procedure. Therefore it is advisable to put down the adjustment value in advance.

When the adjustment value (specified value) of the middle speed mode is set, the adjustment value of the other models are automatically set according to the middle speed mode setting in a certain relationship.

Important

Since the high voltage output cannot be checked with digital multi meter in this model. Judgement of the output must be made by checking the print image quality.

2-B Developing bias voltage adjustment

This adjustment must be performed in the following cases

- * When HV PWB has been replaced
- * When U2 trouble has been occurred
- * When PCU PWB has been replaced
- * When EEPROM on the PCU PWB has been replaced

- 1) Enter Sim 8-1
- 2) Select item to be adjusted

Item / Display		Content	Setting range	Actual voltage
MIDDLE	A	MIDDLE SPEED DVB_K	0~700	-475V±5V
LOW	A	LOW SPEED DVB_K	0~700	-475V±5V

2-C Transfer current and voltage adjustment

This adjustment must be performed in the following cases

* When U2 trouble has been occurred

* When PCU PWB has been replaced

* When EEPROM on the PCU PWB has been replaced

1) Enter Sim 8-6

2) Select item by scroll key to be adjusted

Item / Display		Content		30/35/40ppm machine		50ppm machine		60ppm machine	
				Default	Output	Default	Output	Default	Output
A	TC PLAIN BW SPX	TC bias value	Standard1 front	72	10 μA	80	13 μA	85	15 μA
B	TC PLAIN BW DPX		Standard1 back	72	10 μA	80	13 μA	85	15 μA
C	TC PLAIN2 BW SPX		Standard2 front	72	10 μA	80	13 μA	85	15 μA
D	TC PLAIN2 BW DPX		Standard2 back	72	10 μA	80	13 μA	85	15 μA
E	TC HEAVY1 BW SPX		Heavy1 front	80	13 μA	80	13 μA	80	13 μA
F	TC HEAVY1 BW DPX		Heavy1 back	80	13 μA	80	13 μA	80	13 μA
G	TC HEAVY2 BW SPX		Heavy2 front	80	13 μA	80	13 μA	80	13 μA
H	TC HEAVY2 BW DPX		Heavy2 back	80	13 μA	80	13 μA	80	13 μA
I	TC HEAVY3 BW SPX		Heavy3 front	80	13 μA	80	13 μA	80	13 μA
J	TC HEAVY3 BW DPX		Heavy3 back	80	13 μA	80	13 μA	80	13 μA
K	TC HEAVY4 BW SPX		Heavy4 front	80	13 μA	80	13 μA	80	13 μA
L	TC OHP BW		OHP	80	13 μA	80	13 μA	80	13 μA
M	TC ENVELOPE BW		Envelope	80	13 μA	80	13 μA	80	13 μA
N	TC THIN BW		Thin paper	93	18 μA	93	18 μA	93	18 μA
O	TC GLOSSY PAPER BW	Gloss paper	80	13 μA	80	13 μA	80	13 μA	
P	TC LABEL BW	Label paper	80	13 μA	80	13 μA	80	13 μA	
Q	TC FRONT EDGE LOW SPX	TC front edge bias value	Low front	80	13 μA	80	13 μA	80	13 μA
R	TC FRONT EDGE LOW DPX		Low back	80	13 μA	80	13 μA	80	13 μA
S	TC FRONT EDGE MIDDLE SPX		Middle front	72	10 μA	80	13 μA	85	15 μA
T	TC FRONT EDGE MIDDLE DPX		Middle back	72	10 μA	80	13 μA	85	15 μA
U	TC ADSORPTION LOW	TC adsorption bias value	Low (+)	59	5 μA	59	5 μA	59	5 μA
V	TC ADSORPTION MIDDLE		Middle (+)	59	5 μA	59	5 μA	59	5 μA
W	TC BACKEND LOW SPX	TC rear edge bias value	Low front	80	13 μA	80	13 μA	80	13 μA
X	TC BACKEND LOW DPX		Low back	80	13 μA	80	13 μA	80	13 μA
Y	TC BACKEND MIDDLE SPX		Middle front	72	10 μA	80	13 μA	85	15 μA
Z	TC BACKEND MIDDLE DPX		Middle back	72	10 μA	80	13 μA	85	15 μA
AA	TC INTERVAL LOW	Interval bias value	Low (+)	51	2 μA	51	2 μA	51	2 μA
AB	TC INTERVAL MIDDLE		Middle +)	51	2 μA	51	2 μA	51	2 μA
AC	TC COUNTER LOW	TC counter bias value	Low (-)	169	-800V	169	-800V	169	-800V
AD	TC COUNTER MIDDLE		Middle (-)	169	-800V	169	-800V	169	-800V
AE	TC CLEANING MINUS LOW	Cleaning negative bias value	Low (-)	169	-800V	169	-800V	169	-800V
AF	TC CLEANING MINUS MIDDLE		Middle (-)	169	-800V	169	-800V	169	-800V
AG	TC CLEANING PLUS LOW	Cleaning positive bias value	Low (+)	59	5 μA	59	5 μA	59	5 μA
AH	TC CLEANING PLUS MIDDLE		Middle (+)	59	5 μA	59	5 μA	59	5 μA
AI	DHV LOW SPX	Separation bias value	Low front	111	-1400V	111	-1400V	111	-1400V
AJ	DHV LOW DPX		Low back	111	-1400V	111	-1400V	111	-1400V
AK	DHV MIDDLE SPX		Middle front	118	-1500V	118	-1500V	118	-1500V
AL	DHV MIDDLE DPX		Middle back	118	-1500V	118	-1500V	118	-1500V

* Heavy paper 1: 106-176g/m² 28 lbs bond-65 lbs Cover
 Heavy paper 2: 177-220g/m² 65lbs Cover-80 lbs Cover
 Heavy paper 3: 221-256g/m² 80 lbs Cover-140 lbs Index
 Heavy paper 4: 257-300g/m² 140 lbs Index-110 lbs Cover

* Standard paper 1: 60-89g/m² 16-24 lbs bond
 Standard paper 2: 90-105g/m² 24-28 lbs bond

3) Enter the value (specified value) and tap [OK] key

When [EXECUTE] key is tapped, the voltage entered in the step3) is outputted for 30sec and the set value is saved

When [EXECUTE] key is tapped again the output is stopped

ADJ 3 Print engine image distortion adjustment, print image magnification ratio adjustment, print image position adjustment (print engine) (manual adjustment)

3-A Print engine image distortion (LSU skew) adjustment

This adjustment must be performed in the following cases

- * When LSU unit has been replaced
- * When LSU unit was removed from the main unit

- 1) Enter Sim 64-2 mode
- 2) Set following value

Item	Setting value
A	1
B	1
C	254
D	255

- 3) Select the paper feed tray with A3 (11"x17") paper in it by changing the value of item G
- 4) Tap [EXECUTE] key
Check pattern is printed out
- 5) Check the printed image for any skew
Measure the right angle level by using the printed cross pattern

[Checking method]

There are following two methods of checking the image for any skew (right angle)

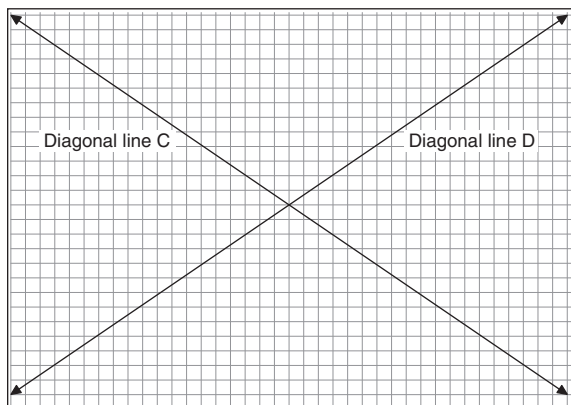
Method 1: Measure the maximum length of the diagonal lines of the rectangle print pattern. Check the difference in the length of the diagonal lines for judgement of good or no good

Method 2: Compare the right angle of vertical side and the horizontal side of the rectangle print pattern with the right angle of A3 or 11"x17" paper for judgement of good or no good

NOTE: In the case of method 2, the right angle of paper to be used may not be exact. Be sure to check the right angle of papertobe used in advance

(Method 1)

- a) Measure the length of the diagonal lines of the rectangle print pattern

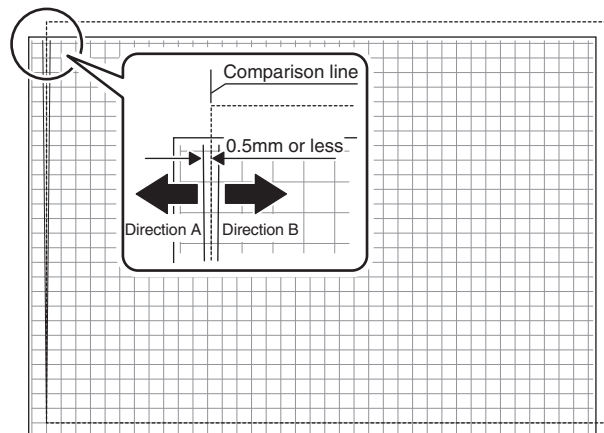


- b) Calculate the difference between the measured length C and D of the diagonal lines
- c) Check to insure that the difference between C and D is in the following range $C-D=\pm 0.8\text{mm}$

If difference between C and D is in the above range, there is no need to adjust

(Method 2)

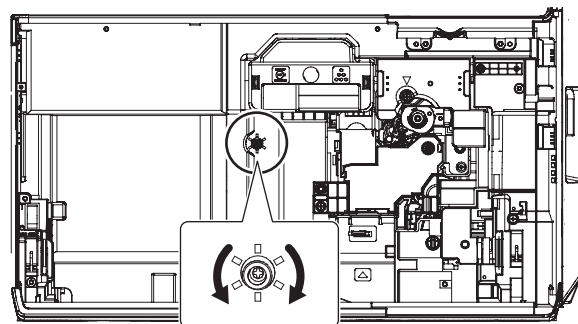
- a) Fit the side of A3 or 11"x17" paper to the long side of the rectangle print pattern



- b) Measure the shift distance between vertical side of paper and side of the rectangle print pattern

If the above distance is 0.5mm or less, there is no need to adjust
If not, execute the following steps

- 6) Open the front cover
- 7) Adjust the print image distortion adjustment screw to set the print image distortion to the minimum



- 8) Execute step4) and 5) repeat step4), 5) and 7) until satisfactory result is obtained

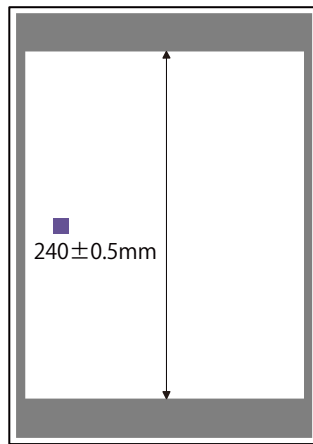
3-B Print image magnification ratio adjustment (main scanning direction) (manual adjustment)

This adjustment must be performed in the following cases

- * When LSU unit has been replaced
- * When U2 trouble has been occurred
- * When PCU PWB has been replaced
- * When EEPROM on the PCU PWB has been replaced

- 1) Enter Sim 50-10 mode
- 2) Set A4 (11"x8.5") paper in the paper feed tray
- 3) Select the paper feed tray set in step2) with scroll key
- 4) Tap [EXECUTE] key
Check pattern is printed out

- 5) Check that this inside dimension of the printed halftone is $240 \pm 0.5\text{mm}$.



If the above requirement is not met, do the following steps

- 6) Change the set value of item A

When the set value is changed by 1, the dimension is changed by 0.1mm

When the set value is increased, the image magnification ratio in the main scanning direction is increased. When the set value is decreased, the image magnification ratio in the main direction is decreased.

Repeat step2) to 6) until satisfactory result is obtained

3-C Print image position (main scanning direction, sub scanning direction) adjustment (print engine) (manual adjustment)

This adjustment must be performed in the following cases

- * When LSU unit has been replaced or removed
- * When paper tray has been replaced
- * When paper tray section has been disassembled
- * When manual feed tray has been replaced
- * When manual feed tray has been disassembled
- * When duplex mode paper transport section has been disassembled
- * When registration roller section has been disassembled
- * When U2 trouble has been occurred
- * When PCU PWB has been replaced
- * When EEPROM on the PCU PWB has been replaced

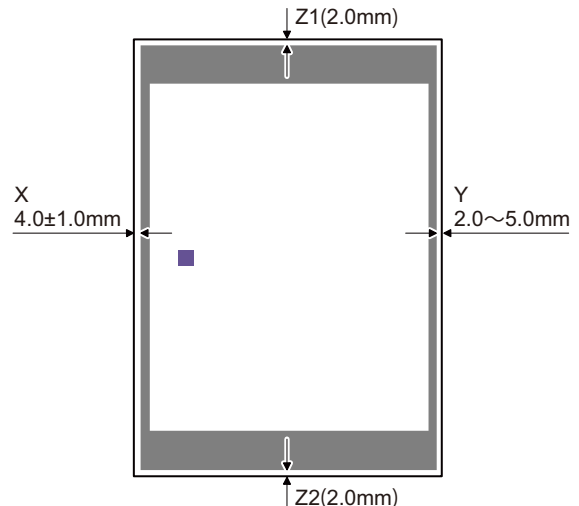
Note

Check to insure the following item before execution of this adjustment

- ADJ3B Print image magnification ration adjustment (main scanning direction) (manual adjustment) has been properly adjusted

- 1) Enter Sim 50-10 mode
- 2) Set A4 (11"x8.5") paper in the paper feed tray
- 3) Select the paper feed tray set in step2) with scroll key
- 4) Tap [EXECUTE] key
Check pattern is printed out

- 5) check that the items below are in the range of the standard values



	Content	Standard adjustment value
X	Lead edge void area	$4.0 \pm 1.0\text{mm}$
Y	Rear edge void area	$2.0\text{mm} \sim 5.0\text{mm}$
Z1 / Z2	FRONT/REAR void area	Total $4.0 \pm 2.0\text{mm}$

If the above condition is not satisfied, perform the following steps

- 6) change setting value and tap [EXECUTE] key to print check pattern. Repeat step3) – step6) until the condition of step5) is satisfied

When the set value is changed by 1 the shift distance is changed by 0.1mm

Main scanning direction: setting value is increased, image position is shifted to rear side

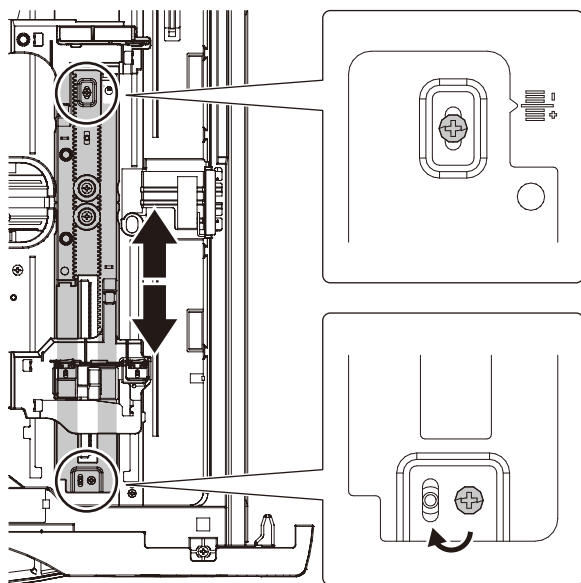
Sub scanning direction: setting value is increased, image position is shifted to rear side of paper transport direction

Main scanning direction	MAIN-MFT	Manual tray
	MAIN-CS1	Tray 1
	MAIN-CS2	Tray 2
	MAIN-CS3	Tray 3
	MAIN-CS4	Tray 4
	MAIN-LCC	LCC
	MAIN-ADU	Back side of duplex
Sub scanning direction	SUB-MFT	Manual tray
	SUB-CS1	Tray 1
	SUB-CS2	Tray 2
	SUB-CS3	Tray 3
	SUB-CS4	Tray 4
	SUB-LCC	LCC
	SUB-ADU	Back side of duplex
Main scanning direction	MAIN-STD	All tray
Sub scanning direction	SUB-STD	All tray

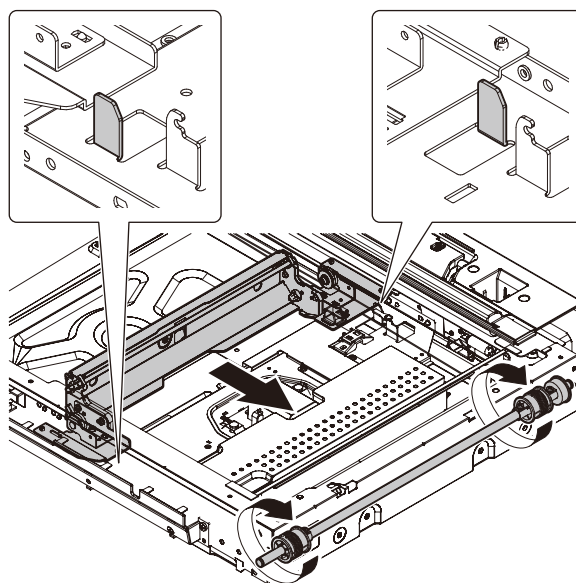
Note

MAIN-STD and SUB-STD are changed image position of all trays.

- 7) Loosen the paper feed tray off-center adjustment screws at the center section of the lift plate of the paper feed tray and change the gear unit position in the front/rear frame direction. Repeat the adjustment procedure from step4)



- 2) Turn the scanner drive pulley manually and shift the 2/3 mirror unit to bring it into contact with the stopper. When the 2/3 mirror unit is in contact with the two stoppers on the front and the rear frames simultaneously, the parallelism is proper



ADJ 4 Scan image distortion adjustment (document table mode)

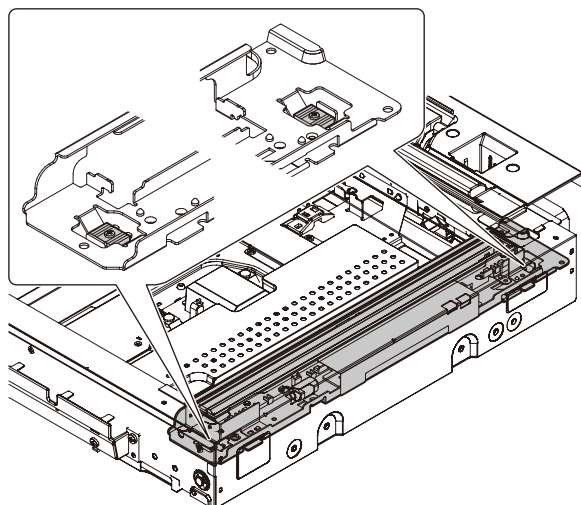
This adjustment must be performed in the following cases

- * When scanner (reading) section has been disassembled
- * When copy image has been distorted

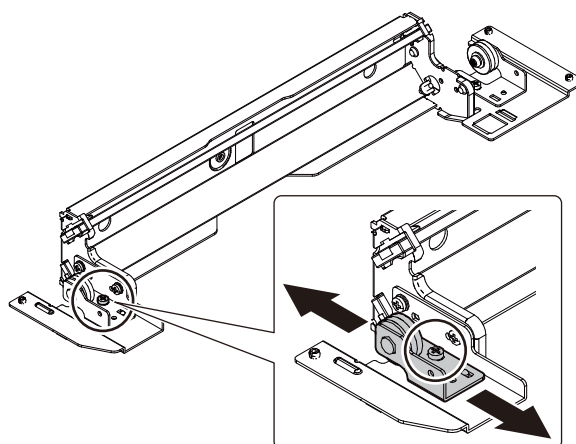
4-A Scanner (reading) unit parallelism adjustment (sub scanning direction adjustment)

Remove the document table glass before execution of this adjustment

- 1) Remove the lamp unit and loosen the screws which are fixing the scanner unit and the drive wire. Release the scanner unit from the drive wire

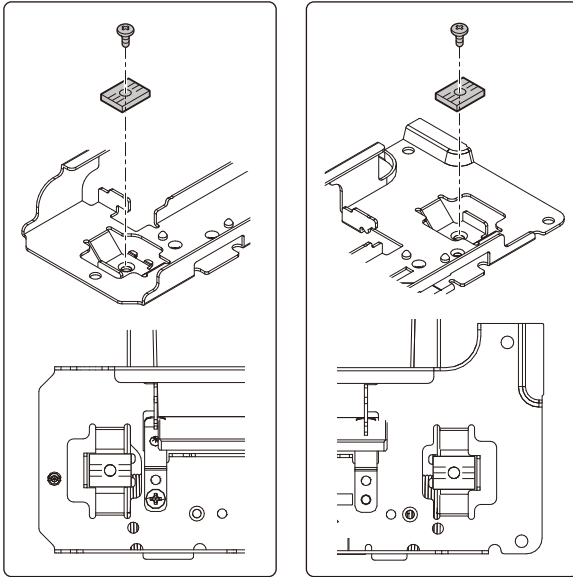


- 3) Loosen the fixing screw of the pulley angle on the front frame side of the 2/3 mirror unit

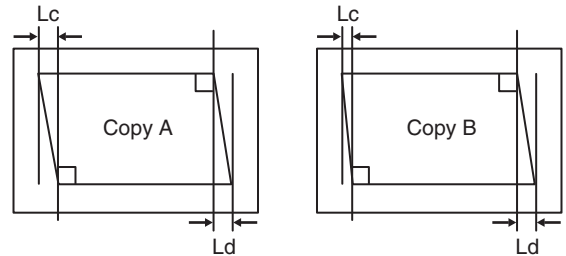


- 4) Adjust the position of the pulley angle on the front frame side of the 2/3 mirror unit so that it is in contact with two stoppers on the front and the rear frame simultaneously

- 5) Screw edge face of scanner unit and right edge face of the frame together on both sides to fix the scanner unit while this unit is in contact with both stoppers



- 4) Check the difference (distortion balance) between left-hand and right-hand images distortions



There is no difference between the distortion on the right and that on the left.

$$Lc = Ld$$

There are some difference between the distortion on the right and that on the left.

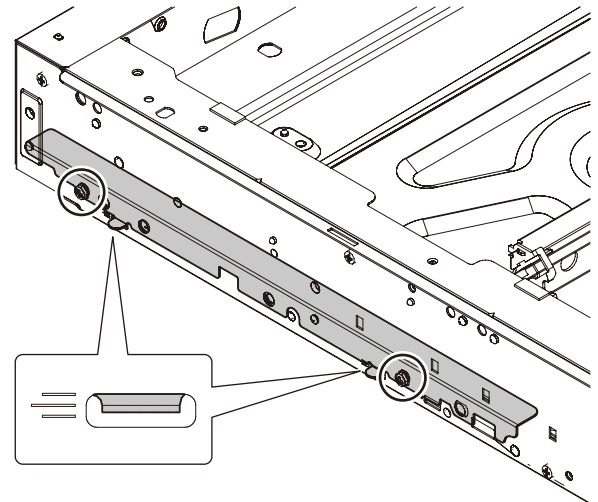
$$Lc \neq Ld$$

If $Lc = Ld$ the distortion on the left is equal to that on the right (distortions are balanced)

If the above condition is satisfied go to the step6)

If not, perform the following steps

- 5) Change the height balance of the scanner rail on the front frame side

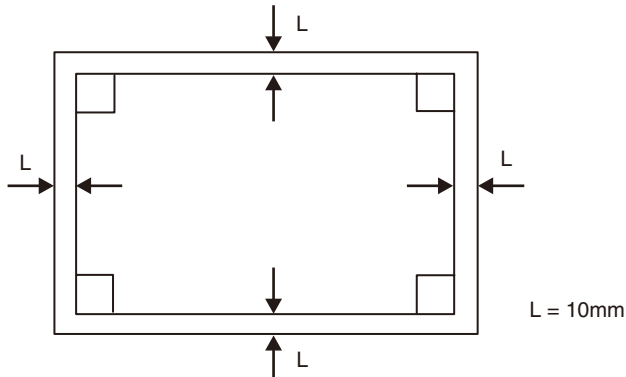


Remove the left cover of the operation panel. Loosen the scanner rail fixing screw to change the balance between the right and the left heights of the scanner rail. Repeat the step2) - 5) until there is no difference in image distortions (distortion balance) between both sides

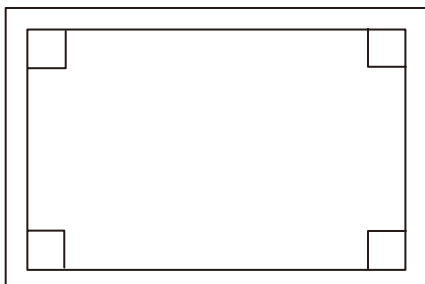
- 6) Without changing the balance of the scanner rail on the front frame side, change the overall height
- 7) Set the test chart prepared in the step1) on the document table and make a copy on A3 (11"x17") paper. Check that the distortion in the main scanning direction is within the specified range. Repeat the step6) and 7) until the distortion in the main scanning direction is in the specified range

4-B Scan image (main scanning direction) distortion adjustment

- 1) Make a test chart on A3 (11"x17") paper as shown below (Draw a rectangular with four right angles)



- 2) Set the test chart prepared in the step1) on the document table and make a copy on A3 (11"x17") paper
- 3) Check for distortion in the main scanning direction. If the four angles of the rectangle of the copy image are right angles, it is judged that there is no distortion (the work is completed)



If there is any distortion in the main scanning direction, perform the following steps

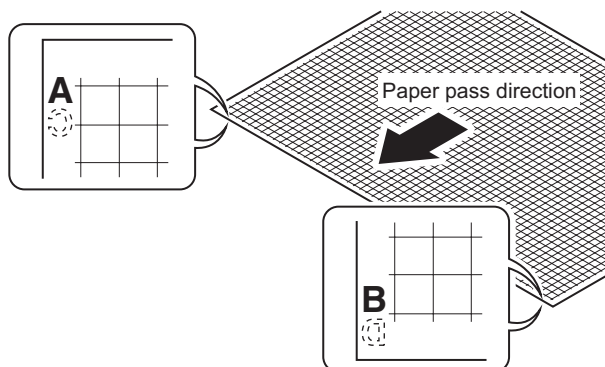
ADJ 5 Scan image skew adjustment (DSPF/RSPF mode)

5-A RSPF scan image skew adjustment

This adjustment must be performed in the following cases

- * When RSPF section has been disassembled
- * When RSPF unit has been replaced
- * When RSPF unit generates skewed scanned images

- 1) Create adjustment chart by printing the self print pattern (grid pattern) available in Sim 64-2 in duplex mode/
Sim 64-2 set value A=1, B=1, C=254, D=255
Make sure that the print and pattern is almost in parallel with the paper edge and apply position marks "A" and "B" to the front and back side of the leading edge on front side of the paper



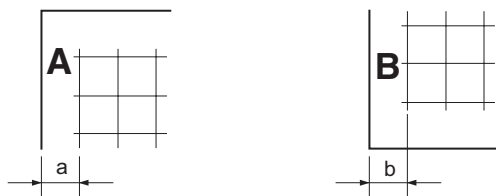
- 2) Copy the adjustment chart (created in step1) to A3 (11"x17") paper in RSPF duplex mode and check the image for skews (set in the RSPF feed tray so that the mark on the adjustment chart is at the edge)
* Check with in of the following methods

Method 1

(Front side)

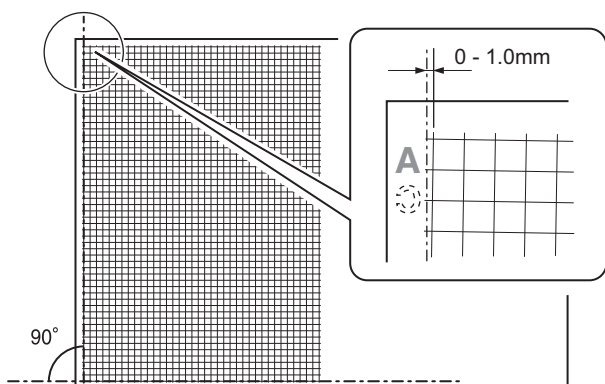
Make sure that the output satisfies the condition

$$a-b \leq \pm 1 \text{ mm}$$



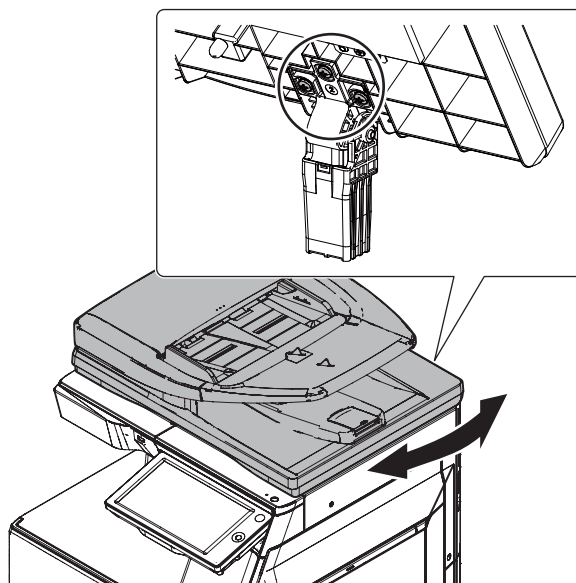
Method 2

Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0mm



If the copy image is not in the above state, perform the step3)

- 3) Open RSPF unit and loosen the fixing screw of the hinge



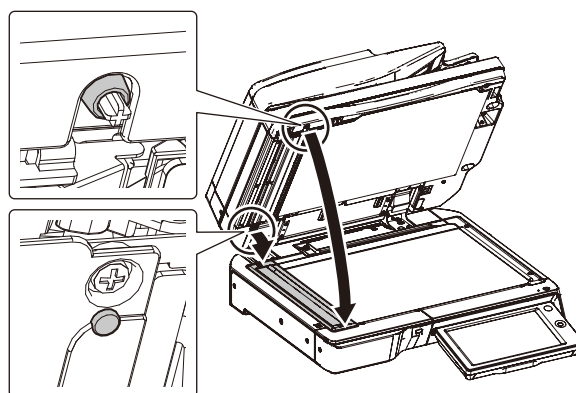
- 4) Slide RSPF unit in the arrow direction to make the skew adjustment
- 5) Make copy again and measure a and b on the copied test chart. Repeat step2) to 5) until the condition ($a-b \leq \pm 1 \text{ mm}$ or less) is satisfied

5-B DSPF scan parallelism adjustment

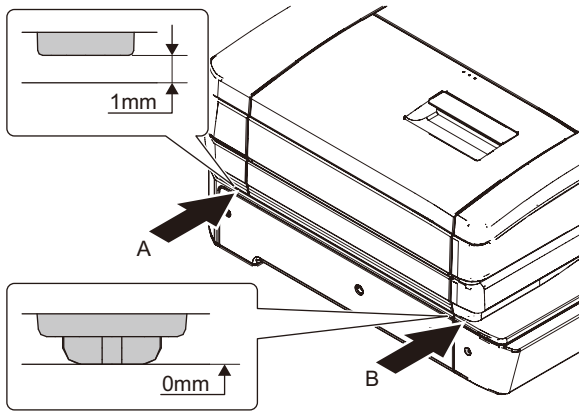
This adjustment must be performed in the following cases

- * When DSPF section has been disassembled
- * When DSPF unit has been replaced
- * When paper jam has been occurred at DSPF
- * When skew has been occurred while feeding paper from DSPF
- * When skew appears on the image scanned from DSPF

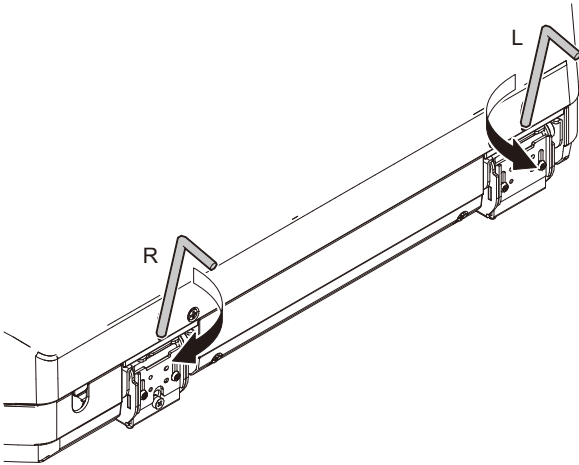
- 1) Close DSPF unit and check the clearance between the projections in the front side and the rear side and SPF glass holding resin surface



- 2) Visually check to insure that the clearance A is 1 mm or less and the clearance B is 0 mm (in contact)
If the above requirement is not met, do step3)



- 3) Turn the height adjustment screw to adjust DSPF front/rear frame horizontal level



When the front frame side is higher (there is clearance of 1 mm or more in B):

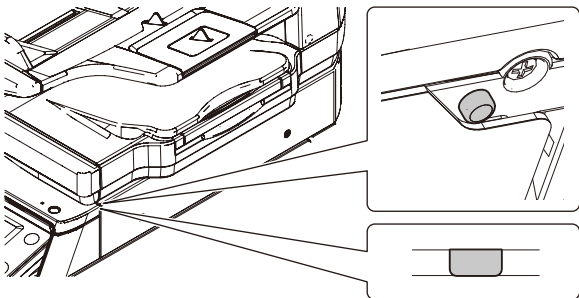
Turn the height adjustment screw R of DSPF rear frame clockwise

When the rear frame side is higher (there is clearance of 1 mm or more in A):

Turn the height adjustment screw L of DSPF rear frame counter-clockwise

Repeat step2) to 3) until acceptable result is obtained

- 4) After adjustments of A and B, check to insure that the projection on the front right side is in contact with the glass surface of the main unit



5-C DSPF skew adjustment (front surface mode)

This adjustment must be performed in the following cases

- * When DSPF section has been disassembled
- * When DSPF unit has been replaced
- * When skew appears on the image scanned from DSPF

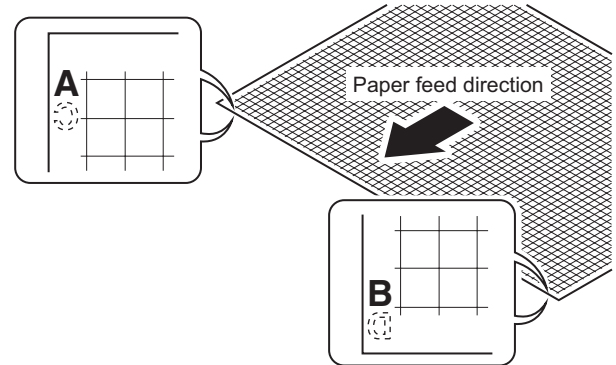
- 1) Make adjustment chart

Print the self print pattern (grid pattern) of Sim 64-2 in the duplex print mode

Sim 64-2 set value

A=1, B=1, C=254, D=255

Make sure that print grid pattern is almost in parallel with the paper edges and apply position marks "A" and "B" to the front and back side of leading edge on front and back side of the paper



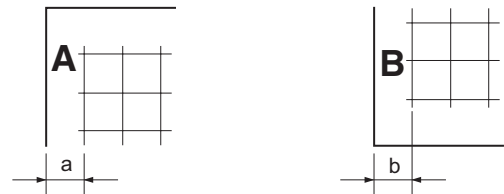
- 2) Copy the adjustment chart (created in step1) to A3 (11"x17") paper in DSPF duplex mode and check the image for skew (set in the DSPF feed tray so that the mark on the adjustment chart is at the edge)

Check with one of the following methods

Method 1

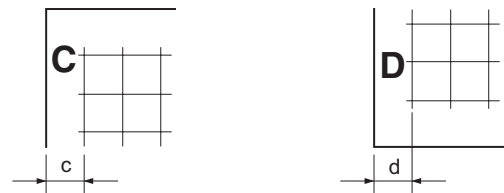
(Front side)

Make sure that the output satisfies the condition:
 $|a-b| \leq \pm 1 \text{ mm}$.



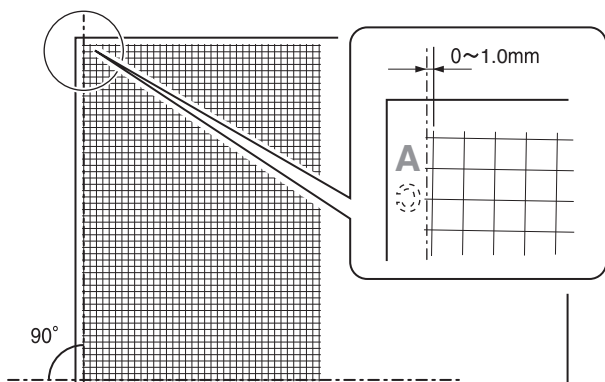
(Back side)

Make sure that the output satisfies the condition:
 $|c-d| \leq \pm 1 \text{ mm}$.



Method 2

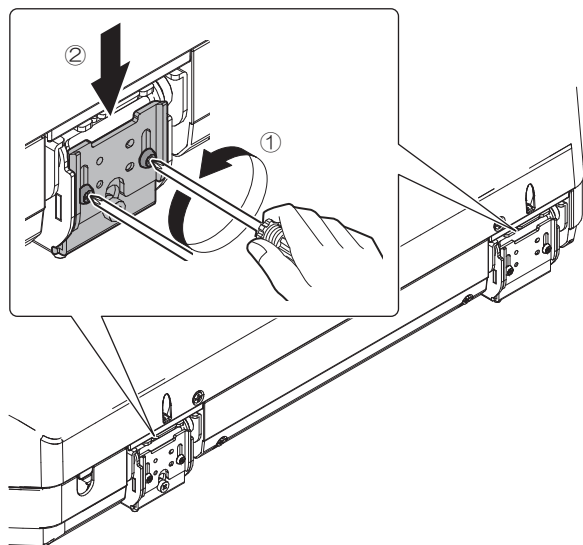
Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0 mm



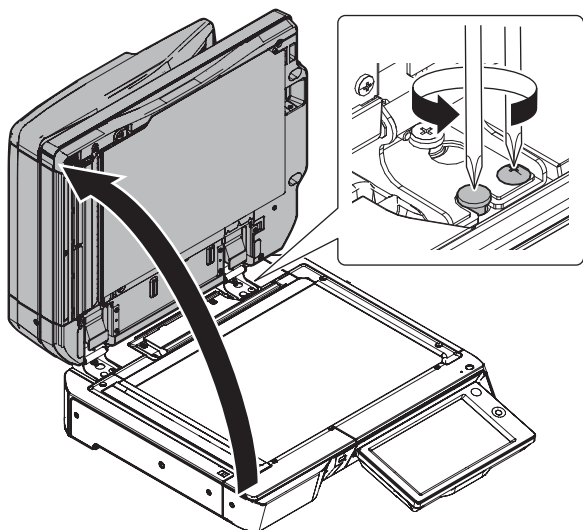
If the front surface copy image is as shown above and the back surface copy is not as shown above, go to the step3) of ADJ5D DSPF skew adjustment (back surface) step3)

If the above requirement is not met for the paper's front side perform step3)

- 3) Loosen the hinge screws and lower the two attachments



- 4) Open DSPF and loosen the screw

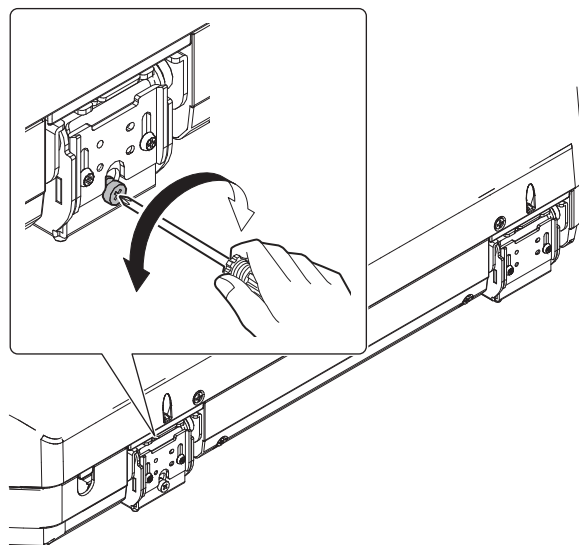


- 5) Adjust by turning DSPF skew adjusting screw on the right side of DSPF rear frame

When the main scanning direction print line is shifted to the left (a<b): Turn counterclockwise DSPF skew adjusting screw

When the main scanning direction print line is shifted to the right (a>b): Turn clockwise DSPF skew adjusting screw

Repeat step2) to 5) until acceptable result is obtained



5-D DSPF skew adjustment (back surface mode)

This adjustment must be performed in the following cases

- * When DSPF section has been disassembled
- * When DSPF unit has been replaced
- * When skew appears on the image scanned from DSPF

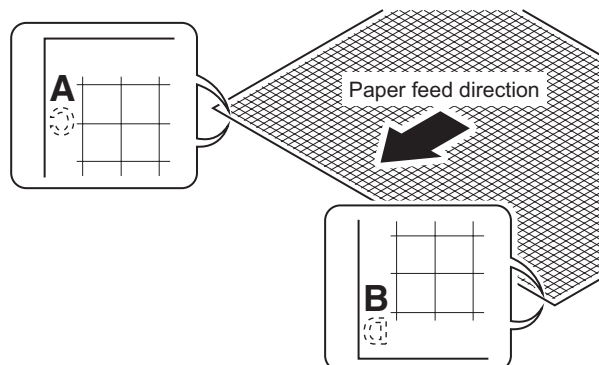
- 1) Make adjustment chart

Print the self print pattern (grid pattern) of Sim 64-2 in the duplex print mode

Sim 64-2 set value

A=1, B=1, C=254, D=255

Make sure that print grid pattern is almost in parallel with the paper edge and apply position "A" and "B" to the front and back side of leading edge on front and back side of the paper



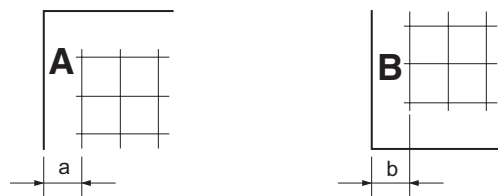
- 2) Copy the adjustment chart (created in step1) to A3 (11"x17") paper in DSPF duplex mode and check the image for skews (set in the DSPF feed tray so that the mark on the adjustment chart is at the edge)

Check with one of the following methods

Method 1

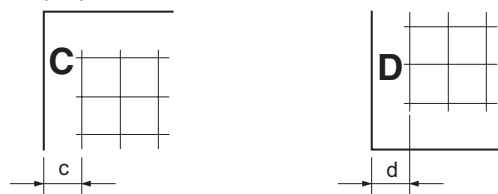
(Front side)

Make sure that the output satisfies the condition:
 $|a-b| \leq \pm 1 \text{ mm}$.



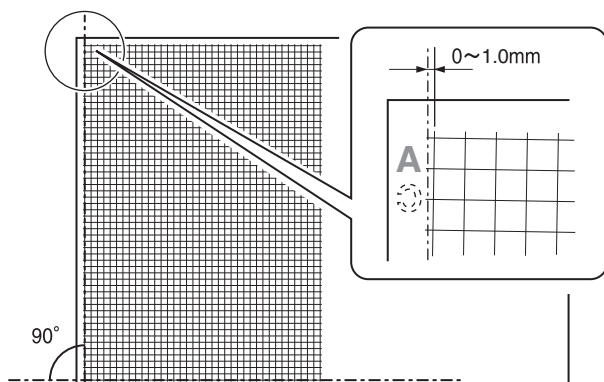
(Back side)

Make sure that the output satisfies the condition:
 $|c-d| \leq \pm 1 \text{ mm}$.



Method 2

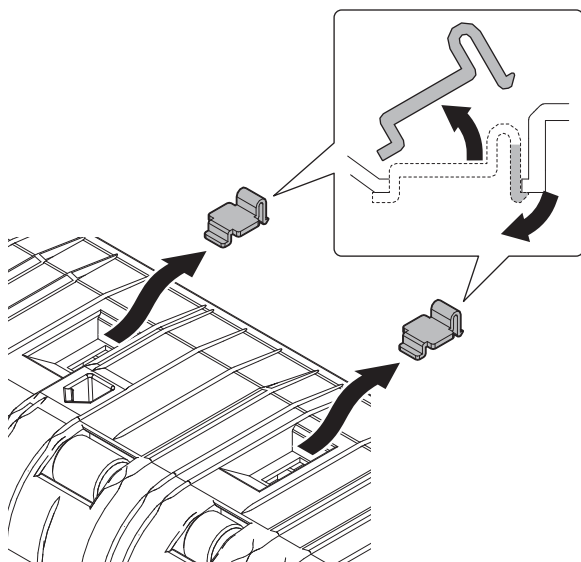
Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0 mm



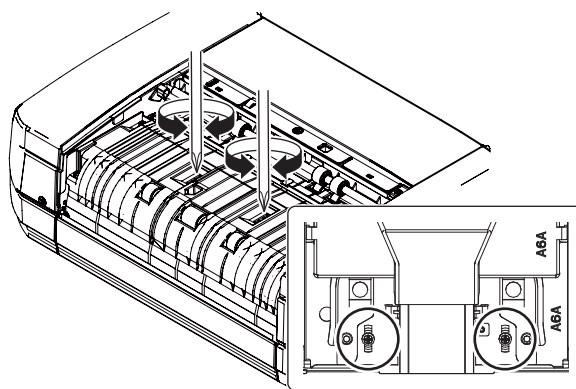
If the back surface copy image is as shown above and the front surface copy is not as shown above, go to the step3) of ADJ5C DSPF skew adjustment (front surface)

If the back surface copy is not as shown above, perform the step3)

- 3) Open the upper door and remove the adjustment cover



- 4) Turn DSPF skew adjustment screw on the CCD unit to adjust



When the main scanning direction print line is shifted to the left ($c < b$): Turn DSPF skew adjustment screw A counterclockwise or turn the adjustment screw B clockwise

When the main scanning direction print line is shifted to the right ($c > d$): Turn DSPF skew adjustment screw A clockwise or turn the adjustment screw B counterclockwise

* The adjustment screws A and B must be turned in proper balance. For example, if the trouble is not removed by turning the adjustment a screw A 180 degrees clockwise, do not turn the adjustment screw A furthermore, but turn the adjustment screw B 180 degrees counterclockwise

Repeat step2) to 4) until acceptable result is obtained

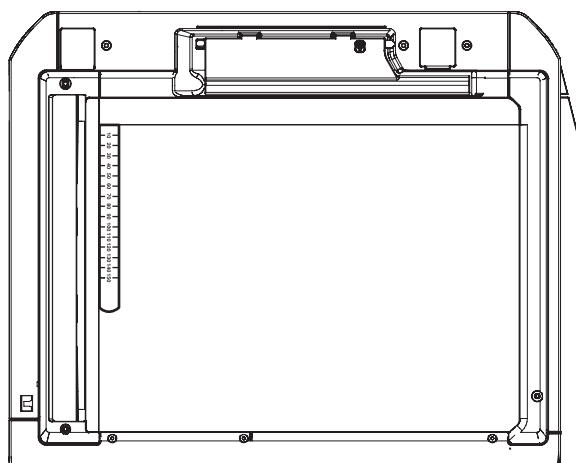
ADJ 6 Scan image focus adjustment

6-A Image focus adjustment (document table mode, DSPF/RSPF front surface mode)

This adjustment must be performed in the following cases

- * When CCD unit has been removed from the machine
- * When CCD unit has been replaced
- * When copy image focus has not properly been adjusted
- * When copy magnification ratio in the copy image main scanning direction has not properly been adjusted
- * When U2 trouble has been occurred

- 1) Enter Sim 48-1 mode
- 2) Set the item CCD (MAIN) to 50 (default)
Select the item with scroll key and enter value with 10 key and tap [OK] key
- 3) Place a scale on the original table as shown below

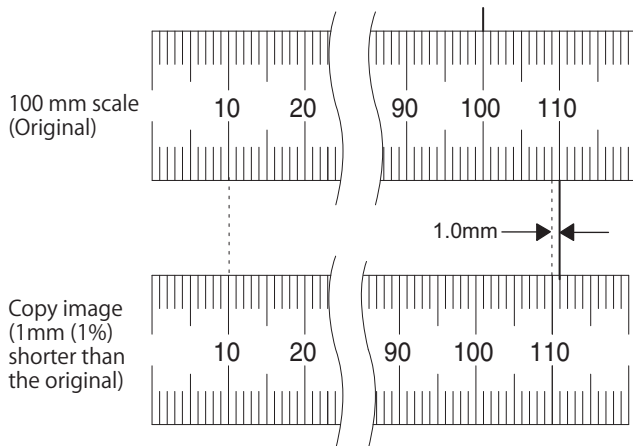


- 4) Make a copy on A4 paper
- 5) Compare the copied image of the scale and the actual scale length in items of length
- 6) Obtain the copy magnification ratio correction ratio in the main scanning direction from the following formula

Main scanning direction copy magnification ratio correction ratio =
 $(\text{original size} - \text{copy image size} / \text{original size} \times 100\%)$

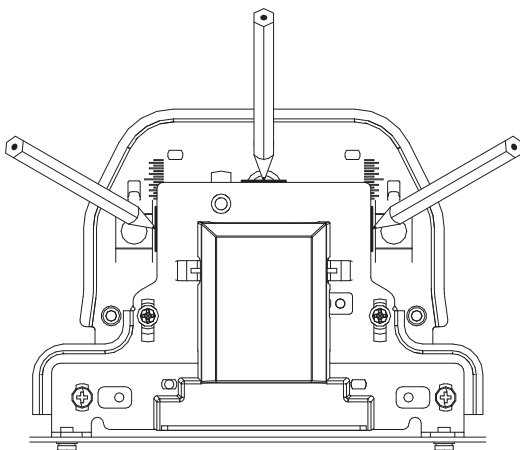
Example: Compare the scale of 10 mm with the scale of 10 mm on the copy image

Main scanning direction copy magnification ratio correction ratio
 $= (100 - 99) / 100 \times 100 = 1$



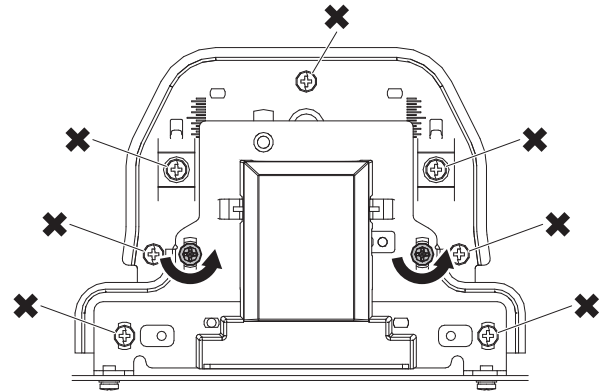
If the copy magnification ratio is not satisfactory, perform the following steps

- 7) Remove document table glass
- 8) Remove box cover
- 9) To prevent against shift of the CCD unit optical axis mark the CCD unit base as shown below



This steps must be performed when the CCD unit is replaced

- 10) Loosen CCD unit fixing screws



NOTE: Never loosen the screws marked with X

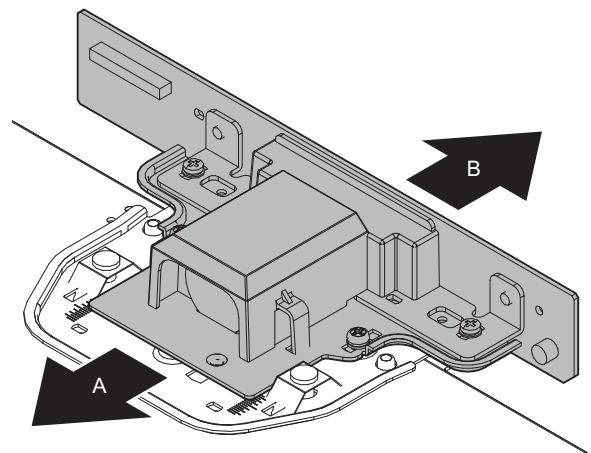
If any one of these screws is loosened the position and the angle of the CCD unit base may be changed to cause a problem which cannot be adjusted in the market. In that case the whole scanner unit must be replaced

- 11) Slide the CCD unit in the arrow direction (CCD sub scanning direction) to change the installing position

When the copy image is longer than the original scale, shift the CCD unit in direction B. When the copy image is shorter than the original scale, shift the CCD unit in the direction A

One scale of mark-off line corresponds to 0.2%. At that time fix the CCD unit so that it is in parallel with the scale on the front and the rear side of the CCD unit base

* Fix the CCD unit so that it is in parallel with the line marked in step9)



- 12) Make a copy and check the copy magnification ratio again
 If the copy magnification ratio is not in the range of $100 \pm 0.8\%$, repeat the step9) to 11) until the condition is satisfied

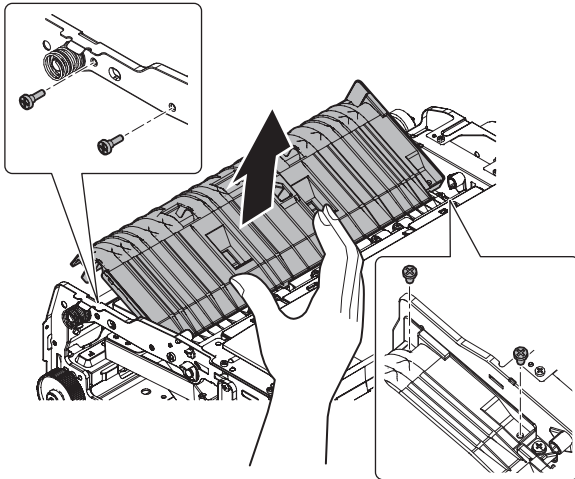
NOTE: By changing the CCD unit fixing position with the Sim 48-1 adjustment value at 50, the copy magnification ratio is adjusted within the specified range ($100 \pm 0.8\%$) and the specified resolution is obtained based on the optical system structure

6-B Image focus adjustment (DSPF back surface mode)

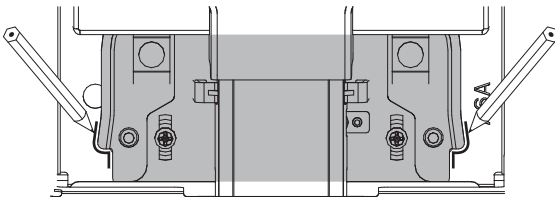
This adjustment must be performed in the following cases

- * When DSPF CCD unit has been removed
- * When DSPF CCD unit has been replaced
- * When copy, scan, FAX image focus have not properly been adjusted
- * When DSPF unit has been removed
- * When DSPF unit has been replaced

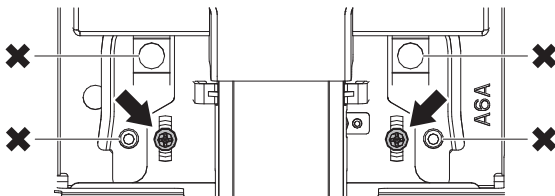
- 1) Make a duplex copy in DSPF mode
- 2) Make sure that the copied image on the back side of the paper is satisfactory focused
If the image is not satisfactory focused, perform the following steps
- 3) Open the upper door and remove the screws and the transport paper guide



- 4) To prevent against shift of the CCD unit optical axis, mark the CCD unit base as shown below



- 5) Loosen the CCD unit fixing screws



NOTE: Never loosen the screws marked with X

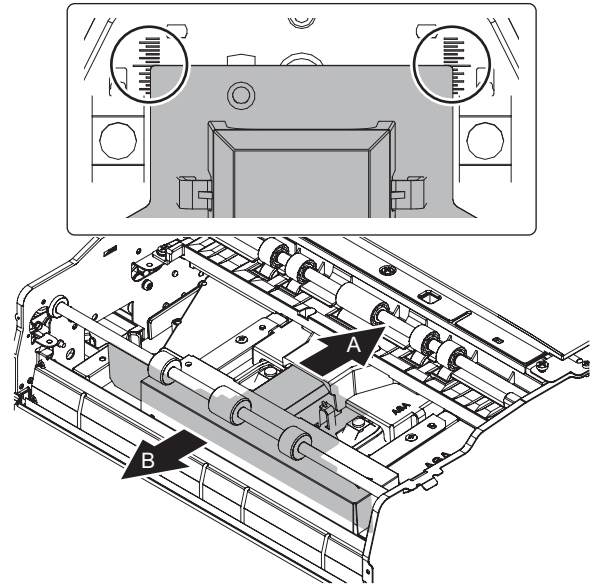
Loosing these screws could possibly change the CCD unit base optical axis. Once the optical axis has been changed, it cannot be corrected through on-site adjustment. Solving such a problem requires the replacement of the entire scanner unit

- 6) Slide the CCD unit in the arrow direction (CCD sub scanning direction) to change the installing position

When the copy image is longer than the original scale, shift the CCD unit in the direction B. when the copy image is shorter than the original scale, shift the CCD unit in the direction A

One scale of mark-off line corresponds to 0.2%. At that time, fix the CCD unit so that it is in parallel with the scale on the front and the rear side of the CCD unit base

* Fix the CCD unit so that it is in parallel with the line marked in step4)



- 7) Make a copy and check the copy magnification ratio again
If the copy magnification ratio is not in the range of $100 \pm 0.8\%$. Repeat the step4) to 6) until the condition is satisfied

NOTE: By changing the CCD unit fixing position with the Sim 48-1 adjustment value at 50 the copy magnification ratio is adjusted within the specified range ($100 \pm 0.8\%$) and the specified resolution is obtained based on the optical system structure

ADJ 7 Scan image magnification ratio adjustment (manual adjustment)

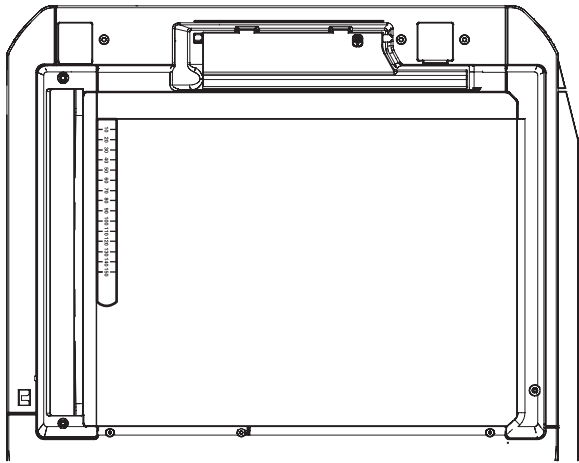
7-A Scan image magnification ratio adjustment (main scanning direction) (manual adjustment) (document table mode)

If the default value of the scan image magnification ratio adjustment (main scanning direction) of Sim 48-1 is changed, copy image quality may be degraded. Therefore this adjustment must be executed only when there is a special necessary

This adjustment must be performed in the following cases

- * When the copy magnification ratio in the copy image main scanning direction has not properly been adjusted
- * When scan motor has been replaced
- * When U2 trouble has been occurred
- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced

- 1) Place scale on the document table as shown below



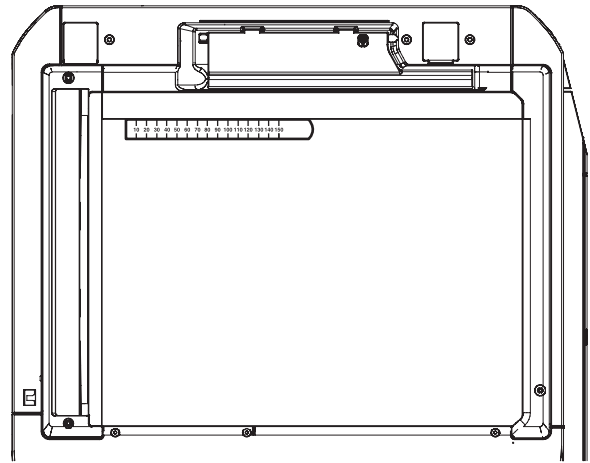
- 2) Enter Sim 48-1 mode
- 3) Make copy and obtain the copy magnification ratio
Tap [TEST] key to shift from the simulation mode to the copy mode and make a copy
- 4) Check that the copy magnification ratio is within the specified range (100±0.8%)
If the copy magnification ratio is within the specified range (100±0.8%) the adjustment is completed
If the copy magnification ratio is not within the specified range perform the following step
- 5) Change CCD (MAIN) value of Sim 48-1
When the value is increased, the copy magnification ratio is increased
When the value is changed by "1" the copy magnification ratio is changed by 0.02%
Repeat the step3) to 5) until the copy magnification ratio is within the specified range (100±0.8%)

7-B Scan image magnification ratio adjustment (sub scanning direction) (manual adjustment) (document table mode)

This adjustment must be performed in the following cases

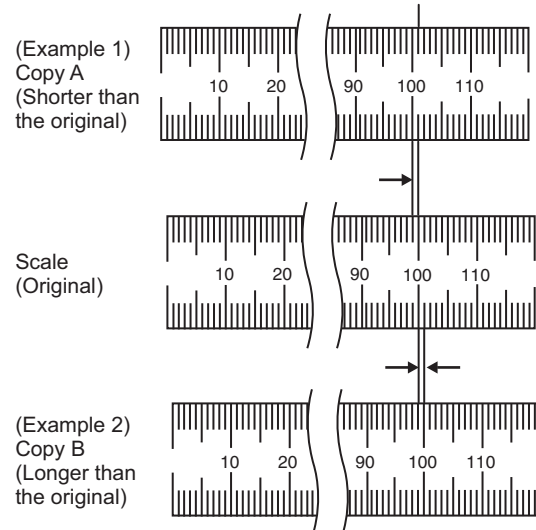
- * When the copy magnification ratio in the copy image sub scanning direction has not properly been adjusted
- * When scan motor has been replaced
- * When U2 trouble has been occurred
- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced

- 1) Place scale on the document table as shown below



- 2) Enter Sim 48-1 mode
- 3) Make a normal copy and obtain the copy magnification ratio go to the copy mode and make a copy

$$\text{Copy magnification ratio} = \frac{(\text{Original dimension} - \text{Copy dimension})}{\text{Original dimension}} \times 100\%$$



- 4) Check that the copy magnification ratio is within the specified range (100±0.8%)
If the copy magnification ratio is within the specified range (100±0.8%) the adjustment is completed
If the copy magnification ratio is not within the specified range perform the following step
- 5) Change the CCD (SUB) value of Sim 48-1
When the value is increased the copy magnification ratio in the sub scanning direction is increased
When the value is changed by 1 the copy magnification ratio is changed by 0.1%
Repeat the step3) to 5) until the copy magnification ratio is within the specified range (100±0.8%)

7-C Scan image magnification ratio adjustment (main scanning direction) (manual adjustment) (DSPF/RSPF mode)

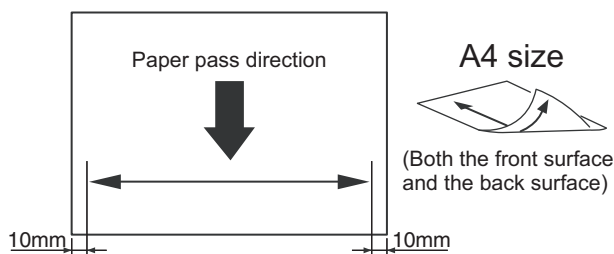
This adjustment must be performed in the following cases

- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced
- * When U2 trouble occurred
- * When the copy magnification ratio of DSPF/RSPF mode copy image in the main scanning direction has not properly been adjusted
- * When DSPF/RSPF has been disassembled

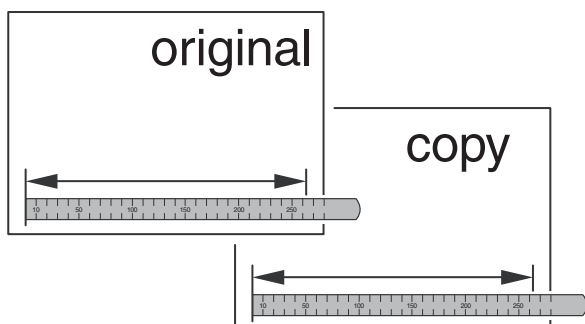
- 1) Place the duplex adjustment chart shown below on the document tray of the DSPF/RSPF

Adjustment chart is prepared by the following procedure

Use A4 (11"x8.5") paper and put marks on both sides and both surface of the paper at 10mm from each edge



- 2) Make a duplex copy at the normal ratio on A4 paper
- 3) Measure the images on the copy paper and the original images



- 4) Obtain the image magnification ratio according to the following formula

Image magnification ratio = Original size / Original size x 100%

Image magnification ratio = 99 / 100 x 100=99?

If the image magnification ratio is within the specified range (100±0.8%) there is no need to perform the adjustment

If it is not within the specified range perform the following steps

- 5) Enter Sim 48-1 mode
- 6) Select item of SPF (MAIN) / SPFB (MAIN) with the scroll key
SPF (MAIN) Main scanning direction image magnification ratio (front surface)
SPFB (MAIN) Main scanning direction image magnification ratio (back surface)
- 7) Enter the value with 10 key and tap [OK] key
When the value is increased the image magnification ratio is increased, when the value is changed by 1 the image magnification ratio is changed by 0.02%
- 8) Make a normal copy and obtain the copy magnification ratio, Repeat step1) to 8) until satisfactory result is obtained

7-D Scan image magnification ratio adjustment (sub scanning direction) (manual adjustment) (DSPF/RSPF mode)

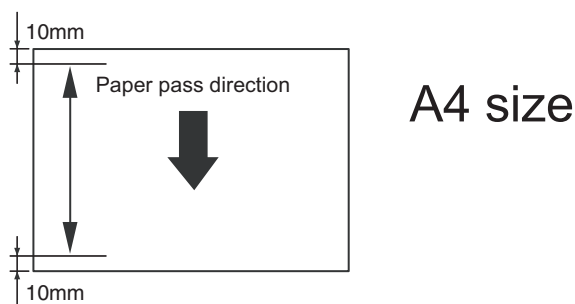
This adjustment must be performed in the following cases

- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced
- * When U2 trouble has been occurred
- * When the copy magnification ratio of DSPF/RSPF mode copy image in the sub scanning direction has not properly been adjusted
- * When DSPF/RSPF unit has been disassembled

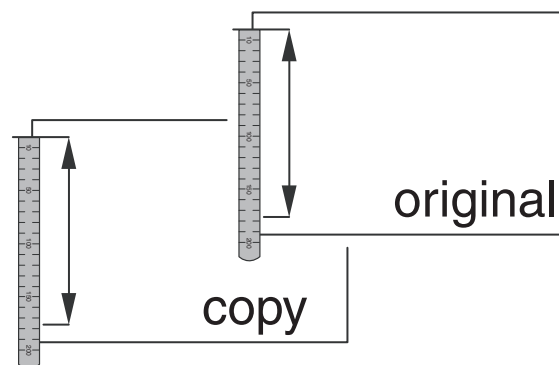
- 1) Place the duplex adjustment chart as shown below on the document tray

The adjustment chart is prepared by the following procedure

Use A4 (11"x8.5") paper and put marks on both sides and both surfaces of the paper at 10 mm from each edge



- 2) Make a duplex copy at the normal ratio on A4 paper
- 3) Measure the images on the copy paper and the original images



- 4) Obtain the image magnification ration according to the following formula

Image magnification ratio = Original size / Original size x 100%

Image magnification ratio = 99 / 100 x 100=99?

If the image magnification ratio is within the specified range (100±0.8%) there is no need to perform the adjustment

If it is not within the specified range, perform the following steps

- 5) Enter Sim 48-1 mode
- 6) Select item of SPF (SUB) / SPFB (SUB) with the scroll key
SPF (SUB) Sub scanning direction image magnification ratio (front surface)
SPFB (SUB) Sub scanning direction image magnification ratio (back surface)
- 7) Enter the value with 10 key and tap [OK] key
When the value is increased the image magnification ratio is increased. When the value is changed by 1 the image magnification ratio is changed by 0.1%
- 8) Make a normal copy and obtain the copy magnification ratio
Repeat step1) to 8) until satisfactory result is obtained

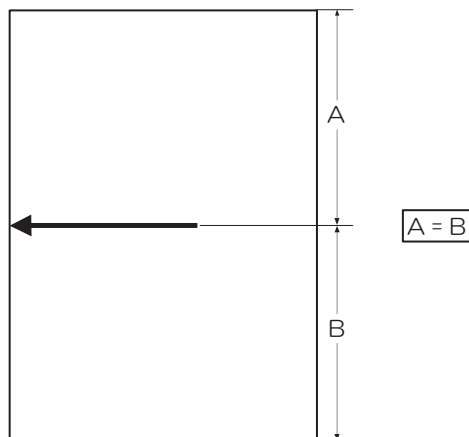
ADJ 8 Scan image off center adjustment (manual adjustment)

8-A Scan image off center adjustment (manual adjustment) (document table mode)

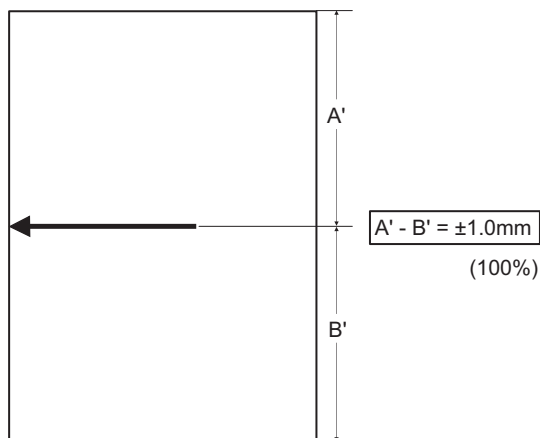
This adjustment must be performed in the following cases

- * When scanner (reading) section has been disassembled
- * When scanner (reading) unit has been replaced
- * When U2 trouble has been occurred
- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced

- 1) Make a copy of the adjustment chart using the document table



- 2) Check the copy image center position
If $A - B = \pm 1.0\text{mm}$ adjustment is not required



If above condition is not satisfied perform the following steps

- 3) Enter Sim 50-12 mode
- 4) Select the adjustment mode [OC] with scroll key
- 5) Enter the value with 10 key and tap [OK] key
When the set value is increased the main scanning print position is shifted to the front side by 0.1mm
- 6) Go to the copy mode and make a copy. Repeat step1) to 6) until the above condition is satisfied

8-B Scan image off center adjustment (manual adjustment) (DSPF/RSPF mode)

This adjustment must be performed in the following cases

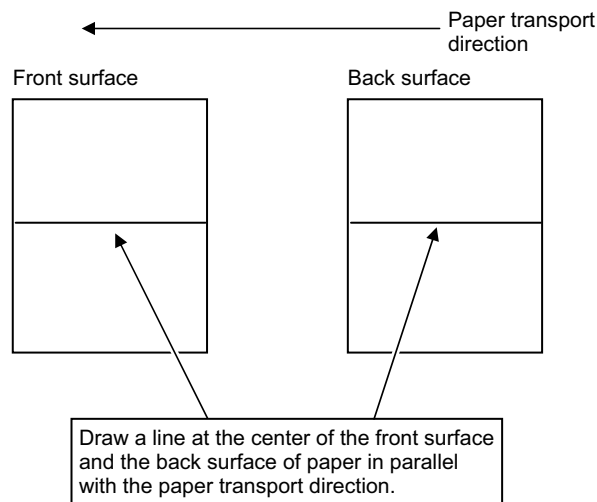
- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced
- * When scanner (reading) section has been disassembled

- * When scanner (reading) unit has been replaced
- * When U2 trouble has been occurred
- * When DSPF/RSPF section has been disassembled
- * When DSPF/RSPF unit has been replaced

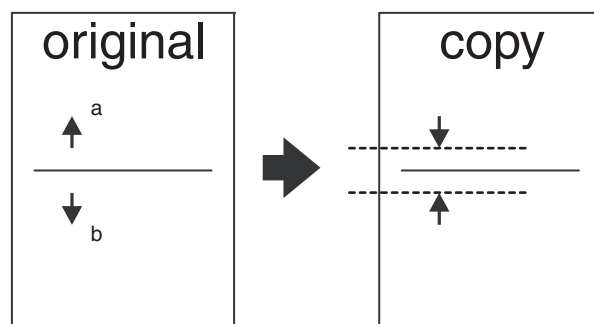
NOTE: To execute this adjustment it is required that ADJ8A scan image off center adjustment (document table mode) must properly adjusted

- 1) Make adjustment chart

Draw a line at the center of the front surface and the back surface of A4 (11"x8.5") paper in parallel with the paper transport direction



- 2) Set the adjustment chart on the document tray of the DSPF/RSPF
- 3) Make a duplex copy in the normal magnification ratio from the manual paper feed tray and check the image position on the front surface and back surface of the paper



If the difference is within the range of $0 \pm 2.7\text{mm}$ there is no need to perform the adjustment

If the adjustment is required, perform the following steps

- 4) Enter Sim 50-12 or 50-6 mode
- 5) Select mode with scroll key
Sim 50-12
SPF (SIDE1) front surface mode
SPF (SIDE2) back surface mode
Sim 50-6
OFFSET SPF1 front surface mode
OFFSET SPF2 back surface mode
- 6) Enter the value with 10 key and tap [OK] key
Change for change in the adjustment value is 0.1mm/step
When the value is increased the print image is shifted to the rear side
Repeat step2) to 6) until satisfactory result is obtained

ADJ 9 Copy image position and image loss adjustment (manual adjustment)

9-A Copy image position and image loss adjustment (manual adjustment) (document table mode)

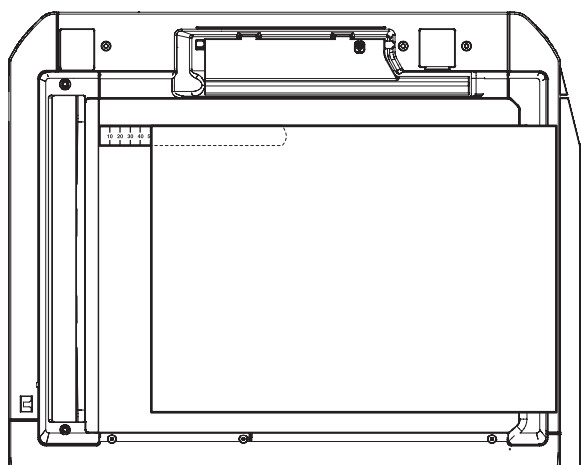
This adjustment must be performed in the following cases

- * When scanner (reading) section has been disassembled
- * When scanner (reading) unit has been replaced
- * When LSU unit has been replaced or removed
- * When registration roller has been disassembled
- * When U2 trouble has been occurred
- * When PCU PWB has been replaced
- * When EEPROM on the PCU PWB has been replaced
- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced

Before execution this adjustment, be sure to confirm that ADJ3 print engine image skew adjustment, image magnification ratio adjustment image position adjustment have been completed

1) Place a scale on the document table as shown below

Place a scale so that it is in parallel with the scanning direction and that its lead edge is in contact with the document guide plate
Place paper on the document table so that the scale lead edge can be seen



2) Sim 50-1 mode

3) Set item RRCA, LEAD, SIDE to the default value

Item / Display	Content	Setting range	Default value
A RRCA	Document lead edge reference position (OC)	0~99	50
B LEAD	Lead edge image loss area	0~99	40
C SIDE	Side image loss area	0~99	20

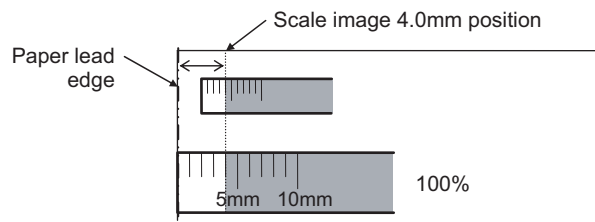
4) Perform the image lead edge reference position adjustment

Shift to the copy mode and make a copy at 100% in the document table mode

When the adjustment value of RRCA is proper the lead edge image from 4.0mm is not copied in 100% copy scale

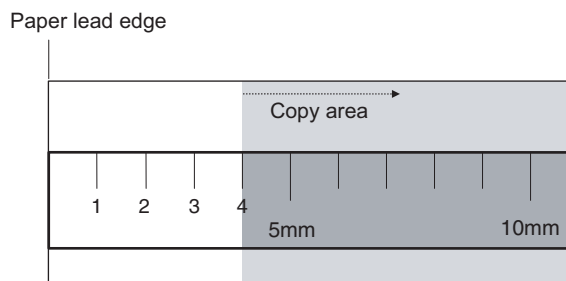
If not, change and adjust the RRCA value

Repeat the above steps until satisfactory result is obtained



5) Image loss adjustment

When the adjustment item of the image loss below is set to the default value, it is adjusted to the standard state, if it is not in the below standard state or when it is set to a desired value, change these adjustment items



Void area: 4.0mm Image loss: 4.0mm

Item / Display	Content		Setting range	Default value	Standard adjustment value
LEAD	Image loss adjustment	Lead edge image loss	0~99	40	4.0±1.0mm
SIDE		Side image loss	0~99	20	2.0±1.0mm

When the value is increases the image loss is increased

When the value is decreased the image loss is decreased

When the value is changed by 1 the void area is changed by 0.1mm

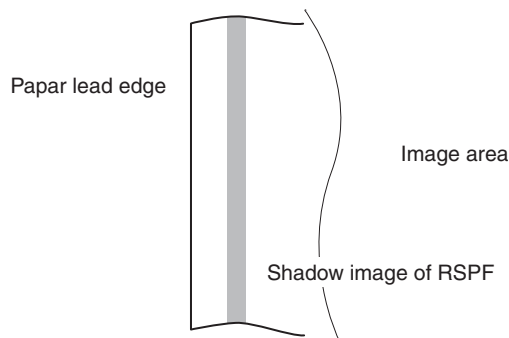
9-B Image scanning position adjustment (manual adjustment) (DSPF/RSPF mode)

This adjustment must be performed in the following cases

- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced
- * When scanner (reading) section has been disassembled
- * When scanner (reading) unit has been replaced
- * When U2 trouble has been occurred
- * When DSPF/RSPF section has been disassembled
- * When DSPF/RSPF unit has been replaced

This simulation is to adjust the scanning position when scanning in the DSPF/RSPF mode. If this adjustment is made improperly, the scanner stop position is shifted from the specified position and a shade of the document table may be reflected on the lead edge section of the scan image in the DSPF/RSPF mode

- 1) Make a copy in the DSPF/RSPF mode and check for any shade on the lead edge section of the copy image



If there is any shade of the document table on the lead edge section of the copy image, perform the following steps

- 2) Enter Sim 53-8 mode and tap [MANUAL] key

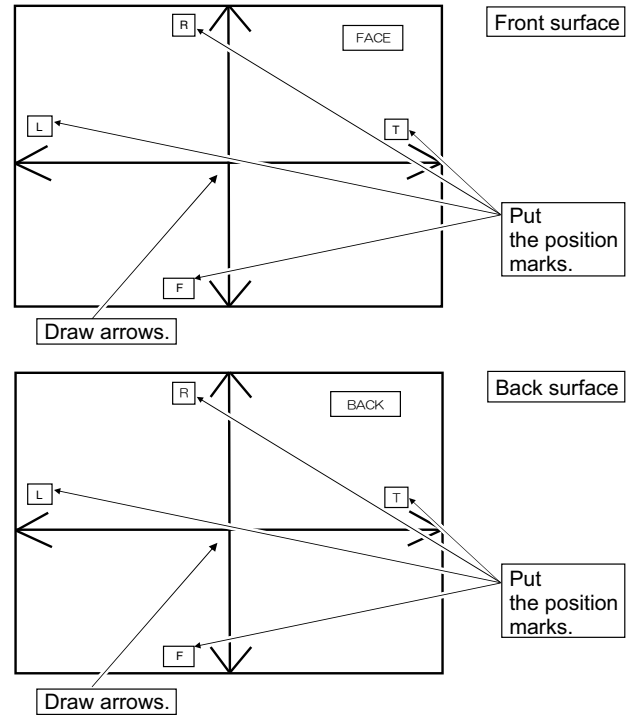
- 3) Enter value with 10 key and tap [OK] key

When the set value is increased the distance from the home position to the DSPF/RSPF scanning position is increased

When set value is changed by 1 the scanning position is changed by 0.1mm

Repeat step1) to ~ 3) until satisfactory result is obtained

NOTE: After execution of this adjustment, be sure to execute ADJ9C copy image position and image loss adjustment (manual adjustment) (DSPF/RSPF mode)



- 2) Enter Sim 50-6 mode

Item / Display	Content	Setting range	Default value	
			DSPF	RSPF
A SIDE1	Front surface document scan position (CCD)	1~99	50	
B SIDE2	Back surface document scan position (CCD)	1~99	50	
C LEAD_EDGE (SIDE1)	Front surface lead edge image loss amount	0~99	20	20
D FRONT_REAR (SIDE1)	Front surface side image loss amount	0~99	20	20
E TRAIL_EDGE (SIDE1)	Front surface rear edge image loss amount	0~99	40	40
F LEAD_EDGE (SIDE2)	Back surface lead edge image loss amount	0~99	40	20
G FRONT_REAR (SIDE2)	Back surface side image loss amount	0~99	20	20
H TRAIL_EDGE (SIDE2)	Back surface rear edge image loss amount	0~99	20	40

* Item A, B: When the value is increased the scan timing is delayed

* ItemC~H: When the value is increased the image loss is increased

Lead edge image loss adjustment

- 1) Set the lead edge image loss adjustment value (LEAD EDGE SIDE1/SIDE2) on the front surface and the back surface to the following values

When the set value is increased the lead edge image loss is increased

(Standard set value)

LEAD EDGE(SIDE1): 20 Lead edge image loss set value (front surface)

LEAD EDGE(SIDE2): 40 Lead edge image loss set value (back surface)

9-C Copy image position and image loss adjustment (manual adjustment) (DSPF/RSPF mode)

This adjustment must be performed in the following cases

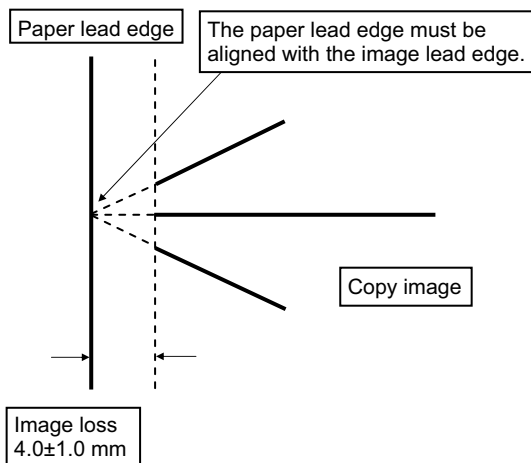
- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced
- * When scanner (reading) section has been disassembled
- * When scanner (reading) unit has been replaced
- * When U2 trouble has been occurred
- * When DSPF section has been disassembled
- * When DSPF unit has been replaced

- 1) Make adjustment chart

Use A4 (11"x8.5") paper and draw arrow marks vertically and horizontally on the front and back surface

At the same time, put marks of the lead edge, the trail edge, the front end, the rear end as well as the identification marks of the front surface and the back surface

- 2) Make a duplex copy in 100% in the DSPF/RSPF mode. Check to confirm that the lead edge image loss is within 4.0 ± 1.0 mm on the front surface and the back surface. The paper lead edge must be aligned with the presumed image lead edge

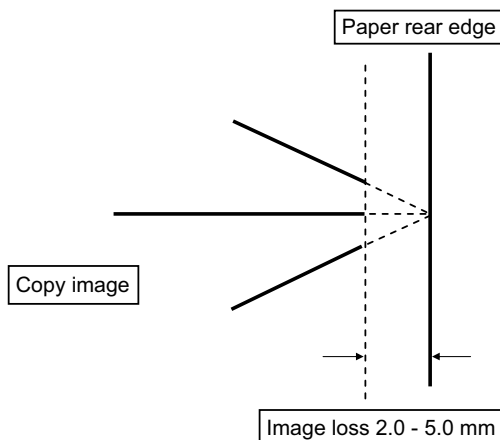


If above condition is not satisfied perform the following step

- 3) Enter value of SIDE1/SIDE2 with 10 key and tap [OK] key
Adjust that the paper lead edge is aligned with the presumed image lead edge
SIDE1: Front surface lead edge scan position adjustment
SIDE2: Back surface lead edge scan position adjustment
When the adjustment value is increased the print image position is shifted to the delaying direction for the paper
Repeat the step2) to 3) until satisfactory result is contained

Rear edge image loss adjustment

- 1) Make a duplex copy in 100% in the DSPF/RSPF mode. Check to confirm that rear edge image loss is 2.0 ± 5.0 mm on the front surface and the back surface

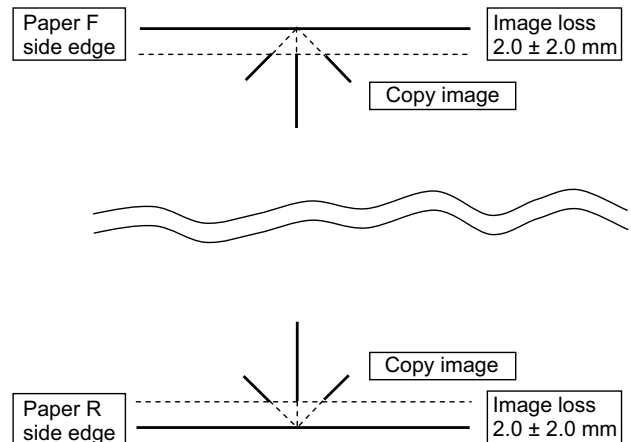


If the above condition is not satisfied perform the following step

- 2) Enter value of TRAIL EDGE (SIDE1/SIDE2) with 10 key and tap [OK] key
TRAIL EDGE(SIDE1): Rear edge image loss adjustment value (front surface)
TRAIL EDGE(SIDE2): Rear edge image loss adjustment value (back surface)
When the adjustment value is increased the rear edge image loss is increased
Repeat the step1) to 2) until satisfactory result is obtained

Front/rear frame direction image loss adjustment

- 1) Make a duplex copy in 100% in the DSPF/RSPF mode. Check to confirm that the image loss on the front frame side and the rear frame side are 2.0 ± 2.0 mm on the front surface and the back surface



If the above condition is not satisfied perform the following step

- 2) Enter the value of FRONT/REAR (SIDE1) / FRONTTRAIL EDGE (SIDE1/SIDE2) with 10 key and tap [OK] key
TRAIL EDGE(SIDE1): Front/rear image loss adjustment value (front surface)
TRAIL EDGE(SIDE2): Front/rear image loss adjustment value (back surface)
When the value is increased the front/rear image loss is increased
Repeat the step1) to 2) until satisfactory result is obtained

ADJ 10 Print lead edge image position adjustment (printer mode)

This adjustment must be performed in the following cases

- * When the registration roller section has been disassembled
- * When LSU unit has been replaced or removed
- * When U2 trouble has been occurred
- * When PCU PWB has been replaced
- * When EEPROM on the PCU PWB has been replaced

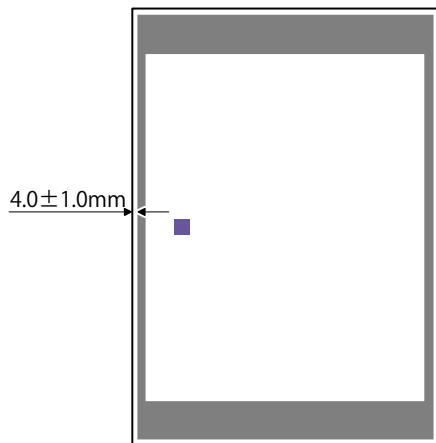
Note

This adjustment should be performed if the user wishes to increase the lead edge void area for printer mode greater than the standard value (3mm)

- 1) Enter Sim 50-5 mode
- 2) Select the tray with scroll key and the value corresponding to the paper feed tray with A4 (11"x8.5") paper in it
- 3) Tap [EXECUTE] key
Check pattern is printed

- 4) Measure the distance from the paper lead edge the check pattern to the image lead edge and check to confirm that it is in the standard adjustment value range

Standard adjustment value: $4.0 \pm 1.0\text{mm}$



If the above condition is not satisfied perform the following steps

- 5) Select the adjustment target of the paper feed mode adjustment item DEN-C with scroll key
- 6) Change the adjustment value
Enter the value and tap [EXECUTE] key
When the value is increased the distance from the paper lead edge to the image lead edge is increased
When the value is decreased the distance from the paper lead edge to the image lead edge is decreased
Repeat step4) to 6) until the condition of step4) is satisfied

ADJ 11 Gray balance and density adjustment

(1) Note before execution of the gray balance and density adjustment

- * Requisite conditions before execution of the gray balance and density adjustment
Before execution of the gray balance and density adjustment check to insure that the adjustments which affect the gray balance and density have properly been completed

Though the following items affect the gray balance and density. There is no need to adjust them frequently. When however a trouble occurs, they must be checked and adjusted

- 1) The following items must be adjusted properly

Job No.	Adjustment item			Sim
ADJ2	High voltage value adjustment	ADJ2A	Main charger grid voltage adjustment	8-2
		ADJ2B	Developing bias voltage adjustment	8-1
		ADJ2C	Transfer current and voltage adjustment	8-6
ADJ1	Developing unit adjustment	ADJ1A	Toner density control reference value setting	25-2
ADJ6	Scan image focus adjustment			48-1
ADJ11	Gray balance and density adjustment	ADJ11A	Scanner calibration (CCD)	63-3

Note for the gray balance and density check and adjustments

When setting the adjustment pattern on the document table in the automatic gray balance adjustment steps place 5 sheets of white paper on the adjustment pattern in order to prevent back copying and adverse effects of paper wrinkles as far as possible

(2) Relationship between the servicing job contents and the gray balance and density check and adjustment

Note that the jobs before and after execution of the gray balance and density check and adjustment depend on the machine status and the servicing conditions

Follow the flowchart of the gray balance and density adjustment steps depending on the actual conditions

There are following three major cases

- 1) When periodic maintenance is performed
- 2) When repair, inspection or maintenance is performed (when consumable part is replaced)
- 3) When installation, repair, or inspection is performed (without replacement of consumable part)

(3) Copy gray balance and density check

NOTE: Before checking the copy gray balance and density, be sure to execute the following jobs

- * Execute the high density image correction forcibly (Sim 44-6)
- * Execute the halftone image correction forcibly (Sim 44-26)

Method 1

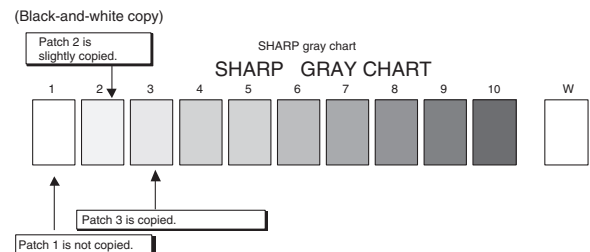
Make a copy of the gray test chart (UKOG-0162FCZZ) and check that they are proper

Note for checking the density

To check the density, use the gray test chart (UKOG-0162FCZZ) and servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11). Set the copy density level to "Manual 3" in the Text/Printed photo mode. In addition all the gray balance adjustments in the user adjustment mode must be set to the default

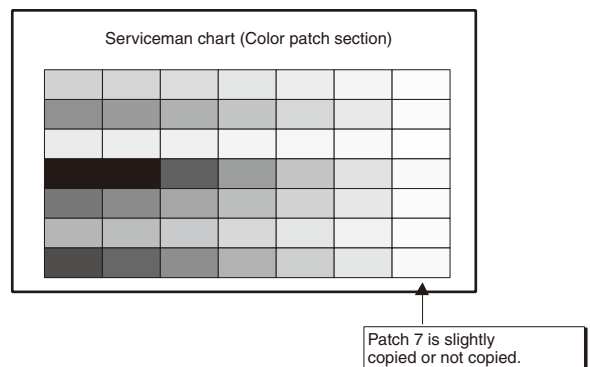
Check with the gray test chart (UKOG-0162FCZZ)

In the copy density check with the gray test chart. Check to insure the following conditions



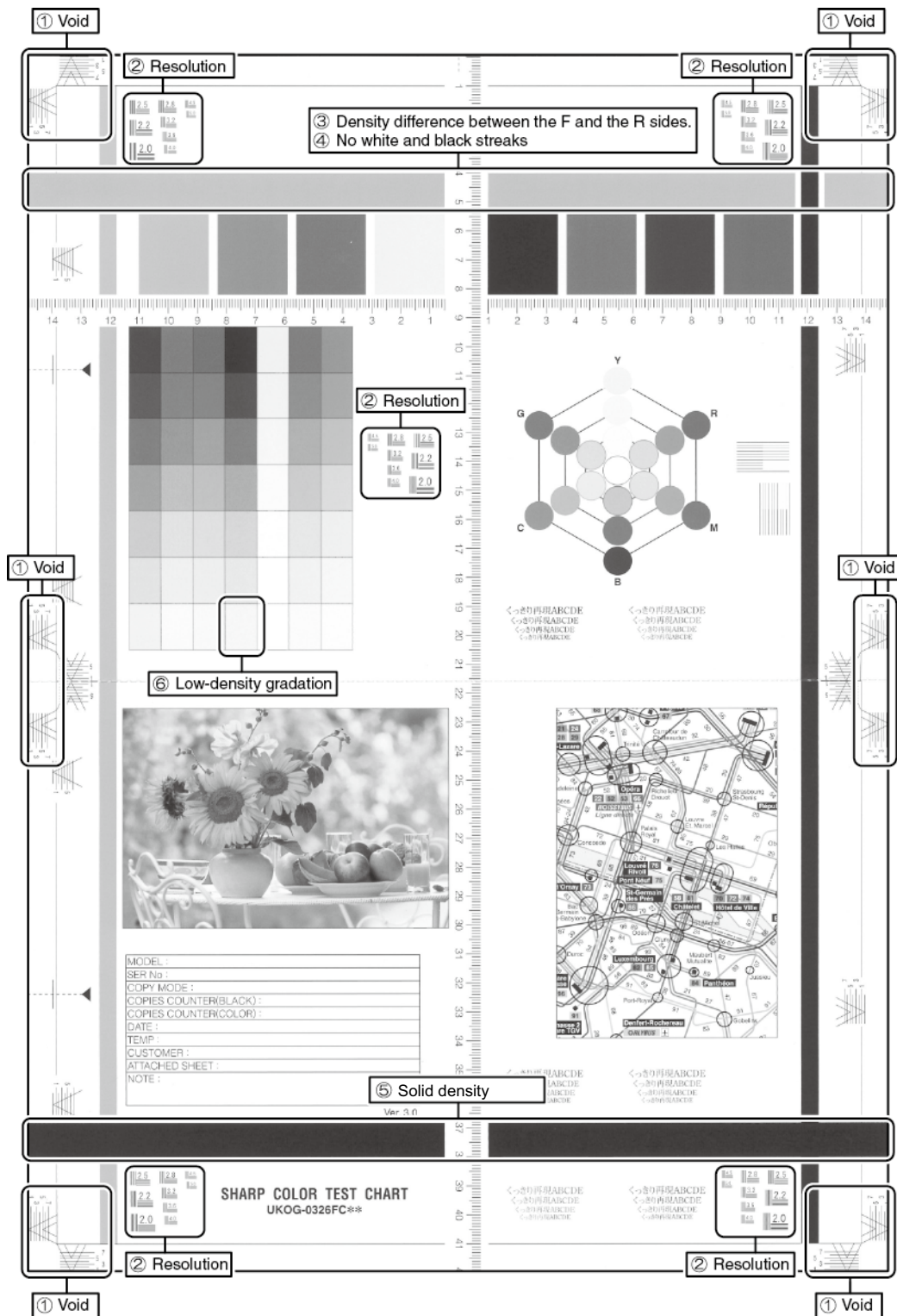
Check with the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11)

In the copy gray balance check with the servicing color test chart, check to insure the following conditions



Monochrome copy check items (Check to confirm the following:)

- 1) There are 12 void areas.
- 2) The resolution of 4.0 (5 points) can be seen.
- 3) The density difference between the F and the R sides is not so great.
- 4) There are no white and black streaks.
- 5) The background solid is not so light.
- 6) The black low-density gradation is copied slightly.



(4) Printer gray balance and density check

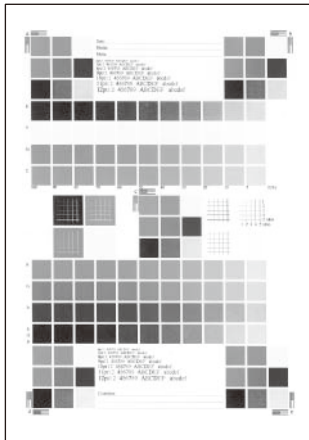
NOTE: Before checking the copy gray balance and density, be sure to execute the following steps in advance

- * Execute the high density image correction forcibly (Sim 44-6)
- * Execute the halftone image correction forcibly (Sim 44-26)

Method 1

Execute Sim 64-5 to print the print test pattern

Set the value to the default and tap [EXECUTE] key. Print test pattern is printed



The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reserved

11-A Scanner calibration

11-A (1) Scanner calibration (CCD calibration) (document table mode)

This adjustment must be performed in the following cases

- * When CCD unit has been replaced
- * When U2 trouble has been occurred
- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced

(1) Note before adjustment

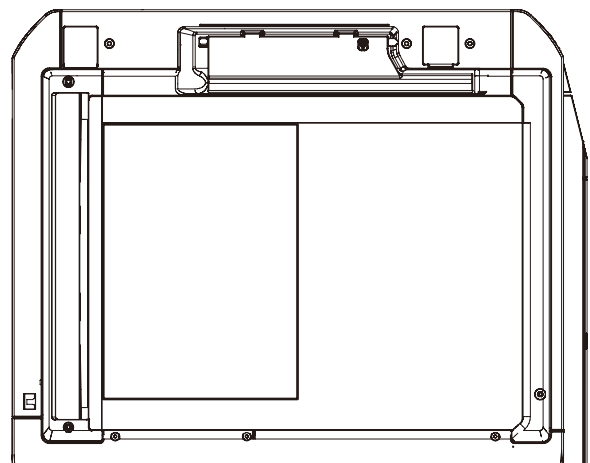
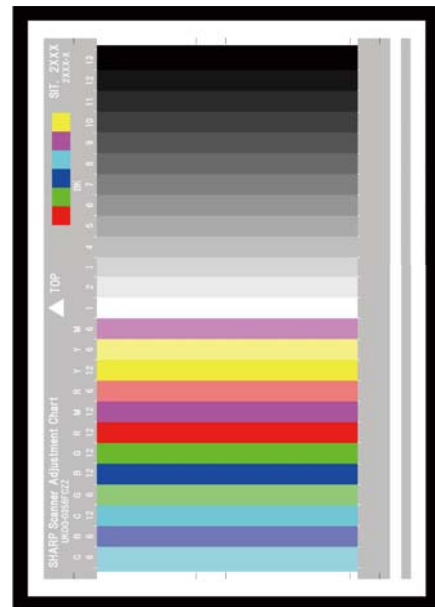
- Check that the table glass, No 1, 2, 3 mirror and the lens surface are free from dirt and dust (when there is some dirt or dust clean with ethanol alcohol)
- Check to confirm that the patches arrays of the scanner adjustment chart (UKOG-0356FCZZ) is free from dirt and scratch. If it is dirt, clear it. If it is scratched or streaked, replace with new one

Note

Since the scanner adjustment chart (UKOG-0356FCZZ) is easily discolored by sunlight (especially ultraviolet rays) and humidity and temperature, put it in a bag

(2) Adjustment step

- 1) Set the scanner adjustment chart (UKOG-0356FCZZ) to the reference position on the left rear frame side of the document table
Set the chart in order that the arrow marks is placed on the left side



If the scanner adjustment chart is not available, execute Sim 63-5 to set the CCD gamma to the default. In this case, however the adjustment accuracy is lower when compared with the adjustment method using the scanner adjustment chart

- 2) Enter Sim 63-3 mode and tap [EXECUTE] key
Automatic operation is started during the adjustment [EXECUTE] is highlighted, after completion of the adjustment [EXECUTE] returns to the normal display

11-A (2) Shading adjustment (calibration) (DSPF mode)

This adjustment must be performed in the following cases

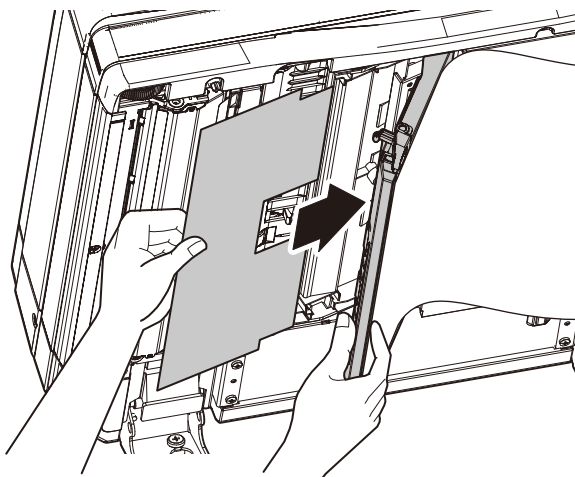
- * When DSPF CCD unit has been replaced
- * When U2 trouble has been occurred
- * When DSPF PWB has been replaced

(1) Note before adjustment

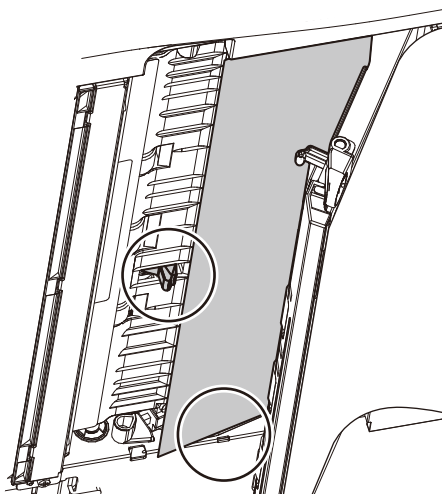
- Check that DSPF scanner glass, mirrors and the lens surface are free from dirt and dust (when there is some dirt or dust clean with ethanol alcohol)

(2) Adjustment step

- 1) Open DSPF original scanner section, insert the shading adjustment sheet (UKOG-0333FCZZ) and close DSPF original scanning section



Insert the shading adjustment sheet along the rear edge frame and set it in order that the rear edge of the shading adjustment sheet is placed to the base of the actuator



- 2) Enter Sim 63-2 mode
- 3) Tap [DSPF SHADING] [EXECUTE] key
Shading adjustment starts

11-A (3) Scanner calibration (CCD calibration) (DSPF mode)

This adjustment must be performed in the following cases

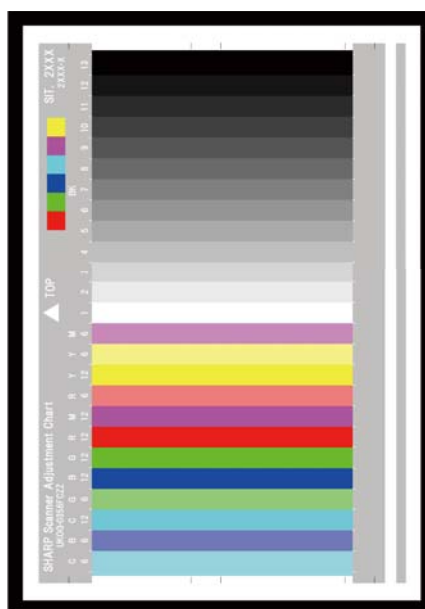
- * When DSPF CCD unit has been replaced
- * When U2 trouble has been occurred
- * When DSPF PWB has been replaced

(1) Note before adjustment

- * Check that DSPF scanner glass, mirrors and the lens surface are free from dirt and dust (when there is some dirt or dust clean with ethanol alcohol)
- * Check to confirm that the patches arrays of the scanner adjustment chart (UKOG-0356FCZZ) is free from dirt and scratch. If it is dirt, clear it. If it is scratched or streaked, replace with new one

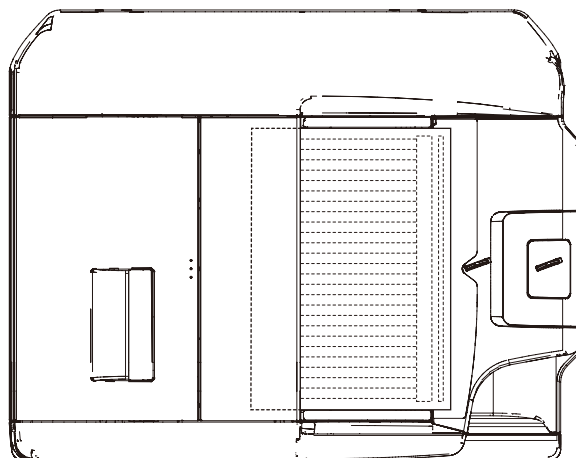
Note

Since the scanner adjustment chart (UKOG-0356FCZZ) is easily discolored by sunlight (especially ultraviolet rays) and humidity and temperature, put it in a bag



(2) Adjustment step

- 1) Set the scanner adjustment chart (UKOG-0356FCZZ) to the paper feed tray of DSPF face down



If the scanner adjustment chart is not available, execute Sim 63-5 to set the CCD gamma to the default. In this case, however the adjustment accuracy is lower when compared with the adjustment method using the scanner adjustment chart

- 2) Enter Sim 63-3 mode and tap [DSPF] [EXECUTE] key
Automatic operation is started during the adjustment [EXECUTE] is highlighted, after completion of the adjustment [EXECUTE] returns to the normal display

11-B FR density variation correction

Make sure followings are confirmed prior to the adjustment

- * Main charger unevenness has not been occurred
- * Paper tray with A4 (11"x8.5") paper is available
- * Auto correction of FR density unevenness clear the correction value in ADJ11B(2) FR density unevenness. Do not execute auto correction if you maintain the manual correction value

Important

Execute Sim 61-13 if any one of DV unit, Drum process unit, transfer roller and LSU unit has been replaced

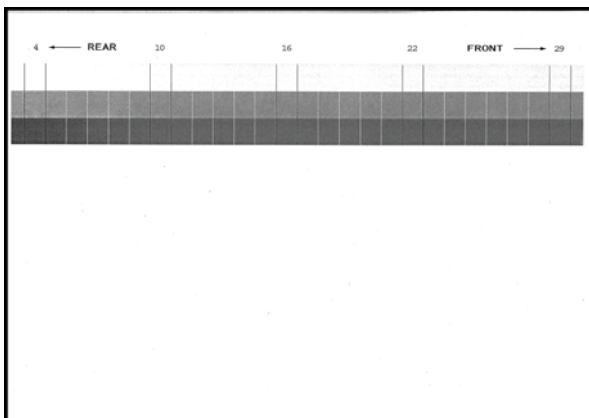
11-B (1) FR density unevenness automatic correction

This adjustment must be performed in the following cases

- * Density unevenness toward main scanning direction has been observed
- 1) Enter Sim 61-11 mode
 - 2) Tap [AUTO CORRECTION] key
Tap [DATA] key to confirm present auto correction value
 - 3) Select the density level to adjust and tap [EXECUTE] key
Adjustment pattern is printed
 - 4) Place the adjustment pattern in the step3) and the arrows on the adjustment pattern should be placed on left side (A4/LTR direction) on the document table and tap [EXECUTE] key and put 5 blank sheets on top of the adjustment pattern



- 5) After scanning the adjustment pattern the data is updated and the adjustment result pattern is printed automatically. Check whether density on front and rear side machine



- 6) Tap [RETRY] key and repeat the steps3) to 5) until satisfied result is obtained

Important

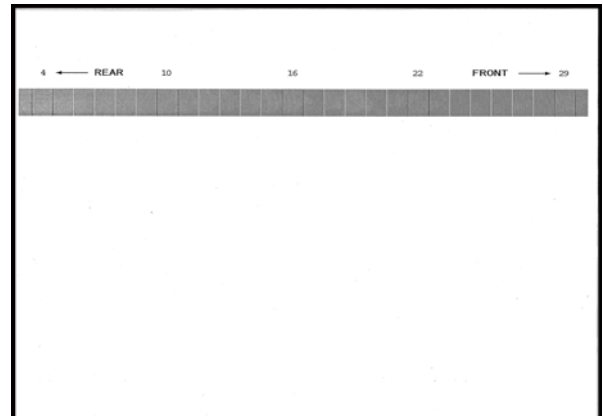
Execute Sim 61-13 to clear auto/manual correction value to default setting

- 7) Execute Sim 46-74 (copy/prINTER gray balance adjustment) after completing all the adjustments

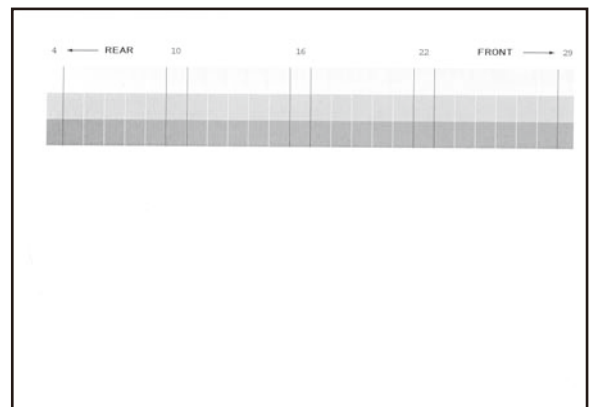
11-B (2) FR density unevenness visual inspection correction

This adjustment must be performed in the following cases

- * Density unevenness toward main scanning direction has been observed
- 1) Enter Sim 61-12 mode
 - 2) Tap [VISUAL INSPECTION] key
Tap [DATA] key to confirm present manual correction value
 - 3) Select density level to adjust and tap [EXECUTE] key
Adjustment pattern is printed
 - 4) Check the adjustment pattern in the step3)
Select either [5POINT CORRECTION] or [32POINT CORRECTION] enter adjustment value and tap [EXECUTE] key
Larger the adjustment value the higher the density and vice versa



- 5) Adjustment result pattern is printed automatically
Check whether density on front and rear side machine



- 6) After step5) if you furthermore require this adjustment, tap [RETRY] key and repeat the step3) to 5)

Important

Execute Sim 61-13 to clear auto/manual correction value to default setting

- 7) Execute Sim 46-74 (copy/prINTER gray balance adjustment) after completing all the adjustments

11-C Copy/printer gray balance and density adjustment (automatic adjustment) (basic adjustment)

This adjustment must be performed in the following cases

- * When consumable part (developer, OPC drum) has been replaced
- * When CCD unit has been replaced
- * When scanner (reading) section has been disassembled
- * When scanner (reading) unit has been replaced
- * When U2 trouble has been occurred
- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced

a.General

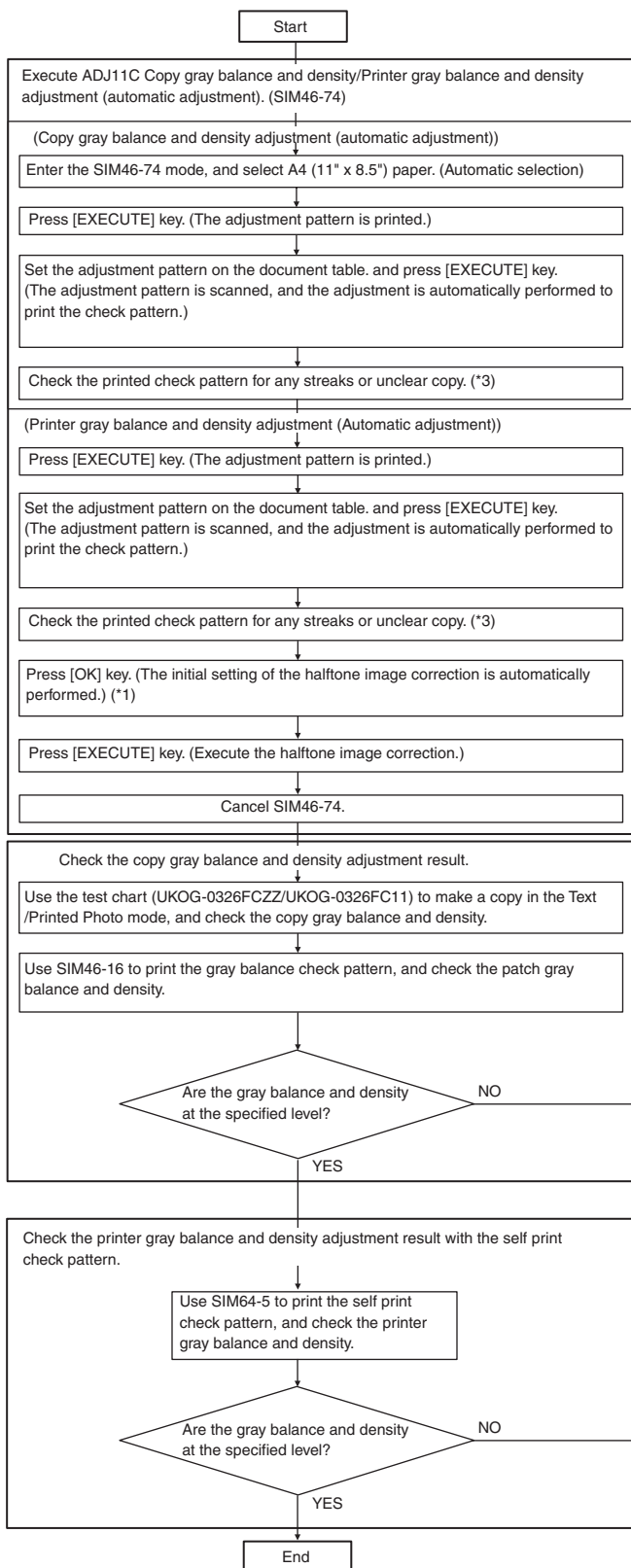
Sim 46-74 is used to perform the automatic copy gray balance and density adjustment (Sim 46-24) and automatic printer gray balance and density adjustment (Sim 67-24) continuously

Since it is desirable to perform the copy gray balance adjustment (automatic adjustment) before the automatic printer gray balance and density adjustment. It is advisable to perform the adjustment in this mode. This mode is also advisable to effectively perform both of the automatic copy gray balance and density adjustment (Sim 46-24) and the automatic printer gray balance and density adjustment (Sim 67-24). It saves considerable time when compared with performing each of the auto copy/printer gray balance and density adjustment individually. The gray balance adjustment (automatic adjustment) is used to adjust the density automatically. When this adjustment is executed the gray balance adjustment of all the copy/printer modes are reserved

b.Adjustment step

auto gray balance adjustment by technician

Copy/printer gray balance and density adjustment (Automatic adjustment)
(SIM46-74) procedure flowchart

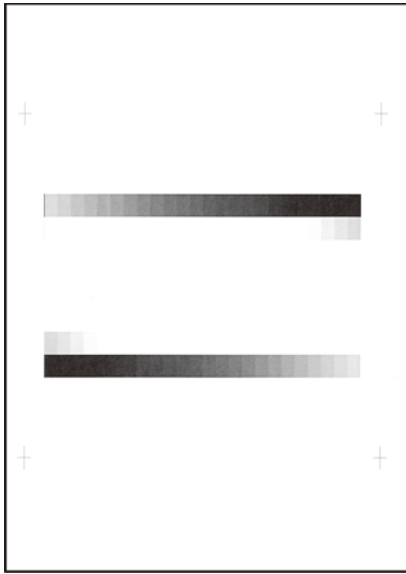


- *1:
If the initial setting of the half-tone image correction is not properly adjusted, satisfactory gray balance and density cannot be obtained. In this case, check the print engine for any problems.
- *2:
If satisfactory gray balance and density are not obtained with ADJ11D(2) (Copy gray balance and density adjustment) (Manual adjustment) (SIM46-16/44-21), check the print engine for any problems.
- *3:
If there is any streak or unclear copy on the printed check pattern, check the print engine for any problems.

1) Enter Sim 46-74 mode

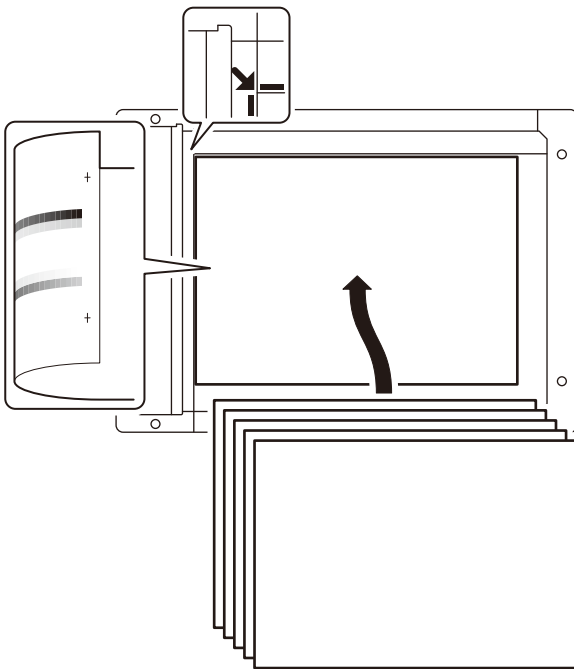
2) Tap [EXECUTE] key

The high density process control is performed and the copy gray patch image (adjustment pattern) is printed



3) Set the gray patch image (adjustment pattern) paper printed in step2) on the document table

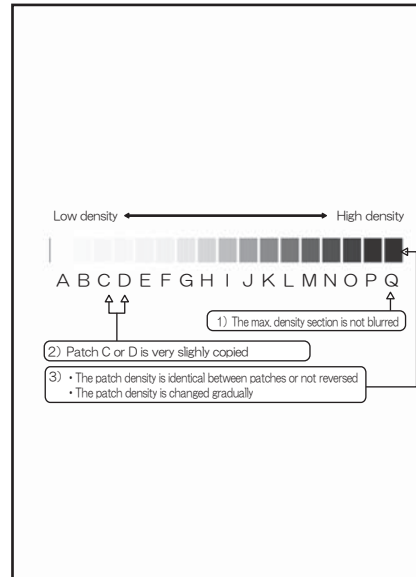
Place the gray patch image so that the fine lines are on the left side, at that time place 5 blank paper on the printed gray patch image (adjustment pattern)



4) Tap [EXECUTE] key

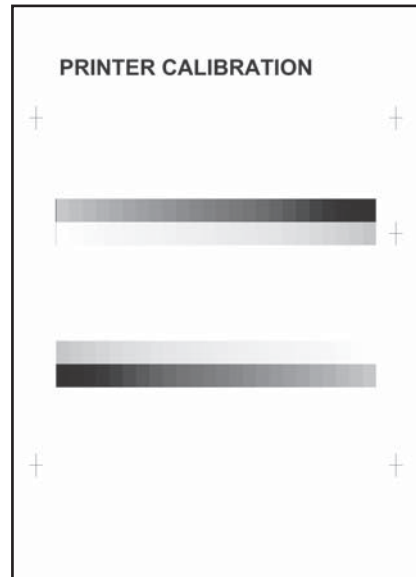
The copy gray balance adjustment is automatically executed and prints the gray balance check patch image

If there is any streak or unclear print on the printed check pattern, check the print engine for any problems



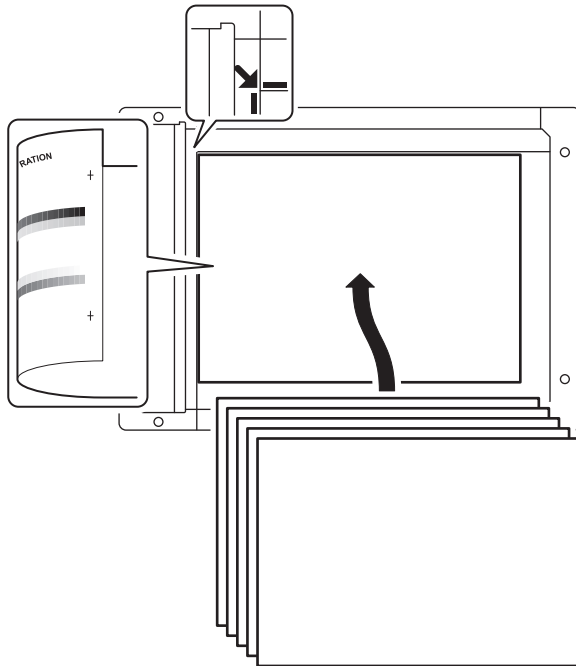
5) Tap [EXECUTE] key

Printer gray patch image (adjustment pattern) is printed



- 6) Set the gray patch image (adjustment pattern) printed in the step5) on the document table

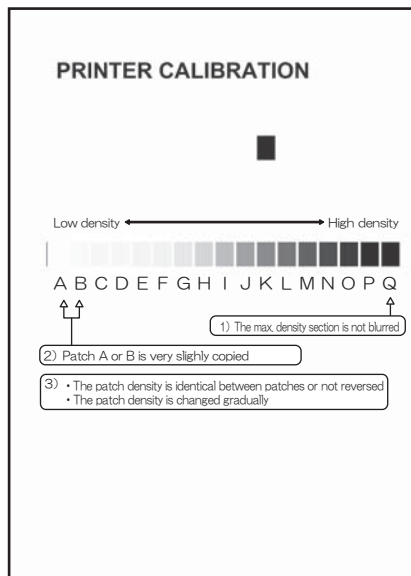
Place the gray patch image so that the fine lines are on the left side. At that time place 5 blank sheets on the printed gray patch image (adjustment pattern)



- 7) Tap [EXECUTE] key

Printer gray balance step1) is automatically performed and gray balance check patch image is printed

If there is any streaks or unclear print on the printed check pattern, check the print engine for any problems



- 8) The initial setting menu of the halftone image correction is displayed. Tap [OK] key
The initial setting of the halftone image correction is performed
- 9) Wait until [EXECUTE] key is displayed, when it is displayed tap [EXECUTE] key
The halftone image correction is performed
- 10) When "COMPLETED THIS PROCEDURE" is displayed the adjustment operation is completed
Cancel Sim 46-74

NOTE: The adjustment result becomes valid only when the both adjustments in the copy mode and in the printer mode are completed. For example if the copy gray balance adjustment (automatic adjustment) is performed and the simulation is cancel the adjustment result is invalid

- 11) Check the copy gray balance and density (refer to the item of the copy gray balance and density check)
When the gray balance and the density are unsatisfactory after the automatic adjustment by step4) execute the manual gray balance adjustment
- 12) Check the printer gray balance and density (refer to the item of the printer gray balance and density check)
If satisfactory result on the gray balance and the density is not obtained with the automatic adjustment, execute the manual adjustment

11-D Copy image quality adjustment (basic adjustment)

This adjustment must be performed in the following cases

- * When consumable part (developer, OPC drum) has been replaced
- * When CCD unit has been replaced
- * When scanner (reading) section has been disassembled
- * When scanner (reading) unit has been replaced
- * When SCN MFP PWB has been replaced
- * When EEPROM on the SCN MFP PWB has been replaced

11-D (1) Copy gray balance and density adjustment (automatic adjustment)

a.General

The gray balance adjustment (automatic adjustment) is used to adjust the copy density automatically. When this adjustment is executed the gray balance adjustment of all the copy modes are revised

There are following 2 modes in the auto gray balance adjustment

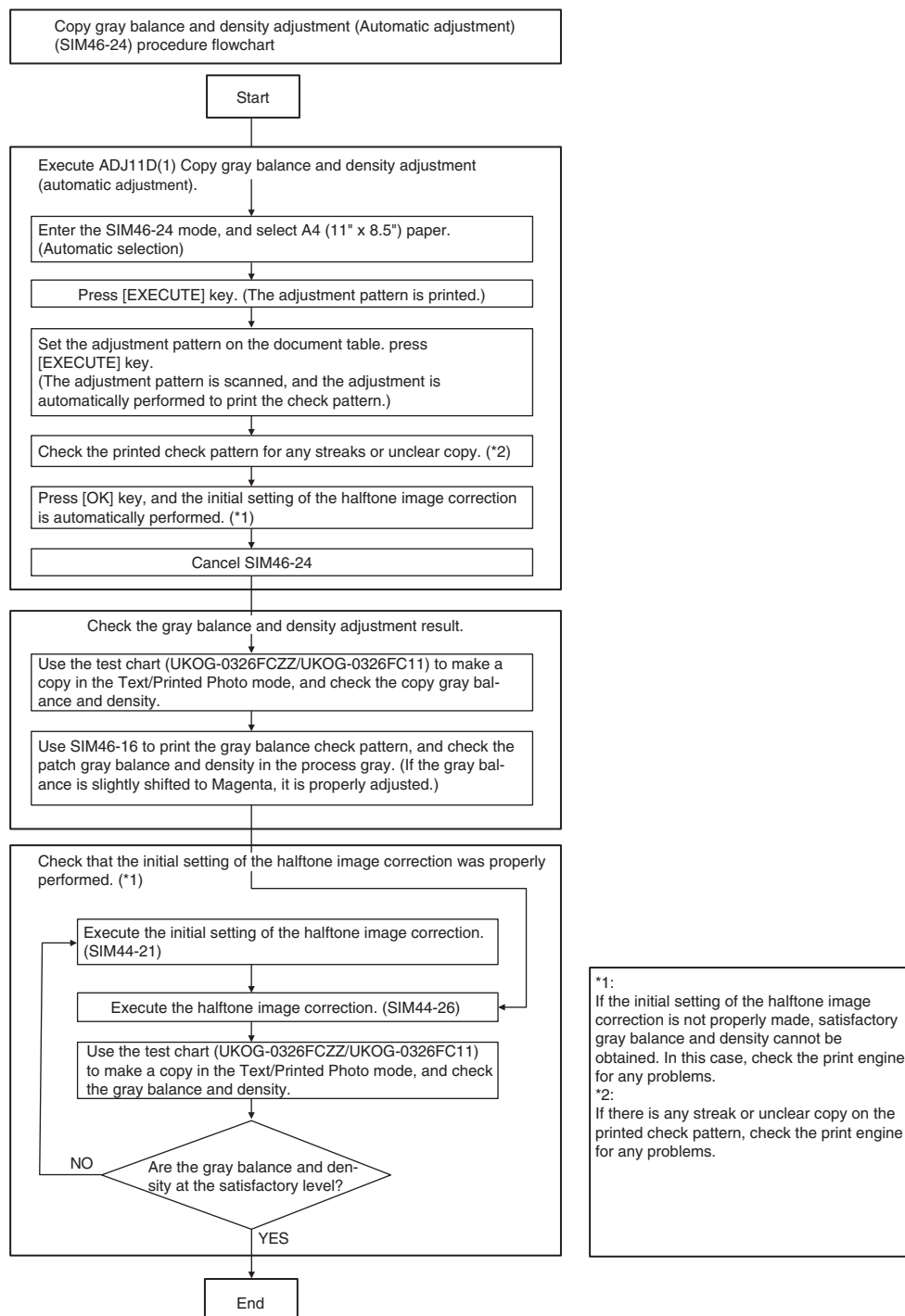
- 1 Auto gray balance adjustment by the technician (Sim 46-24)
- 2 Auto gray balance adjustment by the user (user program mode is used)

The auto gray balance adjustment by the user is provided to reduce the number of service call. If the copy gray balance is lost for some reason, the user can use this gray balance adjustment to recover the balance. When however the machine has a fatal problem or when the machine condition is greatly changed, this function does not work effectively. If the machine condition is dramatically changed, a fatal problem occurs or the normal gray targets cannot be obtained service must recalibrate the machine to specification.

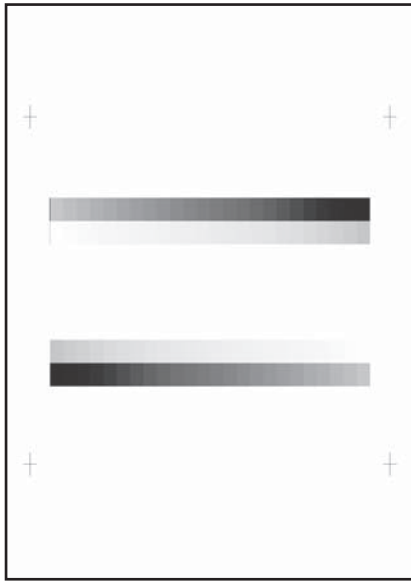
To perform the adjustment, the above difference must be fully understood

b.Adjustment step

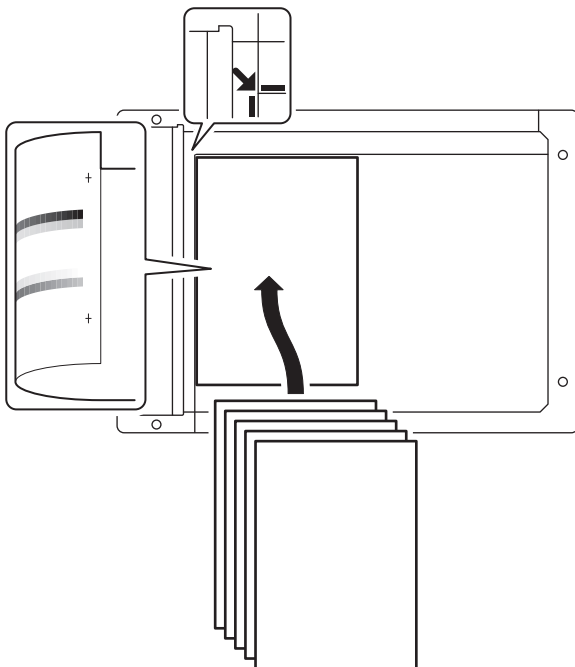
Auto gray balance adjustment by the technician



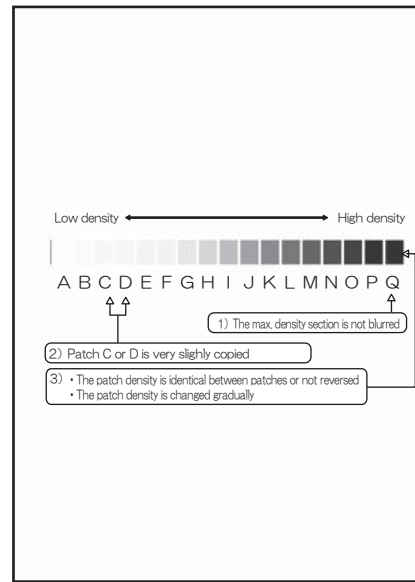
- 1) Enter Sim 46-24 mode
- 2) Tap [EXECUTE] key
Patch image (adjustment pattern) is printed



- 3) Set the patch image (adjustment pattern) printed in step2) on the document table
Place the printed patch image (adjustment pattern) on the document table so that the thin lines on the paper are on the left side. Place 5 blank sheets on the printed patch image (adjustment pattern)



- 4) Tap [EXECUTE] key
The copy gray balance adjustment is automatically executed to print the gray balance check patch image. Wait until the operation panel shown in step5) is displayed



- 5) Tap [OK] key
According to data of this adjustment the initial setting of the halftone image correction is performed
NOTE: After tapping [OK] key the initial setting of the halftone image correction is started, during the operation "NOW REGISTERING THE NEW TARGET OF HALFTONE PROCON" is displayed this operation takes several minutes. After completion of the operation, "Please quit this mode" is displayed. Do not cancel the simulation until "Please quit this mode" is displayed
- 6) Check the gray balance and density
(Refer to the item of the copy gray balance and density check)
- 7) Enter Sim 44-26 for halftone image correction forcibly
Enter Sim 44-26 mode and tap [EXECUTE] key. [EXECUTE] key is highlighted and the operation is started. It takes several minutes to complete the operation. After completion of the operation "COMPLETE" is displayed
Cancel the simulation after completion of the operation
- 8) Use the servicing test chart (UKOG-0326FCZZ/UKOG-0326FC11) in the Text/Photo mode (manual) to check the copy gray balance and density (Refer to the item of the copy gray balance and density check)
If the copy gray balance and density are not satisfactory perform the following steps
- 9) Execute the initial setting of the halftone image correction (Sim 44-21)
- 10) Execute the halftone image correction forcible (Sim 44-26)

- 11) Use the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) in the Text/Printed photo mode (manual) to check the copy gray balance density (Refer to the item of the copy gray balance and density check)

Though the above step9) to 11) are performed the copy gray balance and density are not in the specified range, there may be another case

Troubleshoot the cause, repair or perform necessary works and repeat the adjustment from the beginning

When the gray balance and the density are unsatisfactory after the automatic adjustment execute the manual adjustment (Sim 46-16) if the gray balance or density is not in the satisfactory level even after execution of the automatic and manual adjustments. There may be another cause. Troubleshoot the cause, repair or perform necessary works and repeat the adjustment from the beginning

11-D (2) Copy gray balance and density adjustment (manual adjustment)

This adjustment must be performed in the following case

- * When gamma in copy mode needs to be changed
- * When user has been requested

a.General

The gray balance adjustment (manual adjustment) is used to adjust the copy density. This is used at the following situation. When the result of auto adjustment described above is not existing within the range of reference when there is request from the user for changing (customizing) the gray balance

- 1) Enter Sim 46-16 mode
- 2) Select density level with scroll key

Item / Display		Density level	Setting range	Default value
A	POINT1	Point 1	1~999	500
B	POINT2	Point 2	1~999	500
C	POINT3	Point 3	1~999	500
D	POINT4	Point 4	1~999	500
E	POINT5	Point 5	1~999	500
F	POINT6	Point 6	1~999	500
G	POINT7	Point 7	1~999	500
H	POINT8	Point 8	1~999	500
I	POINT9	Point 9	1~999	500
J	POINT10	Point 10	1~999	500
K	POINT11	Point 11	1~999	500
L	POINT12	Point 12	1~999	500
M	POINT13	Point 13	1~999	500
N	POINT14	Point 14	1~999	500
O	POINT15	Point 15	1~999	500
P	POINT16	Point 16	1~999	500
Q	POINT17	Point 17	1~999	500

- 3) Enter the value with 10 key and tap [OK] key

When the value is increased the density is increased when the value is decreased the density is decreased

When the arrow key is tapped the densities are collectively adjusted. That is all the density levels (points) from the low density point to the high density point can be adjusted collectively

When tap [EXECUTE] key the adjustment pattern is printed. The density at each density level (point) can be checked by returning to this printed adjustment pattern. However it is more practical to make a copy and check it

- 4) Make a copy and check the adjustment result

Shift simulation mode and the normal copy mode alternately and adjust and check the adjustment result

Repeat shifting the simulation mode and normal copy mode and changing the adjustment value and checking the copy until satisfactory result is obtained

11-E Copy/image send/FAX image quality adjustment (individual adjustment)

a.General

This adjustment is used to execute the fine adjustment in each mode only when a satisfactory image quality is not obtained by the basic adjustment. There is a request from the user normally there is no need to execute this adjustment. In this adjustment, the adjustment result may be applied to the image send mode and the FAX mode as well as the copy mode. This must be well understood for execution of the adjustment

Simulation No. and adjustment description		Copy Mode		Image Send Mode				FAX	Printer
		Monochrome		Color		Monochrome			
		Auto	Manual	Auto	Manual	Auto	Manual		
46-02	Copy density adjustment (for each copy mode) (separately for the low density area and the high density area) (normally not required)	○	○	—	—	—	—	—	—
46-04	Color image send mode image density adjustment (for each mode) (normally not required)	—	—	○	○	—	—	—	—
46-05	Monochrome image send mode image density adjustment (for each mode) (normally not required)	—	—	—	—	○	○	—	—
46-08	Image send mode RGB gray balance adjustment (separately for the low density area and the high density area) (normally not required)	—	—	○	○	—	—	—	—
46-09	DSPF mode (Copy/Scan/FAX) density adjustment (normally not required)	○	○	○	○	○	○	○	—
46-10	Copy gray balance, gamma adjustment (for each copy mode) (normally not required)	○	○	—	—	—	—	—	—
46-16	Copy density, gamma adjustment (for each copy mode) (normally not required)	○	○	—	—	—	—	—	—
46-19	Automatic (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (normally not required)	○	—	—	—	○	—	○	—
46-23	Copy high density image density reproduction setting (normally not required)	○	○	—	—	—	—	—	—
46-24	Copy gray balance and density adjustment (automatic adjustment)	○	○	—	—	—	—	—	—
46-32	Document low density image density reproduction adjustment in the automatic mode (Copy/Scan/FAX) mode (No need to adjust normally) (background density adjustment in the scanning section) (normally not required)	○	—	—	—	○	—	○	—
46-37	Copy/Scan/FAX mode color document reproduction adjustment (normally not required)	○	○	—	—	○	○	○	○
46-39	FAX send image sharpness adjustment	—	—	—	—	—	—	○	—
46-40	FAX send image adjustment (collective adjustment of all the modes)	—	—	—	—	—	—	○	—
46-41	FAX send image density adjustment (normal text mode)	—	—	—	—	—	—	○	—
46-42	FAX send image density adjustment (fine text mode)	—	—	—	—	—	—	○	—
46-43	FAX send image density adjustment (super fine mode)	—	—	—	—	—	—	○	—
46-44	FAX send image density adjustment (ultra fine mode)	—	—	—	—	—	—	○	—
46-45	FAX send image density adjustment (600dpi mode)	—	—	—	—	—	—	○	—
46-46	FAX send image density adjustment (RGB RIP)	—	—	—	—	—	—	○	—
46-47	Copy image, image send image, FAX send image (JPEG) compression ratio setting (normally not required)	○	○	○	○	○	○	○	○
46-48	Resolution setting for each copy mode (normally not required)	○	○	—	—	—	—	—	—
46-51	Gamma manual adjustment for the copy mode heavy paper and the image process mode (dither) (normally not required)	○	○	—	—	—	—	—	—
46-52	Gamma default setting for the copy mode heavy paper and the image process mode (dither)	○	○	—	—	—	—	—	—
46-54	Copy gamma, gray balance adjustment for each dither (automatic adjustment) (normally not required)	○	○	—	—	—	—	—	—
46-55	Dropout color setting	—	—	—	—	—	○	—	—
46-58	Pseudo resolution up function setting	○	○	—	—	—	—	—	—
46-60	Copy/Scan mode sharpness adjustment (normally not required)	—	—	○	—	—	—	—	○
46-61	Area separation recognition level adjustment (normally not required)	○	○	○	○	○	○	○	—
46-62	ACS area separation, background image process, automatic exposure mode operation conditions setting (normally not required)	○	○	○	○	○	○	—	—
46-63	Copy/Scan low density image density adjustment (for each mode) (normally not required)	—	—	—	○	—	—	—	—
46-66	Watermark adjustment (normally not required)	○	○	—	—	—	—	—	○
46-68	Scan mode auto resolution judgement adjustment	—	—	○	—	○	—	—	—
46-74	Copy/Printer gray balance and density adjustment (automatic adjustment)	○	○	—	—	—	—	—	○
46-90	High compression PDF image process operation setting (normally not required)	—	—	○	○	—	—	—	—
46-91	Black text emphasis fine adjustment	—	—	○	○	—	—	—	—

11-E (1) Copy density adjustment (for each copy mode) (separately for low density area and high density area) (normally not required)

The density is adjusted in each copy mode individually

This adjustment must be performed in the following cases

- * When copy density of low density area and high density area in each copy mode needs to be changed
- * When copy density gradient in each copy mode individually needs to be changed
- * When all copy density in each copy mode individually needs to be changed
- * When user has been requested

- 1) Enter Sim 46-2 mode
- 2) Select the item with scroll key

Display/Item		Content		Setting range	Default
A	AUTO1	Auto 1	LOW	1~99	50
			HIGH	1~99	50
B	AUTO2	Auto 2	LOW	1~99	50
			HIGH	1~99	50
C	AUTO3	Auto 3	LOW	1~99	50
			HIGH	1~99	50
D	TEXT	Text	LOW	1~99	50
			HIGH	1~99	50
E	TEXT/PRINTED PHOTO	Text/Printed Photo	LOW	1~99	50
			HIGH	1~99	50
F	TEXT/PHOTO	Text/photograph	LOW	1~99	50
			HIGH	1~99	50
G	PRINTED PHOTO	Printed Photo	LOW	1~99	50
			HIGH	1~99	50
H	PHOTOGRAPH	Photograph	LOW	1~99	50
			HIGH	1~99	50
I	MAP	Map	LOW	1~99	50
			HIGH	1~99	50
J	AUTO1 (COPY TO COPY)	Auto1 (Copy document)	LOW	1~99	50
			HIGH	1~99	50
K	AUTO2 (COPY TO COPY)	Auto2 (copy to copy)	LOW	1~99	50
			HIGH	1~99	50
L	AUTO3 (COPY TO COPY)	Auto3 (Copy document)	LOW	1~99	50
			HIGH	1~99	50
M	TEXT (COPY TO COPY)	Text (Copy document)	LOW	1~99	50
			HIGH	1~99	50
N	TEXT/PRINTED PHOTO (COPY TO COPY)	Text/Printed Photo (Copy document)	LOW	1~99	50
			HIGH	1~99	50
O	PRINTED PHOTO (COPY TO COPY)	Printed Photo (Copy document)	LOW	1~99	50
			HIGH	1~99	50
P	LIGHT	Light document	LOW	1~99	50
			HIGH	1~99	50

- 3) Enter the value with 10 key and tap [OK] key
When adjusting the copy density on the low density area, select "LOW" mode and change the value. When adjusting the copy density on the high density area, select "HIGH" mode and change the value
When the value is increased the copy density is increased. When the value is decreased the copy density is decreased
- 4) Make a copy and check the adjustment result
Shift the simulation mode and the normal copy mode alternately and adjust and check the adjustment result.
Repeat shifting the simulation mode and the normal copy mode and changing the adjustment value and checking the copy until satisfactory result is obtained

11-E (2) Copy gray balance, gamma adjustment (for each copy mode) (normally not required)

This adjustment is used to execute the gray balance adjustment for each density level

This adjustment must be performed in the following cases

- * When gray balance, gamma in each copy mode needs to be changed

- * When user has been requested

- 1) Enter Sim 46-10 mode
- 2) Select the copy mode
- 3) Select density level (point) with scroll key

Item / Display		Density level	Setting range	Default value
A	POINT1	Point 1	1~999	500
B	POINT2	Point 2	1~999	500
C	POINT3	Point 3	1~999	500
D	POINT4	Point 4	1~999	500
E	POINT5	Point 5	1~999	500
F	POINT6	Point 6	1~999	500
G	POINT7	Point 7	1~999	500
H	POINT8	Point 8	1~999	500
I	POINT9	Point 9	1~999	500
J	POINT10	Point 10	1~999	500
K	POINT11	Point 11	1~999	500
L	POINT12	Point 12	1~999	500
M	POINT13	Point 13	1~999	500
N	POINT14	Point 14	1~999	500
O	POINT15	Point 15	1~999	500
P	POINT16	Point 16	1~999	500
Q	POINT17	Point 17	1~999	500

- 4) Enter the value with 10 key and tap [OK] key
When the value is increased the density is increased. When the value is decreased the density is decreased
When the arrow key is tapped the densities are collectively adjusted. That is all the density levels from the low density point to the high density point can be adjusted collectively
When [EXECUTE] key is tapped the adjustment pattern is printed. This adjustment pattern can be used to check and the gray balance and density for each density level
- 5) Make a copy and check the adjustment result
Shift the simulation mode and the normal copy mode alternately and adjust and check the adjustment result.
Repeat shifting the simulation mode and the normal copy mode and changing the adjustment value and checking the copy until satisfactory result is obtained

11-E (3) Automatic (copy/scan/FAX) mode document density scanning operation (exposure operation) condition setting (normally not required)

This adjustment is used to execute the condition of read operation (exposure) for document density in auto copy mode

When a copy with correct density is not obtained by type of document change the setting

- * When proper density copy in auto copy mode has not been observed
- * When document with images near its lead edge has been copied
- * When document with colored background has been observed

- 1) Enter Sim 46-19 mode
- 2) Select item and value

Item	Content	Set value	Default
AE MODE	Auto exposure mode	MODE1	MODE2
		MODE2	
		MODE3	
AE STOP COPY	Auto exposure stop (for copy)	REALTIME	PRESCAN
		STOP	
		PRESCAN	
AE STOP FAX	Auto exposure stop (for FAX)	ON	ON
		OFF	
AE STOP SCAN	Auto exposure stop (for scan)	REALTIME	STOP
		STOP	
		PRESCAN	
AE FILTER	Auto exposure filter setting	SOFT	NORMAL
		NORMAL	
		SHARP	
AE WIDTH	AE exposure width	FULL	FULL
		PART	

Note

MODE1: High gamma (improves the image contrast)

MODE2: Normal gamma

MODE3: Normal gamma (improves back image)

STOP: Reads the density of 3 - 7mm area from leading edge of document, decides the output image density according to the density of that area (output image density is constant at whole area)

REALTIME: Reads the density of width of the document one by one, decides the output image density according to the density of each area of the document (output image density may be not constant at whole area)

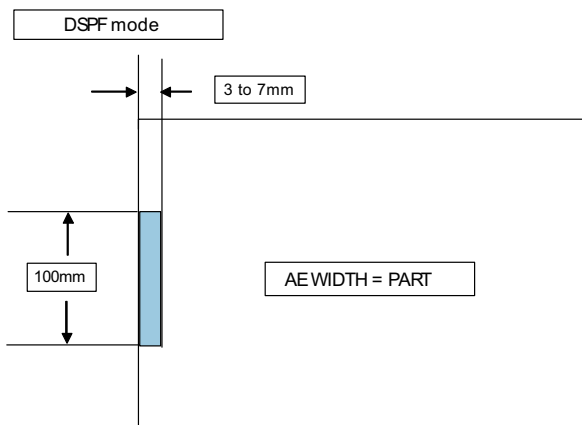
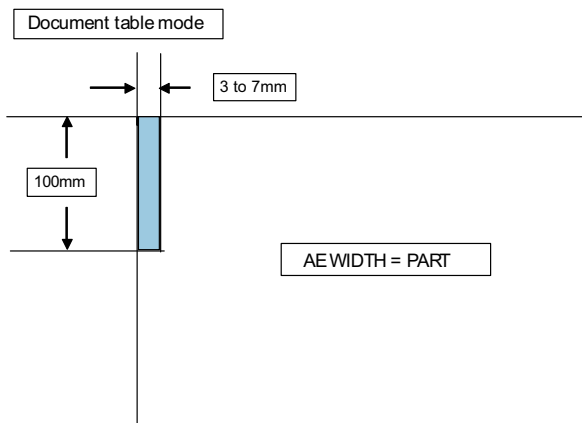
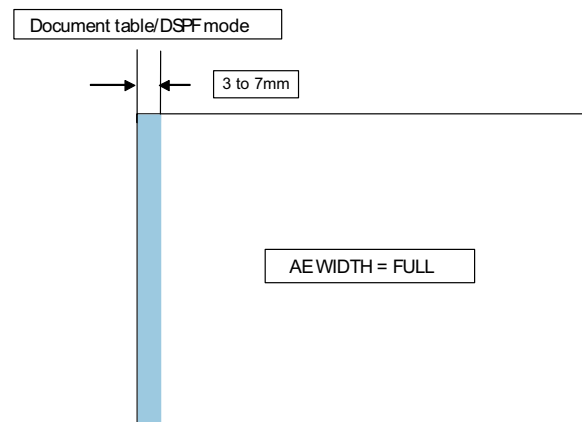
PRESCAN: Once the densities on the document surface are scanned, the output image density is determined according to the average of the scanned densities (output image density is even for all the surface)

AE WIDTH FULL: Document density reading area in auto mode is 3 - 7mm (leading edge of document x document width. No relationship to PRESCAN mode)

AE WIDTH PART: Document density reading area in auto mode is 3 - 7mm (leading edge of document) x 100mm width. No relationship to PRESCAN mode

Operation in monochrome auto copy mode

When the density of the document of the read area is light, output image density is increased by control. When the density of the document of the read area is dark, output image density is decreased by control



Document density detection area

11-E (4) Automatic (copy/scan/FAX) mode document low density image density reproduction adjustment (background density adjustment) (normally not required)

Use for the reproducibility adjustment of document background density in monochrome auto copy mode.

This adjustment is required in the following cases.

- * When there is a desire not to reproduce the background of the document. When there is a desire to reproduce the low density image of the document.
 - * When there is request from the user.
- 1) Enter the SIM 46-32 mode.
 - 2) Select the adjustment mode with the scroll key.

DSPF

Item / Display	Content	Setting value	Default
A COPY: OC	Copy mode (for OC)	1~250	196
B COPY: DSPF (SIDE1)	Copy mode (for DSPF front surface)	1~250	196
C COPY: DSPF (SIDE2)	Copy mode (for DSPF back surface)	1~250	196
D SCAN: OC	Scanner mode (for OC)	1~250	196
E SCAN: DSPF (SIDE1)	Scanner mode (for DSPF front surface)	1~250	196
F SCAN: DSPF (SIDE2)	Scanner mode (for DSPF back surface)	1~250	196
G FAX: OC	FAX mode (for OC)	1~250	196
H FAX: DSPF (SIDE1)	FAX mode (for DSPF front surface)	1~250	196
I FAX: DSPF (SIDE2)	FAX mode (for DSPF back surface)	1~250	196

RSPF

Item / Display	Content	Setting range	Default
A COPY: OC	Copy mode (OC)	1~250	196
B COPY: RSPF	Copy mode (RSPF)	1~250	196
C SCAN: OC	Scanner mode (OC)	1~250	196
D SCAN: RSPF	Scanner mode (RSPF)	1~250	196
E FAX: OC	FAX mode (OC)	1~250	196
F FAX: RSPF	FAX mode (RSPF)	1~250	196

- 3) Enter the adjustment value with 10-key and press [OK] key.
When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

11-E (5) Copy/scan low density image density adjustment (for each mode) (normally not required)

This adjustment is used to adjust the image density in the low density area in the copy/scanner mode.

This adjustment is required in the following cases.

- * When there is a desire not to reproduce the background of the document. When there is a desire to reproduce the low density image of the document.
 - * When there is request from the user.
- 1) Enter the SIM 46-63 mode.
 - 2) Select the copy mode to be adjusted with the scroll key.

Item / Display	Content	Setting range	Default
A COLOR PUSH: TEXT/PRINTED PHOTO	Text print (color PUSH)	1~9	5
B COLOR PUSH: TEXT	Text (color PUSH)	1~9	5
C COLOR PUSH: PRINTED PHOTO	Printed photo (color PUSH)	1~9	5
D COLOR PUSH: PHOTOGRAPH	Photograph (color PUSH)	1~9	5
E COLOR PUSH: TEXT/PHOTO	Text/Photograph (color PUSH)	1~9	5
F COLOR PUSH: MAP	Map (color PUSH)	1~9	5

- 3) Enter the adjustment value with 10-key and press [OK] key.
When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

11-E (6) Copy/scan/FAX mode color document reproduction adjustment (normally not required)

Use to adjust the reproducibility for the red image and the yellow image when printing color document that included the red/yellow image in monochrome copy mode.

This adjustment is required in the following cases.

- * When there is desire to change reproducibility of yellow/red image in case of making a color copy of the color document in monochrome copy mode.
 - * When there is request from the user.
- 1) Enter the SIM 46-37 mode.
 - 2) Select the mode to be adjusted with the scroll key.

Item/Display	Content	Setting range	Default value
A R-Ratio Default	Gray making setting (R)	0~1000	135
B G-Ratio Default	Gray making setting (G)	0~1000	805
C R-Ratio Fluorescence	Gray making setting (R) Fluorescent pen	0~1000	243
D G-Ratio Fluorescence	Gray making setting (G) Fluorescent pen	0~1000	354
E R-Ratio RIP	Print gray making setting (R)	0~1000	299
F G-Ratio RIP	Print gray making setting (G)	0~1000	587

B-Ratio Default	Gray making setting (B) 1000 - R-Ratio - G-Ratio
B-Ratio Fluorescence	Gray making setting (B) 1000 - R-Ratio Fluorescence - G-Ratio Fluorescence
B-Ratio RIP	Print gray making setting (B) 1000 - R-Ratio - G-Ratio RIP

- 3) Enter the adjustment value with 10-key.
When the adjustment value of adjustment item A is increased, copy density of red image is decreased. When the adjustment value is decreased, copy density of red image is increased.
When the adjustment value of adjustment item B is increased, copy density of yellow image is decreased. When the adjustment value is decreased, copy density of yellow image is increased.
- 4) Press [OK] key.
- 5) Make a copy in monochrome text/printed photo copy mode (manual), check the copy.
If a satisfactory result is not obtained, return to the SIM 46-37 mode and change the adjustment value.
Repeat the above procedures until a satisfactory result is obtained.

11-E (7) Copy, color scan mode sharpness adjustment (normally not required)

Use for sharpness adjustment of the high density image in monochrome copy/color scan mode.

This adjustment changes smoothness (asperity) in the image shade part.

This adjustment is required in the following cases.

- * When changing the sharpness of copy image in copy mode. (obtain crispy image) (decreases moire)
- * When there is desire to improving smoothness in the image shade part (for decrease of asperity)
- * To make the black background and the dark area darker.
- * To reproduce the gradation change in the dark area.
- * When there is request from the user.

- 1) Enter the SIM 46-60 mode.
- 2) Select the mode to be adjusted with the scroll key.

Item/Display	Content	Setting range	Default value
A	CPY AUTO FILTER LEVEL	Sharpness: The sharpness is specified when the document mode is judged as A5 or A6 by the copy auto mode.	
		SOFT	1
		CENTER	2
		HIGH	3
B	CPY PUSH AUTO FILTER LEVEL	Sharpness: The sharpness is specified when the document mode is judged as A5 or A6 by the auto mode of PUSH.	
		SOFT	1
		CENTER	2
		HIGH	3
C	B/W COPY	Filter mixture, Register select pattern, Monochrome copy	
		OFF	0
		ON	1
D	COLOR PUSH RGB	Filter mixture, Register select pattern, Color push	
		OFF	0
		ON	1
E	B/W PUSH	Filter mixture, Register select pattern, Monochrome push	
		OFF	0
		ON	1
F	B/W PRINT	Filter mixture, Register select pattern, Monochrome print	
		OFF	0
		ON	1

- 3) Input numeric value corresponding to sharpness level (filter process mode).
- Adjustment item A:
When selecting AUTO, filter is selected according to dot pattern state automatically and adjusts sharpness.
Input small numeric value to obtain crispy image. Input large numeric value to decrease moire.
 - Adjustment item B:
Select HIGH to obtain clear images. Select SOFT to reduce moire.

- Adjustment item C - J:
When setting ON, smoothness in the image shade part improves by applying soft filter. (asperity decreases)

- 4) Press [OK] key.
- 5) Make a copy and check the copy image.

If a satisfactory result is not obtained, return to the SIM 46-60 mode and change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

11-E (8) Copy high density image density reproduction setting (normally not required)

If a tone gap occurs on part of high density in copy mode, or if there is necessity to increase the density of the part of high density, change the setting.

This setting is normally not required. When, however, there are case of following, change the setting.

- * When a tone gap occurs on part of high density.
- * When there is a necessity to increase the density of the part of high density.
- * When there is request from the user.

a. Adjustment procedure

- 1) Enter the SIM 46-23 mode.
- 2) Select the item with scroll key.

Item/Display	Content	Setting range	Default value
A	K	Engine highest density correction mode: Enable	0
		Engine highest density correction mode: Disable	1
B	BLACK MAX TARGET	Scanner target value for BLACK max. density correction	0~999
C	RATIO LOW	Mix ration of high density correction	0~100
D	RATIO HIGH	Mix ration of high density correction	0~100
E	DITHER THRESHOLD	Dither threshold	0~255
F	SLOPE THRESHOLD	Slope threshold	100~500

- * If a tone gap occurs on part of high density, set 0 to item A.
The density of high density part decreases. However, the tone gap is better.

- * In case of more increase of the density on high density part, set 1 to item A.

The tone gap may occur in high density part.

NOTE: If the setting values of item B is changed, density of the high density part is changed.

When these values are changed, be sure to perform the copy gray balance and density adjustment. (Automatic adjustment)

11-E (9) DSPF/RSPF mode (copy/scan/FAX) density adjustment (normally not required)

This setting is normally not required, however, in the following cases, make changes to the setting:

- When copy in DSPF/RSPF mode differs from copy in document table mode.
- When copy density in DSPF/RSPF mode is low or too high.
- When the DSPF/RSPF unit is replaced.
- When the DSPF/RSPF unit is disassembled.
- The CCD unit has been replaced.
- U2 trouble has occurred.
- When the SCN-MFP control PWB is replaced.
- When the EEPROM on the SCN-MFP control PWB is replaced.

- 1) Enter the SIM 46-9 mode.
- 2) Select the mode to be adjusted with the scroll key.
When adjusting density on low density part, select "A".
When adjusting density on high density part, select "D".

DSPF

Item/Display			Content	Setting range	Default
A	OC	COPY SIDEA: LOW	Copy mode exposure adjustment (Low density side)	1~99	47
B		SCAN SIDEA: LOW	Scanner mode exposure adjustment (Low density side)	1~99	47
C		FAX SIDEA: LOW	FAX mode exposure adjustment (Low density side)	1~99	47
D		COPY SIDEA: HIGH	Copy mode exposure adjustment (High density side)	1~99	52
E		SCAN SIDEA: HIGH	Scanner mode exposure adjustment (Low density side)	1~99	52
F		FAX SIDEA: HIGH	FAX mode exposure adjustment (High density side)	1~99	52
A	DSPF	COPY SIDEB: LOW	Copy mode exposure adjustment (Low density side)	1~99	47
B		SCAN SIDEB: LOW	Scanner mode exposure adjustment (Low density side)	1~99	47
C		FAX SIDEB: LOW	FAX mode exposure adjustment (Low density side)	1~99	47
D		COPY SIDEB: HIGH	Copy mode exposure adjustment (High density side)	1~99	50
E		SCAN SIDEB: HIGH	Scanner mode exposure adjustment (Low density side)	1~99	50
F		FAX SIDEB: HIGH	FAX mode exposure adjustment (High density side)	1~99	50
G		BALANCE SIDEB: R	Color balance R	1~99	50
H		BALANCE SIDEB: G	Color balance G	1~99	50
I		BALANCE SIDEB: B	Color balance B	1~99	50

RSPF

Item/Display		Content	Setting range	Default
A	COPY: LOW	Copy mode exposure adjustment (Low density side)	1~99	48
B	SCAN: LOW	Scanner mode exposure adjustment (Low density side)	1~99	48
C	FAX: LOW	FAX mode exposure adjustment (Low density side)	1~99	48
D	COPY: HIGH	Copy mode exposure adjustment (High density side)	1~99	53
E	SCAN: HIGH	Scanner mode exposure adjustment (Low density side)	1~99	53
F	FAX: HIGH	FAX mode exposure adjustment (High density side)	1~99	53

- 3) Enter the adjustment value with 10-key.
In case of increase of image density, input large numeric value. Or in case of diluting the image density, input small numeric value.
- 4) Press [OK] key.
- 5) Make a copy in the DSPF/RSPF mode and check the copy.
If a satisfactory result is not obtained, return to the SIM 46-9 mode and change the adjustment value.
Repeat the above procedures until a satisfactory result is obtained.

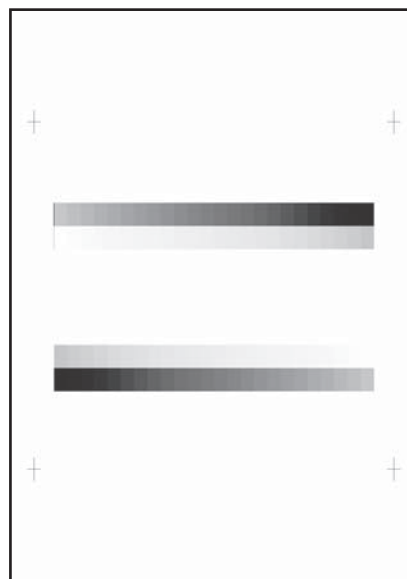
11-E (10) Copy gamma, gray balance adjustment for each dither (automatic adjustment)

a. General

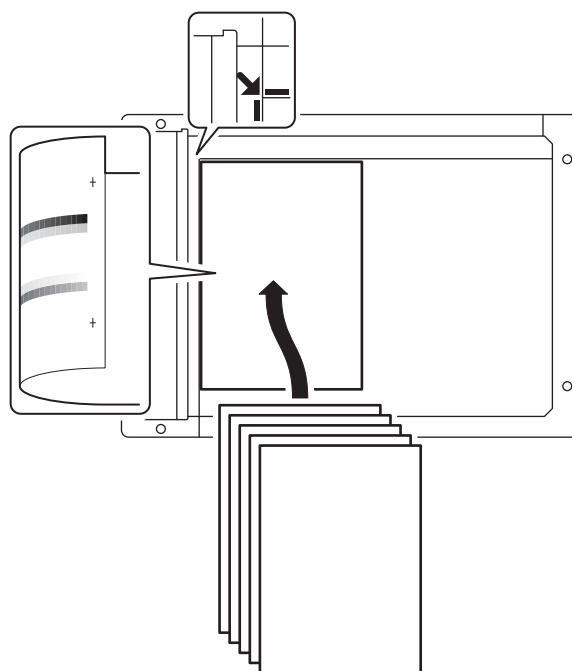
This simulation is used to improve the image quality in a certain mode. (Refer to the list in procedure 6.)

b. Adjustment procedures

- 1) Enter the SIM46-54 mode.
- 2) Press [EXECUTE] key.
A4/11" x 8.5" or A3/11" x 17" paper is automatically selected. The gray patch image (adjustment pattern) is printed.



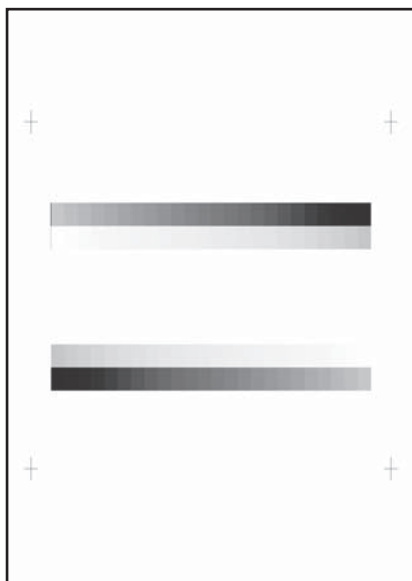
- 3) Set the patch image (adjustment pattern) printed in the procedure 2) on the document table so that the thin lines on the printed patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed patch image (adjustment pattern).



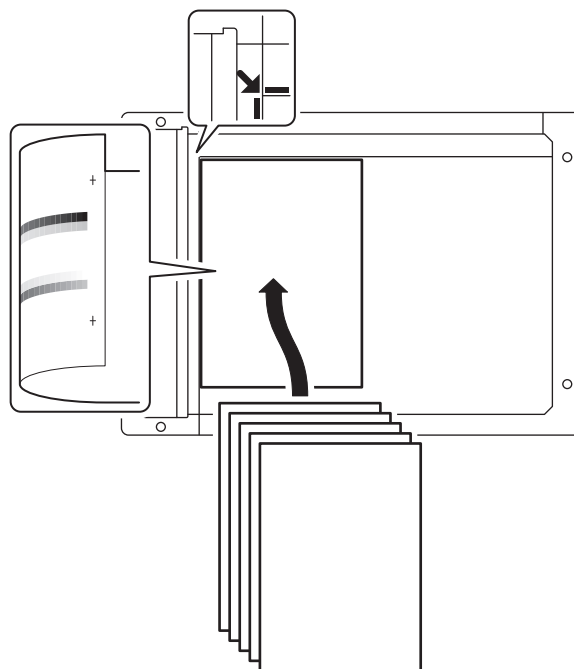
- 4) Press [EXECUTE] key.
The gray balance and the density are automatically adjusted.
The adjustment pattern is printed out. Check it for any abnormality.
- 5) Press [OK] key.
The list of the adjustment items (for each dither) is displayed.
- 6) Select an adjustment item (for each dither).

Select item (Mode/Image)	Content
HEAVY PAPER	Adjustment item to improve the gray balance in the heavy paper mode
B/W ED	Adjustment item to improve the density and gradation in the auto mode, text mode, map mode and the light density document mode.
B/W 1200	Adjustment item to improve the density and gradation in the printed photo mode and the photography mode.
B/W 600 LOW	Adjustment item to improve the density and gradation in the auto mode (printed photo mode, photography mode).
WOVEN1	Adjustment item when adjusting the watermark density in the watermark mode 1
WOVEN2	Adjustment item when adjusting the watermark density in the watermark mode 2
WOVEN3	Adjustment item when adjusting the watermark density in the watermark mode 3
WOVEN4	Adjustment item when adjusting the watermark density in the watermark mode 4

- 7) Press [EXECUTE] key.
A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.
The patch image (adjustment pattern) is printed out.



- 8) Set the patch image (adjustment pattern) printed in the procedure 7) on the document table so that the thin lines on the printed patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed patch image (adjustment pattern).



- 9) Press [EXECUTE] key.
The gray balance and the density are automatically adjusted, and the machine goes to the state of procedure 6).
To complete the adjustment and enable the adjustment result, press [OK] key.
- 10) Make a copy, and check the copy image quality.
(Refer to the item of the printer gray balance and density check.)

NOTE: Use SIM46-52 to reset the adjustment values to the default values.

11-E (11) Dropout color adjustment (scan mode) (normally not required)

a. General

This adjustment is used to adjust the range of reproduction of color document images as monochrome images in the image send mode (monochrome manual text mode).

In other words, it is used to adjust the level of chroma of color images which are reproduced as monochrome images.

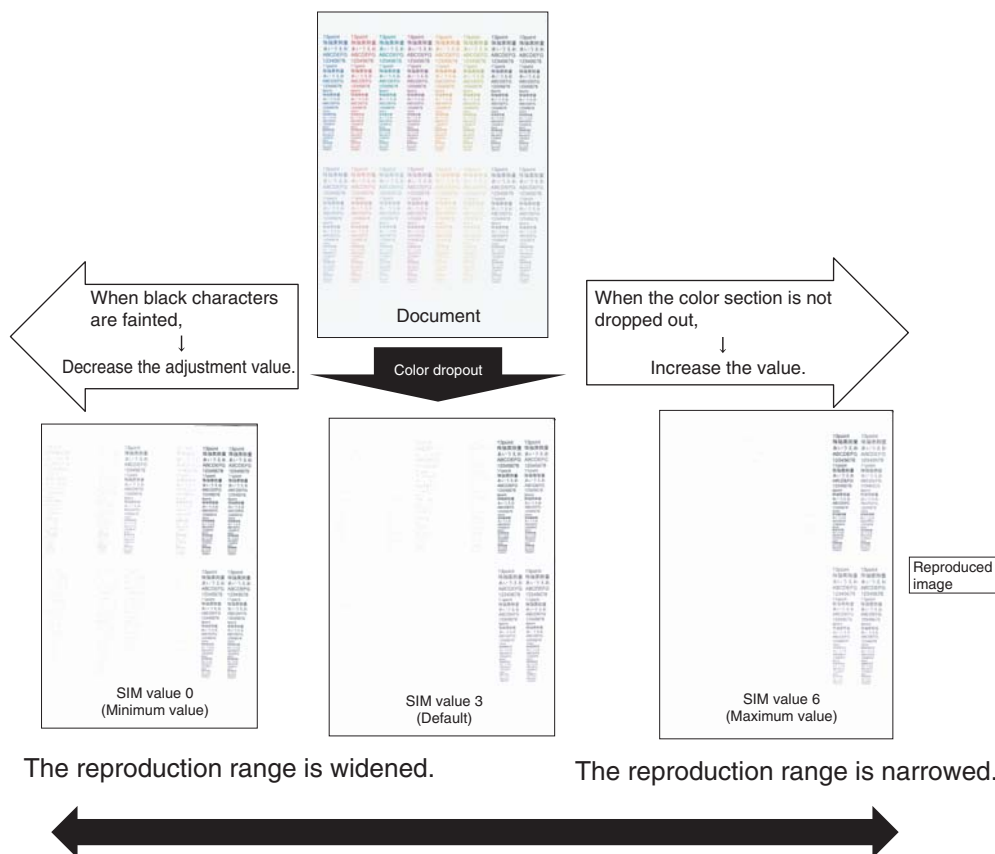
This adjustment must be performed in the following cases:

* When there is request from the user.

b. Adjustment procedures

- 1) Enter the SIM 46-55 mode.
- 2) Enter the adjustment value with 10-key and press [OK] key.
When the adjustment value is increased, colors dropout becomes easy to narrow the reproduction range. When the adjustment value is decreased, color dropout becomes difficult to widen the reproduction range.
- 3) Scan the document in the image send mode (monochrome manual text mode) and check the adjustment result.

Item/Display	Content	Setting range	Default value
A	CHROMA	Dropout color chroma adjustment	0~6 3



Effect and adverse effect when decreasing the value

[Effect]

When black characters are faded by color shift, etc, the black area is outputted clearly.

[Adverse effect]

Dropout of color sections becomes difficult.

Effect and adverse effect when increasing the value

[Effect]

Colors (of low chroma) which are difficult to be dropped out can be dropped out.

[Adverse effect]

Black characters are faded or cracked.

11-E (12) Watermark adjustment (normally not required)

a. General

This adjustment is used to adjust the reproduction capability of the watermark in the copy/print mode.

This adjustment is used for watermark documents (primary output). The result of this adjustment affects the result of watermark print (secondary output).

In the printer mode, the watermark density can be adjusted by the printer driver. That adjustment is based on the result of this adjustment.

This adjustment must be performed in the following cases:

- * When there is request from the user. (When a satisfactory result is not obtained from the adjustment in the system setting mode.)
- * When there is request from the user. (When a satisfactory result is not obtained from the adjustment with the printer driver.)

b. Adjustment procedures

- 1) Enter the SIM 46-66 mode.
- 2) Select the PATTERN mode, then select an adjustment item in the following list according to the situation.

NOTE: Normally there is no need to adjust the PATTERN mode (items E and F), the COPY MODE, and the POSITION mode.

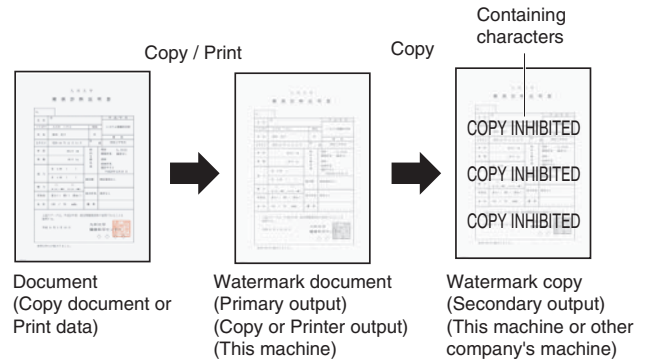
Item/Display	Content	Setting range	Default value
A	WOVEN DEN BK LOW	Watermark density level (LOW)	0~255 15
B	WOVEN DEN BK MIDDLE	Watermark density level (MIDDLE)	0~255 19
C	WOVEN DEN BK HIGH	Watermark density level (HIGH)	0~255 23
D	CONTRAST	Contrast adjustment	0~255 2
E	HT TYPE (POS)	For halftone index watermark type positive	42~43 42
F	HT TYPE (NEGA)	For halftone index watermark type negative	42~43 42

Changing adjustment values of adjustment items A - C and trade off

Kinds of watermarks (Mode selected in the watermark copy mode)	Density value	Adjustment values of adjustment items A~C	Effect
Characters appearing.	Decrease.	The adjustment value is decreased.	The watermark images become easy to disappear. The containing characters become lighter.
	Increase.	The adjustment value is increased.	The containing characters become darker. The watermark images become difficult to disappear.
Background appearing.	Decrease.	The adjustment value is decreased.	The containing characters become easy to disappear. The watermark images become easy to disappear.
	Increase.	The adjustment value is increased.	The watermark images become darker. The containing characters become difficult to disappear.

- 3) Enter the adjustment value with 10-key and press [OK] key.
- 4) Make a copy, and check the adjustment result.

Descriptions on the watermark



Watermark color	Watermark color is black.
Containing characters	Characters embedded in a watermark, such as "COPY INHIBITED," are called containing characters.
Kinds of watermarks	There are two kinds: "Character appearing" and "Background appearing." When a watermark of "Character appearing" is copied, the background disappears and the containing characters appear. When a watermark of "Background appearing" is copied, the watermark of the character area disappears and the containing characters become outline characters.
Principle of watermarks	A watermark is composed of two dots: fine dots and rough dots. Since fine dots disappear when copied, they are called disappearing patterns. Since rough dots remain when copied, they are called remaining patterns. In a watermark of "Character appearing," the background is a disappearing pattern and the containing characters are remaining patterns. In a watermark of "Background appearing," the background is a remaining pattern and the containing characters are disappearing patterns.
NOTE: Note for watermarks	Watermarks have the following characteristics: * A watermark is presumed to be synthesized with text documents. If it is used with photos or images, the containing characters may be seen in the watermark document (primary output) or the containing characters may not appear properly in the watermark copy (secondary output). * When a watermark is synthesized with newspapers or other dark-background documents, the containing characters may not appear in the watermark copy (secondary output). * Containing characters may not appear in the watermark copy (secondary output) depending on the kind of the copier which makes the watermark copy (secondary output) and the copy mode. * Containing characters may not appear clearly in the watermark copy (secondary output) depending on the copy mode in which the watermark document (primary output) is made. * When the print engine status changes, the containing characters may not be concealed properly in the watermark document (primary output). In this case, follow the procedures below to conceal the containing characters. * Use SIM46-24 to execute the gray balance adjustment. * Use SIM46-54 to execute the gray balance adjustment for each dither. * Adjust the watermark print contrast in the system setting. * The preview screen of the watermark only indicates the setting of the watermark color, and does not indicate an actual copy image. * When the document control (printer mode) is used together, it is advisable to use "Characters appearing" setting. If "Background appearing" setting is used together, the detection accuracy of document control may be reduced. * In the printer mode watermark, setting of 1200dpi and a watermark cannot be used together.

Watermark adjustment in the system setting

System setting → Security setting → Watermark print →
Contrast tab

Watermark kind mode selection	Density	Adjustment
Character appearing	To increase the text density	Decrease the contrast value. (Default: 5)
	To decrease the text density	Increase the contrast value. (Default value: 5)
Background appearing	To increase the text density	Increase the contrast value. (Default value: 5)
	To decrease the text density	Decrease the contrast value. (Default: 5)

NOTE:

Note for adjusting the watermark with SIM46-54

When the gray balance automatic adjustment is executed with SIM46-74 or SIM46-24 but the containing characters are reproduced, use SIM46-54 to execute the gray balance automatic adjustment for each dither.

However, note the following items.

- * When either of item E or F of the PATTERN mode is 42, the adjustment must be executed for the both modes of WOVEN1 and WOVEN2 of SIM46-54.
- * When either of item E or F of the PATTERN mode is 43, the adjustment must be executed for the both modes of WOVEN3 and WOVEN4 of SIM46-54.
- * WOVEN1 and WOVEN2 must be adjusted in a pair as well as WOVEN3 and WOVEN4.

If it is ignored, the containing characters remain reproduced.

11-F Printer image quality adjustment (basic adjustment)

a. General

This adjustment is used to execute the fine adjustment in each mode only when a satisfactory image quality is not obtained by the basic adjustments ADJ 11E (1) and ADJ 11E (2) or there is a request from the user. Normally there is no need to execute this adjustment.

This must be well understood for execution of the adjustment.

11-F (1) Printer gray balance adjustment (automatic adjustment)

a. General

The gray balance adjustment (auto adjustment) is used to adjust the print density of automatically with SIM 67-24 or the user program.

When this adjustment is executed, the gray balance adjustments of all the print modes are revised.

There are following two modes in the auto gray balance adjustment.

- 1) Auto gray balance adjustment by the serviceman (SIM 67-24 is used.)
- 2) Auto gray balance adjustment by the user (The user program mode is used.) (The gray balance target is the service target.)

The auto gray balance adjustment by the user is provided to reduce the number of service calls.

If the print gray balance is lost for some reasons, the user can use this gray balance adjustment to recover the balance.

When, however, the machine has a fatal problem or when the machine condition is greatly changed, this function does not work effectively.

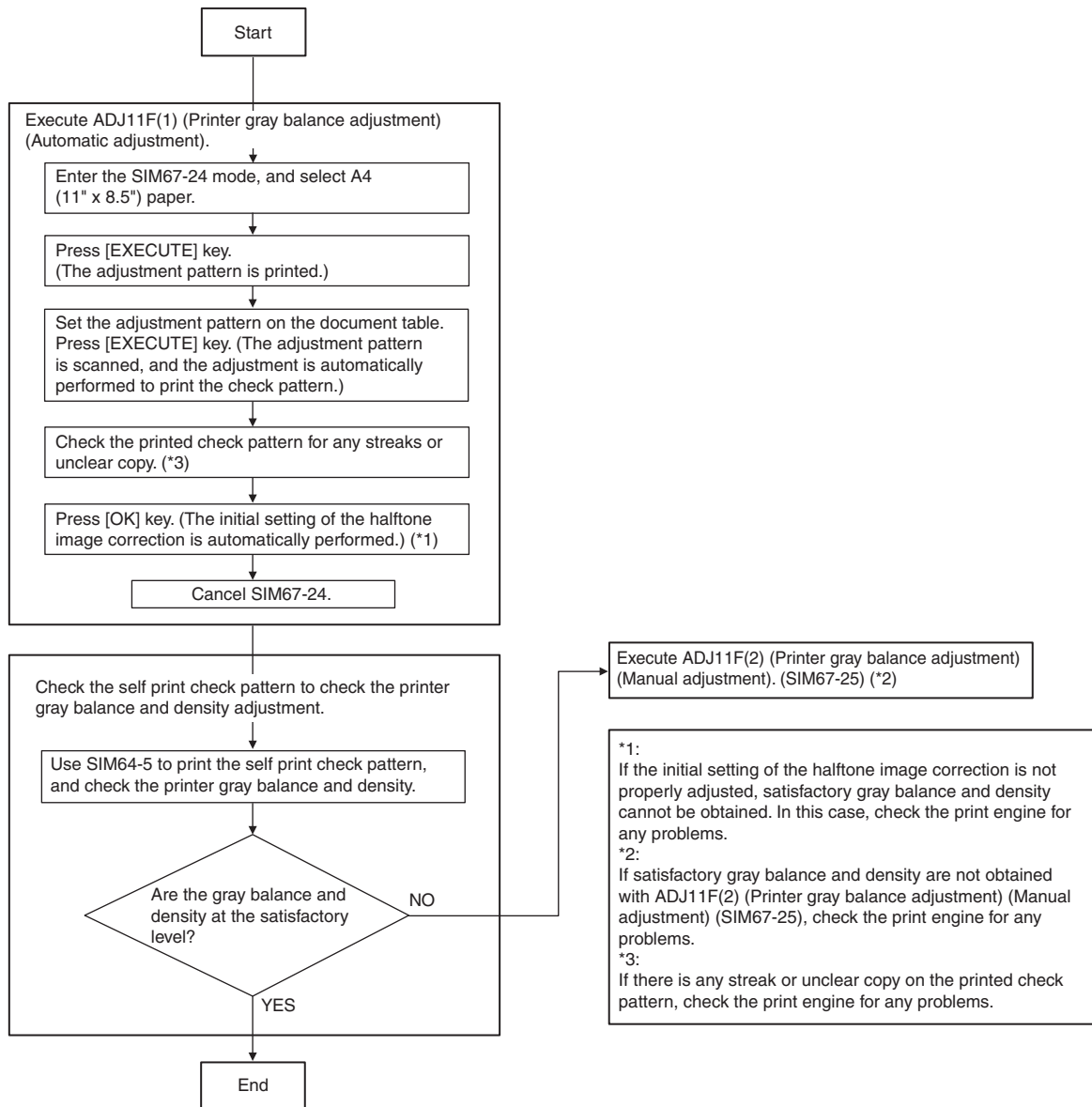
On the other hand, the auto gray balance adjustment by the serviceman functions to recover the normal gray balance though the machine condition is greatly changed. If the machine has a fatal problem, repair and adjust it for obtaining the normal gray balance.

To perform the adjustment, the above difference must be fully understood.

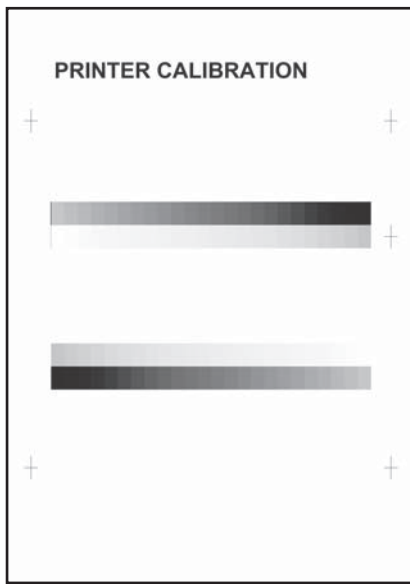
b. Adjustment procedure

(Auto gray balance adjustment by the serviceman)

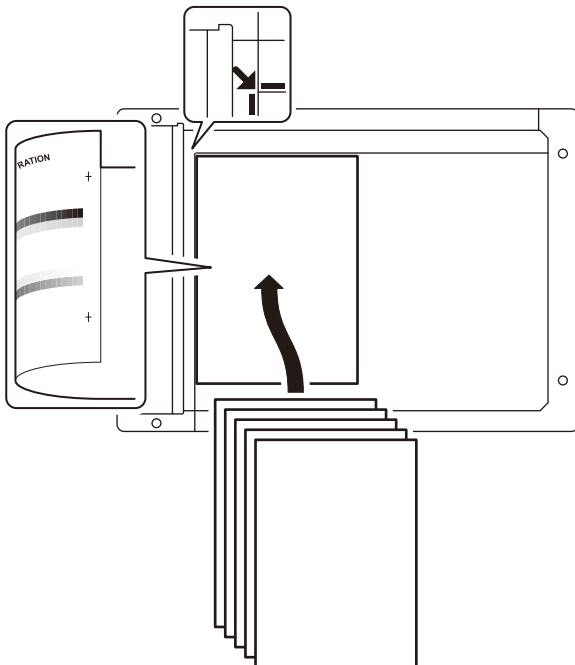
Printer gray balance and density adjustment (Automatic adjustment) procedure flowchart (SIM67-24)



- 1) Enter the SIM 67-24 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.)
The gray patch image (adjustment pattern) is printed out.

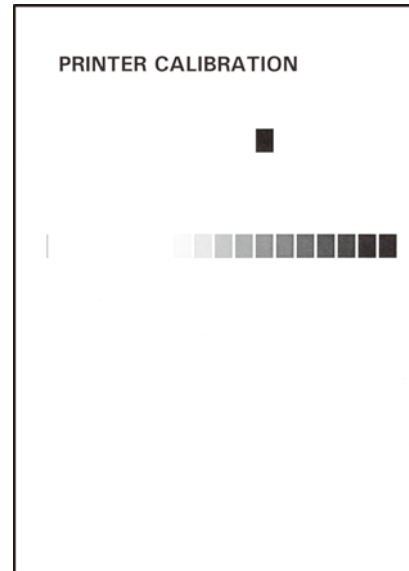


- 3) Set the gray patch image (adjustment pattern) paper printed in procedure 2) on the document table.
Place the printed gray patch image (adjustment pattern) paper on the document table so that the thin lines on the paper are on the left side. Place 5 sheets of white paper on the printed gray patch image (adjustment pattern) paper.



- 4) Select [FACTORY] key, and press [EXECUTE] key.
When the gray balance is customized with the manual gray balance adjustment (SIM 67-25) according to the user's request and the gray balance is registered as the service target with SIM 67-27, if the gray balance is adjusted to that gray balance, select the service target.

The copy gray balance adjustment is automatically executed and prints the gray balance check patch image. Wait until the operation panel shown in the procedure 5) is displayed.



- 5) Press [OK] key on the operation panel.

NOTE:

After pressing [OK] key, the initial setting of the halftone image correction is started. During the operation, "NOW REGISTERING THE NEW TARGET OF HALFTONE" is displayed. This operation takes several minutes.

After completion of the operation, "PLEASE QUIT THIS MODE" is displayed.

Do not cancel the simulation until "PLEASE QUIT THIS MODE" is displayed.

After completion of the operation, the simulation is canceled.

- 6) Check the gray balance and density.
(Refer to the item of the printer gray balance and density check.)
If a satisfactory result on the gray balance and the density is not obtained with the automatic adjustment, execute the manual adjustment (SIM 67-25) (ADJ 11E (2)).
Also when the service target is selected in procedure 4) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual gray balance adjustment (ADJ 11E (2)).

If the gray balance or density is not in the satisfactory level even after execution of the automatic and manual adjustments, there may be another cause.

Troubleshoot the cause, repair or perform necessary works, and repeat the adjustment from the beginning.

11-F (2) Printer gray balance adjustment (manual adjustment)

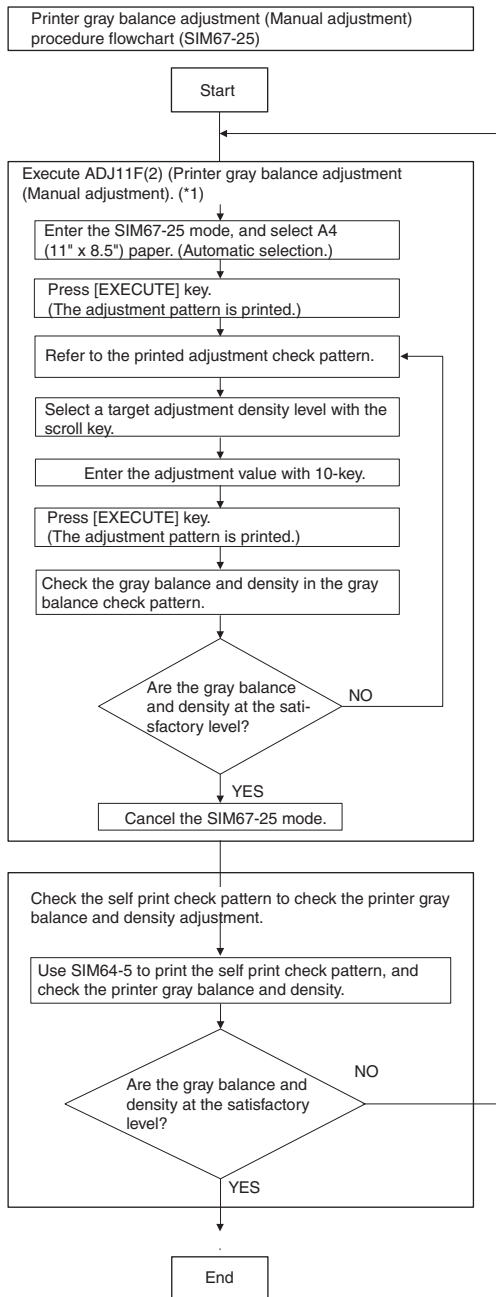
a. General

The gray balance adjustment (Manual adjustment) is used to adjust the printer density. This is used at the following situation. When the result of auto adjustment described above is not existing within the range of reference. When a fine adjustment is required. When there is request from the user for changing (customizing) the gray balance.

In this manual adjustment, adjust only the gray patch which could not adjusted properly in the automatic adjustment.

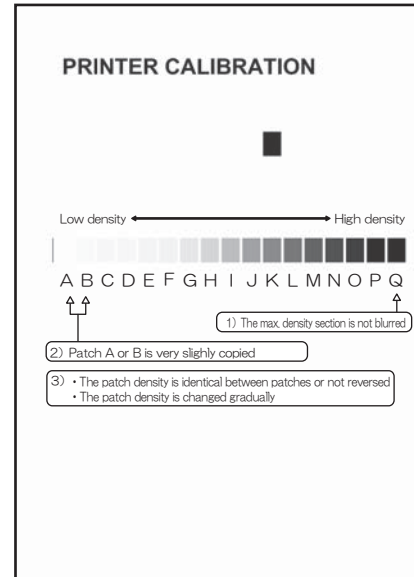
If the gray balance is improper, execute the automatic gray balance adjustment in advance, and execute this adjustment for better efficiency.

b. Adjustment procedure



*1:
If satisfactory gray balance and density are not obtained with the adjustment, check the print engine for any problems.

- 1) Enter the SIM 67-25 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.)
The gray balance adjustment pattern is printed.
- 3) Check that the following specification is satisfied or the gray balance is satisfactory.
If not, execute the following procedures.



The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed.

Patch B may not be copied.

Patch A must not be copied.

When, however, the gray balance is adjusted according to a request from the user, there is no need to set to the standard gray balance stated above.

- 4) Enter the adjustment value with 10-key and press [OK] key.
The adjustment value is set in the range of (1 - 999). When SIM 67-24 is used to adjust the automatic gray balance and density, all the set values of this simulation are set to 500.
To increase the density, increase the adjustment value. To decrease the density, decrease the adjustment value.
Repeat procedures of 2) - 4) until the condition of 3) is satisfied.

When the overall density is low, or when the density is high and patch A is copied, use the arrow key to adjust all the adjustment values of A - Q (MAX) to a same level collectively.

Then, adjust each patch density individually. This is an efficient way of adjustment.

- 5) Check the gray balance and density.
(Refer to the item of the printer gray balance and density check.)
NOTE:

If the gray balance is customized, use SIM 67-27 to register the gray balance as the service target.

If the gray balance is not customized, this procedure is not required.

If the customized gray balance is registered as the service target, the automatic gray balance adjustment can be made in the next gray balance adjustment.

11-G Printer image quality adjustment (individual adjustment)

a. General

This adjustment is used to execute the fine adjustment in each mode only when a satisfactory image quality is not obtained by the basic adjustments ADJ 11E (1) and ADJ 11E (2) or there is a request from the user. Normally there is no need to execute this adjustment.

This must be well understood for execution of the adjustment.

11-G (1) Printer density adjustment (low density area density adjustment) (normally not required)

This adjustment is used to adjust the image density in the low density area in the printer mode.

Adjust to reproduction setting of the low density image.

This adjustment is required in the following cases.

* When it is required not to reproduce images in the low density section, or to reproduce low-density images.

* When there is request from the user.

1) Enter the SIM 67-36 mode.

2) Enter the adjustment value and press the [OK] key.

In case of increase of the image density on low density part, increase the adjustment value. For diluting the image density on low density part, decrease the adjustment value.

11-G (2) Printer high density image density reproduction setting (supporting high density area tone gap) (normally not required)

When a tone gap is generated in the high density section in the printer mode, the setting is changed to lower the density in the high density section.

This setting is normally not required, however, in the following cases, a change of setting must be made.

* When a tone gap occurs on part of high density.

* To lower the density in the high density section.

a. Adjustment procedure

1) Enter the SIM 67-34 mode.

2) Select the item with the scroll key.

Display/Item	Content	Setting range	Default value
A K (0:ENABLE 1:DISABLE)	Engine maximum density correction mode Enable	0	1
	Engine maximum density correction mode Disable	1	
B BLACK MAX TARGET	Scanner target value for BLACK maximum density correction	0~999	500
C RATIO LOW	Mix ration of high density correction	0~100	33
D RATIO HIGH	Mix ration of high density correction	0~100	5
E DITHER THRESHOLD	Dither threshold	0~250	250
F SLOPE THRESHOLD	Slope threshold	100~500	400

* If a tone gap occurs on part of high density, set 0 to item A.

The density of high density part decreases. However, the tone gap is better.

* In case of more increase of the density on high density part, set 1 to item A.

The tone gap may occur in high density part.

NOTE: If the setting values of item B is changed, density of the high density part is changed.

When these values are changed, be sure to perform the printer gray balance and density adjustment. (Automatic adjustment)

11-G (3) Printer gamma adjustment for each dither (automatic adjustment) (normally not required)

a. General

This adjustment is used to adjust the gray balance and the density in the monochrome mode, the heavy paper mode, and the gloss paper mode.

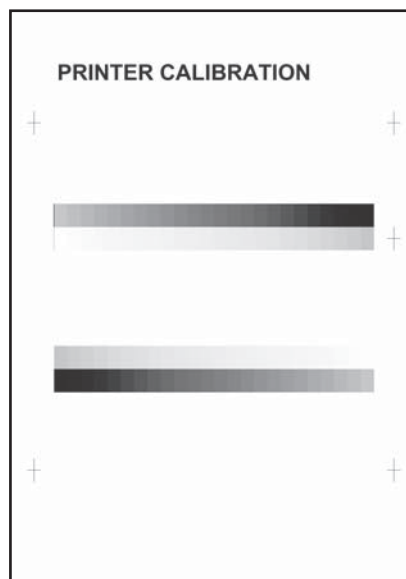
This simulation is used to improve image quality in these modes and images.

b. Adjustment procedures

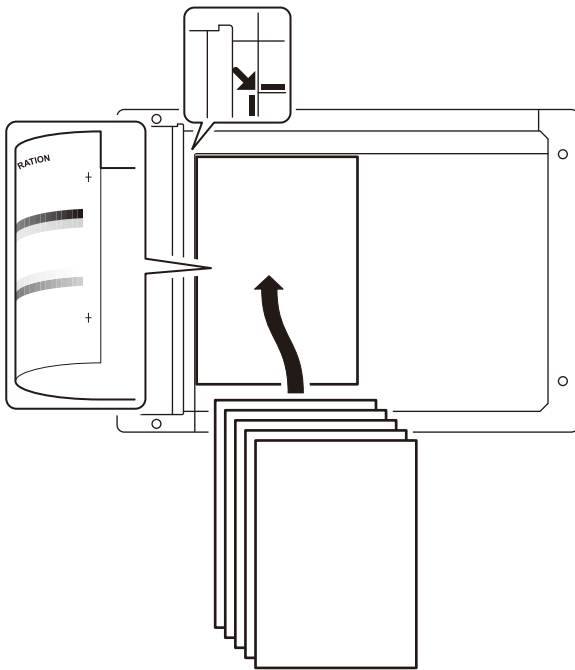
1) Enter the SIM67-54 mode.

2) Press [EXECUTE] key.

A4/11" x 8.5" or A3/11" x 17" paper is automatically selected. The patch image (adjustment pattern) is printed out.



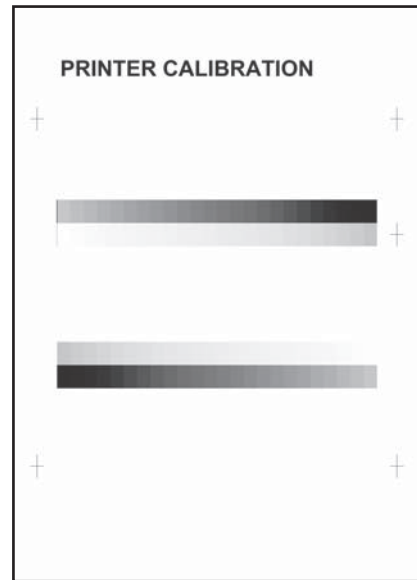
- 3) Set the patch image (adjustment pattern) printed in the procedure 2) on the document table so that the thin lines on the printed patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed patch image (adjustment pattern).



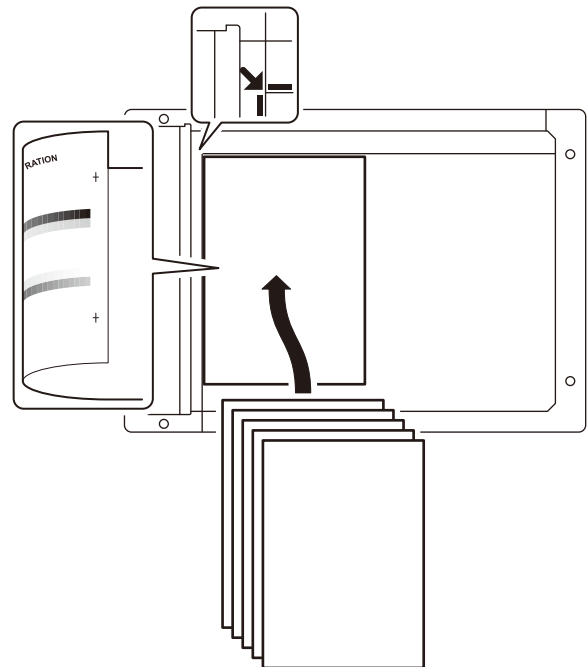
- 4) Press [EXECUTE] key.
The gray balance adjustment is automatically performed.
The adjustment pattern is printed out. Check it for any abnormality.
- 5) Press [OK] key.
The list of the adjustment items (for each dither) is displayed.
- 6) Select an adjustment item (for each dither).

Select item (Mode/Image)	Content
HEAVY PAPER	For improving the gray balance in the heavy paper mode
4BIT HIGH	For improving the gray balance in 600 dpi mode
4BIT SHIGH	For improving the gray balance in 600 dpi mode (super fine text)
1200DPI LOW	For improving the gray balance in 1200 dpi mode
1200DPI HIGH	For improving the gray balance in 1200 dpi mode
1200DPI SHIGH	For improving the gray balance in 1200 dpi mode (super fine text mode)

- 7) Press [EXECUTE] key.
A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.
The patch image (adjustment pattern) is printed out.



- 8) Set the patch image (adjustment pattern) printed in the procedure 7) on the document table so that the thin lines on the printed patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed patch image (adjustment pattern).



- 9) Press [EXECUTE] key.
The gray balance adjustment is automatically performed, and the machine goes to the state of procedure 6).
- 10) When [OK] key is pressed, the adjustment result is registered and the adjustment mode is terminated. When [EXECUTE] key is pressed, the adjustment result is registered and the screen is shifted to the other item (Mode/Image) select menu.
To execute the adjustment of the other item (Mode/Image), press [EXECUTE] key.
After completion of all the adjustments of the items (Mode/Image), press [OK] key, and the adjustment results are registered.

- 11) Make a print, and check the print image quality.
(Refer to the item of the printer gray balance and density check.)

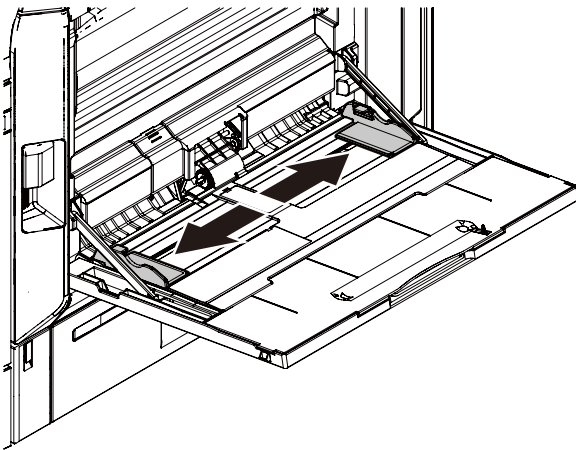
NOTE: Use SIM67-52 to reset the adjustment values to the default values.

ADJ 12 Paper size sensor adjustment

12-A Manual paper feed tray paper size (width) sensor adjustment

This adjustment is needed in the following situations:

- * The manual paper feed tray section has been disassembled.
 - * The manual paper feed tray unit has been replaced.
 - * U2 trouble has occurred.
 - * The PCU PWB has been replaced.
 - * The EEPROM of the PCU PWB has been replaced.
- 1) Enter the SIM 40-2 mode.
 - 2) Open the manual paper feed guide to the maximum width position.

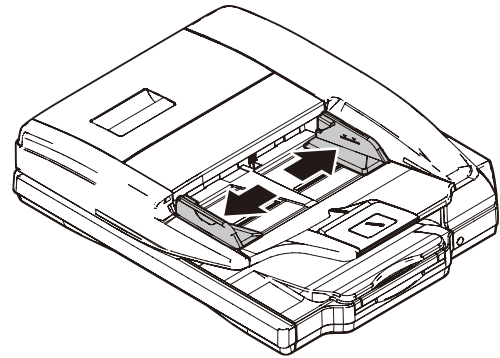


- 3) Press [EXECUTE] key.
[EXECUTE] key is highlighted. Then it returns to the normal display. The maximum width position detection level of the manual paper feed guide is recognized.
- 4) Set the manual paper feed guide to the A4 size.
- 5) Press [EXECUTE] key.
[EXECUTE] key is highlighted. Then it returns to the normal display. The A4 size width position detection level of the manual paper feed guide is recognized.
- 6) Set the manual paper feed guide to the width for the A4R size.
- 7) Press [EXECUTE] key.
[EXECUTE] key is highlighted. Then it returns to the normal display. Set the manual paper feed guide to the width for the A4R size.
- 8) Open the manual paper feed guide to the minimum width position.
- 9) Press [EXECUTE] key.
[EXECUTE] key is highlighted. Then it returns to the normal display. The minimum width position detection level of the manual paper feed guide is recognized. If the above operation is not completed normally, "ERROR" is displayed. When the operation is completed normally, the above data are saved to the memory and "COMPLETE" is displayed.

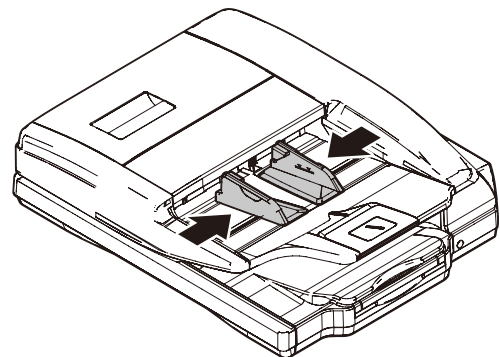
12-B DSPF/RSPF paper feed tray document size (width) sensor adjustment

This adjustment is needed in the following situations:

- * The DSPF/RSPF paper feed tray section has been disassembled.
 - * The DSPF/RSPF paper feed tray unit has been replaced.
 - * When a U2 trouble occurs.
 - * The scanner PWB has been replaced.
 - * The EEPROM on the scanner PWB has been replaced.
- 1) Enter the SIM 53-6 mode.
 - 2) Open the DSPF/RSPF paper feed guide to the maximum width position.



- 3) Press [EXECUTE] key.
The maximum width detection level is recognized.
- 4) Open the DSPF/RSPF paper feed guide to the width for the A4R size.
- 5) Press [EXECUTE] key.
The A4R width detection level is recognized.
- 6) Open the DSPF/RSPF paper feed guide to the width for the A5R size.
- 7) Press [EXECUTE] key.
The A5R width detection level is recognized.
- 8) Open the DSPF/RSPF paper feed guide to the minimum width position.



- 9) Press [EXECUTE] key.
The minimum width detection level is recognized.
- * When each of the above operations has been completed, the "COMPLETE" message appears; when any of the operations has failed, the "ERROR" message appears.

ADJ 13 Document size detection adjustment

This adjustment is needed in the following situations:

- * When the original size sensor section has been disassembled.
- * When the original size sensor section has been replaced.
- * When U2 trouble has occurred.
- * When the scanner control PWB is replaced.
- * When the EEPROM on the scanner control PWB is replaced.

13-A Sensitivity adjustment of the original size sensor

- 1) Enter the SIM 41-2 mode.
- 2) Execute the sensor adjustment without document.
With the document cover open, without placing a document on the table glass, press [EXECUTE] key.
- 3) Place A3 (11" x 17") paper on the document table and press [EXECUTE] key.
If the adjustment is completed normally, "DOCUMENT PHOTO SENSOR LEVEL IS ADJUSTED" is displayed.

ADJ 14 Touch panel coordinate setting

This adjustment is needed in the following situations:

- * The operation panel has been replaced.
- * U2 trouble has occurred.
- * The scanner control PWB has been replaced.
- * The EEPROM on the scanner control PWB has been replaced.

- 1) Enter the SIM 65-1 mode.
- 2) Precisely press the cross mark points (4 positions).



When the cross mark is pressed precisely, a buzzer sounds and the display is reversed. When all the four points are pressed and the touch panel adjustment is completed, the display returns to the simulation sub number entry screen. In case of an error, the display returns to the entry screen again.

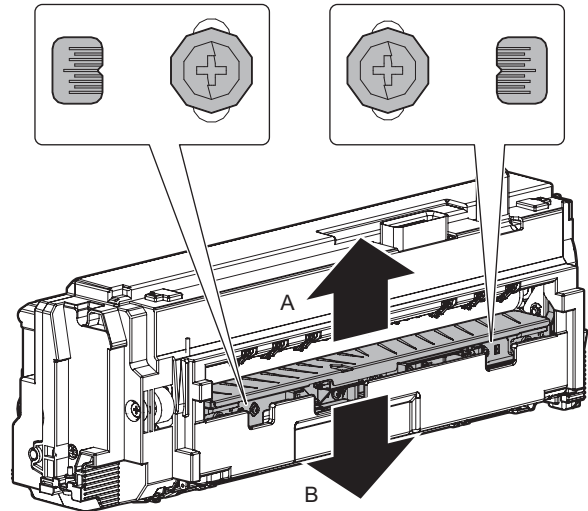
Check to confirm that there is no shift between the display frame and the detection position when the touch panel is pressed.

- * When pressing the touch panel, never use a sharp tip (such as a needle or a pin).

ADJ 15 Fusing paper guide position adjustment

Normally there is no need to perform this adjustment. In the following cases, perform this adjustment.

- * When a paper jam occurs in the fusing section.
 - * When wrinkles are made on paper in the fusing section.
 - * When an image deflection or an image blur is generated in the paper rear edge section.
- 1) Loosen the fusing paper guide fixing screws which are on two position in the front/rear frame direction.
 - 2) Use the fusing paper guide position scale as the reference to shift the paper guide in the arrow direction A or B.



The standard fixing position is one scale lower than the center of the marking scale. Change the actual fixing position according to the condition.

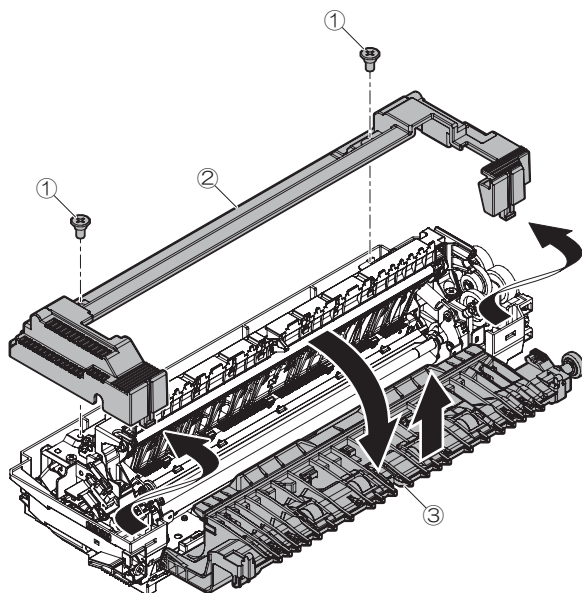
- * When wrinkles are generated on paper, change the position in the arrow direction B.
- * When an image deflection or an image blur is generated in the paper rear edge section, change the position in the arrow direction A.

ADJ 16 Fusing belt meandering adjustment

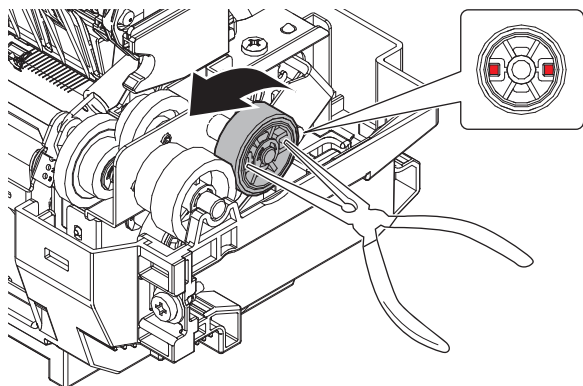
This adjustment must be performed in the following cases

- * When parts in fusing unit have been disassembled.
 - * When parts in fusing unit have been replaced.
 - * After Sim6-8 execution, display other than Result: OK (example F+1, R+1 etc).
- 1) Enter Sim 6-8 mode.
 - 2) Tap [EXECUTE] key.
When display RESULT: Direction F/R +1~4. Perform the following steps.
 - 3) Remove fusing unit from main unit.

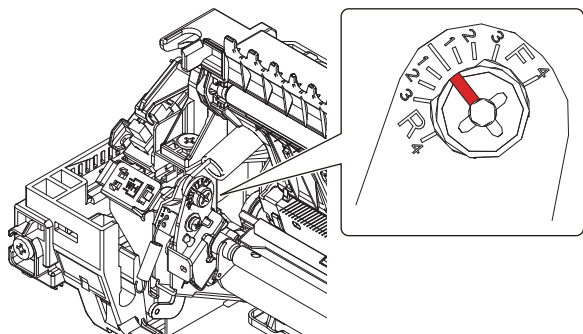
4) Remove top cover.



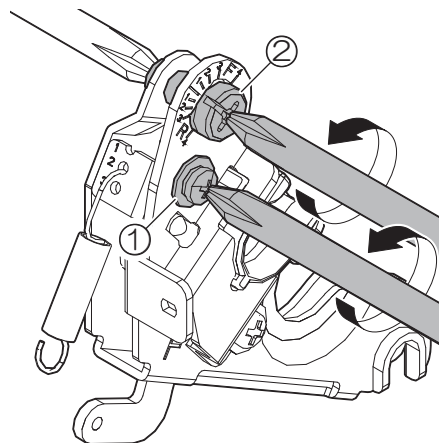
5) Confirm the fuser pressure is applied.



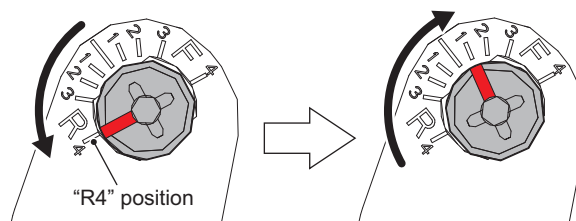
6) Check current position before disassembly.



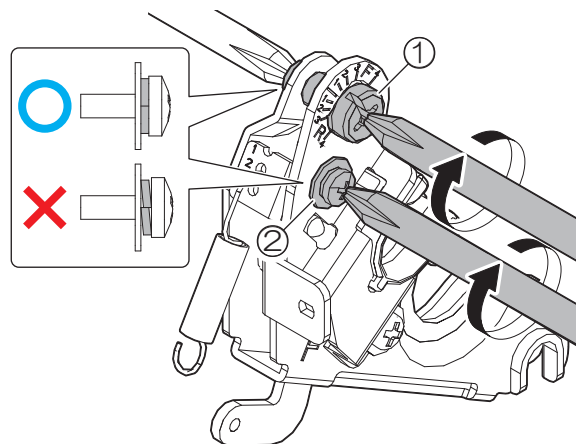
7) Loosen the adjustment screws.



8) Turn the Adjustment screw to the "R4" position first then set it back to the original position. Then adjust the setting from the original position. For example if the display reads F+1 move the screw towards the "F" position 1 spot from the original position.



9) Tighten the adjustment screws.



10) Install back the cover

11) Install back into MFP

12) Enter Sim6-8 mode.

Result is OK no adjustment is necessary.

Result is other than OK repeat step 3) to 12) until result is OK.

[6] SIMULATION

1. General and purpose

The simulation mode has the following functions, to display the machine operating status, identify the trouble position and causes in an earlier stage and to efficiently setup and adjust the machine for improved serviceability.

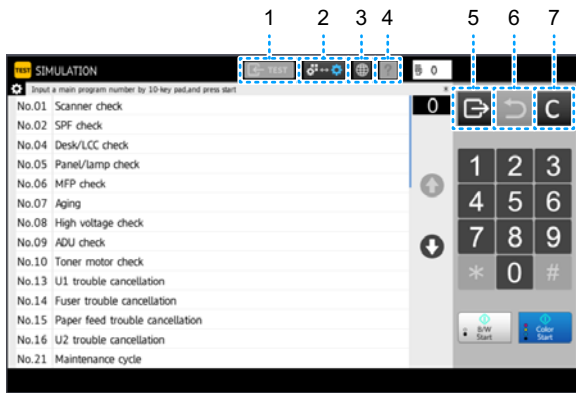
- 1) Various adjustments
- 2) Setting of the specifications and functions
- 3) Canceling troubles
- 4) Operation check
- 5) Counters check, setting clear
- 6) Machine operating conditions (histories) data check, clear
- 7) Various (adjustments, setting, operation, counters, etc) data transport.

The operating procedures and displays depend on the design of the operation panel of the machine.

There are two simulation modes.

Easy mode	Displays commonly used simulations for each category, allowing easy access for technicians to change settings, perform maintenance and adjustments.
Classic mode	All simulations are listed and can be accessed by entering the main code, then sub code as per previous model series.

2. Function of each key

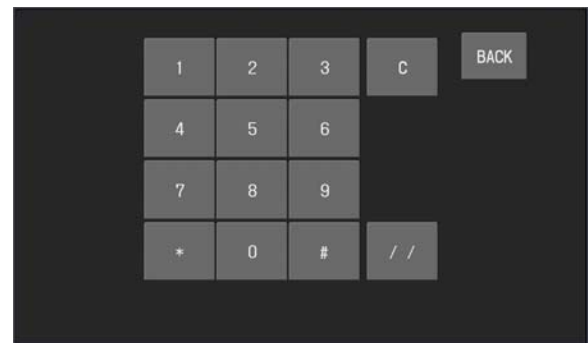
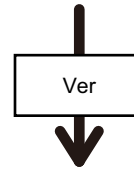
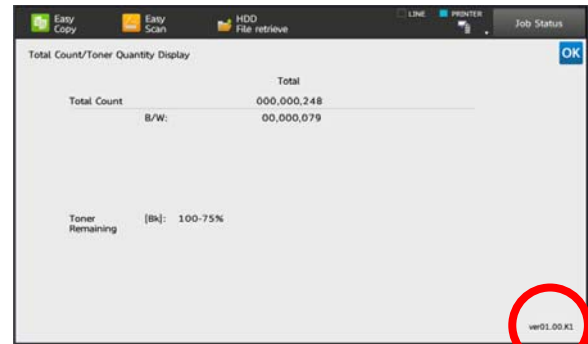


No.	Name	Function
1	TEST key	Change test mode
2	Mode setting key	Change Easy mode, Classic mode
3	Language setting key	Change language in simulation mode
4	INFO key	Display operation of current display
5	EXIT key	Exit from simulation mode
6	BACK key	Back to the previous display
7	Clear key	Clear input value

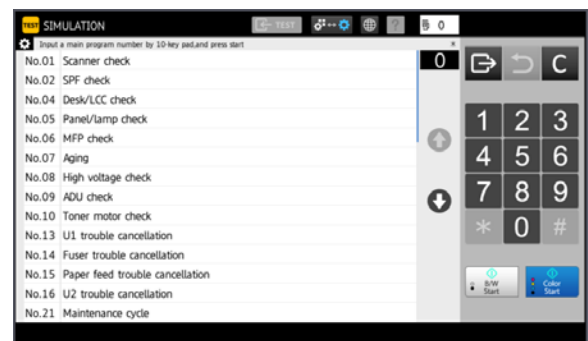
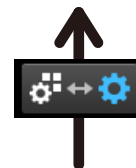
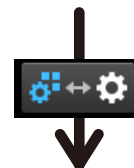
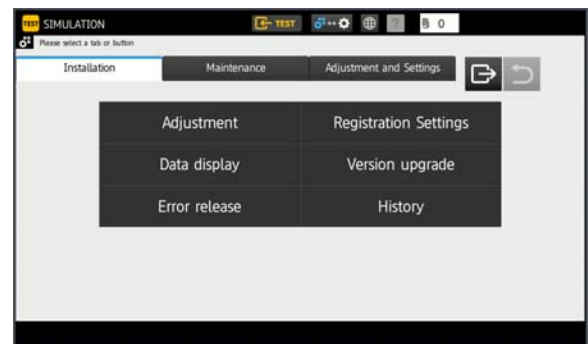
3. Starting the simulation

Entering the simulation mode.

- 1) Double-click the HOME key
- 2) Touch the Ver display section (10-key mode input mode screen)



- 3) Touch the (#) key → Asterisk (*) key → Clear key → Asterisk (*) key → Ready for input of main code of simulation.



4. List of simulation codes

A. List of easy mode

(1) List of menu (Installation)

The first menu	The second menu	SIM number	SIM Title
1	Adjustment	1 Process	25-2 Automatic developer adjustment
			46-74 Copy/printer gradation auto adjustment
		2 Positioning	50-10 Manual image position adjustment
		3 Copy	46-16 Monochrome copy gradation manual adjustment
		4 Printer	67-25 Printer gradation manual adjustment
			64-5 Printer self print (PCL)
		5 Image Quality Adjustment	63-2 Shading execution
			63-3 Scanner color balance auto adjustment
			44-6 High density / engine halftone process control compulsory execution
			44-26 Half tone density correct execution
			46-74 Copy/printer gradation auto adjustment
2	Registration Settings	1 Function/ Option settings	26-1 Paper output system setup
			26-2 Size setup
			26-3 Auditor setup
			26-50 Function setting
			26-65 Finisher alarm mode setup (staple limit)
			26-78 ROPE password setting
			56-20 HDD option setting
			56-21 HDD Option setting cancellation
		2 Counter mode	26-5 A3(11x17) countup
			26-8 Banner size countup
			26-52 A blank paper count mode setup
		3 FAX/Image send settings	66-1 Image send software SW. setting
		4 Toner setting	26-18 Toner save mode setup
			26-69 Toner near end setting
		5 FSS setting	27-2 FSS function setup (input)
			27-4 FSS function setup
			27-7 FSS function setup (function)
			27-9 FSS function adjustment
			27-14 FSS test mode setup
			27-15 FSS connect status
			27-16 FSS alert setting
			27-17 FSS paper order alert setting
3	Data display	1 Counter display	22-1 Counter display
			22-8 Paper feed counter display
			22-13 Process cartridge display
		2 System/ Version	22-5 ROM version data display
			22-10 Machine system display
		3 List printing	22-6 Data print mode
			23-2 JAM/trouble data print mode
		4 USB storage	56-99 Export all log data
4	Version upgrade		49-1 Firmware update
			49-7 Preinstall data update
5	Error release		13 U1 trouble cancellation
			14 Trouble cancellation (other)
			15 Paper feed trouble cancellation
			16 U2 trouble cancellation
6	Ready for transport		6-90 Load move for shipment

(2) List of menu (Maintenance)

The first menu	The second menu	SIM number	SIM Title
1	Data display	1 Counter display	22-1 Counter display
			22-8 Org./staple counter display
			22-9 Paper feed counter display
			22-13 Process cartridge display
		2 JAM history data display	22-3 JAM history data display
			22-12 SPF JAM history data display
		3 System/ Version	22-5 ROM version data display
			22-10 Machine system display
		4 List printing	22-6 Data print mode
			23-2 JAM/trouble data print mode
		5 USB storage	56-99 Export all log data
2	Adjustment	1 Positioning	50-10 Manual image position adjustment
		2 Process	25-2 Automatic developer adjustment
			44-2 Process control gain adjustment
			46-74 Copy/printer gradation auto adjustment
		3 Image Quality Adjustment	44-2 Process control gain adjustment
			44-6 High density / engine halftone process control compulsory execution
			44-26 Half tone density correct execution
			61-13 Laser power correction data clear
			61-11 Laser power auto correction
			63-3 Scanner color balance auto adjustment
			63-5 Standard scanner gamma setup
			46-74 Copy/printer gradation auto adjustment
		4 Cleaning	
		5 Replacing developer	25-2 Automatic developer adjustment
3	Counter clear		24-1 JAM/trouble counter data clear
			24-2 Paper feed counter clear
			24-3 Org./output counter data clear
			24-4 Maintenance counter clear
4	Registration Settings		21-1 Maintenance cycle setup
5	Version upgrade		49-1 Firmware update
			49-7 Preinstall data update
6	Error release		13 U1 trouble cancellation
			14 Trouble cancellation (other)
			15 Paper feed trouble cancellation
			16 U2 trouble cancellation

(3) List of menu (Adjustment and Settings)

The first menu	The second menu	SIM number	SIM Title
1	Adjustment	1 Positioning	50-1 Copy edge adjustment
			50-5 Print edge adjustment
			50-6 SPF edge adjustment
			50-10 Manual image position adjustment
			50-12 Original center offset setup
			48-1 Ratio adjustment
			48-5 Motor speed adjustment

The first menu		The second menu	SIM number	SIM Title
1	Adjustment	2 Image Quality Automatic Adjustment	61-11	Laser power auto correction
			46-74	Copy/printer gradation auto adjustment
		3 Image Quality Adjustment	61-14	Laser power setting collective input
			61-11	Laser power auto correction
			61-13	Laser power correction data clear
			46-74	Copy/printer gradation auto adjustment
			46-54	Copy gradation auto adjustment (at dither)
			46-52	Copy gradation data clear (at dither)
			67-54	Printer gradation auto adjustment (at dither)
			67-52	Printer gradation data clear (at dither)
2	Process		25-2	Automatic developer adjustment
			44-2	Process control gain adjustment
			46-74	Copy/printer gradation auto adjustment
3	Scanner/ SPF		41-1	PD sensor check
			41-2	Document size photo-sensor setup
			46-9	Exposure adjustment (SFP)
			63-2	Shading execution
			53-6	SPF tray adjustment
			53-8	SPF scanning position adjustment
			63-3	Scanner color balance auto adjustment
			63-5	Standard scanner gamma setup
4	Paper feeding, Transport and paper ejection		40-2	Bypass tray adjustment
			03-10	Finisher adjustment
5	Copy		46-16	Monochrome copy gradation manual adjustment
			44-21	Half tone process control standard value register setup
			46-24	Copy gradation auto adjustment
			46-54	Copy gradation auto adjustment (at dither)
			63-11	Copy gradation auto adjustment target select
6	Printer		67-24	Printer gradation auto adjustment
			67-25	Printer gradation manual adjustment
			67-26	Printer gradation auto adjustment target select
7	Touch panel		65-1	Touch panel adjustment
8	Function/ Option settings		64-2	Self print (B/W) : service
9	Data display	1 Counter display	22-1	Counter display
			22-9	Paper feed counter display
			22-13	Process cartridge display
		2 System/ Version	22-5	ROM version data display
			22-10	Machine system display
		3 List printing	22-6	Data print mode
			23-2	JAM/trouble data print mode
		4 USB storage	56-99	Export all log data

B. List of classic mode

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
1	1 Check the operation of the scanner (reading) unit and the control circuit			
	2 Check the sensors in the scanner (reading) section and the related circuit			
	5 Check the operation of the scanner (reading) unit and the control circuit			
2	1 Check the operation of the auto document feeder and the control circuit			
	2 Check the operation of the sensors in the auto document feeder section and the control circuit			
	3 Check the operation of the loads in the auto document feeder and the control circuit			
3	2 Check the operation of the sensors in the finisher and the control circuit			
	3 Check the operation of the loads in the finisher and the control circuit			
	10 Adjust the finisher			4
4	2 Check the operation of the sensors in the desk/large capacity tray (LCC) and the control circuit			
	3 Check the operation of the loads in the desk/large capacity tray (LCC) and the control circuit			
	5 Check the operation of the clutch in the desk/large capacity tray (LCC)			
5	1 Check the operation of the display, LCD in the operation panel and the control circuit			
	2 Check the operation of the heater lamp and the control circuit			
	3 Check the operation of the scanner lamp and the control circuit			
	4 Check the operation of the discharge lamp and the control circuit			
6	1 Check the operation of the loads in the paper transport system (clutches and solenoids) and the control circuit			
	2 Check the operation of the each fan motor and the control circuit			
	6 Perform fusing pressure release and applying and to check the operation of the control circuit			
	8 Fuser belt meandering operation check			
	90 Set default position back to the factory setting (scanner is set to the lock enable position)	6		
7	1 Set the operating condition of aging			
	6 Set the operating intermittent aging cycle			
	8 Check the warm up time			
	12 Set the document reading number of sheets (for aging operation)			
8	1 Check and adjust the operation of the developing voltage in each print mode and the control circuit			
	2 Check and adjust the operation of the main charger grid voltage in each print mode and the control circuit			
	6 Check and adjust the operation of the transport voltage and the control circuit			
	10 Set main charger total current output			
9	2 Check the operation of the sensors in the paper reverse section (duplex section) and the control circuit			

Sim No.		Function	Easy Mode		
			Installation	Maintenance	Adjustment and Settings
9	3	Check the operation of the loads in the paper reverse section (duplex section) and the control circuit			
10	1	Check the operation of the toner supply mechanism (toner motor) and the control circuit			
13		Cancel U1 trouble	5	6	
14		Cancel H3, H4, H5 trouble	5	6	
15		Cancel U6 trouble	5	6	
16		Cancel U2 trouble	5	6	
21	1	Set maintenance cycle		4	
22	1	Check the print count value in each section and each operation mode	3-1	1-1	9-1
	2	Check the total number of misfeed and trouble			
	3	Check misfeed positions and misfeed count of each position		1-2	
	4	Check the trouble history			
	5	Check the firmware version of each unit	3-2	1-3	9-2
	6	Output setting/adjustment data, firmware version and counter list	3-3	1-4	9-3
	8	Check the number of operation (counter value) of the finisher, SPF and scan (reading) unit		1-1	
	9	Check the number of use (print counter) of each paper feed section	3-1	1-1	9-1
	10	Check the system configuration	3-2	1-3	9-2
	11	Check FAX counter			
	12	Check SPF misfeed positions and number of misfeed at each position		1-2	
	13	Check the operation time of the process section (OPC drum, DV unit, toner cartridge) and fusing unit	3-1	1-1	9-1
	14	Check the use status of the toner cartridge			
	18	Check user data clear history			
	19	Check counter value of scan, image send mode			
	40	Check trouble code information			
	41	Check JAM code information			
	42	Check JAM, trouble data			
	43	Check JAM history data			
	90	Output system setting list			
23	2	Output JAM, trouble history data	3-3	1-4	9-3
	80	Check the operation of paper feed and paper transport in the paper feed section and paper transport section and output the list of the operation status of the sensor in the paper feed section and paper transport section			
	81	Export paper feed time list			
24	1	Clear JAM counter and trouble counter		3	
	2	Clear paper feed counter of each paper feed section		3	
	3	Clear SPF, scan (reading) and finisher counter		3	
	4	Clear maintenance counter and print counter of the transport unit and the fusing unit		3	
	5	Clear developer counter			
	35	Clear used toner cartridge counter			
25	1	Check the operation of the developing section			
	2	Set toner density initial level when replacing developer		2-2 2-5	2
	4	Check toner supply control data			
	5	Check toner density correction data			
	10	Set developer/drum serial no			

Sim No.		Function	Easy Mode		
			Installation	Maintenance	Adjustment and Settings
26	1	Set paper exit tray	2-1		
	2	Set the paper size of the large capacity tray (LCC)	2-1		
	3	Set the specification of the auditor	2-1		
	5	Set the counter mode of the total counter and the maintenance counter	2-2		
	6	Set the destination			
	7	Set the machine ID			
	8	Set the coounter mode (long scale)	2-2		
	10	Set the trial mode of the network scanner			
	18	Set the toner save mode	2-4		
	30	Set the operation mode corresponding to CE control			
	32	Set the fusing cleaning operation			
	35	Set SIM22-4 trouble history when a same trouble occurred repeatedly as one trouble or several time			
	38	Set print operation when the maintenance life is reached			
	41	Set auto magnification ratio select function in the center binding mode			
	49	Set the print speed in postcard mode			
	50	Set the function	2-1		
	52	Set count mode of blank paper	2-2		
	65	Set finisher alarm mode	2-1		
	66	Set simulation password			
	69	Set toner near end operating condition	2-4		
	73	Adjust image enlargement and A3 wide copy			
	74	Set OSA trial mode			
	78	Set remote operation panel password	2-1		
	79	Set security function			
	85	Set simulation function			
27	2	Set FSS sender's registration number and host server number	2-5		
	4	Set FSS initial mode and toner order timing	2-5		
	5	Set machine tag No			
	6	Set manual service call			
	7	Set FSS function and alert	2-5		
	9	Set FSS paper transport time recording and alert	2-5		
	10	Clear trouble prediction history			
	11	Check serial communication retry number and scanner gain adjustment retry number history			
	12	Check high density and halftone process control error history			
	13	Check history of paper transport time between sensors			
30	14	Set FSS connection test mode	2-5		
	15	Check FSS connection status	2-5		
	16	Set FSS alert function	2-5		
	17	Set FSS paper order alert	2-5		
	1	Check the operation of the sensors in other than the paper feed section and the control circuit			
	2	Check the operation of the sensors in the paper feed section and the control circuit			
	30	Check the operation of the motion sensor			
40	2	Adjust paper width sensor of the manual paper feed tray			4
	7	Set adjustment value of the paper width sensor of the manual paper feed tray			
41	1	Check the operation of the document size sensor and control circuit			3

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
41	2 Set the document size sensor detection level			3
	3 Check the operation of the document size sensor and control circuit			
43	1 Set the fusing temperature in each mode			
	2 Set the fusing operation and preheat mode			
	20 Set the fusing temperature in each mode (environment correction under low temperature and low humidity of Sim43-2)			
	21 Set the fusing temperature in each mode (environment correction under high temperature and high humidity of Sim43-2)			
	24 Set the fusing operation			
35	Check fusing belt pressure state			
44	1 Set each correction operation function in the image forming section			
	2 Set the sensitivity of the image density sensor		2-2 2-3	2
	3			
	4 Set the condition of the high density process control operation			
	5			
	6 Execute the high density process control forcibly	1-5	2-3	
	9 Check the high density process control operation data			
	12 Check the high density process control and the image density sensor operation data			
	14 Check the output level of the temperature and humidity sensor			
	15 Set the OPC drum idle rotation			
	17 Execute refresh operation of the developer and transfer roller			
	21 Set the halftone process control target			5
	22 Check the toner patch density level in the halftone process control operation			
	24 Check the correction target and the correction level in the halftone process control operation			
	25 Set the calculating conditions of the correction value for the halftone process control			
	26 Execute the halftone process control forcibly	1-5	2-3	
	27 Clear the correction data of the halftone process control			
	28 Set the process control execution condition			
	29 Set the operating condition of the halftone process control			
	37 Set the developer bias correction level in the continuous printing operation			
	43 Check the identification information of the developing unit			
	62 Set the process control execution condition			
46	2 Adjust the copy density in the copy mode			
	4 Adjust the color scan density in the image send mode			
	5 Adjust the monochrome scan density in the image send mode			
	8 Adjust the color balance RGB in the image send mode			
	9 Adjust the scan image density (SPF)			3

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
46	10 Adjust the copy gray balance and gamma (for each copy mode)			
	16 Adjust the copy gray balance and gamma (for all mode)	1-3		5
	19 Set the scanning operating condition of the document density in the auto mode			
	23 Set the density correction of copy high density area (for high density tone gap)			
	24 Adjust copy gray balance (auto adjustment)			5
	32 Adjust the document background density reproducibility in the auto mode			
	37 Adjust the reproducibility capability of gray image creation			
	39 Adjust the sharpness of send image			
	40 Adjust the FAX send image density (all modes)			
	41 Adjust the FAX send image density (normal)			
	42 Adjust the FAX send image density (fine)			
	43 Adjust the FAX send image density (super fine)			
	44 Adjust the FAX send image density (ultra fine)			
	45 Adjust the FAX send image density (600dpi)			
	46 Adjust the FAX send image density (RGB RIP)			
	47 Set the compression ratio of copy and scan images (JPEG)			
	48 Set the copy output resolution in the copy mode			
	51 Adjust the gamma of heavy paper mode and image process mode in the copy mode			
	52 Set gamma default value of heavy paper mode and image process mode in the copy mode			1-3
	54 Adjust the engine halftone auto density (dither)			1-3
	55 Adjust the dropout color in the image send mode			
	58 Set pseudo resolution in the copy mode			
	60 Set the sharpness in auto mode			
	61 Set the area separation recognition level			
	62 Set the operating condition of the auto color selection, the area separation, the background image process and the auto exposure mode			
	63 Adjust the density in the copy low density area			
	66 Adjust the reproduction capability of watermark in the copy/printer mode			
	68 Adjust the auto resolution judgement			
	74 Adjust copy gray balance (auto) / printer gray balance (auto)	1-1 1-5	2-2 2-3	1-2 1-3 2
	90 Set the process operation of high compression PDF image			
	91 Adjust the reproduction capability of black text			
48	1 Adjust the scan image magnification ratio (main scanning direction and sub scanning direction)			1-1
	5 Adjust the scan image magnification ratio (sub scanning direction)			1-1
	6 Adjust the rotation speed of each motor			
49	1 Update the firmware	4	5	

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
49	7	Update the preinstalled firmware	4	5
50	1	Adjust the copy image position and the image loss		1-1
	5	Adjust the printer image position and the image loss		1-1
	6	Adjust SPF image position and the image loss		1-1
	10	Adjust the image position in the each paper feed tray	1-2	2-1
	12	Adjust the scan image off center position		1-1
	27	Adjust the scan image loss in the FAX and image send mode		
	28	Adjust the image loss, void area, image off center and image magnification ratio		
	28	Adjust the image loss, void area, image off center and image magnification ratio		
51	1	Set the transfer voltage timing		
	2	Adjust the contact pressure on paper by the main unit and the SPF resist roller		
53	6	Adjust the detection level of the SPF document width		3
	7	Adjust the SPF document width sensor		
	8	Adjust the document lead edge and the scan position		3
	9	Set the dirt detection and scan position		
	10	Execute SPF dirt detection		
55	1	Set the specification of the engine operation		
	2	Set the specification of the scanner operation		
	3	Set the specification of the controller operation		
	10	Used to set the special stamp text for Taiwan		
56	1	Transport data between EEPROM and STORAGE		
	2	Backup the data in the EEPROM and STORAGE to the USB memory		
	3	Backup the document filing data to the USB memory		
	4	Backup the job log data to the USB memory		
	5	Backup the SIM22-6 data in the text format to the USB memory		
	6	Backup the SIM23-2 data in the text format to the USB memory		
	7	Backup the syslog data to the USB memory		
	15	Restore the data to MFP EEPROM		
	20	Set the option HDD	2-1	
	21	Cancel the option HDD setting	2-1	
	99	Backup all log data to the USB memory	3-4	1-5
60	1	Check read/write memory operation		
61	1	Check the LSU polygon motor rotation and laser detection		
	3	Set the laser power		
	11	Adjust laser power auto correction	2-3	1-2
	12	Adjust laser power manual correction		1-3
	13	Clear laser power correction data	2-3	1-3
	14	Set the laser power correction		1-3
62	1	Execute hard disk format		
	2	Check read/write hard disk operation (partial)		
	3	Check read/write hard disk operation (all areas)		
	6	Execute hard disk self diagnostics		
	7	Print hard disk self diagnostics error log		

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
62	8	Execute hard disk format (except system area)		
	10	Clear the job completion data		
	11	Delete the document filing data		
	12	Set auto format in hard disk trouble		
	13	Execute hard disk format (preinstalled data area)		
	14	Clear database file		
63	1	Check shading correction data		
	2	Execute shading correction	1-5	3
	3	Adjust scanner (CCD) color balance and gamma correction	1-5	2-3
	4	Check the scanner test chart patch density		
	5	Reset the scanner (CCD) color balance and gamma correction		2-3
	11	Set gray balance target in the copy mode		5
64	2	Test print		8
	4	Printer test print		
	5	Printer test print (PCL)	1-4	
	6	Printer test print (PS)		
65	1	Adjust the touch panel detection coordinate		7
	2	Check the touch panel detection coordinate		
	5	Check the operation panel key input		
66	1	Set the specification of image send operation	2-3	
	2	Set country code		
	3	Check FAX PWB memory		
	4	Check signal output level (max)		
	5	Check signal output level (soft SW)		
	6	Used to print the confidential registration check table		
	7	Used to output all image data saved in the image memory		
	8	Used to send the selected sound message to the line and the speaker (max)		
	9	Used to send the selected sound message to the line and the speaker (soft SW)		
	10	Used to clear the FAX and image send image data		
	11	Used to send the selected signal at 300bps to the line and the speaker (max)		
	12	Used to send the selected signal at 300bps to the line and the speaker (soft SW)		
	13	Used to register dial number for Sim66-14/15/16 dial test		
	14	Used to excute the dial pulse (10pps) send test and to adjust the make time		
	15	Used to excute the dial pulse (20pps) send test and to adjust the make time		
	16	Used to execute the DTMF signal send test and to adjust the send level		
	17	Used to send the DTMF signal to the line and the speaker (max)		
	18	Used to send the DTMF signal to the line and the speaker (soft SW)		
	21	Used to print the selected iyems (system error, protocol monitor)		
	22	Used to set the handset sound volume		
	29	Used to initialize the telephone book data		
	30	Used to display the TEL/LIU status change, the display is highlighted by status change		

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
66	31 Used to set ON/OFF the port for output to TEL/LIU			
	32 Used to check the fixed data received from the line and to display the result			
	33 Used to execute detection of various signals with the line connected and to display the detection result. When a signal is detected the display is highlighted			
	36 Used to check send and receive data from the MODEM controller to the MFP controller or the data line or the command line individually			
	39 Used to check and change the destination setting saved in EEPROM of the FAX			
	42 Used to rewrite the program to power control installed in the FAX			
	43 Used to write the adjustment value into the power control installed in the FAX			
	61 Set the specification of image send operation			
	62 Backup FAX received data to the USB memory			
	67			
67	17 Reset printer memory			
	24 Adjust printer gray balance (auto)			6
	25 Adjust printer gray balance (manual)	1-4		6
	26 Set gray balance target in the printer mode			6
	31 Clear printer calibration data			
	33 Adjust printer screen gamma			
	34 Set the density correction of printer high density area			
	36 Adjust the density in the printer low density area			
	45			
	46 Adjust printer image edge			
	52 Set gamma default value of the printer screen			1-3
	54 Adjust printer gray balance			1-3

5. Details of simulation

1

1-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the scanner (reading) unit and the control circuit.
Section	Scanner (reading)

Operation/Procedure

- 1) Select the operation speed with the touch panel key.
- 2) Tap [EXECUTE] key.
Scanning is once performed at the speed corresponding to the scan resolution (operation speed).

Item/Display	Operation mode	Default value
OC SCAN	300DPI	300DPI (372mm/s)
	400DPI	400DPI (372mm/s)
	600DPI	600DPI (264.0mm/s)
	1200DPI	1200DPI (132mm/s)

1-2

Purpose	Operation test/check
Function (Purpose)	Used to check the sensors in the scanner (reading) section and the related circuits.
Section	Scanner (reading)

Operation/Procedure

The operating status of the sensor is displayed.
When "MHPS" is highlighted, the scanner unit is in the home position.

1-5

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the scanner (reading) unit and the control circuit.
Section	Scanner (reading)

Operation/Procedure

- 1) Select the operation speed with the touch panel key.
- 2) Tap [EXECUTE] key.
Scanning is repeated at the speed corresponding to the scan resolution (operation speed).
When [EXECUTE] key is tapped, the operation is terminated.

Item/Display	Operation mode	Default value
OC SCAN	300DPI	300DPI (372mm/s)
	400DPI	400DPI (372mm/s)
	600DPI	600DPI (264.0mm/s)
	1200DPI	1200DPI (132mm/s)

2

2-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the automatic document feeder and the control circuit.
Section	SPF

Operation/Procedure

- 1) Select the operation mode and the speed with the touch panel key.

2) Tap [EXECUTE] key.

The DSPF/RSPF repeats paper feed, transport, and paper exit operations at the speed corresponding to the scan resolution (operation speed).

When [EXECUTE] key is tapped, the operation is terminated.

DSPF

Item/Display	Operation mode	Default value
SPF SCAN (SINGLE)	300DPI	300DPI (496.0mm/s)
	400DPI	
	600DPI	
SPF SCAN (DOUBLE)	300DPI	300DPI (496.0mm/s)
	400DPI	
	600DPI	

RSPF

Item/Display	Operation mode	Default value
SPF SCAN (SINGLE)	300DPI	300DPI (396.0mm/s)
	400DPI	
	600DPI	
SPF SCAN (DOUBLE)	300DPI	300DPI (396.0mm/s)
	400DPI	
	600DPI	

2-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and the detectors in the automatic document feeder section and the control circuits.
Section	Automatic document feeder

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The code names of the sensors and the detectors which are active are highlighted.

DSPF

Display	Content
SCOV	Upper cover sensor
SLCOV	Lower cover sensor
SOCD	SPF sensor
SPED1	Document sensor 1
SPED2	Document sensor 2
SPLS1	Document length sensor 1
SPLS2	Document length sensor 2
SPOD	Document exit sensor
SPPD1	Document pass sensor 1
SPPD2	Document pass sensor 2
SPPD3	Document pass sensor 3
SPPD4	Document pass sensor 4
SPPD5	Document pass sensor 5
SPRDMD	Document random sensor
SSET	SPF installation detection
STLD	Document feed tray lower limit sensor
STUD	Document feed tray upper limit sensor

RSPF

Display	Content
SCOV	Cover sensor
SOCD	SPF sensor
SPED	Document sensor
SPLS1	Document length sensor 1
SPLS2	Document length sensor 2
SPPD1	Document pass sensor 1
SPPD2	Document pass sensor 2
SPPD3	Document pass sensor 3
SPPD4	Document pass sensor 4
SSET	SPF installation detection

2-3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the loads in the automatic document feeder and the control circuit.
Section	SPF

Operation/Procedure

1) Select a target item of the operation check with the touch panel key.

2) Tap [EXECUTE] key.

The selected load performs the operation.

When [EXECUTE] key is tapped, the operation is terminated.

DSPF

Display	Content
SLUM	Lift motor
SPFC	Document feed clutch
SPFFAN	SPF fan
SPFM	Transport motor
SPOM	Document exit motor
SRRC	Registration roller clutch
STRC	Transport roller 2 clutch
STRRC	Transport roller 1 clutch

RSPF

Display	Content
SPFM_F	Transport motor (normal rotation)
SPFM_R	Transport motor (reverse rotation)
SPRS	Document exit roller solenoid
SPUM_F	Document feed motor (normal rotation)
SPUM_R	Document feed motor (reverse rotation)
SRRC	Registration roller clutch

3

3-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and the detectors in the finisher and the control circuit.
Section	Finisher

Operation/Procedure

The operating conditions of the sensors are displayed.

The code names of the sensors which are active are highlighted.

Inner finisher (MX-FN27 N)

Display	Content
FNECODTC	Staple-less staple connection detection signal
FNINTSNS	Punch unit paper rear edge detection signal
FNMANSW	Manual staple switch
FNMSW1	Front cover switch
FNPS1	Delivery sensor
FNPS2	Paddle home position sensor
FNPS3	Return belt home position sensor
FNPS4	Front alignment plate home position sensor
FNPS5	Rear alignment plate home position sensor
FNPS6	Processing tray paper sensor
FNPS7	Assist home position sensor
FNPS8	Paper bundle hold home position sensor
FNPS9	Paper height sensor
FNPS10	Tray lower limit sensor
FNPS11	Stapler shift home position sensor
FNPS12	Manual staple sensor
FNPS14	Stack tray home position sensor
FNPS16	Divide sensor

Display	Content
FNPUDTC	Punch unit connection detection signal
FNSTPLHP	Stapler home position sensor
FNSTPLLS	Staple empty sensor
FNSTPLRE	Staple lead edge sensor

Inner finisher punch unit (MX-PN14)

Display	Content
FCPUENCS	Punch motor rotation sensor
FCPI_S	Punch home position sensor
FCYKPTRS	Punch timing sensor
FCRI_S	Punch mode sensor
FCFULL_S	Punch dust full sensor

Inner finisher staple-free Staple Unit

Display	Content
FNPS13	eco staple motor encoder sensor
FNPS15	eco staple home position sensor

Finisher (MX-FN28)

Display	Content
BLTHPS	Release home position sensor
ENT	Inlet sensor
EXGPLTHP	Paper exit guide plate open/close home position sensor
FDRSW	Door open/close switch
HITHP	Flapper home position sensor
JOGHPS	Jogger home position sensor
LDWNLMUT	Lift tray lower limit lower sensor
LMDLT	Intermediate feeder left sensor
PRFEX	Proof paper exit sensor
PRFTRYFL	Proof tray full sensor
RMDLT	Intermediate feeder right sensor
SFTROLHP	Shift home position sensor
STMHP	Staple shift home position sensor
STPDRRHP	Staple driver home position sensor
STPNEND	Staple near end sensor
STPSPRM	Staple self-priming sensor
STPTRPAP	Staple tray paper empty sensor
UDWNLMUT	Lift tray lower limit upper sensor
UPCVR	Upper cover open/close sensor
UPEX	Lift tray paper exit sensor
UPLMUTSW	Lift tray upper limit switch
UTNRH	Tray near home detection sensor
UTRPH	Tray paper surface sensor

Finisher (MX-FN29)

Display	Content
BDLTRS	Bundle transport sensor
BLTHPS	Release home position sensor
ENDSHP	Rear edge stopper home position sensor
ENDSTRS	Rear edge stopper transport sensor
ENT	Inlet sensor
EXGPLTHP	Paper exit guide plate open/close home position sensor
FDRSW	Door open/close switch
FLDCMHP	Folding cam home position sensor
FLDEX	Folding paper exit sensor
FLDPLTHP	Folding blade home position sensor
HITHP	Flapper home position sensor
JOGHPS	Jogger home position sensor
LDWNLMUT	Lift tray lower limit lower sensor
LMDLT	Intermediate feeder left sensor
LPRSRLHP	Bundle transport lower pressure release home position sensor
PRFEX	Proof paper exit sensor
PRFTRYFL	Proof tray full sensor
RMDLT	Intermediate feeder right sensor
SDLFLL	Folding tray full lower sensor
SDLFLLU	Folding tray full upper sensor
SFTROLHP	Shift home position sensor
SSSTPCHP	Saddle stitch staple clincher home position sensor

Display	Content
STMHP	Staple shift home position sensor
STPDRRHP	Staple driver home position sensor
STPNEND	Staple near end sensor
STPSPRM	Staple self-priming sensor
STPTRPAP	Staple tray paper empty sensor
STTKSH	Staple retracting sensor
UDWNLMUT	Lift tray lower limit upper sensor
UPCVR	Upper cover open/close sensor
UPEX	Lift tray paper exit sensor
UPLMUTSW	Lift tray upper limit switch
UPRSRLHP	Bundle transport upper pressure release home position sensor
UTNRH	Tray near home detection sensor
UTRPH	Tray paper surface sensor

Finisher punch unit (MX-PN15)

Display	Content
PAPPOS	Punch horizontal registration sensor
PAPPOSHP	Punch horizontal registration shift home position sensor
PNCHENC	Punch rear position sensor
PNCHHP	Pinch home position sensor
PNCHHPFL	Punch hopper full sensor
PNCHMVHP	Punch shift home position sensor
PSLTDSW1	Punch selection DIP SW 1
PSLTDSW2	Punch selection DIP SW 2

Finisher (MX-FN30)

Display	Content
FN1DDS	DIP SW1 detection sensor
FN1DO	Stack tray paper surface sensor 1
FN1DPS	Push SW1 detection sensor
FN2DDS	DIP SW2 detection sensor
FN2DO	Stack tray paper surface sensor 2
FN2DPS	Push SW2 detection sensor
FN3DDS	DIP SW3 detection sensor
FN4DDS	DIP SW4 detection sensor
FNAMS	Manual staple switch
FNB	Buffer sensor
FNDCN	Alignment unit detection signal
FNDPCP	Punch detection signal
FNDPCS	Saddle detection signal
FNDES	Staple empty detection sensor
FNDFET	Escape tray full detection sensor
FNDOCFD	Front cover sensor
FNDOHS	Staple cuing detection sensor
FNDPMS	Manual staple paper detection sensor
FNDPOPT	Process tray paper detection sensor
FNE	Entry port sensor
FNEE	Escape paper exit sensor
FNFM TLC	Load tray full (Large coated paper) sensor
FNFM TLS	Load tray middle (Large coated paper) sensor
FNFM TSS	Load tray lower limit (Small coated paper) sensor
FNHPAR	Rear edge assist home position sensor
FNHPCSL	Staple-free stapling clinch home position sensor
FNHPDSS	Stapler home position sensor
FNHPFECE	Escape/saddle home position sensor
FNHPFR	Rear paper edge flap home position sensor
FNHPGKS	Return roller lift home position sensor
FNHPJF	Front alignment plate home position sensor
FNHPJR	Rear alignment plate home position sensor
FNHPMSS	Stapler shift home position sensor
FNHPMT	Load tray home position sensor
FNHPP	Paddle home position sensor
FNHPS	Oscillation home position sensor
FNHPTF	Front tongue home position sensor
FNHPTR	Rear tongue home position sensor
FNMCSSL	Staple-free stapling motor clock sensor
FNOCFD	Front cover switch
FNSSS	Staple safety switch
FNTBP	Preprocessing timing sensor

Display	Content
FNULMT	Load tray upper limit sensor

Finisher (MX-FN31)

Display	Content
FN1DDS	DIP SW1 detection sensor
FN1DO	Stack tray paper surface sensor 1
FN1DPS	Push SW1 detection sensor
FN2DDS	Stack tray paper surface sensor 2
FN2DO	Stack tray paper surface sensor 2
FN2DPS	Push SW2 detection sensor
FN3DDS	DIP SW3 detection sensor
FN4DDS	DIP SW4 detection sensor
FNAMS	Manual staple switch
FNB	Buffer sensor
FNDCN	Alignment unit detection signal
FNDCP	Punch detection signal
FNDCS	Saddle detection signal
FNDES	Staple empty detection sensor
FNDFET	Escape tray full detection sensor
FNDOCFD	Front cover sensor
FNDOHS	Staple cuing detection sensor
FNDPMS	Manual staple paper detection sensor
FNDPOPT	Process tray paper detection sensor
FNE	Entry port sensor
FNEE	Escape paper exit sensor
FNFMTC	Load tray full (Large coated paper) sensor
FNFMTC	Load tray middle (Large coated paper) sensor
FNFMTC	Load tray lower limit (Small coated paper) sensor
FNHPPAR	Rear edge assist home position sensor
FNHPCSL	Staple-free stapling clinch home position sensor
FNHPDSS	Stapler home position sensor
FNHPFECE	Escape/saddle home position sensor
FNHPFR	Rear paper edge flap home position sensor
FNHPGKS	Return roller lift home position sensor
FNHPJF	Front alignment plate home position sensor
FNHPJR	Rear alignment plate home position sensor
FNHPMSS	Stapler shift home position sensor
FNHPMT	Load tray home position sensor
FNHPP	Paddle home position sensor
FNHPS	Oscillation home position sensor
FNHPTF	Front tongue home position sensor
FNHPTR	Rear tongue home position sensor
FNMCSSL	Staple-free stapling motor clock sensor
FNOCFD	Front cover switch
FNSSS	Staple safety switch
FNTBP	Preprocessing timing sensor
FNULMT	Load tray upper limit sensor
FSDU	Saddle detection sensor
FSE	Saddle entry port sensor
FSEB	Saddle folding bundle paper exit sensor
FSEPB	Saddle folding bundle load paper empty sensor
FSEFS	Saddle staple front staple empty sensor
FSESR	Saddle staple rear staple empty sensor
FSHPDSS	Saddle staple drive home position sensor
FSHPCL	Saddle switch lever home position sensor
FSHPG	Saddle gripper home position sensor
FSHPJ	Saddle alignment plate home position sensor
FSHP	Saddle paddle home position sensor
FSHPSR	Saddle rear edge stopper home position sensor
FSHPT	Saddle pushing home position sensor
FSMCE	Saddle paper exit motor clock sensor
FSMCF	Saddle folding motor clock sensor
FSPV	Saddle vertical path sensor

Finisher punch unit (MX-PN16)

Display	Content
FCDFWP	Punch dust full detection sensor
FCEP	Punch encoder sensor
FCHPP	Punch home position sensor
FCHPR	Punch shift home position sensor
FC1DR	Punch horizontal registration detection sensor 1

Display	Content
FC2DR	Punch horizontal registration detection sensor 2
FC3DR	Punch horizontal registration detection sensor 3
FC4DR	Punch horizontal registration detection sensor 4
FC5DR	Punch horizontal registration detection sensor 5

Paper pass unit (MX-RB25 N)

Display	Content
PDOS1	Cover open sensor 1
PDOS2	Cover open sensor 2
PDPPD1	Paper pass detector 1
PDPPD2	Paper pass detector 2

3-3	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the load in the finisher and the control circuit.
Section	Finisher

Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Tap [EXECUTE] key.
The selected load performs the operation.
When [EXECUTE] key is tapped, the operation is terminated.

Inner finisher (MX-FN27 N)

Display	Content
FN1M	Feed motor
FN2M	Return belt motor
FN3M	Front alignment motor
FN4M	Rear alignment motor
FN5M	Assist motor
FN6M	Tray lift motor
FN7M	Stapler shift motor
FN10M	Paddle motor
FNLS	Rear paper flap solenoid
FNSTPLIF	Staple motor

Inner finisher punch unit (MX-PN14)

Display	Content
FCMOT	Punch motor

Inner finisher staple-free Staple Unit

Display	Content
FN1M	eco staple motor

Finisher (MX-FN28)

Display	Content
BLT_M	Release motor
ENTRS_M	Entry port transport motor
EXGLT_M	Paper exit guide plate open/close motor
EXTRS_M	Paper exit transport/Flapping drawing roller motor
JCTG_S	Branch solenoid
JOG_M	Jogger motor
PSN_M	Flapping motor
SFT_M	Shift motor
STPMOV_M	Staple motor
STPMV_M	Stapler shift motor
TRYLFT_M	Tray lift motor
UPTRS_M	Proof transport motor

Finisher (MX-FN29)

Display	Content
BLT_M	Release motor
ENDS_M	Rear edge stopper motor
ENTRS_M	Entry port transport motor
EXGLT_M	Paper exit guide plate open/close motor
EXTRS_M	Paper exit transport/Flapping drawing roller motor

Display	Content
FLDPLT_M	Folding blade motor
FLTRS_M	Folding transport motor
GDLED	Guide LED
JCTG_S	Branch solenoid
JOG_M	Jogger motor
LPRSRL_M	Bundle transport lower pressure release motor
PSN_M	Flapping motor
SFT_M	Shift motor
STPMOV_M	Staple motor
STPMV_M	Stapler shift motor
TRYLFT_M	Tray lift motor
UBTRS_M	Bundle transport upper motor
UPRSRL_M	Bundle transport upper pressure release/Standard fence evacuation motor
UPTRS_M	Proof transport motor

Finisher punch unit (MX-PN15)

Display	Content
PNCHMV_M	Punch shift motor
PNCH_M	Punch motor
STSMOV_M	Punch horizontal registration shift motor

Finisher (MX-FN30)

Display	Content
FNCDP	Paddle drive clutch
FNCDRUS	Oscillation lower roller drive clutch
FNCEDE	Escape transport drive switch clutch
FNMAR	Rear edge assist motor
FNMB	Buffer motor
FNMDT	Tray auxiliary guide motor
FNME	Discharge motor
FNMEC	Entry port transport motor
FNMFECS	Escape/Saddle motor
FNMFR	Paper rear edge flap motor
FNMGMT	Tray lift motor
FNMGRS	Return roller lift motor
FNMJF	Front alignment motor
FNMJR	Rear alignment motor
FNMMS	Stapler shift motor
FNMS	Oscillation motor
FNMSLS	Stapler free staple motor
FNMS	Staple motor

Finisher (MX-FN31)

Display	Content
FNCDP	Paddle drive clutch
FNCDRUS	Oscillation lower roller drive clutch
FNCEDE	Escape transport drive switch clutch
FNMAR	Rear edge assist motor
FNMB	Buffer motor
FNMDT	Tray auxiliary guide motor
FNME	Discharge motor
FNMEC	Entry port transport motor
FNMFECS	Escape/Saddle motor
FNMFR	Paper rear edge flap motor
FNMGMT	Tray lift motor
FNMGRS	Return roller lift motor
FNMJF	Front alignment motor
FNMJR	Rear alignment motor
FNMMS	Stapler shift motor
FNMS	Oscillation motor
FNMSLS	Stapler free staple motor
FNMS	Staple motor
FSMC	Saddle transport motor
FSMDLE	Saddle switching lever motor
FSME	Saddle discharge motor
FSMF	Saddle folding motor
FSMG	Saddle gripper motor
FSMJ	Saddle alignment motor
FSMS	Saddle staple motor
FSMSR	Saddle rear edge stopper motor

Finisher punch unit (MX-PN16)

Display	Content
FCMR	Punch shift motor
FCP	Punch motor

Paper pass unit (MX-RB25 N)

Display	Content
PDPTM	Transport motor

3-10

Purpose	Adjustment
Function (Purpose)	Used to adjust the finisher.
Section	Finisher

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. (The set value is saved.)

Inner finisher (MX-FN27)

Item/Display	Content	Setting range	Default value
A	ALIGNMENT	Alignment position	50 - 150
B	ALIGNMENT CENTER	Alignment position center	90 - 110
C	STAPLE FRONT	Staple position F side	50 - 150
D	STAPLE REAR	Staple position R side	50 - 150
E	STAPLE BOTH	Staple position FR side	50 - 150
F	MANUAL STAPLE POSITION	Manual staple position	80 - 120
G	STAPLELESS STAPLE Y	Staple free staple position (Y: main scanning direction)	70 - 130
H	STAPLELESS STAPLE X	Staple free staple position (X: sub scanning direction)	85 - 115
I	STAPLELESS STAPLE PRESSURE	Staple free staple welding pressure	85 - 115
J	BELT PRESSURE	Return belt pressure	90 - 110
K	MANUAL STAPLE TIME	Manual staple time out	1 - 5
L	MANUAL STAPLE PULLOUT TIME	Manual staple pull out time out	0 - 10
M	PUNCH X	Punch hole position	80 - 120

1K Finisher (MX-FN28)/1K Saddle finisher (MX-FN29)

Item/Display	Content	Setting range	Default value
A	STAPLE POSITION	Stapling position adjustment	93 - 107
B	JOGGER(A3)	Jogger position adjustment A3	97 - 103
C	JOGGER(B4)	Jogger position adjustment B4	97 - 103
D	JOGGER(A4-R)	Jogger position adjustment A4-R	97 - 103
E	JOGGER(A4)	Jogger position adjustment A4	97 - 103
F	JOGGER(B5-R)	Jogger position adjustment B5-R	97 - 103
G	JOGGER(B5)	Jogger position adjustment B5	97 - 103
H	JOGGER(11 x 17)	Jogger position adjustment 11 x 17	97 - 103

Item/Display		Content	Setting range	Default value
I	JOGGER(8.5 x 14)	Jogger position adjustment 8.5 x 14	97 - 103	100
J	JOGGER(8.5 x 11R)	Jogger position adjustment 8.5 x 11R	97 - 103	100
K	JOGGER(8.5 x 11)	Jogger position adjustment 8.5 x 11	97 - 103	100
L	JOGGER(12 x 18)	Jogger position adjustment 12 x 18	97 - 103	100
M	JOGGER(8KR)	Jogger position adjustment 8K	97 - 103	100
N	JOGGER(16K-R)	Jogger position adjustment 16K-R	97 - 103	100
O	JOGGER(16K)	Jogger position adjustment 16K	97 - 103	100
P	JOGGER(OTHER)	Jogger position adjustment Other	97 - 103	100
Q	HITTING ROLLER START(A3)	Flapping roller operation start timing adjustment A3	90 - 110	100
R	HITTING ROLLER START(B4)	Flapping roller operation start timing adjustment B4	90 - 110	100
S	HITTING ROLLER START(A4-R)	Flapping roller operation start timing adjustment A4-R	90 - 110	100
T	HITTING ROLLER START(A4)	Flapping roller operation start timing adjustment A4	90 - 110	100
U	HITTING ROLLER START(B5-R)	Flapping roller operation start timing adjustment B5-R	90 - 110	100
V	HITTING ROLLER START(B5)	Flapping roller operation start timing adjustment B5	90 - 110	100
W	HITTING ROLLER START(11 x 17)	Flapping roller operation start timing adjustment 11 x 17	90 - 110	100
X	HITTING ROLLER START(8.5 x 14)	Flapping roller operation start timing adjustment 8.5 x 14	90 - 110	100
Y	HITTING ROLLER START(8.5 x 11R)	Flapping roller operation start timing adjustment 8.5 x 11R	90 - 110	100
Z	HITTING ROLLER START(8.5 x 11)	Flapping roller operation start timing adjustment 8.5 x 11	90 - 110	100
AA	HITTING ROLLER START(12 x 18)	Flapping roller operation start timing adjustment 12 x 18	90 - 110	100
AB	HITTING ROLLER START(8K)	Flapping roller operation start timing adjustment 8K	90 - 110	100
AC	HITTING ROLLER START(16K-R)	Flapping roller operation start timing adjustment 16K-R	90 - 110	100
AD	HITTING ROLLER START(16K)	Flapping roller operation start timing adjustment 16K	90 - 110	100
AE	HITTING ROLLER START(OTHER)	Flapping roller operation start timing adjustment Other	90 - 110	100
AF	HITTING ROLLER TIME(A3)	Flapping roller flapping time adjustment A3	90 - 110	100
AG	HITTING ROLLER TIME(B4)	Flapping roller flapping time adjustment B4	90 - 110	100

Item/Display		Content	Setting range	Default value
AH	HITTING ROLLER TIME(A4-R)	Flapping roller flapping time adjustment A4-R	90 - 110	100
AI	HITTING ROLLER TIME(A4)	Flapping roller flapping time adjustment A4	90 - 110	100
AJ	HITTING ROLLER TIME(B5-R)	Flapping roller flapping time adjustment B5-R	90 - 110	100
AK	HITTING ROLLER TIME(B5)	Flapping roller flapping time adjustment B5	90 - 110	100
AL	HITTING ROLLER TIME(11 x 17)	Flapping roller flapping time adjustment 11 x 17	90 - 110	100
AM	HITTING ROLLER TIME(8.5 x 14)	Flapping roller flapping time adjustment 8.5 x 14	90 - 110	100
AN	HITTING ROLLER TIME(8.5 x 11R)	Flapping roller flapping time adjustment 8.5 x 11R	90 - 110	100
AO	HITTING ROLLER TIME(8.5 x 11)	Flapping roller flapping time adjustment 8.5 x 11	90 - 110	100
AP	HITTING ROLLER TIME(12 x 18)	Flapping roller flapping time adjustment 12 x 18	90 - 110	100
AQ	HITTING ROLLER TIME(8K)	Flapping roller flapping time adjustment 8K	90 - 110	100
AR	HITTING ROLLER TIME(16K-R)	Flapping roller flapping time adjustment 16K-R	90 - 110	100
AS	HITTING ROLLER TIME(16K)	Flapping roller flapping time adjustment 16K	90 - 110	100
AT	HITTING ROLLER TIME(OTHER)	Flapping roller flapping time adjustment Other	90 - 110	100
AU	HITTING ROLLER TIME(1-10)	Sheet number type flapping roller flapping time adjustment 1 - 10 sheets	90 - 110	100
AV	HITTING ROLLER TIME(11-20)	Sheet number type flapping roller flapping time adjustment 11 - 20 sheets	90 - 110	100
AW	HITTING ROLLER TIME(21-30)	Sheet number type flapping roller flapping time adjustment 21 - 30 sheets	90 - 110	100
AX	HITTING ROLLER TIME(31-40)	Sheet number type flapping roller flapping time adjustment 31 - 40 sheets	90 - 110	100
AY	HITTING ROLLER TIME(40-50)	Sheet number type flapping roller flapping time adjustment 41 - 50 sheets	90 - 110	100
AZ	SKEW QUANTITY(A3)	Skew correction striking quantity adjustment A3	75 - 125	100
BA	SKEW QUANTITY(B4)	Skew correction striking quantity adjustment B4	75 - 125	100
BB	SKEW QUANTITY(A4-R)	Skew correction striking quantity adjustment A4-R	75 - 125	100
BC	SKEW QUANTITY(A4)	Skew correction striking quantity adjustment A4	75 - 125	100
BD	SKEW QUANTITY(B5-R)	Skew correction striking quantity adjustment B5-R	75 - 125	100
BE	SKEW QUANTITY(B5)	Skew correction striking quantity adjustment B5	75 - 125	100
BF	SKEW QUANTITY(A5)	Skew correction striking quantity adjustment A5	75 - 125	100
BG	SKEW QUANTITY(11 x 17)	Skew correction striking quantity adjustment 11 x 17	75 - 125	100

Item/Display		Content	Setting range	Default value
BH	SKEW QUANTITY(8.5 x 14)	Skew correction striking quantity adjustment 8.5 x 14	75 - 125	100
BI	SKEW QUANTITY(8.5 x 11R)	Skew correction striking quantity adjustment 8.5 x 11R	75 - 125	100
BJ	SKEW QUANTITY(8.5 x 11)	Skew correction striking quantity adjustment 8.5 x 11	75 - 125	100
BK	SKEW QUANTITY(5.5 x 8.5)	Skew correction striking quantity adjustment 5.5 x 8.5	75 - 125	100
BL	SKEW QUANTITY(12 x 18)	Skew correction striking quantity adjustment 12 x 18	75 - 125	100
BM	SKEW QUANTITY(8K)	Skew correction striking quantity adjustment 8K	75 - 125	100
BN	SKEW QUANTITY(16 K-R)	Skew correction striking quantity adjustment 16K-R	75 - 125	100
BO	SKEW QUANTITY(16 K)	Skew correction striking quantity adjustment 16K	75 - 125	100
BP	SKEW QUANTITY(OTHER)	Skew correction striking quantity adjustment Other	75 - 125	100
BQ	SKEW MODE(A3)	Skew correction striking control switch A3	0 - 1	0
BR	SKEW MODE(B4)	Skew correction striking control switch B4	0 - 1	0
BS	SKEW MODE(A4-R)	Skew correction striking control switch A4-R	0 - 1	0
BT	SKEW MODE(A4)	Skew correction striking control switch A4	0 - 1	0
BU	SKEW MODE(B5-R)	Skew correction striking control switch B5-R	0 - 1	0
BV	SKEW MODE(B5)	Skew correction striking control switch B5	0 - 1	0
BW	SKEW MODE(A5)	Skew correction striking control switch A5	0 - 1	0
BX	SKEW MODE(11 x 17)	Skew correction striking control switch 11 x 17	0 - 1	0
BY	SKEW MODE(8.5 x 14)	Skew correction striking control switch 8.5 x 14	0 - 1	0
BZ	SKEW MODE(8.5 x 11R)	Skew correction striking control switch 8.5 x 11R	0 - 1	0
CA	SKEW MODE(8.5 x 11)	Skew correction striking control switch 8.5 x 11	0 - 1	0
CB	SKEW MODE(5.5 x 8.5)	Skew correction striking control switch 5.5 x 8.5	0 - 1	0
CC	SKEW MODE(12 x 18)	Skew correction striking control switch 12 x 18	0 - 1	0
CD	SKEW MODE(8K)	Skew correction striking control switch 8K	0 - 1	0
CE	SKEW MODE(16K-R)	Skew correction striking control switch 16K-R	0 - 1	0
CF	SKEW MODE(16K)	Skew correction striking control switch 16K	0 - 1	0
CG	SKEW MODE(OTHER)	Skew correction striking control switch Other	0 - 1	0
CH	PUNCH Y	Punch hole position adjustment (Y : Main scanning direction)	95 - 105	100
CI	PUNCH X	Punch hole position adjustment (X : Sub scanning direction)	85 - 115	100
CJ	SADDLE STITCHING	Saddle stitching position adjustment	85 - 115	100
CK	SADDLE FOLDING	Saddle folding position adjustment	85 - 115	100

Item/Display		Content	Setting range	Default value
CL	FOLDING TIME *	Folding time adjustment	0 - 29	0

* This is displayed only when MX-FN29 is connected.

3K Finisher (MX-FN30) / 3K Saddle finisher (MX-FN31)

Item/Display		Content	Setting range	Default value
A	ALIGNMENT	Alignment position adjustment	50 - 150	100
B	FRONT ADJUST	Front alignment position adjustment	50 - 150	100
C	REAR ADJUST	Rear alignment position adjustment	50 - 150	100
D	ALIGNMENT CENTER	Alignment position center adjustment	90 - 110	100
E	STAPLE FRONT	Stapling position adjustment (one position in front)	50 - 150	100
F	STAPLE REAR	Stapling position adjustment (one position at the rear)	50 - 150	100
G	STAPLE BOTH	Stapling position adjustment (staple pitch of two positions binding)	50 - 150	100
H	MANUAL STAPLE POSITION	Manual stapling position adjustment	80 - 120	100
I	STAPLELESS STAPLE POSITION	Staple-free stapling position adjustment	80 - 115	100
J	BUFFER SHIFT(1-2)	Buffer paper shift quantity adjustment (1-2 sheets)	40 - 160	100
K	BUFFER SHIFT(2-3)	Buffer paper shift quantity adjustment (2-3 sheets)	40 - 160	100
L	PUNCH X	Punch hole position adjustment (X : Sub scanning direction)	80 - 120	100
M	PUNCH Y	Punch hole position adjustment (Y : Main scanning direction)	97 - 115	100
N	EJECTING ROLLER	Paper exit roller height adjustment	70 - 130	100
O	KNURLING ROLLER	Take-up knurling height adjustment	0 - 150	100
P	KNURLING ROLLER RETREAT	Take-up knurling evacuation height adjustment	0 - 200	100
Q	STAPLELESS STAPLE PRESSURE	Staple-free stapling welding pressure adjustment (Motor rotation)	85 - 115	100
R	DELIVERY SPEED(NON-SORT)	Paper exit speed adjustment (Non-sort)	90 - 110	100
S	DELIVERY SPEED(ESCAPE)	Paper exit speed adjustment (Escape)	90 - 110	100
T	EJECTING SPEED(SHIFT)	Bundle paper eject speed adjustment (Shift bundle ejection)	95 - 105	100
U	EJECTING SPEED(STAPLE)	Bundle paper eject speed adjustment (Staple bundle ejection)	95 - 105	100
V	MANUAL STAPLE TIME	Manual staple time out setting	1 - 5	2
W	MANUAL STAPLE PULLOUT TIME	Manual staple pull out time out setting	0 - 10	0
X	STITCHING UNIT	Saddle staple position adjustment	80 - 120	100
Y	STITCHING UNIT THIN	Saddle staple position adjustment (Thin paper)	80 - 120	100
Z	FOLDING UNIT	Saddle folding position adjustment	80 - 120	100

Item/Display		Content	Setting range	Default value
AA	FOLDING UNIT THIN	Saddle folding position adjustment (Thin paper)	80 - 120	100
AB	SADDLE ALIGNMENT	Saddle alignment width adjustment	80 - 120	100
AC	STITCHING AND FOLDING	Saddle staple folding position adjustment	30 - 70	50
AD	SADDLE FOLDING(A4-R/8.5 x 11R)	Saddle folding position adjustment A4-R/8.5 x 11R	30 - 70	50
AE	SADDLE FOLDING(B4/8.5 x 14)	Saddle folding position adjustment B4/8.5 x 14	30 - 70	50
AF	SADDLE FOLDING(A3/11 x 17)	Saddle folding position adjustment A3/11 x 17	30 - 70	50
AG	SADDLE FOLDING(12 x 18)	Saddle folding position adjustment 12 x 18	30 - 70	50
AH	SADDLE FOLDING(CUSTOM)	Saddle folding position adjustment Custom size	30 - 70	50

4

4-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and detectors in the desk/large capacity tray (LCC), and the control circuit of those.
Section	Desk/Large capacity tray (LCC)

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The code names of the sensors and the detectors which are active are highlighted.

Desk

Display	Content
D1MDC	Desk 3 installation detection connector
D1PED	Desk 3 paper empty sensor
D1PPD	Desk 3 paper transport sensor
D1PQD	Desk 3 remaining paper quantity sensor
D1PRED1	Desk 3 paper rear edge sensor 1
D1PRED2	Desk 3 paper rear edge sensor 2
D1PRED3	Desk 3 paper rear edge sensor 3
D1PRED4	Desk 3 paper rear edge sensor 4
D1ULD	Desk 3 upper limit detector
D2MDC	Desk 4 installation detection connector
D2PED	Desk 4 paper empty sensor
D2PPD	Desk 4 paper transport sensor
D2PQD	Desk 4 remaining paper quantity sensor
D2PRED1	Desk 4 paper rear edge sensor 1
D2PRED2	Desk 4 paper rear edge sensor 2
D2PRED3	Desk 4 paper rear edge sensor 3
D2PRED4	Desk 4 paper rear edge sensor 4
D2ULD	Desk 4 upper limit detector

Tandem LCC

Display	Content
D1CDT	Desk 3 insertion detection
D1LUD	Desk 3 upper limit sensor
D1PED	Desk 3 paper empty sensor
D1PFD	Desk 3 paper transport sensor
D1PPD1	Desk 3 paper transport sensor 1
D1PPD2	Desk 3 paper transport sensor 2
D1PQD	Desk 3 remaining paper quantity sensor
D2CDT	Desk 4 insertion detection

Display	Content
D2LUD	Desk 4 upper limit sensor
D2PED	Desk 4 paper empty sensor
D2PQD	Desk 4 remaining paper quantity sensor
DHOD	Horizontal transport open/close detection

LCC

Display	Content
24VM	LCC 24V power monitor
LCCD	LCC main unit connection sensor
LCLSW	LCC tray open/close switch
LDD	LCC tray lower limit sensor
LLSW	LCC upper limit switch
LPED	LCC tray paper empty sensor
LPFD	LCC transport sensor
LPFPD	LCC transport sensor 2
LPUD	LCC paper upper surface sensor
LRE	LCC lift motor encoder sensor
LUD	LCC tray upper limit sensor
LWRSW	LCC reverse winding detection switch

4-3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the loads in the desk/large capacity tray (LCC), and the control circuit of those.
Section	Desk/Large capacity tray (LCC)

Operation/Procedure

- 1) Select the load item that is required to operation check with the touch panel key.
- 2) Tap [EXECUTE] key.
The selected load performs the operation.
When [EXECUTE] key is tapped, the operation is terminated.

Desk

Display	Content
D1LM	Tray 3 lift-up motor
D1PFC	Tray 3 paper feed clutch
D2LM	Tray 4 lift-up motor
D2PFC	Tray 4 paper feed clutch
DPFM	Desk transport motor
DPTRC	Desk paper transport clutch

Tandem LCC

Display	Content
D1LM	Tray 3 lift-up motor
D1PFC	Tray 3 paper feed clutch
D2LM	Tray 4 lift-up motor
D2PFC	Tray 4 paper feed clutch
DPFM	Desk transport motor
DPTRC	Desk paper transport clutch

LCC

Display	Content
LLM	LCC lift motor
LPFC	LCC paper feed clutch
LPFM	LCC paper transport motor
LPFS	LCC paper feed solenoid
LTRC	LCC transport clutch

4-5	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the paper feed desk paper transport clutch (DTRC) and the LCC paper transport clutch (LTRC).
Section	Desk/Large capacity tray (LCC)

Operation/Procedure

Check the ON operation

Tap the button of the code name for checking the ON operation. Checking is started. When the operation is normal, the button on the display is highlighted. When it is abnormal, the button is not highlighted.

Check the OFF operation

Tap the highlighted button which is ON.

When the operation is normal, the highlighted button on the display returns to the normal display. When it is abnormal, the highlighted display is maintained.

Button	Content
DTRC	Desk transport clutch
LTRC	A4 LCC transport clutch

5

5-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the display, LCD in the operation panel, and control circuit.
Section	Operation panel

Operation/Procedure

The LCD is changed as shown below.

The contrast changes every 2sec from the current level to MAX → MIN → the current level. During this period, each LED is lighted.

The LCD display contrast change and the LED lighting status are checked.

5-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the heater lamp and the control circuit.
Section	Fusing

Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Tap [EXECUTE] key.
The selected heater lamp operates ON/OFF.
When [EXECUTE] key is tapped, the operation is terminated.

Heater lamp operation check method:

Remove the front cabinet upper and the paper exit tray, and the lighting status of each heater lamp can be checked through the clearance between the fusing pressure release drive gear and the frame fusing section.

HL_UM	Main heater lamp (Upper main)
HL_US	Sub heater lamp (Upper sub)

5-3	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the scanner lamp and the control circuit.
Section	Scanner (reading)

Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Tap [EXECUTE] key.
The scanner lamp lights up for 10 sec.
When [EXECUTE] key is tapped, the operation is terminated.

5-4	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the discharge lamp and the control circuit.
Section	Process

Operation/Procedure

- 1) Select a target of the operation check with the touch panel key. When [ALL] key is tapped, all the items are selected.
- 2) Tap [EXECUTE] key.
The selected discharge lamp is lighted for 30 sec.
When [EXECUTE] key is tapped, the operation is terminated.

DL	Discharge lamp
----	----------------

6

6-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the load in the paper transport system (clutches and solenoids) and the control circuits.
Section	Paper transport/Paper exit section

Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Tap [EXECUTE] key.
The selected load performs the operation.
When [EXECUTE] key is tapped, the operation is terminated.

Load operation check method:

The load operation is checked by the operation sound. However, there are some loads which cannot be checked with the operation sound.

Display	Content
C1LUM	Paper tray lift motor
C1PUC	Paper feed clutch
C2LUM	Paper tray lift motor
C2PUC	Paper feed clutch
CPFC1	Vertical transport clutch
CPFC2	Vertical transport clutch
CPFM	Paper feed motor
FUM	Fusing motor
HPFC	Horizontal transport clutch
MPFS	Paper feed solenoid
MPUC	Manual paper feed clutch
OSM	Offset motor
PFM	Transport motor
POGS	Gate solenoid
POM	Paper exit motor
PSPS	Separation solenoid
RRM	Registration motor

Display	Content
SBM_F	Reverse motor (normal rotation)
SBM_R	Reverse motor (reverse rotation)
TRC_DSK	Desk clutch
TRC_FIN	Finisher clutch
TRC_LCC	LCC clutch

6-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of each fan motor and its control circuit.
Section	Others

Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Tap [EXECUTE] key.
The selected load performs the operation.
When [EXECUTE] key is tapped, the operation is terminated.
Tap [ALL] key to select all the fans collectively.

Load operation check method:

The load operation is checked by the operation sound. However, there are some loads which cannot be checked with the operation sound.

Display	Content
POFM1	Paper exit fan 1
POFM2	Paper exit fan 2
PROFM1	Process fan 1
PROFM2	Process fan 2
PSFM	Power supply fan

6-6	
Purpose	Operation test/check
Function (Purpose)	Used to perform fusing pressure release and applying, and to check the operations of the control circuits.
Section	Fusing

Operation/Procedure

- 1) Tap [FUSER] key to highlight it.
- 2) Tap [EXECUTE] key, and fusing pressure applying and fusing pressure release are repeated.

During this period, the status of the fusing roller pressure is displayed.

PRINT	Fusing pressure applying	Fusing pressure applying -> Fusing pressure release -> (Fusing pressure applying) The operation is repeated.
FREE	Fusing pressure release	

6-8	
Purpose	Operation test/check
Function (Purpose)	Used to check fuser belt meandering operation.
Section	Fusing

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) When the operation is completed normally, "COMPLETE" is displayed.

Display	Content
STATUS	Meandering control operation status
RESULT	Judgement result of meandering adjustment

6-90	
Purpose	Setting
Function (Purpose)	Used to reset the machine to the factory setting. (The scanner is set to the lock enable position)
Section	Scanner

Operation/Procedure

- 1) Tap [EXECUTE] key.
The scanner is shifted to the lock enable position and stopped.

7

7-1	
Purpose	Setting
Function (Purpose)	Used to set the operating conditions of aging.
Section	Others

Operation/Procedure

- 1) Select an item to be set with the touch panel key.
- 2) Tap [EXECUTE] key.

The machine is rebooted in the aging mode.

The aging operation condition set by this mode is maintained hereafter unless the power is turned off or the setting is changed.

AGING	Aging operation setup
INTERVAL	Intermittent operation setting
MISFEED DISABLE	JAM detection ignoring setting
FUSING DISABLE	Fusing unit ignoring setting
WARMUP DISABLE	Warming up ignoring setting
DV CHECK DISABLE	Developing unit ignoring setting
SHADING DISABLE	Shading correction operation omitting setting
CCD GAIN FREE	CCD gain adjustment omitting setting

7-6	
Purpose	Setting
Function (Purpose)	Used to set the operating intermittent aging cycle.
Section	

Operation/Procedure

- 1) Enter the intermittent aging operation cycle (unit: sec) with 10-key.
- 2) Tap [OK] key.

The time entered in procedure 1) is set.

* The interval time that can be set is 1 to 900 (sec).

The aging operation condition set by this mode is maintained hereafter unless the power is turned off or the setting is changed.

7-8	
Purpose	Operation display
Function (Purpose)	Used to display the warm-up time.
Section	

Operation/Procedure

Tap [EXECUTE] key.

Counting of the warm-up time is started and the time required for warm-up is displayed

* Interruption of counting by tapping [EXECUTE] key is inhibited.

7-12	
Purpose	Operation test/check
Function (Purpose)	The document reading number of sheets setting (for aging operation)
Section	SPF

Operation/Procedure

- 1) Set document reading quantity with 10-key.
(Setting range:0 - 255)

- 2) Tap [OK] key. The set value is saved.

The aging operation condition set by this mode is maintained here-after unless the power is turned off or the setting is changed.

8

8-1	
Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operations of the developing voltage in each print mode and the control circuit. * When the middle speed is adjusted, the low speed are also adjusted simultaneously.
Section	Process (Developing)

Operation/Procedure

- 1) Select a speed with [MIDDLE] and [LOW] keys on the touch panel.
- 2) Select a target item to be adjusted with scroll keys.
- 3) Enter the setting value with 10-key. (The value specified on the label of the high voltage PWB must be entered.)
* When the r s key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Tap [OK] key. Tap [OK] key. The set value is saved.

Item / Display			Content	Setting range	Actual voltage
MIDDLE	A	MIDDLE SPEED DVB_K	Developing bias voltage (middle speed)	0~700	-475V±5V
LOW	A	LOW SPEED DVB_K	Developing bias voltage (low speed)	0~700	-475V±5V

8-2	
Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit. * When the middle speed is adjusted, the low speed are also adjusted simultaneously.
Section	Process (Charging)

Operation/Procedure

- 1) Select a speed with [MIDDLE] and [LOW] keys on the touch panel.
- 2) Select a target item to be adjusted with scroll keys.
- 3) Enter the adjustment value with 10-key. (The value specified on the label of the high voltage PWB must be entered.)
* When the r s key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Tap [OK] key. The set value is saved.

Item / Display			Content	Setting range	Actual voltage	
					30/35/40 ppm machine	50/60 ppm machine
MIDDLE	A	MIDDLE SPEED GB_K	Main charger grid voltage (middle speed)	150~850	-660V±5V	-665V±5V
LOW	A	LOW SPEED GB_K	Main charger grid voltage (low speed)	150~850	-660V±5V	-660V±5V

Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operation of the transport voltage and the control circuit.
Section	Process (Transport)

Operation/Procedure

- 1) Select a target item to be adjusted with scroll keys.
- 2) Enter the set value with 10-key.
Enter the default value specified on the following list.
- 3) Tap [OK] key. The set value is saved.

Item / Display		Content		30/35/40ppm machine		50ppm machine		60ppm machine	
				Default	Output	Default	Output	Default	Output
A	TC PLAIN BW SPX	TC bias value	Standard1 front	72	10 μ A	80	13 μ A	85	15 μ A
B	TC PLAIN BW DPX		Standard1 back	72	10 μ A	80	13 μ A	85	15 μ A
C	TC PLAIN2 BW SPX		Standard2 front	72	10 μ A	80	13 μ A	85	15 μ A
D	TC PLAIN2 BW DPX		Standard2 back	72	10 μ A	80	13 μ A	85	15 μ A
E	TC HEAVY1 BW SPX		Heavy1 front	80	13 μ A	80	13 μ A	80	13 μ A
F	TC HEAVY1 BW DPX		Heavy1 back	80	13 μ A	80	13 μ A	80	13 μ A
G	TC HEAVY2 BW SPX		Heavy2 front	80	13 μ A	80	13 μ A	80	13 μ A
H	TC HEAVY2 BW DPX		Heavy2 back	80	13 μ A	80	13 μ A	80	13 μ A
I	TC HEAVY3 BW SPX		Heavy3 front	80	13 μ A	80	13 μ A	80	13 μ A
J	TC HEAVY3 BW DPX		Heavy3 back	80	13 μ A	80	13 μ A	80	13 μ A
K	TC HEAVY4 BW SPX		Heavy4 front	80	13 μ A	80	13 μ A	80	13 μ A
L	TC OHP BW		OHP	80	13 μ A	80	13 μ A	80	13 μ A
M	TC ENVELOPE BW		Envelope	80	13 μ A	80	13 μ A	80	13 μ A
N	TC THIN BW		Thin paper	93	18 μ A	93	18 μ A	93	18 μ A
O	TC GLOSSY PAPER BW		Gloss paper	80	13 μ A	80	13 μ A	80	13 μ A
P	TC LABEL BW		Label paper	80	13 μ A	80	13 μ A	80	13 μ A
Q	TC FRONT EDGE LOW SPX	TC front edge bias value	Low front	80	13 μ A	80	13 μ A	80	13 μ A
R	TC FRONT EDGE LOW DPX		Low back	80	13 μ A	80	13 μ A	80	13 μ A
S	TC FRONT EDGE MIDDLE SPX		Middle front	72	10 μ A	80	13 μ A	85	15 μ A
T	TC FRONT EDGE MIDDLE DPX		Middle back	72	10 μ A	80	13 μ A	85	15 μ A
U	TC ADSORPTION LOW	TC adsorption bias value	Low (+)	59	5 μ A	59	5 μ A	59	5 μ A
V	TC ADSORPTION MIDDLE		Middle (+)	59	5 μ A	59	5 μ A	59	5 μ A
W	TC BACKEND LOW SPX	TC rear edge bias value	Low front	80	13 μ A	80	13 μ A	80	13 μ A
X	TC BACKEND LOW DPX		Low back	80	13 μ A	80	13 μ A	80	13 μ A
Y	TC BACKEND MIDDLE SPX		Middle front	72	10 μ A	80	13 μ A	85	15 μ A
Z	TC BACKEND MIDDLE DPX		Middle back	72	10 μ A	80	13 μ A	85	15 μ A
AA	TC INTERVAL LOW	Interval bias value	Low (+)	51	2 μ A	51	2 μ A	51	2 μ A
AB	TC INTERVAL MIDDLE		Middle (+)	51	2 μ A	51	2 μ A	51	2 μ A
AC	TC COUNTER LOW	TC counter bias value	Low (-)	169	-800V	169	-800V	169	-800V
AD	TC COUNTER MIDDLE		Middle (-)	169	-800V	169	-800V	169	-800V
AE	TC CLEANING MINUS LOW	Cleaning negative bias value	Low (-)	169	-800V	169	-800V	169	-800V
AF	TC CLEANING MINUS MIDDLE		Middle (-)	169	-800V	169	-800V	169	-800V
AG	TC CLEANING PLUS LOW	Cleaning positive bias value	Low (+)	59	5 μ A	59	5 μ A	59	5 μ A
AH	TC CLEANING PLUS MIDDLE		Middle (+)	59	5 μ A	59	5 μ A	59	5 μ A
AI	DHV LOW SPX	Separation bias value	Low front	111	-1400V	111	-1400V	111	-1400V
AJ	DHV LOW DPX		Low back	111	-1400V	111	-1400V	111	-1400V
AK	DHV MIDDLE SPX		Middle front	118	-1500V	118	-1500V	118	-1500V
AL	DHV MIDDLE DPX		Middle back	118	-1500V	118	-1500V	118	-1500V

* Heavy paper 1: 106-176g/m² 28 lbs bond-65 lbs Cover
Heavy paper 2: 177-220g/m² 65lbs Cover-80 lbs Cover
Heavy paper 3: 221-256g/m² 80 lbs Cover-140 lbs Index
Heavy paper 4: 257-300g/m² 140 lbs Index-110 lbs Cover

* Standard paper 1: 60-89g/m² 16-24 lbs bond
Standard paper 2: 90-105g/m² 24-28 lbs bond

8-10	
Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operation of the main charger total current output in each printer mode and the control circuit.
Section	Process (Charging)

Operation/Procedure

- 1) Select a target item of setting with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. (The set value is saved.)

Item/Display			Contents	Setting range	Default value	Changeable range
MIDDLE	A	SPEED MC_K	Main charger total current K	50 - 100	70	-500 - -1000μA
LOW	A	SPEED MC_K	Main charger total current K	50 - 100	70	-500 - -1000μA

9

9-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and detectors in the paper reverse section (duplex section) and its control circuit.
Section	Duplex

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The code names of the sensors and the detectors which are active are highlighted.

APPD1	ADU paper transport detector 1
APPD2	ADU paper transport detector 2
DSW_ADU	ADU paper guide open/close detector

9-3	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the load in the paper reverse section (duplex section) and its control circuit.
Section	Duplex

Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Tap [EXECUTE] key.
The selected load performs the operation.
When [EXECUTE] key is tapped, the operation is terminated.

Display	Content
ADUM1	ADU motor 1
ADUM2	ADU motor 2
ADUGS	ADU gate solenoid

10

10-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the toner supply mechanism (toner motor) and the related circuit.
Section	Process (Developing)

Operation/Procedure

- 1) Select a target of the operation check with the touch panel key.
When [ALL] key is tapped, all the items are selected.
- 2) Tap [EXECUTE] key.
The selected load operation is performed for 10 sec.
When [EXECUTE] key is tapped, the operation is terminated.

Important

This simulation must be executed without installing the toner cartridges.

TNM	Toner motor
-----	-------------

13

13--	
Purpose	Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U1" trouble.
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key to execute cancellation of the trouble.

14

14--	
Purpose	Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag H3, H4, H5 troubles.
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key to execute cancellation of the trouble.

15

15--	
Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U6" trouble.
Section	LCC

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key to execute cancellation of the trouble.

16

16--

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U2" trouble.
Section	SCN MFP PWB / PCU PWB

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key to execute cancellation of the trouble.

21

21-1

Purpose	Setting
Function (Purpose)	Used to set the maintenance cycle.
Section	

Operation/Procedure

* Do not change the default setting value of the maintenance counter on SIM21-1. The replacement timing of the fusing cleaning roller, the filter and PS paper dust removal cleaner may not clarify.

- 1) Select a target item of setting with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. (The set value is saved.)

Item/Display	Content	Setting range	Default value
A MAINTENANCE COUNTER (TOTAL)	Maintenance counter (Total)	0: Default 1 - 300: 1K - 300K 999:Free	30ppm machine: 250 35ppm machine: 280 40/50/60ppm machine: 300

22

22-1

Purpose	Adjustment/Setting/Operation data output/Check
Function (Purpose)	Used to check the print count value in each section and each operation mode. (Used to check the maintenance timing.)
Section	

Operation/Procedure

Change the display page with scroll key on the touch panel.

Item	Display	Content	
Total output quantity	TOTAL OUT (BW)	Total output quantity of black and white	All prints including jams
Total use quantity	TOTAL (BW)	Total use quantity of black and white	Effective paper (including self print, excluding jams)
	TOTAL (COL)	Total use quantity of full color	Effective paper (including self print, excluding jams)
Copy	COPY (BW)	Black and white copy counter	Billing target (excluding self print)
Print	PRINT (BW)	Black and white print counter	Billing target (excluding self print)

Item	Display	Content	
Document filing	DOC FIL (BW)	Black and white document filing print counter	
Other	OTHER (BW)	Black and white other counter	Self print quantity

22-2

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the total number of misfeed and troubles. (When the number of total jam is considerably great, it is judged as necessary for repair.)
Section	

Operation/Procedure

The paper jam, trouble counter value is displayed.

MACHINE JAM	Machine JAM counter
SPF JAM	SPF JAM counter
TROUBLE	Trouble counter

22-3

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check misfeed positions and the misfeed count of each position. * Presumption of the faulty point by this data is possible.
Section	

Operation/Procedure

The paper jam and misfeed history is displayed from the latest one up to 50 items. (The old ones are deleted sequentially.)

22-4

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the trouble (self diag) history.
Section	

Operation/Procedure

The trouble history is displayed from the latest one up to 30 items. (The old ones are deleted sequentially.)

22-5

Purpose	Others
Function (Purpose)	Used to check the ROM version of each unit (section).
Section	Firmware

Operation/Procedure

The ROM version of the installed unit in each section is displayed. When there is any trouble in the software, use this simulation to check the ROM version, and upgrade the version if necessary.

Display	Content
S/N	Serial No. (The codes for November and December are "X" and "Y" respectively.)
BUNDLE	Bundle version
ICU-MAIN	ICUM (MAIN section)
ASIC-MAIN	ASIC (MAIN section)
ASIC-SUB	ASIC (SUB section)
IMAGE DATA	Image Processing data
LANGUAGE	Language support data version
LANGUAGE (LIST)	Language data for list printing

Display	Content
EOSA	ESCP font ROM
UNICONTENTS	Contents data for display
SIM-TEXT	Language data for simulation
PCL (PROFILE)	Color profile data
POWER-CON	Power controller program
FONT BARCODE	Font data for bar code
FONT PS	PS font data
FONT PCL	PCL font data
FONT SPDL	Simple PDL font data
FONT OFFICE	Office Direct font data
WATER MARK	Water mark data
E-MANUAL	Users manual data
OCR-DIC	OCR dictionary data
SCU	SCU
DSPF	DSPF
PCU	PCU
DESK/ESK (TANDEM)	Desk unit
LCC	LCC
FINISHER/FINISHER (1KFIN)/ FINISHER (3KFIN)/ FINISHER (INNER)	Finisher
JOGGER	3K finisher jogger
FIN-SUB	3K finisher sub
SADDLE	Saddle
PUNCH/UNCH(3K)/ UNCH(IN)	Punch unit
FAX OPT1	FAX 1-Line (Option section)
FONT UNICODE	UniCode font data

22-6	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to output the setting/adjustment data (simulation, FAX soft switch, counter), the firmware version, and the counter list.

Section

Operation/Procedure

* When installing or servicing, this simulation is executed to print the adjustment data and set data for use in the next servicing. (Memory trouble, PWB replacement, etc.)

- 1) Select the print list mode with 10-key.

Display	Print list mode	Print content
DATA PATTERN	NO.1	Firmware version, counter data, etc.
	NO.2	Data related to the image registration
	NO.3	Data related to the process control
2SIDED PRINT	1-SIDED	One sided printing (Default)
	2-SIDED	Double sided printing

- 2) Tap [EXECUTE] key to start printing the list selected in step 1).

22-8	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the number of operations (counter value) of the finisher, the SPF, and the scan (reading) unit.

Section

Operation/Procedure

The counter values of the finisher, the SPF, and the scanner related counters are displayed.

Display	Content
SPF	Document feed quantity
SCAN	Number of times of scan
STAPLER	Staple counter

Display	Content
PUNCHER	Puncher counter
STAMP	Stamp counter
SADDLE STAPLER	Saddle staple counter
SADDLE V FOLD	Saddle finisher V fold counter
COVER	Document cover open/close counter
HP_ON	Number of scanner HP detection
OC LAMP TIME	Total lighting time of the scanner lamp
DSPF LAMP TIME	Total lighting time of DSPF lamp (* hour * minutes)
FIN OUTPUT	Finisher output counter
STAPLELESS STAPLE	Stapleless staple counter
MANUAL STAPLE	Manual staple counter

22-9	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the number of use (print quantity) of each paper feed section.
Section	Paper feed, ADU

Operation/Procedure

The counter values related to paper feed are displayed.

Display	Content
TRAY1	Paper feed counter (Paper feed tray 1)
TRAY2	Paper feed counter (Paper feed tray 2)
TRAY3	Paper feed counter (Paper feed tray 3)
TRAY4	Paper feed counter (Paper feed tray 4)
MFT	Manual paper feed counter
LCC	LCC paper feed counter
ADU	ADU paper transport counter
TRAY1_TTL	Accumulated tray 1 paper feed counter
TRAY2_TTL	Accumulated tray 2 paper feed counter
TRAY3_TTL	Accumulated tray 3 paper feed counter
TRAY4_TTL	Accumulated tray 4 paper feed counter
MFT_TTL	Accumulated manual paper feed counter
LCC_TTL	Accumulated side LCC paper feed counter
ADU_TTL	Accumulated ADU paper feed counter
TRAY1_RETRY	Paper feed retry counter (Paper feed tray 1)
TRAY2_RETRY	Paper feed retry counter (Paper feed tray 2)
TRAY3_RETRY	Paper feed retry counter (Paper feed tray 3)
TRAY4_RETRY	Paper feed retry counter (Paper feed tray 4)
MFT_RETRY	Manual paper feed retry counter
LCC_RETRY	LCC paper feed retry counter

22-10	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the system configuration (option, internal hardware).

Section

Operation/Procedure

The system configuration is displayed.

(The model names of the installed devices and options are displayed.)

Item display name	Display content	Content
MACHINE	MX-M3070	Main unit
	MX-M3570	
	MX-M4070	
	MX-M5070	
	MX-M6070	
	MX-M3050	
	MX-M3550	
	MX-M4050	
	MX-M5050	
	MX-M6050	

Item display name	Display content	Content
SPF	STANDARD	Duplex single pass feeder
STAMP	AR-SU1	Finish stamp
DESK	MX-DE25 N	STAND/550 SHEET PAPER DRAWER
	MX-DE26 N	STAND/2x550 SHEET PAPER DRAWER
	MX-DE27 N	STAND/3x550 SHEET PAPER DRAWER
	MX-DE28 N	STAND/550&2100 SHEET PAPER DRAWER
	MX-DE29 N	LOW STAND/550 SHEET PAPER DRAWER
LCC	MX-LC17 N	A4 Large capacity tray
PUNCHER	MX-PN14A	Punch unit
	MX-PN14B	
	MX-PN14C	
	MX-PN14D	
	MX-PN15A	
	MX-PN15B	
	MX-PN15C	
	MX-PN15D	
	MX-PN16A	
	MX-PN16B	
FINISHER	MX-FN27 N	Inner finisher
	MX-FN28	Finisher (1K)
	MX-FN29	Saddle stitch finisher (1K)
	MX-FN30	Finisher (3K)
	MX-FN31	Saddle stitch finisher (3K)
EXIT TRAY	MX-TR19	Exit tray unit
	MX-TU16	Exit tray cabinet
SEPARATOR	MX-TR20	Job separator tray
FAX1	MX-FX15	Facsimile expansion kit
PS	STANDARD	PS expansion kit
SECURITY	MX-FR56U/ MX-FR57U	Data security kit (commercial version)
ICU_PWB (REUS)	*****MB	ICU REUS capacity
ICU_PWB (SOC)	*****MB	ICU SOC capacity
STORAGE	*****GB	Hard disk/SSD capacity
ICU DRIVE	*****MB	eMMC capacity
BARCODE	MX-PF10	Barcode font kit
INTERNET-FAX	MX-FWX1	Internet Fax expansion kit
AIM	MX-AMX1	Application integration module
ACM	MX-AMX2/ STANDARD	Application communication module
EAM	MX-AMX3/ STANDARD	External account module
OFFICE DRT	MX-PU10	Direct print expansion kit
SHC-PDF	STANDARD	Soft high compression PDF
OCR	STANDARD	OCR expansion

22-11	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the use frequency (send/receive) of FAX. (Only when FAX is installed)
Section	FAX

Operation/Procedure

The values of the FAX send counter and the FAX receive counter are displayed.

FAX OUTPUT	FAX print quantity counter
FAX SEND	FAX send counter
FAX RECEIVED	FAX receive counter
SEND IMAGES	FAX send quantity counter
SEND TIME	FAX send time
RECEIVED TIME	FAX receive time

22-12	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the SPF misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)

Section	SPF
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Operation/Procedure

The paper jam and misfeed history is displayed from the latest one up to 50 items. (The old ones are deleted sequentially.)

22-13	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the operating time of the process section (OPC drum, DV unit, toner cartridge) and the fusing unit

Section	Process
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Operation/Procedure

The number of prints and the number of rotations in the process section are displayed.

Item/Display	Content
MAINTENANCE ALL	Maintenance counter(Total)
FUSING BELT	Fusing belt
HEATING ROLLER	Heating roller
FUSING ROLLER	Fusing roller
PRESSURE ROLLER	Pressure roller
SEPARATE PLATE	Sperate plate
FUSING LOAD	Fusing pressure release drive
BELT CONTROLLER	Fusing meandering control
TC ROLLER	Transfer roller
DEVE CTRG(K)	Developer cartridge
DRUM UNIT(K)	Drum unit
MAIN CHARGER(K)	Main charger
DRUM BLADE(K)	Drum blade
OZONE FILTER	Ozone filter
PS PAPER	PS paper dust removal
TONER CTRG(K)	Toner cartridge

22-14	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the use status of the toner cartridge.
Section	Process

Operation/Procedure

The status of the toner cartridge is displayed.

Display item	Content	Accumul ated No. of installed cartridge s (Unit)	Accumul ated No. of near near end (Unit)	Accumul ated No. of end (Unit)
		INSTALL	NN END	END
TONER(K)	Toner cartridge use counter (K)	0 - 510	0 - 510	0 - 510

22-18	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the user data delete history.
Section	

Operation/Procedure

The date and time of the user data delete are displayed.

Display item		Content
Item name	Date	
START	Year/month/day/hour/min.	Delete history (Date and time of operation start)
END	Year/month/day/hour/min.	Delete history (Date and time of operation end)

22-19	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the values of the counters related to the scan - image send.
Section	

Operation/Procedure

Used to display the counter value related to the network scanner
Change the display with scroll key.

Item/Display		Content
Network scanner	NET SCN ORG_B/W	Network scanner document read quantity counter (B/W scan job)
	NET SCN ORG_CL	Network scanner document read quantity counter (Color scan job)
Internet FAX	INTERNET FAX OUTPUT	Number of internet FAX output
	INTERNET FAX SEND OUTPUT	Number of internet FAX sending page
	INTERNET FAX RECEIVE	Number of internet FAX receive
	INTERNET FAX SEND	Number of internet FAX send
E-Mail	MAIL COUNTER	Number of times of E-MAIL send
FTP	FTP COUNTER	Number of FTP send
Other	SMB SEND	Number of SMB send
	USB CNT	Number of times of USB storage
	TRIAL MODE_B&C	Trial mode counter (B/W & COLOR scan job)
	SCAN TO HDD_B/W	SCAN TO HDD record quantity (B/W)
	SCAN TO HDD_CL	SCAN TO HDD record quantity (COLOR)

22-40	
Purpose	Error contents display
Function (Purpose)	Used to display the error code list and the contents.
Section	

Operation/Procedure

- 1) Select the main error code.

The sub error code and the contents are displayed.

22-41	
Purpose	JAM code contents display
Function (Purpose)	Used to display the JAM code list and the contents.
Section	

Operation/Procedure

- 1) Select the JAM code.

Display can be changed by [ENGINE] and [SPF] keys.

22-42	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the JAM/trouble data
Section	

Operation/Procedure

- 1) Select the item to be checked with the touch panel key.
- 2) Printable with [COLOR] and [MONO] keys.

Display data	Counter		Content		
	Display	Content	JAM CODE/ TROUBLE CODE	DATE/ TIME	TOTAL COUNT (BW)
PAPER JAM	PAPER JAM COUNT	Number of machine JAM troubles	Generated JAM code (Machine)	Generate d date/ time (YY/ MM/DD HH:MM:S S)	Total output quantity of black and white
SPF JAM	SPF JAM COUNT	Number of SPF JAM troubles	Generated JAM code (SPF)		
TROUBLE	TROUBLE COUNT	Number of troubles	Generated trouble code		

22-43	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	JAM data details display
Section	

Operation/Procedure

- 1) Select the item to be checked with the touch panel key.
When [COUNTER] key is tapped, the JAM counter, the paper feed counter, and the paper feed retry counter are displayed.
When [HISTORY1] key is tapped, the JAM history is displayed.
When [HISTORY2] key is tapped, the temperature and humidity data are displayed.
- 2) Printable with [COLOR] and [MONO] keys.

Display data and contents (COUNTER)

Item	Content
PAPER JAM COUNT	Number of machine JAM troubles
PAPER FEED COUNTER	Paper feed counter (Similar with SIM22-09 display content)
PAPER FEED RETRY COUNTER	Paper feed retry counter (Similar with SIM27-18 display content)

Display data and contents (HISTORY1)

Item	Content	Description
NO	No	History number
JAM CODE	JAM Code	Jam code main
DATE/TIME	Date/Time	Occurrence date
TOTAL_BW	Total Count (BW)	Total counter (B/W)
TOTAL_CL	Total Count (CL)	Total counter (color)
P_S (*1)	Paper Size	Paper size
P_T (*1)	Paper Type	Paper type
JOB (*1)	Job Mode	Job mode
JN	Job No	First after JOB start or not

Item	Content	Description
OF	Offset	Paper exit: Offset
EP	Exit Position	Paper exit: Exit position
PC	Punch	Paper exit: Punch
SP	Staple	Paper exit: Staple

*1: Refer to the detail display content of HISTORY1.

Display data and contents (HISTORY2)

Item	Content
NO.	History number
DATE/TIME	Occurrence date
TH_CL	External air temperature sensor temperature/AD value
HUD_CL	External air humidity sensor humidity/AD value
TH_UM	Fusing upper main thermistor temperature/AD value
TH_UM_CS	Fusing upper main thermistor (compensation) temperature/AD value
TH_UM_D	Fusing upper main thermistor (differential) temperature/AD value
TH_US	Fusing upper sub thermistor temperature/AD value
TH_US2	Fusing upper sub thermistor 2 temperature/AD value

Detail display content of HISTORY1

Display	Content	
NON	Inch series fixed form	No paper size
WLG		Double Legal
WLR		Double Legal-R
LD		Ledger
LDR		Ledger-R (Double Letter)
LG		Legal
LGR		Legal-R
FC		Foolscap
FCR		Foolscap-R
LT		Letter
LTR		Letter-R
IV		Invoice (Mini)
IVR		Invoice-R (Mini)
EC		Executive
ECR		Executive-R
A3W		A3W (12x18 in)
AWR		A3W (12x18 in)-R
12		22x17
13		22x17R
14		22x34
15		22x34R
16		34x44
17		34x44R
18		44x68
19		44x68R
01A		9x12
01B		9x12R
01C		13x19
01D		13x19R
MLG		Mexican-Legal
MLR		Mexican-Legal-R
ALG		Asian-Legal
ALR		Asian -Legal-R
EXT	Other	Extra (Special)
A1	AB series fixed form	A1
A1R		A1R
A2		A2
A2R		A2R
A3		A3
A3R		A3R
A4		A4
A4R		A4R
A5		A5
A5R		A5R
A6		A6
A6R		A6R
B3		B3
B3R		B3R

Display	Content	
B4	AB series fixed form	B4
B4R		B4R
B5		B5
B5R		B5R
B6		B6
B6R		B6R
54		A0x2
55		A0x2 R
A0		A0
A0R		A0R
B0		B0
B0R		B0R
B1		B1
B1R		B1R
B2R		B2
B2R		B2R
K8		K8
K8R		K8R
K16		K16
16R		K16R
K32		K32
32R		K32R
66		SRA3
67		SRA3R
68		SRA4
69		SRA4R
06A		318 x 469 mm
06B		469 x 318 mm
06C		234 x 318 mm
06D		318 x 234 mm
06E		312 x 440 mm
06F		440 x 312 mm
70		220 x 312 mm
71		312 x 220 mm
82	Domestic special (Envelope)	DBL Postcard
83		DBL Postcard-R
84		Postcard
85		Postcard-R
87		119 x 277 mm
89		120 x 235 mm
08B		90 x 205 mm
08D		90 x 185 mm
08F		240 x 332 mm
91		216 x 277 mm
93		197 x 267 mm
95		190 x 240 mm
97		162 x 229 mm
99		142 x 205 mm
09B		119 x 197 mm
09D		120 x 176 mm
09F		114 x 162 mm
0A1	Other	98 x 148 mm
0A3		105 x 235 mm
0A5		95 x 217 mm
0A7		98 x 190 mm
0A9		92 x 165 mm
0AA		AB series E-version
0AB		AB series L-version
0AC		AB series panorama size
0AD		AB series name card size
0AE		AB series identification photo
0AF		AB series name card small
0B0		A3 width
0B1		B4 width
0B2		A4 width
0B3		A3 width (Long size)
0B4		B4 width (Long size)
0B5		A4 width (Long size)
0BC		Custom (Large size)
0BD		Custom (Small size)
0BF		Custom

Display	Content	
0C2	Oversea special (Envelope)	Monarch
0C3		Monarch-R
0C4		DL
0C5		DL-R
0C6		C4
0C7		C4-R
0C8		C5
0C9		C5-R
0CA		C6
0CB		C6-R
0CC		C65
0CD		C65-R
0CE		ISOB5
0CF		ISOB5-R
0D0		Size6-1/2
0D1		Size6-1/2-R
0D2		Size9
0D3		Size9-R
0D8		Com-10
0D9		Com-10-R
0DA		Inch series E-version
0DB		Inch series L-version
0DC		Inch series panorama size
0DD		Inch series name card large
0DE		Inch series identification photo
0DF		Inch series name card small
0EC	Other	Extra (Special large size)
0ED		Extra (Special small size)
0EF		Extra (Special/Not fixed)
0F0		Long size
0FF		JAM (Used for canceling temporary charging in a coin vendor.)

Display content detail: Paper type (P_T)

Display	Content
UST	User type
LHP	Letter head paper
PNP	Perforated sheet
RCL	Recycled paper
COL	Color paper
PLN	Standard paper
PRP	Pre printed
OHP	OHP Transparency
HV	Heavy paper
LBL	Label sheet
ENV	Envelope
HG	Postcard
TAB	Tab sheet
THN	Thin paper
US1	User type 1
US2	User type 2
US3	User type 3
US4	User type 4
US5	User type 5
US6	User type 6
US7	User type 7
HV2	Heavy paper 2
PL2	Plain paper 2 (not used)
HV3	Heavy paper 3
HV4	Heavy paper 4
GLS	Glossy paper

Display content detail: Job mode (JOB)

Display	Content
SHD	Shading.
PCL	Process control
SIM	Test mode (Sim)
ICP	Interruption copy
CP	Copy
FXS	FAX send scan
AXS	AXIS

Display	Content
FXP	FAX reception print
PR	Printer
FXC	FAX communication report print
00A	Zaurus print
SLF	Self/Test print
00C	Document counter
RMT	Remote maintenance
00E	SIM 52-01
00F	Tandem (Cordless handset)
CFP	Confidential print
NET	Network scanner
PRF	Proof print

22-90

Purpose Adjustment/Setting/Operation data check

Function (Purpose) Used to output the various set data lists.

Section

Operation/Procedure

- 1) Change the display with scroll key.
- 2) Select the print target with the keys on the touch panel.
- 3) Tap [EXECUTE] key to start self print of the list.

Category	Item	Content
Machine status list	MACHINE STATUS LIST	Machine status list
Printer test page	PCL SYMBOL SET LIST	SPDL symbol set list
	PCL INTERNAL FONT LIST	SPDL internal font list
	PCL EXTENDED FONT LIST	SPDL extended font list
	PS FONT LIST	PS internal font list
	KANJI FONT LIST	PS KANJI font list
	PS EXTENDED FONT LIST	PS extended font list
	NIC PAGE	NIC page
Address registration list	INDIVIDUAL LIST	Address registration list
	GROUP LIST	Group list
	MEMORY BOX LIST	Memory box list
Document filing list	DOCUMENT FILING FOLDER LIST	Document filing folder list
Common	PAPER SETTING LIST	Paper setting list
	MACHINE IDENTIFICATION SETTINGS LIST	Machine identification settings list
	OPERATION SETTINGS LIST	Operation settings list
	KEYBOARD SETTINGS LIST	Keyboard settings list
	DEVICE CONTROL LIST	Device control list
Home screen	HOME SCREEN LIST	Home screen list
Copy setting	COPY SETTINGS LIST	Copy settings list
Printer setting	PRINTER SETTINGS LIST	Printer settings list
FAX/Image send	METADATA SET LIST	Meta data set list
	SCAN SETTINGS LIST	Scan settings list
	FAX SETTINGS LIST	Fax settings list
	I-FAX SETTINGS LIST	Internet fax settings list
Document filing list	DOCUMENT FILING SETTINGS LIST	Document filing settings list
SHARP OSA setting	SHARP OSA SETTINGS LIST	SHARP OSA settings list
Network setting	NETWORK SETTINGS LIST	Network settings list
Security setting	SECURITY SETTINGS LIST	Security settings list
Energy save setting	ENERGY SAVE LIST	Energy save settings list
Image quality adjustment	IMAGE QUALITY ADJUSTMENT LIST	Image quality adjustment list

Category	Item	Content
Image sending activity report	IMAGE SENDING ACTIVITY REPORT (FAX)	Image sending activity report (FAX)
	IMAGE SENDING ACTIVITY REPORT (SCAN)	Image sending activity report (scanner)
	IMAGE SENDING ACTIVITY REPORT (INTERNET FAX)	Image sending activity report (Internet FAX)
Transfer table list	ANTI JUNK FAX NUMBER LIST	Receive rejection number table
	ALLOW/REJECT MAIL & DOMAIN NAME LIST	Receive rejection/allow address
	INBOUND ROUTING LIST	Transfer table list
	DOCUMENT ADMIN LIST	To administrator transfer list

* When the data list print of system setting is inhibition in DSK model, this setting is invalid.

23

23-2	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to output the trouble history list of paper jam and misfeed. (If the number of troubles of misfeed is considerably great, the judgment is made that repair is required.)
Section	
Operation/Procedure	
Tap [EXECUTE] key to execute print.	
The trouble history of paper jams and misfeed is printed.	

23-80	
Purpose	Operation test/check
Function (Purpose)	Used to print out list of the paper transport time when the paper JAM is occurred.
Section	Paper feed, Paper transport
Operation/Procedure	
1) Select the item to be cleared with the touch panel key.	
2) Tap [EXECUTE] key. When [EXECUTE] key is tapped, the timing list of paper feed and paper transport is outputted.	

Print item list

Item	Content
JAM CODE	JAM code
DATE/TIME	JAM occurrence date
MODE	Printing mode when JAM is occurred.
SIZE	Paper size
TYPE	Paper type
PIC TRAY	Paper feed tray
OUT TRAY	Paper exit tray
SECTION	Measurement interval of transport time
STANDARD	Theoretical value of transport time
JAM-1	Measurement time of the paper right before the JAM paper
JAM	Measurement time of the JAM paper
POS/STATUS	MIOP (Sensor/Load) data of JAM occurrence

23-81	
Purpose	Operation test/check
Function (Purpose)	Used to output the trouble history list of SIM23-80.
Section	Paper feed, Paper transport
Operation/Procedure	
1) Connect the USB flash drive to the main unit.	
2) Tap [EXECUTE] key.	
3) Tap [YES] key to execute cancellation of the trouble.	

24

24-1	
Purpose	Data clear
Function (Purpose)	Used to clear the jam counter, and the trouble counter. (After completion of maintenance, clear the counters.)
Section	
Operation/Procedure	
1) Select the item to be cleared with the touch panel key.	
2) Tap [EXECUTE] key.	
3) Tap [YES] key.	
The target counter is cleared.	
MACHINE	Machine JAM counter
SPF	SPF JAM counter
TROUBLE	Trouble counter

24-2	
Purpose	Data clear
Function (Purpose)	Used to clear the number of use (the number of prints) of each paper feed section.
Section	
Operation/Procedure	
1) Select the item to be cleared with the touch panel key.	
2) Tap [EXECUTE] key.	
3) Tap [YES] key.	
The target counter is cleared.	

TRAY1	Tray 1 paper feed counter
TRAY2	Tray 2 paper feed counter
TRAY3	Tray 3 paper feed counter
TRAY4	Tray 4 paper feed counter
MFT	Manual paper feed counter (Total)
LCC	LCC paper feed counter (LCC)
ADU	ADU paper feed counter

24-3	
Purpose	Data clear
Function (Purpose)	Used to clear the finisher, SPF, and the scan (reading) unit counter.
Section	
Operation/Procedure	
1) Select the item to be cleared with the touch panel key.	
2) Tap [EXECUTE] key.	
3) Tap [YES] key.	
The target counter is cleared.	

SPF	SPF document feed counter (No. of discharged sheets)
SCAN	Scan counter
STAPLER	Staple counter
PUNCHER	Puncher counter
STAMP	Stamp counter
SADDLE STAPLER	Saddle staple counter
SADDLE V FOLD	Saddle finisher V fold counter
COVER	Document cover open/close counter
HP_ON	Number of scanner HP detection
OC LAMP TIME	Total lighting time of the scanner lamp
DSPF LAMP TIME(*)	DSPF section lamp total lighting time
FIN OUTPUT	Finisher output counter
STAPLELESS STAPLE	Stapleless staple counter
MANUAL STAPLE	Manual staple counter

24-4	
Purpose	Data clear
Function (Purpose)	Used to clear the maintenance counter, the printer counters of the transport unit and the fusing unit. (After completion of maintenance, clear the counters.)

Section

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
 - 2) Tap [EXECUTE] key.
 - 3) Tap [YES] key.
- The target counter is cleared.

Item/Display		Content
Maintenance	MAINTENANCE ALL	Maintenance total counter
		Maintenance counter (total use days)
Fusing	FUSING BELT	Fusing belt (counter)
		Fusing belt (use days)
		Fusing belt (accumulated rotation)
	HEATING ROLLER	Heating roller (counter)
		Heating roller (use days)
		Heating roller (accumulated rotation)
	FUSING ROLLER	Fusing roller (counter)
		Fusing roller (use days)
		Fusing roller (accumulated rotation)
	PRESSURE ROLLER	Pressure roller (counter)
		Pressure roller (use days)
		Pressure roller (accumulated rotation)
	SEPARATE PLATE	Separate plate (counter)
		Separate plate (use days)
		Separate plate (accumulated rotation)
	FUSING LOAD	Fusing pressure release drive (accumulated rotation)
	BELT CONTROLLER	Fuser belt meandering control (accumulated rotation)
Transfer	TC ROLLER	Transfer roller (counter)
		Transfer roller (use days)
		Transfer roller (accumulated rotation)
Process	DRUM UNIT K	Drum unit (counter)
		Drum unit (use days)
		Drum unit (accumulated rotation)
	MAIN CHARGER K	Main charger (counter)
		Main charger (use days)
		Main charger (accumulated rotation)
	DRUM BLADE K	Drum blade (counter)
		Drum blade (use days)
		Drum blade (accumulated rotation)
Other	OZONE FILTER	Ozone filter (counter)
		Ozone filter (use days)
	PS PAPER	PS paper dust removal (counter)
		PS paper dust removal (use days)

24-5	
Purpose	Data clear
Function (Purpose)	Used to clear the developer counter and toner remaining counter.

Section

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Tap [EXECUTE] key.
- 3) Tap [YES] key.

The target counter is cleared.

Note

When SIM25-2 is executed, this counter is also cleared automatically.

- When replacing toner hopper and clean toner in hopper unit, Execute HP_*.
- SIM22-13 [DEVE CTRG(*)] counter is automatically cleared when DV_* was executed.

Button display	Content
DV_K	Developer cartridge print counter (K)
	Developer cartridge accumulated traveling distance (cm) (K)
	Number of day that used developer (day) (K)

24-35	
Purpose	Data clear
Function (Purpose)	Used to clear the toner cartridge use status data.

Section

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key.

The toner cartridge use status data (SIM22-14) are cleared.

25

25-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the developing section.

Section

Process (Developing section)

Operation/Procedure

- 1) Select the process speed with [MIDDLE], [LOW] keys.
- 2) Tap [EXECUTE] key.

The developing motor and the OPC drum motor rotate for 3 minutes and the output level of the toner density sensor is displayed.

TCS_K	Toner sensor output value (K)
TSG_K	Toner density sensor control voltage level (K)

LOW	Process speed: Low speed
MIDDLE	Process speed: Medium speed

25-2	
Purpose	Setting
Function (Purpose)	Used to make the initial setting of toner density when replacing developer. (Automatic adjustment)
Section	Image process (Photo conductor/Developing/Transfer/Cleaning)

Operation/Procedure

- 1) Select a color to be adjusted with the touch panel.
- 2) Tap [EXECUTE] key.

The developing motor rotates for 1 min, and the toner density sensor makes sampling of the toner density. The detected level is displayed.

After stopping the developing motor, the average value of the toner density sampling results is set as the reference toner density control level.

Important

Execute simulation 10-3 before executing this simulation.

When the above operation is interrupted on the way, the reference toner concentration level is not set. Also when error code of EE-EC, EE-EL or EE-EU is displayed, the reference toner density level is not set normally.

Do not execute this simulation except when new developer is supplied. If it is executed in other cases, undertoner or overtone may occur, causing a trouble.

Division	Item/Display	Display range	Default value
Toner density control adjustment value in the low speed process mode	AT DEVE ADJ_L_K	1 - 255	128
Toner density control adjustment value in the medium speed process mode	AT DEVE ADJ_M_K	1 - 255	128
Toner density sensor control voltage level in the low speed process mode	AT DEVE VO_L_K	1 - 255	128
Toner density sensor control voltage level in the medium speed process mode	AT DEVE VO_M_K	1 - 255	128

Display during execution of the simulation

Item/Display	Content
TCS_K	Toner sensor output value (K)
TSG_K	Toner density sensor control voltage level (K)

Error content

Display	Error name	Error content
EE-EL	EL abnormality	The sensor output level is less than 77, or the control voltage exceeds 207.
EE-EU	EU abnormality	The sensor output level exceeds 177, or the control voltage is less than 52.
EE-EC	EC abnormality	The sensor output level is outside of 128 +/- 10.

25-4	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the operation data of the toner supply quantity. (Not used in the market.)
Section	Process

Operation/Procedure

The operation data of the toner supply quantity are displayed.

25-5	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the toner density correction data. (Not used in the market.)
Section	Process
Operation/Procedure	The toner density correction data are displayed.

25-10	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to set the serial no. of the developer/drum. (Not used in the market.)
Section	Process
Operation/Procedure	

26

26-1	
Purpose	Setting
Function (Purpose)	Used to set Yes/No of installation of the right paper exit tray.
Section	Paper exit

Operation/Procedure

- 1) Enter the set value with 10-key.
 - 2) Tap [OK] key. (The set value is saved.)
- This setting is required to use the right paper exit tray unit.

Item/Display			Content
A	0	YES	Paper exit tray:
	1	NO	Paper exit tray:
B	0	YES	Job separator
	1	NO	Job separator

26-2	
Purpose	Setting
Function (Purpose)	Used to set the paper size of the large capacity tray (LCC). (When the paper size is changed, this simulation must be executed to change the paper size in software.)
Section	Paper feed

Operation/Procedure

Select a paper size and a weight system to be changed.

Item	Setting value	Content
Tray4 (Tandem)	0	8.5x11
	1	A4
	2	B5
LCC	0	8.5x11
	1	A4
	2	B5
G/LBS Set	0	Gram
	1	LBS

26-3	
Purpose	Setting
Function (Purpose)	Used to set the specifications of the auditor. (Setting must be made according to the auditor use conditions.)
Section	Auditor

Operation/Procedure

Select an item to be set with the touch panel.

Item/Display		Content	Default value
BUILT-IN AUDITOR	P10	Built-in auditor mode (standard mode) operation.	P10
OUTSIDE AUDITOR	NONE	No external connection vendor is used.	NONE
	P VENDOR1	Coin vendor mode (Only the copy mode can be controlled.)	
	P VENDOR3	Vendor mode in which signals for the intercard connected to the PCU are used for communication in parallel I/F.	
	P OTHER	Mode for an external auditor connected to the SCU.	
	VENDOR-EX (*1)	Vendor I/F for EQUITRAC	
	VENDOR-EX (MULTI) (*1)	VENDOR-EX + Multi job cueing Enable mode	
	S_VENDOR	Serial vendor mode	
DOC ADJ	ON	Support for the auditor in document filing print	OFF
	OFF	No support for the auditor in document filing print	
PF ADJ	ON	Continuous printing is performed in the duplex print mode. If the remaining money expires during continuous printing, the sheets in the machine are discharged without being printed on the back surfaces.	OFF
	OFF	Continuous printing is not performed in the duplex print mode. (The remaining amount is checked for printing every surface in all the printing process.) If the remaining money expires during printing, the sheet is discharged without printing on the back surface.	
VENDOR MODE (*2)	MODE1	Vendor mode 1	MODE 3
	MODE2	Vendor mode 2	
	MODE3	Vendor mode 3	
COUNTUP TIMING	FUSER_IN	Mode in which the detection timing of the paper lead edge by the sensor after the paper passes the fusing section is used as the money charging timing.	EXIT_O UT
	FUSER_OUT	Mode in which the detection timing of the paper rear edge by the sensor after the paper passes the fusing section is used as the money charging timing.	
	EXIT_OUT	Mode in which the detection timing of the paper rear edge by the paper exit sensor of the right paper exit tray or of the after process unit is used as the money charging timing.	

Item/Display		Content	Default value
IMS CONTROL	ON	Image send mode is limited.	OFF
	OFF	Image send mode is not limited.	
PRINTER CONTROL	MODE1	All the items in OUTSIDE AUDITOR and VENDOR MODE are allowed to select.	MODE 3
	MODE2	OUTSIDE AUDITOR is always set to P VENDOR1 and VENDOR MODE is always set to MODE3.	
	MODE3	OUTSIDE AUDITOR is always set to P OTHER and VENDOR MODE is always set to MODE3.	

(*1) Displayed only when EQUITRAC.

(*2) Refer to the details of the vendor mode.

Details of the vendor mode

	Completion of the specified quantity. (Money remaining)	Insufficient money during copy job		Completion of the specified quantity. (No money remaining)
		BW/Color (no money remaining)	Color (Money remaining)	
		Condition 1	Condition 3	Condition 4
MODE1	Operation 1	Operation 2	Operation 2	Operation 1
MODE2	Operation 1	Operation 1	Operation 2	Operation 1
MODE3	Operation 1	Operation 3	Operation 2	Operation 3

Operation 1:

Standby during setting time of auto clear. Default is 60 seconds, which can be changed in the system setting.

Operation 2:

Auto clear is not made.

Operation 3:

The display is shifted to the initial screen.

Details of the printer control

MODE1	I) Selectable all VENDOR MODE
MODE2	I) Printing of the copy job (not including the reprint in copy mode) and print job (including the reprint in printer mode/self-print in printer mode) are exclusively controlled using READY signal from the vender. II) If READY signal from the vender gets ready during printing, the print job in progress will be completed and other print jobs will be held on the job queue, and then the copy job becomes executable. III) If READY signal becomes NotReady, the copy job in progress will be canceled after the print stops, and then the print of the printer job will resume.
MODE3	I) If READY signal from the auditor becomes NotReady during printing the copy job/print job (including Self-print)/all kinds of reprint jobs, all of copy/print/any kinds of reprint jobs on the job queue will be canceled right after the print of the job in progress stops.

26-5	
Purpose	Setting
Function (Purpose)	Used to set the count mode of the total counter and the maintenance counter. (A3/11x17 size)

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the setting value with 10-key
1 = Count up by 1, 2 = Count up by 2
- 3) Tap [OK] key.

The set value in step 2) is saved.

Item/Display	Content	Default value
A TOTAL (B/W)	Total counter (B/W)	2
B MAINTNANCE E (B/W)	Maintenance counter (B/W)	2
C DEV (B/W)	Developer counter (B/W)	

26-6	
Purpose	Setting
Function (Purpose)	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.
Section	
Operation/Procedure	
1) Select an item to be set with the touch panel.	
2) Tap [EXECUTE] key.	
The selected set content is saved.	

26-7	
Purpose	Setting
Function (Purpose)	Used to set the machine ID.
Section	
Operation/Procedure	
1) Enter the machine ID with the 10-key.	
Max. 30 digits of numerals and alphabetical characters can be inputted.	
To select a desired character, tap the 10-key repeatedly.	
Refer to the following list and enter characters.	
Touch the "CONFIRM" section every time a character is inputted.	
To modify an inputted character, delete it with "CLEAR" key and enter the correct character.	
2) Tap [SET] key to set the contents entered in procedure 1).	

Note

The machine ID can be set also by the Web Page service mode function.

Conventionally, the machine ID has been set by the Web Page function. In this mode, this function is made available in the simulation mode.

10-key	Number of times of key input									
	1	2	3	4	5	6	7	8	9	10
1	1	-	-	-	-	-	-	-	-	-
2	A	B	C	a	b	c	2	-	-	-
3	D	E	F	d	e	f	3	-	-	-
4	G	H	I	g	h	i	4	-	-	-
5	J	K	L	j	k	l	5	-	-	-
6	M	N	O	m	n	o	6	-	-	-
7	P	Q	R	S	p	q	r	s	7	-
8	T	U	V	t	u	v	8	-	-	-
9	W	X	Y	Z	w	x	y	z	9	-
0	0	-	-	-	-	-	-	-	-	-

26-8	
Purpose	Setting
Function (Purpose)	Counter mode setting (Long scale)
Section	
Operation/Procedure	
1) Select a setting item with the scroll key.	
2) Enter the set value with 10-key.	
1 = 1 count up, 2 = 2 count up	
3) Tap [OK] key.	

Item/Display	Content	Setting range	Default value	Default value (Taiwan)
A TOTAL(B/W) LONG SIZE(S)	Long scale (Small) Total counter (B/W)	1 - 10	3	2
B MAINT E(B/W) LONG SIZE(S)	Long scale (Small) Maintenance counter (B/W)	1 - 10	3	2
C DEV(B/W) LONG SIZE(S)	Long scale (Small) Developer counter (B/W)	1 - 10	3	2
D TOTAL(B/W) LONG SIZE(L)	Long scale (Large) Total counter (B/W)	1 - 10	5	2
E MAINT E(B/W) LONG SIZE(L)	Long scale (Large) Maintenance counter (B/W)	1 - 10	5	2
F DEV(B/W) LONG SIZE(L)	Long scale (Large) Developer counter (B/W)	1 - 10	5	2

Long Scale (Small): 631 - 1050mm

Long Scale (Large): 1631 - 1200mm

26-10	
Purpose	Setting
Function (Purpose)	Used to set the trial mode of the network scanner.
Section	
Operation/Procedure	
1) Enter the set value with 10-key.	
2) Tap [OK] key.	
The set value in step 1) is saved.	

TRIAL MODE (0: YES 1: NO)	0	Trial mode setting
	1	Trial mode cancel (Default)

26-18	
Purpose	Setting
Function (Purpose)	Used to set Disable/Enable of the toner save mode operation. (For the Japan and the UK versions.)
Section	
Operation/Procedure	
1) Select an item to be set with scroll keys.	
2) Enter the set value with 10-key.	
3) Tap [OK] key.	
The set value in step 2) is saved.	

Item/Display		Content		Default value
A	COPY(0:OFF 1:SV1 2:SV2 :SV3)	0	Copy toner save mode is inhibited	0
		1	Copy toner save mode 1	
		2	Copy toner save mode 2	
		3	Copy toner save mode 3	
B	PRINTER(0: OFF 1:SV1 :SV2 3:SV3)	0	Printer toner save mode is inhibited	0
		1	Printer toner save mode 1	
		2	Printer toner save mode 2	
		3	Printer toner save mode 3	
C	COPY TS DISPLAY(0:Y ES :NO)	0	Copy toner save setting is displayed.	0
		1	Copy toner save setting is not displayed.	
D	PRINTER TS DISPLAY(0:Y ES 1:NO)	0	Printer toner save setting is displayed.	0
		1	Printer toner save setting is not displayed.	

26-30

Purpose	Setting
Function (Purpose)	Used to set the operation mode corresponding to the CE mark (Europe safety standards). (For slow start to drive the fusing heater lamp)

Section

Operation/Procedure

- 1) Enter the set value with 10-key.

0	Control allowed
1	Control inhibited

- 2) Tap [OK] key.

The set value in step 1) is saved.

* Even in Enable state, the control may not be executed due to the power frequency, etc.

<Default value of each destination>

U.S.A	1 (CE not supported)	EUROPE	0 (CE supported)
CANADA	1 (CE not supported)	U.K.	0 (CE supported)
INCH	1 (CE not supported)	AUS.	0 (CE supported)
JAPAN	1 (CE not supported)	AB_A	0 (CE supported)
AB_B	1 (CE not supported)		

26-32

Purpose	Setting
Function (Purpose)	Used to set the specifications of the fusing cleaning operation.

Section

Operation/Procedure

- 1) Enter the set value with 10-key.
Enable/Disable of the user fusing cleaning function is set.
- 2) Tap [OK] key.

Item/Display		Content		Setting range		Default value
A	CLEANIN G PRINT SET	User fusing cleaning function is Enable.		0	YES	0
		User fusing cleaning function is Disable.		1	NO	

26-35

Purpose	Setting
Function (Purpose)	Used to set the display mode of SIM 22-4 trouble history when a same trouble occurred repeatedly. There are two display modes: display as one trouble and display as several series of troubles.

Section

Operation/Procedure

- 1) Enter the set value with 10-key.

0	Only once display. (Default)
1	Any time display.

- 2) Tap [OK] key.

The set value in step 1) is saved.

26-38

Purpose	Setting
Function (Purpose)	Used to set Continue/Stop of print when the maintenance life is reached.

Section

Operation/Procedure

- 1) Enter the set value with 10-key.

- 2) Tap [OK] key.

The set value in step 1) is saved.

Item/Display		Content		Default value
A	MAINTENANCE LIFE OVER (0: CONTINUE 1: STOP)	0	Setting of Print Continue/ Stop when the maintenance life is over (Print Continue)	0
		1	Setting of Print Continue/ Stop when the maintenance life is over (Print Stop)	

26-41

Purpose	Setting
Function (Purpose)	Used to set Enable/Disable of the magnification ratio automatic select function (AMS) in the center binding mode.

Section

Operation/Procedure

- 1) Enter the set value with 10-key.

0	AMS Disable
1	AMS Enable

- 2) Tap [OK] key.

The set value in step 1) is saved.

<Default value of each destination>

U.S.A	0 (Disable)	U.K.	1 (Enable)
CANADA	0 (Disable)	AUS.	0 (Disable)
INCH	0 (Disable)	AB_A	0 (Disable)
JAPAN	0 (Disable)	CHINA	0 (Disable)
AB_B	0 (Disable)	KOREA	0 (Disable)
EUROPE	1 (Enable)	BRAZIL	0 (Disable)

26-49

Purpose	Setting
Function (Purpose)	Used to set the print speed of postcards mode.

Section**Operation/Procedure**

Select the copy speed mode with the touch panel. (Default: LOW)

Item/Setting value	Content	Default value
LOW	Postcard copy speed LOW	LOW
HIGH	Postcard copy speed HIGH	

26-50

Purpose	Setting
Function (Purpose)	Used to set functions.

Section**Operation/Procedure**

- 1) Select a target item of setting with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. (The set value is saved.)

Item/Display	Content	Default value
A	BW REVERSE 0	Refer to *1
	1	
B	FINISHER FUNCTION 0	0 *2
	1	
C	FEED TRAY COLOR 0	0
	1	
D	BANNER SIZE PRINT 0	0
	1	
E	WIRELESS SET 0	0
	1	
F	POWER SHUT-OFF SET 0	*2
	1	
G	USB DEVICE 0	0
	1	
H	PUNCH UNIT DESTINATION 0	0
	1	
	2	
	3	
	4	

(*1)

<Default value of each destination>

Destination	Item A	Item H
U S A	1	1
CANADA	1	1
INCH	1	1
TAIWAN	1	1
EUROPE	1	0
U K	0	0
AUS	1	1
BRAZIL	1	1

(*2)

	Target paper	Target paper setting	
		0	1
Inner finisher	envelope	The operation is stopped when 10 sheets of same kind are discharged continuously.	If it is set to "1," the operation is stopped when the paper exit tray is full or when 250 sheets (35.5mm thick) are discharged.
	Label sheet, tab sheet, OHP, Postcard	The operation is stopped when 20 sheets of same kind are discharged continuously.	
1K finisher	Postcard, OHP, Label sheet	The operation is stopped when 100 sheets of same kind are discharged continuously.	If it is set to "1," the operation is stopped when the paper exit tray is full or when 500 sheets (67mm thick) are discharged.
3K finisher	Postcard, Tab sheet, OHP, Label sheet, Envelope	The operation is stopped when 100 sheets of same kind are discharged continuously.	If it is set to "1," the operation is stopped when the paper exit tray is full or when 500 sheets (67mm thick) are discharged.

26-52

Purpose	Setting
Function (Purpose)	Used to set whether non-printed paper (insertion paper, cover paper) is counted up or not.

Section**Operation/Procedure**

- 1) Enter the set value with 10-key.

0	Count up
1	No count up

- 2) Tap [OK] key.

The set value in step 1) is saved.

<Default value of each destination>

Destination	Default
U.S.A	0 (Counted)
CANADA	0 (Counted)
INCH	0 (Counted)
JAPAN	1 (Not counted)
AB_B	0 (Counted)
EUROPE	0 (Counted)
U.K.	0 (Counted)
AUS.	1 (Not counted)
AB_A	0 (Counted)

26-65	
Purpose	Setting
Function (Purpose)	Used to set the finisher alarm mode.
Section	

Operation/Procedure

Use the touch key to set.

Item	Set value	Content	Default value
LIMIT COPIES	ON	Number of stapling sets: Maximum staple setting is set value.	ON
	OFF	Number of stapling sets: Not Limited	

26-66	
Purpose	Setting
Function (Purpose)	Used to set the password for the simulation.
Section	

Operation/Procedure

- 1) The current password for the simulation is displayed.
- 2) Enter the set value with 10-key.
- 3) Tap [SET] key.

26-69	
Purpose	Setting
Function (Purpose)	Used to set the operating conditions for toner near end.
Section	

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

The set value in step 2 is saved.

Item/Display		Content		Default value
A	TONER PREPARATION (0:YES 1:NO)	0	The toner preparation message is displayed.	0
		1	The toner preparation message is not displayed.	
B	REMAINING TONER LEVEL	5%	0 Toner preparation at remaining toner level of 5%	1
		10%	1 Toner preparation at remaining toner level of 10%	
		15%	2 Toner preparation at remaining toner level of 15%	
		20%	3 Toner preparation at remaining toner level of 20%	
		25%	4 Toner preparation at remaining toner level of 25%	
		30%	5 Toner preparation at remaining toner level of 30%	
		35%	6 Toner preparation at remaining toner level of 35%	
		40%	7 Toner preparation at remaining toner level of 40%	
		45%	8 Toner preparation at remaining toner level of 45%	
		50%	9 Toner preparation at remaining toner level of 50%	
C	TONER NEAR END (0:YES 1:NO)	0	The toner near end message is displayed.	0
		1	The toner near end message is not displayed.	

Item/Display		Content		Default value
D	TONER END	1	Operation setup 1	2
		2	Operation setup 2	
		3	Operation setup 3	
E	TONER END COUNT	1	Print number setting when toner end detect 0	3
		2	Print number setting when toner end detect 25	
		3	Print number setting when toner end detect 50	
		4	Print number setting when toner end detect 100	
		5	Print number setting when toner end detect 200	
F	TONER E-MAIL ALERT	0	Low status send of E-mail alert (When the toner preparation message is displayed) (in near near toner end)	0
		1	Low status send of E-mail alert (near toner end)	
G	TONER MIB UNIT	0	Receive the remaining toner level MIB in 1% increment.	0
		1	Receive the remaining toner level MIB in 5% increment.	
		2	Receive the remaining toner level MIB in 25% increment.	
H	MIB TONER LOW INDICATION	0	Get toner remaining quantity from toner MIB when toner low detects.	0
		1	Get toner low from toner MIB when toner low detects.	

(Contents of set items)

A: Enable/Disable setting of the toner preparation message display.

B: The toner remaining quantity at which the toner preparation message is displayed.

C: Enable/Disable setting of the toner preparation message display when the toner near end status is reached.

26-73	
Purpose	Setting
Function (Purpose)	Enlargement continuous shoot, A3 wide copy mode image loss (shade delete quantity) adjustment

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

When the adjustment value is increased, the image loss (shade delete quantity) is increased.

Item/Display		Content	Setting range	Default value
A	DELETING SHADOW ADJ (M)	Rear frame side image loss quantity (shade delete quantity) adjustment	0 - 50	0 (Adjustment amount: 0.1mm/step)
B	DELETING SHADOW ADJ (S)	Lead edge image loss quantity (shade delete quantity) adjustment	0 - 50	0 (Adjustment amount: 0.1mm/step)

26-74

Purpose	Setting
Function (Purpose)	Used to set the OSA trial mode.
Section	

Operation/Procedure

- 1) Enter the set value with 10-key.
- 2) Tap [OK] key.

Item/Display		Content		Default value
A	OSA TRIAL MODE (0: YES 1: NO)	0	Used to set the OSA trial mode.	1
		1	OSA trial mode is canceled.	

26-78

Purpose	Setting
Function (Purpose)	Used to set the password of the remote operation panel.
Section	

Operation/Procedure

- 1) Enter a password with 10-key. (5 - 8 digits)
The entered password is displayed on the column of "NEW".
In order to correct the entered password, tap the [clear] key to delete the entered value one digit by one digit.
- 2) Tap [SET] key.

26-79

Purpose	Setting
Function (Purpose)	Used to set YES/NO of the pop-up display of user data security.
Section	

Operation/Procedure

- 1) Enter the set value with 10-key.
- 2) Tap [OK] key.

Item/Display		Content	Setting range		Default value
A	DISP SET	Delete result supported the security pop-up display ON	YES	1	0
		Delete result supported the security display OFF	NO	0	
B	SIM PASSWORD DISP	Simulation start password input display ON	YES	1	0
		Simulation start password input display OFF	NO	0	

26-85

Purpose	Setting
Function (Purpose)	Used to set the function of the simulation mode.
Section	

Operation/Procedure

- 1) Enter the set value with 10-key.
- 2) Tap [OK] key.

Item/Display		Content	Setting range		Default value
A	DISP SET	Password input display for transferring between each simulation ON	YES	1	0
		Password input display for transferring between each simulation OFF	NO	0	
B	SIM MODE SETING	EASY MODE	1		0
		CLASSIC MODE	0		

27

27-2

Purpose	Setting
Function (Purpose)	Used to set the sender's registration number and the HOST server telephone number. (FSS function)
Section	

Operation/Procedure

- 1) Select an item to be set with touch panel.
[USER FAX NO] [SERVA TEL NO]
- 2) Enter the set value with 10-key.
- 3) Tap [SET] key.
The set value in step 2) is saved.

USER FAX_NO.	Sender registration number (Max. 16 digits)
SERVA TEL_NO.	Host server telephone number (Max. 16 digits) * If the connection process is not completed normally when registering the FSS, calling to the HOST may be continuously made every time when the power is turned ON (from OFF) or rebooted. In this case, enter "*****" to inhibit calling to the HOST.

27-4

Purpose	Setting
Function (Purpose)	Used to set the initial call and toner order auto send. (FSS function)
Section	

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

The set value in step 2) is saved.

Item/Display			Content		Setting range		Default value	Remarks
A	FSS MODE	NEB1	Set the FSS MODE	Exclusive for send in NE-B mode	0 - 3	0	1	
		NEB2		Send/Receive in NE-B mode		1		
		NFB1		Exclusive for send in NE-F mode		2		
		NFB2		Send/Receive in NE-F mode		3		
B	RETRY_BUSY		Resend number setting when busy		0 - 15		2	0: No retry
C	TIMER(MINUTE)_BUSY		Resend timer setting (minute) when busy		1 - 15		3	
D	RETRY_ERROR		Resend number setting when error		0 - 15		1	0: No retry
E	TIMER(MINUTE)_ERROR		Resend timer setting (minute) when error		1 - 15		1	
F	FAX RETRY		Resend number setting when FAX initial connection		0 - 15		2	Unit: Number of times
G	TONER ORDER TIMING(K)	EMPTY	Toner order auto send timing setting (K)	Empty	0 - 11	0	6	
		NEAR_END		Near end		1		
		0.05		0.05		2		
		0.1		0.1		3		
		0.15		0.15		4		
		0.2		0.2		5		
		0.25		0.25		6		
		0.3		0.3		7		
		0.35		0.35		8		
		0.4		0.4		9		
		0.45		0.45		10		
		0.5		0.5		11		
H	TEMP HISTORY CYCLE		Frequency of acquiring the temperature and humidity history		1 - 1440		60	Unit: min.
I	LOG OUTPUT CAPACITY(PCU)		Log output capacity		0 - 50		30	Unit: [KB]
J	TONER ORDER TIMING CONTROL		Toner order timing control	Toner order alert call at fixed toner remaining amount	0 - 1	0	0	
	LOG OUTPUT CAPACITY(PCU)			Toner order alert call at predicted toner consumption amount		1		
K	REMOTE FIRMWARE UPDATE (PULL)		Pull type firmware update is inhibited or not allowed.		0 - 1	0	1	0 : Allowed 1 : Inhibited
						1		
L	FIRMWARE VER. SEARCH INTERVAL		Firmware search interval setting		1 - 90		7	Unit: Date

27-5

Purpose	Setting
Function (Purpose)	Used to set the machine tag No. (This function allows the host computer to check the machine tag No.) (FSS function)
Section	Communication (RIC/MODEM)

Operation/Procedure

- 1) Enter the password (max. 8 digits) with 10-key.
The entered password is displayed on the column of "NEW".
In order to correct the entered password, tap the [clear] key to delete the entered value one digit by one digit.
- 2) Tap [SET] key.

27-6

Purpose	Setting
Function (Purpose)	Used to set of the manual service call. (FSS function)
Section	

Operation/Procedure

- 1) Enter the set value with 10-key.

0	Allow (Default)
1	Inhibit

- 2) Tap [OK] key.
The set value in step 1) is saved.

27-7	
Purpose	Setting
Function (Purpose)	Used to set of the enable, alert callout. (FSS function)

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

The set value in step 2) is saved.

Item/Display	Content	Setting range	Default value
A	FUNCTION (0: YES 1: NO)	FSS function enable	1
		FSS function disable	
B	ALERT (0: YES 1: NO)	Alert call enable (*1)	0
		Alert call disable	
C	CONNECTION (0: FAX 1: No Use 2: HTTP)	FAX connection enable	0
		Not used.	
		HTTP connection enable	

*1 Alert send timing

No alert cause	Initial state / Trouble / Continuous JAM alert
Maintenance	When the maintenance timing is reached.
Service call	When tapping Service call.
Toner send request	When the toner order automatic send setting is reached.
Toner collection request	Revision of the toner installation date (only for a new product)
Alert resend	

27-9	
Purpose	Setting
Function (Purpose)	Used to set the paper transport time recording YES/NO threshold value and shading gain adjustment retry number. (FSS function)

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

The set value in step 2) is saved.

Item/Display	Content	Setting range	Default value
A	FEED TIME2	Threshold value of paper transport time between sensors (SPF)	0 - 100 50(%)
B	GAIN ADJUSTMENT RETRY	Threshold value of the gain adjustment retry number	0 - 20 11 (TIMES)
C	JAM ALERT	Continuous JAM alert judgment threshold value (Alert judgment threshold value for continuous JAM's) (Setting of the number of JAM's continuously made at which it is judged as an alert.)	1 - 100 10 (TIMES)
D	JAM ALERT PERIOD	Continuous JAM alert interval value	0 - 99 30 (DAYS)

* Items A: 0%, standard passing time between sheets of paper; 100%, time for judgment as a jam between sheets of paper.

* Item B: Because of a trouble in shading operation, the number of retry is actually not registered.

27-10	
Purpose	Data clear
Function (Purpose)	Used to clear the trouble prediction history information. (FSS function)

Section

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key.

The history information of trouble prediction is cleared.

Target history	Serial communication retry history
	High density process control error history
	Halftone process control error history
	Automatic registration adjustment error history
	Scanner gain adjustment retry history
	DSPF gain adjustment retry history
	Paper transport time between sensors

27-11	
Purpose	Others
Function (Purpose)	Used to check the serial communication retry number and the scanner gain adjustment retry number history. (FSS function)

Section

Operation/Procedure

The serial communication retry number history and the scanner gain adjustment retry number history are displayed.

[RSPF]

Display Item			Content
Item name	Occurrence date (Display)	Retry number	
LSU1	99/99/99 99:99:99	8 digits	Serial communication retry number history display
LSU2	99/99/99 99:99:99	8 digits	
DESK1	99/99/99 99:99:99	8 digits	
DESK2	99/99/99 99:99:99	8 digits	
FINISHER1	99/99/99 99:99:99	8 digits	
FINISHER2	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ1	99/99/99 99:99:99	8 digits	Scanner gain adjustment retry history
SCAN GAIN ADJ2	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ3	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ4	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ5	99/99/99 99:99:99	8 digits	Scanner gain adjustment retry history
TONER ORDER(K)	99/99/99 99:99:99	8 digits	Black toner order alert call date/time
TONER ORDER(C)	99/99/99 99:99:99	8 digits	Cyan toner order alert call date/time
TONER ORDER(M)	99/99/99 99:99:99	8 digits	magenta toner order alert call date/time
TONER ORDER(Y)	99/99/99 99:99:99	8 digits	Yellow toner order alert call date/time

[DSPF]

Display Item			Content
Item name	Occurrence date (Display)	Retry number	
LSU1	99/99/99 99:99:99	8 digits	Serial communication retry number history display
LSU2	99/99/99 99:99:99	8 digits	
DESK1	99/99/99 99:99:99	8 digits	
DESK2	99/99/99 99:99:99	8 digits	
FINISHER1	99/99/99 99:99:99	8 digits	
FINISHER2	99/99/99 99:99:99	8 digits	
DSPF1	99/99/99 99:99:99	8 digits	
DSPF2	99/99/99 99:99:99	8 digits	Scanner gain adjustment retry history
SCAN GAIN ADJ1	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ2	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ3	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ4	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ5	99/99/99 99:99:99	8 digits	Scanner gain adjustment retry history
DSPF GAIN ADJ1	99/99/99 99:99:99	8 digits	
DSPF GAIN ADJ2	99/99/99 99:99:99	8 digits	
DSPF GAIN ADJ3	99/99/99 99:99:99	8 digits	
DSPF GAIN ADJ4	99/99/99 99:99:99	8 digits	
DSPF GAIN ADJ5	99/99/99 99:99:99	8 digits	
TONER ORDER(K)	99/99/99 99:99:99	8 digits	Black toner order alert call date/time
TONER ORDER(C)	99/99/99 99:99:99	8 digits	Cyan toner order alert call date/time
TONER ORDER(M)	99/99/99 99:99:99	8 digits	magenta toner order alert call date/time
TONER ORDER(Y)	99/99/99 99:99:99	8 digits	Yellow toner order alert call date/time

27-12

Purpose	Others
Function (Purpose)	Used to check the high density, halftone process control and the automatic registration adjustment error history. (FSS Function)

Section

Operation/Procedure

The high density, halftone process control and the automatic registration adjustment error history is displayed.

HV_ERR1	High density process control error history 1
HV_ERR2	High density process control error history 2
HV_ERR3	High density process control error history 3
HV_ERR4	High density process control error history 4
HV_ERR5	High density process control error history 5
H_TONE_ERR1	Halftone process control error history 1
H_TONE_ERR2	Halftone process control error history 2
H_TONE_ERR3	Halftone process control error history 3
H_TONE_ERR4	Halftone process control error history 4
H_TONE_ERR5	Halftone process control error history 5

27-13

Purpose	Others
Function (Purpose)	Used to check the history of paper transport time between sensors. (FSS function)

Section

Operation/Procedure

Change the display with scroll key.

Item/Display	Content
FEED TIME1	History of paper transport time between sensors 1
FEED TIME2	History of paper transport time between sensors 2
FEED TIME3	History of paper transport time between sensors 3
FEED TIME4	History of paper transport time between sensors 4
FEED TIME5	History of paper transport time between sensors 5
FEED TIME6	History of paper transport time between sensors 6
FEED TIME7	History of paper transport time between sensors 7
FEED TIME8	History of paper transport time between sensors 8
FEED TIME9	History of paper transport time between sensors 9
FEED TIME10	History of paper transport time between sensors 10

27-14

Purpose	Setting
Function (Purpose)	Used to set the FSS function connection test mode.

Section

Operation/Procedure

1) Enter the set value with 10-key.

0	Disable (Default)
1	Enable

2) Tap [OK] key.

The set value in step 1) is saved.

27-15

Purpose	Operation test/check
Function (Purpose)	Used to display the FSS connection status.

Section

Operation/Procedure

The FSS operating status is displayed.

Item/Display	Content	Setting range		Default value
FSS CONNECTION	Used to display the FSS connection status.	0	Not operated	0
		1	Operated	

27-16

Purpose	Setting
Function (Purpose)	Used to set the FSS alert send.
Section	

Operation/Procedure

- 1) Enter the set value with 10-key.
The value for the FSS alert operation specification is set.
- 2) Tap [OK] key.

Item/Display	Content	Setting range	Default value
A MAINTENANCE ALERT (0:YES 1:NO)	Maintenance alert send Enable setting	Alert send Enable 0	0
		Alert send Disable 1	
B TONER ORDER ALERT (0:YES 1:NO)	Toner order alert send Enable setting	Alert send Enable 0	0
		Alert send Disable 1	
C TONER CTRG ALERT (0:YES 1:NO)	Toner cartridge replacement alert send Enable setting	Alert send Enable 0	0
		Alert send Disable 1	
D JAM ALERT (0:YES 1:NO)	Continuous JAM alert send Enable setting	Alert send Enable 0	0
		Alert send Disable 1	
E TROUBLE ALERT (0:YES 1:NO)	Trouble alert send Enable setting	Alert send Enable 0	0
		Alert send Disable 1	
F PAPER ORDER ALERT (0:YES 1:NO)	Paper order alert send Enable setting	Alert send Enable 0	1
		Alert send Disable 1	

27-17

Purpose	Setting
Function (Purpose)	Used to set the FSS paper order alert.
Section	

Operation/Procedure

- 1) Select an item to be set.
- 2) Enter the set value with 10-key.
The value for the FSS paper order alert operation specification is set.
- 3) Tap [SET] key.

Item/Display	Content	Setting range	Default value	NOTE
PAPER TYPE SET	Setting of paper kind for paper order alert	0 - 2	0	0: Standard paper and recycled paper 1: Standard paper only 2: Recycled paper only
A3	Paper order number setting [Number of sheets] (A3)	500 - 5000	1250	Unit: No. of sheets for a box
A4	Paper order number setting [Number of sheets] (A4)	500 - 5000	2500	Unit: No. of sheets for a box
B4	Paper order number setting [Number of sheets] (B4)	500 - 5000	2500	Unit: No. of sheets for a box
B5	Paper order number setting [Number of sheets] (B5)	500 - 5000	2500	Unit: No. of sheets for a box

Item/Display	Content	Setting range	Default value	NOTE
A3: FIRST	Paper order alert number setting (A3) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time
A4: FIRST	Paper order alert number setting (A4) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time
B4: FIRST	Paper order alert number setting (B4) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time
B5: FIRST	Paper order alert number setting (B5) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time

30

30-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and the detectors in other than the paper feed section and the control circuits.

Section**Operation/Procedure**

The operating conditions of the sensors and detectors are displayed.

The sensors and the detectors which are turned ON are highlighted.

Display	Content
DSW_C1	Transport cover sensor
DSW_C2	Transport cover sensor
DSW_F	Front door switch
DSW_R	Right transport unit switch
FPPD	Fusing paper entry sensor
HLPCD	Fusing pressure sensor
POD1	Paper exit sensor 1
POD2	Paper exit sensor 2
POD3	Paper exit sensor 3
POD4	Paper exit sensor 4
PPD2	Paper transport sensor 2
PRTPD	Paper exit tray sensor
SHPOS	Shifter home position sensor
TED4	Upper paper empty sensor
TFD2	Paper exit tray full sensor
TFD3	Paper exit tray full sensor
TNFD	Waste toner sensor

30-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and the detectors in the paper feed section and the control circuits.

Section**Operation/Procedure**

The operating conditions of the sensors and detectors are displayed.

The sensors and the detectors which are turned ON are highlighted.

Display	Content
C1LUD	Paper feed tray upper limit sensor
C1PED	Paper empty sensor
C1PFD	Paper transport sensor
C1PFPD	Paper pass sensor
C1SPD	Paper remaining quantity sensor
C1SS1	Paper size sensor
C1SS2	
C1SS3	
C1SS4	
C2LUD	Paper feed tray upper limit sensor
C2PED	Paper empty sensor
C2PFD	Paper transport sensor
C2SPD	Paper remaining quantity sensor
C2SS1	Paper size sensor
C2SS2	
C2SS2ETM	
C2SS3	
C2SS4	Paper feed tray detection sensor
C2SSSETD	
MPED	
MPFD	
MPLD1	Paper length sensor

30-30

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the motion sensors, the detectors and the related circuits.

Section**Operation/Procedure**

When you enter this simulation, the current status of the sensor is displayed.

*1: Displayed, but not installed in some models.

40

40-2

Purpose	Adjustment/Setup
Function (Purpose)	Manual paper feed tray paper width sensor adjustment.

Section

Paper feed

Operation/Procedure

- 1) Open the manual paper feed guide to the max. width (MAX).
- 2) Tap [EXECUTE] key.
The max. width (MAX) detection level is recognized.
- 3) Open the manual paper feed guide to P1 width (A4).
- 4) Tap [EXECUTE] key.
The P1 width (A4) detection level is recognized.
- 5) Open the manual paper feed guide to P2 width (A4R).
- 6) Tap [EXECUTE] key.
The P2 width (A4R) detection level is recognized.
- 7) Open the manual paper feed guide to the min. width (MIN).
- 8) Tap [EXECUTE] key.
The min. width (MIN) detection level is recognized.

When the above operation is not performed normally, "ERROR" is displayed. When completed normally, "COMPLETE" is displayed.

MAX POSITION	Manual feed max. width
P1(A4)POSITION	Manual feed P1 position width (A4)
P2(A4R)POSITION	Manual feed P2 position width (A4R)
MIN POSITION	Manual feed min. width

40-7

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the adjustment value of the manual paper feed tray paper width sensor.

Section

Paper feed

Operation/Procedure

- 1) Select a target item to be adjusted with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.
The set value in step 2) is saved.

	Item/Display	Content	Default value
A	MAX POSITION	Manual feed max. width	241
B	P1 (A4) POSITION	Manual feed P1 position width (A4)	231
C	P2 (A4R) POSITION	Manual feed P2 position width (A4R)	140
D	MIN POSITION	Manual feed min. width	19

41-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the document size sensor and the control circuit.

Section

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The sensors and the detectors which are turned ON are highlighted.

OCSW	Document cover status	Open: Normal display Close: Highlighted
PD1 - 7	Document detection sensor status	No document: Normal display Document present: Highlighted

41-2	
Purpose	Adjustment
Function (Purpose)	Used to adjust the document size sensor detection level.

Section

Operation/Procedure

- 1) Open the document cover, and tap [EXECUTE] key without place a document on the document table.

The sensor level without document is recognized.

- 2) Set A3 (11" x 17") paper on the document table, and tap [EXECUTE] key.

The sensor level when detecting the document is displayed.

41-3	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the document size sensor and the control circuit.

Section

Operation/Procedure

The detection output level (A/D value) of OCSW and the document sensor (PD1 - PD7) is displayed in real time.

The light receiving range of PD1 - PD7 is 1 - 255. (Default: 128)

Item/Display	Content	Detection level range
OCSW	Original cover SW	0-1 ("1" to Close)
PD1	Document detection 1	0 - 255
PD2	Document detection 2	0 - 255
PD3	Document detection 3	0 - 255
PD4	Document detection 4	0 - 255
PD5	Document detection 5	0 - 255
PD6	Document detection 6	0 - 255
PD7	Document detection 7	0 - 255

43-1	
Purpose	Setting
Function (Purpose)	Used to set the fusing temperature in each mode.

Section

Operation/Procedure

- 1) Select the SW-A or the SW-B.
- 2) Select an item to be set with scroll keys.
- 3) Select an item to be set with displayed value.

The set value in step 3) is saved.

Display	Content	Setting range	Default
PLAIN PAP&WUP&RDY GR	Used to change the fusing temperature setting of plain paper 1, WUP, and Ready series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
PLAIN PAPER 2	Used to change the fusing temperature setting of plain paper 2	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
HEAVY PAPER GR	Used to change the fusing temperature setting of heavy paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
THIN PAPER GR	Used to change the fusing temperature setting of thin paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
RECYCLED PAPER GR	Used to change the fusing temperature setting of recycled paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
GLOSSY PAPER GR	Used to change the fusing temperature setting of gloss paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	

Display	Content	Setting range	Default
ENV PAPER GR	Used to change the fusing temperature setting of envelope series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
OHP PAPER	Used to change the fusing temperature setting of OHP paper	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
FUSING CONDITION ADJ	Fusing condition adjustment setting	0	0
		1	
		2	
		3	
		4	
		5	
ENV PAPER PRESS PATTERN	Envelop paper pressure adjustment	0	0
		1	
		2	
WUP&RDY GR ADJ LL	WUP/Ready LL environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
PLAIN PAP ADJ LL	Normal paper LL environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
HEAVY PAPER GR ADJ LL	Heavy paper LL environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
SPECIAL PAPER ADJ LL	Special paper LL environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	

Display	Content	Setting range	Default
WUP&RDY GR ADJ HH	WUP/Ready HH environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
PLAIN PAP ADJ HH	Normal paper HH environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
HEAVY PAPER GR ADJ HH	Heavy paper HH environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
SPECIAL PAPER ADJ HH	Special paper HH environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	

SW-A Setting value when plain paper is selected in the system setting/
device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/
device setting/fusing control setting.

43-2

Purpose	Setting
Function (Purpose)	Used to set the fusing temperature and pre-heating.

Section

Operation/Procedure

- 1) Select the SW-A or SW-B.
- 2) Select an item to be set with scroll keys.
- 3) Enter the set value with 10-key.
- 4) Tap [OK] key.

The set value in step 3) is saved.

Item / Display		Content	Setting range	Default value
A	WARMUP FUMON TH_UM T	Fusing motor previous rotation start TH_UM set value	0 - 200	List of Default values and set values for each destination
	B	WARMUP FUMOFF	Fusing motor previous rotation complete time	0 - 255
	C	WARMUP END TIME	Warm-up complete time	0 - 255
	D	HI WU FM ON TMP	FM preliminary rotation start TH_UM when warming up at alpha degree C or above	0 - 200

Item / Display		Content	Setting range	Default value
E	HI WU END TIME	Warm-up completion time when warm-up at alpha degree C or above	0 - 255	List of Default values and set values for each destination
F	LO WARMUP TIME	Setting value applying time in warm-up of 120 degrees C or below (Timer from Ready completion)	0 - 255	
G	HI WARMUP TIME	Setting value applying time in warm-up of 120 degree C or above (Time from Ready completion)	0 - 255	
H	HI WARMUP BORDER	Threshold value alpha to apply the setting value in warm-up of alpha degree C or above	1 - 119	
I	JOBEND FUMON TIME	After-rotation time after completion of a job	0 - 255	
J	TH_UM E-STAR	TH_UM set value when preheating	30 - 200	
K	TH_US E-STAR	TH_US set value when preheating	30 - 200	
L	TH_UM PRE-JOB	TH_UM set value from recovering the preheating	30 - 200	

List of destination groups

Group	Destination				
Group B	U. S. A	CANADA	INCH	-	-
Group C	EUROPE	U. K	AUS.	AB_A	AB_B

List of Default values and set values for each destination

Item	Default value (30/35/40 ppm)			
	SW_A		SW_B	
	Group B	Group C	Group B	Group C
A	0	0	0	0
B	20	20	20	20
C	7	7	30	30
D	0	0	0	0
E	7	7	30	30
F	0	0	0	0
G	0	0	0	0
H	60	60	60	60
I	8	8	8	8
J	110	110	110	110
K	110	110	110	110
L	130	130	135	135

Item	Default value (50 ppm)			
	SW_A		SW_B	
	Group B	Group C	Group B	Group C
A	0	0	0	0
B	20	20	20	20
C	12	12	35	35
D	0	0	0	0
E	12	12	35	35
F	0	0	0	0
G	0	0	0	0
H	60	60	60	60
I	10	10	10	10
J	120	125	120	125
K	120	125	120	125
L	140	145	145	145

Item	Default value (60 ppm)			
	SW_A		SW_B	
	Group B	Group C	Group B	Group C
A	0	0	0	0
B	20	20	20	20
C	12	12	35	35
D	0	0	0	0
E	12	12	35	35
F	0	0	0	0
G	0	0	0	0

Item	Default value (60 ppm)			
	SW_A		SW_B	
	Group B	Group C	Group B	Group C
H	60	60	60	60
I	10	10	10	10
J	130	135	130	135
K	130	135	130	135
L	150	155	155	155

Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)
TH_LM	Fusing thermistor main (Back surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

43-20

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the environmental correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-2) in each paper mode.

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

The set value in step 2) is saved.

Correction value: -49 - +49, Input value: Actually inputted value (1 - 99)

Correction value	-49	-25	-5	0	5	25	49
Input value	1	25	45	50	55	75	99

Item / Display		Content	Setting range	Default value
A	WARMUP FUMON TH_UM T LL	Correction value for fusing motor pre-rotation start TH_UM set value under LL environment	1 - 99	50
B	WARMUP FUMOFF LL	Fusing motor prior rotation completion time under LL environment	1 - 99	60
C	WARMUP END TIME LL	Correction value for warm-up completion time under LL environment	1 - 99	75
D	HI_WU_F M_ON_TM P_LL	Correction value for FM prior rotation start TH_UM in warm-up at alpha degree C or above under LL environment	1 - 99	50
E	HI_WU_END_TIME_LL	Correction value for warm-up completion time in warm-up at alpha degree C or above under LL environment	1 - 99	65
F	LO_WARMUP_TIME_LL	Correction value of the setting value applying time in warm-up of 120degree C or below under LL environment (Time from Ready completion)	1 - 99	50
G	HI_WARMUP_TIME_LL	Correction value of the setting value applying time in warm-up of 120degree C or above under LL environment (Time from Ready completion)	1 - 99	50

Item / Display		Content	Setting range	Default value
H	HI_WARMUP_BORDER_LL	Correction value of the threshold value alpha to apply the setting value in warm-up of alpha degree C or above under LL environment	1 - 99	50
I	JOBEND_FUMON_TIME_LL	Correction value for the after rotation time when completing a job under LL environment	1 - 99	50
J	TH_UM E-STAR_LL	Correction value for preheating TH_UM set value under LL environment	1 - 99	55
K	TH_US E-STAR_LL	Correction value for preheating TH_US set value under LL environment	1 - 99	55
L	TH_UM PRE-JOB_LL	Correction value for the set value of TH_UM when restoring from preheating under LL environment	1 - 99	55

* Item WARMUP END TIME LL: 1 Count = 1s Change

Correction value for the other items: 1 count for 1degrees C change

Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)
TH_LM	Fusing thermistor main (Back surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)

43-21

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-2) in each paper mode.

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

The set value in step 2 is saved.

Correction value: -49 - +49, Input value: Actually inputted value (1 - 99)

Correction value	-49	-25	-5	0	5	25	49
Input value	1	25	45	50	55	75	99

Item / Display		Content	Setting range	Default value
A	WARMUP_FUMON_TH_UM T HH	Fusing motor previous rotation start TH_UM set value	1 - 99	50
B	WARMUP_FUMOFF HH	Fusing motor previous rotation completion time	1 - 99	50
C	WARMUP_END TIME HH	Warm-up completion time	1 - 99	50
D	HI_WU_FM_ON_TMP HH	FM preliminary rotation start TH_UM when warming up at alpha degree C or above	1 - 99	50
E	HI_WU_END_TIME HH	Warm-up completion time when warm-up at alpha degree C or above	1 - 99	50
F	LO_WARMUP_TIME_HH	Correction value for AF - AH application time (Time from Ready complete)	1 - 99	50
G	HI_WARMUP_TIME HH	Correction value for AJ - AL application time (Time from Ready complete)	1 - 99	50

Item / Display		Content	Setting range	Default value
H	HI_WARMUP_BORDER_H H	Threshold value alpha to which AN - AP is applied	1 - 99	50
I	JOBEND_FUMON_TIME HH	After-rotation time after completion of a job	1 - 99	50
J	TH_UM E-STAR HH	TH_UM set value when preheating	1 - 99	50
K	TH_US E-STAR HH	TH_US set value when preheating	1 - 99	50
L	TH_UM PRE-JOB HH	Resetting from preheating TH_UM set value	1 - 99	50

* Item WARMUP END TIME HH: 1 Count = 1s Change

Correction value for the other items: 1 count for 1 degrees C change

Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)
TH_LM	Fusing thermistor main (Back surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)

43-24

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the temperature adjustment value.

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

The set value in step 2 is saved.

Correction value: -49 - +49, Input value: Actually inputted value (1 - 99)

Correction value	-49	-25	-5	0	5	25	49
Input value	1	25	45	50	55	75	99

Item / Display		Content	Setting Value	Default value
A	COOL_DOWN_HEAVY	Cool down time (Heavy paper)	1-60	List of Default values and set values for each destination
B	COOL_DOWN_OHP	Cool down time (OHP)	1-60	
C	COOL_DOWN_ENVELOPE	Cool down time (Envelope)	1-60	
D	POWER SET	Power supply voltage 1:100V, 2 :110 - 120V, 3 : 220 - 240V	1-3	

* Each cool down time: 1 count = 1sec change

List of destination groups

Group	Destination				
Group B	U. S. A	CANADA	INCH	TAIWAN	-
Group C	EUROPE	U. K	AUS.	AB_A	AB_B

List of Default values and set values for each destination

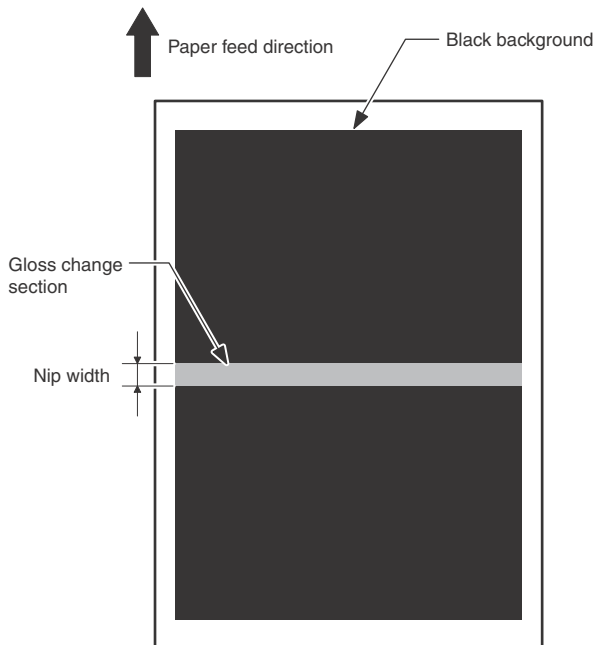
Item	Default value (30/35/40 ppm)		Default value (50/60 ppm)	
	Group B	Group C	Group B	Group C
A	8	8	10	10
B	8	8	10	10
C	8	8	10	10
D	2	3	2	3

Purpose	Adjustment and setting
Function (Purpose)	Fusing nip operation check
Section	Fusing

Operation/Procedure

- 1) Prepare a black-background image, and put it on the cassette with the black background facing upward.
- 2) Enter the set value with 10-key. (The cassette is specified.)
- 3) Tap [EXECUTE] key.
- 4) [EXECUTE] key is highlighted and printing is started.
When printing is executed, a jam is always generated. (As shown in the photo below.)
- 5) Leave the jam paper for about 30sec, then remove the jam paper.
- 6) Measure the width of the gloss change section (nip) of the jam paper, and check to confirm that it is in the range of about 10.5mm - 12mm.
* If the difference between F and R is considerably great, the fusing pressure may be insufficient.

Item/Display item			Content	Setting range		Default value
A	PAPER	MFT	Cassette selection	1 - 5	1	2
		CS1			2	
		CS2			3	
		CS3			4	
		CS4			5	



Purpose	Setting
Function (Purpose)	Used to set each correction operation function in the image forming (process) section.
Section	Image process (Photo conductor/Developing/Transfer/Cleaning)

Operation/Procedure

- 1) Select an item to be set with the touch panel.
(The selected item is highlighted.)
- 2) Tap [EXECUTE] key. (The set value is saved.)

Set the items to the default values unless a change is specially required.

Item/Display	Content	Setting range	Default value
HV	Normal operation high density process control Enable/Disable setting	Black text on white background (Inhibit: 0=NO) white text on black background (Allow: 1=YES)	Allow
HT	Normal operation halftone process control Enable/Disable setting		Allow
TN_PIX_SUP	Setting of Enable/Disable of toner supply control for the yield count		Allow
TN_FB	Enable/Disable setting of FEEDBACK toner supply control		Allow
TN_INT	Enable/Disable setting of the interval toner supply control		Allow
TN_REC V	Enable/Disable setting of developer recovery		Allow
TN_ADJ	Enable/Disable setting of the sensor output adjustment		Allow
TN_EMP	Setting of Enable/Disable of the toner falling distance detection control		Allow
TN_EMP_INT	Setting of Enable/Disable of the toner falling distance detection control of job interruption		Allow
TN_EMP_NEW	Enable/Disable setting of fall amount detection control of a new cartridge		Allow
TN_PIX_TBL	Enable/Disable setting of toner supply control by the yield count		Allow
PRT_HT	Enable/Disable setting of printer correction feedback of half-tone process control	Black text on white background (Inhibit: 0=NO) white text on black background (Allow: 1=YES)	Allow
MD VG	Enable/Disable setting of the membrane decrease grid voltage correction		Allow
MD EV	Enable/Disable setting of the membrane decrease environment grid voltage correction		Allow
MD VG MC	Enable/Disable setting of the grid correction by the MC total current correction		Allow
MD VG DV	Enable/Disable setting of the VG grid correction by the developer bias absolute value		Allow
MD LD	Enable/Disable setting of the membrane decrease laser power voltage correction		Allow
MD LD EV	Enable/Disable setting of environmental area and the membrane decrease count laser power voltage correction		Allow
MD LD HV	Enable/Disable process control laser power voltage correction		Allow
MD DL	Enable/Disable setting of the membrane decrease discharge light quantity correction		Allow
MD DL EV	Enable/Disable setting of the membrane decrease environment discharge quantity correction		Allow
MD MC	Enable/Disable setting of the MC total current correction by an increase in the resistance		Allow
MD MC EV	Enable/Disable setting of the MC total current correction by environmental change		Allow

44-2

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the sensitivity of the image density sensor (registration sensor).
Section	Process

Operation/Procedure

When [EXECUTE] key is tapped, the adjustment is executed automatically.

After completion of the adjustment, the adjustment result is displayed.

If the adjustment is not executed normally, "ERROR" is displayed.

Item/Display	Content
A PCS K LED ADJ	Image density sensor sensitivity
B PCS K DARK	Image density sensor dark voltage
C PCS K GRAND	Drum surface detection level
D PCS V1	Linearity correction
E PCS V2	
F PCS V3	
G PCS V4	
H PCS V5	
I PCS K DRM MAX	Drum surface detection level max value
J PCS K DRM MIN	Drum surface detection level min value
K PCS K DRM DIF	Drum surface detection level difference

Error name	Error content
Sensor adjustment abnormality	PCS K LED ADJ error The target is not reached by 3 times of adjustments.
Surface scanning abnormality	PCS K GRND error Effective difference of the upper and the lower values of the drum element surface.

44-4

Purpose	Setting
Function (Purpose)	Used to set the conditions of the high density process control operation.
Section	Process

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

Important

Set the items to the default values unless a change is specially required.

Item/Display	Content	Default value
A PCS TARGET	Sensor target value	210
B LED K OUTPUT	Sensor light emitting quantity value	21
C PCS ADJUSTMENT LIMIT	Sensor adjustment target limit value	10
D DRM GROUND DIF	Effective difference of the upper and lower value of drum element surface	1
E BIAS BK STANDARD DIF	Bias reference calculation difference	35
F BIAS PATCH INTERVAL	Patch bias output interval	60
G K PAT TARGET ID	Patch density standard value	50
H K PAT TARGET ID LOW1	Patch density correction value	100
I HV BK GROUND LIMIT	Surface light reception effective area value at the patch position	60
J TARGET LOWER LIMIT	Sensor lower target value	179

Item/Display	Content	Default value
K LED ADJUSTMENT FINE STEP	LED fine adjustment step	1
L LED ADJUSTMENT ROUGH STEP	LED rough adjustment step	2
M LED UPPER LIMIT	LED upper limit value	255
N LED LOWER LIMIT	LED lower limit value	5

44-6

Purpose	Adjustment
Function (Purpose)	Used to execute the high density process control forcibly.
Section	Process

Operation/Procedure

Tap [EXECUTE] key.

In case of a normal completion, the result is saved.

In case of an abnormal completion, "ERROR" is displayed. (Refer to the table below.)

In case of an ERROR, the previous correction data are saved.

Result display	Content description
COMPLETE	Normal complete
ERROR	Abnormal end
INTERRUPTION	Forcible interruption

Details of error display	Content description
BK_SEN_ADJ_ERR	Black image sensor adjustment abnormality
K_HV_ERR	K high density process control abnormality
TIMEOUT_ERR	Time out

Details of error display	Content description
BK_SEN_ADJ_ERR	Black image sensor adjustment abnormality
K_EHT_ERR	K process control abnormality
TIMEOUT_ERR	Time out

44-9

Purpose	Operation data display
Function (Purpose)	Used to display the result data of the high density process control operation.
Section	Image process (Photo conductor/Developing/Transfer/Cleaning)

Operation/Procedure

Select a target display mode with [CPY/PRN], [OTHER] keys.

44-12

Purpose	Operation data display
Function (Purpose)	Used to display the operation data of the high density process control and the image density sensor (registration sensor).
Section	Image process (Photo conductor/Developing)

Operation/Procedure

Select a display mode with [TARGET] [PATCH] keys.

44-14	
Purpose	Operation data display
Function (Purpose)	Used to display the output level of the temperature and humidity sensor.
Section	Process (OPC drum, development)/Fusing/LSU

Operation/Procedure

The output levels of the fusing temperature sensor, the machine temperature sensor, and the humidity sensor are displayed.

Item/Display	Content
TH_CL	External air temperature sensor temperature External air temperature sensor AD value
HUD_CL	External air humidity sensor humidity External air sensor AD value
TH_UM	Fusing upper main thermistor temperature Fusing upper main thermistor (AD value)
TH_UM_CS	Fusing upper main thermistor (compensation) temperature Fusing upper main thermistor (compensation) AD value
TH_US	Fusing upper sub thermistor temperature Fusing upper sub thermistor (AD value)
TH_US2	Fusing upper sub 2 thermistor temperature Fusing upper sub 2 thermistor (AD value)
INPUT VOLTAGE	AC voltage

44-15	
Purpose	Setting
Function (Purpose)	Used to set the OPC drum idle rotation.
Section	Process

Operation/Procedure

- 1) Select an item to be set with the scroll key.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

The initial value must be set unless any special change is required.

Item/Display	Content	Setting range	Default value
A TIME	Idle rotation interval (time interval between the previous OPC drum idle rotation and the next one) setting (h)	0 - 255	6
B AREA1	Environmental area difference judgment threshold value setting (difference between the previous OPC drum idle rotation and the current one)	0 - 5	2
C AREA2	Environmental area conditions (AND condition of the previous OPC drum idle rotation and the current one)	1 - 15	1
D CYCLE	Previous rotation time setting (sec) in the process control when recovered from power ON, preheating/sleep mode.	0 - 255	0
E FLAG	OPC drum idle rotation is allowed or disabled.	0 - 1 (0 : Allow 1 : Disable)	0

44-17	
Purpose	Setting
Function (Purpose)	Process refresh execution
Section	Process

Operation/Procedure

- 1) Select a refresh item with the touch panel key.

- 2) Tap [EXECUTE] key.
- 3) The refresh operation is executed.

NOTE: Do not execute this simulation unless specially required.

Display items and descriptions of contents

Display	Content
TC REFRESH	Transfer roller refresh
DEVE REFRESH	Development refresh * DEVE REFRESH execution consume W-Letter A3 100% worth of toner.

44-21	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the halftone process control target.
Section	Process

Operation/Procedure

Tap [EXECUTE] key.

The halftone process control target is set and the operation data are displayed.

Display	Content
COMPLETE	Normal complete
ERROR BLACK SENSOR ADJUSTMENT	Black image density sensor sensitivity adjustment error
[K]	High density process control error [K]
OTHER	Other errors

44-22	
Purpose	Operation data display
Function (Purpose)	Used to display the toner patch density level in the halftone process control operation.
Section	Process

Operation/Procedure

- 1) The toner patch density level made in the halftone process control operation is displayed.

44-24	
Purpose	Operation data display
Function (Purpose)	Used to display the correction target and the correction level in the halftone process control operation.
Section	Process

Operation/Procedure

- 1) Select the display category with [NEXT] key.
- 2) Select [K] key.

44-25	
Purpose	Setting
Function (Purpose)	Used to set the calculating conditions of the correction value for the halftone process control.
Section	Process

Operation/Procedure

- 1) Select a target adjustment density level with scroll key.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

Important

Set the items to the default values unless a change is specially required.

Item/Display		Content	Setting range	Default value K
A	HIGHLIGHT VALUE LIMIT	Highlight correction amount limit value	0 - 128	20
B	MAX VALUE LIMIT	Maximum density value correction limit value	0 - 128	20

44-26

Purpose	Adjustment/Setup
Function (Purpose)	Used to execute the halftone process control compulsory.
Section	Process

Operation/Procedure

Tap [EXECUTE] key.

The halftone process control is performed and the operation data are displayed.

COMPLETE	Normal complete
ERROR BLACK SENSOR ADJUSTMENT	Black image density sensor sensitivity adjustment error
[K]	High density process control error [K] error
OTHER	Other errors

44-27

Purpose	Data clear
Function (Purpose)	Used to clear the correction data of the halftone process control.
Section	Process

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key.

The correction data of the halftone process control are cleared.

44-28

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the process control execution conditions.
Section	Process

Operation/Procedure

- 1) Select a target item of setting with scroll key.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. (The set value is saved.)

Important

Set the items to the default values unless a change is specially required.

Item/Display			Content	Setting range	Default value
A	INITIAL	YES	When warm-up after clearing the counter of the OPC drum and the developer unit	Enable	0
		NO		Disable	1

Item/Display			Content	Setting range	Default value
B	SW ON		When supplying the power (when canceling power shut-off)	Color process control Enable	0
				Process control Disable	1
				BK process control Enable	2
				Pixel count judgment	3
C	TIME		After passing the specified time from leaving READY continuously (Time can be changed by INTERVAL TIME)	Process control Disable	1
				BK process control Enable	2
				Pixel count judgment	3
D	HUM_LIMIT		HUM judgment is made when turning ON the power and after passing INTERVAL TIME.	Process control Disable	1
				BK process control Enable	2
E	HUM		The temperature and humidity inside the machine are monitored only during a job at the interval set by the item of HUM HOUR. When the changes in the temperature and the humidity are greater than the specified level (the set value of item HUM DIF) in comparison with the previous process control.	Process control Disable	1
				BK process control Enable	2
F	REV1	YES	When the accumulated traveling distance of K or M OPC drum unit reaches the specified level after turning ON the power.	Enable	0
		NO		Disable	1
G	REV2_BK	YES	When the accumulated traveling distance of K OPC drum unit reaches the specified level from execution of the previous density correction.	Enable	0
		NO		Disable	1
H	REFRESH MODE	YES	Select of YES/NO of the manual process control key with key operation	Key operation display	0
		NO		Key operation NO display	1

Item/Display		Content		Setting range	Default value
I	DAY	When there is no job from when the previous process control was performed to when the number of days set by this item setting, perform the process control when executing the next warning up.	0: Disable of the specified days judgment 1 - 999: 1 - 999 days passing	0 999	1
J	HI-COV	Setting of the execution conditions of the process control for the print ratio	The process control is performed by considering the average print ratio of every 10 pages as the judgment criteria. Print ratio judgment inhibit (The process control for the target of print ratio is not performed.) The process control is performed by considering the average print ratio of 30 pages as the judgment criteria in a continuous print job of 30 or more pages.	0 1 2	0
K	LO-COV	Setting of the execution judgment of the process control in continuous printing of low print ratio images	Enable Disable	0 1	1
L	TonerCA-END	Setting of the process control interval reduction when the toner cartridge remaining quantity is 25% or less (If this is set to Enable, item M RATIO is changed.)	Enable Disable	0 1	1

Item/Display		Content		Setting range	Default value
M	JOB STOP	JOB interruption process control	Enable Disable	0 1	0
N	AVERAGE-PAGE	Setting of the number of pages of item	10 pages 50 pages	1 5	5
O	LIMIT PAGE	Setting of the number of connected jobs of the process control and of the limit number of the process control	10 pages 990 pages	1 99	10
P	PIX_RATIO_BK	Magnification ratio setting (%) of the BK toner count specified value The set value of 100 corresponds to K print of A4 at the print ratio of 5%.		0 - 999	10
Q	INTERVAL TIME	Setting of the leaving time when turning ON the power (including the sleep recovery time) (h: hour)		1 - 255	2
R	HUM HOUR	Interval setting of the temperature and humidity monitoring time of "HUM" (unit: 10 minutes)		1 - 24	2
S	HUM_DIF	The specified value of the area difference in humidity between the level at execution of the previous control and the current humidity (Applied to item HUM)		1 - 9	2
T	BK_RATIO	Magnification ratio setting (%) of the specified value of the BK OPC drum traveling distance of "REV2_BK"		1 - 999	15
U	M_RATIO	Magnification ratio setting (%) of the M OPC drum traveling distance of "REV2_CL"		1 - 999	15
V	REV1_RATIO	Magnification ratio setting (%) of the REV1 OPC drum traveling distance of "REV1"		1 - 255	20
W	LOW RATIO	Process control in low mode execution interval		1 - 999	15
X	HT_DIF	HT process control execution judgment developing bias variation value		1 - 255	60
Y	HT TYPE	Halftone process control in middle mode	Enable Disable	0 1	0
Z	TC CLEAN TIME	TC cleaning execution time		5 - 999	100

44-29

Purpose

Setting

Function (Purpose)

Used to set the operating conditions of the process control during a job.

Section

Process

Operation/Procedure

- 1) Select a target item of setting with scroll key.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

Item/Display	Content	Setting range		Default value
A COPY	During copy job	0	0: No execution	2
B PRINTER	During print job	-	1: HV only	2
C FAX	During FAX print job	2	2: HV -> HT	2
D SELF PRINT	During self print			2

Item/Display	Content	Setting range			Default value
E	CPY TO PRT TABLE	Halftone process control copier - printer conversion table select	0 - 1	0:CALC ULATED 1:DEFA ULT 0: Gray balance calculation value (Revised every time when SIM46-74 is executed.) 1: Default (Fixed value)	0
F	HT RETRY	Halftone process control retry setting	0 - 255		20
G	HT TARGE T RETRY	Halftone process control standard value registration retry	0 - 255		3
H	HT RETRY SET	Halftone process control retry setting	0 1	Enable Disable	0

HV: High density process control

HT: Halftone process control

44-37	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the development bias correction level in the continuous printing operation.

Section

Operation/Procedure

- 1) Select a set target color with the touch panel.
- 2) Select a target item with scroll keys.
- 3) Enter the set value with 10-key.
- 4) Tap [OK] key. (The set value is saved.)

Note

When the print density is varied in the continuous printing operation, this simulation is used.

Item/Display	Content	Setting range	Default value
A	MUL_M C_ADJ	Multi-grid bias correction enable/disable setting	Disable 0
		Enable 1	0
B	MUL_DV _ADJ	Multi-fusing bias correction enable/disable setting	Disable 0
		Enable 1	1

44-43	
Purpose	Data display
Function (Purpose)	Used to display the identification information of the developing unit.

Section

Operation/Procedure

The identification number and the identification signal level of the developing unit are displayed.

44-62	
Purpose	Setup/Adjustment
Function (Purpose)	Used to set the process control execution conditions.

Section

Operation/Procedure

This simulation allows collective change in the set contents of SIM44-4 and SIM44-28.

A suitable one is selected among a number of options depending on the condition.

- 1) Select an item to be set.

To change the image density in the high density area, select PROCON TARGET.

To change the frequency of the process control operations, select PROCON MODE.

Display/Item	Content
PROCON TARGET	ID DOWN(-2)
	ID DOWN(-1)
	ID UP(+1)
	ID UP(+2)
	NORMAL
	CUSTOM
PROCON MODE	HIGH QUALITY2
	HIGH QUALITY1
	PRINT PERFORMANCE1
	PRINT PERFORMANCE2
	NORMAL
	CUSTOM

(When PROCON TARGET is selected.)

- 2A) Select the density level.

(When PROCON MODE is selected.)

- 2B) Select the execution frequency of the process control.

- 3) Tap [EXECUTE] key.

- 4) Tap [YES] key.

46

46-2	
Purpose	Adjustment (Monochrome copy mode)
Function (Purpose)	Used to adjust the copy density in the copy mode.

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key.
- 2) Enter the set value with 10-key.
 - * When the r s key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the copy density is increased. When the adjustment value is decreased, the copy density is decreased.

Mode	Item/Display	Content	Setting range	Default value
LOW	A	AUTO1	Auto 1	50
HIGH			1 - 99	50

Mode	Item/Display		Content	Setting range	Default value
LOW	B	AUTO2	Auto 2	1 - 99	50
HIGH				1 - 99	50
LOW	C	AUTO3	Auto 3	1 - 99	50
HIGH				1 - 99	50
LOW	D	TEXT	Text	1 - 99	50
HIGH				1 - 99	50
LOW	E	TEXT/PRINTED PHOTO	Text/Printed	1 - 99	50
HIGH				1 - 99	50
LOW	F	TEXT/PHOTO	Text/Photograph	1 - 99	50
HIGH				1 - 99	50
LOW	G	PRINTED PHOTO	Printed Photo	1 - 99	50
HIGH				1 - 99	50
LOW	H	PHOTOGRAPH	Photograph	1 - 99	50
HIGH				1 - 99	50
LOW	I	MAP	MAP	1 - 99	50
HIGH				1 - 99	50
LOW	J	AUTO1(COPY TO COPY)	Auto 1 (Copy document)	1 - 99	50
HIGH				1 - 99	50
LOW	K	AUTO2(COPY TO COPY)	Auto 2 (Copy document)	1 - 99	50
HIGH				1 - 99	50
LOW	L	AUTO3(COPY TO COPY)	Auto 3 (Copy document)	1 - 99	50
HIGH				1 - 99	50
LOW	M	TEXT(COPY TO COPY)	Text (Copy document)	1 - 99	50
HIGH				1 - 99	50
LOW	N	TEXT/PRINTED PHOTO(COPY TO COPY)	Text/Printed Photo (Copy document)	1 - 99	50
HIGH				1 - 99	50
LOW	O	PRINTED PHOTO(COPY TO COPY)	Printed Photo (Copy document)	1 - 99	50
HIGH				1 - 99	50
LOW	P	LIGHT	Light document	1 - 99	50
HIGH				1 - 99	50

46-4

Purpose	Adjustment (Color scanner mode)
Function (Purpose)	Used to adjust the density in the image send mode.

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key.
- 2) Enter the set value with 10-key.
 - * When the r s key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

Mode	Item/Display		Content	Setting range	Default value
LOW	A	AUTO	Auto	1 - 99	50
	B	TEXT	Text	1 - 99	50
	C	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	E	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Map	1 - 99	50
	H	RIP	—	1 - 99	50
HIGH	A	AUTO	Auto	1 - 99	50
	B	TEXT	Text	1 - 99	50
	C	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	E	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Map	1 - 99	50
	H	RIP	—	1 - 99	50

46-5

Purpose	Adjustment (Monochrome scanner mode)
Function (Purpose)	Used to adjust the density in the image send mode.

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key.
- 2) Enter the set value with 10-key.
 - * When the r s key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

Mode	Item/Display		Content	Setting range	Default value
LOW	A	AUTO	Auto	1 - 99	50
	B	TEXT	Text	1 - 99	50
	C	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	E	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Map	1 - 99	50
	H	RIP	—	1 - 99	50
HIGH	A	AUTO	Auto	1 - 99	50
	B	TEXT	Text	1 - 99	50
	C	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	E	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Map	1 - 99	50
	H	RIP	—	1 - 99	50

46-8

Purpose	Adjustment (Color scanner mode)
Function (Purpose)	Used to adjust the image send mode color balance RGB.

Section

Operation/Procedure

- 1) Select an adjustment target with [R] [G] [B] keys on the touch panel.
- 2) Select an adjustment target item with scroll key.
- 3) Enter the set value with 10-key.
- 4) Tap [OK] key. (The set value is saved.)

The color balance can be adjusted separately for the low density area and the high density area.

When the adjustment value is increased, the image density of the target color is increased, and vice versa.

Item/Display		Content	Default value
A	LOW DENSITY POINT	Low density correction amount	50
B	HIGH DENSITY POINT	High density correction amount	50

46-9

Purpose	Adjustment (DSPF/RSPF mode)
Function (Purpose)	Used to adjust the scan image density.

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key.
- 2) Enter the set value with 10-key.

* When the r s key is tapped, the setting value of each item can be changed with 1up (1down) collectively.

3) Tap [OK] key. (The set value is saved.)

This adjustment result affects the image send mode, the copy mode, and the fax mode.

When the adjustment value is increased, the image density is increased, and vice versa.

[RSPF]

Item/Display	Content	Setting range	Default value
A COPY : LOW	RSPF copy mode exposure adjustment (Low density side)	1 - 99	48
B SCAN : LOW	RSPF scanner mode exposure adjustment (Low density side)	1 - 99	48
C FAX : LOW	RSPF FAX mode exposure adjustment (Low density side)	1 - 99	48
D COPY : HIGH	RSPF copy mode exposure adjustment (High density side)	1 - 99	53
E SCAN : HIGH	RSPF scanner mode exposure adjustment (High density side)	1 - 99	53
F FAX : HIGH	RSPF FAX mode exposure adjustment (high density)	1 - 99	53

[DSPF]

Item/Display	Content	Setting range	Default value
OC	A COPY SIDEA: LOW	DSPF copy mode exposure adjustment (Low density side)	1 - 99
	B SCAN SIDEA: LOW	DSPF scanner mode exposure adjustment (Low density side)	1 - 99
	C FAX SIDEA: LOW	DSPF FAX mode exposure adjustment (Low density side)	1 - 99
	D COPY SIDEA: HIGH	DSPF copy mode exposure adjustment (High density side)	1 - 99
	E SCAN SIDEA: HIGH	DSPF scanner mode exposure adjustment (High density side)	1 - 99
	F FAX SIDEA: HIGH	DSPF FAX mode exposure adjustment (high density)	1 - 99
DSPF	A COPY SIDEB: LOW	DSPF copy mode exposure adjustment (Low density side)	1 - 99
	B SCAN SIDEB: LOW	DSPF scanner mode exposure adjustment (Low density side)	1 - 99
	C FAX SIDEB : LOW	DSPF FAX mode exposure adjustment (Low density side)	1 - 99
	D COPY SIDEB: HIGH	DSPF copy mode exposure adjustment (High density side)	1 - 99
	E SCAN SIDEB: HIGH	DSPF scanner mode exposure adjustment (High density side)	1 - 99
	F FAX SIDEB : HIGH	DSPF FAX mode exposure adjustment (high density)	1 - 99
	G BALANCE SIDEB: R	DSPF color balance R	1 - 99
	H BALANCE SIDEB: G	DSPF color balance G	1 - 99
	I BALANCE SIDEB: B	DSPF color balance B	1 - 99

46-10

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy balance and the gamma (for each copy mode).

Section

Operation/Procedure

- 1) Select an adjustment target mode with the touch panel key.
- 2) Select an adjustment target item with scroll key.
- 3) Enter the set value with 10-key.
 - * When the r s key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

Item/Display	Content
AUTO	Auto
TEXT	Text
TEXT/PRT PHOTO	Text/Printed photo
TEXT/PHOTO	Text/Photo
PRINTED PHOTO	Printed photo
PHOTO	Photo
MAP	Map
LIGHT	Light document
COPY ORG	Copy document

Item/Display	Density level (Point)	Setting range	Default value
A POINT1	Point 1	1 - 999	500
B POINT2	Point 2	1 - 999	500
C POINT3	Point 3	1 - 999	500
D POINT4	Point 4	1 - 999	500
E POINT5	Point 5	1 - 999	500
F POINT6	Point 6	1 - 999	500
G POINT7	Point 7	1 - 999	500
H POINT8	Point 8	1 - 999	500
I POINT9	Point 9	1 - 999	500
J POINT10	Point 10	1 - 999	500
K POINT11	Point 11	1 - 999	500
L POINT12	Point 12	1 - 999	500
M POINT13	Point 13	1 - 999	500
N POINT14	Point 14	1 - 999	500
O POINT15	Point 15	1 - 999	500
P POINT16	Point 16	1 - 999	500
Q POINT17	Point 17	1 - 999	500

46-16

Purpose	Adjustment
Function (Purpose)	Used to adjust the monochrome copy density and the gamma

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key.
- 2) Enter the set value with 10-key.
 - * When the r s key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

Item/Display	Density level (Point)	Setting range	Default value
A POINT1	Point 1	1 - 999	500
B POINT2	Point 2	1 - 999	500
C POINT3	Point 3	1 - 999	500
D POINT4	Point 4	1 - 999	500

Item/Display		Density level (Point)	Setting range	Default value
E	POINT5	Point 5	1 - 999	500
F	POINT6	Point 6	1 - 999	500
G	POINT7	Point 7	1 - 999	500
H	POINT8	Point 8	1 - 999	500
I	POINT9	Point 9	1 - 999	500
J	POINT10	Point 10	1 - 999	500
K	POINT11	Point 11	1 - 999	500
L	POINT12	Point 12	1 - 999	500
M	POINT13	Point 13	1 - 999	500
N	POINT14	Point 14	1 - 999	500
O	POINT15	Point 15	1 - 999	500
P	POINT16	Point 16	1 - 999	500
Q	POINT17	Point 17	1 - 999	500

46-19

Purpose	Setting
Function (Purpose)	Used to set the operating conditions for the density scanning (exposure) of mono-chrome auto copy mode documents.

Section

Operation/Procedure

Select an item to be set with touch panel.

When an item is selected, it is highlighted and the setting change is saved.

Item/Display	Content	Set value	Default value
AE_MODE	Auto exposure mode	MODE1 MODE2 MODE3	MODE2
AE_STOP_COPY	Auto B/W exposure Stop (for copy)	REALTIME STOP PRESCAN	PRESCAN
AE_STOP_FAX	Auto B/W exposure Stop (for FAX)	ON/OFF	ON
AE_STOP_SCAN	Auto B/W exposure Stop (for scanner)	REALTIME STOP PRESCAN	STOP
AE_FILTER	Auto exposure filter setting	SOFT NORMAL SHARP	NORMAL
AE_WIDTH	AE exposure width	FULL PART	FULL

46-23

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the density correction of copy high density section (High density tone gap supported).

Section

Operation/Procedure

1) Enter the set value with 10-key.

0	Enable
1	Inhibit

2) Tap [OK] key. (The set value is saved.)

Item/Display		Content	Setting range	Default value
A	K	Engine highest density correction mode: Enable	0	1
		Engine highest density correction mode: Disable	1	

Item/Display		Content	Setting range	Default value
B	BLACK MAX TARGET	Scanner target value for BLACK max. density correction	0~999	500
C	RATIO LOW	Mix ration of high density correction	0~100	33
D	RATIO HIGH	Mix ration of high density correction	0~100	5
E	DITHER THRESHOLD	Dither threshold	0~255	250
F	SLOPE THRESHOLD	Slope threshold	100~500	400

* When tone gap is generated in the high density area, set item A to "0".

The density of high density part decreases. However, the tone gap is better.

* To increase the density in the high density area further, set item A to "1".

The tone gap may occur in high density part.

Important

Do not change the values of item B. If these values are changed, the density in the high density area is changed.

46-24

Purpose	Adjustment
Function (Purpose)	Copy gray balance adjustment (Auto adjustment)

Section

Operation/Procedure

- 1) Tap [EXECUTE] key.
The color patch image (adjustment pattern) is printed out.
- 2) Plate the printed adjustment pattern on the document table.
- 3) Tap [EXECUTE] key.
The copy gray balance automatic adjustment is performed, then the adjustment result pattern is printed.
- 4) Tap [OK] key.
The halftone correction target registration is processed.

46-32

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the document background density reproducibility in the monochrome auto copy mode.

Section

Operation/Procedure

- 1) Select a target item of setting with scroll key.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

RSPF

Item / Display		Content	Setting range	Default value
A	COPY:OC	Copy mode (for OC)	1 - 250	196
B	COPY:RSPF	Copy mode (for RSPF)	1 - 250	196
C	SCAN:OC	Scanner mode (for OC)	1 - 250	196
D	SCAN:RSPF	Scanner mode (for RSPF)	1 - 250	196
E	FAX:OC	FAX mode (for OC)	1 - 250	196
F	FAX:RSPF	FAX mode (for RSPF)	1 - 250	196

DSPF

Item / Display	Content	Setting range	Default value
A COPY:OC	Copy mode (for OC)	1 - 250	196
B COPY DSPF SIDE1)	Copy mode (for DSPF top side)	1 - 250	196
C COPY DSPF SIDE2)	Copy mode (for DSPF back side)	1 - 250	196
D SCAN:OC	Scanner mode (for OC)	1 - 250	196
E SCAN DSPF SIDE1)	Scanner mode (for DSPF top side)	1 - 250	196
F SCAN DSPF SIDE2)	Scanner mode (for DSPF back side)	1 - 250	196
G FAX:OC	FAX mode (for OC)	1 - 250	196
H FAX DSPF SIDE1)	FAX mode (for DSPF top side)	1 - 250	196
I FAX DSPF SIDE2)	FAX mode (for DSPF back side)	1 - 250	196

46-37

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the reproduction capability of monochrome mode color.

Section

Operation/Procedure

- 1) Select a target item with scroll key.
- 2) Enter the set value with 10-key.
- 3) Tap [EXECUTE] key.
- 4) Tap [YES] key.

This is to adjust the reproduction capability of red and yellow images when copying color documents with red and yellow images in the monochrome mode.

Item/Display	Content	Setting range	Default value
A R-Ratio Default	Gray making setting (R)	0 - 1000	135
B G-Ratio Default	Gray making setting (G)	0 - 1000	805
C R-Ratio Fluorescence	Gray making setting (R) Fluorescent pen	0 - 1000	243
D G-Ratio Fluorescence	Gray making setting (G) Fluorescent pen	0 - 1000	354
E R-Ratio RIP	Print gray making setting (R)	0 - 1000	299
F G-Ratio RIP	Print gray making setting (G)	0 - 1000	587

B-Ratio Default	Gray making setting (B) 1000 - R-Ratio - G-Ratio
B-Ratio Fluorescence	Gray making setting (B) 1000 - R-Ratio Fluorescence - G-Ratio Fluorescence
B-Ratio RIP	Print gray making setting (B) 1000 - R-Ratio - G-Ratio RIP

When the adjustment value of adjustment item A is increased, copy density of red image is decreased. When the adjustment value is decreased, copy density of red image is increased.

When the adjustment value of adjustment item B is increased, copy density of yellow image is decreased. When the adjustment value is decreased, copy density of yellow image is increased.

46-39

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the sharpness of FAX send images.

Section

Operation/Procedure

- 1) Select a target item with scroll key.
- 2) Enter the set value with 10-key.

3) Tap [OK] key. (The set value is saved.)

Input small numeric value to obtain crispy image. Input large numeric value to decrease moire.

Item/Display	Content	Setting range	Default value
A 200 x 100 [DPI] OFF	200 x 100 [DPI] halftone OFF	0 - 2	1
B 200 x 200 [DPI] OFF	200 x 200 [DPI] halftone OFF	0 - 2	1
C 200 x 200 [DPI] ON	200 x 200 [DPI] halftone ON	0 - 2	1
D 200 x 400 [DPI] OFF	200 x 400 [DPI] halftone OFF	0 - 2	1
E 200 x 400 [DPI] ON	200 x 400 [DPI] halftone ON	0 - 2	1
F 400 x 400 [DPI] OFF	400 x 400 [DPI] halftone OFF	0 - 2	1
G 400 x 400 [DPI] ON	400 x 400 [DPI] halftone ON	0 - 2	1
H 600 x 600 [DPI] OFF	600 x 600 [DPI] halftone OFF	0 - 2	1
I 600 x 600 [DPI] ON	600 x 600 [DPI] halftone ON	0 - 2	1

46-40

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Collective adjustment of all the modes)

Section

Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Tap [EXECUTE] key, or [OK] key

When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

Item/Display	Content	Setting range	Default value
A EXPOSURE LEVEL(ALL)	Used to adjust the FAX send image density. (Collective adjustment of all the modes)	1 - 99	50

46-41

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Normal)

Section

Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Tap [EXECUTE] key, or [OK] key

When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

Item/Display	Content	Setting range	Default value
A AUTO	Auto	1 - 99	50
B EXPOSURE1	Exposure 1	1 - 99	50
C EXPOSURE2	Exposure 2	1 - 99	50
D EXPOSURE3	Exposure 3	1 - 99	50
E EXPOSURE4	Exposure 4	1 - 99	50
F EXPOSURE5	Exposure 5	1 - 99	50

Item/Display			Content		Setting range	Default value
G	EXECUTE MODE	AUTO	Print mode	Auto	1	1
		EXP1		Exposure 1	2	
		EXP2		Exposure 2	3	
		EXP3		Exposure 3	4	
		EXP4		Exposure 4	5	
		EXP5		Exposure 5	6	

46-42

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Fine)
Section	

Operation/Procedure

- 1) Set the document on the document table.
 - 2) Enter the set value with 10-key.
 - 3) Tap [EXECUTE] key, or [OK] key
- When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

Item/Display			Content		Setting range	Default value
A	AUTO		Fine/Automatic		1 - 99	50
B	EXPOSURE1		Fine/Exposure 1		1 - 99	50
C	EXPOSURE2		Fine/Exposure 2		1 - 99	50
D	EXPOSURE3		Fine/Exposure 3		1 - 99	50
E	EXPOSURE4		Fine/Exposure 4		1 - 99	50
F	EXPOSURE5		Fine/Exposure 5		1 - 99	50
G	AUTO H_TONE		Fine/Automatic/ Halftone		1 - 99	50
H	EXPOSURE1 H_TONE		Fine/Exposure 1/ Halftone		1 - 99	50
I	EXPOSURE2 H_TONE		Fine/Exposure 2/ Halftone		1 - 99	50
J	EXPOSURE3 H_TONE		Fine/Exposure 3/ Halftone		1 - 99	50
K	EXPOSURE4 H_TONE		Fine/Exposure 4/ Halftone		1 - 99	50
L	EXPOSURE5 H_TONE		Fine/Exposure 5/ Halftone		1 - 99	50
M	EXECUTE MODE	AUTO	Print mode	Fine/Auto	1	1
		EXP1		Fine/ Exposure 1	2	
		EXP2		Fine/ Exposure 2	3	
		EXP3		Fine/ Exposure 3	4	
		EXP4		Fine/ Exposure 4	5	
		EXP5		Fine/ Exposure 5	6	
		AUTO H_TONE		Fine/ Automatic/ halftone	7	
		EXP1 H_TONE		Fine/ Exposure 1/ Halftone	8	
		EXP2 H_TONE		Fine/ Exposure 2/ Halftone	9	
		EXP3 H_TONE		Fine/ Exposure 3/ Halftone	10	
		EXP4 H_TONE		Fine/ Exposure 4/ Halftone	11	
		EXP5 H_TONE		Fine/ Exposure 5/ Halftone	12	

46-43

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Super Fine)
Section	

Operation/Procedure

- 1) Set the document on the document table.
 - 2) Enter the set value with 10-key.
 - 3) Tap [EXECUTE] key, or [OK] key
- When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

Item/Display			Content		Setting range	Default value
A	AUTO		Super Fine/Auto		1 - 99	50
B	EXPOSURE1		Super Fine/ Exposure 1		1 - 99	50
C	EXPOSURE2		Super Fine/ Exposure 2		1 - 99	50
D	EXPOSURE3		Super Fine/ Exposure 3		1 - 99	50
E	EXPOSURE4		Super Fine/ Exposure 4		1 - 99	50
F	EXPOSURE5		Super Fine/ Exposure 5		1 - 99	50
G	AUTO H_TONE		Super Fine/ Auto/ Halftone		1 - 99	50
H	EXPOSURE1 H_TONE		Super Fine/ Exposure 1/ Halftone		1 - 99	50
I	EXPOSURE2 H_TONE		Super Fine/ Exposure 2/ Halftone		1 - 99	50
J	EXPOSURE3 H_TONE		Super Fine/ Exposure 3/ Halftone		1 - 99	50
K	EXPOSURE4 H_TONE		Super Fine/ Exposure 4/ Halftone		1 - 99	50
L	EXPOSURE5 H_TONE		Super Fine/ Exposure 5/ Halftone		1 - 99	50
M	EXECUTE MODE	AUTO	Print mode	Super Fine/ Auto	1	1
		EXP1		Super Fine/ Exposure 1	2	
		EXP2		Super Fine/ Exposure 2	3	
		EXP3		Super Fine/ Exposure 3	4	
		EXP4		Super Fine/ Exposure 4	5	
		EXP5		Super Fine/ Exposure 5	6	
		AUTO H_TONE		Super Fine/ Auto/ Halftone	7	
		EXP1 H_TONE		Super Fine/ Exposure 1/ Halftone	8	
		EXP2 H_TONE		Super Fine/ Exposure 2/ Halftone	9	
		EXP3 H_TONE		Super Fine/ Exposure 3/ Halftone	10	
		EXP4 H_TONE		Super Fine/ Exposure 4/ Halftone	11	
		EXP5 H_TONE		Super Fine/ Exposure 5/ Halftone	12	

46-44

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Ultra fine)

Section**Operation/Procedure**

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Tap [EXECUTE] key, or [OK] key

When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

Item/Display			Content		Setting range	Default value
A	AUTO		Ultra Fine/Auto		1 - 99	50
B	EXPOSURE1		Ultra Fine/Exposure 1		1 - 99	50
C	EXPOSURE2		Ultra Fine/Exposure 2		1 - 99	50
D	EXPOSURE3		Ultra Fine/Exposure 3		1 - 99	50
E	EXPOSURE4		Ultra Fine/Exposure 4		1 - 99	50
F	EXPOSURE5		Ultra Fine/Exposure 5		1 - 99	50
G	AUTO H_TONE		Ultra Fine/Auto/ Halftone		1 - 99	50
H	EXPOSURE1 H_TONE		Ultra Fine/ Exposure 1/Halftone		1 - 99	50
I	EXPOSURE2 H_TONE		Ultra Fine/ Exposure 2/Halftone		1 - 99	50
J	EXPOSURE3 H_TONE		Ultra Fine/ Exposure 3/Halftone		1 - 99	50
K	EXPOSURE4 H_TONE		Ultra Fine/ Exposure 4/Halftone		1 - 99	50
L	EXPOSURE5 H_TONE		Ultra Fine/ Exposure 5/Halftone		1 - 99	50
M	EXECUTE MODE	AUTO	Print mode	Ultra Fine/ Auto	1	1
		EXP1		Ultra Fine/ Exposure 1	2	
		EXP2		Ultra Fine/ Exposure 2	3	
		EXP3		Ultra Fine/ Exposure 3	4	
		EXP4		Ultra Fine/ Exposure 4	5	
		EXP5		Ultra Fine/ Exposure 5	6	
		AUTO H_TONE		Ultra Fine/ Auto/ Halftone	7	
		EXP1 H_TONE		Ultra Fine/ Exposure 1/ Halftone	8	
		EXP2 H_TONE		Ultra Fine/ Exposure 2/ Halftone	9	
		EXP3 H_TONE		Ultra Fine/ Exposure 3/ Halftone	10	
		EXP4 H_TONE		Ultra Fine/ Exposure 4/ Halftone	11	
		EXP5 H_TONE		Ultra Fine/ Exposure 5/ Halftone	12	

46-45

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (600dpi).

Section**Operation/Procedure**

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Tap [EXECUTE] key, or [OK] key

When [EXECUTE] key is tapped, the adjustment value is set and the scanned document image is outputted.

Item/Display			Content		Setting range	Default value
A	AUTO		600dpi/Auto 1		1 - 99	50
B	EXPOSURE1		600dpi/Exposure 1		1 - 99	50
C	EXPOSURE2		600dpi/Exposure 2		1 - 99	50
D	EXPOSURE3		600dpi/Exposure 3		1 - 99	50
E	EXPOSURE4		600dpi/Exposure 4		1 - 99	50
F	EXPOSURE5		600dpi/Exposure 5		1 - 99	50
G	AUTO H_TONE		600dpi/Auto/ Halftone 1		1 - 99	50
H	EXPOSURE1 H_TONE		600dpi/Exposure 1/ Halftone		1 - 99	50
I	EXPOSURE2 H_TONE		600dpi/Exposure 2/ Halftone		1 - 99	50
J	EXPOSURE3 H_TONE		600dpi/Exposure 3/ Halftone		1 - 99	50
K	EXPOSURE4 H_TONE		600dpi/Exposure 4/ Halftone		1 - 99	50
L	EXPOSURE5 H_TONE		600dpi/Exposure 5/ Halftone		1 - 99	50
M	EXECUTE MODE	AUTO	Print mode	600dpi/ Auto	1	1
		EXP1		600dpi/ Exposure 1	2	
		EXP2		600dpi/ Exposure 2	3	
		EXP3		600dpi/ Exposure 3	4	
		EXP4		600dpi/ Exposure 4	5	
		EXP5		600dpi/ Exposure 5	6	
		AUTO H_TONE		600dpi/ Auto/ Halftone	7	
		EXP1 H_TONE		600dpi/ Exposure 1/Halftone	8	
		EXP2 H_TONE		600dpi/ Exposure 2/Halftone	9	
		EXP3 H_TONE		600dpi/ Exposure 3/Halftone	10	
		EXP4 H_TONE		600dpi/ Exposure 4/Halftone	11	
		EXP5 H_TONE		600dpi/ Exposure 5/Halftone	12	

46-46

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (RGB RIP)

Section**Operation/Procedure**

- 1) Select a target mode for adjustment.
- 2) Set the document on the document table.
- 3) Enter the set value with 10-key.
- 4) Tap [OK] key.

When the set value is increased, the density becomes higher.
When the set value is decreased, the density becomes lower.

Item/Display		Content	Setting range	Default value
A	STANDARD RIP	For Normal/ Halftone OFF mode	1 - 99	50
B	FINE RIP	For Fine/ Halftone OFF mode	1 - 99	50
C	FINE RIP H_TONE	For Fine/ Halftone ON mode	1 - 99	50
D	SUPER FINE RIP	For Super Fine/ Halftone OFF mode	1 - 99	50
E	SUPER FINE RIP H_TONE	For Super Fine/ Halftone ON mode	1 - 99	50
F	ULTRA FINE RIP	For Ultra fine/ Halftone OFF mode	1 - 99	50
G	ULTRA FINE RIP H_TONE	For Ultra fine/ Halftone ON mode	1 - 99	50
H	600DPI RIP	For 600dpi/ Halftone OFF mode	1 - 99	50
I	600DPI RIP H_TONE	For 600dpi/ Halftone ON mode	1 - 99	50

46-47

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the compression rate of copy and scan images (JPEG).

Section**Operation/Procedure**

- 1) Select a target item with scroll key.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

The set value is saved.

Category	Item/Display		Content	Setting range	Default value
FILLING (COLOR)	A	FILLING (C)	LOW	Low compression (Color)	0
			MIDDLE	Medium compression (Color)	
			HIGH	High compression (Color)	
FILLING (GRAY)	B	FILLING (G)	LOW	Low compression (Gray)	0
			MIDDLE	Medium compression (Gray)	
			HIGH	High compression (Gray)	
PRINT HOLD (COLOR)	C	PRINT (C)	LOW	Low compression (Color)	0
			MIDDLE	Medium compression (Color)	
			HIGH	High compression (Color)	
PRINT HOLD (GRAY)	D	PRINT (G)	LOW	Low compression (Gray)	0
			MIDDLE	Medium compression (Gray)	
			HIGH	High compression (Gray)	
PUSH SCAN (COLOR) (Scanner Color)	E	SCAN (C)	MIDDLE 1	Medium compression mode 1	1
			MIDDLE 2	Medium compression mode 2	
			MIDDLE 3	Medium compression mode 3	
PUSH SCAN (GRAY) (Scanner Gray)	F	SCAN (G)	MIDDLE 1	Medium compression mode 1	1
			MIDDLE 2	Medium compression mode 2	
			MIDDLE 3	Medium compression mode 3	

46-48	
Purpose	Adjustment/Setup
Function (Purpose)	Used to change the copy output resolution to 600dpi or 1200dpi depending on the printing quality.

Section

Operation/Procedure

- 1) Select a target item with scroll keys on the touch panel.

Item	Button display	Content	Default value
AUTO	600DPI ED	AUTO	600DPI DT
	600DPI DT		
TEXT/PRT PHOTO	600DPI ED	Text/Printed Photo	600DPI DT
	600DPI DT		
	1200DPI DT		
TEXT/PHOTO	600DPI DT	Text/ Photograph	600DPI DT
	1200DPI DT		
PRINTED PHOTO	600DPI DT	Printed photo	1200DPI DT
	1200DPI DT		
PHOTO	600DPI DT	Photograph	1200DPI DT
	1200DPI DT		

46-51	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the gamma for the copy mode heavy paper mode and the image process mode.

Section

Operation/Procedure

- 1) Select a target adjustment mode with the touch panel key [PAPER/DITHER].
- 2) Select a target adjustment density level with scroll key.
- 3) Enter the set value with 10-key.
- 4) Tap [EXECUTE] key, or [OK] key.

When [EXECUTE] key is tapped, the self print image is outputted.

When the image density is insufficient or a background copy is made in heavy paper copy, change this adjustment value to adjust the image density.

Item/Display	Content
HEAVY	Copier heavy paper gamma
DITH4	Monochrome error diffusion
DITH7	Monochrome dither (1200dpi)
DITH9	Monochrome dither(600dpi low)

Item/Display	Density level (Point)	Setting range	Default value
A POINT1	Point 1	1 - 999	500
B POINT2	Point 2	1 - 999	500
C POINT3	Point 3	1 - 999	500
D POINT4	Point 4	1 - 999	500
E POINT5	Point 5	1 - 999	500
F POINT6	Point 6	1 - 999	500
G POINT7	Point 7	1 - 999	500
H POINT8	Point 8	1 - 999	500
I POINT9	Point 9	1 - 999	500
J POINT10	Point 10	1 - 999	500
K POINT11	Point 11	1 - 999	500
L POINT12	Point 12	1 - 999	500
M POINT13	Point 13	1 - 999	500
N POINT14	Point 14	1 - 999	500
O POINT15	Point 15	1 - 999	500
P POINT16	Point 16	1 - 999	500
Q POINT17	Point 17	1 - 999	500

46-52	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the gamma default for the copy mode heavy paper and the image process mode. (After execution of either SIM46-54 or SIM46-51, the adjustment value is reset to the initial value.)

Section

Operation/Procedure

- 1) Select an item to be set to the default with the touch panel key.
To reset the adjustment values of all the items, select [ALL].
- 2) Tap [EXECUTE] key.
- 3) Tap [YES] key.

Display	Content
Dither	HEAVYPAPER Copier/Heavy paper gamma
	B/W ED Monochrome error diffusion
	B/W 1200 Monochrome dither 1200dpi
	B/W 600 LOW Monochrome dither 600dpi Low
	WOVEN1 Watermark 1
	WOVEN2 Watermark 2
	WOVEN3 Watermark 3
	WOVEN4 Watermark 4

46-54	
Purpose	Adjustment
Function (Purpose)	Used to perform the engine halftone automatic density adjustment (dither).

Section

Operation/Procedure

- 1) Tap [EXECUTE] key.
The high density process control is started to make 48 patch self print. (A4 (11" x 8.5") or A3 (11" x 17") paper in the paper feed tray is used.)
- 2) Place the 48 patch self print on the document table, and tap [EXECUTE] key.
Scanning the 48 patch self print is started.
After scanning the 48 patch self print, the 17 patch self print is automatically printed.
- 3) Tap [OK] key.
After completion of the correction amount registration, the screen shifts to the dither selection menu.
- 4) Select an item (dither) to be adjusted.

HEAVYPAPER	Copier/Heavy paper gamma
B/W ED	Monochrome error diffusion
B/W 1200	Monochrome dither 1200dpi (except MX-xx50 series)
B/W 600 LOW	Monochrome dither 600dpi Low
WOVEN1	Watermark 1
WOVEN2	Watermark 2
WOVEN3	Watermark 3
WOVEN4	Watermark 4

- 5) Tap [EXECUTE] key.
The 48 patch self print is printed.
- 6) Place the 48 patch self print on the document table, and tap [EXECUTE] key.
Scanning the 48 patch self print is started.
After scanning the patch, the screen automatically shifts to the dither selection menu.
- 7) After completion of the adjustment of all the density adjustment items (dither), tap [OK] key.

46-55	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the drop out color in the image send mode (monochrome manual text mode).
Section	

Operation/Procedure

In the image send mode (monochrome manual text mode), the range where color images are reproduced as monochrome images is adjusted.

- 1) Enter the adjustment value with 10-key and tap [OK] key.
When the adjustment value is increased, colors dropout becomes easy to narrow the reproduction range. When the adjustment value is decreased, color dropout becomes difficult to widen the reproduction range.

Item/Display	Content	Setting range	Default value
A CHROMA	Dropout color range adjustment	0 - 6	3

- 2) Scan the document in the image send mode (monochrome manual text mode), and check the adjustment result.

46-58	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the copy mode pseudo resolution. (Smoothing process)
Section	

Operation/Procedure

- 1) Select an item (mode) to be set with the button and the scroll key.
 - 2) Enter the set value with 10-key.
 - 3) Tap [OK] key.
- 1(ON): 9600 (equivalent) x 600 dpi
0 (OFF): 600 x 600 dpi
The setting is reflected only the image edge area.

Item/Display	Content (copy mode)	Setting range	Default value
A AUTO	Auto	OFF 0 ON 1	0
B TEXT	Text	OFF 0 ON 1	1
C TEXT PRT	Text print	OFF 0 ON 1	0
D PRINTED PHOTO	Printed Photo	OFF 0 ON 1	0
E TEXT PHOTO	Text photograph	OFF 0 ON 1	0
F PHOTO	Photograph	OFF 0 ON 1	0
G MAP	Map	OFF 0 ON 1	1
H LIGHT	Light document	OFF 0 ON 1	0
I CPY TO CPY/AUTO	Auto (copy document)	OFF 0 ON 1	0
J CPY TO CPY/TEXT	Text (copy document)	OFF 0 ON 1	1
K CPY TO CPY/TXT PRT	Text print (copy document)	OFF 0 ON 1	0
L CPY TO CPY/PHOTO	Printed Photo (copy document)	OFF 0 ON 1	0

46-60	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the sharpness in the color auto copy mode.
Section	

Operation/Procedure

- 1) Select a target item with scroll key.
- 2) Input numeric value corresponding to sharpness level (filter process mode) with 10-keys.
- 3) Tap [OK] key.

This is used to adjust the sharpness in the auto copy mode and the smoothness (roughness) in the dark area.

Item/Display	Content	Setting range	Default value
A CPY AUTO FILTER LEVEL	Sharpness (filter) adjustment for the automatic copy mode (Text, Printed Photo / Printed Photo images)	SOFT 1 CENTER 2 HIGH 3	2
B CPY PUSH AUTO FILTER LEVEL	Sharpness (filter) adjustment for the automatic push scan mode (Text, Printed Photo / Printed Photo images)	SOFT 1 CENTER 2 HIGH 3	2
C B/W COPY	Soft filter applying setting in monochrome copy mode	OFF 0 ON 1	1
D COLOR PUSH : RGB	Soft filter applying setting to image in push scan color mode	OFF 0 ON 1	1
E B/W PUSH	Soft filter applying setting to image in push scan monochrome mode	OFF 0 ON 1	1
F B/W PRINT	Setting of ON/OFF of soft filter application to monochrome print images	OFF 0 ON 1	0

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the area separation recognition level.

Section

Operation/Procedure

- 1) Select an adjustment mode.
- 2) Select a target adjustment item with scroll key.
- 3) Enter the adjustment value using the 10-key.
- 4) Tap [OK] key.

Important

This Sim is overwritten by changing Image "Quality Adjustment" -> "Copy Image Quality" -> "Image Quality Priority".

(It is overwritten just by tapping the "Store" on screen without changing the setting.)

Make sure to set corresponding item Z to "1" after changing the value.

Then the adjustment of "Image Quality Priority" in System Settings will be invalidated. (The adjustment itself is allowed from UI point of view however, the image quality won't change because the setting won't be reflected to the Sim.)

- When "AUTO" in "COLOR" or "MONO" has been adjusted:

Go to COLOR -> AUTO -> and set Z to 1.... Image Quality Priority "Auto" will be invalidated.

- When "TPP" or "COPY (AUTO&TPP)" in "COLOR" or "MONO" has been adjusted:

Go to COLOR -> TPP -> and set Z to 1.... Image Quality Priority "Text/Prtd.Photo" will be invalidated.

(The item Z is not available in "MONO" and "COPY (AUTO&TPP)")

The adjustment of "MONO" -> "TPP" will affect FAX.

This must be set to the default unless any change is specially required.

When the adjustment value is set to a value greatly different from the default value, image quality trouble may occur for some documents.

Item/Display		Content
COLOR	AUTO	[Color/Gray] Auto
	TPP	[Color/Gray] Manual (Text print)
	COPY(TPP and AUTO)	[Color/Gray] Copy document (Text print and auto)
MONO	AUTO	[Monochrome] Auto
	TPP	[Monochrome] Manual (Text print)
	COPY(TPP and AUTO)	[Monochrome] Copy document (Text print and auto)

Item/Display		Content	Setting range	Default value
A	SEGMENT: SWITCH [TXT ON SCR]	Detection ON/OFF: Text on dot	0 - 1	0
B	SEGMENT: SWITCH [LINE SCR]	Detection ON/OFF: line screen	0 - 1	0
C	SEGMENT: SWITCH [SMALL SCR]	Detection ON/OFF: Dot in a small area	0 - 1	0
D	SEGMENT: SWITCH [HIGH LPI]	Detection ON/OFF: High line number judgment select	0 - 1	0
E	SEGMENT: SWITCH [TXT ON SCR IMAGE SEND]	Detection ON/OFF: Text on image send dots	0 - 1	0
F	SEGMENT: ADJUST [BK TXT 1]	Detection level adjustment: Black text 1	1 - 99	50
G	SEGMENT: ADJUST [CL TXT 1]	Detection level adjustment: Color text 1	1 - 99	50

Item/Display		Content	Setting range	Default value
H	SEGMENT: ADJUST [BK TXT 2, CL TXT 2]	Detection level adjustment: Black text 2, Color text 2	1 - 49	25
I	SEGMENT: ADJUST [THIN LINE]	Detection level adjustment: Thine line	1 - 99	50
J	SEGMENT: ADJUST [TXT ON SCR 1]	Detection level adjustment: Text 1 on dots	1 - 99	50
K	SEGMENT: ADJUST [TXT ON SCR 2]	Detection level adjustment: Text 2 on dots	1 - 99	50
L	SEGMENT: ADJUST [TXT ON SCR AREA 1]	Detection level adjustment: Detection area 1 of text on dots	1 - 15	8
M	SEGMENT: ADJUST [TXT ON SCR AREA 2]	Detection level adjustment: Detection area 2 of text on dots	1 - 99	50
N	SEGMENT: ADJUST [HIGH LPI]	Detection level adjustment: High line number judgment	1 - 49	25
O	SEGMENT: ADJUST [BK]	Detection level adjustment: No chrome judgment	1 - 99	50
P	SEGMENT: ADJUST [CL]	Detection level adjustment: Chrome judgment	1 - 99	50
Q	SEGMENT: ADJUST [TXT ON BG]	Detection level adjustment: Text on background	1 - 99	50
R	SEGMENT: ADJUST [SCR 1 HIGH]	Detection level adjustment: High density dots 1	1 - 49	25
S	SEGMENT: ADJUST [SCR 1 MIDDLE]	Detection level adjustment: Medium density dots 1	1 - 49	25
T	SEGMENT: ADJUST [SCR 1 LOW]	Detection level adjustment: Low density dots 1	1 - 49	25
U	SEGMENT: ADJUST [SCR 2]	Detection level adjustment: Dot 2	1 - 15	8
V	SEGMENT: ADJUST [SCR 3]	Detection level adjustment: Dot 3	1 - 15	8
W	SEGMENT: ADJUST [LINE HALFTONE]	Detection level adjustment: line screen	1 - 49	25
X	SEGMENT: ADJUST [SMALL SCR 1]	Detection level adjustment: Small Dot Area 1	1 - 49	25
Y	SEGMENT: ADJUST [SMALL SCR 2]	Detection level adjustment: Small Dot Area 2	1 - 99	50
Z	SEGMENT: SWITCH [LOCK]	Image Quality Priority ON/OFF : Image Quality Priority lock	0 - 1	0

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the operating conditions of the ACS, the area separation, the background image process, and the auto exposure mode.

Section

Operation/Procedure

- 1) Select a target adjustment item with scroll key.
- 2) Enter the adjustment value using the 10-key.
- 3) Tap [OK] key.

Important

This must be set to the default unless any change is specially required.

When the adjustment value is set to a value greatly different from the default value, image quality trouble may occur for some documents.

Item/Display		Content	Setting range	Default value
A	SW_ACS	ACS judgment reference area select	0 - 1	1
B	TEXT_IMAGE	Text/Image judgment priority level adjustment	0 - 6	3
C	TEXT_BLANK	Text/Blank judgment priority level adjustment	0 - 6	4
D	HT_LV	Dot area judgment threshold value adjustment	0 - 6	1
E	AE_AREA_LV	Color AE judgment target area adjustment	0 - 6	3
F	AE_LV_CC	AE background detection division result adjustment: For color copy	0 - 8	4
G	AE_LV_MC	AE background detection division result adjustment: For monochrome copy	0 - 8	4
H	AE_LV_CS	AE background detection division result adjustment: For color scan	0 - 8	4
I	AE_LV_MS	AE background detection division result adjustment: For monochrome scan	0 - 8	4
J	AE_JUDGE_LV_L_U	Color AE background density threshold value adjustment (lower limit)	0 - 4	0
K	AE_JUDGE_LV_L_O	Color AE background density threshold value adjustment (upper limit)	0 - 10	0
L	AE_JUDGE_LV_C	Color AE background detection level adjustment (chroma)	0 - 10	5
M	AE_ONOFF_CC	AE mode ON/OFF switch: For color copy	0 - 1	0
N	AE_ONOFF_MC	AE mode ON/OFF switch: For monochrome copy	0 - 1	0
O	AE_ONOFF_CS	AE mode ON/OFF switch: For color scan	0 - 1	0
P	AE_ONOFF_MS	AE mode ON/OFF switch: For monochrome copy	0 - 1	0
Q	BLANK_JUDGE_LV_L	Blank judgment level adjustment (value)	0 - 10	0

Item/Display		Content	Setting range	Default value
R	BLANK_JUDGE_LV_C	Blank judgment level adjustment (chroma)	0 - 10	0
S	MODE0_UNDE R	Mode 0 developing paper mode select	0 - 6	0
T	MODE1_UNDE R	Mode 1 developing paper mode select	0 - 6	0
U	MODE5_UNDE R	Mode 5 developing paper mode select	0 - 6	0
V	MODE6_UNDE R	Mode 6 developing paper mode select	0 - 6	0
W	SW_CHANGE_MODE0	Mode 0: Mode judgment select	0 - 6	0
X	SW_CHANGE_MODE1	Mode 1: Mode judgment select	0 - 6	1
Y	SW_CHANGE_MODE2	Mode 2: Mode judgment select	0 - 6	2
Z	SW_CHANGE_MODE3	Mode 3: Mode judgment select	0 - 6	3
AA	SW_CHANGE_MODE4	Mode 4: Mode judgment select	0 - 6	4
AB	SW_CHANGE_MODE5	Mode 5: Mode judgment select	0 - 6	5
AC	SW_CHANGE_MODE6	Mode 6: Mode judgment select	0 - 6	6

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the density in the copy low density section.

Section

Operation/Procedure

- 1) Select a target adjustment item with scroll key.
- 2) Enter the adjustment value using the 10-key.
- 3) Tap [OK] key.

When the adjustment value is increased, reproducibility of the background and the low density image is increased. When the adjustment value is decreased, reproducibility of the background and the low density image is decreased.

Item/Display		Content	Setting range	Default value
A	COLOR PUSH : TEXT/PRINTED PHOTO	Text print (color PUSH)	1 - 9	5
B	COLOR PUSH : TEXT	Text (color PUSH)	1 - 9	5
C	COLOR PUSH : PRINTED PHOTO	Printed photo (color PUSH)	1 - 9	5
D	COLOR PUSH : PHOTOGRAPH	Photograph (color PUSH)	1 - 9	5
E	COLOR PUSH : TEXT/PHOTO	Text/Photograph (color PUSH)	1 - 9	5
F	COLOR PUSH : MAP	Map (color PUSH)	1 - 9	5

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the reproduction capability of watermarks in the copy/printer mode.
Section	

Operation/Procedure

This is to adjust the reproduction capability of watermarks in the copy/printer mode.

- 1) Select the adjustment mode.
- 2) Select an adjustment item according to the necessity.
- 3) Enter the adjustment value with 10-key and tap [OK] key.
- 4) Make a copy, and check the adjustment result.

Category		Item/Display	Content	Setting range	Default value	NOTE
PATTERN	A	WOVEN DEN BK LOW	Watermark density level (Black LOW)	0 - 255	15	The adjustment value is changed to increase or decrease the density of the watermark of background documents (primary output). To increase the watermark density, increase the adjustment value. To decrease the watermark density, decrease the adjustment value. NOTE: When the adjustment value is increased, the watermark area which is originally not reproduced becomes difficult to disappear. When the adjustment value is decreased, the watermark area which is originally reproduced becomes easy to disappear.
	B	WOVEN DEN BK MIDDLE	Watermark density level (Black MIDDLE)	0 - 255	19	
	C	WOVEN DEN BK HIGH	Watermark density level (Black HIGH)	0 - 255	23	
	D	CONTRAST	Contrast adjustment	0 - 255	2	This is used to adjust the variation in the watermark density when the adjustment value of the watermark print/contrast adjustment in the system setting is changed by 1. When this value is increased, the variation is also increased. When the value is decreased, the variation is also decreased. When the adjustment value is 0, the result of the contrast adjustment is not reflected. (* The adjustment value must be set to 1 or greater.)
	E	HT TYPE (POS)	For halftone index watermark type positive	42 - 43	42	To reproduce the containing characters of watermark copy (secondary output) more clearly, set to 43. In that case, however, the containing characters of the watermark document (primary output) can be easily reproduced.
	F	HT TYPE (NEGA)	For halftone index watermark type negative	42 - 43	42	

Category	Item/Display		Content		Setting range		Default value	NOTE	
COPY MODE	A	TEXT/PRINTED PHOTO	Text/Printed Photo mode select Enable/Disable	OFF ON	0 - 1	0 1	1	Normally set to the default. No need to change in the market.	
	B	TEXT	Text mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	C	PRINTED PHOTO	Printed Photo mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	D	PHOTOGRAPH	Photograph mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	E	TEXT/PHOTO	Text/Photograph mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	F	MAP	Map mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	G	LIGHT	Light density document mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	H	TEXT/PRINTED PHOTO (CPY TO CPY)	Copy document: Enable/Disable of selection of the text print mode	OFF ON	0 - 1	0 1	1		
	I	TEXT (CPY TO CPY)	Copy document: Enable/Disable of selection of the text mode	OFF ON	0 - 1	0 1	1		
	J	PRINTED PHOTO (CPY TO CPY)	Copy document: Enable/Disable of selection of the printed photo mode	OFF ON	0 - 1	0 1	1		
	K	AUTO	Automatic mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	L	DEFAULT MODE	When the default exposure mode background is OFF, the exposure mode to be set is specified.	TEXT/ PRINTED PHOTO TEXT PRINTED PHOTO PHOTOGRAPH TEXT/PHOTO MAP	0 - 5	0 1 2 3 4 5	0		
	POSITION	A	LINE SPACE 1	Line space in the watermark print box (24P - 36P)		0 - 200			50
		B	LINE SPACE 2	Line space in the watermark print box (37P - 48P)		0 - 200			60
		C	LINE SPACE 3	Line space in the watermark print box (49P - 64P)		0 - 200			70
		D	LINE SPACE 4	Line space in the watermark print box (65P - 80P)		0 - 200			80
E		BLANK H/B 1	Upper margin/Lower margin in the watermark print box (24P - 36P)		0 - 200		25		
F		BLANK H/B 2	Upper margin/Lower margin in the watermark print box (37P - 48P)		0 - 200		30		
G		BLANK H/B 3	Upper margin/Lower margin in the watermark print box (49P - 64P)		0 - 200		35		
H		BLANK H/B 4	Upper margin/Lower margin in the watermark print box (65P - 80P)		0 - 200		40		
I		BLANK L/R 1	Left margin/Right margin in the watermark print box (24P - 36P)		0 - 200		60		
J		BLANK L/R 2	Left margin/Right margin in the watermark print box (37P - 48P)		0 - 200		90		
K		BLANK L/R 3	Left margin/Right margin in the watermark print box (49P - 64P)		0 - 200		120		
L		BLANK L/R 4	Left margin/Right margin in the watermark print box (65P - 80P)		0 - 200		150		

46-68

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the automatic resolution judgement. (For MX-xx70 series)

Section

Operation/Procedure

- 1) Select a target adjustment item with scroll key on the touch panel.
- 2) Enter the adjustment value using the 10-key.
- 3) Tap [OK] key.

	Item/Display	Content	Setting range	Default value
A	RESULT HIGH RESOLUTION	Judgement result : High resolution	0 - 3	3
B	RESULT MID RESOLUTION1	Judgement result : Slight high resolution	0 - 3	2
C	RESULT MID RESOLUTION2	Judgement result : Slight low resolution	0 - 3	1
D	RESULT LOW RESOLUTION1	Judgement result : Low resolution	0 - 3	1
E	RESULT UNKNOWN RESOLUTION	Judgement result : Cannot judge	0 - 3	1
F	LANGUAGE SEL	Language setting	0 - 1	0
G	AUTO RESOLUTION MODE	Automatic resolution judgement mode	0 - 2	1

46-74

Purpose	Adjustment
Function (Purpose)	Copy gray balance adjustment (Auto adjustment)/Printer gray balance adjustment (Auto adjustment)

Section

Operation/Procedure

This simulation is used to perform SIM46-24 and SIM67-24 continuously.

To perform both the copy gray balance adjustment (Automatic adjustment) and the printer gray balance adjustment (Automatic adjustment), use this simulation for efficient adjustment operations.

- 1) Tap [EXECUTE] key, and the high density process control is performed. Then, the copy gray balance adjustment pattern is printed.
- 2) Place the printed adjustment pattern on the document table.
- 3) Tap [EXECUTE] key, and the copy gray balance adjustment is performed and the adjustment result pattern is printed.
- 4) Tap [EXECUTE] key, and the printer gray balance adjustment pattern is printed.
- 5) Place the printed adjustment pattern on the document table.
- 6) Tap [EXECUTE] key, and the printer gray balance adjustment (automatic adjustment) is performed and the adjustment result pattern is printed.
- 7) Tap [OK] key, and the halftone correction target is registered.
- 8) When [EXECUTE] key is displayed, tap it.

When "COMPLETED THIS PROCEDURE" is displayed, the adjustment is completed.

Important

The adjustment result becomes effective only when the adjustment procedure for both copy and print mode have completed successfully. For example, when the copy gray balance adjustment (automatic adjustment) is performed and the simulation is canceled, the adjustment result is not effective.

46-90

Purpose	Adjustment
Function (Purpose)	Used to set the process operation of high-compression PDF images.

Section

Operation/Procedure

- 1) Select a target adjustment mode.
- 2) Select an adjustment target item with the scroll key.
- 3) Enter the set value with 10-key.
- 4) Tap [OK] key. The set value is saved.

MX-xx70 series

Mode		Item / Display	Content	Setting value	Default value
COLOR	A	LUMINANCE ADJUSTMENT	Luminance adjustment	0 - 4	2
	B	CHROMA INTENT	Chroma selection	0 - 2	1
BG LAYER	A	BG LAYER INTENT 1	Speed priority setting	0 - 2	1
	B	BG LAYER INTENT 2	Image quality priority setting	0 - 2	1
SOFT CIC	A	SKEW CORRECTION	Skew correction switch	0 - 1	0
	B	FILTER	Filter switch	0 - 1	0
	C	CIC MODE	High compression mode switch	0 - 1	0
	D	OUTPUT RESOLUTION	Resolution setting	0 - 3	0

Important

In the table above, the valid items in MX-xx70 (Standard equipped compact PDF) are COLOR[A-B], BG LAYER[A-B] and SOFT CIC[A-D].

MX-xx50 series

Mode		Item / Display	Content	Setting value	Default value
COLOR	A	LUMINANCE ADJUSTMENT	Luminance adjustment	0 - 4	2
	B	CHROMA INTENT	Chroma selection	0 - 2	1
BG LAYER	A	BG LAYER INTENT 1	Speed priority setting	0 - 2	1
	B	BG LAYER INTENT 2	Image quality priority setting	0 - 2	1

Purpose	Adjustment
Function (Purpose)	Used to adjust the reproduction capability of black text.

Section**Operation/Procedure**

- 1) Select an item to be set with the scroll key.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. The adjustment value is set.

When COLOR key or MONO key is tapped, the adjustment value is set and a copy is made simultaneously.

Item	Display		Content	Description	Default value
A	SEGMENT PARAM	COMMON SPECIAL	Area separation setting select	0: Other than image send mode black text emphasis (simple, high compression) 1: Image send mode black text emphasis (simple, high compression)	0
B	BG: JPEG QUALITY LV [COL: COMPACT]		JPEG recompression level adjustment [Color: High compression mode]	0: Low 1: Middle 2: High	1
C	BG: JPEG QUALITY LV [COL: ULTRA FINE]		JPEG recompression level adjustment [Color: Ultra fine mode]		1
D	BG: JPEG QUALITY LV [GRY: COMPACT]		JPEG recompression level adjustment [Gray: High compression mode]		1
E	BG: JPEG QUALITY LV [GRY: ULTRA FINE]		JPEG recompression level adjustment [Gray: Ultra fine mode]		1
F	FG: TARGET AREA	TYPE0 TYPE1 TYPE2	Front ground extraction area select	0: type0 1: type1 2: type2	0
G	FG: TEXT DENSITY [COL]		Front ground black text density adjustment [Color]	0: Dark - 5: Default - 10: Light	5
H	FG: TEXT DENSITY [GRY]		Front ground black text density adjustment [Gray]		5
I	ULTRA FINE MODE	ON OFF	High compression/ Ultra Fine mode select	0: High compression mode 1: Ultra fine mode	0

NOTE: This must be set to the default unless any change is specially required.

When the adjustment value is changed greatly from the initial value, an image quality trouble may occur.

Purpose	Adjustment
Function (Purpose)	Used to adjust the scan image magnification ratio (in the main scanning direction and the sub scanning direction).

Section**Operation/Procedure**

- 1) Select a target adjustment item on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

The set value is saved.

When the adjustment value is increased, the image magnification ratio is increased.

A change of "1" in the adjustment value of item A, C, or E corresponds to a change of about 0.02% in the copy magnification ratio.

A change of "1" in the adjustment value of item B, D, or F corresponds to a change of about 0.1% in the copy magnification ratio.

[RSPF]

Item/Display		Content	Setting range	Default value
A	CCD (MAIN)	SCAN main scanning magnification ratio adjustment (CCD)	1 - 99	50
B	CCD (SUB)	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99	50
C	SPF (MAIN)	RSPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
D	SPF (SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
E	SPFB (MAIN)	RSPF document back surface magnification ratio adjustment (Main scan)	1 - 99	50
F	SPFB (SUB)	RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99	50

[DSPF]

Item/Display		Content	Setting range	Default value
A	CCD (MAIN)	SCAN main scanning magnification ratio adjustment (CCD)	1 - 99	50
B	CCD (SUB)	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99	50
C	SPF (MAIN)	RSPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
D	SPF (SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
E	SPFB (MAIN)	RSPF document back surface magnification ratio adjustment (Main scan)	1 - 99	50

48-5

Purpose	Adjustment
Function (Purpose)	Used to correction the scan image magnification ratio (in the sub scanning direction).

Section	Scanner section
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Operation/Procedure

- 1) Select a target adjustment item on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key.

The set value is saved.

When the image magnification ratio in the sub scanning direction is adjusted with SIM48-1, and a different magnification ratio is specified, and the image magnification ratio is not satisfactory, perform this adjustment.

When there is an error in the image magnification ratio in reduction, change the adjustment value in the high speed mode. When there is an error in the image magnification ratio in enlargement, change the adjustment value in the low speed mode.

Item/Display	Content	Setting range	Default value
A MR (HI)	Scanner motor (High speed)	1 - 99	50
B MR(MID)	Scanner motor (Reference speed)	1 - 99	50
C MR(LO)	Scanner motor (Low speed)	1 - 99	50
D SPF(HI)	Document feed (SPF) motor (High speed)	1 - 99	50
E SPF(MID)	Document feed (SPF) motor (Reference speed)	1 - 99	50

48-6

Purpose	Adjustment
Function (Purpose)	Used to adjust the rotation speed of each motor.

Section**Operation/Procedure**

- 1) Select an adjustment target mode with [MID] [LOW A] [LOW B] [LOW C] keys on the touch panel.
- 2) Select a target adjustment item on the touch panel.
- 3) Enter the set value with 10-key.
- 4) Tap [OK] key.

The set value is saved.

When the adjustment value is increased, the speed is increased, and vice versa. A change of 1 in the adjustment value corresponds to a change of about 0.1% in the speed.

Mode Select	Item/Display	Content	Setting range	Default value
MONO	MID	A RRM	1 - 99	51
HEAVY1,2	LOW A			49
HEAVY3	LOW B			49
HEAVY4	LOW C			49
MONO	MID	B DM	1 - 99	50
MONO	MID	C FUM	1 - 99	51
HEAVY1,2	LOW A			52
HEAVY3	LOW B			52
HEAVY4	LOW C			52
MONO	MID	D CPFM	1 - 99	50
HEAVY1,2	LOW A			50
HEAVY3	LOW B			50
HEAVY4	LOW C			50
MONO	MID	E PFM	1 - 99	50
HEAVY1,2	LOW A			50
HEAVY3	LOW B			50
HEAVY4	LOW C			50

Mode Select	Item/Display	Content	Setting range	Default value
MONO	MID	F POM	1 - 99	70
HEAVY1,2	LOW A			50
HEAVY3	LOW B			50
HEAVY4	LOW C			50
MONO	MID	G SBM	1 - 99	50
HEAVY1,2	LOW A			50
HEAVY3	LOW B			50
HEAVY4	LOW C			50
MONO	MID	H POM(OUT)	1 - 99	50
HEAVY1,2	LOW A			50
HEAVY3	LOW B			50
HEAVY4	LOW C			50
MONO	MID	I SBM(OUT)	1 - 99	50
HEAVY1,2	LOW A			50
HEAVY3	LOW B			50
HEAVY4	LOW C			50
MONO	MID	J ADM_H(OUT)	1 - 99	50
HEAVY1,2	LOW A			50
HEAVY3	LOW B			50
HEAVY4	LOW C			50
HEAVY1,2	LOW A	J FUSE R-SETTING	1 - 99	50
HEAVY3	LOW B			50
HEAVY4	LOW C			50
HEAVY1,2	LOW A	K FS-OFFSET	1 - 99	50
HEAVY3	LOW B			50
HEAVY4	LOW C			50
HEAVY1,2	LOW A	L RRM-START	0 - 255	150
HEAVY3	LOW B			150
HEAVY4	LOW C			150
HEAVY1,2	LOW A	M RRM-END	0 - 255	200
HEAVY3	LOW B			200
HEAVY4	LOW C			200
HEAVY1,2	LOW A	N RRM-OFFSET	1 - 99	50
HEAVY3	LOW B			50
HEAVY4	LOW C			50
MONO	MID	K COR-PP	1 - 99	50
HEAVY1,2	LOW A			50
HEAVY3	LOW B			50
HEAVY4	LOW C			50

The greater the correction value is, the higher the speed is, and vice versa. Change by +/-1 corresponds to 0.1%.

49

49-1

Purpose	
Function (Purpose)	Used to perform the firmware update.
Section	

Operation/Procedure

- 1) Save the firmware to the USB memory.
- 2) Insert the USB memory into the main unit. (Use USB I/F of the operation panel section.)
- 3) Select a target firmware file for update with the touch panel.
- 4) Select a target firmware.
Tap [ALL] key to select all the Firmware collectively.
- 5) Tap [EXECUTE] key.
- 6) Tap [YES] key.

The selected firmware is updated. When the operation is normally completed, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

Item/Display	Content	Error display in case or abnormality
UPSIDE BUNDLE	Bundle version (Upper)	UPBDL
BOTTOM BUNDLE	Bundle version (Lower)	BTMBDL
ICU-MAIN	ICUM main program	ICUM
ASIC-MAIN	ASIC main program	ASICM
ASIC-SUB	ASIC sub program	ASICS
IMAGE DATA	Image processing data	IMG
LANGUAGE	Language support data program	LANG
LANGUAGE(LIST)	List print language data	LANGL
EOSA	Embedded OSA program	EOSA
UICONTENTS	UI display program	UICON
SIM-TEXT	Simulation language data	SIMT
PCL (PROFILE)	PCL color profile	PCLP
SCU	SCU program	SCU
DSPF	DSPF program	DSPF
PCU	PCU program	PCU
DESK	Desk unit program	DESK
DESK(TANDEM)	Tandem desk unit program	DESKT
LCC	LCC program	LCC
FINISHER(1KFIN)	1K Finisher program	FIN1
FINISHER(3KFIN)	3K Finisher program	FIN3M
FINISHER(INNER)	Inner finisher program	INFIN
JOGGER	3K Finisher jogger program	JOG
FIN-SUB	3K Finisher sub program	FINS
SADDLE	Saddle program	SDL
PUNCH(3K)	3K Punch unit program	3PUN
PUNCH(IN)	Inner punch unit program	INPUN
FAX	Standard FAX program	FAX
FAX OPT1	Optional FAX 1st line program	FXOT1

49-7	
Purpose	
Function (Purpose)	Used to perform the preinstalled data update.
Section	

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
 - 2) Select the button of the folder to perform the update.
 - 3) The current version and the update version are displayed.
 - 4) Tap [EXECUTE] key.
 - 5) Tap [YES] key.
- The selected item is updated.

E-manual
Watermark
OCR
Sound

50

50-1	
Purpose	Adjustment
Function (Purpose)	Copy image position, image loss adjustment
Section	

Operation/Procedure

- 1) Select an adjustment target item with scroll key.
 - 2) Enter the set value with 10-key.
- Set the items other than RRCA, LEAD, and SIDE to the default.

RRCA: Image lead edge reference position adjustment

LEAD: Lead edge image loss adjustment

SIDE: Side image loss adjustment

- 3) Tap [OK] key. (The set value is saved.)

Item/Display		Content	Setting range	Default value
A	Lead edge adjustment value	RRCA	Document lead edge reference position (OC)	0 - 99 50
B	Image loss area	LEAD	Lead edge image loss area setting	0 - 99 40
C	setting value	SIDE	Side image loss area adjustment	0 - 99 20
D	Void area adjustment	DENA	Lead edge void area adjustment	1 - 99 40
E		DENB	Rear edge void area adjustment	1 - 99 30
F		FRONT/ REAR	FRONT/REAR void area adjustment	1 - 99 23
G	Off-center adjustment	OFFSET_ OC	OC document off-center adjustment	1 - 99 50
H	Magnification ratio correction	SCAN_ SPEED_ OC	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99 50
I	Sub scanning direction print area correction value	DENB-MFT	Manual feed correction value	1 - 99 50
J		DENB-CS1	Tray 1 correction value	1 - 99 50
K		DENB-CS2	Tray 2 correction value	1 - 99 50
L		DENB-CS3	Tray 3 correction value	1 - 99 50
M		DENB-CS4	Tray 4 correction value	1 - 99 50
N		DENB-LCC	LCC correction value	1 - 99 50
O		DENB-ADU	ADU correction value	1 - 99 50
P		DENB-HV	Heavy paper correction value	1 - 99 50

- (RRC-A) Timing from starting document scanning to specifying the image lead edge reference is adjusted. (0.1mm/step)
 - * When the value is decreased, the timing is advanced. When the value is increased, the timing is delayed.
- (LEAD) The lead edge image loss amount is adjusted. (0.1mm/step)
 - * When the value is increased, the image loss is increased.
- (SIDE) The side image loss amount is adjusted.
 - * When the value is increased, the image loss is increased. (0.1mm/step)
- (DEN-A) The paper lead edge void amount is adjusted. (0.1mm/step)
 - * When the value is increased, the void is increased.
- (DEN-B) The paper rear edge void amount is adjusted. (0.1mm/step)
 - * When the value is increased, the void is increased.
- (FRONT/REAR) The void amount on the right and left edges of paper is adjusted. (0.1mm/step)

50-5

Purpose	Adjustment
Function (Purpose)	Used to adjust the print lead edge image position. (PRINTER MODE)

Section**Operation/Procedure**

- 1) Select a target adjustment item (DEN-C) with scroll key.
- 2) Enter the adjustment value using the 10-key.
- 3) Tap [EXECUTE] key.
The set value is saved, and the adjustment check pattern is printed.
- 4) Measure the distance from the paper lead edge the adjustment pattern to the image lead edge, and check to confirm that it is in the standard adjustment value range.
Standard reference value: 4.0 +/- 2.0mm

When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distanced is decreased.

When the set value is changed by 1, the distance is changed by about 0.1mm.

Item/Display			Content	Setting range	Default value	
A	DEN-C		Used to adjust the print lead edge image position. (PRINTER MODE)		1 - 99	30
B	DEN-B		Rear edge void area adjustment		1 - 99	30
C	FRONT/REAR		FRONT/REAR void area adjustment		1 - 99	23
D	DENB-MFT		Manual feed rear edge void area adjustment correction value		1 - 99	50
E	DENB-CS1		Tray 1 rear edge void area adjustment correction value		1 - 99	50
F	DENB-CS2		Tray 2 rear edge void area adjustment correction value		1 - 99	50
G	DENB-CS3		Tray 3 rear edge void area adjustment correction value		1 - 99	50
H	DENB-CS4		Tray 4 rear edge void area adjustment correction value		1 - 99	50
I	DENB-LCC		LCC rear edge void aria adjustment correction value		1 - 99	50
J	DENB-ADU		ADU rear edge void aria adjustment correction value		1 - 99	50
K	DENB-HV		Heavy paper correction value		1 - 99	50
L	MULTI COUNT		Number of print		1 - 999	1
M	PAPER	MFT	Tray selection	Manual paper feed	1	2
		CS1		Tray 1	2	
		CS2		Tray 2	3	
		CS3		Tray 3	4	
		CS4		Tray 4	5	
		LCC		LCC	6	
N	DUPLX X	YES	Duplex print selection	Yes	0	1
		NO		No	1	

When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distance from the paper lead edge to the image lead edge is decreased.

When the set value is changed by 1, the distance is changed by about 0.1mm.

50-6

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy image position and the image loss. (SPF mode)

Section

SPF

Operation/Procedure

- 1) Select an adjustment target item on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. (The set value is saved.)

[RSPF]

Item/Display		Content	Setting range	Default value
A	SIDE1	Front surface document scan position adjustment (CCD)	1 - 99	50
B	SIDE2	Back surface document scan position adjustment (CCD)	1 - 99	50
C	Image loss amount setting SIDE1	LEAD_EDGE (SIDE1) Front surface lead edge image loss amount setting	0 - 99	20
D	Image loss amount setting SIDE1	FRONT_REAR (SIDE1) Front surface side image loss amount setting	0 - 99	20
E	Image loss amount setting SIDE1	TRAIL_EDGE (SIDE1) Front surface rear edge image loss amount setting	0 - 99	40
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2) Back surface lead edge image loss amount setting	0 - 99	20
G	Image loss amount setting SIDE2	FRONT_REAR (SIDE2) Back surface side image loss amount setting	0 - 99	20
H	Image loss amount setting SIDE2	TRAIL_EDGE (SIDE2) Back surface rear edge image loss amount setting	0 - 99	40
I	OFFSET_SPF1	RSPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2	RSPF back surface document off-center adjustment	1 - 99	50
K	SCAN_SPEED_SPF1	RSPF document front surface magnification ratio (Sub scan)	1 - 99	50
L	SCAN_SPEED_SPF2	RSPF document back surface magnification ratio (Sub scan)	1 - 99	50

Item A, B: When the adjustment value is increased, the scan timing is delayed.

Item C - H: When the adjustment value is increased, the image loss is increased.

Item E - H: When a shadow image appears on the rear edge, increase the adjustment value to delete the shadow.

All adjustment items: 1 step = 0.1mm change

[DSPF]

Item/Display		Content	Setting range	Default value
A	SIDE1	Front surface document scan position adjustment (CCD)	1 - 99	50
B	SIDE2	Back surface document scan position adjustment (CCD)	1 - 99	50
C	Image loss amount setting SIDE1	LEAD_EDGE (SIDE1) Front surface lead edge image loss amount setting	0 - 99	20
D	Image loss amount setting SIDE1	FRONT_REAR (SIDE1) Front surface side image loss amount setting	0 - 99	20
E	Image loss amount setting SIDE1	TRAIL_EDGE (SIDE1) Front surface rear edge image loss amount setting	0 - 99	40
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2) Back surface lead edge image loss amount setting	0 - 99	40
G	Image loss amount setting SIDE2	FRONT_REAR (SIDE2) Back surface side image loss amount setting	0 - 99	20
H	Image loss amount setting SIDE2	TRAIL_EDGE (SIDE2) Back surface rear edge image loss amount setting	0 - 99	20
I	OFFSET_SPF1	DSPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2	DSPF back surface document off-center adjustment	1 - 99	50
K	SCAN_SPEED_SPF1	DSPF document front surface magnification ratio (Sub scan)	1 - 99	50

Item A, B: When the adjustment value is increased, the scan timing is delayed.

Item C - H: When the adjustment value is increased, the image loss is increased.

Item E - H: When a shadow image appears on the rear edge, increase the adjustment value to delete the shadow.

All adjustment items: 1 step = 0.1mm change

50-10

Purpose	Adjustment
Function (Purpose)	Used to adjust print image position
Section	

Operation/Procedure

- 1) Select an adjustment target item on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Tap [EXECUTE] key. (The set value is saved.)

Item/Display			Content	Setting range	Default value	
A	BK-MAG		Main scan print magnification ratio		80 - 120	104
B	MAIN-STD		Combined correction value	Standard correction amount (Off center direction)	1 - 99	62
C	SUB-STD			Standard correction amount (Paper feed direction)	1 - 99	44
D	MAIN-SFT		Print position correction	back surface correction (off center)	0 - 3	0
E	SUB-SFT			back surface correction (paper transporting direction)	0 - 3	0
F	MAIN-MFT		Print off center adjustment value	Manual paper feed	1 - 99	54
G	MAIN-CS1			Tray 1	1 - 99	50
H	MAIN-CS2			Tray 2	1 - 99	50
I	MAIN-CS3			Tray 3	1 - 99	50
J	MAIN-CS4			Tray 4	1 - 99	50
K	MAIN-LCC			LCC	1 - 99	50
L	MAIN-ADU			ADU	1 - 99	53
M	SUB-MFT		Registration motor ON timing adjustment	Manual paper feed	1 - 99	50
N	SUB-CS1			Tray 1	1 - 99	50
O	SUB-CS2			Tray 2	1 - 99	50
P	SUB-CS3			Tray 3	1 - 99	50
Q	SUB-CS4			Tray 4	1 - 99	50
R	SUB-LCC			LCC	1 - 99	50
S	SUB-ADU			ADU	1 - 99	50
T	SUB-HV-A		Shifting amount value	Heavy1, 2	1 - 99	52
U	SUB-HV-B			Heavy3, 4	1 - 99	56
V	SUB-GLOSSY PAPER			Gross	1 - 99	52
W	SUB-OHP			OHP	1 - 99	50
X	SUB-ENV			Envelop	1 - 99	60
Y	MULTI COUNT			Number of print		1 - 999
Z	PAPE R	MFT	Tray selection	Manual paper feed	1	2
		CS1		Tray 1	2	
		CS2		Tray 2	3	
		CS3		Tray 3	4	
		CS4		Tray 4	5	
		LCC		LCC	6	
		A A		DUPL EX	YES NO	Duplex print selection
A B	ALT FEED	NOR MAL	Other tray selection	Normal	0	0
		ALL OTH ER		All trays except "PAPER"	1	

50-12

Purpose	Adjustment
Function (Purpose)	Used to perform the scan image off-center position adjustment. (The adjustment is made separately for each scan mode.)

Section**Operation/Procedure**

- 1) Select an adjustment target item on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image position is shifted to the rear frame side. When the adjustment value is decreased, it is shifted to the front frame side.

1step = 0.1mm

Item/Display		Content	Setting range	Default value
A	OC	Document table image off-center adjustment	1 - 99	50
B	SPF (SIDE1)	SPF front surface image off-center adjustment	1 - 99	50
C	SPF (SIDE2)	SPF back surface image off-center adjustment	1 - 99	50

50-27

Purpose	Adjustment
Function (Purpose)	Used to perform the image loss adjustment of scanned images in the FAX or image send mode.

Section**Operation/Procedure**

- 1) Select a target adjustment mode with [FAX] or [SCANNER] key.
- 2) Select an adjustment target item with scroll key.
- 3) Enter the set value with 10-key.
- 4) Tap [OK] key. (The set value is saved.)

[RSPF]

Item/Display			Content	Setting range	Default value
FAX send	A	Image loss amount setting	LEAD_EDGE (OC)	OC lead edge image loss amount setting	0 - 100 30 (3mm)
	B	OC	FRONT_REAR (OC)	OC side image loss amount setting	0 - 100 20 (2mm)
	C		TRAIL_EDGE (OC)	OC rear edge image loss amount setting	0 - 100 20 (2mm)
	D	Image loss amount setting SPF	LEAD_EDGE (SPF_SIDE1)	Front surface lead edge image loss amount setting	0 - 100 20 (2mm)
	E	SIDE1	FRONT_REAR (SPF_SIDE1)	Front surface side image loss amount setting	0 - 100 20 (2mm)
	F		TRAIL_EDGE (SPF_SIDE1)	Front surface rear edge image loss amount setting	0 - 100 30 (3mm)

Item/Display				Content	Setting range	Default value
FAX send	G	Image loss amount setting SPF	LEAD_EDGE (SPF_SIDE2)	Back surface lead edge image loss amount setting	0 - 100	20 (2mm)
	H	SIDE2	FRONT_REAR (SPF_SIDE2)	Back surface side image loss amount setting	0 - 100	20 (2mm)
	I		TRAIL_EDGE (SPF_SIDE2)	Back surface rear edge image loss amount setting	0 - 100	30 (3mm)
When image send mode (Except for FAX and copy)	A	Image loss amount setting	LEAD_EDGE (OC)	OC lead edge image loss amount setting	0 - 100	0 (0mm)
	B	OC	FRONT_REAR (OC)	OC side image loss amount setting	0 - 100	0 (0mm)
	C		TRAIL_EDGE (OC)	OC rear edge image loss amount setting	0 - 100	0 (0mm)
	D	Image loss amount setting SPF	LEAD_EDGE (SPF_SIDE1)	Front surface lead edge image loss amount setting	0 - 100	0 (0mm)
	E	SIDE1	FRONT_REAR (SPF_SIDE1)	Front surface side image loss amount setting	0 - 100	0 (0mm)
	F		TRAIL_EDGE (SPF_SIDE1)	Front surface rear edge image loss amount setting	0 - 100	0 (0mm)
	G	Image loss amount setting SPF	LEAD_EDGE (SPF_SIDE2)	Back surface lead edge image loss amount setting	0 - 100	0 (0mm)
	H	SIDE2	FRONT_REAR (SPF_SIDE2)	Back surface side image loss amount setting	0 - 100	0 (0mm)
	I		TRAIL_EDGE (SPF_SIDE2)	Back surface rear edge image loss amount setting	0 - 100	0 (0mm)

[DSPF]

Item/Display				Content	Setting range	Default value
FAX send	A	Image loss amount setting	LEAD_EDGE (OC)	OC lead edge image loss amount setting	0 - 100	30 (3mm)
	B	OC	FRONT_REAR (OC)	OC side image loss amount setting	0 - 100	20 (2mm)
	C		TRAIL_EDGE (OC)	OC rear edge image loss amount setting	0 - 100	20 (2mm)

Item/Display			Content	Setting range	Default value
FAX send	D	Image loss amount setting SPF SIDE1	LEAD_EDGE (SPF_SID E1)	Front surface lead edge image loss amount setting	0 - 100 20 (2mm)
	E		FRONT_REAR (SPF_SID E1)	Front surface side image loss amount setting	0 - 100 20 (2mm)
	F		TRAIL_EDGE (SPF_SID E1)	Front surface rear edge image loss amount setting	0 - 100 30 (3mm)
	G	Image loss amount setting SPF SIDE2	LEAD_EDGE (SPF_SID E2)	Back surface lead edge image loss amount setting	0 - 100 30 (2mm)
	H		FRONT_REAR (SPF_SID E2)	Back surface side image loss amount setting	0 - 100 20 (2mm)
	I		TRAIL_EDGE (SPF_SID E2)	Back surface rear edge image loss amount setting	0 - 100 20 (3mm)
When image send mode (Except for FAX and copy)	A	Image loss amount setting OC	LEAD_EDGE (OC)	OC lead edge image loss amount setting	0 - 100 0 (0mm)
	B		FRONT_REAR(OC)	OC side image loss amount setting	0 - 100 0 (0mm)
	C		TRAIL_EDGE(OC)	OC rear edge image loss amount setting	0 - 100 0 (0mm)
	D	Image loss amount setting SPF SIDE1	LEAD_EDGE (SPF_SID E1)	Front surface lead edge image loss amount setting	0 - 100 0 (0mm)
	E		FRONT_REAR (SPF_SID E1)	Front surface side image loss amount setting	0 - 100 0 (0mm)
	F		TRAIL_EDGE(SPF_SIDE1)	Front surface rear edge image loss amount setting	0 - 100 0 (0mm)
	G	Image loss amount setting SPF SIDE2	LEAD_EDGE (SPF_SID E2)	Back surface lead edge image loss amount setting	0 - 100 0 (0mm)
	H		FRONT_REAR (SPF_SID E2)	Back surface side image loss amount setting	0 - 100 0 (0mm)
	I		TRAIL_EDGE(SPF_SIDE2)	Back surface rear edge image loss amount setting	0 - 100 0 (0mm)

50-28

Purpose	Adjustment
Function (Purpose)	Used to automatically adjust the image loss, void area, image off-center, and image magnification ratio.

Section

Operation/Procedure

The following adjustment items can be executed automatically with SIM50-28.

- * Print image position, image magnification ratio, void area, off-center adjustments (Manual adjustments)
 - * Scan image magnification ratio adjustment (Manual adjustment)
 - * Scan image off-center adjustment (Manual adjustment)
 - * Used to adjust the copy image position and the image loss (Manual adjustments)
- 1) Select an adjustment item with the menu button.
 - 2) Tap [EXECUTE] key, and the adjustment pattern is printed.
 - 3) Set the adjustment pattern on the document table.
 - 4) Tap [EXECUTE] key, and the adjustment pattern is scanned.
 - 5) Tap [OK] key.

Item/Display	Content	Content
BK-MAG ADJ	BK main scanning direction image magnification ratio adjustment	BK main scanning direction image magnification ratio adjustment
SETUP/PRINT ADJ	Printing position adjustment	Print image edge adjustment / all tray print off-center adjustment (individual tray, ADU)
DATA	Data display	Used data for the adjustment is displayed.

51

51-1

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the ON/OFF timing of the secondary transport voltage.

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. (The set value is saved.)

When the adjustment value is decreased, the transfer ON/OFF timing for the paper is advanced. When the adjustment value is increased, the timing is delayed.

When the adjustment value is changed by 1, the timing is changed by about 10ms. The setting range is -490 - +490ms.

Item/Display	Content	Default value
A TC ON TIMING	Transfer voltage ON timing setting	50
B TC OFF TIMING	Transfer voltage OFF timing setting	50
C FRONT EDGE ON TIMING	Front edge bias ON timing setting	45
D BACKEND OFF TIMING	Rear edge bias OFF timing setting	50
E DHV ON TIMING	Separation output ON timing setting	30
F DHV OFF TIMING	Separation output OFF timing setting	80

51-2	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the contact pressure (deflection amount) on paper by the main unit and the SPF registration roller. (This adjustment is performed when there is a considerable variation in the print image position on the paper or when paper jams frequently occur.)

Section

Operation/Procedure

- 1) (When RSPF model)
Select a target adjustment mode with [SIDE1] or [SIDE2] or [ENGINE] keys.
- 2) Select a target item to be adjusted with scroll keys.
- 3) Enter the set value with 10-key.
- 4) Tap [OK] key. (The set value is saved.)

[RSPF]

Mode	Display/Item	Content	Default value
SIDE1	A NORMAL_PLAIN_HIGH	RSPF front surface document deflection amount adjustment value (Normal/Plain paper/HIGH)	50
	B NORMAL_PLAIN_LOW	RSPF front surface document deflection amount adjustment value (Normal/Plain paper/LOW)	50
	C NORMAL_THIN_HIGH	RSPF front surface document deflection amount adjustment value (Normal/Thin paper/HIGH)	50
	D NORMAL_THIN_LOW	RSPF front surface document deflection amount adjustment value (Normal/Thin paper/LOW)	50
	E RANDOM_PLAIN_HIGH	RSPF front surface document deflection amount adjustment value (Random/Plain paper/HIGH)	50
	F RANDOM_PLAIN_LOW	RSPF front surface document deflection amount adjustment value (Random/Plain paper/LOW)	50
	G RANDOM_THIN_HIGH	RSPF front surface document deflection amount adjustment value (Random/Thin paper/HIGH)	50
	H RANDOM_THIN_LOW	RSPF front surface document deflection amount adjustment value (Random/Thin paper/LOW)	50
SIDE2	A NORMAL_PLAIN_HIGH_1	RSPF back surface document deflection amount adjustment value 1 (Normal/Plain paper/HIGH)	50
	B NORMAL_PLAIN_LOW_1	RSPF back surface document deflection amount adjustment value 1 (Normal/Plain paper/LOW)	50
ENGINE	A TRAY1 PLAIN PAPER (S)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Small size)	40
	B TRAY1 PLAIN PAPER (L)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Large size)	40
	C TRAY1 HEAVY A PAPER(S)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper A/Small size)	40

Mode	Display/Item	Content	Default value
ENGINE	D TRAY1 HEAVY A PAPER(L)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper A/Large size)	40
	E TRAY1 HEAVY B PAPER(S)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper B/Small size)	40
	F TRAY1 HEAVY B PAPER(L)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper B/Large size)	40
	G TRAY2 PLAIN PAPER (S)	Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Small size)	40
	H TRAY2 PLAIN PAPER (L)	Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Large size)	40
	I TRAY2 HEAVY A PAPER(S)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Small size)	40
	J TRAY2 HEAVY A PAPER(L)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Large size)	40
	K TRAY2 HEAVY B PAPER(S)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Small size)	40
	L TRAY2 HEAVY B PAPER(L)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Large size)	40
	M MANUAL PLAIN PAPER (S)	Manual feed tray/deflection adjustment value (Plain paper/Small size)	50
	N MANUAL PLAIN PAPER (L)	Manual feed tray/deflection adjustment value (Plain paper/Large size)	50
	O MANUAL HEAVY A PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper A/Small size)	50
	P MANUAL HEAVY A PAPER(L)	Manual feed tray/deflection adjustment value (Heavy paper A/Large size)	50
	Q MANUAL HEAVY B PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper B/Small size)	50
	R MANUAL HEAVY B PAPER (L)	Manual feed tray/deflection adjustment value (Heavy paper B/Large size)	50
	S MANUAL OHP	Manual feed tray/deflection adjustment value (OHP)	50
	T MANUAL ENV	Manual feed tray/deflection adjustment value (Envelope)	50
	U MANUAL LABEL	Manual feed tray/deflection adjustment value (Label)	40
	V ADU PLAIN PAPER (S)	ADU/deflection adjustment value (Plain paper/Small size)	40
	W ADU PLAIN PAPER (L)	ADU/deflection adjustment value (Plain paper/Large size)	40
	X ADU HEAVY A PAPER (S)	ADU/deflection adjustment value (Heavy paper A/Small size)	40
	Y ADU HEAVY A PAPER (L)	ADU/deflection adjustment value (Heavy paper A/Large size)	40

Mode	Display/Item		Content	Default value
ENGINE	Z	ADU HEAVY B PAPER (S)	ADU/deflection adjustment value (Heavy paper B/Small size)	40
	AA	ADU HEAVY B PAPER (L)	ADU/deflection adjustment value (Heavy paper B/Large size)	40
	AB	DESK (S)	DESK/deflection adjustment value (Plain paper/Small size)	40
	AC	DESK HEAVY A PAPER(S)	DESK/deflection adjustment value (Heavy paper A/Small size)	40
	AD	DESK HEAVY B PAPER(S)	DESK/deflection adjustment value (Heavy paper B/Small size)	40
	AE	DESK (L)	DESK/deflection adjustment value (Plain paper/Large size)	40
	AF	DESK HEAVY PAPER (L)	DESK/deflection adjustment value (Heavy paper A/Large size)	40
	AG	DESK HEAVY PAPER (L)	DESK/deflection adjustment value (Heavy paper B/Large size)	40
	AH	LCC(S)	LCC/deflection adjustment value (Plain paper/Small size)	40
	AI	LCC HEAVY A PAPER(S)	LCC/deflection adjustment value (Heavy paper /Small size)	40

[DSPF]

Mode	Display/Item		Content	Default value
REGI1	A	NORMAL_PLAIN_HIGH	DSPF front surface document deflection amount adjustment value (Normal/Plain paper/HIGH)	50
	B	NORMAL_PLAIN_LOW	DSPF front surface document deflection amount adjustment value (Normal/Plain paper/LOW)	50
	C	NORMAL_THIN_HIGH	DSPF front surface document deflection amount adjustment value (Normal/Thin paper/HIGH)	50
	D	NORMAL_THIN_LOW	DSPF front surface document deflection amount adjustment value (Normal/Thin paper/LOW)	50
	E	RANDOM_PLAIN_HIGH	DSPF front surface document deflection amount adjustment value (Random/Plain paper/HIGH)	50
	F	RANDOM_PLAIN_LOW	DSPF front surface document deflection amount adjustment value (Random/Plain paper/LOW)	50
	G	RANDOM_THIN_HIGH	DSPF front surface document deflection amount adjustment value (Random/Thin paper/HIGH)	50
	H	RANDOM_THIN_LOW	DSPF front surface document deflection amount adjustment value (Random/Thin paper/LOW)	50
REGI2	A	NORMAL_PLAIN_HIGH	DSPF back surface document deflection amount adjustment value 2 (Normal/Plain paper/HIGH)	70
	B	NORMAL_PLAIN_LOW	DSPF back surface document deflection amount adjustment value 2 (Normal/Plain paper/LOW)	50
	C	NORMAL_THIN_HIGH	DSPF back surface document deflection amount adjustment value 2 (Normal/Thin paper/HIGH)	70
	D	NORMAL_THIN_LOW	DSPF back surface document deflection amount adjustment value 2 (Normal/Thin paper/LOW)	50

Mode	Display/Item		Content	Default value
SIDE2	E	RANDOM_PLAIN_HIGH	DSPF back surface document deflection amount adjustment value 2 (Normal/Plain paper/HIGH)	70
	F	RANDOM_PLAIN_LOW	DSPF back surface document deflection amount adjustment value 2 (Normal/Plain paper/LOW)	50
	G	RANDOM_THIN_HIGH	DSPF back surface document deflection amount adjustment value 2 (Normal/Thin paper/HIGH)	70
	H	RANDOM_THIN_LOW	DSPF back surface document deflection amount adjustment value 2 (Normal/Thin paper/LOW)	50
ENGINE	A	TRAY1 PLAIN PAPER (S)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Small size)	40
	B	TRAY1 PLAIN PAPER (L)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Large size)	40
	C	TRAY1 HEAVY A PAPER(S)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper A/Small size)	40
	D	TRAY1 HEAVY A PAPER(L)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper A/Large size)	40
	E	TRAY1 HEAVY B PAPER(S)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper B/Small size)	40
	F	TRAY1 HEAVY B PAPER(L)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Heavy paper B/Large size)	40
	G	TRAY2 PLAIN PAPER (S)	Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Small size)	40
	H	TRAY2 PLAIN PAPER (L)	Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Large size)	40
	I	TRAY2 HEAVY A PAPER(S)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Small size)	40
	J	TRAY2 HEAVY A PAPER(L)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Large size)	40
	K	TRAY2 HEAVY B PAPER(S)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Small size)	40
	L	TRAY2 HEAVY B PAPER(L)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Large size)	40
	M	MANUAL PLAIN PAPER (S)	Manual feed tray/deflection adjustment value (Plain paper/Small size)	40
	N	MANUAL PLAIN PAPER (L)	Manual feed tray/deflection adjustment value (Plain paper/Large size)	40
	O	MANUAL HEAVY A PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper A/Small size)	40

Mode	Display/Item		Content	Default value
ENGINE	P	MANUAL HEAVY A PAPER(L)	Manual feed tray/deflection adjustment value (Heavy paper A/Large size)	40
	Q	MANUAL HEAVY B PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper B/Small size)	40
	R	MANUAL HEAVY B PAPER (L)	Manual feed tray/deflection adjustment value (Heavy paper B/Large size)	40
	S	MANUAL OHP	Manual feed tray/deflection adjustment value (OHP)	40
	T	MANUAL ENV	Manual feed tray/deflection adjustment value (Envelop)	40
	U	MANUAL LABEL	Manual feed tray/deflection adjustment value (Label)	30
	V	ADU PLAIN PAPER (S)	ADU/deflection adjustment value (Plain paper/Small size)	30
	W	ADU PLAIN PAPER (L)	ADU/deflection adjustment value (Plain paper/Large size)	30
	X	ADU HEAVY A PAPER (S)	ADU/deflection adjustment value (Heavy paper A/Small size)	40
	Y	ADU HEAVY A PAPER (L)	ADU/deflection adjustment value (Heavy paper A/Large size)	40
	Z	ADU HEAVY B PAPER (S)	ADU/deflection adjustment value (Heavy paper B/Small size)	40
	AA	ADU HEAVY B PAPER (L)	ADU/deflection adjustment value (Heavy paper B/Large size)	40
	AB	DESK (S)	DESK/deflection adjustment value (Plain paper/Small size)	40
	AC	DESK HEAVY A PAPER(S)	DESK/deflection adjustment value (Heavy paper A/Small size)	40
	AD	DESK HEAVY B PAPER(S)	DESK/deflection adjustment value (Heavy paper B/Small size)	40
	AE	DESK (L)	DESK/deflection adjustment value (Plain paper/Large size)	40
	AF	DESK HEAVY PAPER (L)	DESK/deflection adjustment value (Heavy paper A/Large size)	40
	AG	DESK HEAVY PAPER (L)	DESK/deflection adjustment value (Heavy paper B/Large size)	40
	AH	LCC(S)	LCC/deflection adjustment value (Plain paper/Small size)	40
	AI	LCC HEAVY A PAPER(S)	LCC/deflection adjustment value (Heavy paper /Small size)	40

Note on "Large size" and "Small size"

Small size: The paper length in the transport direction is shorter than the LT size (216mm).

Large size: The paper length in the transport direction is longer than the LT size (216mm).

Adjustment value

When the adjustment value is increased, the warp amount is increased. When the adjustment value is decreased, the warp amount is decreased.

(When the adjustment value is changed by 1, the stop timing is changed by 0.1mm.)

53

53-6

Purpose	Adjustment
Function (Purpose)	Used to adjust the detection level of the SPF document width.
Section	

Operation/Procedure

- 1) Open the SPF paper feed guide to the maximum width.
- 2) Tap [EXECUTE] key.
The maximum width detection level is recognized.
- 3) Open the SPF paper feed guide to the A4R width.
- 4) Tap [EXECUTE] key.
The A4R width detection level is recognized.
- 5) Open the SPF paper feed guide to the A5R width.
- 6) Tap [EXECUTE] key.
The A5R width detection level is recognized.
- 7) Open the SPF paper feed guide to the minimum width.
- 8) Tap [EXECUTE] key.
The minimum width detection level is recognized.

When the above operation is not performed normally, "ERROR" is displayed and. When the above operation is completed normally, "COMPLETE" is displayed.

1	TRAYVOLMAX	Tray size volume maximum value
2	TRAYVOLA4R	Tray volume A4R size adjustment value
3	TRAYVOLA5R	Tray volume A5R size adjustment value
4	TRAYVOLMIN	Tray size volume minimum value

53-7

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the SPF document size width sensor.
Section	

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. (The set value is saved.)

[RSPF]

Item/Display			Setting range	Default value
A	AD_MAX	Max. width position	0 - 1023	84
B	AD_P1	A4R width position	0 - 1023	509
C	AD_P2	A5R width position	0 - 1023	808
D	AD_MIN	Min. width position	0 - 1023	961

[DSPF]

Item/Display			Setting range	Default value
A	AD_MAX	Max. width position	0 - 1023	66
B	AD_P1	A4R width position	0 - 1023	438
C	AD_P2	A5R width position	0 - 1023	699
D	AD_MIN	Min. width position	0 - 1023	893

53-8

Purpose	Adjustment
Function (Purpose)	Used to adjust the document lead edge reference and the SPF mode document scan position.

Section**Operation/Procedure**

Select an adjustment item with [AUTO] [MANUAL] key.

<AUTO: Document lead edge reference (RRCA) adjustment>(Auto adjustment)

- 1) Set a sheet of black paper of A4 or 11"x 8.5" on the document table.
- 2) Tap [EXECUTE] key. (The adjustment is performed and the adjustment value is saved.)

Item/Display	Content	Setting range	Default value
MEASUREMENT DISTANCE	Document lead edge measurement distance	0-255 (0.1mm unit)	-
RRCA	Document lead edge reference position	0 - 99	50

<MANUAL: SPF mode document scan position adjustment>

- 1) Enter the set value with 10-key.
- 2) Tap [OK] key. (The set value is saved.)

Item/Display	Content	Setting range	Default value (RSPF)	Default value (DSPF)
A ADJUST VALUE	SPF mode document scan position adjustment (Scanner stop position adjustment)	1 - 99	5	10

* When the adjustment value is increased, the scanner stop position in the RSPF mode is shifted to the right.

* When the adjustment value is changed by 1, the position is shifted by 0.1mm.

53-9

Purpose	Adjustment
Function (Purpose)	Used to set dirt detection for SPF scanning position.

Section**Operation/Procedure**

- 1) Select an items to be set with scroll key.
- 2) Enter the set value with 10-key.
- 3) Tap [OK] key. (The set value is saved.)

[RSPF]

Item/Display	Content	Setting range	Default value
A SIDEA_SCAN_POSITON_SE T_START	SPF front surface optimum scan position detection setting (When starting)	OFF ON	0 1
B SIDEA_SCAN_POSITON_SE T_JOB	SPF front surface optimum scan position detection setting (After a job)	OFF ON	0 1
C SIDEA_SCAN_POSITON_LV	SPF front surface optimum scan position detection level setting	WEA K MIDD LE STRO NG	Low Medium High

Item/Display	Content	Setting range	Default value
D OC_DIR T_LV	OC dirt level setting	Low Medium High	0 1 2
E SIDEA_DIRT_A LARM_L V	SPF front surface dirt alarm level setting	Low Medium High	0 1 2
F SIDEA_DIRT_S HADING_SET	SPF front surface streak delete shading setting	OFF ON	0 1

[DSPF]

Item/Display	Content	Setting range	Default value
A SIDEA_SCAN_POSITON_SE T_START	SPF front surface optimum scan position detection setting (When starting)	OFF ON	0 1
B SIDEA_SCAN_POSITON_SE T_JOB	SPF front surface optimum scan position detection setting (After a job)	OFF ON	0 1
C SIDEA_SCAN_POSITON_LV	SPF front surface optimum scan position detection level setting	Low Medium High	0 1 2
D OC_DIR T_LV	OC dirt level setting	Low Medium High	0 1 2
E SIDEA_DIRT_A LARM_L V	SPF front surface dirt alarm level setting	Low Medium High	0 1 2
F SIDEA_DIRT_S HADING_SET	SPF back surface dirt alarm level setting	Low Medium High	0 1 2
G SIDEA_DIRT_S HADING_SET	SPF front surface streak delete shading setting	OFF ON	0 1
H SIDEA_DIRT_S HADING_SET	SPF back surface streak delete shading setting	OFF ON	0 1

Item/Display	Content	Setting range	Default value
I	SIDE_B_EXT_SHADING_SET	SPF back side expansion shading setting	Default
		Both OFF	1
		Both ON	2
		Power on ON/OFF after JOB	3
		Power on OFF/ON after JOB	4

53-10	
Purpose	Adjustment/Setup
Function (Purpose)	SPF dirt detection execution.
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key.

[RSPF]

Item	Content
SPF SIDEA	SPF front surface dirt detection position (main scan position 1 to 8) "-": No dirt, A***: Dirt
OC	OC surface dirt detection position (main scan position 1 to 8) "-": No dirt, ***: Dirt

[DSPF]

Item	Content
SPF SIDEA	SPF front surface dirt detection position (main scan position 1 to 8) "-": No dirt, A***: Dirt
SPF SIDEB	DSPF back surface dirt detection position (main scan position 1 to 8) "-": No dirt, A***: Dirt
OC	OC surface dirt detection position (main scan position 1 to 8) "-": No dirt, ***: Dirt

55

55-1	
Purpose	(Do not use this function unless specially required.)
Function (Purpose)	Used to set the specifications of the engine control operations. (SOFT SW)
Section	
Operation/Procedure	

55-2	
Purpose	(Do not use this function unless specially required.)
Function (Purpose)	Used to set the specifications of the scanner control operation. (SOFT SW)
Section	
Operation/Procedure	

55-3	
Purpose	(Do not use this function unless specially required.)
Function (Purpose)	Used to set the specifications of the controller operation. (SOFT SW)
Section	
Operation/Procedure	

55-10	
Purpose	Adjustment/Setting
Function (Purpose)	Used to set the special stamp text. (Taiwan only)
Section	

Operation/Procedure

- 1) Select an item to be set (digit, color, type) with the scroll key.
- 2) Enter the value corresponding to the setting item with 10-key.
- 3) Tap [OK] key.

Item/Display			Content		Setting range	Default value
A	1ST DIGIT		First digit (left edge)		1 - 90	1
B	2ND DIGIT		Second digit		32 [blank: 20H]	
C	3RD DIGIT		Third digit		65 - 90	
D	4TH DIGIT		Fourth digit		[Alphabet: 41H("A") - 5AH("Z")]	
E	5TH DIGIT		Fifth digit		48 - 57	
F	6TH DIGIT		Sixth digit (right edge)		[Numeral: 30H("0") - 39H("9")]	
G	COLOR	K	Color specification input		0	0
		C			1	
		M			2	
		Y			3	
		R			4	
		G			5	
		B			6	
H	TYPE	PATTERN 1	Print composing method	Edging type	0	1
		PATTERN 2		OR process type	1	
		PATTERN 3		No-delete-composition type	2	

Input value

Print	Blank	A	B	C	E	F	G
Input value	32	65	66	67	69	70	71

Print	H	I	J	K	L	M	N
Input value	72	73	74	75	76	77	78

Print	O	P	Q	R	T	U	V
Input value	79	80	81	82	84	85	86

Print	W	X	Y	Z	0	1	2
-------	---	---	---	---	---	---	---

Input value	87	88	89	90	48	49	50
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Print	3	5	6	7	8	9
Input value	51	53	54	55	56	57

56

56-1	
Purpose	Backup
Function (Purpose)	Used to transport data between STORAGE-EEPROM. (Used to repair the PWB.)

Section

Operation/Procedure

- 1) Select a target content of data transfer.
- 2) Tap [EXECUTE] key and tap [YES] key.
Data transfer of the item selected in procedure 1) is executed.
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

EEPROM -> STORAGE	Transfer from EEPROM to STORAGE
STORAGE -> EEPROM	Transfer from STORAGE to EEPROM

56-2	
Purpose	Data backup
Function (Purpose)	Used to backup the data in the EEPROM. STORAGE (including user authentication data and address data) to the USB flash drive.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
 - 2) Select a target transfer item with the touch panel.
 - 3) Tap [EXECUTE] key, and tap [YES] key.
Data transfer selected in the procedure 2) is performed
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.
- (Machine with the DSK installed)

- 1) Insert the USB flash drive into the main unit.
- 2) Select a target transfer item with the touch panel.
- 3) Enter the password with 10-key.
- 4) Tap [SET] key.
- 5) Tap [EXECUTE] key, and tap [YES] key.
Data transfer selected in the procedure 2) is performed.
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-3	
Purpose	Data backup
Function (Purpose)	Used to backup the document filing data to the USB flash drive.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select a target transfer item with the touch panel.
- 3) Tap [EXECUTE] key, and tap [YES] key.
Data transfer selected in the procedure 2) is performed.
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-4	
Purpose	Data backup
Function (Purpose)	Used to backup the JOB log data to the USB flash drive.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Tap [JOB LOG EXPORT] key.
- 3) Tap [EXECUTE] key, and tap [YES] key.
Data transfer selected in the procedure 2) is performed.
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-5	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to import the SIM22-6 data to a USB flash drive in the TEXT format.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select a kind of data to be imported.
- 3) Tap [EXECUTE] key, and tap [YES] key.
Procedure 2) The selected data are imported.
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-6	
Purpose	Operation data check
Function (Purpose)	Used to import the SIM23-2 data to a USB flash drive in the TEXT format.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select a kind of data to be imported.
- 3) Tap [EXECUTE] key, and tap [YES] key.

56-7	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to import the syslog data to a USB flash drive.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select SYSLOG EXPORT to be imported.
- 3) Tap [EXECUTE] key, and tap [YES] key.

56-15	
Purpose	Backup
Function (Purpose)	MFP EEPROM data restore

Section

Operation/Procedure

- 1) Confirm that new EEPROM attached on the PWB.
- 2) Tap [EXECUTE] key, and tap [YES] key.
When the operation is completed normally, "COMPLETE" is displayed, in case of an abnormal end "ERROR" is displayed.

56-20

Purpose	Setting
Function (Purpose)	HDD option setting
Section	

Operation/Procedure

- 1) Enter the same number shown in the "PRESENT" to the "NEW" with 10 key.
- 2) Tap [SET] key.
- 3) Tap [EXECUTE] key and [YES] key.
When setting process was completed "Setting complete" is displayed.

56-21

Purpose	Setting
Function (Purpose)	HDD option setting cancellation
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key.

56-99

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to import the log data to a USB flash drive.
Section	

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select the log item data to be imported.
- 3) Tap [EXECUTE] key, and tap [YES] key.

Item	Contents
SIM00-11	Import SIM00-11 data.
SIM56-2	Perform simplified output of SIM56-2.
SIM56-4	Import SIM56-4 job log data.
SIM56-5	Import SIM56-5 data.
SIM56-6	Import SIM56-6 data.
SIM56-7	Import SIM56-7 system log data.

60

60-1

Purpose	Operation test/check
Function (Purpose)	Used to check the memory operations (read/write).
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key.
Start the test.

Result display	Description
OK	Success
NG	Fail
NONE	DIMM trouble
INVALID	Execution disable

61

61-1

Purpose	Operation test/check
Function (Purpose)	Used to check the LSU polygon motor rotation and laser detection.
Section	LSU

Operation/Procedure

- 1) Tap [EXECUTE] key.
When the operation is completed normally, [OK] is displayed.
In case of an abnormal end, [NG] is displayed.

Display	Content
LSU TESTRESULT NG: PG	Polygon mirror rotation abnormality
LSU TESTRESULT NG: K	Laser abnormality (K)

61-3

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the laser power
Section	

Operation/Procedure

- 1) Select a target mode for adjustment with [COPY600], [COPY1200], [PR600/FAX], [PR1200] on the touch panel.
- 2) Select an adjustment target item on the touch panel.
- 3) Enter the adjustment value using the 10-key.
- 4) Tap [OK] key. (The set value is saved.)

When the laser power are increased, the print density is increased and the line width of line images are increased.

MX-xx70 series

Mode	Item / Display	Content	Default		
			30/35/40 ppm machine	50 ppm machine	60 ppm machine
COPY 600	A LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	102	130	143
	B LASER POWER LOW(BW)	Laser power setting low speed/BW	102		
	C LASER DUTY MIDDLE(BW)	Laser duty select middle speed/BW	0		
	D LASER DUTY LOW(BW)	Laser duty select low speed/BW	0		
	E LASER POWER K1	Laser power setting K1	100		
	F LASER POWER K2	Laser power setting K2	100		
	G LASER POWER K3	Laser power setting K3	100		
	H LASER POWER K4	Laser power setting K4	100		
COPY 1200	A LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	102	130	143
	B LASER POWER LOW(BW)	Laser power setting low speed/BW	102		
	C LASER DUTY MIDDLE(BW)	Laser duty select middle speed/BW	0		
	D LASER DUTY LOW(BW)	Laser duty select low speed/BW	0		

Mode	Item / Display		Content	Default		
				30/35/40 ppm machine	50 ppm machine	60 ppm machine
PRINTER 600/FAX	A	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	102	130	143
	B	LASER POWER LOW(BW)	Laser power setting low speed/BW	102		
	C	LASER DUTY MIDDLE(BW)	Laser duty select middle speed/BW	0		
	D	LASER DUTY LOW(BW)	Laser duty select low speed/BW	0		
PRINTER 1200	A	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	102	130	143
	B	LASER POWER LOW(BW)	Laser power setting low speed/BW	102		
	C	LASER DUTY MIDDLE(BW)	Laser duty select middle speed/BW	0		
	D	LASER DUTY LOW(BW)	Laser duty select low speed/BW	0		

Mode	Item / Display		Content	Default		
				30/35/40 ppm machine	50 ppm machine	60 ppm machine
PRINTER 600/FAX	A	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	102	130	143
	B	LASER POWER LOW(BW)	Laser power setting low speed/BW	102		
	C	LASER DUTY MIDDLE(BW)	Laser duty select middle speed/BW	0		
	D	LASER DUTY LOW(BW)	Laser duty select low speed/BW	0		
PRINTER 1200	A	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	102	130	143
	B	LASER POWER LOW(BW)	Laser power setting low speed/BW	102		
	C	LASER DUTY MIDDLE(BW)	Laser duty select middle speed/BW	0		
	D	LASER DUTY LOW(BW)	Laser duty select low speed/BW	0		

MX-xx50 series

Mode	Item / Display		Content	Default		
				30/35/40 ppm machine	50 ppm machine	60 ppm machine
COPY 600	A	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	102	130	143
	B	LASER POWER LOW(BW)	Laser power setting low speed/BW	102		
	C	LASER DUTY MIDDLE(BW)	Laser duty select middle speed/BW	0		
	D	LASER DUTY LOW(BW)	Laser duty select low speed/BW	0		
	E	LASER POWER K1	Laser power setting K1	100		
	F	LASER POWER K2	Laser power setting K2	100		
	G	LASER POWER K3	Laser power setting K3	100		
	H	LASER POWER K4	Laser power setting K4	100		
COPY 1200	A	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	102	130	143
	B	LASER POWER LOW(BW)	Laser power setting low speed/BW	102		
	C	LASER DUTY MIDDLE(BW)	Laser duty select middle speed/BW	0		
	D	LASER DUTY LOW(BW)	Laser duty select low speed/BW	0		

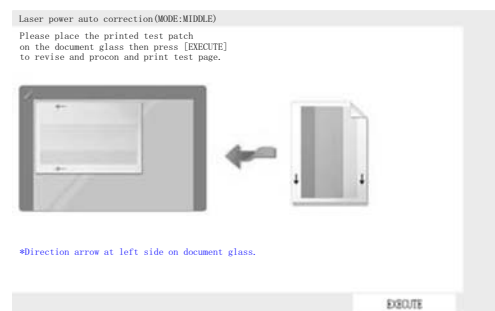
61-11

Purpose	Adjustment
Function (Purpose)	Used to correct the laser power automatically.

Section

Operation/Procedure

- 1) Select a target item on the touch panel.
- 2) Tap [AUTO CORRECTION] key.
- 3) Select a density to be corrected.
- 4) Tap [EXECUTE] key.
- 5) Check pattern is printed.
- 6) Place the printed pattern for scanning on the OC in the A4R(LTR) direction.



- 7) Tap [EXECUTE] key.
- 8) Tap [RETRY] key if correction is still required.

61-12

Purpose	Adjustment
Function (Purpose)	Laser power manual correction
Section	LSU

Operation/Procedure

Tap an item button to be adjusted.

Item / Display	Content	Outline
MEASURING INSTRUMENT	Density meter adjustment	Adjustment with density meter
VISUAL INSPECTION	Visual check adjustment	Adjustment by visual check
DATA	Data display screen	Data display during execution of the manual correction

When [MEASURING INSTRUMENT] is tapped:

- 1) Select the adjustment density pattern.
- 2) Tap [EXECUTE] key.
- 3) The adjustment pattern is printed out.
- 4) Enter the adjustment value of 5points by the density meter.
- 5) Tap [EXECUTE] key.
Execute the manual correction of the laser power. Then the adjustment result pattern is outputted and the data are displayed.
- 6) Tap [RETRY] key if adjustment is still required.

Item/Display	Contents	Setting range	Default
A POSITION(4)	Point 4	0 - 300	0
B POSITION(10)	Point 10	0 - 300	0
C POSITION(16)	Point 16	0 - 300	0
D POSITION(22)	Point 22	0 - 300	0
E POSITION(29)	Point 29	0 - 300	0

When [VISUAL INSPECTION] is tapped:

- 1) Select the adjustment density pattern.
- 2) Tap [EXECUTE] key.
- 3) The adjustment pattern is printed out.
- 4) Tap [5POINT CORRECTION] or [32POINT CORRECTION].
- 5) Enter an adjustment value of 5 points.
- 6) Tap [EXECUTE] key.
Execute the manual correction of the laser power. Then the adjustment result pattern is outputted and the data are displayed.
- 7) Tap [RETRY] key if adjustment is still required.
- 8) Tap [DATA] key, display manual adjustment result.

61-13

Purpose	Adjustment
Function (Purpose)	Used to clear the laser power correction value.
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key.
- 3) Laser power auto correction value 32 points and laser power manual correction value 32 points are return back to the default value.

61-14

Purpose	Adjustment
Function (Purpose)	Used to set the laser power at once.
Section	

Operation/Procedure

This Sim mode allows change of laser power settings easily, and all at once. However, this change will not change the initial value of SIM 61-3 (Laser power settings).

The laser power set in this Sim mode will be:

Initial value of Sim 61-3 x Initial value of Sim 61-14 (%)

- 1) Tap a target item.

Item	Setting range	Default
K/BW	-2 Fine (80%)	0
	-1 Slight fine (90%)	
	0 Normal (100%)	
	1 Slight thick (110%)	
	2 Thick (120%)	

62

62-1

Purpose	Data clear
Function (Purpose)	Used to format the hard disk. (HDD: Excluding the Operation manual and the watermark data)
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key.

Used to execute the HDD format.

When the operation is completed, [EXECUTE] key returns to the normal display.

62-2

Purpose	Operation test/check
Function (Purpose)	Used to check read/write of the hard disk (partial).
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key.

62-3

Purpose	Operation test/check
Function (Purpose)	Used to check read/write of the hard disk (all areas).
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key.

Read/write operations are performed.

62-6	
Purpose	Operation test/check
Function (Purpose)	Used to perform the self diagnostics of the hard disk.

Section

Operation/Procedure

- 1) Select the self diagnosis area.
- 2) Tap [EXECUTE] key.
The self diagnosis operation is performed.

SHORT S.T	Partial area diagnosis
EXTENDED S.T	All area diagnosis

When the operation is completed, [EXECUTE] key returns to the normal display.

Normal completion → "OK (RESULT:0)" is displayed.

Abnormal end → "NG (RESULT: Other than 0)" is displayed.

* If the simulation cannot be executed or terminated abnormally for some reason, "ERROR" is displayed on the corresponding section.

62-7	
Purpose	Operation test/check
Function (Purpose)	Used to print the hard disk self diagnosis error log.

Section

Operation/Procedure

- 1) Tap [EXECUTE] key.
When the operation is completed, [EXECUTE] key returns to the normal display.

62-8	
Purpose	Data clear
Function (Purpose)	Used to format the hard disk. (HDD: Excluding the Operation Manual, the watermark data, and the system area)

Section

Operation/Procedure

- 1) Tap [EXECUTE] key.
 - 2) Tap [YES] key.
Used to execute the hard disk format.
- When the operation is completed, [EXECUTE] key returns to the normal display.
- * When the HDD formatting (except for the system area) is not completed normally, "HDD FORMAT (EXCEPT SYSTEM AREA) NG" is displayed.

62-10	
Purpose	Data clear
Function (Purpose)	Used to clear the job completion list data.

Section

Operation/Procedure

- 1) Tap [EXECUTE] key.
 - 2) Tap [YES] key.
Used to delete the job log data.
- When the operation is completed, [EXECUTE] key returns to the normal display.

62-11	
Purpose	Data clear
Function (Purpose)	Used to delete the document filing data.

Section

Operation/Procedure

- 1) Tap [EXECUTE] key.
 - 2) Tap [YES] key.
Used to delete the document filing data.
- When the operation is completed, [EXECUTE] key returns to the normal display.

62-12	
Purpose	Setting
Function (Purpose)	Used to set Enable/Disable of auto format in a hard disk trouble.

Section

Operation/Procedure

- 1) Enter the set value with 10-key.
 - 2) Tap [OK] key.
The set value is saved.
- When it is set to Enable, if a read error of HDD occurs in the system data storage area (FAX/device cloning data, etc.), only the system data storage area is cleared.

A	0	Enable
	1	Disable (Default)

62-13	
Purpose	Data clear
Function (Purpose)	Used to format the hard disk. (Operation Manual, watermark data only)

Section

Operation/Procedure

- 1) Tap [EXECUTE] key.
 - 2) Tap [YES] key.
The operation manual data are deleted.
- When the operation is completed, [EXECUTE] key returns to the normal display.

62-14	
Purpose	Data clear
Function (Purpose)	Used to initialize the database file.

Section

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key.
The database files are initialized.
At the same time, the job log data are also cleared.

63-1

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the shading correction result.
Section	Scanner

Operation/Procedure

- 1) Select a target color to display with [R] [G] [B] on the touch panel.

[RSPF]

Display item	Description	Remarks
ANALOG GAIN ODD	Analog gain adjustment value (odd number)	
ANALOG GAIN EVEN	Analog gain adjustment value (even number)	
DIGITAL GAIN ODD	Digital gain adjustment value (odd number)	
DIGITAL GAIN EVEN	Digital gain adjustment value (even number)	
SMP AVE ODD	Reference plate sampling average value (ODD)	
SMP AVE EVEN	Reference plate sampling average value (EVEN)	
TARGET	Target value	
BLACK LEVEL	Black output level	
ERROR CODE	Error code (0, 1 - 14)	0: No error 1: STAGE1, Loop number over 2: STAGE2, The target value is under the specified value 3: STAGE3, The gain set value is negative. 4: END is not asserted. (Gain adjustment) 5: STAGE2, Retry maximum 6: STAGE2, Underflow 7: Black shading error 8: Other error 9: END is not asserted. (White shading) 10: END is not asserted. (Black shading) 11: END is not asserted. (Light quantity correction) 12: END is not asserted. 13: Register check error (White booting/Before gain) 14: Register check error (Before light quantity correction)
RSPF BACK WHITE LEVEL 1ST	First scan RSPF back surface white reference level	
RSPF BACK WHITE LEVEL 2ND	Second scan RSPF back surface white reference level	

[DSPF]

Display item	Description	Remarks
OC		
ANALOG GAIN ODD	Analog gain adjustment value (odd number)	
ANALOG GAIN EVEN	Analog gain adjustment value (even number)	
DIGITAL GAIN ODD	Digital gain adjustment value (odd number)	
DIGITAL GAIN EVEN	Digital gain adjustment value (even number)	
SMP AVE ODD	Reference plate sampling average value (ODD)	
SMP AVE EVEN	Reference plate sampling average value (EVEN)	
TARGET	Target value	
BLACK LEVEL	Black output level	
ERROR CODE	Error code (0, 1 - 14)	0: No error 1: STAGE1, Loop number over 2: STAGE2, The target value is under the specified value 3: STAGE3, The gain set value is negative. 4: END is not asserted. (Gain adjustment) 5: STAGE2, Retry maximum 6: STAGE2, Underflow 7: Black shading error 8: Other error 9: END is not asserted. (White shading) 10: END is not asserted. (Black shading) 11: END is not asserted. (Light quantity correction) 12: END is not asserted. 13: Register check error (White booting/Before gain) 14: Register check error (Before light quantity correction)
DSPF BACK WHITE LEVEL 1ST	First scan DSPF back surface white reference level	
DSPF BACK WHITE LEVEL 2ND	Second scan DSPF back surface white reference level	

Display item	Description	Remarks
DSPF	ANALOG GAIN ODD	Analog gain adjustment value (odd number)
	ANALOG GAIN EVEN	Analog gain adjustment value (even number)
	DIGITAL GAIN ODD	Digital gain adjustment value (odd number)
	DIGITAL GAIN EVEN	Digital gain adjustment value (even number)
	ERROR CODE	Error code (0, 1 - 14)
		0: No error
		1: STAGE1, Loop number over
		2: STAGE2, The target value is under the specified value
		3: STAGE3, The gain set value is negative.
		4: END is not asserted. (Gain adjustment)
		5: STAGE2, Retry maximum
		6: STAGE2, Underflow
		7: Black shading error
		8: Other error
		9: END is not asserted. (White shading)
		10: END is not asserted. (Black shading)
		11: END is not asserted. (Light quantity correction)
		12: END is not asserted.
		13: Register check error (White booting/Before gain)
		14: Register check error (Before light quantity correction)
DSPF BACK WHITE LEVEL 1ST	First scan DSPF back surface white reference level	
DSPF BACK WHITE LEVEL 2ND	Second scan DSPF back surface white reference level	

63-2	
Purpose	Adjustment
Function (Purpose)	Used to perform shading.
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key.

Used to perform shading.

When the operation is completed, [EXECUTE] key returns to the normal display.

When the DSPF is connected, the following items are displayed.

Display	Contents
OC SHADING	OC analog correction level correction or shading correction data creation (OC mode)
DSPF SHADING	DSPF analog correction level correction or shading correction data creation (SPF mode)

63-3	
Purpose	Adjustment
Function (Purpose)	Used to perform scanner (CCD) color balance and gamma auto adjustment.
Section	Scanner

Operation/Procedure

For OC mode

- 1) Place the scanner adjustment chart (UKOG-0356FCZZ) on the reference position of the left rear frame side of the document table.
- 2) Select the color which needs to be adjusted. Then, tap [EXECUTE] key.
The scanner (CCD) color balance automatic adjustment is performed.

When the operation is completed, [EXECUTE] key returns to the normal display.

For DSPF mode

- 1) Place the scanner adjustment chart (UKOG-0356FCZZ) on the DSPF paper tray
- 2) Select the color which needs to be adjusted. Then, tap [EXECUTE] key.
The scanner (CCD) color balance automatic adjustment is performed.

63-4	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the SIT chart patch density.
Section	

Operation/Procedure

- 1) Set the scanner adjustment chart (UKOG-0356FCZZ) to the reference position on the left rear frame side of the document table.
- 2) Select the color which needs to be adjusted. Then, tap [EXECUTE] key.
The patch of the SIT chart is scanned.
When the operation is completed, [EXECUTE] key returns to the normal display.
- 3) Select a data display mode.

GAMMATHROUGH	SIT chart scan data
COPY GAMMA	Copy mode gamma process data of the SIT chart scan data
SCANNER GAMMA	Image send mode gamma process data of the SIT chart scan data
SIT CHECK	SIT chart scan data/Check result

Select an target display color with [R] [G] [B] keys.

63-5	
Purpose	Adjustment/Setup
Function (Purpose)	Used to perform the scanner (CCD) color balance and gamma default setting.
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key, and tap [YES] key
- 2) The scanner (CCD) color balance and gamma are set to the default.

[RSPF]

Item/Display		Contents
1	SIDE A(OC)	Copy gamma correction 1 and color correction coefficient
2		TWAIN gamma correction 1 and color correction coefficient
3		Auto adjustment gamma correction 1 and color correction coefficient

[DSPF]

Item/Display		Contents
1	SIDE A(OC)	Copy gamma correction 1 and color correction coefficient
2		TWAIN gamma correction 1 and color correction coefficient
3		Auto adjustment gamma correction 1 and color correction coefficient
1	SIDE B(DSPF)	Copy gamma correction 1 and color correction coefficient
2		TWAIN gamma correction 1 and color correction coefficient

63-11

Purpose Adjustment/Setup

Function (Purpose) Used to set the target gray balance of the copy mode auto gray balance adjustment.

Section

Operation/Procedure

- 1) Select the target gray balance with the touch panel.

Item/Display		Default value
TARGET TBL	DEF1	DEF 1
	DEF2	
	DEF3	

Purpose	Operation test/check
Function (Purpose)	Test print. (Self print) (Monochrome mode)
Section	

Operation/Procedure

- 1) Set the print conditions.
Select an item to be print condition with scroll keys.
Set the print conditions with 10-key.
- 2) Tap [EXECUTE] key.
The test print (self print) is performed.

Item/Display			Content		Setting range		Default value
A	PRINT PATTERN (1, 2, 9 - 11, 17 - 19, 21, 22, 29)		Print pattern specification (* For details, refer to the description below.)		1 - 58 (Printable only 1, 2, 9 - 11, 17 - 19, 21, 22, 29)		1
B	DOT1 (DOT1>=2 IF A: 2,11)		Setting of print dot number (M parameter) (Self print pattern: m by n)		1-255 (Pattern 2, 11: 2-255 except above: 1-255)		1
C	DOT2 (DOT2>=2 IF A: 2,11)		Setting of blank dot number (N parameter) (Self print pattern: m by n)		0-255 (Pattern2, 11: 2-255 except above: 0-255)		254
D	DENSITY (FIXED "255" IF A: 9)		Used to specify the print gradation.		1-255 (Pattern 9: 255 Fixed except above:1-255)		255
E	MULTI COUNT		Number of print		1 - 999		1
F	EXPOSURE (2 - 8 IF A: 17 - 19)	NONE	Exposure mode specification	No process (through)	1-8 (Pattern 17-19: 2-8 except above: 1-8)	1	8
		TEXT/PRINTED PHOTO		Text/Printed Photo		2	
		TEXT/PHOTO		Text/ Photograph		3	
		TEXT		Text		4	
		PHOTO		Photograph		5	
		PRINTED PHOTO		Printed Photo		6	
		MAP		Map		7	
		STANDARD DITHER		Dither without correction		8	
G	PAPER	MFT	Tray selection	Manual paper feed	1 - 6	1	2
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
		LCC		LCC		6	
H	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1
		NO		No		1	
I	PAPER TYPE	PLAIN1	Paper type	Standard paper 1	1 - 9	1	1
		PLAIN2		Standard paper 2		2	
		HEAVY		Heavy paper		3	
		OHP		OHP		4	
		ENVELOPE		Envelope		5	
		HEAVY2		Heavy paper 2		6	
		GLOSSY		Glossy paper		7	
		HEAVY3		Heavy paper 3		8	
		HEAVY4		Heavy paper 4		9	

Print pattern of Item A

Pattern No.	Content	Pattern generating section	NOTE
1	Grid pattern	LSU-ASIC	* When the print width is 100 or more and all colors are selected, print is made in the three colors (CMY). * Print is started at 4mm from the paper lead edge. * Writing regardless of pound. The first one is fixed to LD1.
2	Dot print		—
9	Each color 10% area (A4/ A4R) density print		* Each interval is 41.86mm (989dot). * If m is not in the range of 1 - 13%, it is rounded. * K print is started at 17mm from the paper lead edge.
10	8-color belt print		—
11	4-color dot print (sub scan)		* For every 1/4 of the sub scanning direction paper size, print is made for each color. * When N=0, print of all the background is made in 4 colors.
17	All background (halftone)	Halftone (IMG-ASIC rear process)	—
18	256 gradations pattern (Other dither)		—
19	256 gradations pattern (For text dither)		—

Pattern No.	Content	Pattern generating section	NOTE
21	4-point dot print (main scan)	LSU-ASIC	* For every 1/4 of the main scanning direction paper size, print is made for each color. * When N=0, print of all the background is made in 4 colors.
22	Slant line	LSU-ASIC	
29	Dot print 1200dpi	LSU-ASIC	* M=1(Fixed), N=1or3

64-4

Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print)
Section	

Operation/Procedure

- 1) Set the print conditions.
Select an item to be print condition with scroll keys.
Set the print conditions with 10-key.
- 2) Tap [EXECUTE] key.
- 3) The test print (self print) is performed.

Item/Display			Content		Setting range	Default value
A	PRINT PATTERN		Specification of the print pattern (* For details, refer to the description below.)		1 - 3	3
B	DENSITY		Used to specify the print gradation.		1 - 255	128
C	MULTI COUNT		Number of print		1 - 999	1
D	PAPER	MFT	Paper feed tray selection	Manual paper feed	1	2
		CS1		Tray 1	2	
		CS2		Tray 2	3	
		CS3		Tray 3	4	
		CS4		Tray 4	5	
		LCC		LCC	6	
E	HALFTONE	LOW	Halftone	Low line number	0	0
		HIGH		High line number	1	
F	QUALITY	STANDARD	Image quality setting	600dpi	0	1
		HIGHQUALITY		600dpi (High Quality)	1	
		FINE		1200dpi	2	
G	DITHER	STRAIGHT	Specification of dither correction	Straight	0	1
		CALIB		Calibration	1	
H	PAPER TYPE	PLAIN1	Paper type	Plain paper 1	0	0
		PLAIN2		Plain paper 2	1	
		HEAVY		Heavy paper	2	
		HEAVY2		Heavy paper 2	3	
		GLOSSY		Glossy paper	4	
		HEAVY3		Heavy paper 3	5	
		HEAVY4		Heavy paper 4	6	

Print pattern of Item A

Pattern No.	Content
1	256 gradations pattern (B/W)
2	Halftone pattern (B/W)
3	Background dot print

Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PCL)
Section	

Operation/Procedure

- 1) Set the print conditions.
Select an item to be print condition with scroll keys.
Set the print conditions with 10-key.
- 2) Tap [EXECUTE] key.
The test print (self print) is performed.

Item/Display			Content		Setting range	Default value
A	PRINT PATTERN		Print pattern specification		1 - 2	1
B	DENSITY		Print gradation specification		1 - 255	255
C	MULTI COUNT		Number of print		1 - 999	1
D	PAPER	MFT	Paper feed tray selection	Manual paper feed	1	2
		CS1		Tray 1	2	
		CS2		Tray 2	3	
		CS3		Tray 3	4	
		CS4		Tray 4	5	
		LCC		LCC	6	
E	HALFTONE	LOW(IMAGE)	Halftone	For Photo	0	2
		HIGH(TEXT)		For text	1	
		AUTO		Auto (for photo/text)	2	
F	QUALITY	STANDARD	Image quality setting	600dpi	0	1
		HIGHQUALITY		600dpi (High Quality)	1	
		FINE		1200dpi	2	
G	DITHER	STRAIGHT	Specification of dither correction	Straight	0	1
		CALIB		Calibration	1	
H	PAPER TYPE	PLAIN1	Paper type	Standard paper 1	0	0
		PLAIN2		Standard paper 2	1	
		HEAVY		Heavy paper	2	
		HEAVY2		Heavy paper 2	3	
		GLOSSY		Glossy paper	4	
		HEAVY3		Heavy paper 3	5	
		HEAVY4		Heavy paper 4	6	
I	TONER SAVE MODE		Do not set toner save mode		0	0
			Set toner save mode		1	

64-6	
Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PS)
Section	

Operation/Procedure

- 1) Set the print conditions.
Select an item to be print condition with scroll keys.
Set the print conditions with 10-key.
- 2) Tap [EXECUTE] key.
The test print (self print) is performed.

Item/Display			Content		Setting range	Default value
A	PRINT PATTERN		Print pattern specification		1 - 2	1
B	DENSITY		Print gradation specification		1 - 255	255
C	MULTI COUNT		Number of print		1 - 999	1
D	PAPER	MFT	Paper feed tray selection	Manual paper feed	1	2
		CS1		Tray 1	2	
		CS2		Tray 2	3	
		CS3		Tray 3	4	
		CS4		Tray 4	5	
		LCC		LCC	6	
E	HALFTONE	LOW(IMAGE)	Halftone	For Photo	0	2
		HIGH(TEXT)		For text	1	
		AUTO		Auto (for photo/text)	2	
F	QUALITY	STANDARD	Image quality setting	600dpi	0	1
		HIGHQUALITY		600dpi (High Quality)	1	
		FINE		1200dpi	2	
G	DITHER	STRAIGHT	Specification of dither correction	Straight	0	1
		CALIB		Calibration	1	
H	PAPER TYPE	PLAIN1	Paper type	Standard paper 1	0	0
		PLAIN2		Standard paper 2	1	
		HEAVY		Heavy paper	2	
		HEAVY2		Heavy paper 2	3	
		GLOSSY		Glossy paper	4	
		HEAVY3		Heavy paper 3	5	
		HEAVY4		Heavy paper 4	6	
I	TONER SAVE MODE		Do not set toner save mode		0	0
			Set toner save mode		1	

65

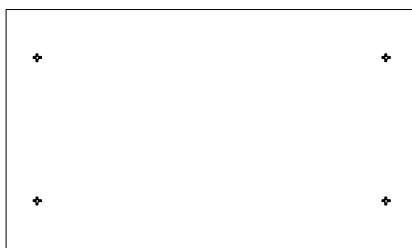
65-1	
Purpose	Adjustment
Function (Purpose)	Used to adjust the touch panel (LCD display section) detection coordinates.
Section	Operation panel section

Operation/Procedure

Touch the center of the cross mark at the four corners of the screen.

When the adjustment is completed normally, the screen shifts to the simulation sub number entry menu.

In case of an error, the screen returns to the adjustment menu.

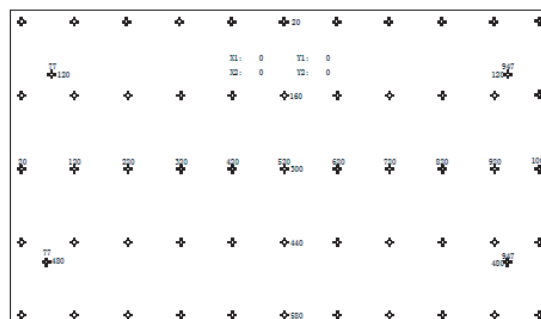


65-2	
Purpose	Operation check/test
Function (Purpose)	Used to display the touch panel (LCD display section) detection coordinates.
Section	

Operation/Procedure

Touch the touch panel.

The coordinates X (horizontal direction) and Y (vertical direction) of the touched position is displayed in real time.



65-5	
Purpose	Operation check/test
Function (Purpose)	Used to check the operation panel key input.

Section

Operation/Procedure

Tap [HOME] key.

If the key entry is effective, the guidance for tapping the next key is displayed. When all the key entries are completed, "COMPLETE" is displayed.

<Check target key>

10 Inch LCD model
HOME

66

66-1	
Purpose	Setting
Function (Purpose)	Used to display the FAX-related soft SW (2 - 150) on the LCD to allow changing the soft SW while checking with the LCD.

Section

Operation/Procedure

- Enter the [SW NO] with 10-key.
 - When [C] key is tapped, the entered value of [SW NO] is cleared.
- Tap [DATA] button.

The soft SW data entered in procedure 1) is displayed.

 - When [SW NO] button is tapped, the display returns to the initial screen.
- Enter the number corresponding to the bit to be changed with 10-key.
 - [1] -> [0]
 - [0] -> [1]
- When [EXECUTE] button is tapped, it is highlighted and the setting is saved.

After saving the setting, [EXECUTE] button returns to the normal display.

66-2	
Purpose	Setting
Function (Purpose)	Used to enter a country code and set the default value for the country code.

Section

Operation/Procedure

- When the machine enters Simulation 66-02, the following screen is displayed.
 - When [DEST CODE] button is tapped, the display is shifted to the country code list screen.
 - The currently set country code is displayed in the column of "PRESENT:".
- Enter the country code (8 digits) with 10-key([0]/[1]). The entered country code is displayed in the column of "NEW:" and [SET] key becomes active.
 - When [CLEAR] key is tapped, the column of "NEW:" is cleared.

- When [SET] button is tapped after entering the country code, [EXECUTE] button becomes active. The country code is displayed in the column of "PRESENT:", and the column of "NEW:" is cleared.
- When [EXECUTE] button is tapped, it is highlighted and [YES] and [NO] buttons become active. The country name is displayed on the tile line.
- When [YES] button is tapped, it is highlighted and the soft SW corresponding to the country code is initialized.
- After completion of initialization of the soft SW, [EXECUTE], [YES], and [NO] buttons become inactive.

Operation/Procedure (Shifting to the country page)

- When [DEST CODE] button is tapped on the initial screen, the display is shifted to the country code list screen.

Use scroll keys to select the country select page.

<Country code list>

JAPAN	00000000
U.S.A.	10110101
AUSTRALIA	00001001
U.K.	10110100
FRANCE	00111101
GERMANY	00000100
SWEDEN	10100101
NEWZEALAND	01111110
CHINA	00100110
SINGAPORE	10011100
TW	11111110
MIDDLEANDNEAREAST	11111101
SLOVAKIA	11111100
OTHER3	11110111
FINLAND	00111100
NORWAY	10000010
DENMARK	00110001
NETHERLANDS	01111011
ITALY	01011001
SWITZERLAND	10100110
AUSTRIA	00001010
INDONESIA	01010100
THAILAND	10101001
MALAYSIA	01101100
INDIA	01010011
PHILIPPINES	10001001
HONGKONG	01010000
RUSSIA	10111000
SOUTHAFRICA	10011111
SPAIN	10100000
PORTUGUESE	10001011
LUXEMBURG	01101001
BELGIUM	00001111
CZECH	00101110
HUNGARY	01010001
GREECE	01000110
POLAND	10001010
BRAZIL	00010110
KOREA	01100001
VIETNAM	10111100

66-3

Purpose	Operation test/Check
Function (Purpose)	Used to check read/write of the EEPROM and the SDRAM on the MODEM controller and display the result.
Section	FAX

Operation/Procedure

- When the machine enters Simulation 66-03, the following screen is displayed.
* Select the page of memory check item with the scroll key.
- When the memory check item button is selected, the display is shifted to the memory check screen.
- When [EXECUTE] button is tapped, it is highlighted and the memory check of the selected item is started.
- After completion of memory check, [EXECUTE] button returns to the normal display and the result of memory check is displayed.

Memory check status

NO CHECK	No check	
CHECKING	During checking	
OK	Check complete OK	
NG A##	Check complete NG	Error occurring address or data line is displayed for each item.

Check item

Check memory item		Remark
1	All Memory Device Check (once)	All the items are checked once.
2	MODEM EEPROM <1> (once)	Check only once in LINE1
3	MODEM EEPROM <1> (repeat)	Repeat check in LINE1
4	MODEM SDRAM <1> (once)	Check only once in LINE1
5	MODEM SDRAM<1>(repeat)	Repeat check in LINE1

66-4

Purpose	Operation test/Check
Function (Purpose)	Used to send the selected signals to the line and the main unit speaker. (Send level: max.)
Section	FAX

Operation/Procedure

- When the machine enters Simulation 66-04, the screen on the right is displayed. (Default, left upper selected.)
* Use scroll keys to switch the send mode select page.
- When a button of a signal to be sent is selected, it is highlighted and the previously set button is shifted to the normal display.
- When [EXECUTE] button is tapped, it is highlighted and signals are sent.
- To end signal send:
When [EXECUTE] button is tapped, it is highlighted and signal send is interrupted.

<Signal send table>

NOSIGNAL	33.6 V34	31.2 V34	28.8 V34
26.4 V34	24.0 V34	21.6 V34	19.2 V34
16.8 V34	14.4 V34	12.0 V34	9.6 V34
7.2 V34	4.8 V34	2.4 V34	14.4 V33
12.0 V33	14.4 V17	12.0 V17	9.6 V17
7.2 V17	9.6 V29	7.2 V29	4.8 V27t
2.4 V27t	0.3 FLG	CED 2100	CNG 1100
0.3 V21	ANSam	RINGER	No RBT

DP MAKE	DP BRK	NO MSG	Volt/mA
---------	--------	--------	---------

66-5

Purpose	Operation test/Check
Function (Purpose)	Used to send the selected signal to the line and the main unit speaker. (Send level: Soft SW setting) (For the kinds of send signals, refer to SIM66-04.)
Section	FAX

Operation/Procedure

- When the machine enters Simulation 66-05, the item selection screen is displayed.
* Use scroll keys to switch the send mode select page.
- When a button of a signal to be sent is selected, it is highlighted and the previously set button is shifted to the normal display.
- When [EXECUTE] button is tapped, it is highlighted and signals are sent.
- To end signal send:
* When [EXECUTE] button is tapped, it is highlighted and signal send is interrupted.

66-6

Purpose	Data output/Check
Function (Purpose)	Used to print the confidential registration check table (BOX NO., BOX name, pass-code. (If there is no confidential registration, no print is made.))
Section	FAX

Operation/Procedure

- When [EXECUTE] button is tapped, it is highlighted and the confidential checkable is printed.
* If there is no confidential registration, no print is made even though [EXECUTE] key is tapped.
- After completion of printing, [EXECUTE] button returns to the normal display.

66-7

Purpose	Data output/Check
Function (Purpose)	Used to output all image data saved in the image memory. (Confidential data are also outputted.)
Section	FAX

Operation/Procedure

- When [EXECUTE] button is tapped, it is highlighted and all image data saved in the image memory are outputted.
- After completion of printing, [EXECUTE] button returns to the normal display.

66-8

Purpose	Operation test/Check
Function (Purpose)	Used to send the selected sound messages to the line and the speaker. (Send level: Max.)
Section	FAX

Operation/Procedure

- When the machine enters Simulation 66-08, the item selection screen is displayed.
- When the sound message button to be sent is selected, it is highlighted and the previously set button returns to the normal display.

<Sound message table>

NONE (Mute)	PAUSE (Pause melody)	MESSAGE1 (Message 1)	MESSAGE2 (Message 2)
MESSAGE3 (Message 3)	MESSAGE4 (Message 4)	MESSAGE5 (Message 5)	MESSAGE6 (Message 6)
ALARM (Alarm)	RINGER (Ringing sound (Speaker))	EXT.TEL.RING ER (External telephone call)	

66-9	
Purpose	Operation test/Check
Function (Purpose)	Used to send the selected sound message to the line and the speaker. (Send level: Soft SW setting) * For details of sound messages, refer to the sound message table of SIM66-08.

Section	FAX
Operation/Procedure	
1)	When the machine enters Simulation 66-09, the item selection screen is displayed.
2)	When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.
3)	When [EXECUTE] button is tapped, it is highlighted and a sound message is sent.
4)	To end signal send: When [EXECUTE] button is tapped, it is highlighted and signal send is interrupted.

66-10	
Purpose	Data clear
Function (Purpose)	Used to clear the FAX and image send image data. (The confidential data and redial data are also cleared)
Section	FAX
Operation/Procedure	
1)	Tap [EXECUTE] button.
2)	Tap [YES] button.

66-11	
Purpose	Operation test/Check
Function (Purpose)	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Max.)
Section	FAX
Operation/Procedure	
1)	When the machine enters Simulation 66-11, the item selection screen is displayed.
2)	When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.
3)	When [EXECUTE] button is tapped, it is highlighted and a sound message is sent.
4)	To end signal send: When [EXECUTE] button is tapped, it is highlighted and signal send is interrupted.

<300bps send signal table>

NO SIGNAL	11111	11110	00000
010101	00001		

66-12	
Purpose	Operation test/Check
Function (Purpose)	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Soft SW setting) * For the kings of send signals at 300bps, refer to SIM66-11, 300bps send signal table.

Section	FAX
Operation/Procedure	
1)	When the machine enters Simulation 66-12, the item selection screen is displayed.
2)	When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.
3)	When [EXECUTE] button is tapped, it is highlighted and a sound message is sent.
4)	To end signal send: When [EXECUTE] button is tapped, it is highlighted and signal send is interrupted.

66-13	
Purpose	Setting
Function (Purpose)	Used to register dial numbers for SIM66-14/15/16, Dial test. (Up to 20 digits can be registered.)

Section	FAX
Operation/Procedure	
1)	When the machine enters Simulation 66-13, the number input screen is displayed. * The number saved in the memory is displayed in the column of [PRESENT:]. (If there is no data, [-----] is displayed.)
2)	Enter a number with 10-key. The entered number is displayed in the column of [NEW:]. After entering 20 digits, 10-key is disabled (no response). Only [C] key is enabled. (10-key [0] to [9], [*], [#], [C] key (back by one digit))
3)	When [SET] key is tapped after completion of entry, the entered number is displayed (registered) in the column of [PRESENT:]. The column of [NEW:] becomes blank.

66-14	
Purpose	Adjustment
Function (Purpose)	Used to execute the dial pulse (10PPS) send test and to adjust the make time.

Section	FAX
Operation/Procedure	
1)	When the machine enters Simulation 66-14, the adjustment item screen is displayed.
2)	When [EXECUTE] button is tapped, it is highlighted and the dial pulse is sent from the line in the set make time.
3)	To end the dial test, tap [EXECUTE] button again. The button returns to the normal display and the test is terminated.

66-15	
Purpose	Adjustment
Function (Purpose)	Used to execute the dial pulse (20PPS) send test and to adjust the make time.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-15, the adjustment item screen is displayed.
- 2) When [EXECUTE] button is tapped, it is highlighted and the dial pulse is sent from the line in the set make time.
 - * The dial pulse in this example is up to 20 digits registered with SIM66-13.
- 3) To end the dial test, tap [EXECUTE] button again. The button returns to the normal display and the test is terminated.

66-16	
Purpose	Adjustment
Function (Purpose)	Used to execute the DTFM signal send test and to adjust the send level.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-16, the item selection screen is displayed.
- 2) When [EXECUTE] button is tapped, it is highlighted and the dial pulse signal is sent from the line by the setting of high/low group of the signal send level.
- 3) To terminate the dial test, tap [EXECUTE] button. The button returns to the normal display and the test is terminated.

66-17	
Purpose	Operation test/Check
Function (Purpose)	Used to send the DTMF signal to the line and the speaker. (Send level: Max.)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-17, the number selection screen is displayed.
- 2) When a button of a send signal is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is tapped, it is highlighted and signals are sent.
- 4) To stop signal sending:
When [EXECUTE] button is tapped, it returns to the normal display and signal sending is interrupted.

66-18	
Purpose	Operation test/Check
Function (Purpose)	Used to send the DTMF signal to the line and the speaker. (Send level: Soft SW setting)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-18, the number selection screen is displayed.
- 2) When a button of a send signal is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is tapped, it is highlighted and signals are sent.
- 4) To stop signal sending:

When [EXECUTE] button is tapped, it returns to the normal display and signal sending is interrupted.

66-21	
Purpose	Check
Function (Purpose)	Used to print the selected items (system error, protocol monitor).
Section	FAX

Operation/Procedure

- 1) When an item button to be printed is selected, it is highlighted and the previously set button returns to the normal display.
- 2) Tap [EXECUTE] button.
[EXECUTE] button is highlighted and printing is started.
- 3) After completion of printing, [EXECUTE] button returns to the normal display.

<FAX information print content table>

PROTOCOL LINE 1	SYSTEM ERROR LINE 1
-----------------	---------------------

66-22	
Purpose	Setting
Function (Purpose)	Used to set the handset sound volume. (This simulation can be executed even though the handset setting is set to NO. When, however, the handset is not installed, the sound volume cannot be checked.) (Japan model only)
Section	FAX

Operation/Procedure

- 1) When the machine enters the simulation, the number of the set sound volume is displayed. (In this example, MIDDLE is set as the default sound volume.)
- 2) Use 10-key to set the handset sound volume. (0: MIN 1:MIDDLE 2:MAX)
- 3) Tap [EXECUTE] button to deliver the selected on-hold tone.
 - * If, however, the handset is not installed, the sound volume cannot be checked. Execution is possible.
- 4) When [EXECUTE] button is tapped, it is highlighted and delivery of the on-hold tone is stopped.

66-29	
Purpose	Clear
Function (Purpose)	Used to initialize the telephone book data (the one-touch registration table, the FTP/Desktop expansion table, the group expansion table, the program registration table, the interface memory box table, the meta data, InboundRouting, and the DocumentAdmin table).
Section	FAX

Operation/Procedure

- 1) Tap [EXECUTE] button.
- 2) Tap [YES] button.
The telephone book data area cleared.
- 3) After completion of memory clear, [EXECUTE] button returns to the normal display and [YES] and [NO] buttons gray out.

66-30	
Purpose	Operation test/Check
Function (Purpose)	Used to display the TEL/LIU status change, The display is highlighted by status change.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-30, the item selection screen is displayed.
- 2) RGDT, RHS, EXHS and SiDAA are highlighted when the signal is detected, and displayed normally when the signal is not detected.

<TEL/LIU status change item description>

RGDT	Telephone line voltage
RHS	Handset hook SW
EXHS	External telephone hook SW
SiDAA	Polarity inversion signal

66-31	
Purpose	Setting
Function (Purpose)	Used to set ON/OFF the port for output to TEL/LIU.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-31, the item selection screen is displayed.
- 2) Change the port setting.
When a port is set to ON, the port display is highlighted.
- 3) When [EXECUTE] button is tapped, the changed setting is reflected to the port which outputs to TEL/LIU.
- 4) To terminate the process, tap [EXECUTE] button again. [EXECUTE] button returns to the normal display.

<Port which outputs to TEL/LIU>

CION	S.	150Von
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66-32	
Purpose	Operation test/Check
Function (Purpose)	Used to check the fixed data received from the line and to display the result.
Section	FAX

Operation/Procedure

- 1) Tap [EXECUTE] button to check the fixed data received from the line. At that time, [EXECUTE] button is highlighted.
 - * Fixed data check procedure
 - * The data received from the line is checked of the following fixed data status for minutes, then if they are in accord with "OK" is displayed on LCD, if not "NG" is displayed.
 - * The judgment is made in 2 minutes.
Receive speed: 300BPS
Receive data: 00H
Judgment data: 100byte
- 2) After completion of check, [EXECUTE] button returns to the normal display. The result is displayed as "OK" or "NG."

66-33	
Purpose	Operation test/Check
Function (Purpose)	Used to execute detection of various signals with the line connected and to display the detection result. When a signal is detected, the display is highlighted.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-33, the item selection screen is displayed.
- 2) The signal to be checked can be selected from the two options: "FNET" and "BT/CNG/CED/DTMF."
- 3) When a signal is detected, "FNET" and "BUSY TONE CNG CED DTMF" are highlighted. When a signal is not detected, they are normally displayed.

<Signal used for signal detection check>

(When "FNET" is selected)

FNET

(When "BT/CNG/CED/DTMF" is selected)

BUSY TONE	CNG	CED	DTMF
-----------	-----	-----	------

66-36	
Purpose	Operation test/Check
Function (Purpose)	Used to check send and receive data from the MODEM controller to the MFP controller or the data line or the command line individually.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-36, the item selection screen is displayed.
- 2) Operation check
Select an item to be checked on the screen.

<MFP controller I/F check item table>

MFP <- MDMC (DATA once) Data line Once	MFP -> MDMC (DATA once) Data line Once
MFP <- MDMC (DATA repeat) Data line Repeat	MFP -> MDMC (DATA repeat) Data line Repeat
MFP <- MDMC (CMD once) Command line Once	MFP -> MDMC (CMD once) Command line Once
MFP <- MDMC (CMD repeat) Command line Repeat	MFP -> MDMC (CMD repeat) Command line Repeat

66-39	
Purpose	Setting
Function (Purpose)	Used to check and change the destination setting saved in EEPROM of the FAX BOX.
Section	FAX

Operation/Procedure

- 1) When the machine enters the simulation, the currently set destination button is highlighted. (In the default state, JAPAN is set as the destination.)
- 2) Select a destination button to set the destination. The selected button is highlighted and the previously selected button returns to the normal display.
 - * When the destination button is changed, the new destination setting is saved to EEPROM of the FAX BOX.

<Destination setting table>

JAPAN	U.S.A/CANADA	EUROPE	AUSTRALIA
CHINA	ASIA&OTHERS		

66-42

Purpose	Setting
Function (Purpose)	Used to rewrite the program to power control installed in the FAX BOX.
Section	FAX

Operation/Procedure

- 1) Tap [EXECUTE] button.[EXECUTE] button is highlighted and YES] and [NO] buttons become active.
- 2) Tap [YES] button.
The power control program is rewritten.
- 3) When rewriting of the power control program is normally completed, "OK" is displayed and [EXECUTE] button returns to the normal display, and [YES] and [NO] buttons gray out.

66-43

Purpose	Setting
Function (Purpose)	Used to write the adjustment value into the power control installed in the FAX BOX.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-43, the item selection screen is displayed.
* Use scroll keys to select the select item of the power control adjustment value.
- 2) When [EXECUTE] key is tapped, it is highlighted and writing to the power control is executed. When writing is normally completed, "OK" is displayed. When it is failed, "NG" is displayed.
- 3) After completion of writing, [EXECUTE] key returns to the normal display.

<Set range and default value of each set value>

	Item	Set range	Default value
A	CI_LEVEL_JUDGE	2 to 15	6
B	CI_CYCLE_MIN	1 to 254	10
C	CI_CYCLE_MAX	2 to 255	142
D	CI_COUNT	2 to 15	3
E	RES_3.3V_LEVEL_JUDGE	2 to 15	15
F	EXHS_LEVEL_JUDGE	2 to 225	240
G	RHS_LEVEL_JUDGE	2 to 15	2
H	SON_TIMEOUT	1 to 127	20

66-61

Purpose	Setting
Function (Purpose)	Used to display the FAX-related soft SW (151 - 250) on the LCD to allow changing the soft SW while checking with the LCD.
Section	FAX

Operation/Procedure

- 1) Enter the [SW NO] with 10-key.
- 2) Tap [DATA] button.
The soft SW data entered in procedure 1) is displayed.
- 3) Enter the number corresponding to the bit to be changed with 10-key.
* [1] -> [0]
[0] -> [1]
- 4) When [EXECUTE] button is tapped, it is highlighted and the setting is saved.

66-62

Purpose	Backup
Function (Purpose)	Used to import the FAX receive data into a USB flash drive in PDF file type.
Section	FAX

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select data to be imported.
- 3) Tap [EXECUTE] key.
Execute import of data selected in procedure 2).
When the operation is completed normally, [COMPLETE] is displayed. In case of an abnormal end, [ERROR] is displayed.

Error display	Content
Error: No USB memory device	No USB flash drive installed
Error: No image data	No image data
Error	Other errors

67

67-17

Purpose	Reset
Function (Purpose)	Printer controller reset/Default value setting
Section	Printer

Operation/Procedure

- 1) Tap [EXECUTE] key.
- 2) Tap [YES] key.
The set data related to the printer controller are initialized. (Including the NIC setting.)

When the operation is completed, [EXECUTE] key returns to the normal display.

67-24

Purpose	Adjustment/Setup
Function (Purpose)	Printer gray balance adjustment (Auto adjustment)
Section	Printer

Operation/Procedure

- 1) Tap [EXECUTE] key.
The 48 color patch image (adjustment pattern) is printed out.
- 2) Plate the printed adjustment pattern on the document table.
- 3) Tap [EXECUTE] key.
The printer gray balance auto adjustment is performed, and the adjustment result is printed.
- 4) Tap [OK] key.
The halftone correction target registration is processed.

67-25

Purpose	Adjustment/Setup
Function (Purpose)	Printer gray balance adjustment (Manual adjustment)
Section	Printer

Operation/Procedure

- 1) Select [K] key on the touch panel.
- 2) Select a target adjustment density level on the touch panel.
- 3) Enter the set value with 10-key.
* When the rs key is tapped, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Tap [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

When [EXECUTE] key is tapped, the check pattern is printed in the color balance and density corresponding to the adjustment value.

Item/Display		Setting range	Default value
A	POINT1	1 - 999	500
B	POINT2	1 - 999	500
C	POINT3	1 - 999	500
D	POINT4	1 - 999	500
E	POINT5	1 - 999	500
F	POINT6	1 - 999	500
G	POINT7	1 - 999	500
H	POINT8	1 - 999	500
I	POINT9	1 - 999	500
J	POINT10	1 - 999	500
K	POINT11	1 - 999	500
L	POINT12	1 - 999	500
M	POINT13	1 - 999	500
N	POINT14	1 - 999	500
O	POINT15	1 - 999	500
P	POINT16	1 - 999	500
Q	POINT17	1 - 999	500

67-26	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the target gray balance of the printer mode auto gray balance adjustment.
Section	Printer
Operation/Procedure	
1) Select the target gray balance with the touch panel.	

Item/Display		Default value
TARGET TBL	DEF1	DEF 1
	DEF2	
	DEF3	

67-31	
Purpose	Data clear
Function (Purpose)	Used to clear the printer calibration value.
Section	Printer
Operation/Procedure	
1) Tap [EXECUTE] key.	
2) Tap [YES] key.	
The printer calibration data (Halftone correction data) are cleared.	
(The printer color balance correction is canceled.)	

67-33	
Purpose	Adjustment/Setup
Function (Purpose)	Used to change the gamma of the printer screen with different dither.
Section	Printer
Operation/Procedure	
1) Select a target screen with [SCREEN] key.	
2) Select a target adjustment density level with scroll key.	
3) Enter the set value with 10-key.	
4) Tap [OK] key. (The set value is saved.)	

When [EXECUTE] key is tapped, the check pattern is printed in the gray balance and density corresponding to the adjustment value.

Item/Display		Content	Setting range	Default value
A	POINT1	Point 1	0 - 255	128
B	POINT2	Point 2	0 - 255	128
C	POINT3	Point 3	0 - 255	128
D	POINT4	Point 4	0 - 255	128
E	POINT5	Point 5	0 - 255	128
F	POINT6	Point 6	0 - 255	128
G	POINT7	Point 7	0 - 255	128
H	POINT8	Point 8	0 - 255	128
I	POINT9	Point 9	0 - 255	128
J	POINT10	Point 10	0 - 255	128
K	POINT11	Point 11	0 - 255	128
L	POINT12	Point 12	0 - 255	128
M	POINT13	Point 13	0 - 255	128
N	POINT14	Point 14	0 - 255	128
O	POINT15	Point 15	0 - 255	128
P	POINT16	Point 16	0 - 255	128
Q	POINT17	Point 17	0 - 255	128

Item/Display	Content
HEAVY PAPER	Heavy paper
SCREEN7	600 dpi 1bit photo
SCREEN8	600 dpi 4bit photo
SCREEN9	1200 dpi 1bit photo
SCREEN11	600 dpi 1bit graphics
SCREEN12	600 dpi 4bit graphics
SCREEN13	1200 dpi 1bit graphics
SCREEN19	600 dpi 4bit SHIGH
SCREEN20	1200 dpi 1bit SHIGH
SCREEN21	600 dpi 4bit super low
SCREEN22	1200 dpi 1bit super low
SCREEN23	600 dpi 4bit extrahigh

67-34					
Purpose	Adjustment/Setup				
Function (Purpose)	Used to set the density correction in the printer high density section. (Support for the high density section tone gap)				
Section	Printer				
Operation/Procedure					
1) Enter the set value with 10-key.					
<table border="1"> <tr> <td>0</td><td>Enable</td></tr> <tr> <td>1</td><td>Disable</td></tr> </table>		0	Enable	1	Disable
0	Enable				
1	Disable				
2) Tap [OK] key. (The set value is saved.)					

Display/Item		Content	Setting range	Default value
A	K (0:ENABLE 1:DISABLE)	0 Engine maximum density correction mode Enable	0~1	1
		1 Engine maximum density correction mode Disable		
B	BLACK MAX TARGET	Scanner target value for BLACK maximum density correction	0~999	500
C	RATIO LOW	Mix ration of high density correction	0~100	33
D	RATIO HIGH	Mix ration of high density correction	0~100	5
E	DITHER THRESHOLD	Dither threshold	0~250	250
F	SLOPE THRESHOLD	Slope threshold	100~500	400

* When tone gap is generated in the high density section, set item A to "0."

The density in the high density section is decreased, but tone gap is reduced.

* To increase the density in the high density section further, set item A to "1."

The tone gap may occur in high density part.



Do not change the values of item B. If these values are changed, the density in the high density area is changed.

67-36	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the density in the low density section.
Section	Printer

Operation/Procedure

- 1) Select a set value with the scroll key.
- 2) Enter the adjustment value using the 10-key.
- 3) Tap [OK] key.

When the adjustment value is increased, the low density images are strongly reduced. When the adjustment value is decreased, the low density are images are weakly reproduced.

When tone gap is generated in the low density section (highlight section), changing this adjustment value may improve the trouble.

Item/Display	Content	Setting range	Default value
A A PATCH INPUT K	A patch input value K	0 - 13	1

67-46	
Purpose	Adjustment
Function (Purpose)	Adjust printer image edge
Section	

Operation/Procedure

- 1) Select a target item with scroll key.
- 2) Enter set value with 10 key.
- 3) Tap [OK] key.

Item/Display	Content	Setting range	Default value
A CANCEL (600dpi)	Edge cancellation	0 - 255	64
B CANCEL (1200dpi)	Edge cancellation	0 - 255	64

67-52	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the default of the gamma of the printer screen.
Section	Printer

Operation/Procedure

- 1) Select a target default setting mode with the touch panel.
Tap [ALL] key to select all the modes.
- 2) Tap [EXECUTE] key and tap [YES] key.

When the printer screen gamma was changed by SIM 67-33, SIM67-54, it is reset to the default.

Item/Display	Content
HEAVY PAPER	Printer heavy paper automatic density correction amount
600DPI 1BIT	600 dpi 1bit photo 600 dpi 1bit graphics

Item/Display	Content
4BIT HIGH	600 dpi graphics
4BIT SHIGH	600 dpi 4bit SHIGH
1200DPI LOW	1200 dpi 1bit photo 1200 dpi 1bit super low
1200DPI HIGH	1200 dpi 1bit graphics
1200DPI SHIGH	1200 dpi 1bit SHIGH

67-54	
Purpose	Adjustment
Function (Purpose)	Printer gray balance adjustment
Section	Printer

Operation/Procedure

This simulation is used to adjust the gray balance, the density, and the gradation in the monochrome mode, the heavy paper mode, the 1200dpi mode, and the 600dpi 1bit mode.

This simulation is used to improve image quality in these modes and images.

- 1) Tap [EXECUTE] key. (A4 or A3 paper is automatically selected.)

The patch image (adjustment pattern) is printed out.

- 2) Set the patch image (adjustment pattern) printed in the procedure 1) on the document table so that the thin lines on the printed patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed patch image (adjustment pattern).

- 3) Tap [EXECUTE] key.

The gray balance adjustment is automatically performed.

The adjustment pattern is printed out. Check it for any abnormality.

- 4) Tap [OK] key.

The list of the adjustment items (for each dither) is displayed.

- 5) Select an adjustment item (for each dither).

Item/Display	Content
HEAVY PAPER	Printer heavy paper automatic density correction amount
4BIT HIGH	600 dpi graphics
4BIT SHIGH	600 dpi 4bit SHIGH
1200DPI LOW	1200 dpi 1bit photo 1200 dpi 1bit super low
1200DPI HIGH	1200 dpi 1bit graphics
1200DPI SHIGH	1200 dpi 1bit SHIGH

- 6) Tap [EXECUTE] key. (A4 or A3 paper is automatically selected.)

The patch image (adjustment pattern) is printed out.

- 7) Set the patch image (adjustment pattern) printed in the procedure 6) on the document table so that the thin lines on the printed patch image (adjustment pattern) are on the left side.

- 8) Tap [EXECUTE] key.

The gray balance adjustment is automatically performed, and the gray balance check patch image is printed out.

- 9) When [OK] key is tapped, the adjustment result is registered and the adjustment mode is terminated. When [EXECUTE] key is tapped, the adjustment result is registered and the screen is shifted to the other item (Mode/Image) select menu.

To execute the adjustment of the other item (Mode/Image), tap [EXECUTE] key.

After completion of all the adjustments of the items (Mode/Image), tap [OK] key, and the adjustment results are registered.

- 10) Make a print, and check the print image quality.



Use SIM67-52 to reset the adjustment values to the default values.

[7] SELF DIAG AND TROUBLE CODE

1. Trouble code and troubleshooting

A. General

When a trouble occurs in the machine or when the life of a consumable part is nearly expired or when the life is expired, the machine detects and displays it on the display section. This allows the user and the serviceman to take the suitable action. In case of a trouble, this feature notifies the occurrence of a trouble and stops the machine to minimize the damage.

B. Function and purpose

- 1) Securing safety. (The machine is stopped on detection of a trouble.)
- 2) The damage to the machine is minimized. (The machine is stopped on detection of a trouble.)
- 3) By displaying the trouble content, the trouble position can be quickly identified. (This allows to perform an accurate repair, improving the repair efficiency.)
- 4) Preliminary warning of running out of consumable parts allows to arrange for new parts in advance of running out. (This avoids stopping of the machine due to running out the a consumable part.)

C. Self diag message kinds

The self diag messages are classified as shown in the table below.

Class 1	User	Warning of troubles which can be recovered by the user. (Paper jam, consumable part life expiration, etc.)
	Service	Warning of troubles which can be recovered only by a serviceman. (Motor trouble, maintenance, etc.)
	Others	-
Class 2	Warning	Warning to the user, not a machine trouble (Preliminary warning of life expiration of a consumable part, etc.)
	Trouble	Warning of a machine trouble. The machine is stopped.
	Others	-

D. Self diag operation

The machine always monitors its own state.

When the machine recognizes a trouble, it stops the operation and displays the trouble message.

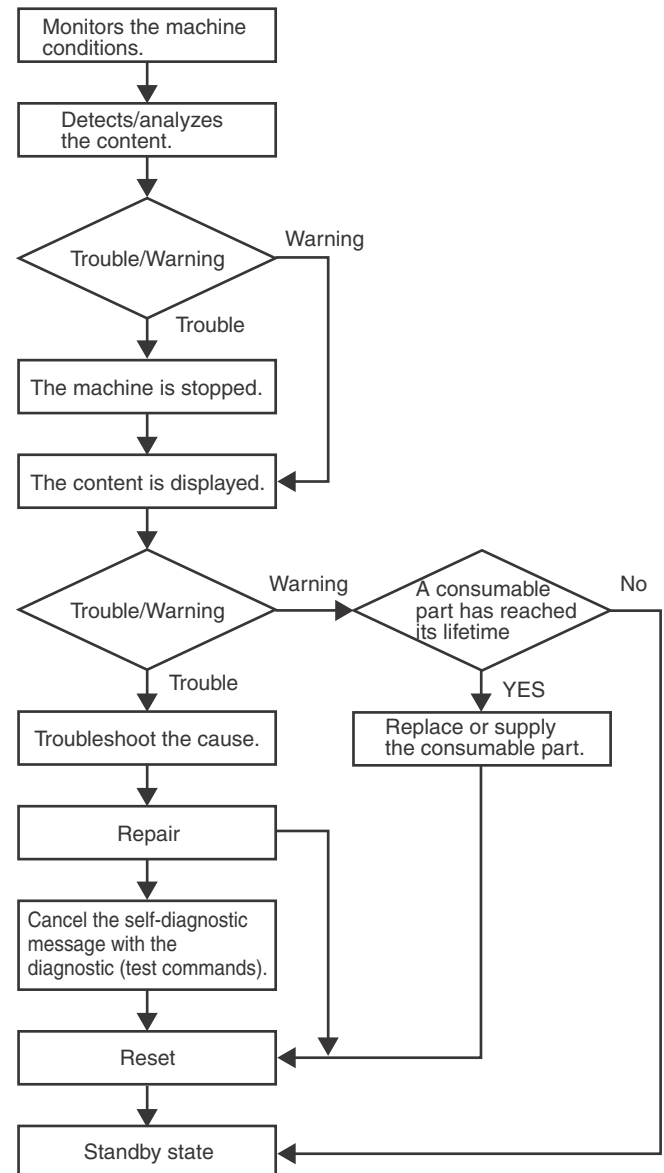
A warning message is displayed when a consumable part life is nearly expired or is expired.

When a warning message is displayed, the machine may be or may not be stopped.

The trouble messages and the warning messages are displayed by the LCD and lamp.

Some trouble messages are automatically cleared when the trouble is repaired. Some other troubles must be cleared by a simulation.

Some warning messages of consumable parts are automatically cleared when the trouble is repaired. Some other warning messages must be cleared by a simulation.



E. Breakdown sequence

(1) Trouble code and operatable mode

Trouble content		Judg- ment block	Trouble code	Operatable mode							
				Copy scan (includi ng interrup- tion)	Scan (Push)	Scan (Pull)	Scan To HDD	Print	List print	FAX Send	FAX print
Security abnormality trouble	• Security module abnormality	SCN MFP	E7 (C0,C1)	×	×	×	×	×	×	×	×
FAX board trouble	• FAX board breakdown		F6 (00, 01, 02, 04, 21, 30, 97, 98)	○	○	○	○	○	○	△1	△1
HDD trouble	• eMMC breakdown		E7 (A8)	×	×	×	×	×	×	×	×
	• HDD breakdown		E7 (03)	×	×	×	×	×	×	×	×
	• HDD-ASIC breakdown		E7 (04)	×	×	×	×	×	×	×	×
Operation communication trouble	• OPU communication trouble		U9 (01)	×	×	×	×	○	○	×	○
Scanner communication trouble	• SCU communication trouble		A0 (02) E7 (80)	×	×	×	×	○	○	×	○
Engine communication trouble	• PCU communication trouble		A0 (01) E7 (90)	×	×	×	×	×	×	×	×
Backup battery voltage fall trouble_save	• Backup battery voltage fall		U1 (01)	×	×	×	×	×	×	×	×
Operation disable trouble 2_save	• Memory error (included not installed the expansion RAM)		U2 (00, 11, 41, 42)	×	×	×	×	×	×	×	×
	• Serial number data error		U2 (30)	×	×	×	×	×	×	×	×
	• HDD registration data check sum error		U2 (50)	×	×	×	×	×	×	×	×
Operation disable trouble 2	• External serial I/F communication error (RIC)		U7 (50,51)	×	×	×	×	×	×	×	×
	• Memory error (included not installed the expansion RAM)		U2 (40)	×	×	×	×	×	×	×	×
	• Connection trouble (ICU detection)		A0 (06, 07, 08, 10, 15, 17, 18, 19, 20) E7 (60, 61, 62)	×	×	×	×	×	×	×	×
Operation disable trouble 3	• Memory check error when booting		E7 (96)	×	×	×	×	×	×	×	×
	• Image memory trouble, decode error		E7 (01, 49, 91, 92, 93, 94)	×	×	×	×	×	×	×	×
Operation disable trouble 4	• Personal counter not-installed trouble		PC	×	×	×	×	×	×	×	×
Power controller trouble	• Power controller trouble		L8 (20)	×	×	×	×	×	×	×	×
Special function trouble	• Special function error		U2 (60, 70, 71, 72, 73)	○ *16	○ *16	○ *16	○ *16	○ *16	○ *16	○ *16	○ *16
Laser trouble	• Laser breakdown	PCU	E7 (20, 21, 24, 28, 29, A0) L6 (10)	×	×	×	×	×	×	×	×
Engine trouble 1	• Connection trouble (PCU detection)		A0 (21) E7 (50, 55) F1 (50)	×	×	×	×	×	×	×	×
Engine trouble 2_save	• PCU troubles (motor, fusing, etc.)		H3 (00, 02) H4 (00, 02, 30) H5 (01) U2 (90, 91)	×	×	×	×	×	×	×	×

Trouble content		Judgment block	Trouble code	Operatable mode							
				Copy scan (including interruption)	Scan (Push)	Scan (Pull)	Scan To HDD	Print	List print	FAX Send	FAX print
Engine trouble 2	• PCU troubles (motor, fusing, etc.)	PCU	C1 (10, 40) C4 (20) F2 (22, 40, 64, 70, 74) H2 (00, 02, 03, 06) H7 (10, 12) L4 (02, 03, 11, 16, 17, 32, 39, 43, 50, 51) L8 (01, 02, 03)	×	×	×	×	×	×	×	×
Paper feed tray 1 trouble	• Paper feed tray 1 breakdown		F3 (12)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray 2 trouble	• Paper feed tray 2 breakdown		F3 (22)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray 3 trouble_save	• Paper feed tray 3 breakdown		U6 (01)	△3 *20	○ *20	○ *20	○ *20	△3 *20	△3 *10 *20	○ *20	△3 *20
Paper feed tray 4 trouble_save	• Paper feed tray 4 breakdown		U6 (02)	△3 *20	○ *20	○ *20	○ *20	△3 *20	△3 *10 *20	○ *20	△3 *20
Paper feed tray 5 trouble_save	• Paper feed tray 5 breakdown		U6 (09)	△3 *20	○ *20	○ *20	○ *20	△3 *20	△3 *10 *20	○ *20	△3 *20
Paper feed tray 5 trouble	• Paper feed tray 5 breakdown		U6 (20, 21, 22, 23, 51)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray other troubles	• Paper feed tray other breakdown		U6 (00, 10, 50, 52, 54, 55)	△11	○	○	○	△11	△11 *10	○	△11
Finisher trouble	• After-process breakdown		F1 (00, 01, 02, 03, 04, 05, 06, 08, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 23, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 41, 42, 43, 44, 45, 46, 47, 48, 49, 51, 53, 54, 55, 78, 83, 89)	△4	△4	△4	△4	△4	△4 *10	△4	△4
Other troubles	• Other troubles		EE (EC, EL, EU)	○	○	○	○	○	○	○	○
Process control trouble	• Process control breakdown (PCU detection)		F2 (39, 58, 78)	○ *12	○	○	○	○	○	○	○
Operation disable trouble	• Connection trouble (SCU detection)	SCN MFP	A0 (22)	×	×	×	×	×	×	×	×
Color system trouble (SCU detection)	• SCU Color trouble (SCU detection)		UC (02)	△9	△9	△9	△9	○	○	△9	○
Color system trouble (DSPF detection)	• SCU Color trouble (DSPF detection)		UC (12)	△8	△8	△8	△8	○	○	△8	○
Anti-copy trouble	• Anti-copy system		UC (20)	×	×	×	×	○	○	×	○
Anti-copy trouble (DSPF detection)	• Anti-copy system (DSPF detection)		UC (30)	△7	△7	△7	△7	○	○	△7	○
Scanner trouble 1_save	• EEPROM error		U2 (80, 81)	×	×	×	×	○	○	×	○
Scanner trouble 2	• Scanner section breakdown (mirror motor, lens, copy lamp)		L1 (00) L3 (00)	×	×	×	×	○	○	×	○
CCD trouble	• CCD breakdown (shading, etc.)		E7 (10, 11, 14)	×	×	×	×	○	○	×	○
SPF/DF trouble	• RSPF/DF breakdown		U5 (00, 16, 20, 30, 31)	△6	△6	△6	△6	○	○	△6	○
SPF back surface trouble	• General trouble in the SPF back surface scanning section		E6 (10, 11, 14)	△7	△7	△7	△7	○	○	△7	○

Trouble where only history data are saved

Trouble content	Judgment block	Trouble code	Operatable mode							
			Copy scan (including interruption)	Scan (Push)	Scan (Pull)	Scan To HDD	Print	List print	FAX Send	FAX print
(only history data are saved) (PCU detection)	PCU	L4 (09, 75, 76, 77, 78, 79)	○	○	○	○	○	○	○	○
(only history data are saved) (ICU detection)	SCN MFP	U2 (05)	○	○	○	○	○	○	○	○

○: Operation enabled ×: Operation disabled

△1: The operation is enabled in a line other than the trouble line.

△3: When detected during other than a job, the operation is enabled with a tray other than the trouble tray.

△4: When detected during other than a job, the operation is enabled in a section other than the trouble paper exit section. * However, it is valid only when the escape tray setting has been made.

△6: When detected during other than a job, the operation is enable in the OC mode.

△7: When detected during other than a job, the operation is enable in the OC mode or one side scan mode.

△8: When detected in other than a job, the operation is enabled in other than the duplex color scan mode.

△9: When detected during other than a job, the operation is enabled in the black and white mode.

*10: Since communication is enabled, reception can be transferred.

△11: When detected during other than a job, the operation is enabled in other than the DESK.

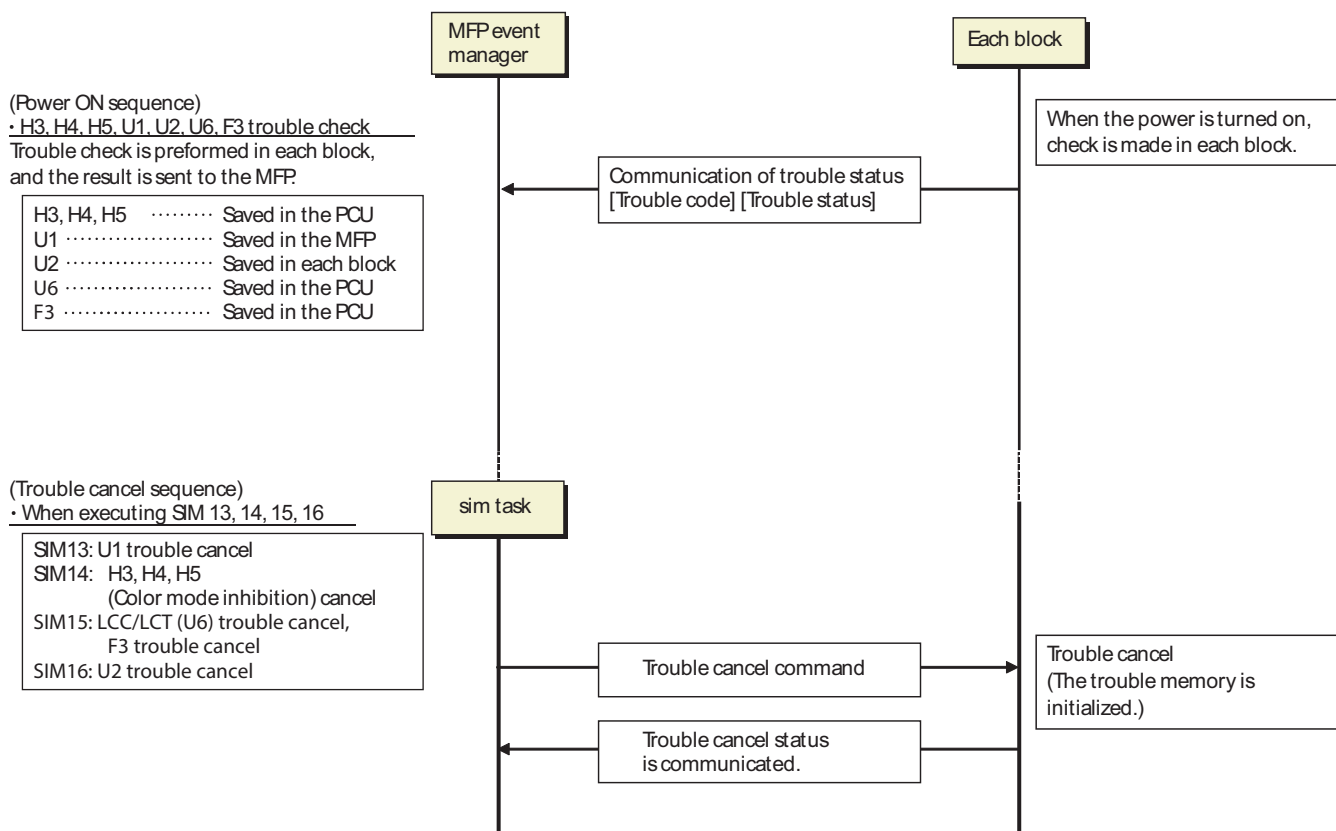
*12: A trouble message is displayed. (Example: Ready to copy. F2 trouble)

△15: FAST notification function (When in U2-22, trouble notification cannot be made. If there is no abnormality in the FAX software or the FAST data in U2-23, trouble notification can be made.)

*16: Print is enable displays with OK key "Call for service. CODE ** _ ***"

*20: Displays "Call for service ERROR ** _ ***"

(2) Trouble detection sequence and trouble cancel sequence when turning on the power



The process has priority when the power is turned ON with the MFP.

When booting, two or more troubles in the list below may be detected. In this case, the trouble code of higher priority is displayed.

Process sequence	Error code	Content
First (Low priority)	U2	50 User authentication data check sum error
		30 MFPC PWB and PCU PWB manufacturing No. data inconsistency
	A0	15 Incompatible DSK BOOT and program firmware
		20 Conflict firmware and EEPROM data version (MFP)
Last (High priority)	U2	11 MFPC PWB EEPROM counter check sum error
		00 MFP EEPROM read/write error
	E7	48 Scanner expansion PWB ASIC memory error
		47 Inconsistency between the MFP and the ACRE firmware
		42 Image data trouble (Scanner expansion PWB (ACRE) ASIC)
	A0	04 Scanner expansion PWB (ACU) ROM error
	U1	01 Battery trouble
	E7	60 Combination error between PWB and firmware (MFPC PWB detection)

F. Trouble code list

Trouble code		Trouble description	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
A0	01	PCU ROM error	PCU			○		
	02	SCN ROM error	SCN			○		
	04	ACU ROM error	MFP			○		
	06	FAX ROM error	MFP			○		
	10	Color profile error	MFP			○		
	15	Stored DSK data conflict	MFP			○		
	17	UI data error	MFP			○		
	18	ASIC MAIN firmware inconsistent error	MFP			○		
	19	MFP boot error	MFP			○		
	20	MFP firmware and EEPROM data inconsistent error	MFP			○		
	21	PCU firmware and EEPROM data inconsistent error	PCU			○		
	22	SCN firmware and EEPROM data inconsistent error	SCN			○		
C1	10	Main charger error	PCU			○		
	40	HV PWB trouble	PCU			○		
C4	20	TC output error	PCU			○		
E6	10	Shading black correction error (SPF)	SCN			○		
	11	Shading white correction error (SPF)	SCN			○		
	14	CCD ASIC error (SPF)	SCN			○		
E7	01	Image data error	MFP			○		
	03	HDD/SSD error	MFP			○		
	04	HDD-ASIC error (DSK)	MFP			○		
	10	Shading black correction error (OC)	SCN			○		
	11	Shading white correction error (OC)	SCN			○		
	14	CCD-ASIC error (OC)	SCN			○		
	20	LSU BD detection error	PCU			○		
	21	LSU LD detection error	PCU			○		
	24	LSU LD driver error	PCU			○		
	28	LSU ASIC - PCU access error	PCU			○		
	29	LSU ASIC frequency error	PCU			○		
	49	Watermark data error	MFP			○		
	50	PCU PWB and firmware inconsistent error	PCU			○		
	55	PCU PWB information sum error	PCU			○		
	60	SCN MFP PWB and firmware inconsistent error	MFP			○		
	61	SCN MFP PWB and PCU PWB combination error	MFP			○		
	62	SCN MFP PWB and scanner combination error	MFP			○		
	80	SCN MFP PWB, scanner communication error	MFP			○		
	90	SCN MFP PWB, PCU PWB communication error	MFP			○		
	91	FAX received image data error	MFP			○		
	92	Copy image data error	MFP			○		
	93	Copy, image send, FAX, filing, print image data process error	MFP			○		
	94	Image data process error	MFP			○		
	A0	LD PWB EEPROM/LD driver read/write error	PCU			○		
	A8	eMMC PWB error	MFP			○		
	C0	TPM PWB access error	MFP			○		
	C1	Security check error	MFP			○		
EE	EC	Automatic toner density adjustment error	PCU			○		
	EL	Automatic toner density adjustment error (over toner)	PCU			○		
	EU	Automatic toner density adjustment error (under toner)	PCU			○		
F1	00	Finisher communication error	PCU		○			
	01	Finisher jogger operation trouble (1K)	PCU		○			
	02	Finisher entry port transport operation trouble (1K)	PCU		○			
	03	Finisher oscillation operation trouble (3K)	PCU		○			
	04	Finisher paddle trouble (Inner)	PCU		○			
	04	Finisher paddle trouble (3K)	PCU		○			
	05	Finisher return operation trouble (Inner)	PCU		○			
	06	Finisher paper exit transport operation trouble (1K)	PCU		○			
	08	Finisher stapler shift operation trouble (Inner)	PCU		○			
	08	Finisher stapler shift operation trouble (1K)	PCU		○			
	08	Finisher stapler shift operation trouble (3K)	PCU		○			
	10	Finisher staple operation trouble (Inner)	PCU		○			
	10	Finisher staple operation trouble (1K)	PCU		○			
	10	Finisher staple operation trouble (3K)	PCU		○			
	11	Finisher paper exit operation trouble (1K)	PCU		○			
	12	Finisher proof transport operation trouble (1K)	PCU		○			
	13	Finisher paper exit guide plate operation trouble (1K)	PCU		○			
	14	Finisher rear paper edge flap operation trouble (3K)	PCU		○			
	15	Finisher tray lift operation trouble (Inner)	PCU		○			
	15	Finisher tray lift operation trouble (1K)	PCU		○			

Trouble code		Trouble description	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
F1	15	Finisher tray lift operation trouble (3K)	PCU		○			
	16	Finisher escape/saddle transport switching operation trouble (3K)	PCU		○			
	18	Finisher paper bundle hold operation trouble (Inner)	PCU		○			
	19	Finisher front paper alignment operation trouble (Inner)	PCU		○			
	19	Finisher front paper alignment operation trouble (3K)	PCU		○			
	20	Finisher rear paper alignment operation trouble (Inner)	PCU		○			
	20	Finisher rear paper alignment operation trouble (3K)	PCU		○			
	22	Finisher paper bundle exit operation trouble (Inner)	PCU		○			
	22	Finisher paper bundle exit operation trouble (3K)	PCU		○			
	23	Safety switch trouble (3K)	PCU		○			
	28	Finisher stacking operation trouble (1K)	PCU		○			
	28	Finisher stacking operation trouble (3K)	PCU		○			
	29	Fuse blown trouble (1K)	PCU		○			
	30	Finisher saddle communication error (3K)	PCU		○			
	31	Finisher saddle folding operation trouble (1K)	PCU		○			
	31	Finisher paper exit operation trouble (3K)	PCU		○			
	32	Finisher Punch unit communication error (Inner)	PCU		○			
	32	Finisher Punch unit communication error (3K)	PCU		○			
	33	Finisher punch shifting operation trouble (1K)	PCU		○			
	33	Finisher punch shifting operation trouble (3K)	PCU		○			
	34	Finisher punch operation trouble (Inner)	PCU		○			
	34	Finisher punch operation trouble (1K)	PCU		○			
	34	Finisher punch operation trouble (3K)	PCU		○			
	35	Finisher punch registration operation trouble (1K)	PCU		○			
	37	Finisher Backup memory error (Inner)	PCU		○			
	37	Finisher Backup memory error (3K)	PCU		○			
	38	Finisher Punch backup memory error (Inner)	PCU		○			
	38	Finisher Punch backup memory error (3K)	PCU		○			
	41	Finisher saddle paper positioning operation trouble (1K)	PCU		○			
	41	Finisher saddle paper positioning operation trouble (3K)	PCU		○			
	42	Finisher saddle switching operation trouble (3K)	PCU		○			
	43	Finisher saddle alignment operation trouble (3K)	PCU		○			
	44	Finisher saddle gripper operation trouble (3K)	PCU		○			
	45	Finisher saddle staple operation trouble (3K)	PCU		○			
	46	Finisher saddle folding operation trouble (1K)	PCU		○			
	46	Finisher saddle folding operation trouble (3K)	PCU		○			
	47	Finisher saddle paper transport operation trouble (3K)	PCU		○			
	48	Finisher bundle transport upper pressure release / reference fence escape motor trouble (1K)	PCU		○			
	49	Finisher bundle transport lower pressure release motor trouble (1K)	PCU		○			
	50	Finisher - Main machine incompatible error	PCU		○			
	51	Finisher communication error (3K)	PCU		○			
	53	Finisher - Main machine inconsistent error	PCU		○			
	54	Finisher punch unit destination inconsistent error (Inner) (3K)	PCU		○			
	55	Finisher firmware inconsistent error	PCU		○			
	78	Finisher eco staple operation trouble (Inner)	PCU		○			
	78	Finisher staple free stapler operation trouble (3K)	PCU		○			
	83	Finisher guide operation trouble (3K)	PCU		○			
	89	Finisher shift operation trouble (1K)	PCU		○			
F2	22	Discharge lamp trouble	PCU					○
	39	Temperature sensor error	PCU					○
	40	Toner density error	PCU					○
	58	Humidity sensor error	PCU					○
	64	Toner supply trouble	PCU					○
	70	Improper toner cartridge detection	PCU					○
	74	Toner cartridge error	PCU					○
F3	12	Paper feed tray1 lift operation trouble	PCU	○				
	22	Desk paper feed tray1 lift operation trouble	PCU	○				
F6	00	SCN MFP PWB - FAX communication error	MFP				○	
	01	FAX EEPROM read/write error	FAX				○	
	02	FAX power supply trouble	FAX				○	
	04	FAX modem operation trouble	FAX				○	
	21	Improper combination of TEL/LIU PWB and FAX soft switch inconsistent error	FAX				○	
	30	FAX power controller access error	FAX				○	
	97	FAX and main machine inconsistent error	MFP				○	
	98	FAX and main machine destination inconsistent error	MFP				○	
H2	00	Thermistor open trouble (TH_UM_AD2)	PCU	○				
	02	Thermistor open trouble (TH_US)	PCU	○				
	03	Thermistor open trouble (TH_UM_AD1)	PCU	○				

Trouble code		Trouble description	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
H2	06	Thermistor open trouble (TH_US2)	PCU	○				
H3	00	Fusing section high temperature error (TH_UM)	PCU	○				
	02	Fusing section high temperature error (TH_US)	PCU	○				
H4	00	Fusing section low temperature error (TH_UM)	PCU	○				
	02	Fusing section low temperature error (TH_US)	PCU	○				
	30	Thermistor input error (TH_UM)	PCU	○				
H5	01	5 times continuous POD1 not reached jam	PCU	○				
H7	10	Recovery error from fuser low temperature (TH_UM)	PCU	○				
	12	Recovery error from fuser low temperature (TH_US)	PCU	○				
L1	00	Scanner feed trouble	SCN	○				
L3	00	Scanner return trouble	SCN	○				
L4	02	Paper feed motor trouble	PCU			○		
	03	Fusing motor trouble	PCU			○		
	09	Registration motor trouble	PCU			○		
	11	Offset motor trouble	PCU			○		
	16	Fusing pressure release trouble	PCU			○		
	17	Drum motor trouble	PCU			○		
	32	Power supply fan 1 trouble	PCU			○		
	32	Power supply fan trouble	PCU			○		
	39	Paper exit fan 1 trouble	PCU			○		
	43	Paper exit fan 2 trouble	PCU			○		
	50	Process fan 1 trouble	PCU			○		
	51	Process fan 2 trouble	PCU			○		
	75	Paper exit motor trouble	PCU			○		
	76	Reverse motor trouble	PCU			○		
	77	ADU motor 1 trouble	PCU			○		
	78	ADU motor 2 trouble	PCU			○		
	79	Transport motor trouble	PCU			○		
L6	10	Polygon motor trouble	PCU			○		
L8	01	Full wave signal detection error	PCU			○		
	02	Full wave signal error	PCU			○		
	03	Abnormal voltage input error	PCU			○		
	20	Power controller communication error	MFP			○		
U1	01	Battery trouble	MFP			○		
U2	00	MFP EEPROM read/write error	MFP			○		
	05	Erroneous detection of account management data / HDD internal authentication DB table error	MFP			○		
	11	MFP EEPROM counter check sum error	MFP			○		
	30	SCN MFP PWB and PCU PWB data inconsistency	MFP			○		
	40	eMMC PWB system storage data area error	MFP			○		
	41	HDD/mSATA SSD storage data area error	MFP			○		
	42	Machine adjustment data error	MFP			○		
	50	HDD user authentication data check sum error	MFP			○		
	60	Watermark check error	MFP			○		
	70	OCR dictionary check error	MFP			○		
	71	Audio IC error	MFP			○		
	72	Soound data check error	MFP			○		
	73	NFC tag error	MFP			○		
	80	SCN EEPROM read/write error	SCN			○		
	81	SCN EEPROM check sum error	SCN			○		
	90	PCU EEPROM read/write error	PCU			○		
	91	PCU EEPROM check sum error	PCU			○		
U5	00	SPF communication error	SCN			○		
	16	SPF fan trouble	SCN			○		
	20	SPF transport trouble	SCN			○		
	30	SPF document feed tray lift up trouble	SCN			○		
	31	SPF document feed tray lift down trouble	SCN			○		
U6	00	PCU PWB - Paper feed desk communication error	PCU		○			
	01	Desk paper feed tray2 lift trouble	PCU		○			
	02	Desk paper feed tray3 lift trouble	PCU		○			
	09	LCC lift trouble	PCU		○			
	10	Desk paper transport trouble	PCU		○			
	20	LCC PWB - PCU PWB communication error	PCU		○			
	21	LCC paper transport trouble	PCU		○			
	22	LCC 24V power trouble	PCU		○			
	23	LCC tray descending trouble	PCU		○			
	50	Desk - Main machine combination trouble	PCU		○			
	51	LCC - Main machine combination trouble	PCU		○			
	52	Desk communication error	PCU		○			
	54	LCC firmware inconsistent error	PCU		○			

Trouble code		Trouble description	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
U6	55	Desk firmware inconsistent error	PCU		○			
U7	50	Vendor machine communication error	MFP			○		
	51	Vendor machine operation trouble	MFP			○		
U9	01	Touch panel trouble	MFP			○		
UC	02	ASIC CPT error	SCN			○		
	12	ASIC CPT error (DSPF)	SCN			○		
	20	ASIC DOCC error	SCN			○		
	30	ASIC DOCC error (DSPF)	SCN			○		

G. Details of trouble codes and countermeasures

A0-01 PCU ROM error

Trouble detection	PCU
Cause	The firmware version up is not completed properly by interruption of the power during the version up operation PCU PWB trouble
Check & Remedy	SIM49-1 to execute the firmware version up Replace PCU PWB

A0-02 SCN ROM error

Trouble detection	MFP
Cause	The firmware version up is not completed properly by interruption of the power during the version up operation. SCN MFP PWB trouble
Check & Remedy	SIM49-1 to execute the firmware version up Replace SCN MFP PWB

A0-06 FAX ROM error

Trouble detection	MFP
Cause	The content of FAX ROM is abnormal The firmware version up is not completed properly by interruption of the power during the version up operation. FAX PWB trouble
Check & Remedy	SIM49-1 to execute the firmware version up Replace FAX PWB

A0-10 Color profile error

Trouble detection	MFP
Cause	The content of the color profile is abnormal Combination inconsistency between MFP firmware and color profile
Check & Remedy	SIM49-1 to execute the firmware version up Replace SCN MFP PWB

A0-15 Stored DSK data conflict

Trouble detection	MFP
Cause	Inconsistency of ASIC MAIN firmware version
Check & Remedy	Check ASIC MAIN firmware version Check installation state of TPM PWB

A0-17 UI data error

Trouble detection	MFP
Cause	Inconsistency between UI contents and UI firmware version
Check & Remedy	SIM49-1 to execute the firmware version up

A0-18 ASIC MAIN firmware inconsistent error

Trouble detection	MFP
Cause	Inconsistency of ASIC firmware version in MFP
Check & Remedy	SIM49-1 to execute the firmware version

A0-19 MFP boot error

Trouble detection	MFP
Cause	ASIC trouble Memory trouble
Check & Remedy	Extract and insert eMMC PWB Replace eMMC PWB Replace SCN MFP PWB

A0-20 MFP firmware and EEPROM data inconsistent error

Trouble detection	MFP
Cause	Inconsistency between MFP firmware version and EEPROM data version
Check & Remedy	SIM49-1 to execute the firmware version up

A0-21 PCU firmware and EEPROM data inconsistent error

Trouble detection	PCU
Cause	Inconsistency between PCU firmware version and EEPROM data version
Check & Remedy	SIM49-1 to execute the firmware version up

A0-22 SCN firmware and EEPROM data inconsistent error

Trouble detection	SCN
Cause	Inconsistency between SCN firmware version and EEPROM data version
Check & Remedy	SIM49-1 to execute the firmware version up

C1-10 Main charger error

Trouble detection	PCU
Cause	Open circuit or short circuit of the main charger output
1) Check & Remedy	Use SIM8-2 to check the output of [GB]. If the leakage noise or the flickering on the screen of the panel is detected; 1) Abnormality of the charger -> Remove and insert the charger or replace the charger. 2) Imperfect insetion of the charger -> Remove and insert the charger. 3) Abnormality of MHV Harness (Transformer T101 of the high-voltage PWB) -> Remove and insert MHV harness. 4) Abnormality of the developing unit -> Insert and remove the developing unit./Replace. 5) Looseness of screw (upper left of high-voltage PWB , and near the transformer T402) -> Tighten screw again.
2) Check & Remedy	Use SIM8-2 to check the output of [GB]. If the leakage noise etc. is not detected; 1) Charger not inserted. -> Insert the Charger 2) Disconnection/breakage of MHV harness (Transformer T101 of the high-voltage PWB) -> Insert the harness./Replaces. 3) High-voltage PWB trouble -> Replace the high-voltage PWB. 4) PCU PWB trouble -> Replace PCU PWB. 5) Looseness of screw (upper left of high-voltage PWB , and near the transformer T402) -> Tighten screw again.

C1-40 HV PWB trouble

Trouble detection	PCU
Cause	<ol style="list-style-type: none"> 1) Input harness disconnection in the high-voltage PWB. 2) Harness (MHV-T, THV-T) pin disconnection (the high-voltage PWB input connector CN1-2pin, CN1-3pin) 3) 24V fuses meltdown in the high-voltage PWB 4) High-voltage error circuit (MHV-T, THV-T) breakage in the high-voltage PWB. 5) Input harness disconnection in the connector CN4 of the PCU PWB.
Check & Remedy	<ol style="list-style-type: none"> 1) Check the harness and the connector (high-voltage PWB input connector CN1) 2) Check or replace the harness. (the high-voltage PWB input connector CN1-2pin, CN1-3pin) 3) Replace the high-voltage PWB 4) Replace the high-voltage PWB 5) Check the harness and the connector (PCU PWB input connector CN4)

C4-20 TC output error

Trouble detection	PCU
Cause	Open/Short circuit of the transfer out put.
1) Check & Remedy	<p>Use SIM8-6 to the check the out put of [THV]. If the leakage noise or the flickering on the screen of the panel is detected;</p> <ol style="list-style-type: none"> 1) Abnormality of the transfer unit. -> Remove and insert the transfer unit. -> Replace the transfer unit. 2) Imperfect insertion the transfer unit. -> Remove and insert the transfer unit. 3) Abnormality of the THV harness. -> Check THV wiring, Replace. 4) High-voltage PWB trouble -> Replace the high-voltage PWB. 5) PCU PWB trouble. -> Replace the PCU PWB
2) Check & Remedy	<p>Check the operation of OPC Drum. If it is not normal movement,</p> <ol style="list-style-type: none"> 1) Abnormality of Drum drive motor (DM). -> Check Drum drive motor (DM). 2) Abnormality of OPC Drum -> Check OPC Drum -> Replace OPC Drum.
3) Check & Remedy	Rapid environmental change (temperature and humidity). -> Power OFF/ON
4) Check & Remedy	Abnormality of the Process Control. -> Operation SIM44-6

E6-10 Shading black correction error (SPF)

Trouble detection	SCN
Cause	CCD unit connector, harness connection trouble CCD unit trouble DSPF PWB trouble
Check & Remedy	Check connection state of CCD unit connector, harness Replace CCD unit Replace DSPF PWB

E6-11 Shading white correction error (SPF)

Trouble detection	SCN
Cause	CCD unit connector, harness connection trouble Scanner lamp lighting trouble Dirt on mirror, reference white plate CCD unit trouble DSPF PWB trouble
Check & Remedy	Check connection state of CCD unit connector, harness Check connection state of scanner lamp connector, harness Clean the reference white plate Replace CCD unit Replace DSPF PWB SIM63-2 to execute

E6-14 CCD-ASIC error (SPF)

Trouble detection	SCN
Cause	DSPF PWB trouble
Check & Remedy	Replace DSPF PWB

E7-01 Image data error

Trouble detection	MFP
Cause	Image data transfer error in SCN MFP PWB SCN MFP PWB trouble
Check & Remedy	Check connection state of SCN MFP PWB connector, harness Replace SCN MFP PWB

E7-03 HDD/SSD error

Trouble detection	MFP
Cause	SCN MFP PWB and HDD connector, harness connection trouble HDD trouble SCN MFP PWB trouble
Check & Remedy	Check connection state of SCN MFP PWB and HDD connector, harness SIM62-2, 62-3 to execute Replace HDD Replace SCN MFP PWB

E7-04 HDD-ASIC error (DSK)

Trouble detection	MFP
Cause	HDD-ASIC trouble
Check & Remedy	Replace SCN MFP PWB

E7-10 Shading black correction error (OC)

Trouble detection	SCN
Cause	Abnormality in the CCD black scan level when scanner lamp is turned OFF CCD unit connector, harness connection trouble CCD unit trouble SCN MFP PWB trouble
Check & Remedy	Check connection state of CCD unit connector, harness Replace CCD unit Replace SCN MFP PWB

E7-11 Shading white correction error (OC)

Trouble detection	SCN
Cause	Abnormality in the CCD white reference plate scan level when scanner lamp is turned ON CCD unit connector, harness connection trouble Dirt on mirror, lens and white reference plate Scanner lamp lighting trouble CCD unit trouble SCN MFP PWB trouble
Check & Remedy	Check connection state of CCD unit connector, harness Check connection state of scanner lamp unit connector, harness Clean mirror, lens and white reference plate Replace CCD unit Replace SCN MFP PWB

E7-14 CCD-ASIC error (OC)

Trouble detection	SCN
Cause	SCN MFP PWB trouble
Check & Remedy	Replace SCN MFP PWB

E7-20 LSU BD detection error

Trouble detection	PCU
Cause	Reduced laser power, lighting error, laser diode trouble LSU connector, harness connection trouble BD PWB trouble
Check & Remedy	SIM61-1 to execute Check connection state of LSU connector, harness Replace BD PWB Replace LSU unit

E7-21 LSU LD deterioration error

Trouble detection	PCU
Cause	Reduced laser power, lighting error, laser diode trouble LSU connector, harness connection trouble LSU PWB trouble
Check & Remedy	SIM61-1 to execute Check connection state of LSU connector, harness Replace LSU PWB Replace LSU unit

E7-24 LSU LD driver error

Trouble detection	PCU
Cause	Reduced laser power, lighting error, laser diode trouble LSU connector, harness connection trouble LSU PWB trouble
Check & Remedy	SIM61-1 to execute Check connection state of LSU connector, harness Replace LSU PWB Replace LSU unit

E7-28 LSU ASIC - PCU access error

Trouble detection	PCU
Cause	Communication error between LSU ASIC and PCU PWB Connector, harness connection trouble PCU PWB trouble LSU PWB trouble LSU unit trouble
Check & Remedy	Check connection state of connector, harness Replace PCU PWB Replace LSU PWB Replace LSU unit

E7-29 LSU ASIC frequency error

Trouble detection	PCU
Cause	LSU ASIC oscillator trouble LSU ASIC trouble LSU ASIC frequency error
Check & Remedy	Replace LSU PWB

E7-49 Watermark data error

Trouble detection	MFP
Cause	Watermark data error eMMC PWB trouble
Check & Remedy	SIM49-5 to execute Replace eMMC PWB

E7-50 PCU PWB and firmware inconsistent error

Trouble detection	PCU
Cause	Machine incompatible PWB and firmware PCU PWB trouble LSU unit trouble
Check & Remedy	Check firmware version Replace PCU PWB Replace LSU unit

E7-55 PCU PWB information sum error

Trouble detection	PCU
Cause	Machine incompatible PWB and firmware PCU PWB trouble LSU unit trouble
Check & Remedy	Check firmware version Replace PCU PWB Replace LSU unit

E7-60 SCN MFP PWB and firmware inconsistent error

Trouble detection	MFP
Cause	Machine incompatible PWB and firmware SCN MFP PWB trouble
Check & Remedy	Check firmware version Replace SCN MFP PWB

E7-61 SCN MFP PWB and PCU PWB combination error

Trouble detection	MFP
Cause	Combination error of SCN MFP PWB and PCU PWB SCN MFP PWB trouble
Check & Remedy	Check combination of SCN MFP PWB and PCU PWB Replace SCN MFP PWB

E7-62 SCN MFP PWB and scanner combination error

Trouble detection	MFP
Cause	Combination error of SCN MFP PWB and scanner SCN MFP PWB trouble
Check & Remedy	Check combination of SCN MFP PWB and scanner

E7-80 SCN MFP PWB, scanner communication error

Trouble detection	MFP
Cause	SCN MFP PWB connector, harness connection trouble SCN MFP PWB trouble
Check & Remedy	Check connection state of SCN MFP PWB connector, harness Replace SCN MFP PWB

E7-90 SCN MFP PWB, PCU PWB communication error

Trouble detection	MFP
Cause	SCN MFP PWB, PCU PWB connector, harness connection trouble SCN MFP PWB trouble PCU PWB trouble PCU PWB FLASH_DIMM connection trouble
Check & Remedy	Check connection state of SCN MFP PWB, PCU PWB connector, harness Replace SCN MFP PWB Replace PCU PWB Check connection state of PCU PWB FLASH_DIMM

E7-91 FAX received image data error

Trouble detection	MFP
Cause	Image compression data corruption HDD trouble eMMC PWB trouble SCN MFP PWB trouble FAX PWB trouble
Check & Remedy	SIM60-1 to execute Replace HDD Replace eMMC PWB Replace SCN MFP PWB Replace FAX PWB

E7-92 Copy image data error

Trouble detection	MFP
Cause	Image compression data corruption SCN MFP PWB trouble
Check & Remedy	SIM60-1 to execute Replace HDD Replace SCN MFP PWB

E7-93 Copy, image send, FAX, filing, print image data process error

Trouble detection	MFP
Cause	Image compression data corruption HDD trouble SCN MFP PWB trouble
Check & Remedy	SIM60-1 to execute Replace HDD Replace SCN MFP PWB

E7-94 Image data process error

Trouble detection	MFP
Cause	Image compression data corruption HDD trouble SCN MFP PWB trouble
Check & Remedy	SIM60-1 to execute Replace HDD Replace SCN MFP PWB

E7-96 Memory check error

Trouble detection	MFP
Cause	Memory contact error Memory trouble SCN MFP PWB trouble
Check & Remedy	SIM60-1 to execute Check memory socket Replace SCN MFP PWB

E7-A0 LD PWB EEPROM/LD driver read/write error

Trouble detection	PCU
Cause	EEPROM/LD Driver trouble EEPROM/LD Driver access error
Check & Remedy	Check connection state of LD PWB, LSU PWB connector, harness Check connection state of PCU PWB, LSU PWB connector, harness Replace PCU PWB Replace LSU PWB

E7-A8 eMMC PWB error

Trouble detection	MFP
Cause	eMMC PWB contact trouble eMMC PWB trouble SCN MFP PWB trouble
Check & Remedy	Check contact state of eMMC PWB Replace eMMC PWB Replace SCN MFP PWB

E7-C0 TPM PWB access error

Trouble detection	MFP
Cause	TPM PWB connection trouble TPM PWB used in other MFP was attached
Check & Remedy	Power OFF/ON to cancel Check connection state of TPM PWB connector, harness

E7-C1 Security check error

Trouble detection	MFP
Cause	Program error TPM PWB trouble
Check & Remedy	Power OFF/ON to cancel Check connection state of TPM PWB connector, harness

EE-EC Automatic toner density adjustment error

Trouble detection	PCU
Cause	Sensor (TCS) trouble Developing unit trouble PCU PWB trouble
Check & Remedy	Replace sensor (TCS) Replace developing unit Replace PCU PWB

EE-EL Automatic toner density adjustment error (over toner)

Trouble detection	PCU
Cause	Sensor (TCS) trouble Developing unit trouble PCU PWB trouble
Check & Remedy	Replace sensor (TCS) Replace developing unit Replace PCU PWB

EE-EU Automatic toner density adjustment error (under toner)

Trouble detection	PCU
Cause	Sensor (TCS) trouble Developing unit trouble PCU PWB trouble
Check & Remedy	Replace sensor (TCS) Replace developing unit Replace PCU PWB

F1-00 Finisher communication error

Trouble detection	PCU
Cause	Connector, harness connection trouble Finisher PWB trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace finisher PWB Replace PCU PWB

F1-01 Finisher jogger operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (JOGHPS) trouble Motor (JOG_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (JOGHPS) Replace motor (JOG_M) Replace finisher PWB

F1-02 Finisher entry port transport operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (ENTRS_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-3 to execute Check connection state of connector, harness Replace motor (ENTRS_M) Replace finisher PWB

F1-03 Finisher oscillation operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNHPS) trouble Motor (FNMS) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNHPS) Replace motor (FNMS) Replace finisher PWB

F1-04 Finisher paddle trouble (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNPS2) trouble Motor (FNM10) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNPS2) Replace motor (FNM10) Replace finisher PWB

F1-04 Finisher paddle trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Clutch (FNCDP) trouble Sensor (FNHPP) trouble Motor (FNME) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace clutch (FNCDP) Replace sensor (FNHPP) Replace motor (FNME) Replace finisher PWB

F1-05 Finisher return operation trouble (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNPS3) trouble Motor (FNM2) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNPS3) Replace motor (FNM2) Replace finisher PWB

F1-06 Finisher paper exit transport operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (EXTRS_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-3 to execute Check connection state of connector, harness Replace motor (EXTRS_M) Replace finisher PWB

F1-08 Finisher stapler shift operation trouble (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNPS11) trouble Motor (FNM7) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNPS11) Replace motor (FNM7) Replace finisher PWB

F1-08 Finisher stapler shift operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (STMHP) trouble Motor (STPMV_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (STMHP) Replace motor (STPMV_M) Replace finisher PWB

F1-08 Finisher stapler shift operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNHPMSS) trouble Motor (FNMMSS) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNHPMSS) Replace motor (FNMMSS) Replace finisher PWB

F1-10 Finisher staple operation trouble (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNSTPLHP) trouble Motor (FNSTPLIF) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNSTRLHP) Replace motor (FNSTPLIF) Replace finisher PWB

F1-10 Finisher staple operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (STPMOV_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-3 to execute Check connection state of connector, harness Replace motor (STPMOV_M) Replace finisher PWB

F1-10 Finisher staple operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNHPDSS) trouble Motor (FNMSS) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNHPDSS) Replace motor (FNMSS) Replace finisher PWB

F1-11 Finisher paper exit operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (BLTHPS) trouble Motor (BLT_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (BLTHPS) Replace motor (BLT_M) Replace finisher PWB

F1-12 Finisher proof transport operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (PRFEX) trouble Motor (UPTRS_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (PRFEX) Replace motor (UPTRS_M) Replace finisher PWB

F1-13 Finisher paper exit guide plate operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (EXGPLTHP) trouble Motor (EXGPLT_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (EXGPLTHP) Replace motor (EXGPLT_M) Replace finisher PWB

F1-14 Finisher paper rear edge flap operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNHPFR) trouble Motor (FNMFR) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNHPFR) Replace motor (FNMFR) Replace finisher PWB

F1-15 Finisher tray lift operation trouble (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNPS9/FNPS10) trouble Motor (FNM6) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNPS9/FNPS10) Replace motor (FNM6) Replace finisher PWB

F1-15 Finisher tray lift operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (UTRPH) trouble Motor (TRYLFT_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (UTRPH) Replace motor (TRYLFT_M) Replace finisher PWB

F1-15 Finisher tray lift operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNHPMT/FNULMT) trouble Motor (FNMGM) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNHPMT/FNULMT) Replace motor (FNMGM) Replace finisher PWB

F1-16 Finisher escape/saddle transport switching operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNHPFECE) trouble Motor (FNMFECE) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNHPFECE) Replace motor (FNMFECE) Replace finisher PWB

F1-18 Finisher paper bundle hold operation trouble (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNPS8) trouble Motor (FNM10) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNPS8) Replace motor (FNM10) Replace finisher PWB

F1-19 Finisher front paper alignment operation trouble (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNPS4) trouble Motor (FNM3) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNPS4) Replace motor (FNM3) Replace finisher PWB

F1-19 Finisher front paper alignment operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNHPJF) trouble Motor (FNMJF) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNHPJF) Replace motor (FNMJF) Replace finisher PWB

F1-20 Finisher rear paper alignment operation trouble (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNPS5) trouble Motor (FNM4) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNPS5) Replace motor (FNM4) Replace finisher PWB

F1-20 Finisher rear paper alignment operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNHPJR) trouble Motor (FNMJR) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNHPJR) Replace motor (FNMJR) Replace finisher PWB

F1-22 Finisher paper bundle exit operation trouble (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNPS7) trouble Motor (FNM5) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNPS7) Replace motor (FNM5) Replace finisher PWB

F1-22 Finisher paper bundle exit operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNHPAR) trouble Motor (FNMAR) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNHPAR) Replace motor (FNMAR) Replace finisher PWB

F1-23 Safety switch trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNDOCFD) trouble Switch (FNOCFD/FNSSS) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute Check connection state of connector, harness Replace sensor (FNDOCFD) Replace switch (FNOCFD/FNSSS) Replace finisher PWB

F1-28 Finisher stacking operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (HITHP) trouble Motor (PSN_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (HITHP) Replace motor (PSN_M) Replace finisher PWB

F1-28 Finisher stacking operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNHPGKS) trouble Motor (FNMGRS) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNHPGKS) Replace motor (FNMGRS) Replace finisher PWB

F1-29 Fuse blown trouble (1K)

Trouble detection	PCU
Cause	Over current
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace defective solenoid Replace defective motor Replace finisher PWB

F1-30 Finisher saddle communication error (3K)

Trouble detection	PCU
Cause	Firmware is not latest version Connector, harness connection trouble Finisher PWB trouble
Check & Remedy	SIM49-1 to execute Check connection state of connector, harness Replace finisher PWB

F1-31 Finisher saddle folding operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (FLTRS_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-3 to execute Check connection state of connector, harness Replace motor (FLTRS_M) Replace finisher PWB

F1-31 Finisher paper exit operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (FNME) trouble Finisher PWB trouble
Check & Remedy	SIM3-3 to execute Check connection state of connector, harness Replace motor (FNME) Replace finisher PWB

F1-32 Finisher punch unit communication error (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Punch PWB trouble Finisher PWB trouble
Check & Remedy	Check connection state of connector, harness Replace punch PWB Replace finisher PWB

F1-32 Finisher punch unit communication error (3K)

Trouble detection	PCU
Cause	Firmware is not latest version Connector, harness connection trouble Punch PWB trouble Finisher PWB trouble
Check & Remedy	SIM49-1 to execute Check connection state of connector, harness Replace punch PWB Replace finisher PWB

F1-33 Finisher punch shifting operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (PNCHMVHP) trouble Motor (PNCHMV_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (PNCHMVHP) Replace motor (PNCHMV_M) Replace finisher PWB

F1-33 Finisher punch shifting operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FCHPR) trouble Motor (FCMR) trouble Punch PWB trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FCHPR) Replace motor (FCMR) Replace punch PWB Replace finisher PWB

F1-34 Finisher punch operation trouble (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FCPI_S) trouble Motor (FCMOT) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FCPI_S) Replace motor (FCMOT) Replace finisher PWB

F1-34 Finisher punch operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (PNCHHP/PNCHMVHP) trouble Motor (PNCH_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (PNCHHP/PNCHMVHP) Replace motor (PNCH_M) Replace finisher PWB

F1-34 Finisher punch operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FCHPP) trouble Motor (FCP) trouble Punch PWB trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FCHPP) Replace motor (FCP) Replace punch PWB Replace finisher PWB

F1-35 Finisher punch registration operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (PAPPOS/PAPPOSH) trouble Motor (STSMOV_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (PAPPOS/PAPPOSH) Replace motor (STSMOV_M) Replace finisher PWB

F1-37 Finisher backup memory error (Inner)

Trouble detection	PCU
Cause	Malfunction due to noises Finisher PWB trouble
Check & Remedy	Replace finisher PWB

F1-37 Finisher backup memory error (3K)

Trouble detection	PCU
Cause	Finisher PWB trouble
Check & Remedy	Power OFF/ON to cancel Replace finisher PWB

F1-38 Finisher punch backup memory error (Inner)

Trouble detection	PCU
Cause	Malfunction due to noises Punch PWB trouble
Check & Remedy	Set punch specification Replace punch PWB

F1-38 Finisher punch backup memory error (3K)

Trouble detection	PCU
Cause	Punch PWB trouble
Check & Remedy	Power OFF/ON to cancel Replace punch PWB

F1-41 Finisher saddle paper positioning operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (ENDSHP) trouble Motor (ENDS_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (ENDSHP) Replace motor (ENDS_M) Replace finisher PWB

F1-41 Finisher saddle paper positioning operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FSHPSR) trouble Motor (FSMSR) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FSHPSR) Replace motor (FSMSR) Replace finisher PWB

F1-42 Finisher saddle switching operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FSHPEL) trouble Motor (FSMDLE) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FSHPEL) Replace motor (FSMDLE) Replace finisher PWB

F1-43 Finisher saddle alignment operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FSHPJ) trouble Motor (FSMJ) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FSHPJ) Replace motor (FSMJ) Replace finisher PWB

F1-44 Finisher saddle gripper operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FSHPG) trouble Motor (FSMG) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FSHPG) Replace motor (FSMG) Replace finisher PWB

F1-45 Finisher saddle staple operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FSHPDSS) trouble Motor (FSMS) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FSHPDSS) Replace motor (FSMS) Replace finisher PWB

F1-46 Finisher saddle folding operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FLDPLTHP) trouble Motor (FLDPLT_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FLDPLTHP) Replace motor (FLDPLT_M) Replace finisher PWB

F1-46 Finisher saddle folding operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FSMCF) trouble Motor (FSMF) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FSMCF) Replace motor (FSMF) Replace finisher PWB

F1-47 Finisher saddle paper transport operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FSHPP) trouble Motor (FSMC) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FSHPP) Replace motor (FSMC) Replace finisher PWB

F1-48 Finisher bundle transport upper pressure release / reference fence escape motor trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (UPRSRLHP) trouble Motor (UPRSRL_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (UPRSRLHP) Replace motor (UPRSRL_M) Replace finisher PWB

F1-49 Finisher bundle transport lower pressure release motor trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (LPRSRLHP) trouble Motor (LPRSRL_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (LPRSRLHP) Replace motor (LPRSRL_M) Replace finisher PWB

F1-50 Finisher - Main machine incompatible error

Trouble detection	PCU
Cause	Improper combination between main machine and finisher Finisher PWB trouble
Check & Remedy	Install finisher which is proper for main machine Replace finisher PWB

F1-51 Finisher communication error (3K)

Trouble detection	PCU
Cause	Firmware is not latest version Finisher PWB trouble
Check & Remedy	SIM49-1 to execute Replace finisher PWB

F1-53 Finisher - Main machine inconsistent error

Trouble detection	PCU
Cause	Firmware is not latest version Finisher PWB trouble
Check & Remedy	SIM49-1 to execute Replace finisher PWB

F1-54 Finisher punch unit destination inconsistent error (Inner) (3K)

Trouble detection	PCU
Cause	Improper destination setting of punch unit
Check & Remedy	Set proper destination of punch unit

F1-55 Finisher firmware inconsistent error

Trouble detection	PCU
Cause	Finisher firmware inconsistency
Check & Remedy	SIM49-1 to execute

F1-78 Finisher eco staple operation trouble (Inner)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNPS15) trouble Motor (FNM9) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNPS15) Replace motor (FNM9) Replace finisher PWB

F1-78 Finisher staple free stapler operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (FNMCSLS) trouble Motor (FNMSLS) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (FNMCSLS) Replace motor (FNMSLS) Replace finisher PWB

F1-83 Finisher guide operation trouble (3K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (FNMDT) trouble Finisher PWB trouble
Check & Remedy	SIM3-3 to execute Check connection state of connector, harness Replace motor (FNMDT) Replace finisher PWB

F1-89 Finisher shift operation trouble (1K)

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (SFTROLHP) trouble Motor (SFT_M) trouble Finisher PWB trouble
Check & Remedy	SIM3-2 to execute SIM3-3 to execute Check connection state of connector, harness Replace sensor (SFTROLHP) Replace motor (SFT_M) Replace finisher PWB

F2-22 Discharge lamp trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Discharge lamp trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace discharge lamp Replace PCU PWB

F2-39 Temperature sensor error

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (TH/HUD) trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace sensor (TH/HUD) Replace PCU PWB

F2-40 Toner density error

Trouble detection	PCU
Cause	Connector, harness connection trouble DV unit trouble Sensor (TCS) trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace DV unit Replace sensor (TCS) Replace PCU PWB

F2-58 Humidity sensor error

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (TH/HUD) trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace sensor (TH/HUD) Replace PCU PWB

F2-64 Toner supply trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble DV unit trouble Toner cartridge trouble Toner transport pipe section trouble Sensor (TCS) trouble Motor (TNM) trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace DV unit Replace toner cartridge Check transport pipe section Replace sensor (TCS) Replace motor (TNM) Replace PCU PWB

F2-70 Improper toner cartridge detection

Trouble detection	PCU
Cause	Improper toner cartridge is inserted Toner cartridge trouble PCU PWB trouble
Check & Remedy	Replace toner cartridge Replace PCU PWB

F2-74 Toner cartridge error

Trouble detection	PCU
Cause	Connector, harness connection trouble Toner cartridge trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace sensor (TH/HUD) Replace PCU PWB

F2-78 Image density sensor error

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (PCS) dirt or trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Clean sensor (PCS) or replace Replace PCU PWB

F3-12 Paper feed tray 1 lift operation trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Lift unit trouble Sensor (C1LUD) trouble Motor (C1LUM) trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace lift unit Replace sensor (C1LUD) Replace motor (C1LUM) Replace PCU PWB

F3-22 Desk paper feed tray 1 lift operation trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Lift unit trouble Sensor (C2LUD) trouble Motor (C2LUM) trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace lift unit Replace sensor (C2LUD) Replace motor (C2LUM) Replace PCU PWB

F6-00 SCN MFP PWB - FAX communication error

Trouble detection	MFP
Cause	Connector, harness connection trouble FAX PWB trouble
Check & Remedy	Check connection state of connector, harness Replace FAX PWB

F6-01 FAX EEPROM read/write error

Trouble detection	FAX
Cause	FAX EEPROM trouble FAX EEPROM access trouble
Check & Remedy	SIM66-3 to execute Replace FAX EEPROM Replace FAX PWB

F6-02 FAX power supply trouble

Trouble detection	FAX
Cause	Connector, harness connection trouble DC PWB trouble SCN MFP PWB trouble FAX PWB trouble
Check & Remedy	Check connection state of connector, harness Replace DC PWB Replace SCN MFP PWB Replace FAX PWB

F6-04 FAX modem operation trouble

Trouble detection	FAX
Cause	FAX modem chip operation trouble
Check & Remedy	Replace FAX PWB

F6-21 Improper combination of TEL/LIU PWB and FAX soft switch inconsistent error

Trouble detection	FAX
Cause	Improper destination of TEL/LIU PWB TEL/LIU PWB trouble
Check & Remedy	Check proper destination of TEL/LIU PWB Replace TEL/LIU PWB

F6-30 FAX power controller access error

Trouble detection	FAX
Cause	FAX power controller access trouble FAX power controller circuit trouble
Check & Remedy	SIM66-42 to execute Replace FAX PWB

F6-97 FAX and main machine inconsistent error

Trouble detection	MFP
Cause	Improper FAX PWB FAX PWB trouble
Check & Remedy	Replace FAX PWB

F6-98 FAX and main machine destination inconsistent error

Trouble detection	MFP
Cause	Main machine and FAX destination inconsistency
Check & Remedy	SIM26-6 to execute Check FAX destination

H2-00 Thermistor open trouble (TH_UM_AD2)

Trouble detection	PCU
Cause	Thermistor connector, harness connection trouble Fusing section connector connection trouble Thermistor trouble PCU PWB trouble AC PWB trouble Fusing unit not installed
Check & Remedy	SIM44-14 to execute Check connection state of thermistor connector, harness Check connection state of fusing section connector Replace thermistor Replace PCU PWB Replace AC PWB trouble Check fusing unit installed

H2-02 Thermistor open trouble (TH_US)

Trouble detection	PCU
Cause	Thermistor connector, harness connection trouble Fusing section connector connection trouble Thermistor trouble PCU PWB trouble AC PWB trouble Fusing unit not installed
Check & Remedy	SIM44-14 to execute Check connection state of thermistor connector, harness Check connection state of fusing section connector Replace thermistor Replace PCU PWB Replace AC PWB trouble Check fusing unit installed

H2-03 Thermistor open trouble (TH_UM_AD1)

Trouble detection	PCU
Cause	Thermistor connector, harness connection trouble Fusing section connector connection trouble Thermistor trouble PCU PWB trouble Fusing unit not installed Fusing unit trouble
Check & Remedy	SIM44-14 to execute Check connection state of thermistor connector, harness Check connection state of fusing section connector Replace thermistor Replace PCU PWB Check fusing unit installed Replace fusing unit

H2-06 Thermistor open trouble (TH_US2)

Trouble detection	PCU
Cause	Thermistor connector, harness connection trouble Fusing section connector connection trouble Thermistor trouble PCU PWB trouble AC PWB trouble Fusing unit not installed
Check & Remedy	SIM44-14 to execute Check connection state of thermistor connector, harness Check connection state of fusing section connector Replace thermistor Replace PCU PWB Replace AC PWB trouble Check fusing unit installed

H3-00 Fusing section high temperature error (TH_UM)

Trouble detection	PCU
Cause	Thermistor connector, harness connection trouble Thermistor trouble PCU PWB trouble AC PWB trouble
Check & Remedy	SIM44-14 to execute SIM5-2 to execute Check connection state of thermistor connector, harness Replace thermistor Replace PCU PWB Replace AC PWB SIM14 to cancel

H3-02 Fusing section high temperature error (TH_US)

Trouble detection	PCU
Cause	Thermistor connector, harness connection trouble Thermistor trouble PCU PWB trouble AC PWB trouble
Check & Remedy	SIM44-14 to execute SIM5-2 to execute Check connection state of thermistor connector, harness Replace thermistor Replace PCU PWB Replace AC PWB SIM14 to cancel

H4-00 Fusing section low temperature error (TH_UM)

Trouble detection	PCU
Cause	Thermistor connector, harness connection trouble Thermistor trouble Heater lamp trouble PCU PWB trouble Thermostat trouble AC PWB trouble
Check & Remedy	SIM44-14 to execute SIM5-2 to execute Check connection state of thermistor connector, harness Replace thermistor Replace heater lamp Replace PCU PWB Replace thermostat Replace AC PWB SIM14 to cancel

H4-02 Fusing section low temperature error (TH_US)

Trouble detection	PCU
Cause	Thermistor connector, harness connection trouble Thermistor trouble Heater lamp trouble PCU PWB trouble Thermostat trouble AC PWB trouble
Check & Remedy	SIM44-14 to execute SIM5-2 to execute Check connection state of thermistor connector, harness Replace thermistor Replace heater lamp Replace PCU PWB Replace thermostat Replace AC PWB SIM14 to cancel

H4-30 Thermistor input error (TH_UM)

Trouble detection	PCU
Cause	Thermistor connector, harness connection trouble Thermistor trouble Heater lamp trouble PCU PWB trouble
Check & Remedy	SIM5-2 to execute Check connection state of thermistor connector, harness Replace thermistor Replace heater lamp Replace PCU PWB SIM14 to cancel

H5-01 5 times continuous POD1 not reached jam

Trouble detection	PCU
Cause	Fusing jam was not canceled completely (jam paper remains) Fusing unit installation trouble Fusing unit, drive section trouble Sensor (POD1) connector, harness connection trouble Sensor (POD1) trouble PCU PWB trouble
Check & Remedy	Check fusing unit installed Check fusing drive section Check connection state of sensor (POD1) connector, harness Replace sensor (POD1) Replace PCU PWB Replace fusing unit SIM14 to cancel

H7-10 Recovery error from fuser low temperature (TH_UM)

Trouble detection	PCU
Cause	Thermistor connector, harness connection trouble Thermistor trouble Heater lamp trouble PCU PWB trouble Thermostat trouble AC PWB trouble
Check & Remedy	SIM5-2 to execute Check connection state of thermistor connector, harness Replace thermistor Replace heater lamp Replace PCU PWB Replace thermostat Replace AC PWB

H7-12 Recovery error from fuser low temperature (TH_US)

Trouble detection	PCU
Cause	Thermistor connector, harness connection trouble Thermistor trouble Heater lamp trouble PCU PWB trouble Thermostat trouble AC PWB trouble
Check & Remedy	SIM5-2 to execute Check connection state of thermistor connector, harness Replace thermistor Replace heater lamp Replace PCU PWB Replace thermostat Replace AC PWB

L1-00 Scanner feed trouble

Trouble detection	SCN
Cause	Connector, harness connection trouble Scanner unit trouble Sensor (MHPS) trouble Motor (MIM) trouble SCN MFP PWB trouble
Check & Remedy	SIM1-1 to execute Check connection state of connector, harness Replace scanner unit Replace sensor (MHPS) Replace motor (MIM) Replace SCN MFP PWB

L3-00 Scanner return trouble

Trouble detection	SCN
Cause	Connector, harness connection trouble Scanner unit trouble Sensor (MHPS) trouble Motor (MIM) trouble SCN MFP PWB trouble
Check & Remedy	SIM1-1 to execute Check connection state of connector, harness Replace scanner unit Replace sensor (MHPS) Replace motor (MIM) Replace SCN MFP PWB

L4-02 Paper feed motor trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (CPFM) trouble PCU PWB trouble
Check & Remedy	SIM6-1 to execute Check connection state of connector, harness Replace motor (CPFM) Replace PCU PWB

L4-03 Fusing motor trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (FUM) trouble PCU PWB trouble
Check & Remedy	SIM6-1 to execute Check connection state of connector, harness Replace motor (FUM) Replace PCU PWB

L4-09 Registration motor trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (RRM) trouble PCU PWB trouble
Check & Remedy	SIM6-1 to execute Check connection state of connector, harness Replace motor (RRM) Replace PCU PWB

L4-11 Offset motor trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (OSM) trouble Sensor (SHPOS) trouble PCU PWB trouble
Check & Remedy	SIM6-1 to execute SIM30-1 to execute Check connection state of connector, harness Replace motor (OSM) Replace sensor (SHPOS) Replace PCU PWB

L4-16 Fusing pressure release trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Pressure release drive gear and idle gear trouble Motor (PRM) trouble Sensor (HLPCD) trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace pressure release drive gear and idle gear Replace motor (PRM) Replace sensor (HLPCD) Replace PCU PWB

L4-17 Drum motor trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (DM) trouble PCU PWB trouble
Check & Remedy	SIM25-1 to execute Check connection state of connector, harness Replace motor (DM) Replace PCU PWB

L4-32 Power supply fan 1 trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Fan (PSFM1) trouble PCU PWB trouble
Check & Remedy	SIM6-2 to execute Check connection state of connector, harness Replace fan (PSFM1) Replace PCU PWB

L4-39 Paper exit fan 1 trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Fan (POFM1) trouble PCU PWB trouble
Check & Remedy	SIM6-2 to execute Check connection state of connector, harness Replace fan (POFM1) Replace PCU PWB

L4-43 Paper exit fan 2 trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Fan (POFM2) trouble PCU PWB trouble
Check & Remedy	SIM6-2 to execute Check connection state of connector, harness Replace fan (POFM2) Replace PCU PWB

L4-50 Process fan 1 trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Fan (PROFM1) trouble PCU PWB trouble
Check & Remedy	SIM6-2 to execute Check connection state of connector, harness Replace fan (PROFM1) Replace PCU PWB

L4-51 Process fan 2 trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Fan (PROFM2) trouble PCU PWB trouble
Check & Remedy	SIM6-2 to execute Check connection state of connector, harness Replace fan (PROFM2) Replace PCU PWB

L4-75 Paper exit motor trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (POM) trouble PCU PWB trouble
Check & Remedy	SIM6-1 to execute Check connection state of connector, harness Replace motor (POM) Replace PCU PWB

L4-76 Reverse motor trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (SBM) trouble PCU PWB trouble
Check & Remedy	SIM6-1 to execute Check connection state of connector, harness Replace motor (SBM) Replace PCU PWB

L4-77 ADU motor 1 trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (ADUM1) trouble PCU PWB trouble
Check & Remedy	SIM6-1 to execute Check connection state of connector, harness Replace motor (ADUM1) Replace PCU PWB

L4-78 ADU motor 2 trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (ADUM2) trouble PCU PWB trouble
Check & Remedy	SIM6-1 to execute Check connection state of connector, harness Replace motor (ADUM2) Replace PCU PWB

L4-79 Transport motor trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (PFM) trouble PCU PWB trouble
Check & Remedy	SIM6-1 to execute Check connection state of connector, harness Replace motor (PFM) Replace PCU PWB

L6-10 Polygon motor trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (PGM) trouble LSU PWB trouble
Check & Remedy	SIM6-1 to execute Check connection state of connector, harness Replace motor (PGM) Replace LSU PWB Replace LSU unit

L8-01 Full wave signal detection error

Trouble detection	PCU
Cause	Connector, harness connection trouble Power supply unit trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace power supply unit Replace PCU PWB

L8-02 Full wave signal error

Trouble detection	PCU
Cause	Connector, harness connection trouble Power supply unit trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace power supply unit Replace PCU PWB

L8-03 Abnormal voltage input error

Trouble detection	PCU
Cause	Connector, harness connection trouble AC MONITOR PWB trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace AC MONITOR PWB Replace PCU PWB

L8-20 Power controller communication error

Trouble detection	MFP
Cause	SCN MFP PWB trouble
Check & Remedy	Replace SCN MFP PWB

U1-01 Battery trouble

Trouble detection	MFP
Cause	Battery life Battery circuit trouble
Check & Remedy	Check battery voltage is 2.5V or above Replace battery

U2-00 MFP EEPROM read/write error

Trouble detection	MFP
Cause	EEPROM trouble EEPROM socket contact trouble Strong external noises
Check & Remedy	Check power environment Replace EEPROM Replace SCN MFP PWB

U2-05 Erroneous detection of account management data/internal authentication DB table error

Trouble detection	MFP
Cause	Authentication table error If frequent occurrence of this error is found, the following devices may possibly be damaged HDD/mSATA SSD/eMMC PWB trouble SCN MFP PWB trouble
Check & Remedy	Replace HDD/mSATA SSD/eMMC PWB Replace SCN MFP PWB

U2-11 MFP EEPROM counter check sum error

Trouble detection	MFP
Cause	EEPROM trouble EEPROM socket contact trouble Strong external noises
Check & Remedy	Replace SCN MFP PWB SIM16 to cancel

U2-30 SCN MFP PWB and PCU PWB data inconsistency

Trouble detection	MFP
Cause	When replacing SCN MFP PWB or PCU PWB, EEPROM which was mounted on PWB before replacement is not mounted on new PWB Replace SCN MFP PWB Replace PCU PWB
Check & Remedy	Check EEPROM is properly set Replace SCN MFP PWB Replace PCU PWB

U2-40 eMMC PWB system storage data area error

Trouble detection	MFP
Cause	eMMC PWB system storage data area error
Check & Remedy	Power OFF/ON and backup data is written into eMMC PWB and machine is automatically booted

U2-41 HDD/mSATA SSD storage data area error

Trouble detection	MFP
Cause	File error occurs saved data area, disabling backup of saved file of machine adjustment value in mSATA SSD
Check & Remedy	Power OFF/ON to cancel Replace HDD/mSATA SSD SIM62 to execute HDD format SIM16 to cancel

U2-42 Machine adjustment data error

Trouble detection	MFP
Cause	Saved file of machine adjustment value in eMMC PWB and system saved data in HDD/mSATA SSD error
Check & Remedy	Perform backup of eMMC PWB, mSATA SSD and HDD Replace HDD/mSATA SSD SIM62 to execute HDD format Adjust machine again and set adjustment values

U2-50 User authentication data check sum error

Trouble detection	MFP
Cause	HDD trouble SCN MFP PWB trouble Strong external noises
Check & Remedy	Check data related to check sum error (address book, image send system registration data) and register again Replace HDD Replace SCN MFP PWB SIM16 to cancel

U2-60 Watermark check error

Trouble detection	MFP
Cause	Watermark data trouble SCN MFP PWB trouble
Check & Remedy	SIM49-5 to execute Replace SCN MFP PWB

U2-70 OCR dictionary check error

Trouble detection	MFP
Cause	OCR dictionary data trouble
Check & Remedy	SIM49-6 to execute

U2-71 Audio IC error

Trouble detection	MFP
Cause	Audio IC trouble SCN MFP PWB trouble
Check & Remedy	Replace SCN MFP PWB

U2-72 Sound data check error

Trouble detection	MFP
Cause	Sound data trouble
Check & Remedy	SIM49-7 to execute

U2-73 NFC tag error

Trouble detection	MFP
Cause	Connector, harness connection trouble NFC HOME KEY PWB trouble (for MX-Mxx70 series) HOME KEY PWB trouble (for MX-Mxx50 series) SCN MFP PWB trouble
Check & Remedy	Check connection state of connector, harness Replace NFC HOME KEY PWB (for MX-Mxx70 series) Replace HOME KEY PWB (for MX-Mxx50 series) Replace SCN MFP PWB

U2-80 SCN EEPROM read/write error

Trouble detection	SCN
Cause	EEPROM socket contact trouble EEPROM trouble SCN MFP PWB trouble
Check & Remedy	Check contact of EEPROM socket Replace EEPROM Replace SCN MFP PWB SIM16 to cancel

U2-81 SCN EEPROM check sum error

Trouble detection	SCN
Cause	EEPROM socket contact trouble EEPROM trouble SCN MFP PWB trouble
Check & Remedy	Check contact of EEPROM socket Replace EEPROM Replace SCN MFP PWB SIM16 to cancel

U2-90 PCU EEPROM read/write error

Trouble detection	PCU
Cause	EEPROM socket contact trouble EEPROM trouble PCU PWB trouble
Check & Remedy	Check contact of EEPROM socket Check SIM adjustment values of engine and adjust again if they are improper Replace EEPROM Replace PCU PWB SIM16 to cancel

U2-91 PCU EEPROM check sum error

Trouble detection	PCU
Cause	EEPROM socket contact trouble Replace EEPROM Replace PCU PWB
Check & Remedy	Check contact of EEPROM socket Replace EEPROM Replace PCU PWB SIM16 to cancel

U5-00 SPF communication error

Trouble detection	SCN
Cause	Malfunction due to noises Connector, harness connection trouble DSPF PWB trouble
Check & Remedy	Power OFF/ON to cancel Check connection state of connector, harness Replace DSPF PWB

U5-16 SPF fan trouble

Trouble detection	SCN
Cause	Connector, harness connection trouble
Check & Remedy	SIM2-3 to execute Check connection state of connector, harness Replace fan (SPFFAN)

U5-20 SPF transport trouble

Trouble detection	SCN
Cause	Connector, harness connection trouble Motor (SPFM) trouble
Check & Remedy	SIM2-3 to execute Check connection state of connector, harness Replace motor (SPFM)

U5-30 SPF document feed tray lift up trouble

Trouble detection	SCN
Cause	Lift up trouble is detected 5 times continuously Connector, harness connection trouble Sensor (STLD/STUD) trouble DSPF PWB trouble
Check & Remedy	Check connection state of connector, harness Replace sensor (STLD/STUD) Replace DSPF PWB

U5-31 SPF document feed tray lift down trouble

Trouble detection	SCN
Cause	Lift down trouble is not detected within specified time Connector, harness connection trouble Sensor (STLD/STUD) trouble DSPF PWB trouble
Check & Remedy	Check connection state of connector, harness Replace sensor (STLD/STUD) Replace DSPF PWB

U6-00 PCU PWB - Paper feed desk communication error

Trouble detection	PCU
Cause	Malfunction due to noises Connector, harness connection trouble Desk control PWB trouble PCU PWB trouble
Check & Remedy	Power OFF/ON to cancel Check connection state of connector, harness Replace desk control PWB Replace PCU PWB

U6-01 Desk paper feed tray 2 lift trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (D1LUD) trouble Desk control PWB trouble Lift unit trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace sensor (D1LUD) Replace desk control PWB Replace lift unit Replace PCU PWB

U6-02 Desk paper feed tray 3 lift trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (D2LUD) trouble Desk control PWB trouble Lift unit trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace sensor (D2LUD) Replace desk control PWB Replace lift unit Replace PCU PWB

U6-09 LCC lift trouble

Trouble detection	PCU
Cause	Lift mechanism trouble Sensor (LRE) trouble Motor (LLM) trouble LCC main PWB trouble
Check & Remedy	SIM4-2, 4-3 to execute Check lift unit Replace sensor (LRE) Replace motor (LLM) Replace LCC main PWB

U6-10 Desk paper transport trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (DPFM) trouble Desk control PWB trouble
Check & Remedy	SIM4-2, 4-3 to execute Check connection state of connector, harness Replace motor (DPFM) Replace desk control PWB

U6-20 LCC PWB - PCU PWB communication error

Trouble detection	PCU
Cause	Malfunction due to noises Connector, harness connection trouble LCC main PWB trouble PCU PWB trouble
Check & Remedy	Power OFF/ON to cancel Check connection state of connector, harness Replace LCC main PWB Replace PCU PWB

U6-21 LCC paper transport trouble

Trouble detection	PCU
Cause	Paper transport mechanism trouble Moto (LPFM) trouble LCC main PWB trouble
Check & Remedy	SIM4-3 to execute Check paper transport mechanism Replace moto (LPFM) Replace LCC main PWB

U6-22 LCC 24V power trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble LCC main PWB trouble Main machine power unit trouble
Check & Remedy	Check connection state of connector, harness Replace LCC main PWB Replace main machine power unit

U6-23 LCC tray descending trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Switch (LWRSW) trouble LCC main PWB trouble
Check & Remedy	SIM4-3 to execute Check connection state of connector, harness Replace switch (LWRSW) Replace LCC main PWB

U6-50 Desk - Main machine combination trouble

Trouble detection	PCU
Cause	Improper combination between main machine and desk Desk control PWB trouble
Check & Remedy	Install desk which is proper for main machine Replace desk control PWB

U6-51 LCC - Main machine combination trouble

Trouble detection	PCU
Cause	Improper combination between main machine and LCC LCC main PWB trouble PCU PWB trouble
Check & Remedy	Install LCC which is proper for main machine Replace LCC main PWB Replace PCU PWB

U6-52 Desk communication error

Trouble detection	PCU
Cause	Connector, harness connection trouble between main machine and paper feed tray 2 PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace PCU PWB

U6-54 LCC firmware inconsistent error

Trouble detection	PCU
Cause	Firmware version is inconsistency
Check & Remedy	SIM49-1 to execute

U6-55 Desk firmware inconsistent error

Trouble detection	PCU
Cause	Firmware version is inconsistency
Check & Remedy	SIM49-1 to execute

U7-50 Vendor machine communication error

Trouble detection	MFP
Cause	Strong external noises Improper setting of vendor machinespecifications Vendor machine trouble Connector, harness connection trouble SCN MFP PWB trouble
Check & Remedy	Power OFF/ON to cancel Change specification of vendor machine Check connection state of connector, harness Replace SCN MFP PWB

U7-51 Vendor machine operation trouble

Trouble detection	MFP
Cause	Vendor machine trouble Connector, harness connection trouble
Check & Remedy	Repair vendor machine referring to detailed error code Check connection state of connector, harness

U9-01 Touch panel trouble

Trouble detection	MFP
Cause	Connector, harness connection trouble Touch panel trouble SCN MFP PWB trouble
Check & Remedy	Check connection state of connector, harness Replace touch panel Replace SCN MFP PWB

UC-02 ASIC CPT error

Trouble detection	SCN
Cause	SCN MFP PWB trouble
Check & Remedy	Replace SCN MFP PWB

UC-12 ASIC CPT error (DSPF)

Trouble detection	SCN
Cause	DSPF PWB trouble
Check & Remedy	Replace DSPF PWB

UC-20 ASIC DOCC error

Trouble detection	SCN
Cause	SCN MFP PWB trouble
Check & Remedy	Replace SCN MFP PWB

UC-30 ASIC DOCC error (DSPF)

Trouble detection	SCN
Cause	DSPF PWB trouble
Check & Remedy	Replace DSPF PWB

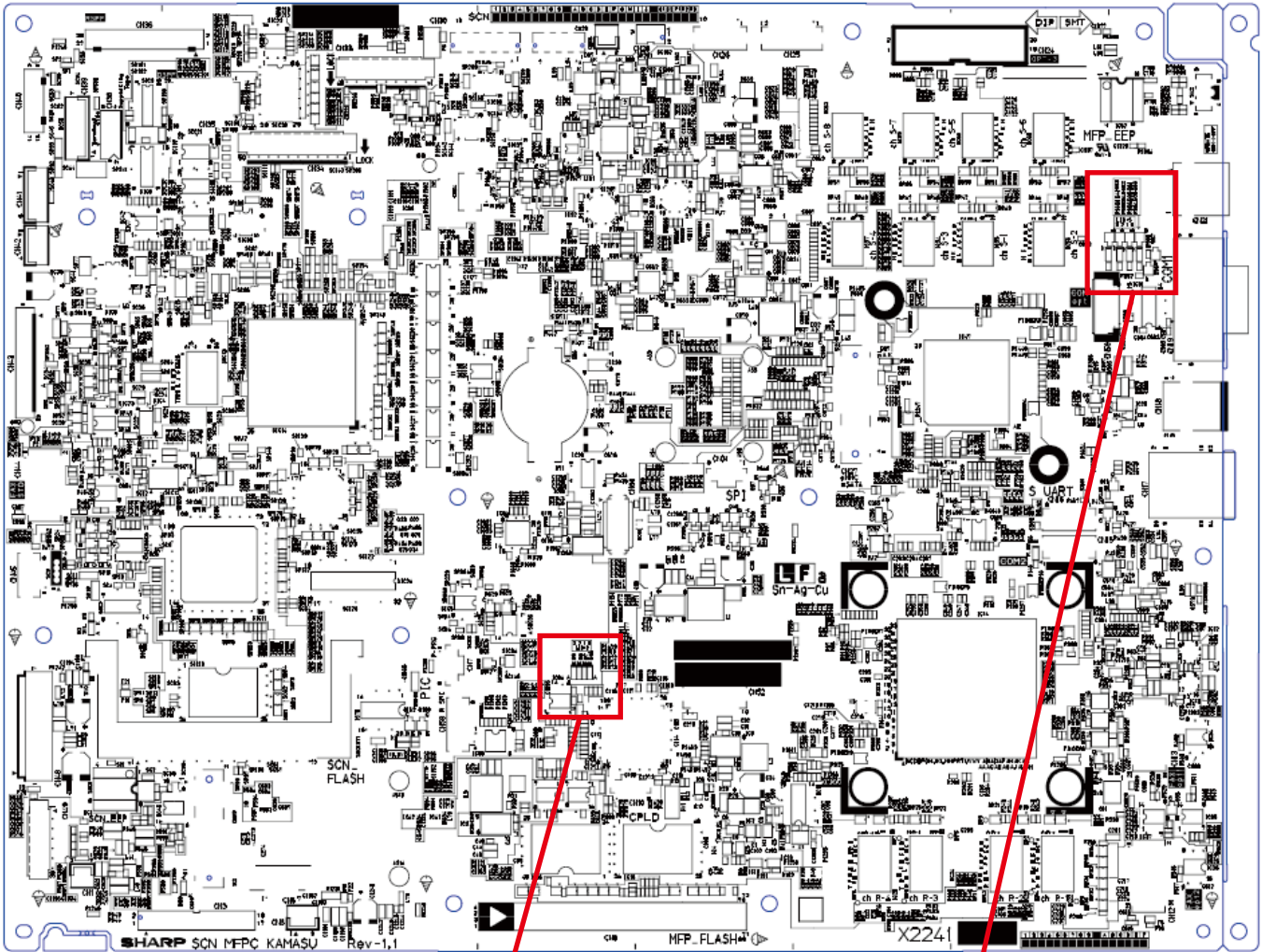
H. LED status and errors of SCN MFP PWB

Check LED status of SCN MFP PWB to presume error content and its cause when machine cannot booted.
Process content and LED display.

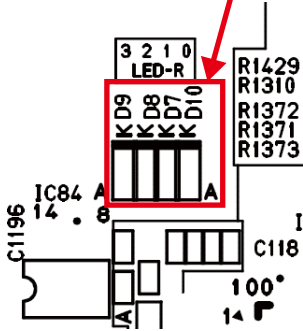
Lighting up status of LED-S and LED-R.

LED status	Condition	Countermeasure at error
All eight LED lighting	Normal	-
Other status (blinking or lighting)	Error	Replace eMMC PWB → If the same condition remained, replace SCN MFP PWB

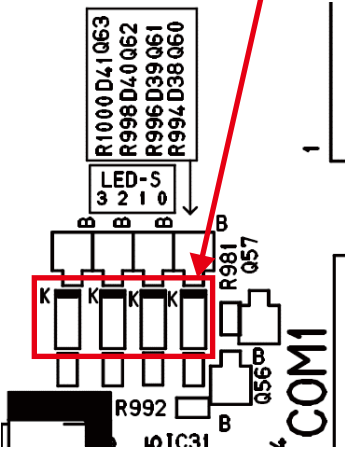
SCN MFPC PWB



LED-R LED



LED-S LED



2. JAM and troubleshooting

A. JAM code list

(1) Main machine, DESK

JAM code	JAM content
APPD1_N	APPD1 not-reached JAM
APPD1_S	APPD1 remaining JAM
APPD2_N	APPD2 not-reached JAM
APPD2_S	APPD2 remaining JAM
C1PFD_N1	C1PFD not-reached JAM (Tray 1 paper feed)
C1PFD_N2	C1PFD not-reached JAM (Tray 2 paper feed)
C1PFD_N3	C1PFD not-reached JAM (Tray 3 paper feed)
C1PFD_N4	C1PFD not-reached JAM (Tray 4 paper feed)
C1PFD_NL	C1PFD not-reached JAM (LCC paper feed)
C1PFD_NT1	C1PFD not-reached JAM (Tandem left paper feed)
C1PFD_NT2	C1PFD not-reached JAM (Tandem right paper feed)
C1PFD_S1	C1PFD remaining JAM (Tray 1 paper feed)
C1PFD_S2	C1PFD remaining JAM (Tray 2 paper feed)
C1PFD_S3	C1PFD remaining JAM (Tray 3 paper feed)
C1PFD_S4	C1PFD remaining JAM (Tray 4 paper feed)
C1PFD_SL	C1PFD remaining JAM (LCC paper feed)
C1PFD_ST1	C1PFD remaining JAM (Tandem left paper feed)
C1PFD_ST2	C1PFD remaining JAM (Tandem right paper feed)
C1PPFD_S1	C1PPFD remaining JAM (Tray 1 paper feed)
C2PFD_N3	C2PFD not-reached JAM (Tray 3 paper feed)
C2PFD_N4	C2PFD not-reached JAM (Tray 4 paper feed)
C2PFD_NT1	C2PFD not-reached JAM (Tandem left paper feed)
C2PFD_NT2	C2PFD not-reached JAM (Tandem right paper feed)
C2PFD_S2	C2PFD remaining JAM (Tray 2 paper feed)
C2PFD_S3	C2PFD remaining JAM (Tray 3 paper feed)
C2PFD_S4	C2PFD remaining JAM (Tray 4 paper feed)
C2PFD_ST1	C2PFD remaining JAM (Tandem left paper feed)
C2PFD_ST2	C2PFD remaining JAM (Tandem right paper feed)
D1PPD_N04	D1PPD not-reached JAM (Tray 4 paper feed)
D1PPD_S03	D1PPD remaining JAM (Tray 3 paper feed)
D1PPD_S04	D1PPD remaining JAM (Tray 4 paper feed)
D1PPD1_ST1	D1PPD1 remaining JAM (Tandem left paper feed)
D1PPD2_NT1	D1PPD2 not-reached JAM (Tandem left paper feed)
D1PPD2_ST1	D1PPD2 remaining JAM (Tandem left paper feed)
D2PPD_S04	D2PPD remaining JAM (Tray 4 paper feed)
DESK_ERR	Desk communication error detection
DPFD1_NT1	DPFD1 not-reached JAM (Tandem left paper feed)
DPFD1_ST1	DPFD1 remaining JAM (Tandem left paper feed)
DPFD1_ST2	DPFD1 remaining JAM (Tandem right paper feed)
DRUM	Drum JAM
FUSER	Fuser JAM
MFT	Manual feed tray paper feed JAM (MPFD not-reached)
MFT_1ST	Manual feed tray paper feed JAM (check paper loading state)
MFT_LE	Manual feed tray paper feed JAM (paper feed roller needs to be replaced)
MFT_RT	Manual feed tray paper feed JAM (check paper state)
MPFD_S	MPFD remaining JAM
MTR_ILG	Motor driver trouble JAM
NO_MATCH	Parameter error
P_FFPD_N1	FPFD not-reached JAM (Tray 1 paper feed)
P_FFPD_N2	FPFD not-reached JAM (Tray 2 paper feed)
P_FFPD_N3	FPFD not-reached JAM (Tray 3 paper feed)
P_FFPD_N4	FPFD not-reached JAM (Tray 4 paper feed)
P_FFPD_NA	FPFD not-reached JAM (ADU refeed paper)
P_FFPD_NL	FPFD not-reached JAM (LCC paper feed)
P_FFPD_NM	FPFD not-reached JAM (Manual paper feed)
P_FFPD_NT1	FPFD not-reached JAM (Tandem left paper feed)
P_FFPD_NT2	FPFD not-reached JAM (Tandem right paper feed)
P_FFPD_S1	FPFD remaining JAM (Tray 1 paper feed)
P_FFPD_S2	FPFD remaining JAM (Tray 2 paper feed)
P_FFPD_S3	FPFD remaining JAM (Tray 3 paper feed)
P_FFPD_S4	FPFD remaining JAM (Tray 4 paper feed)
P_FFPD_SA	FPFD remaining JAM (ADU refeed paper)
P_FFPD_SL	FPFD remaining JAM (LCC paper feed)
P_FFPD_SM	FPFD remaining JAM (Manual paper feed)

JAM code	JAM content
P_FFPD_ST1	FPFD remaining JAM (Tandem left paper feed)
P_FFPD_ST2	FPFD remaining JAM (Tandem right paper feed)
POD1_N	POD1 not-reached JAM
POD1_NA	POD1 not-reached JAM (jam at second surface)
POD1_S	POD1 remaining JAM
POD1_SA	POD1 remaining JAM (jam at second surface)
POD2_N	POD2 not-reached JAM
POD2_S	POD2 remaining JAM
POD3_N	POD3 not-reaching JAM
POD3_S	POD3 remaining JAM
POD4_NB	POD4 not-reached JAM (before switchback)
POD4_SA	POD4 remaining JAM (after switchback)
POD4_SB	POD4 remaining JAM (before switchback)
PPD2_N1	PPD2 not-reached JAM (Tray 1 paper feed)
PPD2_N1_D	PPD2 not-reached JAM (Tray 1 paper feed) (delay of paper just before jam from PS)
PPD2_N2	PPD2 not-reached JAM (Tray 2 paper feed)
PPD2_N2_D	PPD2 not reached JAM (Tray 2 paper feed) (delay of paper just before jam from PS)
PPD2_N3	PPD2 not-reached JAM (Tray 3 paper feed)
PPD2_N3_D	PPD2 not-reached JAM (Tray 3 paper feed) (delay of paper just before jam from PS)
PPD2_N4	PPD2 not-reached JAM (Tray 4 paper feed)
PPD2_N4_D	PPD2 not-reached JAM (Tray 4 paper feed) (delay of paper just before jam from PS)
PPD2_NA	PPD2 not-reached JAM (ADU refeed paper)
PPD2_NA_D	PPD2 not-reached JAM (ADU refeed paper) (delay of paper just before jam from PS)
PPD2_NL	PPD2 not-reached JAM (LCC paper feed)
PPD2_NL_D	PPD2 not-reached JAM (LCC paper feed) (delay of paper just before jam from PS)
PPD2_NM	PPD2 not-reached JAM (Manual paper feed)
PPD2_NM_D	PPD2 not-reached JAM (Manual paper feed) (delay of paper just before jam from PS)
PPD2_NT1	PPD2 not-reached JAM (Tandem left paper feed)
PPD2_NT1_D	PPD2 not-reached JAM (Tandem left paper feed) (delay of paper just before jam from PS)
PPD2_NT2	PPD2 not-reached JAM (Tandem right paper feed)
PPD2_NT2_D	PPD2 not-reached JAM (Tandem right paper feed) (delay of paper just before jam from PS)
PPD2_S1	PPD2 remaining JAM (Tray 1 paper feed)
PPD2_S1_D	PPD2 remaining JAM (Tray 1 paper feed) (delay of paper just before jam from PS)
PPD2_S2	PPD2 remaining JAM (Tray 2 paper feed)
PPD2_S2_D	PPD2 remaining JAM (Tray 2 paper feed) (delay of paper just before jam from PS)
PPD2_S3	PPD2 remaining JAM (Tray 3 paper feed)
PPD2_S3_D	PPD2 remaining JAM (Tray 3 paper feed) (delay of paper just before jam from PS)
PPD2_S4	PPD2 remaining JAM (Tray 4 paper feed)
PPD2_S4_D	PPD2 remaining JAM (Tray 4 paper feed) (delay of paper just before jam from PS)
PPD2_SA	PPD2 remaining JAM (ADU refeed paper)
PPD2_SA_D	PPD2 remaining JAM (ADU refeed paper) (delay of paper just before jam from PS)
PPD2_SL	PPD2 remaining JAM (LCC paper feed)
PPD2_SL_D	PPD2 remaining JAM (LCC paper feed) (delay of paper just before jam from PS)
PPD2_SM	PPD2 remaining JAM (Manual paper feed)
PPD2_SM_D	PPD2 remaining JAM (Manual paper feed) (delay of paper just before jam from PS)
PPD2_ST1	PPD2 remaining JAM (Tandem left paper feed)
PPD2_ST1_D	PPD2 remaining JAM (Tandem left paper feed) (delay of paper just before jam from PS)
PPD2_ST2	PPD2 remaining JAM (Tandem right paper feed)
PPD2_ST2_D	PPD2 remaining JAM (Tandem right paper feed) (delay of paper just before jam from PS)
PRI_JAM	Time out for image ready
SIZE_ILG	Size illegal JAM
STOP_JAM	Stop request JAM
TRAY1	Tray 1 paper feed JAM (C1PPFD not-reached)
TRAY1_1ST	Tray 1 paper feed JAM (check paper loading state)

JAM code	JAM content
TRAY1_LE	Tray 1 paper feed JAM (paper feed roller needs to be replaced)
TRAY1_RT	Tray 1 paper feed JAM (check paper state)
TRAY2	C2PFD not-reached JAM (Tray 2 paper feed)
TRAY2_1ST	Tray 2 paper feed JAM (check paper loading state)
TRAY2_LE	Tray 2 paper feed JAM (paper feed roller needs to be replaced)
TRAY2_RT	Tray 2 paper feed JAM (check paper state)
TRAY3	Tray 3 (Tandem left) paper feed JAM
TRAY3	Tray 3 paper feed JAM (D1PPD not-reached)
TRAY3_1ST	Tray 3 paper feed JAM (check paper loading state)
TRAY3_1ST	Tray 3 (Tandem left) paper feed JAM (check paper loading state)
TRAY3_LE	Tray 3 paper feed JAM (paper feed roller needs to be replaced)
TRAY3_LE	Tray 3 (Tandem left) paper feed JAM (paper feed roller needs to be replaced)
TRAY3_RT	Tray 3 paper feed JAM (check paper state)
TRAY3_RT	Tray 3 (Tandem left) paper feed JAM (check paper state)
TRAY4	Tray 4 (Tandem right) paper feed JAM
TRAY4	Tray 4 paper feed JAM (D2PPD not-reached)
TRAY4_1ST	Tray 4 paper feed JAM (check paper loading state)
TRAY4_1ST	Tray 4 (Tandem right) paper feed JAM (check paper loading state)
TRAY4_LE	Tray 4 paper feed JAM (paper feed roller needs to be replaced)
TRAY4_LE	Tray 4 (Tandem right) paper feed JAM (paper feed roller needs to be replaced)
TRAY4_RT	Tray 4 paper feed JAM (check paper state)
TRAY4_RT	Tray 4 (Tandem right) paper feed JAM (check paper state)

(2) DSPF/RSPF

JAM code	JAM content
ICU_REQ	ICU stop JAM
P_SHORT	Short size JAM
SDFS_S	Double feed JAM
SPOD_N	SPOD not-reached JAM
SPOD_S	SPOD remaining JAM
SPPD1_N	SPPD1 not-reached JAM
SPPD1_S	SPPD1 remaining JAM
SPPD2_N	SPPD2 not-reached JAM
SPPD2_ND	SPPD2 not-reached JAM (double feed)
SPPD2_NP	SPPD2 not-reached JAM (paper feed)
SPPD2_NR	SPPD2 reverse not-reached JAM
SPPD2_S	SPPD2 remaining JAM
SPPD2_SR	SPPD2 reverse remaining JAM
SPPD3_N	SPPD3 not-reached JAM
SPPD3_S	SPPD3 remaining JAM
SPPD4_N	SPPD4 not-reached JAM
SPPD4_S	SPPD4 remaining JAM
SPPD5_N	SPPD5 not-reached JAM
SPPD5_S	SPPD5 remaining JAM
SPSD_SCN	Exposure start notification timer end
STOP_JAM	Stop request JAM

(3) LCC

JAM code	JAM content
LCC	LCC paper feed JAM (LPFPD not-reached)
LCC_1ST	LCC paper feed JAM (check paper loading state)
LCC_ERR	LCC communication error detection
LCC_LE	LCC paper feed JAM (paper feed roller needs to be replaced)
LCC_RT	LCC paper feed JAM (check paper state)
LPFD_NL	LPFD not-reached JAM (LCC paper feed)
LPFD_SL	LPFD remaining JAM (LCC paper feed)

(4) Inner finisher

JAM code	JAM content
FCMOT	Punch motor JAM
FNENTER	Idling JAM
FN2M	Return belt motor JAM
FN3M	Front alignment motor JAM
FN4M	Rear alignment motor JAM
FN5M	Assist motor JAM
FN6M	Tray lift motor JAM
FN7M	Stapler shift motor JAM
FN9M	Eco staple motor JAM
FN10M	Paddle motor JAM
FNPS1_N	FNPS1 not-reached JAM
FNPS1_S	FNPS1 remaining JAM
FNPS8	Bundle motor JAM?
FNPS12	Manual bundle insert JAM
FNSTPLIF	Staple JAM
FNTIME	Paper early reaching JAM

(5) Paper pass unit

JAM code	JAM content
PDPPD1_N	PDPPD1 not reached JAM
PDPPD1_S	PDPPD1 remaining JAM
PDPPD2_N	PDPPD2 not-reached JAM
PDPPD2_S	PDPPD2 remaining JAM

(6) 1K finisher / 1K saddle finisher

JAM code	JAM content
FCPNCH_M	Punch motor JAM
FCPNCHMV_M	Punch shift motor JAM
FCSTSMOV_M	Punch horizontal registration shift motor JAM
FIN_ERR	Finer communication error detection
FNBDLTRS_N	Bundle transport not-reached JAM
FNBLT_M	Release motor JAM
FNENDSTRS_N	Rear edge stopper transport sensor not-reached JAM
FNENDSTRS_S	Rear edge stopper transport sensor remaining JAM
FNENT_N	Entrance not-reached JAM
FNENT_S	Entrance remaining JAM
FNENTRS_M	Entrance transport motor JAM
FNEXGPLT_M	Paper exit guide plate open/close motor JAM
FNEXTRS_M	Paper exit transport motor JAM
FNFLDEX_N	Folding paper exit not-reached JAM
FNFLDEX_S	Folding paper exit remaining JAM
FNJOG_M	Jogger motor JAM
FNLMDLT_N	Intermediate transport left not-reached JAM
FNLMDLT_S	Intermediate transport left remaining JAM
FNPRFEX_N	Proof paper exit not-reached JAM
FNPRFEX_S	Proof paper exit remaining JAM
FNPSN_M	Flapping motor JAM
FNRMDLT_N	Intermediate transport right not-reached JAM
FNSFT_M	Shift motor JAM
FNSTPMOV_M	Stapler motor JAM
FNSTPMV_M	Stapler shift motor JAM
FNTRYLFT_M	Tray lift motor JAM
FNUPEX_N	Shift paper exit not-reached JAM
FNUPEX_S	Shift paper exit remaining JAM
FNUPTRS_M	Proof transport motor JAM
FSENDS_M	Rear edge stopper motor JAM
FSFLDPLT_M	Folding blade motor JAM
FSLPRSRL_M	Bundle transport lower pressure release motor JAM
FSUPRSRL_M	Bundle transport upper pressure release/Standard fence evacuation motor JAM

(7) 3K finisher / 3K saddle finisher

JAM code	JAM content
FCMR	Punch shift motor JAM
FCP	Punch motor JAM
FCP2	Punched hole JAM
FIN_TIME	Paper early reaching JAM
FNB_N	Buffer sensor time-out JAM

JAM code	JAM content
FNB_S	Buffer sensor remaining JAM
FNCDP	Paddle JAM
FNDPMS	Manual bundle insert JAM
FNE_N	Entry port sensor time-out JAM
FNE_S	Entry port sensor remaining JAM
FNEE_N	Escape paper exit sensor time-out JAM
FNEE_S	Escape paper exit sensor remaining JAM
FNMAR	Rear edge assist motor JAM
FNMDT	Tray auxiliary guide motor JAM
FNMFECS	Escape/Saddle motor JAM
FNMFR	Paper rear edge falling motor JAM
FNMGMT	Tray lift motor JAM
FNMGRS	Return roller lift motor JAM
FNMJF	Front alignment motor JAM
FNMJR	Rear alignment motor JAM
FNMMS	Stapler shift motor JAM
FNMOTERR	Motor trouble JAM
FNMS	Oscillation motor JAM
FNMSLS	Staple free staple motor JAM
FNMSS	Staple JAM
FNSSS	Safety switch actuation JAM
FNTBP_N	Preprocessing timing sensor time-out JAM
FNTBP_S	Preprocessing timing sensor remaining JAM
FSE_N	Saddle entry port sensor time-out JAM
FSE_S	Saddle entry port sensor remaining JAM
FSEB_N	Saddle folding bundle paper exit sensor time-out JAM
FSEB_S	Saddle folding bundle paper exit sensor remaining JAM
FSMDLE	Saddle switching lever motor JAM
FSME	Saddle discharge motor JAM
FSME2	
FSMF	Saddle folding motor JAM
FSMG	Saddle gripper motor JAM
FSMJ	Saddle alignment motor JAM
FSMS	Saddle staple JAM
FSMSR	Saddle rear edge stopper motor JAM

3. Image send communication report code

A. Outline and communication report code system descriptions

After completion of communication, the communication report table, the communication management table, and the protocol are described on the communication report column.

The communication report code is composed as follows:

Communication report: XX (XXXX)

The upper 2 digits of the communication report code:

Communication report code of 00 – 99 (Refer to communication report main code.)

The lower 4 digits of the communication report code:

Used by the serviceman.

The upper 2 digits: Communication report sub code 1 (Refer to communication report sub code 1.)

The lower 2 digits: Communication report sub code 2 (Refer to communication report sub code 2.)

Important

The communication report sub code 1 and sub code 2 are in hexadecimal notation. (The others are in decimal notation.)

Important

The communication report sub code 1 is not used in the these models.

B. Details

(1) Communication report main code

Report code	Final receive signal (Send side)	Final receive signal (Receive side)
0	Abnormal signal	Abnormal signal
1	NSF, DIS	(SID), (SUB), NSS, DCS
2	CFR	(PWD), (SEP), NSC, DTC
3	FTT	EOP
4	MCF	EOM
5	PIP, PIN	MPS
6	RTN, RTP	PRI-Q
7	No signal, DCN	DCN
8	PPR	PPS-EOP
9		PPS-EOM
10		PPS-MPS, PPS-NULL
11	RNR	RR
12	CTR	CTC
13	ERR	EOR-Q
14		PPS-PRI-Q
16	Abnormal signal	Abnormal signal
17	NSF, DIS	SID, SUB, NSS, DCS
18	CFR	PWD, SEP, NSC, DTC
19	FTT	PPS-EOP
20	MCF	PPS-EOM
21	PIP, PIN	PPS-MPS, PPS-NULL
22	RTN, RTP	PRI-Q
23	No signal, DCN	DCN
24	PPR	
25	RNR	RR
26	CTR	CTC
27	ERR	EOR-Q
28		PPS-PRI-Q
29	V.8 Phase-1	V.8 Phase-1
30	V.8 Phase-2	V.8 Phase-2
31	V.8 Phase-3	V.8 Phase-3

Important

For report codes 16 – 31, V.34 MODE COMMUNICATION.

Report code (Communication result)	Display in the column of result	Content of communication interruption
0 – 31	Refer to "previous table".	Depends on the point of communication interruption. For 16 or later, V.34 mode communication.
33	BUSY	The calling side cannot establish connection with the remote party.
34	CANCEL	A communication interruption command is made during sending/receiving. The interruption key is pressed for interruption of input. <Send/Receive/Polling/Bulletin board>
35	NG35 XXXX	Power is failed during sending/receiving. <Send/Receive/Polling/Bulletin board>
36	(No record paper)	
37	(Record paper jam)	
38	MEM. FULL	Memory over during reception. <Receive/Polling> Print is not made during reception in acting reception inhibit. <Receive/Polling>
39	(Number of paper unmatched)	
40	(Relay not received)	
41	LENGTH OVER	The send data length of one page exceeds the limit (2m) in sending. <Send/Bulletin board>
42	LENGTH OVER	The receive data length of one page exceeds the limit. <Receive/Polling>
43	(Communication) (OK)	Speaking before data transmission
44	ORIGINAL ERROR	A document jam occurs in direct sending. <Send>
45	(Picture quality error)	
46	NO RESPONSE	The FAX signal from the remote party is not detected within T1 time. <Send/Polling> (When in recall, however, the recall setting in case of a communication error is valid.)
47	TX DECODE ERROR	A decode error occurs in the FAX board. <Send/Bulletin board>
48	OK	Normal end of communication
	OK REPLY RECEIVE	OK in Internet FAX send with reception confirmation.
49	NO RX POLL	The called side does not have polling function in polling reception. <Polling> The called side has no data to send. <Polling>
50	RX POLL FAIL	In polling reception, DCN is received for DTC. <Polling> In polling sending, there is no send data. <Bulletin board>
51	PASS # NG	In polling sending, the allow number is not matched. <Bulletin board> In polling sending, the system number is not matched. <Bulletin board>
52	(No confidential function in remote party)	In confidential sending, the remote party does not have confidential function. <Send> (Including other company's machines) 1) The NSF signal has not "Confidential function" bit. 2) The NSF is not a Sharp machine.
53	(Confidential not received)	1) In confidential sending, DCN is received for NSS. <Send>
54	(Confidential BOX NO NG)	1) In confidential reception, a confidential box number which is not registered is specified.
55	(No relay function in remote party)	In relay command sending, the remote machine has no relay function. <Send> (Including other company's machine) 1) The NSF signal has not "Confidential function" bit. 2) The NSF is not a Sharp machine.
56	NO REL RX	1) In relay command sending, DCN is received for NSS. <Send> 2) In relay command reception, a remote station number which is not registered is specified. <Receive> 3) In F code relay broadcasting, an F code relay command is received. <Receive>
57	(Relay ID unmatched)	1) In relay command reception, the relay ID does not match. <Receive>
58	REJECTED	In reception, data are sent from a remote machine of receive inhibit number. <Receive> (Not rejected in the bulletin board send or the F code bulletin board send.)
59	RX NO F-CODE POLL	In F code polling (calling), the remote machine has no DIS bit 47 (polling function). <Polling> In F code polling (calling), the called side has no send data. (DIS bit 9 is 0.) <Polling>
60	NO F-CODE POLL	In F code polling (calling), DCN is received for SEP. <Polling> In bulletin board, there is no send data for SEP. <Bulletin board>
61	RX POLL # NG	In bulletin board, the sub address (bulletin board number (SEP)) is not matched. <Bulletin board>
62	F POLL PASS # NG	In bulleting board, the pass code (PWD) is not matched. <Bulletin board>
63	NO F FUNC	In F code sending, the remote machine has no DIS bit 49 (sub address function). <Send> (Check that the remote machine conforms to F code.)
64	NO F-CODE	In F code sending : <Send> 1) DCN is received for SUB. --- Check the box number. 2) DCN is received for SID. --- Check the box number and pass code. In F code receiving : <Receive> "F code relay broadcasting" or "F code confidential reception" is "Inhibited with soft SW."
65	NG65 XXXX	If the reservation of the job cannot be completed when reserving the job from PC-FAXorPC-IFAX; *If an error occurs when storing the job ticket (including fmSyncFile error); *If an error occurs when creating the thumbnail; *If an error occurs when creating the map; *If an error occurs during the storage of the control table;
67	F PASS # NG	In F code receiving, the pass code (SID) is not matched. <Receive>
68	BOX NO. NG	In F code reception, a box number which is not registered is specified. (SUB is not matched.) <Receive>
69	MEMORY OVER	Memory over in quick online sending <Send>
70	(JOB MEMORY OVER)	In PC-FAX reservation, the number of remote parties is exceeded. <Send>
71	NG71 XXXX *1	In PC-FAX reservation, data sent from PC includes some errors. <Send>
72	(NG72 XXXX) *1	In department management setting on the machine side: • In reservation from PC-FAX or PC-Internet FAX, a department number which is not registered on the machine side is specified. <Send> • In reservation from PC-FAX or PC-Internet FAX, the department number is not specified. <Send>

Report code (Communication result)	Display in the column of result	Content of communication interruption
73	NG73 XXXX *1	In reservation from PC-FAX or PC-Internet FAX, the use quantity limit is exceeded. <Send>
74	NG74 XXXX *1	When reserving specified filing in document filing in PC-FAX or PC-Internet FAX; <ul style="list-style-type: none"> The pass-code for the folder is set on the machine side and the pass-code from PC-XXX does not match with it. <Send> The pass-code for the folder is set on the machine side and no pass-code is specified by PC-XXX. <Send>
75	NG75 XXXX *1	<ul style="list-style-type: none"> Reservation cannot be made due to machine busy. (Reservation of PC-FAX cannot be accepted.) When "PC-FAX or PC-Internet FAX send inhibit" is set on the machine side.
76	NG76 XXXX *1	Reserved with receive confirmation request in PC-Internet FAX, but the Internet FAX sender is not registered on the machine side. <Send>
77	NG77 XXXX *1	In reserving specified filing in PC-FAX or PC-Internet FAX, the machine has no filing function.
78	NG78 XXXX *1	The filing function is inhibited on the machine side when filing specification is reserved by PC-FAX or PC-Internet FAX.
79	NG79 XXXX *1	An authentication error occurs when PC-FAX or PC-Internet FAX is reserved.
80	NG80 XXXX *1	NIC connect failure (network abnormality) <ul style="list-style-type: none"> Check for disconnection of cables. A network trouble (CE-XX) occurs. The port is set to DISABLE. Authentication of the POP server is failed when POP before SMTP is enabled. When an error other than the communication result code 93 or 94 in D-SMTP send (including error response of 5XX)
81	NG REPORT	In Internet FAX send, reply of receive confirmation of the remote machine is not normal. (Including PC-Internet FAX). <ul style="list-style-type: none"> Error of the disposition-modifier. The disposition modifier is not in an error, and the disposition type is other than displayed, dispatched, or processed.
82	NO REPORT	In Internet FAX send, time-out occurs in waiting for receive confirmation from the remote machine. (Including PC-Internet FAX). <ul style="list-style-type: none"> In a case where send confirmation wait time-out time is other than 0, when send confirmation reply from an Internet FAX destination is not received. Recalls of the set number of recalls are performed, but send confirmation reply from an internet AFX destination is not received.
83	NG LIMIT	In E-mail/FTP, Internet FAX send, the send data size exceeds the upper limit of send data.
84	REJECTED	In e-mail receive, a sender is registered in receive reject address/domain. <Receive>
85	NG85 XXXX *1	In e-mail receive, an error occurs in communication with POP3 server. <ul style="list-style-type: none"> Header acquisition error. Time-out during mail receive
86	RECEIVED	In e-mail receive, an unsupported attached file is received. Only the TIFF-F type is supported for attached files. <ul style="list-style-type: none"> The TIFF-F type of the attached file cannot be recognized. There is no attached file.
87	NG87 XXXX *1	In e-mail receive, an attached file cannot be stored in memory. <ul style="list-style-type: none"> Memory over
88	NG88 XXXX *1	In SMTP e-mail receive, an attached file cannot be stored in memory. <ul style="list-style-type: none"> Cannot be stored in memory. The number of items of acting receive data is the maximum, and an additional data cannot be stored.
89	NG89 XXXX *1	In SMTP e-mail receive, an error occurs in communication with the mail server. <ul style="list-style-type: none"> Time-out occurs during e-mail receive.
90	NG90 XXXX *1	After reservation by re-operation of document filing, conversion for image send cannot be made. <ul style="list-style-type: none"> conversion for image sending cannot be made.
91	NG91 XXXX *1 *2	Data cannot be written to the memory device when Scan To USB is executed. <ul style="list-style-type: none"> The memory device is disconnected during writing to the memory device. An error occurs due to a memory device trouble.
92	NG92 XXXX *1 *2	The USB device memory overflows during writing data into the memory device when "Scan to USB" is executed.
93	NG93 XXXX *1	When error in D-SMTP send (with recall) <ul style="list-style-type: none"> An error response of 4XX occurs during communication with the SMTP server. Time out occurs after establishment of connection with the SMTP server.
94	NG94 XXXX *1	When busy in D-SMTP send Time out occurs during establishment of connection with the SMTP server.
95	NG95 XXXX *1	When the path is too long in execution of Scan To USB.
96	NG96 XXXX *1	When the normal process is not executed in the secure mail sending.
98	NG98 XXXX *1	The copy inhibit pattern is detected when scanning a document.
99	NG99 XXXX *1	A document which is inhibited to be copied such as a banknote is scanned.

*1: For a job status result in "Display in the column of result," "NG △△ XXXX" is displayed. "△△" is the code number.

For a communication result, "Communication error △△ (XXXX)" is displayed.

*2: The error code of Scan To USB is specified only in the job log.

- When the communication result is OK, the communication sub code 1 and the communication sub code 2 are "0000."
- Errors in () are not used.

(2) Communication report sub code 1

The communication report sub code 1 (upper 2 digits) are always indicated as "00."

(3) Communication report sub code 2

Report code 2	Content of communication interruption	Send/Receive
00	When the conditions after 01 do not apply.	Send/Receive
01	Send length over	Send
02	EOL time up	Receive
03	Carrier detection time up	Receive
04	Time up of the communication start command from the machine side	Receive
05	Time up in phase C (8 min)	Send
06	Memory image decode error	Receive
07	Memory image decode error	Send
08	Time up between frames in phase C (Report code is 0 or 16.)	Send/Receive
09	Not used	—
10	Not used	—
11	Polarity reversion detection	Receive
12	Invalid command reception	Receive
13	Time up (1-minute timer/6-second time)	Receive
14	PUT error	Receive
15	In V.34 mode, time up is generated when shifting from Primary to Control.	Receive
16	In V.34 mode, time up is generated when shifting from Control to Primary.	Receive
17	Command receive time-up from MFP controller	Receive
18	Not used	—
19	Not used	—
20	Polarity reversion detection	Send
21	Invalid command reception	Send
22	Fallback retry number over	Send
23	Command retry number resend over	Send
24	Time up (T5 timer)	Send
25	Time up (T5 timer) in V.34 mode	Send
26	In V.34 mode, time up is generated when shifting from Primary to Control.	Send
27	In V.34 mode, time up is generated when shifting from Control to Primary.	Send
28	When sending the FSK signal, no response of send completion is sent back from the MODEM chip within a certain time. (V.34, other than V.34)	Send
29	Not used	—
30	A communication error is generated between MFP controller and Modem controller. (Report code is 0 or 16.)	—
31	DC current not detected (busy) Line disconnected.	Send
32	Dial tone not detected (busy)	Send
33	Busy tone detection (busy)	Send
34	T0 time up (Remote machine not responding)	Send
35	T1 time up (Remote machine not responding)	Send
36	In dialing, polarity reversion detection (Remote machine not responding)	Send
37	Calling is not made (busy)<Collision detected (including CNG detection)>	Send
38	Not used	—
60	In resend of document filed data, an error occurs in decoding or coding.	Resend
61	In resend of document filed data, setting to inhibit resolution conversion is made. (The resolution after resend is set to be Enlarged.)	Resend
62	In resend of document filed data, rotation setting is made for data which cannot be rotated.	Resend
63	In resend of document filed data, data cannot be stored in HD after conversion of resolution for resend.	Resend
64	In resending data of document file, during conversion for resending, the number of IMS management pages exceeds the upper limit (999). (IT occurs in OSA Scan to FTP also, resulting in memory over.)	Resend OSAScanToFTP
70	E-mail header acquisition error	E-mail receive
71	Time out occurs during e-mail receive.	E-mail receive
72	Receive reject occurs during e-mail receive.	E-mail receive
73	Network communication cannot be made due to port disable.	Network send
74	An authentication of the POP server is failed when POP before SMTP is enabled.	Network send
75	In the setting of SSL communication, when SSL communication is tried but the server side does not support SSL.	Network send
76	There is no image in network communication (transfer).	Network send
80	There is no attached file in received e-mail.	E-mail receive
81	The attached file of received e-mail is not of TIFF type which is supported.	E-mail receive
82	The TIFF type of the attached file in received e-mail cannot be recognized. ID error	E-mail receive
83	The TIFF type of the attached file in received e-mail cannot be recognized. Endian error	E-mail receive
84	The TIFF type of the attached file in received e-mail cannot be recognized. Version error	E-mail receive
85	The TIFF type of the attached file in received e-mail cannot be recognized. Tag data error	E-mail receive
86	The TIFF type of the attached file in received e-mail cannot be recognized. Tag parameter error	E-mail receive

Report code 2	Content of communication interruption	Send/Receive
87	The TIFF type of the attached file in received e-mail cannot be recognized. Header size error	E-mail receive
88	The TIFF type of the attached file in received e-mail cannot be recognized. Data error	E-mail receive
90	In e-mail receive, an attached file cannot be stored in memory. Memory over. Cannot be stored in memory.	E-mail receive
91	In e-mail receive, an attached file cannot be stored in memory. The file size is too great to be stored in memory.	E-mail receive
92	In SMTP e-mail receive, an attached file cannot be stored in memory. Cannot be stored in memory.	E-mail receive
93	There is character that cannot be processed. OCR processing error.	—

When the sub code 2 is "08" or "30" and the communication report is "OK," the report code is "00" or "16."

[8] FIRMWARE UPDATE

1. Outline

A. Cases where update is required

ROM update is required in the following cases:

- 1) When there is a necessity to upgrade the performance.
- 2) When installing a new spare part ROM for repair to the machine.
- 3) When installing a new spare parts PWB unit (with ROM) for repair to the machine.
- 4) When there is a trouble in the ROM program and it must be repaired.

B. Notes for update

(1) Relationship between each ROM and update

Before execution of ROM update, check combinations with ROM's installed in the other PWB's including options. Some combinations of each ROM's versions may cause malfunctions of the machine.

C. Update procedures and kinds of firmware

There are following methods of update of the firmware.

- 1) Update method using SIM 49-1
- 2) Update method using FTP
- 3) Update method using the Web page
- 4) Update method using the CN update function (There are three methods.)

Normally, one of 1) - 3) is used to update the firmware.

When any one of 1) - 3) is interrupted by an error such as power-off during updating, etc., and when retries of these methods are failed, the method 4) is employed.

Firmware types

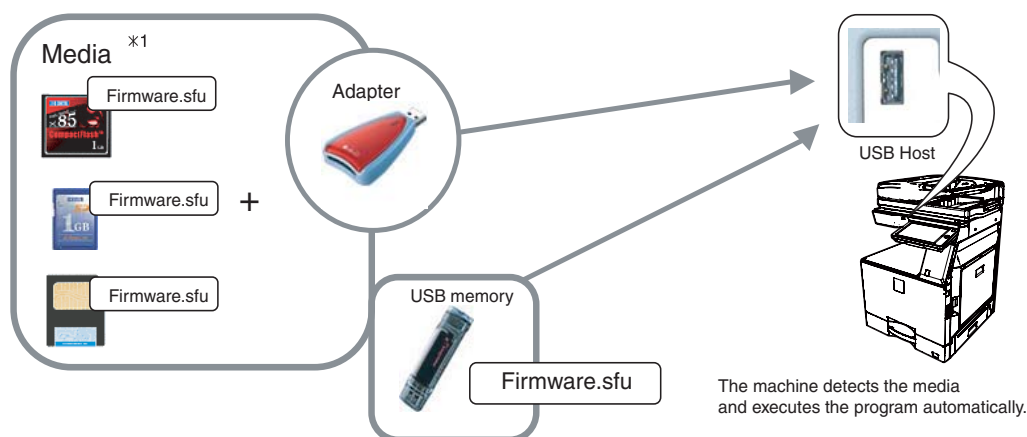
The firmware type can be displayed by SIM22-5.

Use SIM22-5 to check the firmware type.

2. Update procedure

A. Update method using SIM 49-1

For the update, connect the media or USB memory to the USB port that exists in the main body, and select the firmware data in the media or USB memory by simulation screen in the main unit.



*1:

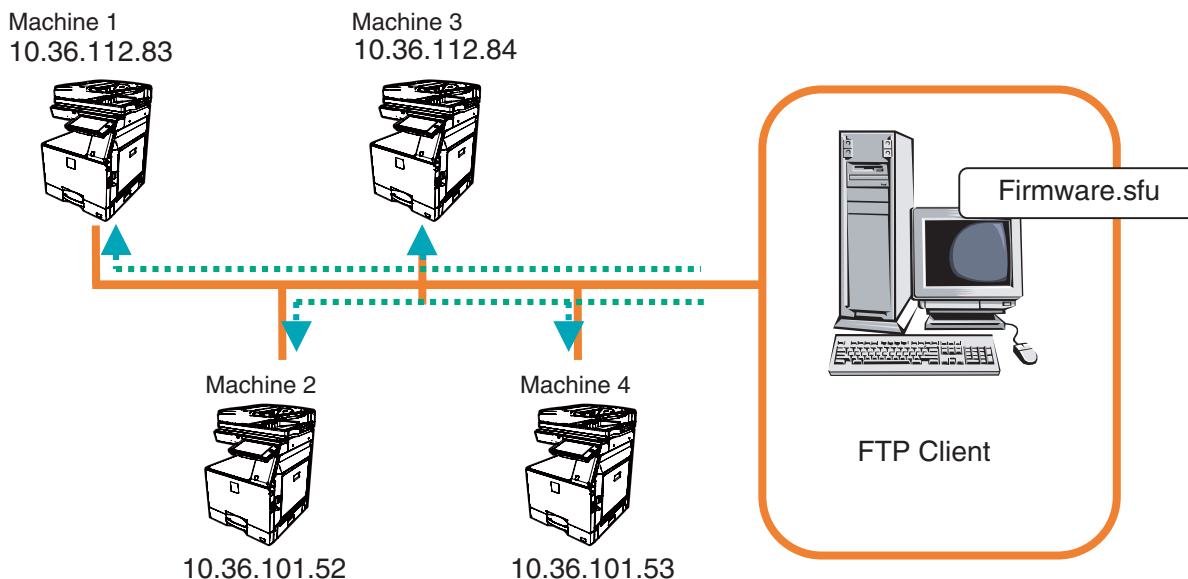
- Store the firmware data (xxx .sfu) to the media or USB memory beforehand.
- The media used for the update must have an enough capacity for storing the firmware data.
- The USB memory equipped with the security (secure) function cannot be used.

Execution of the firmware by SIM49-01

- 1) Insert the media or USB memory which stores the firmware into the main unit. (Be sure to use the USB I/F on the operation panel.)
- 2) Enter the SIM49-01.
Press the key of the file to be updated. The screen transfers to the update screen.
 - * The number of key changes according to the number of the sfu file in the media or USB memory inserted.
 - * If the media or USB memory was not inserted when entry to the SIM49-01 screen, "INSERT A USB MEMORY DEVICE CONTAINING MFP FIRMWARE [OK]" is displayed on the screen. Insert the media or USB memory and push the [OK] key to open the file. If the media have not been inserted and [OK] key is pushed, the next screen does not appear and the screen waits the entry. Conversely, if the media or USB memory is pulled out on the file list screen, the error is detected by the [FILE] key pressing, and the first screen appears.
- 3) Current version number and the version number to be updated will be shown for each firmware respectively.
- 4) Press [ALL] key.
All the firmware programs are selected.
 - * Normally select all the firmwares and execute updating.
 - * In this case, firmwares which do not exist on the machine side are ignored.
To update a certain firmware only, select the firmware with the firmware display key.
 - * If firmware's key is not selected, [EXECUTE] key is gray out and cannot be pressed.
- 5) Press [EXECUTE] key. "ARE YOU SURE? [YES] [NO]" becomes clear. Press [YES] key to start the update of selected firmware.
- 6) If the update is normal completion, Display "Complete"
- 7) If the update is not normal completion, Display "Error" and its firmware name or dose not reboot, in this case power OFF and ON if still same machine condition, go to the CN update

B. Update method using FTP

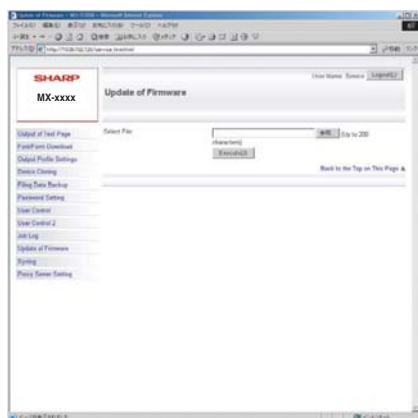
FTP software is used to transfer the firmware data (extension ".sfu") from the PC to the machine. The controller recognizes the firmware identifier and the machine automatically switches to firmware write mode. After the firmware is updated, the machine automatically resets.



C. Update method using web page

An Web browser (service technician's Web page) is used to update the firmware.

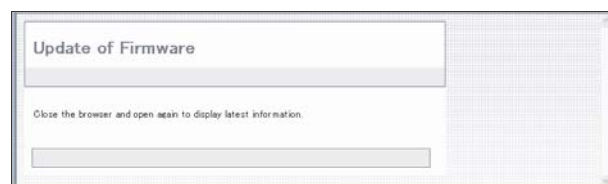
- 1) Start the Web browser on a PC and enter the specified URL (http://xxx.xxx.xxx.xxx/service_login.html) and enter the servicing page menu. Default password : "service". A special firmware upgrade page appears.
- 2) Click the "Update of Firmware" key in the Web page. Click the [Browse] key and select the firmware for the update.



- 3) After selecting the file, click the [Submit] key to send the firmware to the machine. Update processing begins. While processing takes place, "Firmware Update, now processing..." appears.



- 4) When the firmware update is finished, "Firmware Update completed. Please reboot the MFP." appears. Pressing the [Reboot] key, the machine will restart to complete the update. The browser will shift to the following screen.



"Close the browser and open again to display latest information." will be displayed.

- 5) Check the firmware version of machine again.

D. Update method using emergency function

(1) Outline

The update method using the DIP SW of the SCN MFP PWB is called the CN update.

a. Function

There are the following three functions in the CN update mode.

- 1) Firmware update function

This function is used to update the firmware by transferring data from the PC which is connected to the SCN MFP PWB, the PCU PWB, the FAX PWB, and various options by means of a USB memory or USB cable.

This is basically the same as SIM49-01, but differs in the following points:

When the power is shut down or an abnormality occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update, this method can be used to update the firmware.

If, however, an abnormality occurs in the boot program, the eMMC PWB must be replaced with a new one having the normal boot program.

If the boot animation is not displayed, there is an abnormality in the boot program.

If the boot animation is displayed but "Copying is enabled" is not displayed on the copier basic menu, there is an abnormality in the main program.

- 2) Firmware version check function
(The method to check the firmware version by using SIM22-5 is easier than this method. Therefore, it is not described in this manual.)
- 3) ROM making function
(This function is not used in the market, and not described in this manual.)

b. Purpose

This function is used in the following cases:

- 1) When an error occurs during firmware update operation other than the CN update.
When the power is shut down or an error occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update, this method can be used to update the firmware.
If, however, an abnormality occurs in the boot program, the eMMC PWB must be replaced with a new one having the normal boot program.
If an error occurs in the boot program, this method cannot be used. In such a case, the eMMC PWB must be replaced with a new one having the normal boot program.

c. DIP-SW used in the CN update mode

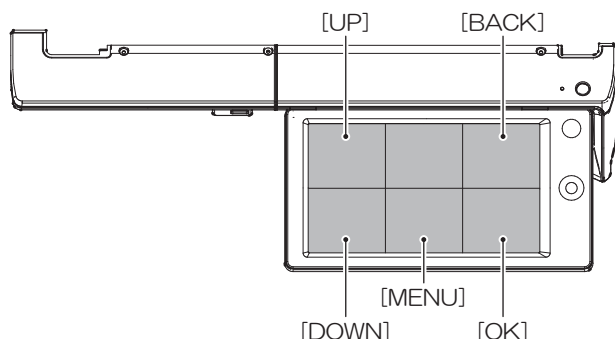
To enter the CN update mode, turn ON the UPDATE DIP-SW on the MFP PWB and boot the machine.

When terminating the CN update mode, reset UPDATE DIP-SW to OFF (normal mode).



d. Keys used in the CN update mode

The following five keys are used for operations in the CN update mode. Be careful that the functions of the keys differ those in the normal mode.



Key name	Functions in the CN update mode
[OK] key	Executes the selected function or item.
[MENU] key	Selects a menu.
[BACK] key	Selects a menu. (Serves as a cancel key in the execution check screen.)
[UP] key	Selects an item.
[DOWN] key	Selects an item.

(2) Operating procedures

a. Firmware update function

This function is used to revise the firmware by using the USB memory for the SCN MFP PWB, the PCU PWB, the FAX PWB, and each option.

It is basically same as SIM 49-01, but differs in the following points.

- 1) The update target ROM is automatically selected.
- 2) When the power is shut down or an abnormality occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update.

If, however, an abnormality occurs in the boot program, this method cannot be used. On that case, the eMMC PWB must be replaced with a new one having the normal boot program.

When the boot animation is displayed but "Copying is enabled" is not displayed on the copier basic menu, there is an abnormality in the main program (eMMC PWB).

a-1. Necessary items

- 1) eMMC PWB mounted on the SCN MFP PWB of the machine.
- 2) USB memory with the firmware file (SFU) saved in it.

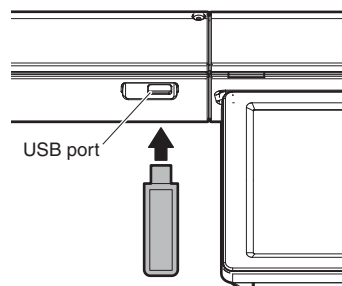
Note

Save the firmware file in the main directory or in a one-level lower directory.

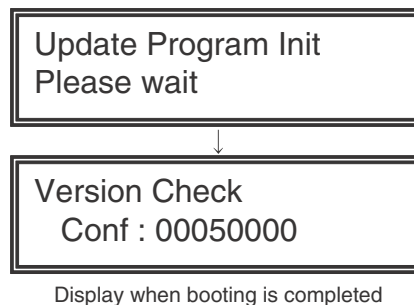
a-2. Procedures

- 1) Turn OFF the power, and remove the cabinet and the MFP cover.
- 2) Turn ON the DIP SW of the SCN MFP PWB UP DATE. (Tilt it to the PWB side.)
- 3) Install the USB memory into the USB port.

USB memory installing position



- 4) Turn ON the power.
- 5) Check to confirm that the machine starts booting. (It takes more than ten seconds to display the menu.)



- 6) Select the firmware update mode.
Select the update mode with [MENU] key and [BACK] key.



Display of the firmware update mode

- 7) Press [OK] key.
The firmware file saved in the USB memory is retrieved, and the file selection menu is displayed.



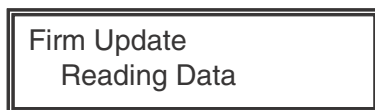
Display of file selection

- 8) Select the firmware file (SFU).
Select the target firmware file (SFU) with [UP] key and [DOWN] key.

When [OK] key is pressed with a directory name (the head: "> D") displayed, the menu goes to the one-stage lower directory.

When [BACK] key is pressed in the lower-stage directory, the menu returns to the original upper directory.

- 9) Press [OK] key.
The selected firmware file (SFU) is read. It takes about one minute.



Display of file reading

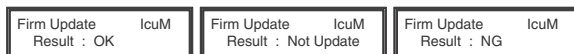
- 10) After completion of reading, the firmware update process is continued.



Display of the firmware update process

- * The abbreviated name of the firmware which is under update process is indicated on the right upper corner of the display.
- * During the update process, the display may flash instantaneously. It is a normal operation.

- 11) Check the update result.
Use [UP] key and [DOWN] key to display the results of all the firmware programs.



Display of the firmware update result

OK: Update is completed successfully.

NG: Update is failed.

Not Update: Update is not executed.

- 12) Turn OFF the power.
- 13) Turn OFF the DIP SW of the SCN MFP PWB UP DATE. (Set the DIP-SW to the normal mode.)
- 14) Turn ON the power, and check to confirm that the machine boots up normally.
Check to confirm that the boot animation is displayed.
Check to confirm that "Copying is enabled" is displayed on the copier basic menu.
- 15) Check to confirm the version of each firmware with SIM22-5.
- 16) Attach the SCN MFP PWB cover and the cabinet.

[9] MAINTENANCE

1. Works necessary when executing the maintenance

A. Counter check

Before execution of the maintenance, execute SIM22 to check the counter values of the following counters to confirm consuming states of each section.

- 1) Each consumable part counter
- 2) Each unit counter
- 3) Trouble counter, JAM counter

B. Counter reset

When a part or consumable part is replaced with new one in the maintenance. Execute SIM24 reset the following counters.

- 1) Maintenance counter
- 2) Each consumable part counter
- 3) Each unit counter
- 4) Trouble counter, JAM counter

C. Firmware version check and upgrading

Execute SIM22-5 to check the firmware version and update it as needed.

2. Display of maintenance execution timing

The message of maintenance execution timing is displayed when each counter reaches the set value. The relations between the message and the counters are shown below.

A. Maintenance counter

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
Maintenance required: TA	0 (Print continue)	Maintenance counter (Total)	When SIM21-1 set value is reached	Enable
	1 (Print stop)		When 90% of SIM21-1 set value is reached	
□Maintenance required: TA	1 (Print stop)		When SIM21-1 set value is reached	Disable

* After execution of maintenance, be sure to execute SIM24-4 to clear the maintenance counter (Total).

B. Transfer unit

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
Maintenance required: TK	0 (Print continue)	Transfer roller print counter	30 ppm machine When 250K is reached	Enable
	1 (Print stop)		35 ppm machine When 280K is reached 40/50/60 ppm machine When 300K is reached	

* After execution of the maintenance, execute SIM24-4 to clear the print counter, the accumulated rotation counter and the use day counter of TC ROLLER.

C. Fusing unit

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
Maintenance required: FK1	0 (Print continue)	Fusing belt print counter	30 ppm machine When 250K is reached	Enable
	1 (Print stop)		35 ppm machine When 280K is reached 40/50/60 ppm machine When 300K is reached	
Maintenance required: FK2	0 (Print continue)	Pressure roller print counter	30 ppm machine When 250K is reached	Enable
	1 (Print stop)		35 ppm machine When 280K is reached 40/50/60 ppm machine When 300K is reached	

* After execution of the maintenance, execute SIM24-4 to clear the print counter, the accumulated rotation counter and the use day counter of FUSING BELT, HEATING BELT, FUSING ROLLER, PRESSURE ROLLER.

D. OPC drum

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
Maintenance required: DK	0 (Print continue)	OPC drum print counter OPC drum accumulated rotation counter	30 ppm machine When 250K is reached or When 1200K rotation is reached	Enable
	1 (Print stop)		35 ppm machine When 280K is reached or When 1200K rotation is reached 40/50/60 ppm machine When 300K is reached or When 1200K rotation is reached	

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
Maintenance required: MCK	0 (Print continue)	Main charger print counter Main charger accumulated rotation counter	30 ppm machine When 125K is reached or When 600K rotation is reached 35 ppm machine When 140K is reached or When 600K rotation is reached 40/50/60 ppm machine When 150K is reached or When 600K rotation is reached	Enable
	1 (Print stop)			

* After execution of the maintenance, execute SIM24-4 to clear print counter, the accumulated rotation counter and the use day counter of DRUM UNIT K, MAIN CHARGER K.

E. Developer

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
Maintenance required: VK	0 (Print continue)	Developer print counter DV unit accumulated rotation counter	30 ppm machine When 500K is reached or When 2400K rotation is reached 35 ppm machine When 560K is reached or When 2400K rotation is reached 40/50/60 ppm machine When 600K is reached or When 2400K rotation is reached	Enable
	1 (Print stop)			

* After replacing developer, execute SIM25-2 to automatically clear counters.

F. Waste toner box

Display content	Display condition		Print JOB Enable/Disable
	Counter name	Counter value	
Check the waste toner box	After detection of near end approximately 2K (A4 6% coverage)		Near end: Enable End: Disable

* When the waste toner box is replaced with an empty one, the message disappears

G. Toner

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
(K) Prepare a toner (Near near end)	No relation	Toner motor rotation time	Specified time of rotations	Enable
Toner supply is low (K) (Near end)	No relation	Toner supply amount is decreasing	Toner remaining sensor output variation	Enable
Replace the toner cartridge (K) (End)	0 (Print continue)	The toner remaining counter from near end reaches the specified value	Specified toner remaining counter	Disable
	1 (Print stop)			

3. Maintenance list

30 ppm machine

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Document feed section	DSPF unit	1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use
			2	Paper feed roller	○	○	○	○	○	○	○	○	○	
			3	Separation roller	○	○	○	○	○	○	○	○	○	
			4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 800K of the SPF paper feed counter
			5	Transport roller 1	○	○	○	○	○	○	○	○	○	
			6	Transport roller 2	○	○	○	○	○	○	○	○	○	
			7	Registration roller	○	○	○	○	○	○	○	○	○	
			8	Transport roller 3	○	○	○	○	○	○	○	○	○	
			9	Transport roller 4	○	○	○	○	○	○	○	○	○	
			10	Paper exit roller	○	○	○	○	○	○	○	○	○	
			11	Discharge brush	x	x	x	x	x	x	x	x	x	
			12	No.1 scanning plate	○	○	○	○	○	○	○	○	○	
			13	No.2 scanning section, scanning glass	○	○	○	○	○	○	○	○	○	
			14	No.2 scanning section, white reference glass	○	○	○	○	○	○	○	○	○	
			15	Mirror	○	○	○	○	○	○	○	○	○	
			16	Lens, CCD	○	○	○	○	○	○	○	○	○	
			17	Lamp	○	○	○	○	○	○	○	○	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
			18	OC mat	○	○	○	○	○	○	○	○	○	
			19	Gears	x	x	x	x	x	x	x	x	x	
		RSPF unit	20	Belts	x	x	x	x	x	x	x	x	x	
			21	Sensors	x	x	x	x	x	x	x	x	x	
			1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use. When replacing the paper feed roller, apply grease (UKOG-0013QSZZ) to the paper feed shaft
			2	Paper feed roller	○	○	○	○	○	○	○	○	○	
			3	Separation roller	○	○	○	○	○	○	○	○	○	
			4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 400K of the SPF paper feed counter or 2 year of use
			5	Torque limiter pickup	x	x	x	x	x	x	x	x	x	
			6	Discharge brush	x	x	x	x	x	x	x	x	x	
			7	Registration roller	○	○	○	○	○	○	○	○	○	
			8	Transport roller 1	○	○	○	○	○	○	○	○	○	
			9	Transport roller 2	○	○	○	○	○	○	○	○	○	
			10	Paper exit roller	○	○	○	○	○	○	○	○	○	
			11	Sensors	x	x	x	x	x	x	x	x	x	
			12	Scan plate	○	○	○	○	○	○	○	○	○	
			13	Gears	x	x	x	x	x	x	x	x	x	
			14	Belts	x	x	x	x	x	x	x	x	x	
			15	OC mat	○	○	○	○	○	○	○	○	○	

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
2	Scanner section	Scanner unit	1	Drive belt	x	-	x	-	x	-	x	-	x	
			2	Drive wire	x	-	x	-	x	-	x	-	x	
			3	Sensors	x	-	x	-	x	-	x	-	x	
			4	Rails	☆	-	☆	-	☆	-	☆	-	☆	Apply grease (UKOG-0158FCZZ)
			5	Mirror	○	-	○	-	○	-	○	-	○	
			6	Lamp	○	-	○	-	○	-	○	-	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
			7	Lens	○	-	○	-	○	-	○	-	○	
			8	CCD	○	-	○	-	○	-	○	-	○	
			9	Table glass	○	-	○	-	○	-	○	-	○	
			10	SPF glass	○	-	○	-	○	-	○	-	○	
3	Developping section	Developping unit	1	Developer	x	-	x	-	▲	-	x	-	▲	Replace when the specified rotation number is reached
			2	DV seal	x	-	x	-	x	-	x	-	x	
			3	DV side seal F/R	x	-	x	-	x	-	x	-	x	
			4	Toner filter	x	-	x	-	▲	-	x	-	▲	
			5	Bias pin	x	-	x	-	x	-	x	-	x	
4	OPC drum section	OPC drum unit	1	Charger unit	x	▲	▲	▲	▲	▲	▲	▲	▲	Replace when the specified rotation number is reached
			2	Drum	x	-	▲	-	▲	-	▲	-	▲	
			3	Cleaning blade	x	-	▲	-	▲	-	▲	-	▲	
			4	Drum separation pawl unit	x	-	▲	-	▲	-	▲	-	▲	
			5	Toner reception blade	x	-	▲	-	▲	-	▲	-	▲	
			6	Toner reception seal F/R	x	-	▲	-	▲	-	▲	-	▲	
			7	Side seal F/R	x	-	▲	-	▲	-	▲	-	▲	
5	Transfer section	Transfer unit	1	Paper guide	x	-	○	-	○	-	○	-	○	
			2	Sensors	x	-	○	-	○	-	○	-	○	
			3	Transfer roller	x	-	▲	-	▲	-	▲	-	▲	Replace at (250K) or 2 years use
			4	Transfer roller bearing F-R	x	-	x	-	x	-	x	-	x	Replace as needed
			5	Transfer roller collar	x	-	x	-	x	-	x	-	x	Replace as needed
			6	Discharge plate	x	-	▲	-	▲	-	▲	-	▲	Replace at (250K) or 2 years use
			7	Transfer rear star ring	x	-	○	-	○	-	○	-	○	
6	LSU section	LSU	1	Dust-proof glass	x	-	x	-	x	-	x	-	x	
7	Manual paper feed section	Manual paper feed unit	1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 100K of manual paper feed counter or 1 year of use
			2	Paper feed roller	x	-	○	-	○	-	○	-	○	
			3	Separation roller	x	-	○	-	○	-	○	-	○	
			4	Torque limiter	x	-	x	-	x	-	x	-	x	
			5	Transport roller 11	x	-	○	-	○	-	○	-	○	
			6	Sensors	x	-	x	-	x	-	x	-	x	
8	Tray paper feed section	Tray paper feed unit	1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 200K of each paper feed counter or 1 year of use
			2	Paper feed roller	x	-	○	-	○	-	○	-	○	
			3	Separation roller	x	-	○	-	○	-	○	-	○	
			4	Torque limiter	x	-	x	-	x	-	x	-	x	
			5	Transport roller 4	x	-	○	-	○	-	○	-	○	
			6	Transport roller 1	x	-	○	-	○	-	○	-	○	
			7	Transport roller 2	x	-	○	-	○	-	○	-	○	
			8	Sensors	x	-	x	-	x	-	x	-	x	

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
9	Paper registration section/ Paper exit section/ ADU section	PS unit	1	Registration roller (idle)	x	-	○	-	○	-	○	-	○	
			2	Registration roller (drive)	x	-	○	-	○	-	○	-	○	
			3	Transport roller 5	x	-	○	-	○	-	○	-	○	
			4	Sensors	x	-	x	-	x	-	x	-	x	
		Right door unit	5	Transport roller 9	x	-	○	-	○	-	○	-	○	
			6	Transport roller 10	x	-	○	-	○	-	○	-	○	
			7	Transport roller 8	x	-	○	-	○	-	○	-	○	
			8	Sensors	x	-	x	-	x	-	x	-	x	
		Fusing rear unit	9	Transport roller 7	x	-	○	-	○	-	○	-	○	
		Paper exit unit	10	Paper exit roller 2	x	-	○	-	○	-	○	-	○	
			11	Discharge brush	x	-	x	-	x	-	x	-	x	
			12	Sensors	x	-	x	-	x	-	x	-	x	
		Other	13	Paper dust removing unit	○	-	○	-	○	-	○	-	○	
			14	Paper exit roller 1	x	-	○	-	○	-	○	-	○	
			15	Discharge brush	x	-	x	-	x	-	x	-	x	
			-	Paper guides	○	-	○	-	○	-	○	-	○	
10	Drive section	Fusing drive unit	1	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0307FCZZ) to the specified position when checking
			2	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
			3	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0299FCZZ) to the specified position when checking
			4	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
			5	Belts	-	-	x	-	x	-	x	-	x	
		Transport drive unit	6	Shafts (grease)	-	-	x	-	x	-	x	-	x	
			7	Belts	-	-	x	-	x	-	x	-	x	
11	Fusing section	Fusing unit	1	Fusing transport roller lower	x	-	x	-	x	-	x	-	x	Replace as needed
			2	Fusing transport roller upper	x	-	x	-	x	-	x	-	x	Replace as needed
			3	Bearing holder	x	-	x	-	x	-	x	-	x	Replace as needed
			4	Gears	☆	-	☆	-	☆	-	☆	-	☆	
			5	Separation plate	x	-	x	-	x	-	x	-	x	Clean as needed
			6	Separation plate spacer	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
			7	Fusing belt	x	-	▲	-	▲	-	▲	-	▲	
			8	Fusing roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing
			9	Heat roller	x	-	▲	-	▲	-	▲	-	▲	
			10	Insulation bush	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the specified position when replacing
			11	Pressure roller gear	x	-	x	-	x	-	x	-	x	Replace as needed
			12	Pressure roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing and after completion of replacement, clean the new pressure roller surface with alcohol

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
11	Fusing section	Fusing unit	13	Pressure oscillation guide	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
			14	Thermistor main	x	-	x	-	x	-	x	-	x	Replace as needed
			15	Thermistor sub	x	-	x	-	x	-	x	-	x	Replace as needed
			16	Thermistor sub 2	x	-	x	-	x	-	x	-	x	Replace as needed
			17	Sensors	x	-	x	-	x	-	x	-	x	
12	Other	Other	18	Paper guides	○	-	○	-	○	-	○	-	○	
			1	Ozone filter	x	-	▲	-	▲	-	▲	-	▲	
			2	Toner cartridge	Replaced by the user									
			3	Waste toner box	Replaced by the user every full detection									Replace at 300K

35 ppm machine

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Document feed section	DSPF unit	1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use
			2	Paper feed roller	○	○	○	○	○	○	○	○	○	
			3	Separation roller	○	○	○	○	○	○	○	○	○	
			4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 800K of the SPF paper feed counter
			5	Transport roller 1	○	○	○	○	○	○	○	○	○	
			6	Transport roller 2	○	○	○	○	○	○	○	○	○	
			7	Registration roller	○	○	○	○	○	○	○	○	○	
			8	Transport roller 3	○	○	○	○	○	○	○	○	○	
			9	Transport roller 4	○	○	○	○	○	○	○	○	○	
			10	Paper exit roller	○	○	○	○	○	○	○	○	○	
			11	Discharge brush	x	x	x	x	x	x	x	x	x	
			12	No.1 scanning plate	○	○	○	○	○	○	○	○	○	
			13	No.2 scanning section, scanning glass	○	○	○	○	○	○	○	○	○	
			14	No.2 scanning section, white reference glass	○	○	○	○	○	○	○	○	○	
			15	Mirror	○	○	○	○	○	○	○	○	○	
			16	Lens, CCD	○	○	○	○	○	○	○	○	○	
			17	Lamp	○	○	○	○	○	○	○	○	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
			18	OC mat	○	○	○	○	○	○	○	○	○	
			19	Gears	x	x	x	x	x	x	x	x	x	
			20	Belts	x	x	x	x	x	x	x	x	x	
			21	Sensors	x	x	x	x	x	x	x	x	x	
		RSPF unit	1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use. When replacing the paper feed roller, apply grease (UKOG-0013QSZZ) to the paper feed shaft
			2	Paper feed roller	○	○	○	○	○	○	○	○	○	
			3	Separation roller	○	○	○	○	○	○	○	○	○	
			4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 400K of the SPF paper feed counter or 2 year of use
			5	Torque limiter pickup	x	x	x	x	x	x	x	x	x	
			6	Discharge brush	x	x	x	x	x	x	x	x	x	
			7	Registration roller	○	○	○	○	○	○	○	○	○	
			8	Transport roller 1	○	○	○	○	○	○	○	○	○	
			9	Transport roller 2	○	○	○	○	○	○	○	○	○	
			10	Paper exit roller	○	○	○	○	○	○	○	○	○	
			11	Sensors	x	x	x	x	x	x	x	x	x	

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Document feed section	RSPF unit	12	Scan plate	○	○	○	○	○	○	○	○	○	
			13	Gears	x	x	x	x	x	x	x	x	x	
			14	Belts	x	x	x	x	x	x	x	x	x	
			15	OC mat	○	○	○	○	○	○	○	○	○	
2	Scanner section	Scanner unit	1	Drive belt	x	-	x	-	x	-	x	-	x	
			2	Drive wire	x	-	x	-	x	-	x	-	x	
			3	Sensors	x	-	x	-	x	-	x	-	x	
			4	Rails	☆	-	☆	-	☆	-	☆	-	☆	Apply grease (UKOG-0158FCZZ)
			5	Mirror	○	-	○	-	○	-	○	-	○	
			6	Lamp	○	-	○	-	○	-	○	-	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
			7	Lens	○	-	○	-	○	-	○	-	○	
			8	CCD	○	-	○	-	○	-	○	-	○	
			9	Table glass	○	-	○	-	○	-	○	-	○	
			10	SPF glass	○	-	○	-	○	-	○	-	○	
3	Developping section	Developping unit	1	Developer	x	-	x	-	▲	-	x	-	▲	Replace when the specified rotation number is reached
			2	DV seal	x	-	x	-	x	-	x	-	x	
			3	DV side seal F/R	x	-	x	-	x	-	x	-	x	
			4	Toner filter	x	-	x	-	▲	-	x	-	▲	
			5	Bias pin	x	-	x	-	x	-	x	-	x	
4	OPC drum section	OPC drum unit	1	Charger unit	x	▲	▲	▲	▲	▲	▲	▲	▲	Replace when the specified rotation number is reached
			2	Drum	x	-	▲	-	▲	-	▲	-	▲	
			3	Cleaning blade	x	-	▲	-	▲	-	▲	-	▲	
			4	Drum separation pawl unit	x	-	▲	-	▲	-	▲	-	▲	
			5	Toner reception blade	x	-	▲	-	▲	-	▲	-	▲	
			6	Toner reception seal F/R	x	-	▲	-	▲	-	▲	-	▲	
			7	Side seal F/R	x	-	▲	-	▲	-	▲	-	▲	
5	Transfer section	Transfer unit	1	Paper guide	x	-	○	-	○	-	○	-	○	
			2	Sensors	x	-	○	-	○	-	○	-	○	
			3	Transfer roller	x	-	▲	-	▲	-	▲	-	▲	Replace at (280K) or 2 years use
			4	Transfer roller bearing F-R	x	-	x	-	x	-	x	-	x	Replace as needed
			5	Transfer roller collar	x	-	x	-	x	-	x	-	x	Replace as needed
			6	Discharge plate	x	-	▲	-	▲	-	▲	-	▲	Replace at (280K) or 2 years use
			7	Transfer rear star ring	x	-	○	-	○	-	○	-	○	
6	LSU section	LSU	1	Dust-proof glass	x	-	x	-	x	-	x	-	x	
7	Manual paper feed section	Manual paper feed unit	1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 100K of manual paper feed counter or 1 year of use
			2	Paper feed roller	x	-	○	-	○	-	○	-	○	
			3	Separation roller	x	-	○	-	○	-	○	-	○	
			4	Torque limiter	x	-	x	-	x	-	x	-	x	
			5	Transport roller 11	x	-	○	-	○	-	○	-	○	
			6	Sensors	x	-	x	-	x	-	x	-	x	
8	Tray paper feed section	Tray paper feed unit	1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 200K of each paper feed counter or 1 year of use
			2	Paper feed roller	x	-	○	-	○	-	○	-	○	
			3	Separation roller	x	-	○	-	○	-	○	-	○	
			4	Torque limiter	x	-	x	-	x	-	x	-	x	
			5	Transport roller 4	x	-	○	-	○	-	○	-	○	
			6	Transport roller 1	x	-	○	-	○	-	○	-	○	
			7	Transport roller 2	x	-	○	-	○	-	○	-	○	
			8	Sensors	x	-	x	-	x	-	x	-	x	

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
9	Paper registration section/ Paper exit section/ ADU section	PS unit	1	Registration roller (idle)	x	-	○	-	○	-	○	-	○	
			2	Registration roller (drive)	x	-	○	-	○	-	○	-	○	
			3	Transport roller 5	x	-	○	-	○	-	○	-	○	
			4	Sensors	x	-	x	-	x	-	x	-	x	
		Right door unit	5	Transport roller 9	x	-	○	-	○	-	○	-	○	
			6	Transport roller 10	x	-	○	-	○	-	○	-	○	
			7	Transport roller 8	x	-	○	-	○	-	○	-	○	
			8	Sensors	x	-	x	-	x	-	x	-	x	
		Fusing rear unit	9	Transport roller 7	x	-	○	-	○	-	○	-	○	
		Paper exit unit	10	Paper exit roller 2	x	-	○	-	○	-	○	-	○	
			11	Discharge brush	x	-	x	-	x	-	x	-	x	
			12	Sensors	x	-	x	-	x	-	x	-	x	
		Other	13	Paper dust removing unit	○	-	○	-	○	-	○	-	○	
			14	Paper exit roller 1	x	-	○	-	○	-	○	-	○	
			15	Discharge brush	x	-	x	-	x	-	x	-	x	
			-	Paper guides	○	-	○	-	○	-	○	-	○	
10	Drive section	Fusing drive unit	1	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0307FCZZ) to the specified position when checking
			2	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
			3	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0299FCZZ) to the specified position when checking
			4	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
			5	Belts	-	-	x	-	x	-	x	-	x	
		Transport drive unit	6	Shafts (grease)	-	-	x	-	x	-	x	-	x	
			7	Belts	-	-	x	-	x	-	x	-	x	
11	Fusing section	Fusing unit	1	Fusing transport roller lower	x	-	x	-	x	-	x	-	x	Replace as needed
			2	Fusing transport roller upper	x	-	x	-	x	-	x	-	x	Replace as needed
			3	Bearing holder	x	-	x	-	x	-	x	-	x	Replace as needed
			4	Gears	☆	-	☆	-	☆	-	☆	-	☆	
			5	Separation plate	x	-	x	-	x	-	x	-	x	Clean as needed
			6	Separation plate spacer	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
			7	Fusing belt	x	-	▲	-	▲	-	▲	-	▲	
			8	Fusing roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing
			9	Heat roller	x	-	▲	-	▲	-	▲	-	▲	
			10	Insulation bush	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the specified position when replacing
			11	Pressure roller gear	x	-	x	-	x	-	x	-	x	Replace as needed
			12	Pressure roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing and after completion of replacement, clean the new pressure roller surface with alcohol

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
11	Fusing section	Fusing unit	13	Pressure oscillation guide	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
			14	Thermistor main	x	-	x	-	x	-	x	-	x	Replace as needed
			15	Thermistor sub	x	-	x	-	x	-	x	-	x	Replace as needed
			16	Thermistor sub 2	x	-	x	-	x	-	x	-	x	Replace as needed
			17	Sensors	x	-	x	-	x	-	x	-	x	
12	Other	Other	18	Paper guides	○	-	○	-	○	-	○	-	○	
			1	Ozone filter	x	-	▲	-	▲	-	▲	-	▲	
			2	Toner cartridge	Replaced by the user									
			3	Waste toner box	Replaced by the user every full detection									Replace at 300K

40/50/60 ppm machine

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Document feed section	DSPF unit	1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use
			2	Paper feed roller	○	○	○	○	○	○	○	○	○	
			3	Separation roller	○	○	○	○	○	○	○	○	○	
			4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 800K of the SPF paper feed counter
			5	Transport roller 1	○	○	○	○	○	○	○	○	○	
			6	Transport roller 2	○	○	○	○	○	○	○	○	○	
			7	Registration roller	○	○	○	○	○	○	○	○	○	
			8	Transport roller 3	○	○	○	○	○	○	○	○	○	
			9	Transport roller 4	○	○	○	○	○	○	○	○	○	
			10	Paper exit roller	○	○	○	○	○	○	○	○	○	
			11	Discharge brush	x	x	x	x	x	x	x	x	x	
			12	No.1 scanning plate	○	○	○	○	○	○	○	○	○	
			13	No.2 scanning section, scanning glass	○	○	○	○	○	○	○	○	○	
			14	No.2 scanning section, white reference glass	○	○	○	○	○	○	○	○	○	
			15	Mirror	○	○	○	○	○	○	○	○	○	
			16	Lens, CCD	○	○	○	○	○	○	○	○	○	
			17	Lamp	○	○	○	○	○	○	○	○	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
			18	OC mat	○	○	○	○	○	○	○	○	○	
			19	Gears	x	x	x	x	x	x	x	x	x	
			20	Belts	x	x	x	x	x	x	x	x	x	
			21	Sensors	x	x	x	x	x	x	x	x	x	
		RSPF unit	1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use. When replacing the paper feed roller, apply grease (UKOG-0013QSZZ) to the paper feed shaft
			2	Paper feed roller	○	○	○	○	○	○	○	○	○	
			3	Separation roller	○	○	○	○	○	○	○	○	○	
			4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 400K of the SPF paper feed counter or 2 year of use
			5	Torque limiter pickup	x	x	x	x	x	x	x	x	x	
			6	Discharge brush	x	x	x	x	x	x	x	x	x	
			7	Registration roller	○	○	○	○	○	○	○	○	○	
			8	Transport roller 1	○	○	○	○	○	○	○	○	○	
			9	Transport roller 2	○	○	○	○	○	○	○	○	○	
			10	Paper exit roller	○	○	○	○	○	○	○	○	○	
			11	Sensors	x	x	x	x	x	x	x	x	x	

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Document feed section	RSPF unit	12	Scan plate	○	○	○	○	○	○	○	○	○	
			13	Gears	x	x	x	x	x	x	x	x	x	
			14	Belts	x	x	x	x	x	x	x	x	x	
			15	OC mat	○	○	○	○	○	○	○	○	○	
2	Scanner section	Scanner unit	1	Drive belt	x	-	x	-	x	-	x	-	x	
			2	Drive wire	x	-	x	-	x	-	x	-	x	
			3	Sensors	x	-	x	-	x	-	x	-	x	
			4	Rails	☆	-	☆	-	☆	-	☆	-	☆	Apply grease (UKOG-0158FCZZ)
			5	Mirror	○	-	○	-	○	-	○	-	○	
			6	Lamp	○	-	○	-	○	-	○	-	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
			7	Lens	○	-	○	-	○	-	○	-	○	
			8	CCD	○	-	○	-	○	-	○	-	○	
			9	Table glass	○	-	○	-	○	-	○	-	○	
			10	SPF glass	○	-	○	-	○	-	○	-	○	
3	Developping section	Developping unit	1	Developer	x	-	x	-	▲	-	x	-	▲	Replace when the specified rotation number is reached
			2	DV seal	x	-	x	-	x	-	x	-	x	
			3	DV side seal F/R	x	-	x	-	x	-	x	-	x	
			4	Toner filter	x	-	x	-	▲	-	x	-	▲	
			5	Bias pin	x	-	x	-	x	-	x	-	x	
4	OPC drum section	OPC drum unit	1	Charger unit	x	▲	▲	▲	▲	▲	▲	▲	▲	Replace when the specified rotation number is reached
			2	Drum	x	-	▲	-	▲	-	▲	-	▲	
			3	Cleaning blade	x	-	▲	-	▲	-	▲	-	▲	
			4	Drum separation pawl unit	x	-	▲	-	▲	-	▲	-	▲	
			5	Toner reception blade	x	-	▲	-	▲	-	▲	-	▲	
			6	Toner reception seal F/R	x	-	▲	-	▲	-	▲	-	▲	
			7	Side seal F/R	x	-	▲	-	▲	-	▲	-	▲	
5	Transfer section	Transfer unit	1	Paper guide	x	-	○	-	○	-	○	-	○	
			2	Sensors	x	-	○	-	○	-	○	-	○	
			3	Transfer roller	x	-	▲	-	▲	-	▲	-	▲	Replace at (300K) or 2 years use
			4	Transfer roller bearing F-R	x	-	x	-	x	-	x	-	x	Replace as needed
			5	Transfer roller collar	x	-	x	-	x	-	x	-	x	Replace as needed
			6	Discharge plate	x	-	▲	-	▲	-	▲	-	▲	Replace at (300K) or 2 years use
			7	Transfer rear star ring	x	-	○	-	○	-	○	-	○	
6	LSU section	LSU	1	Dust-proof glass	x	-	x	-	x	-	x	-	x	
7	Manual paper feed section	Manual paper feed unit	1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 100K of manual paper feed counter or 1 year of use
			2	Paper feed roller	x	-	○	-	○	-	○	-	○	
			3	Separation roller	x	-	○	-	○	-	○	-	○	
			4	Torque limiter	x	-	x	-	x	-	x	-	x	
			5	Transport roller 11	x	-	○	-	○	-	○	-	○	
			6	Sensors	x	-	x	-	x	-	x	-	x	
8	Tray paper feed section	Tray paper feed unit	1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 200K of each paper feed counter or 1 year of use
			2	Paper feed roller	x	-	○	-	○	-	○	-	○	
			3	Separation roller	x	-	○	-	○	-	○	-	○	
			4	Torque limiter	x	-	x	-	x	-	x	-	x	
			5	Transport roller 4	x	-	○	-	○	-	○	-	○	
			6	Transport roller 1	x	-	○	-	○	-	○	-	○	
			7	Transport roller 2	x	-	○	-	○	-	○	-	○	
			8	Sensors	x	-	x	-	x	-	x	-	x	

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
9	Paper registration section/ Paper exit section/ ADU section	PS unit	1	Registration roller (idle)	x	-	○	-	○	-	○	-	○	
			2	Registration roller (drive)	x	-	○	-	○	-	○	-	○	
			3	Transport roller 5	x	-	○	-	○	-	○	-	○	
			4	Sensors	x	-	x	-	x	-	x	-	x	
		Right door unit	5	Transport roller 9	x	-	○	-	○	-	○	-	○	
			6	Transport roller 10	x	-	○	-	○	-	○	-	○	
			7	Transport roller 8	x	-	○	-	○	-	○	-	○	
			8	Sensors	x	-	x	-	x	-	x	-	x	
		Fusing rear unit	9	Transport roller 7	x	-	○	-	○	-	○	-	○	
		Paper exit unit	10	Paper exit roller 2	x	-	○	-	○	-	○	-	○	
			11	Discharge brush	x	-	x	-	x	-	x	-	x	
			12	Sensors	x	-	x	-	x	-	x	-	x	
		Other	13	Paper dust removing unit	○	-	○	-	○	-	○	-	○	
			14	Paper exit roller 1	x	-	○	-	○	-	○	-	○	
			15	Discharge brush	x	-	x	-	x	-	x	-	x	
			-	Paper guides	○	-	○	-	○	-	○	-	○	
10	Drive section	Fusing drive unit	1	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0307FCZZ) to the specified position when checking
			2	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
			3	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0299FCZZ) to the specified position when checking
			4	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
			5	Belts	-	-	x	-	x	-	x	-	x	
			6	Shafts (grease)	-	-	x	-	x	-	x	-	x	
			7	Belts	-	-	x	-	x	-	x	-	x	
11	Fusing section	Fusing unit	1	Fusing transport roller lower	x	-	x	-	x	-	x	-	x	Replace as needed
			2	Fusing transport roller upper	x	-	x	-	x	-	x	-	x	Replace as needed
			3	Bearing holder	x	-	x	-	x	-	x	-	x	Replace as needed
			4	Gears	☆	-	☆	-	☆	-	☆	-	☆	
			5	Separation plate	x	-	x	-	x	-	x	-	x	Clean as needed
			6	Separation plate spacer	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
			7	Fusing belt	x	-	▲	-	▲	-	▲	-	▲	
			8	Fusing roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing
			9	Heat roller	x	-	▲	-	▲	-	▲	-	▲	
			10	Insulation bush	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the specified position when replacing
			11	Pressure roller gear	x	-	x	-	x	-	x	-	x	Replace as needed
			12	Pressure roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing and after completion of replacement, clean the new pressure roller surface with alcohol

Section/Unit work sequence	Name	Unit name	Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
11	Fusing section	Fusing unit	13	Pressure oscillation guide	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
			14	Thermistor main	x	-	x	-	x	-	x	-	x	Replace as needed
			15	Thermistor sub	x	-	x	-	x	-	x	-	x	Replace as needed
			16	Thermistor sub 2	x	-	x	-	x	-	x	-	x	Replace as needed
			17	Sensors	x	-	x	-	x	-	x	-	x	
			18	Paper guides	○	-	○	-	○	-	○	-	○	
12	Other	Other	1	Ozone filter	x	-	▲	-	▲	-	▲	-	▲	
			2	UFP filter	x	-	▲	-	▲	-	▲	-	▲	For 50/60 ppm machine
			3	Toner cartridge	Replaced by the user									
			4	Waste toner box	Replaced by the user every full detection									Replace at 300K

A. Document feed section

(1) DSPF

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

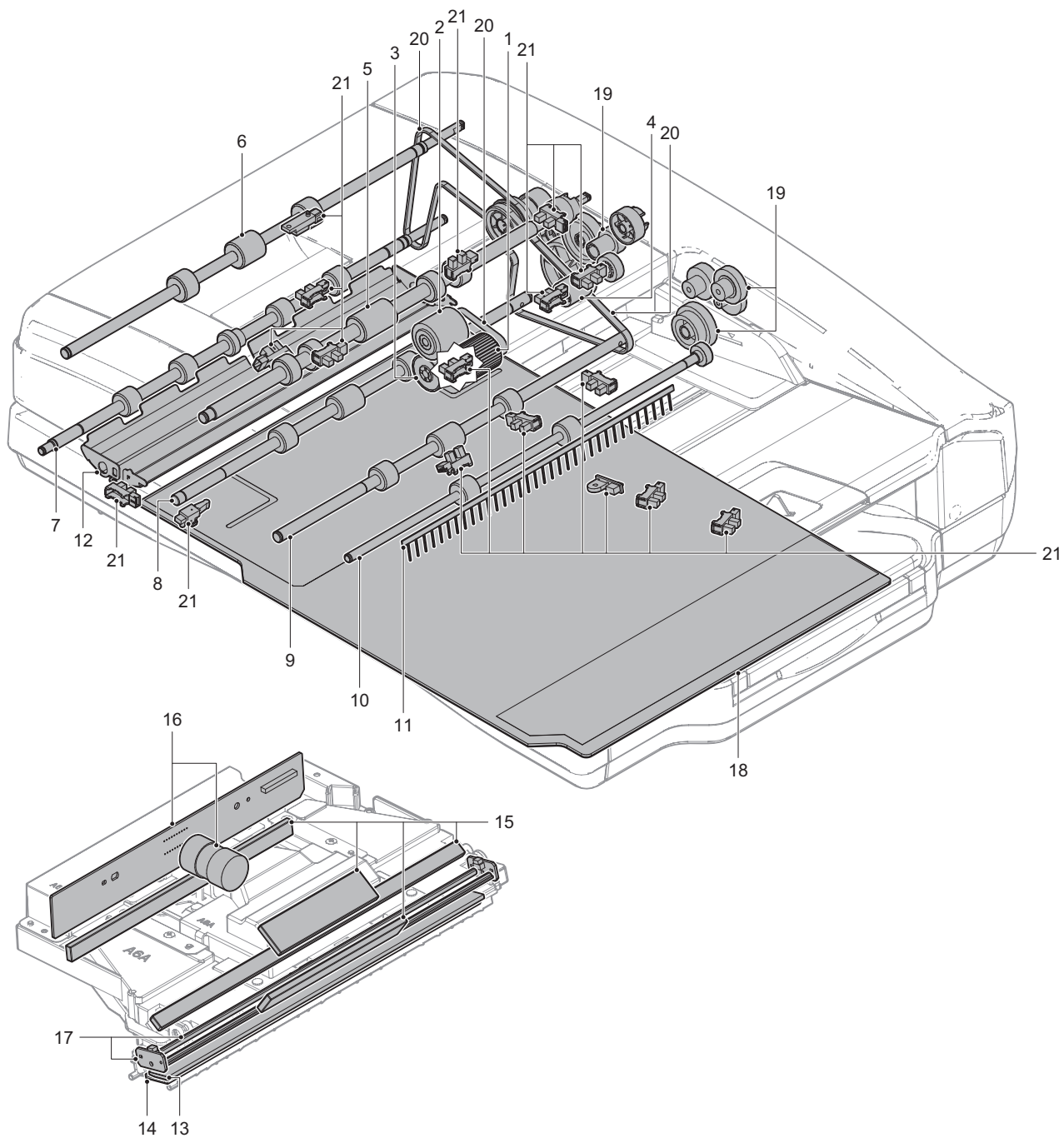
Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use
2	Paper feed roller	○	○	○	○	○	○	○	○	○	
3	Separation roller	○	○	○	○	○	○	○	○	○	
4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 800K of the SPF paper feed counter
5	Transport roller 1	○	○	○	○	○	○	○	○	○	
6	Transport roller 2	○	○	○	○	○	○	○	○	○	
7	Registration roller	○	○	○	○	○	○	○	○	○	
8	Transport roller 3	○	○	○	○	○	○	○	○	○	
9	Transport roller 4	○	○	○	○	○	○	○	○	○	
10	Paper exit roller	○	○	○	○	○	○	○	○	○	
11	Discharge brush	x	x	x	x	x	x	x	x	x	
12	No.1 scanning plate	○	○	○	○	○	○	○	○	○	
13	No.2 scanning section, scanning glass	○	○	○	○	○	○	○	○	○	
14	No.2 scanning section, white reference glass	○	○	○	○	○	○	○	○	○	
15	Mirror	○	○	○	○	○	○	○	○	○	
16	Lens, CCD	○	○	○	○	○	○	○	○	○	
17	Lamp	○	○	○	○	○	○	○	○	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
18	OC mat	○	○	○	○	○	○	○	○	○	
19	Gears	x	x	x	x	x	x	x	x	x	
20	Belts	x	x	x	x	x	x	x	x	x	
21	Sensors	x	x	x	x	x	x	x	x	x	

35 ppm machine

Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use
2	Paper feed roller	○	○	○	○	○	○	○	○	○	
3	Separation roller	○	○	○	○	○	○	○	○	○	
4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 800K of the SPF paper feed counter
5	Transport roller 1	○	○	○	○	○	○	○	○	○	
6	Transport roller 2	○	○	○	○	○	○	○	○	○	
7	Registration roller	○	○	○	○	○	○	○	○	○	
8	Transport roller 3	○	○	○	○	○	○	○	○	○	
9	Transport roller 4	○	○	○	○	○	○	○	○	○	
10	Paper exit roller	○	○	○	○	○	○	○	○	○	
11	Discharge brush	x	x	x	x	x	x	x	x	x	
12	No.1 scanning plate	○	○	○	○	○	○	○	○	○	
13	No.2 scanning section, scanning glass	○	○	○	○	○	○	○	○	○	
14	No.2 scanning section, white reference glass	○	○	○	○	○	○	○	○	○	
15	Mirror	○	○	○	○	○	○	○	○	○	
16	Lens, CCD	○	○	○	○	○	○	○	○	○	
17	Lamp	○	○	○	○	○	○	○	○	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
18	OC mat	○	○	○	○	○	○	○	○	○	
19	Gears	x	x	x	x	x	x	x	x	x	
20	Belts	x	x	x	x	x	x	x	x	x	
21	Sensors	x	x	x	x	x	x	x	x	x	

40/50/60 ppm machine

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use
2	Paper feed roller	○	○	○	○	○	○	○	○	○	
3	Separation roller	○	○	○	○	○	○	○	○	○	
4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 800K of the SPF paper feed counter
5	Transport roller 1	○	○	○	○	○	○	○	○	○	
6	Transport roller 2	○	○	○	○	○	○	○	○	○	
7	Registration roller	○	○	○	○	○	○	○	○	○	
8	Transport roller 3	○	○	○	○	○	○	○	○	○	
9	Transport roller 4	○	○	○	○	○	○	○	○	○	
10	Paper exit roller	○	○	○	○	○	○	○	○	○	
11	Discharge brush	x	x	x	x	x	x	x	x	x	
12	No.1 scanning plate	○	○	○	○	○	○	○	○	○	
13	No.2 scanning section, scanning glass	○	○	○	○	○	○	○	○	○	
14	No.2 scanning section, white reference glass	○	○	○	○	○	○	○	○	○	
15	Mirror	○	○	○	○	○	○	○	○	○	
16	Lens, CCD	○	○	○	○	○	○	○	○	○	
17	Lamp	○	○	○	○	○	○	○	○	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
18	OC mat	○	○	○	○	○	○	○	○	○	
19	Gears	x	x	x	x	x	x	x	x	x	
20	Belts	x	x	x	x	x	x	x	x	x	
21	Sensors	x	x	x	x	x	x	x	x	x	



(2) RSPF

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

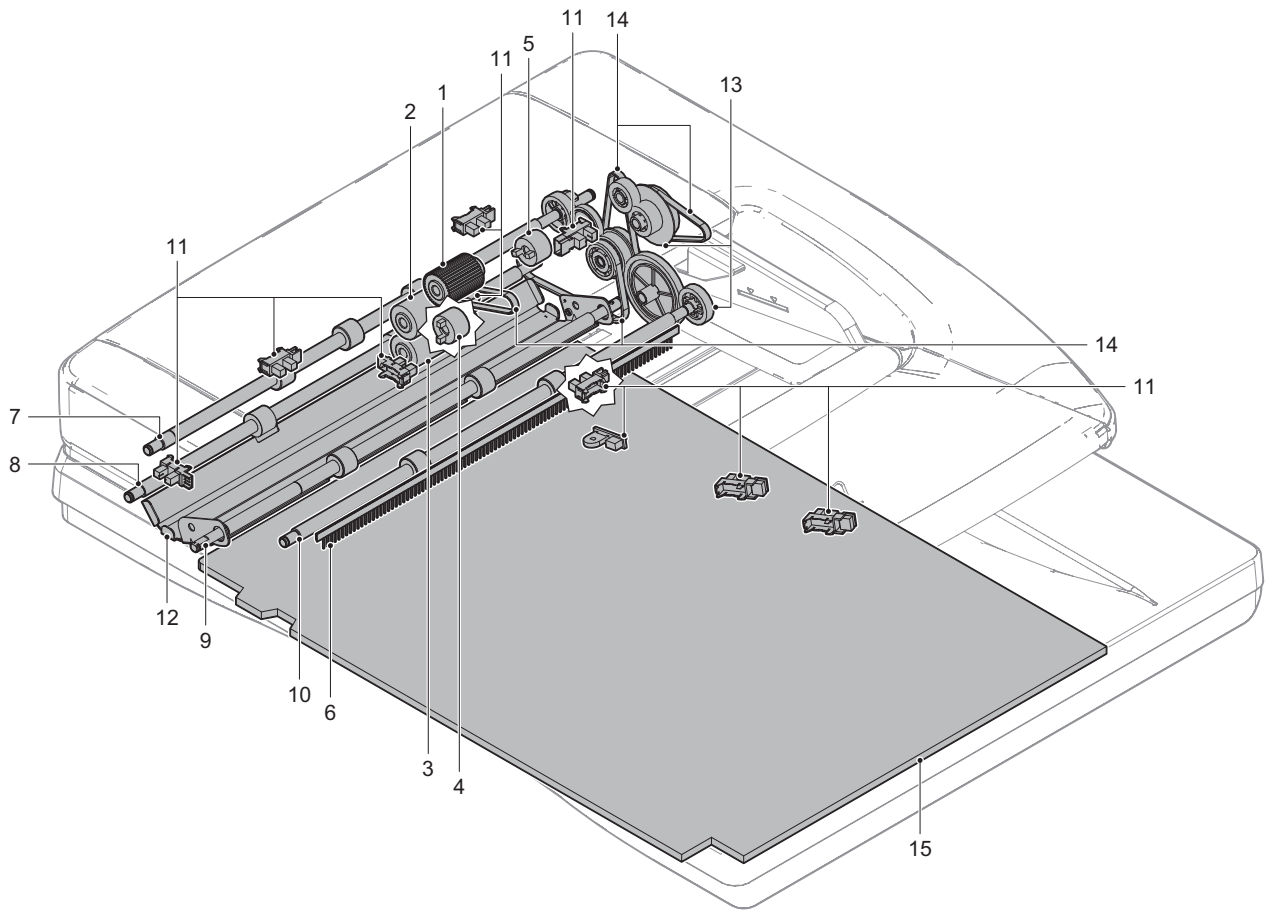
Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use. When replacing the paper feed roller, apply grease (UKOG-0013QSZZ) to the paper feed shaft
2	Paper feed roller	○	○	○	○	○	○	○	○	○	
3	Separation roller	○	○	○	○	○	○	○	○	○	
4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 400K of the SPF paper feed counter or 2 year of use
5	Torque limiter pickup	x	x	x	x	x	x	x	x	x	
6	Discharge brush	x	x	x	x	x	x	x	x	x	
7	Registration roller	○	○	○	○	○	○	○	○	○	
8	Transport roller 1	○	○	○	○	○	○	○	○	○	
9	Transport roller 2	○	○	○	○	○	○	○	○	○	
10	Paper exit roller	○	○	○	○	○	○	○	○	○	
11	Sensors	x	x	x	x	x	x	x	x	x	
12	Scan plate	○	○	○	○	○	○	○	○	○	
13	Gears	x	x	x	x	x	x	x	x	x	
14	Belts	x	x	x	x	x	x	x	x	x	
15	OC mat	○	○	○	○	○	○	○	○	○	

35 ppm machine

Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use. When replacing the paper feed roller, apply grease (UKOG-0013QSZZ) to the paper feed shaft
2	Paper feed roller	○	○	○	○	○	○	○	○	○	
3	Separation roller	○	○	○	○	○	○	○	○	○	
4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 400K of the SPF paper feed counter or 2 year of use
5	Torque limiter pickup	x	x	x	x	x	x	x	x	x	
6	Discharge brush	x	x	x	x	x	x	x	x	x	
7	Registration roller	○	○	○	○	○	○	○	○	○	
8	Transport roller 1	○	○	○	○	○	○	○	○	○	
9	Transport roller 2	○	○	○	○	○	○	○	○	○	
10	Paper exit roller	○	○	○	○	○	○	○	○	○	
11	Sensors	x	x	x	x	x	x	x	x	x	
12	Scan plate	○	○	○	○	○	○	○	○	○	
13	Gears	x	x	x	x	x	x	x	x	x	
14	Belts	x	x	x	x	x	x	x	x	x	
15	OC mat	○	○	○	○	○	○	○	○	○	

40/50/60 ppm machine

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Paper pickup roller	○	○	○	○	○	○	○	○	○	Replace at 100K of the SPF paper feed counter or 1 year of use. When replacing the paper feed roller, apply grease (UKOG-0013QSZZ) to the paper feed shaft
2	Paper feed roller	○	○	○	○	○	○	○	○	○	
3	Separation roller	○	○	○	○	○	○	○	○	○	
4	Torque limiter	x	x	x	x	x	x	x	x	x	Replace at 400K of the SPF paper feed counter or 2 year of use
5	Torque limiter pickup	x	x	x	x	x	x	x	x	x	
6	Discharge brush	x	x	x	x	x	x	x	x	x	
7	Registration roller	○	○	○	○	○	○	○	○	○	
8	Transport roller 1	○	○	○	○	○	○	○	○	○	
9	Transport roller 2	○	○	○	○	○	○	○	○	○	
10	Paper exit roller	○	○	○	○	○	○	○	○	○	
11	Sensors	x	x	x	x	x	x	x	x	x	
12	Scan plate	○	○	○	○	○	○	○	○	○	
13	Gears	x	x	x	x	x	x	x	x	x	
14	Belts	x	x	x	x	x	x	x	x	x	
15	OC mat	○	○	○	○	○	○	○	○	○	



B. Scanner section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

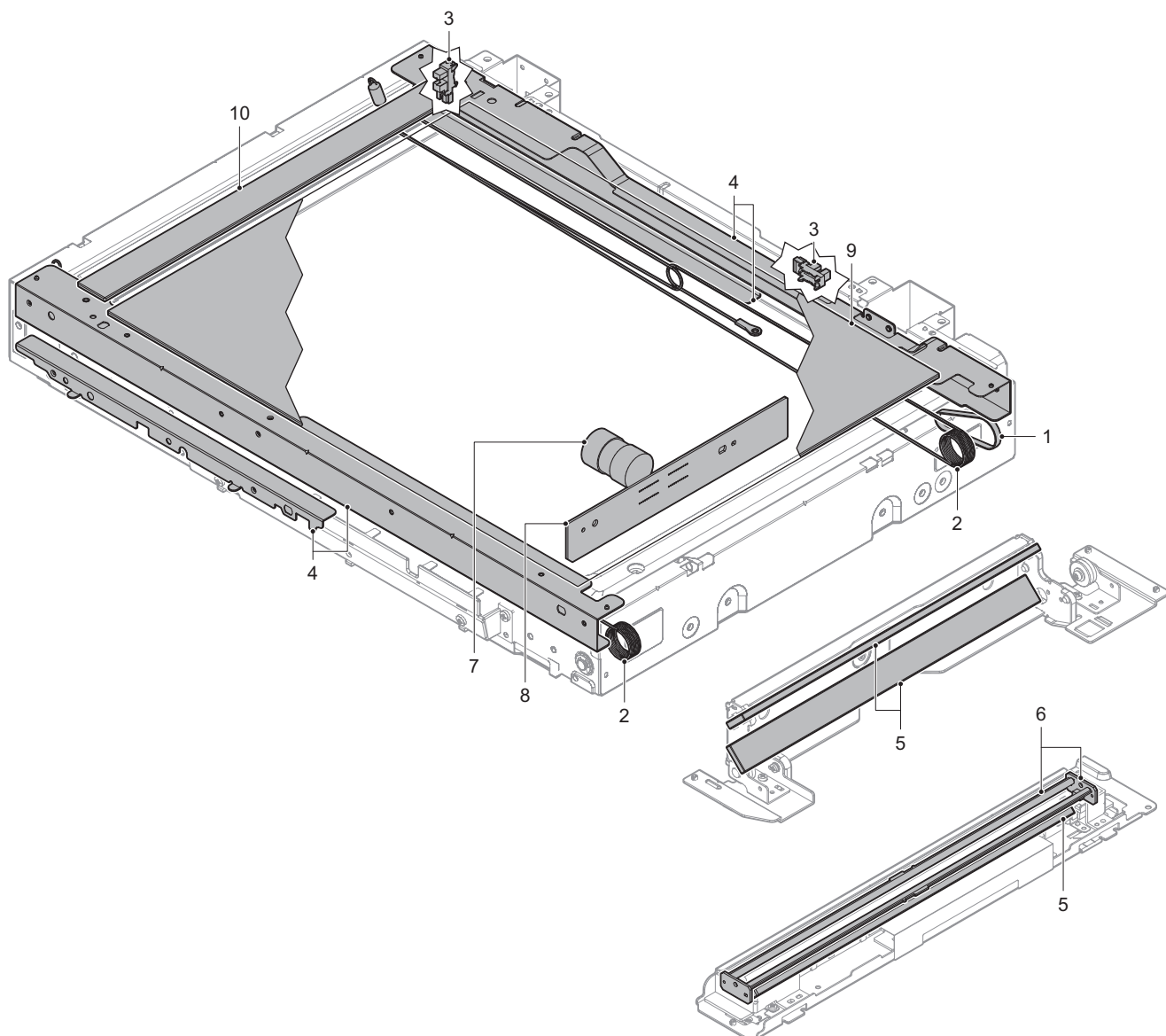
Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Drive belt	x	-	x	-	x	-	x	-	x	
2	Drive wire	x	-	x	-	x	-	x	-	x	
3	Sensors	x	-	x	-	x	-	x	-	x	
4	Rails	☆	-	☆	-	☆	-	☆	-	☆	Apply grease (UKOG-0158FCZZ)
5	Mirror	○	-	○	-	○	-	○	-	○	
6	Lamp	○	-	○	-	○	-	○	-	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
7	Lens	○	-	○	-	○	-	○	-	○	
8	CCD	○	-	○	-	○	-	○	-	○	
9	Table glass	○	-	○	-	○	-	○	-	○	
10	SPF glass	○	-	○	-	○	-	○	-	○	

35 ppm machine

Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Drive belt	x	-	x	-	x	-	x	-	x	
2	Drive wire	x	-	x	-	x	-	x	-	x	
3	Sensors	x	-	x	-	x	-	x	-	x	
4	Rails	☆	-	☆	-	☆	-	☆	-	☆	Apply grease (UKOG-0158FCZZ)
5	Mirror	○	-	○	-	○	-	○	-	○	
6	Lamp	○	-	○	-	○	-	○	-	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
7	Lens	○	-	○	-	○	-	○	-	○	
8	CCD	○	-	○	-	○	-	○	-	○	
9	Table glass	○	-	○	-	○	-	○	-	○	
10	SPF glass	○	-	○	-	○	-	○	-	○	

40/50/60 ppm machine

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Drive belt	x	-	x	-	x	-	x	-	x	
2	Drive wire	x	-	x	-	x	-	x	-	x	
3	Sensors	x	-	x	-	x	-	x	-	x	
4	Rails	☆	-	☆	-	☆	-	☆	-	☆	Apply grease (UKOG-0158FCZZ)
5	Mirror	○	-	○	-	○	-	○	-	○	
6	Lamp	○	-	○	-	○	-	○	-	○	Blow air to clean LED section (do not use alcohol) Blow air to clean optical bar section (when dirt cannot be eliminated, clean with ethanol alcohol)
7	Lens	○	-	○	-	○	-	○	-	○	
8	CCD	○	-	○	-	○	-	○	-	○	
9	Table glass	○	-	○	-	○	-	○	-	○	
10	SPF glass	○	-	○	-	○	-	○	-	○	



C. Developer section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

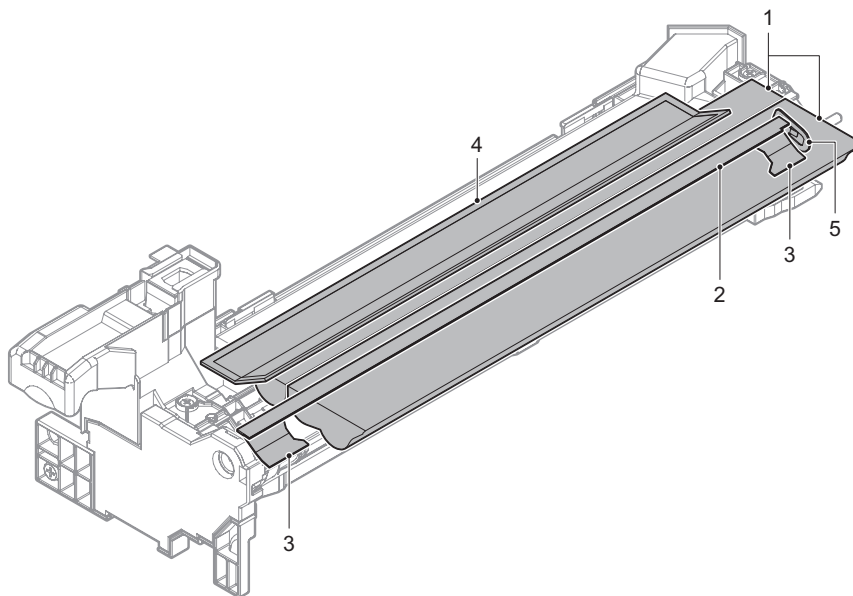
Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Developer	x	-	x	-	▲	-	x	-	▲	Replace when the specified rotation number is reached
2	DV seal	x	-	x	-	x	-	x	-	x	
3	DV side seal F/R	x	-	x	-	x	-	x	-	x	
4	Toner filter	x	-	x	-	▲	-	x	-	▲	
5	Bias pin	x	-	x	-	x	-	x	-	x	

35 ppm machine

Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Developer	x	-	x	-	▲	-	x	-	▲	Replace when the specified rotation number is reached
2	DV seal	x	-	x	-	x	-	x	-	x	
3	DV side seal F/R	x	-	x	-	x	-	x	-	x	
4	Toner filter	x	-	x	-	▲	-	x	-	▲	
5	Bias pin	x	-	x	-	x	-	x	-	x	

40/50/60 ppm machine

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Developer	x	-	x	-	▲	-	x	-	▲	Replace when the specified rotation number is reached
2	DV seal	x	-	x	-	x	-	x	-	x	
3	DV side seal F/R	x	-	x	-	x	-	x	-	x	
4	Toner filter	x	-	x	-	▲	-	x	-	▲	
5	Bias pin	x	-	x	-	x	-	x	-	x	



D. OPC drum section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

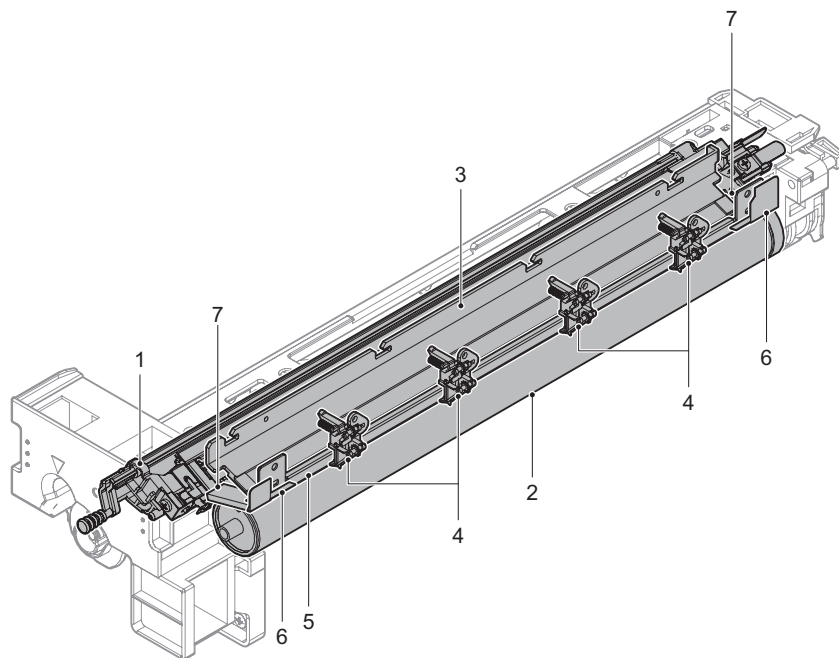
Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Charger unit	x	▲	▲	▲	▲	▲	▲	▲	▲	Replace when the specified rotation number is reached
2	Drum	x	-	▲	-	▲	-	▲	-	▲	
3	Cleaning blade	x	-	▲	-	▲	-	▲	-	▲	
4	Drum separation pawl unit	x	-	▲	-	▲	-	▲	-	▲	
5	Toner reception blade	x	-	▲	-	▲	-	▲	-	▲	
6	Toner reception seal F/R	x	-	▲	-	▲	-	▲	-	▲	
7	Side seal F/R	x	-	▲	-	▲	-	▲	-	▲	

35 ppm machine

Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Charger unit	x	▲	▲	▲	▲	▲	▲	▲	▲	Replace when the specified rotation number is reached
2	Drum	x	-	▲	-	▲	-	▲	-	▲	
3	Cleaning blade	x	-	▲	-	▲	-	▲	-	▲	
4	Drum separation pawl unit	x	-	▲	-	▲	-	▲	-	▲	
5	Toner reception blade	x	-	▲	-	▲	-	▲	-	▲	
6	Toner reception seal F/R	x	-	▲	-	▲	-	▲	-	▲	
7	Side seal F/R	x	-	▲	-	▲	-	▲	-	▲	

40/50/60 ppm machine

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Charger unit	x	▲	▲	▲	▲	▲	▲	▲	▲	Replace when the specified rotation number is reached
2	Drum	x	-	▲	-	▲	-	▲	-	▲	
3	Cleaning blade	x	-	▲	-	▲	-	▲	-	▲	
4	Drum separation pawl unit	x	-	▲	-	▲	-	▲	-	▲	
5	Toner reception blade	x	-	▲	-	▲	-	▲	-	▲	
6	Toner reception seal F/R	x	-	▲	-	▲	-	▲	-	▲	
7	Side seal F/R	x	-	▲	-	▲	-	▲	-	▲	



E. Transfer section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

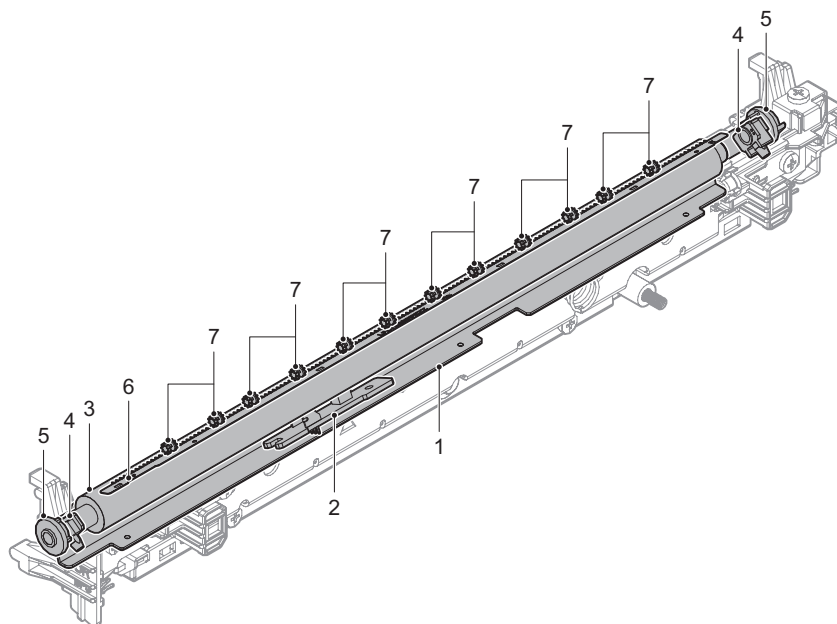
Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Paper guide	x	-	○	-	○	-	○	-	○	
2	Sensors	x	-	○	-	○	-	○	-	○	
3	Transfer roller	x	-	▲	-	▲	-	▲	-	▲	Replace at (250K) or 2 years use
4	Transfer roller bearing F·R	x	-	x	-	x	-	x	-	x	Replace as needed
5	Transfer roller collar	x	-	x	-	x	-	x	-	x	Replace as needed
6	Discharge plate	x	-	▲	-	▲	-	▲	-	▲	Replace at (250K) or 2 years use
7	Transfer rear star ring	x	-	○	-	○	-	○	-	○	

35 ppm machine

Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Paper guide	x	-	○	-	○	-	○	-	○	
2	Sensors	x	-	○	-	○	-	○	-	○	
3	Transfer roller	x	-	▲	-	▲	-	▲	-	▲	Replace at (280K) or 2 years use
4	Transfer roller bearing F·R	x	-	x	-	x	-	x	-	x	Replace as needed
5	Transfer roller collar	x	-	x	-	x	-	x	-	x	Replace as needed
6	Discharge plate	x	-	▲	-	▲	-	▲	-	▲	Replace at (280K) or 2 years use
7	Transfer rear star ring	x	-	○	-	○	-	○	-	○	

40/50/60 ppm machine

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Paper guide	x	-	○	-	○	-	○	-	○	
2	Sensors	x	-	○	-	○	-	○	-	○	
3	Transfer roller	x	-	▲	-	▲	-	▲	-	▲	Replace at (300K) or 2 years use
4	Transfer roller bearing F·R	x	-	x	-	x	-	x	-	x	Replace as needed
5	Transfer roller collar	x	-	x	-	x	-	x	-	x	Replace as needed
6	Discharge plate	x	-	▲	-	▲	-	▲	-	▲	Replace at (300K) or 2 years use
7	Transfer rear star ring	x	-	○	-	○	-	○	-	○	



F. LSU section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

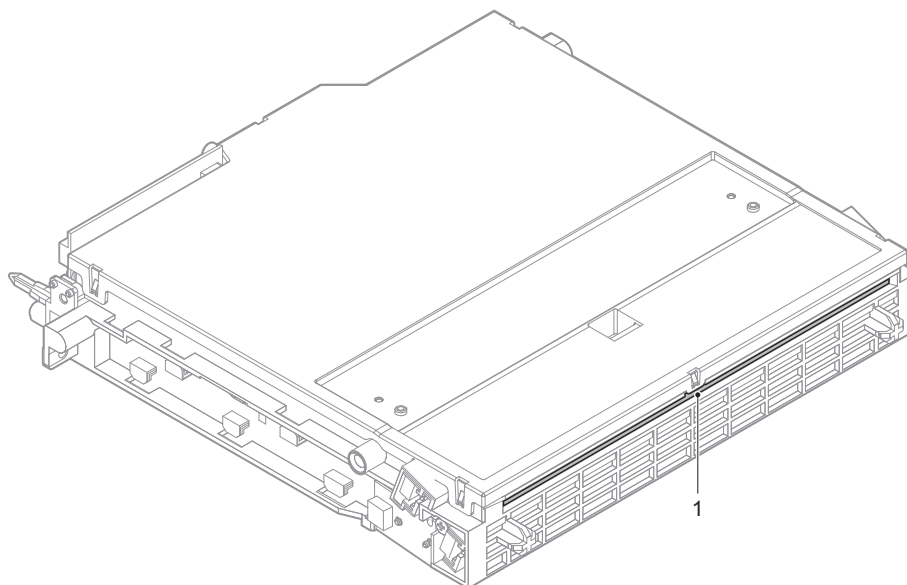
Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Dust-proof glass	x	-	x	-	x	-	x	-	x	

35 ppm machine

Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Dust-proof glass	x	-	x	-	x	-	x	-	x	

40/50/60 ppm machine

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Dust-proof glass	x	-	x	-	x	-	x	-	x	



G. Manual paper feed section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

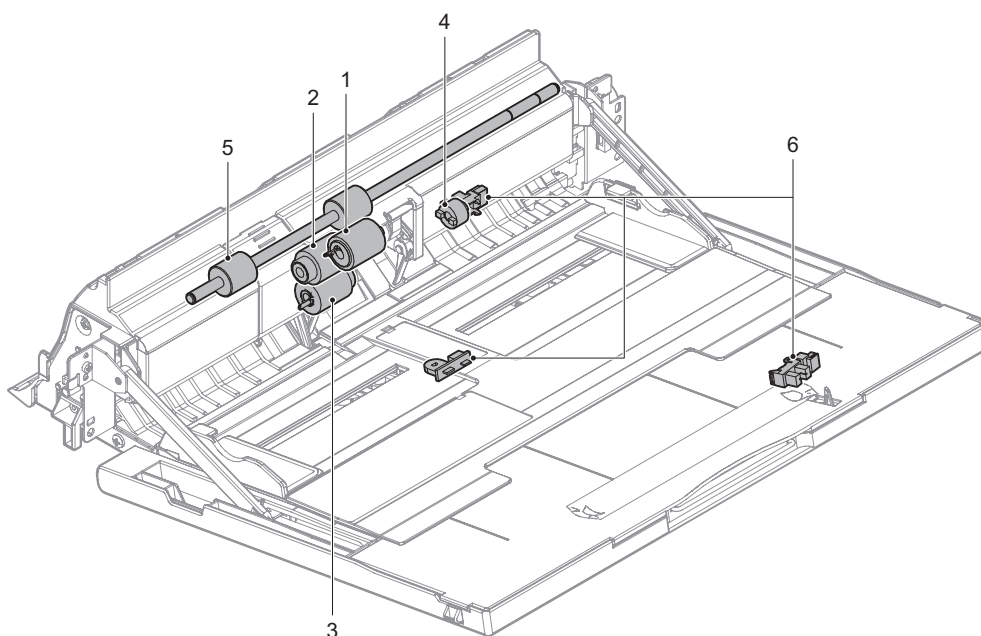
Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 100K of manual paper feed counter or 1 year of use
2	Paper feed roller	x	-	○	-	○	-	○	-	○	
3	Separation roller	x	-	○	-	○	-	○	-	○	
4	Torque limiter	x	-	x	-	x	-	x	-	x	
5	Transport roller 11	x	-	○	-	○	-	○	-	○	
6	Sensors	x	-	x	-	x	-	x	-	x	

35 ppm machine

Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 100K of manual paper feed counter or 1 year of use
2	Paper feed roller	x	-	○	-	○	-	○	-	○	
3	Separation roller	x	-	○	-	○	-	○	-	○	
4	Torque limiter	x	-	x	-	x	-	x	-	x	
5	Transport roller 11	x	-	○	-	○	-	○	-	○	
6	Sensors	x	-	x	-	x	-	x	-	x	

40/50/60 ppm machine

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 100K of manual paper feed counter or 1 year of use
2	Paper feed roller	x	-	○	-	○	-	○	-	○	
3	Separation roller	x	-	○	-	○	-	○	-	○	
4	Torque limiter	x	-	x	-	x	-	x	-	x	
5	Transport roller 11	x	-	○	-	○	-	○	-	○	
6	Sensors	x	-	x	-	x	-	x	-	x	



H. Tray paper feed section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

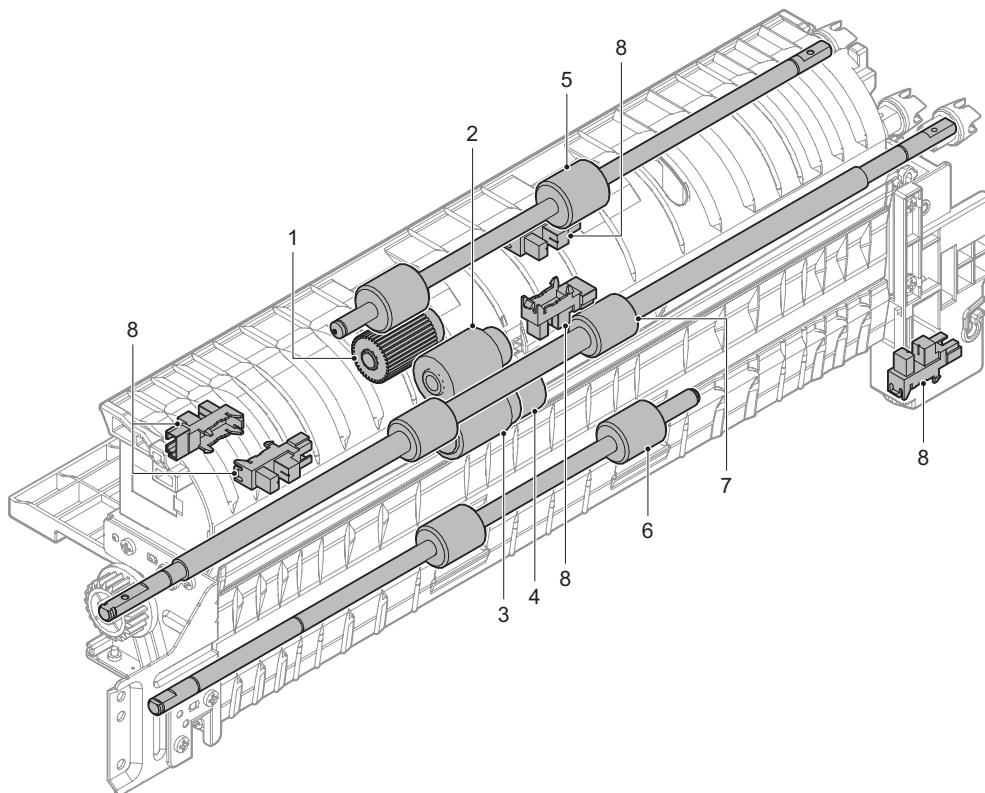
Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 200K of each paper feed counter or 1 year of use
2	Paper feed roller	x	-	○	-	○	-	○	-	○	
3	Separation roller	x	-	○	-	○	-	○	-	○	
4	Torque limiter	x	-	x	-	x	-	x	-	x	
5	Transport roller 4	x	-	○	-	○	-	○	-	○	
6	Transport roller 1	x	-	○	-	○	-	○	-	○	
7	Transport roller 2	x	-	○	-	○	-	○	-	○	
8	Sensors	x	-	x	-	x	-	x	-	x	

35 ppm machine

Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 200K of each paper feed counter or 1 year of use
2	Paper feed roller	x	-	○	-	○	-	○	-	○	
3	Separation roller	x	-	○	-	○	-	○	-	○	
4	Torque limiter	x	-	x	-	x	-	x	-	x	
5	Transport roller 4	x	-	○	-	○	-	○	-	○	
6	Transport roller 1	x	-	○	-	○	-	○	-	○	
7	Transport roller 2	x	-	○	-	○	-	○	-	○	
8	Sensors	x	-	x	-	x	-	x	-	x	

40/50/60 ppm machine

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Paper pickup roller	x	-	○	-	○	-	○	-	○	Replace at 200K of each paper feed counter or 1 year of use
2	Paper feed roller	x	-	○	-	○	-	○	-	○	
3	Separation roller	x	-	○	-	○	-	○	-	○	
4	Torque limiter	x	-	x	-	x	-	x	-	x	
5	Transport roller 4	x	-	○	-	○	-	○	-	○	
6	Transport roller 1	x	-	○	-	○	-	○	-	○	
7	Transport roller 2	x	-	○	-	○	-	○	-	○	
8	Sensors	x	-	x	-	x	-	x	-	x	



I. Paper transport section/paper exit section/ADU section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

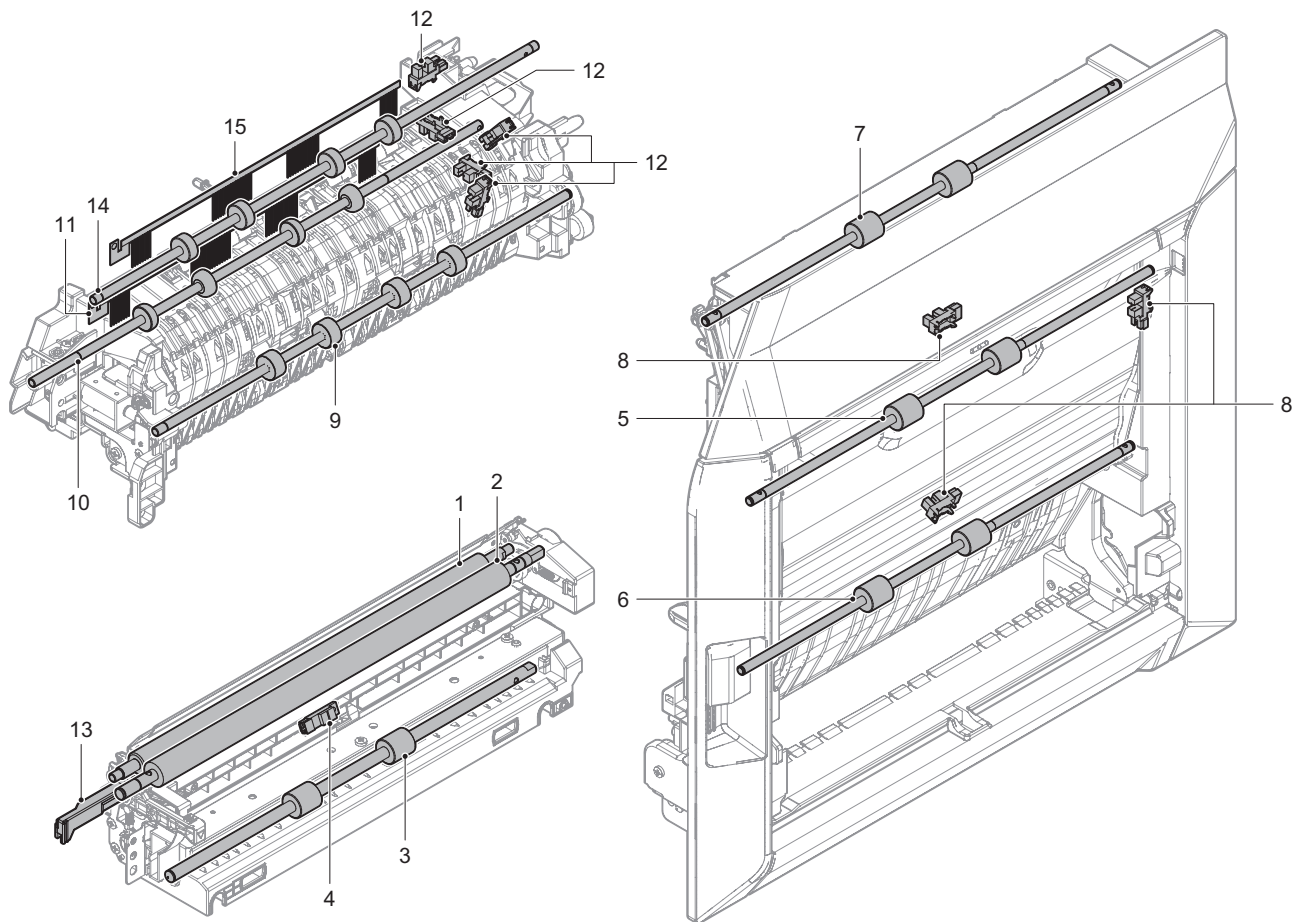
Unit name	Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
PS unit	1	Registration roller (idle)	x	-	○	-	○	-	○	-	○	
	2	Registration roller (drive)	x	-	○	-	○	-	○	-	○	
	3	Transport roller 5	x	-	○	-	○	-	○	-	○	
	4	Sensors	x	-	x	-	x	-	x	-	x	
Right door unit	5	Transport roller 9	x	-	○	-	○	-	○	-	○	
	6	Transport roller 10	x	-	○	-	○	-	○	-	○	
	7	Transport roller 8	x	-	○	-	○	-	○	-	○	
	8	Sensors	x	-	x	-	x	-	x	-	x	
Fusing rear unit	9	Transport roller 7	x	-	○	-	○	-	○	-	○	
Paper exit unit	10	Paper exit roller 2	x	-	○	-	○	-	○	-	○	
	11	Discharge brush	x	-	x	-	x	-	x	-	x	
	12	Sensors	x	-	x	-	x	-	x	-	x	
Other	13	Paper dust removing unit	○	-	○	-	○	-	○	-	○	
	14	Paper exit roller 1	x	-	○	-	○	-	○	-	○	
	15	Discharge brush	x	-	x	-	x	-	x	-	x	
	-	Paper guides	○	-	○	-	○	-	○	-	○	

35 ppm machine

Unit name	Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
PS unit	1	Registration roller (idle)	x	-	○	-	○	-	○	-	○	
	2	Registration roller (drive)	x	-	○	-	○	-	○	-	○	
	3	Transport roller 5	x	-	○	-	○	-	○	-	○	
	4	Sensors	x	-	x	-	x	-	x	-	x	
Right door unit	5	Transport roller 9	x	-	○	-	○	-	○	-	○	
	6	Transport roller 10	x	-	○	-	○	-	○	-	○	
	7	Transport roller 8	x	-	○	-	○	-	○	-	○	
	8	Sensors	x	-	x	-	x	-	x	-	x	
Fusing rear unit	9	Transport roller 7	x	-	○	-	○	-	○	-	○	
Paper exit unit	10	Paper exit roller 2	x	-	○	-	○	-	○	-	○	
	11	Discharge brush	x	-	x	-	x	-	x	-	x	
	12	Sensors	x	-	x	-	x	-	x	-	x	
Other	13	Paper dust removing unit	○	-	○	-	○	-	○	-	○	
	14	Paper exit roller 1	x	-	○	-	○	-	○	-	○	
	15	Discharge brush	x	-	x	-	x	-	x	-	x	
	-	Paper guides	○	-	○	-	○	-	○	-	○	

40/50/60 ppm machine

Unit name	Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
PS unit	1	Registration roller (idle)	x	-	○	-	○	-	○	-	○	
	2	Registration roller (drive)	x	-	○	-	○	-	○	-	○	
	3	Transport roller 5	x	-	○	-	○	-	○	-	○	
	4	Sensors	x	-	x	-	x	-	x	-	x	
Right door unit	5	Transport roller 9	x	-	○	-	○	-	○	-	○	
	6	Transport roller 10	x	-	○	-	○	-	○	-	○	
	7	Transport roller 8	x	-	○	-	○	-	○	-	○	
	8	Sensors	x	-	x	-	x	-	x	-	x	
Fusing rear unit	9	Transport roller 7	x	-	○	-	○	-	○	-	○	
Paper exit unit	10	Paper exit roller 2	x	-	○	-	○	-	○	-	○	
	11	Discharge brush	x	-	x	-	x	-	x	-	x	
	12	Sensors	x	-	x	-	x	-	x	-	x	
Other	13	Paper dust removing unit	○	-	○	-	○	-	○	-	○	
	14	Paper exit roller 1	x	-	○	-	○	-	○	-	○	
	15	Discharge brush	x	-	x	-	x	-	x	-	x	
	-	Paper guides	○	-	○	-	○	-	○	-	○	



J. Drive section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

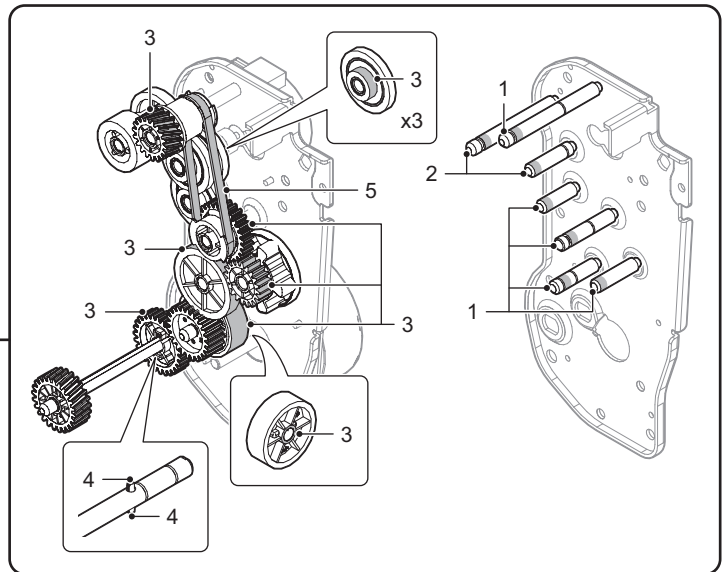
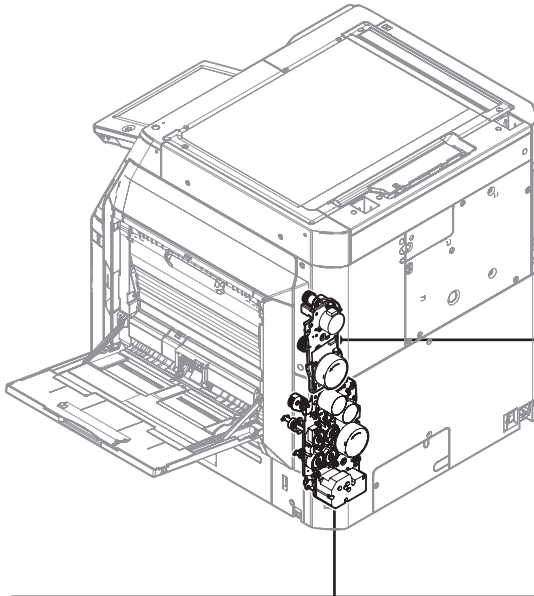
Unit name	Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
Fusing drive unit	1	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0307FCZZ) to the specified position when checking
	2	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
	3	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0299FCZZ) to the specified position when checking
	4	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
	5	Belts	-	-	x	-	x	-	x	-	x	
Transport drive unit	6	Shafts (grease)	-	-	x	-	x	-	x	-	x	
	7	Belts	-	-	x	-	x	-	x	-	x	

35 ppm machine

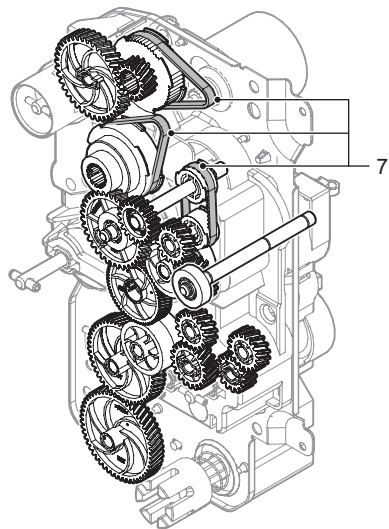
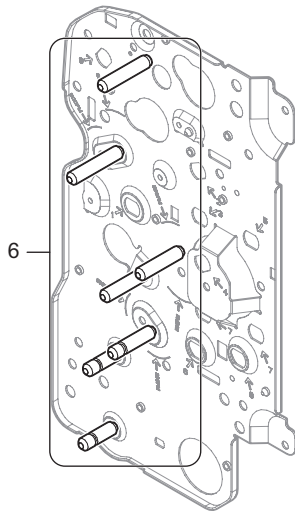
Unit name	Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
Fusing drive unit	1	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0307FCZZ) to the specified position when checking
	2	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
	3	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0299FCZZ) to the specified position when checking
	4	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
	5	Belts	-	-	x	-	x	-	x	-	x	
Transport drive unit	6	Shafts (grease)	-	-	x	-	x	-	x	-	x	
	7	Belts	-	-	x	-	x	-	x	-	x	

40/50/60 ppm machine

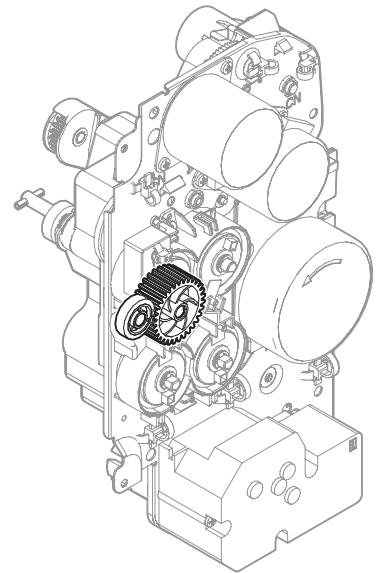
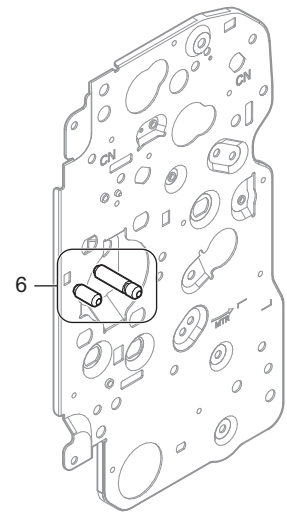
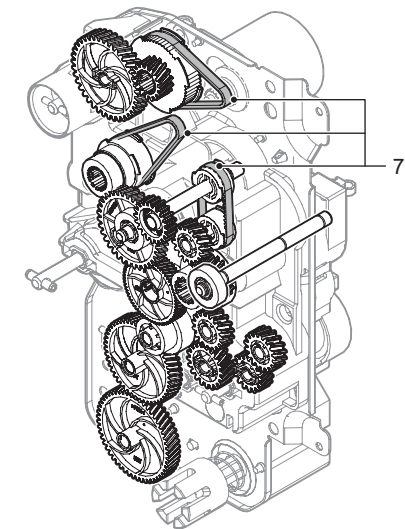
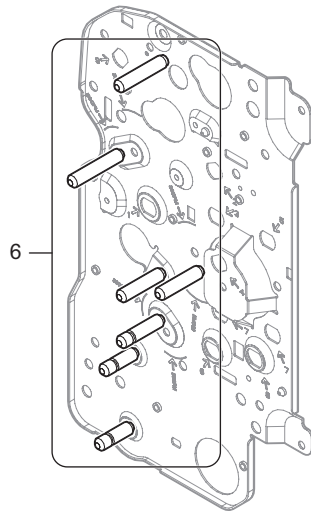
Unit name	Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
Fusing drive unit	1	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0307FCZZ) to the specified position when checking
	2	Shafts (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
	3	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0299FCZZ) to the specified position when checking
	4	Gears (grease)	-	-	x	-	x	-	x	-	x	Apply grease (UKOG-0013QSZZ) to the specified position when checking
	5	Belts	-	-	x	-	x	-	x	-	x	
Transport drive unit	6	Shafts (grease)	-	-	x	-	x	-	x	-	x	
	7	Belts	-	-	x	-	x	-	x	-	x	



30 - 40ppm Machine



50 - 60ppm Machine



K. Fusing section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Fusing transport roller lower	x	-	x	-	x	-	x	-	x	Replace as needed
2	Fusing transport roller upper	x	-	x	-	x	-	x	-	x	Replace as needed
3	Bearing holder	x	-	x	-	x	-	x	-	x	Replace as needed
4	Gears	☆	-	☆	-	☆	-	☆	-	☆	
5	Separation plate	x	-	x	-	x	-	x	-	x	Clean as needed
6	Separation plate spacer	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
7	Fusing belt	x	-	▲	-	▲	-	▲	-	▲	
8	Fusing roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing
9	Heat roller	x	-	▲	-	▲	-	▲	-	▲	
10	Insulation bush	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the specified position when replacing
11	Pressure roller gear	x	-	x	-	x	-	x	-	x	Replace as needed
12	Pressure roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing and after completion of replacement, clean the new pressure roller surface with alcohol
13	Pressure oscillation guide	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
14	Thermistor main	x	-	x	-	x	-	x	-	x	Replace as needed
15	Thermistor sub	x	-	x	-	x	-	x	-	x	Replace as needed
16	Thermistor sub 2	x	-	x	-	x	-	x	-	x	Replace as needed
17	Sensors	x	-	x	-	x	-	x	-	x	
18	Paper guides	○	-	○	-	○	-	○	-	○	

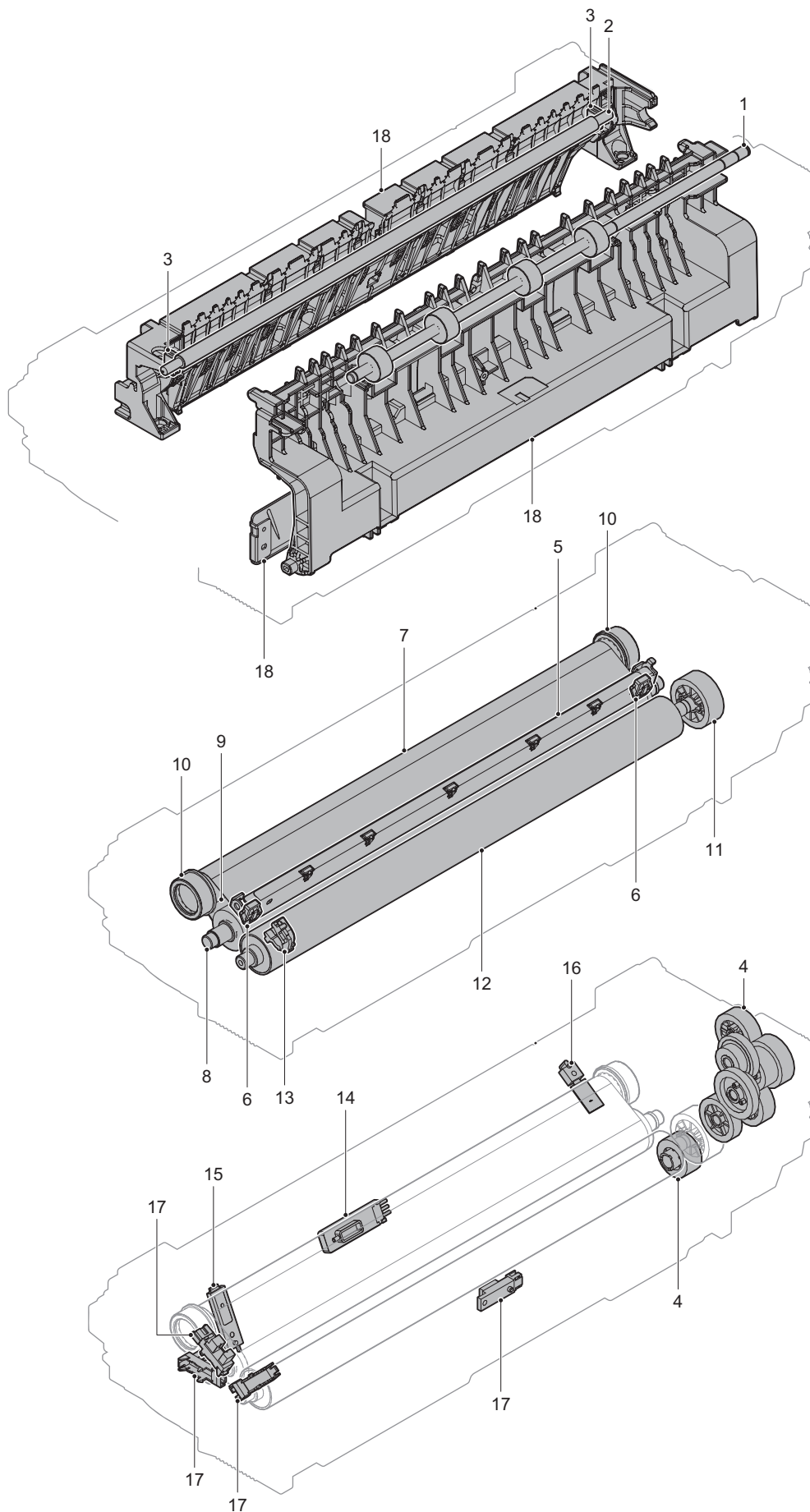
35 ppm machine

Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Fusing transport roller lower	x	-	x	-	x	-	x	-	x	Replace as needed
2	Fusing transport roller upper	x	-	x	-	x	-	x	-	x	Replace as needed
3	Bearing holder	x	-	x	-	x	-	x	-	x	Replace as needed
4	Gears	☆	-	☆	-	☆	-	☆	-	☆	
5	Separation plate	x	-	x	-	x	-	x	-	x	Clean as needed
6	Separation plate spacer	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
7	Fusing belt	x	-	▲	-	▲	-	▲	-	▲	
8	Fusing roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing
9	Heat roller	x	-	▲	-	▲	-	▲	-	▲	
10	Insulation bush	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the specified position when replacing
11	Pressure roller gear	x	-	x	-	x	-	x	-	x	Replace as needed
12	Pressure roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing and after completion of replacement, clean the new pressure roller surface with alcohol
13	Pressure oscillation guide	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
14	Thermistor main	x	-	x	-	x	-	x	-	x	Replace as needed
15	Thermistor sub	x	-	x	-	x	-	x	-	x	Replace as needed
16	Thermistor sub 2	x	-	x	-	x	-	x	-	x	Replace as needed
17	Sensors	x	-	x	-	x	-	x	-	x	
18	Paper guides	○	-	○	-	○	-	○	-	○	

40/50/60 ppm machine

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Fusing transport roller lower	x	-	x	-	x	-	x	-	x	Replace as needed
2	Fusing transport roller upper	x	-	x	-	x	-	x	-	x	Replace as needed
3	Bearing holder	x	-	x	-	x	-	x	-	x	Replace as needed
4	Gears	☆	-	☆	-	☆	-	☆	-	☆	
5	Separation plate	x	-	x	-	x	-	x	-	x	Clean as needed
6	Separation plate spacer	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
7	Fusing belt	x	-	▲	-	▲	-	▲	-	▲	

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
8	Fusing roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing
9	Heat roller	x	-	▲	-	▲	-	▲	-	▲	
10	Insulation bush	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the specified position when replacing
11	Pressure roller gear	x	-	x	-	x	-	x	-	x	Replace as needed
12	Pressure roller	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0235FCZZ) to the shaft section when replacing and after completion of replacement, clean the new pressure roller surface with alcohol
13	Pressure oscillation guide	x	-	▲	-	▲	-	▲	-	▲	Apply grease (UKOG-0323FCZ1) to the specified position when replacing
14	Thermistor main	x	-	x	-	x	-	x	-	x	Replace as needed
15	Thermistor sub	x	-	x	-	x	-	x	-	x	Replace as needed
16	Thermistor sub 2	x	-	x	-	x	-	x	-	x	Replace as needed
17	Sensors	x	-	x	-	x	-	x	-	x	
18	Paper guides	○	-	○	-	○	-	○	-	○	



L. Other

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

30 ppm machine

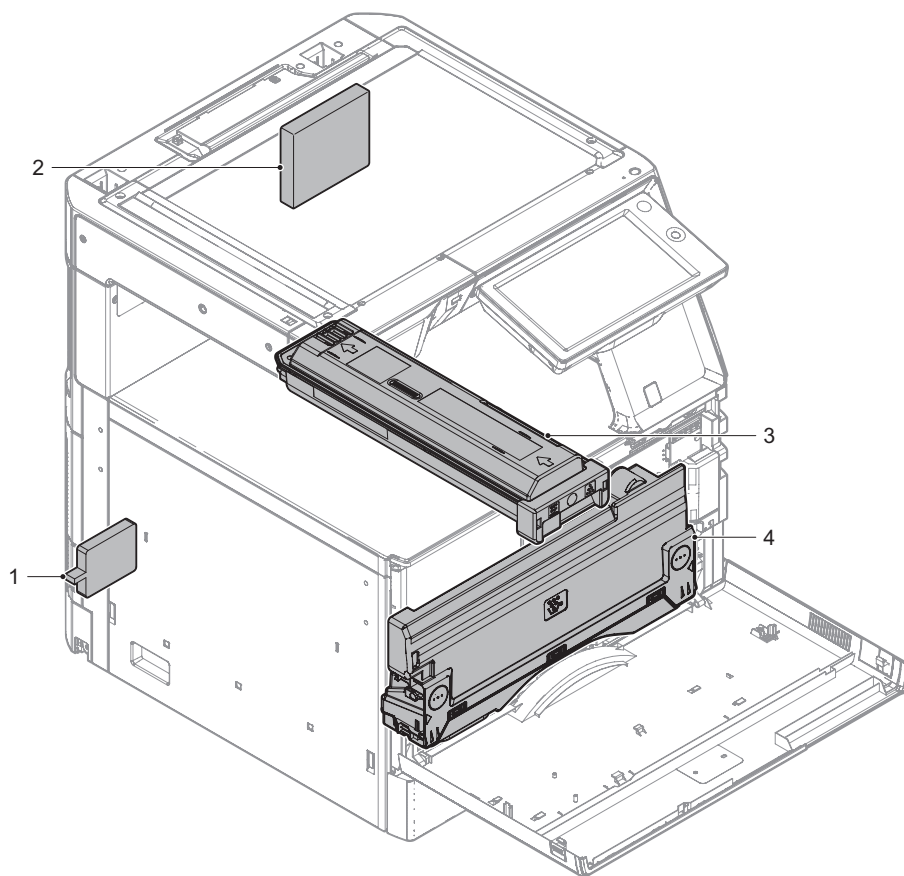
Work sequence	Part name	When calling	125K	250K	375K	500K	625K	750K	875K	1000K	Remarks
1	Ozone filter	x	-	▲	-	▲	-	▲	-	▲	
3	Toner cartridge	Replaced by the user									
4	Waste toner box	Replaced by the user every full detection									Replace at 300K

35 ppm machine

Work sequence	Part name	When calling	140K	280K	420K	560K	700K	840K	980K	1120K	Remarks
1	Ozone filter	x	-	▲	-	▲	-	▲	-	▲	
3	Toner cartridge	Replaced by the user									
4	Waste toner box	Replaced by the user every full detection									Replace at 300K

40/50/60 ppm machine

Work sequence	Part name	When calling	150K	300K	450K	600K	750K	900K	1050K	1200K	Remarks
1	Ozone filter	x	-	▲	-	▲	-	▲	-	▲	
2	UFP filter	x	-	▲	-	▲	-	▲	-	▲	For 50/60 ppm machine
3	Toner cartridge	Replaced by the user									
4	Waste toner box	Replaced by the user every full detection									Replace at 300K

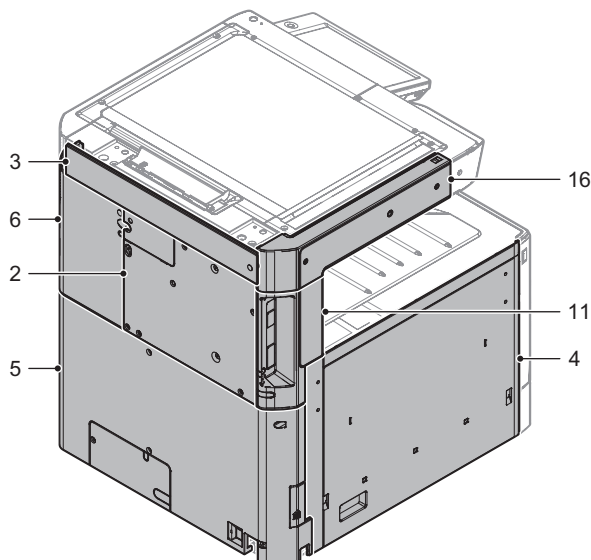
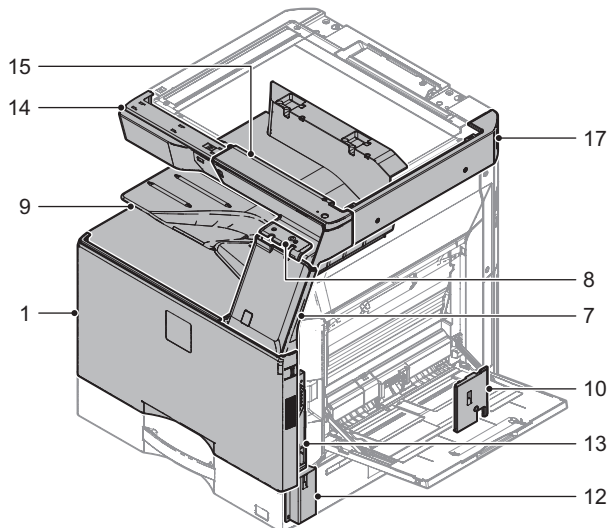


[10] DISASSEMBLY AND ASSEMBLY

1. Disassembly of Units

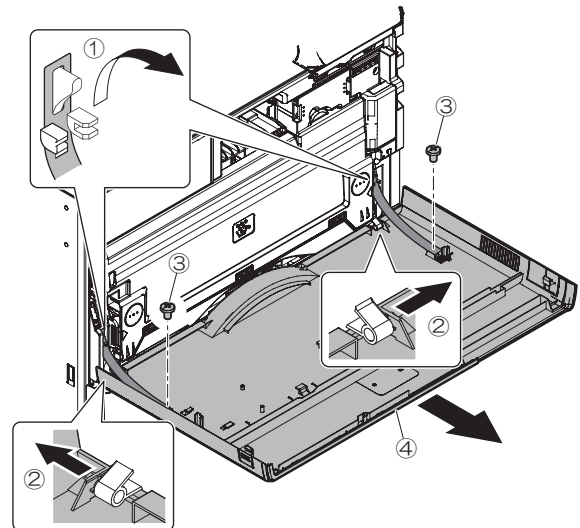
A. External view

No.	Name
1	Front cover
2	MFP cover
3	Rear cover upper
4	Left cover
5	Rear cover
6	Right cover rear upper
7	Front cover upper right
8	Panel hinge section cover
9	Exit tray cabinet
10	Right cover rear lower
11	Left cover upper rear
12	Right cover front lower
13	Right front cover
14	Upper cover front left
15	Upper cover front right
16	Upper cover left lower
17	Upper cover right



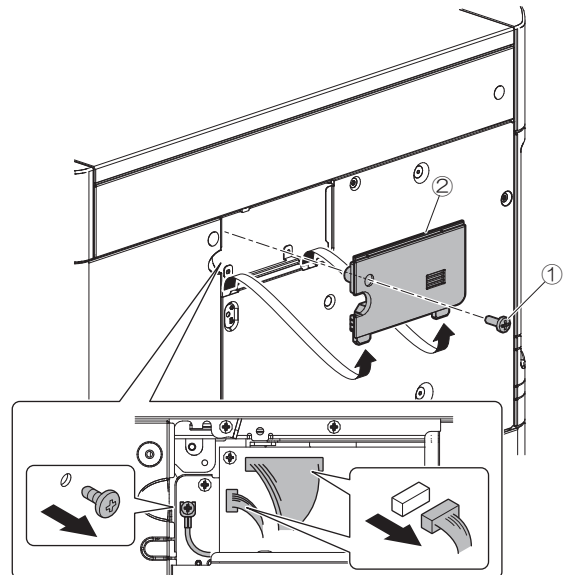
(1) Front cover

- 1) Remove the front cover.

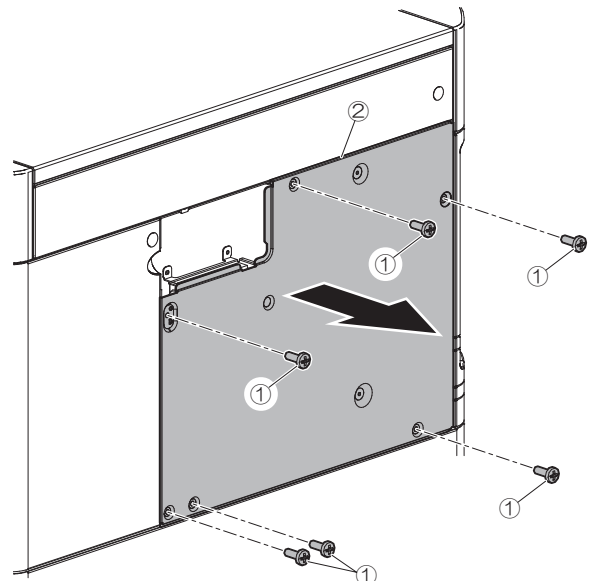


(2) MFP cover

- 1) Remove the rear cabinet cover.

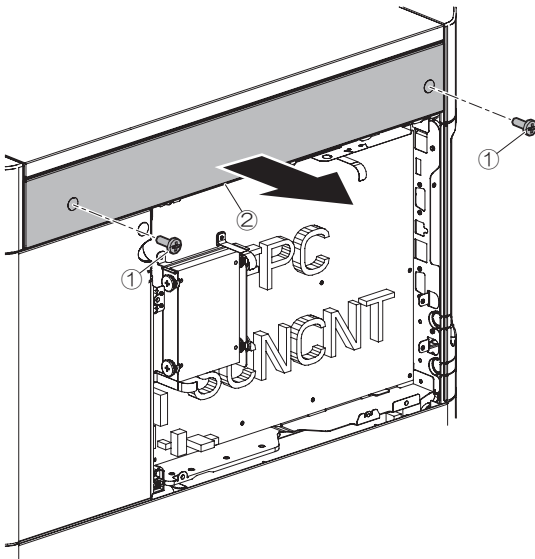


- 2) Remove the MFP cover.



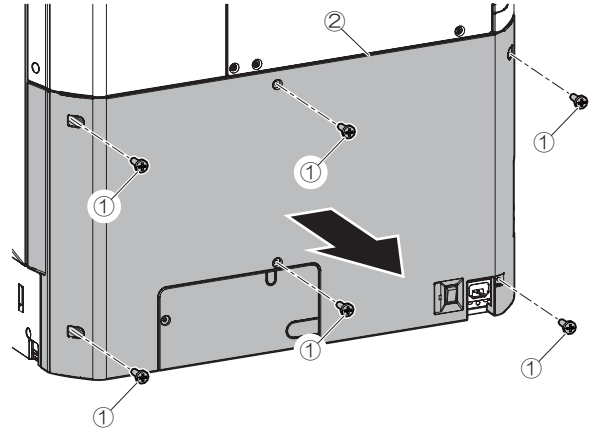
(3) Rear cover upper

- 1) Remove the MFP cover.
- 2) Remove the rear cover upper.



(5) Rear cover

- 1) Remove the rear cover.

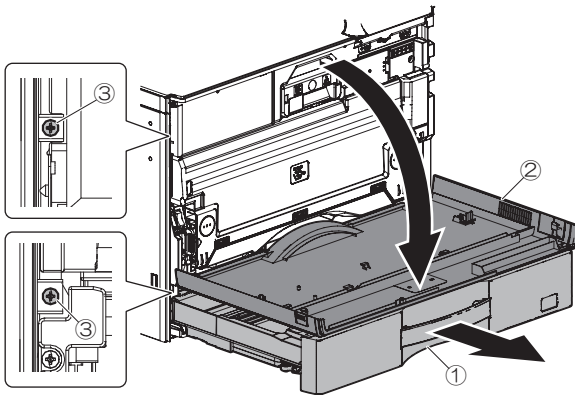


(6) Right cover rear upper

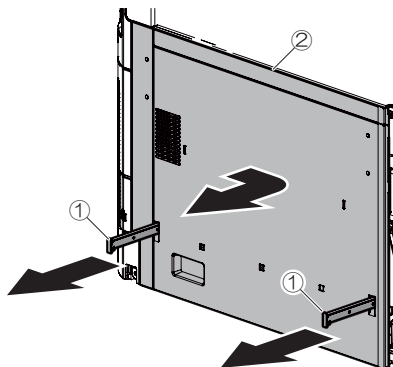
- 1) Remove the MFP cover.
- 2) Remove the rear cover upper.
- 3) Remove the rear cover.
- 4) Remove the rear cover.

(4) Left cover

- 1) Pull out the tray, and open the front cover. Then, remove the screw.

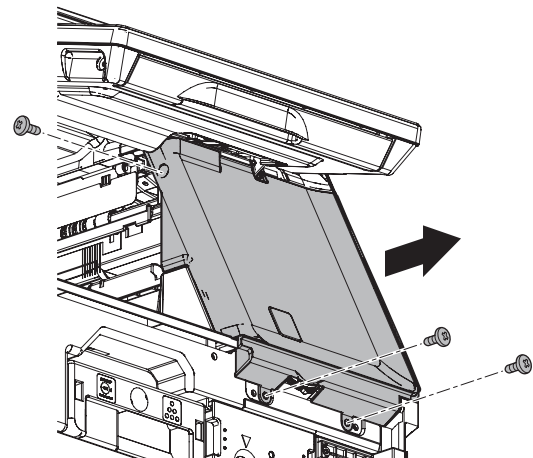


- 2) Pull out the handle and remove the left cover.



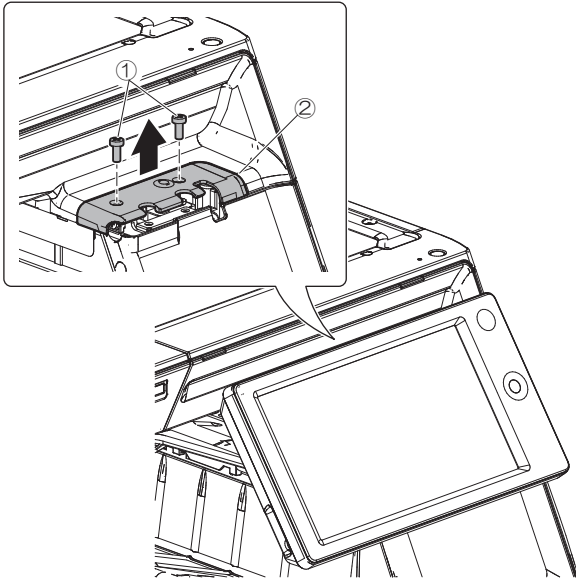
(7) Front cover upper right

- 1) Open the front cover. Remove the front cover upper right.



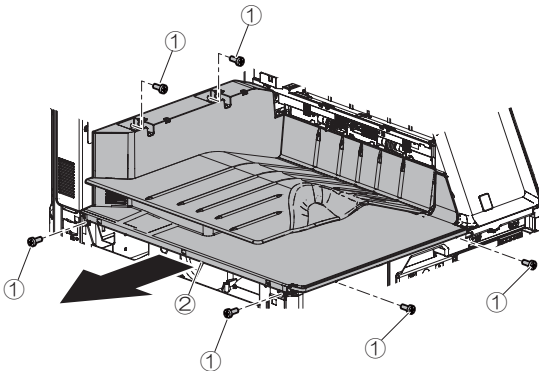
(8) Panel hinge section cover

- 1) Remove the panel hinge section cover.



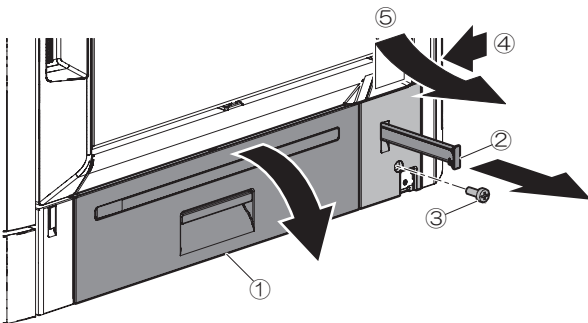
(9) Exit tray cabinet

- 1) Remove the left cover.
- 2) Remove the exit tray cabinet



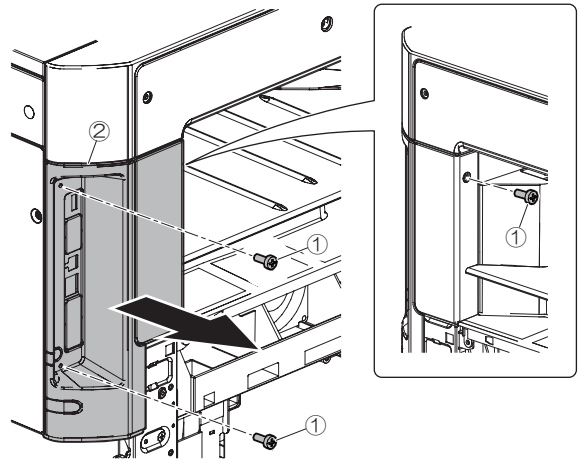
(10) Right cover rear lower

- 1) Open the right lower door and pull out the handle. Then, remove the right cover rear bottom.



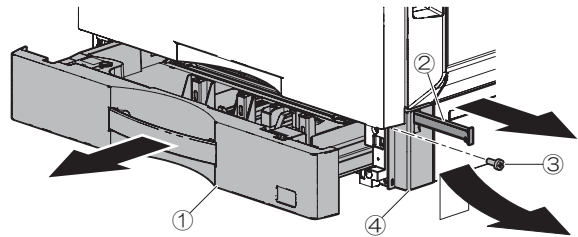
(11) Left cover upper rear

- 1) Remove the left cover.
- 2) Remove the rear cover.
- 3) Remove the left cover upper rear.



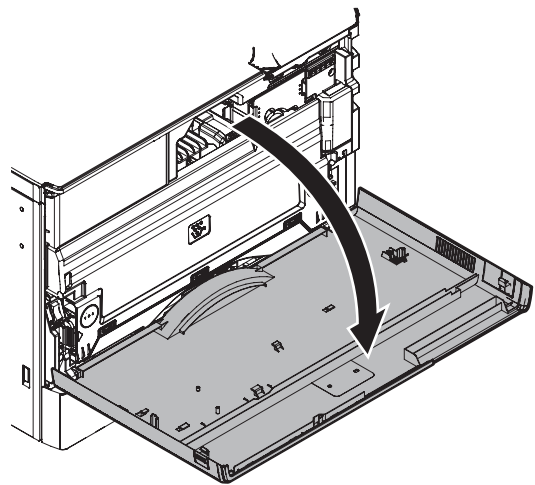
(12) Right cover front lower

- 1) Pull out the tray, and pull out the handle. Then, remove the right cover front bottom.

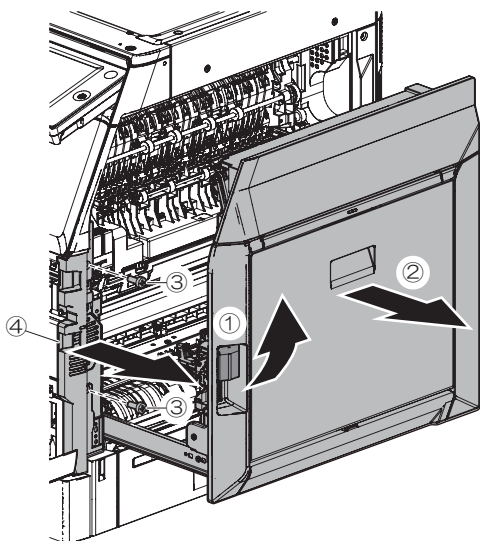


(13) Right front cover

- 1) Open the front cover.

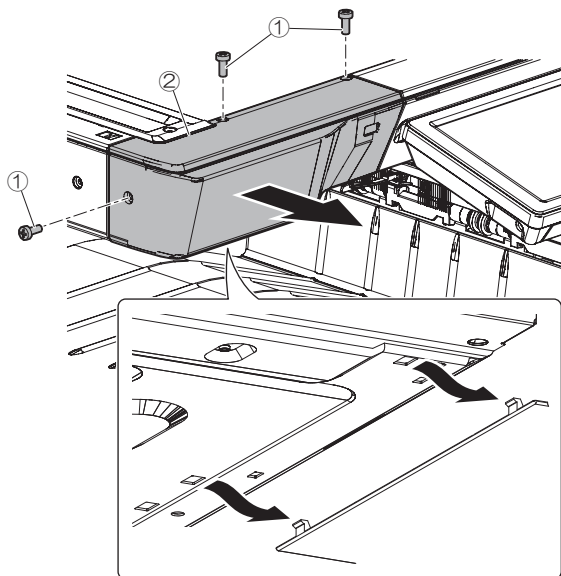


- 2) Open the right door. Remove the right front cover.



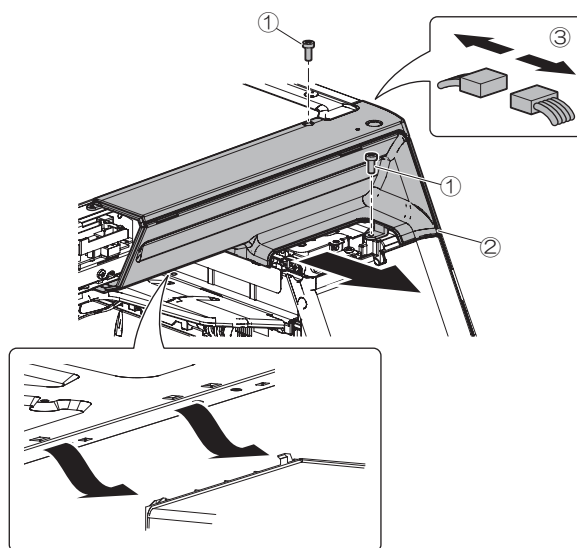
(14) Upper cover front left

- 1) Remove the upper cover front left.



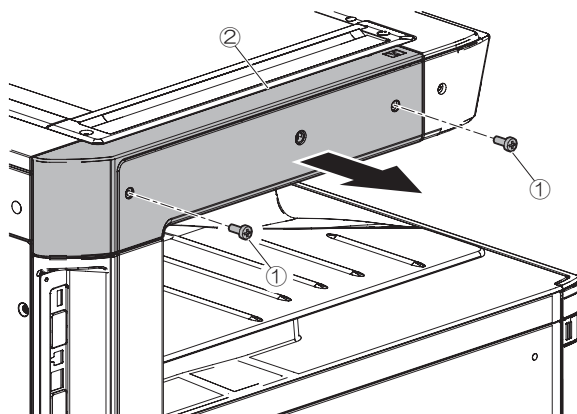
(15) Upper cover front right

- 1) Remove the upper cover front left.
- 2) Remove the panel hinge section cover.
- 3) Remove the upper cover front right.



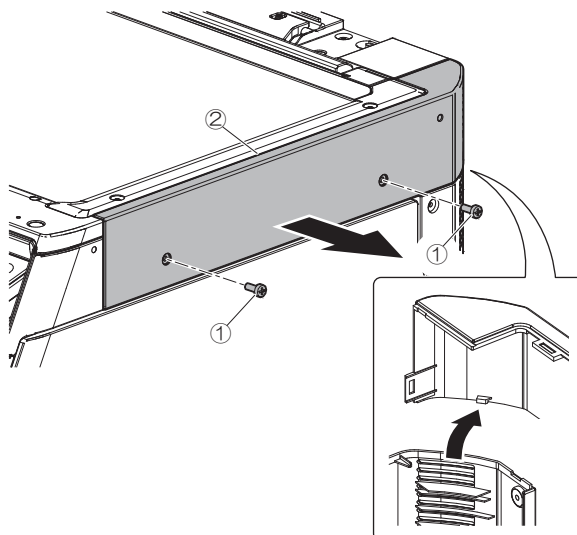
(16) Upper cover left lower

- 1) Remove the upper cover left lower.



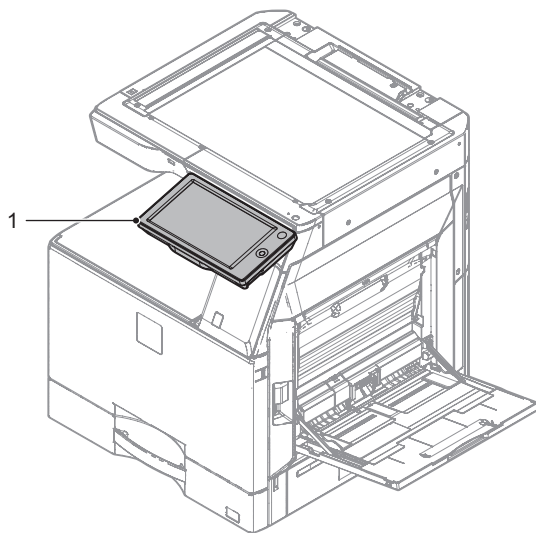
(17) Upper cover right

- 1) Remove the upper cover right



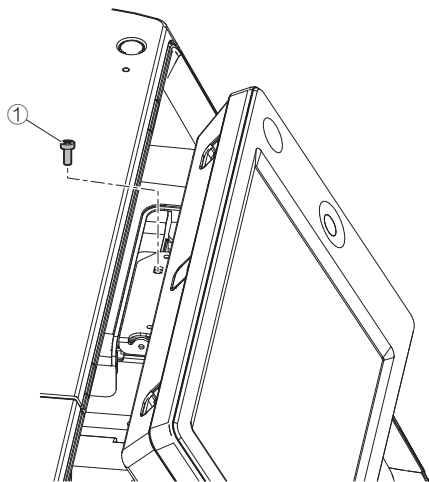
B. Operation panel section

No.	Name
1	Operation panel unit



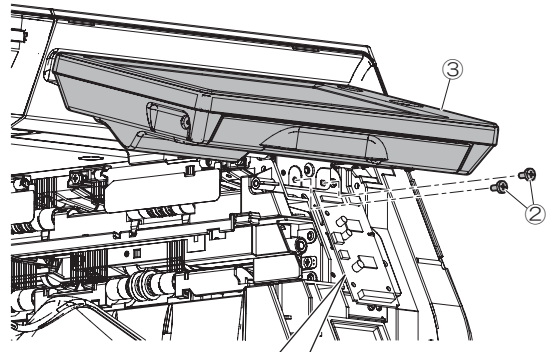
(1) Operation panel unit

- 1) Remove the panel hinge section cover.
- 2) Remove the screw.

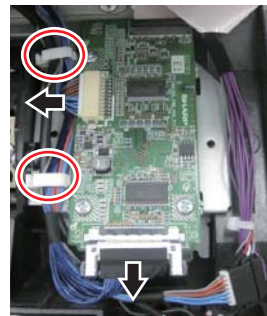


- 3) Remove the front cover upper right.

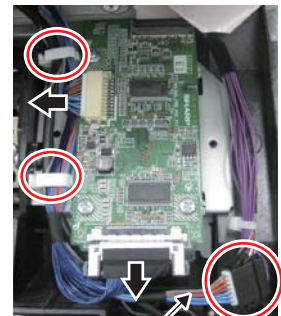
- 4) Remove the two screws, harness and disconnect the connector. Then, remove the operation panel unit.



Non keyboard model



Keyboard standard model



When assembly, harness of keyboard passing under panel harness and PWB.

Connecting procedure of the connector.

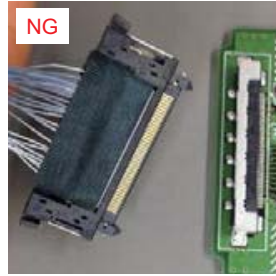
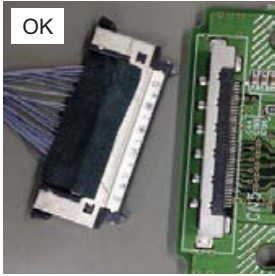
Pinch the center position of the harness when insert.



Caution: Be sure not to have the harness as shown by figure below.

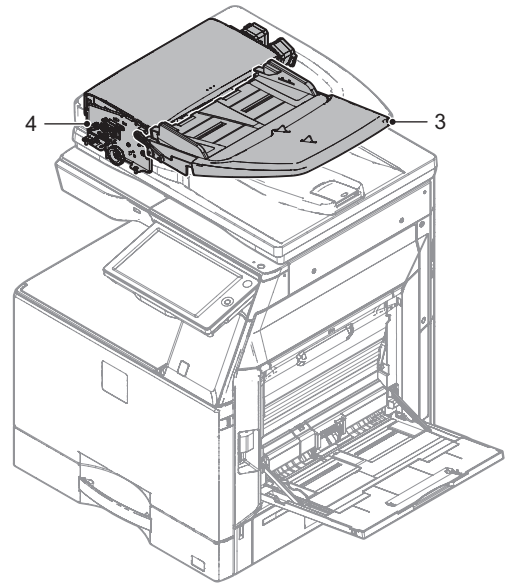


Caution: connector direction



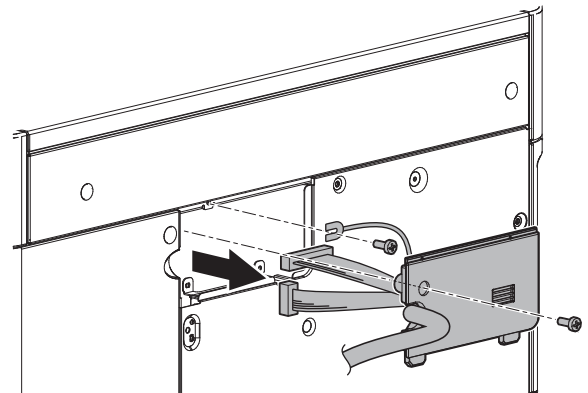
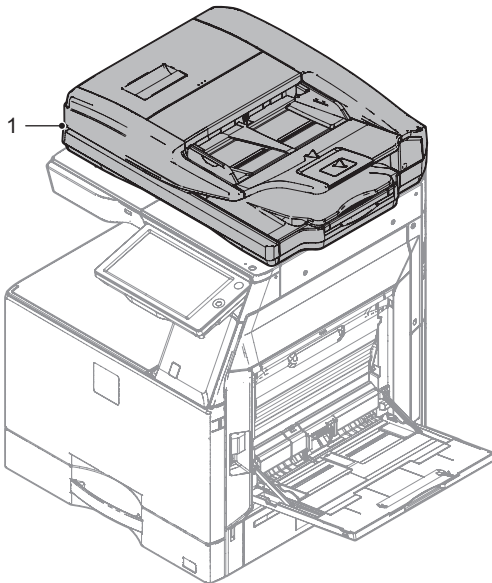
C. Auto document feeder section (RSPF and DSPF)

No.	Name
1	DSPF unit
2	RSPF unit
3	RSPF paper feed tray unit
4	RSPF paper transport unit

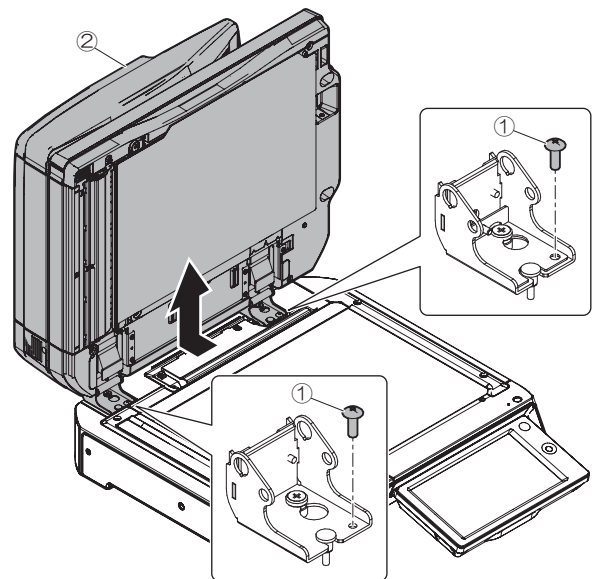
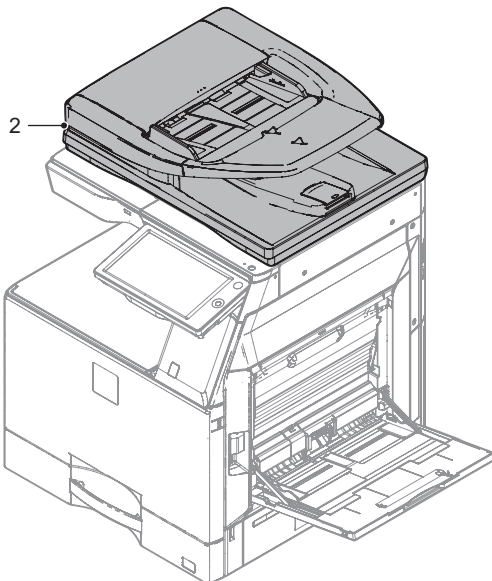


(1) DSPF unit

- 1) Remove the rear cabinet cover.
- 2) Loosen the screw fixing the earth cable and remove the earth cable. Then, disconnect the connector.

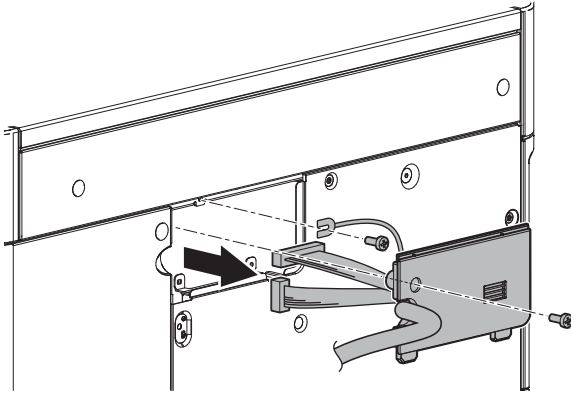


- 3) Remove the screws, and remove the DSPF unit from the machine.

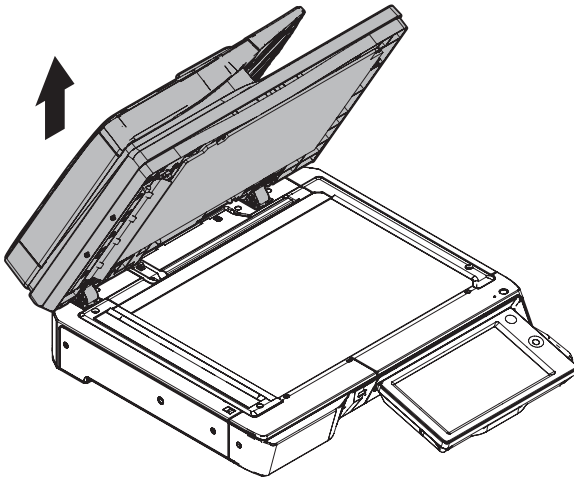


(2) RSPF unit

- 1) Remove the rear cabinet cover.
- 2) Loosen the screw fixing the earth cable and remove the earth cable. Then, disconnect the connector.

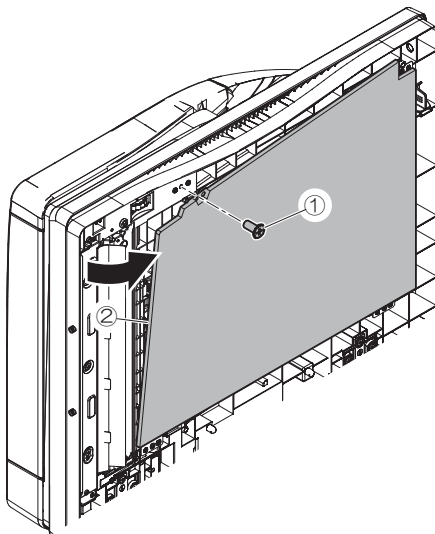


- 3) Remove the RSPF unit from the machine.

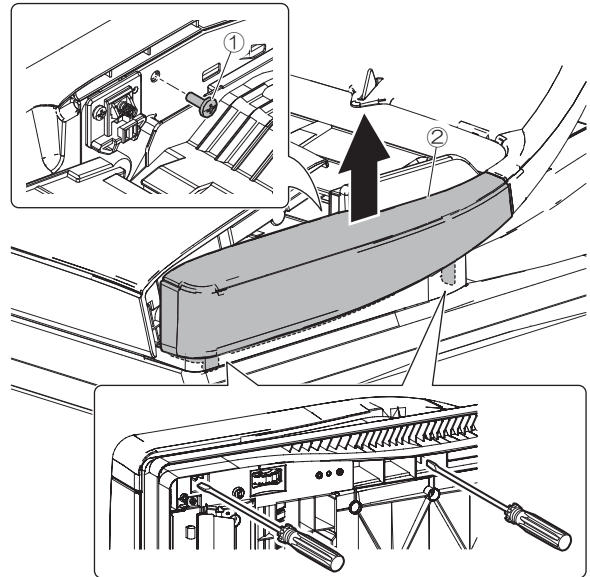


(3) RSPF paper feed tray unit

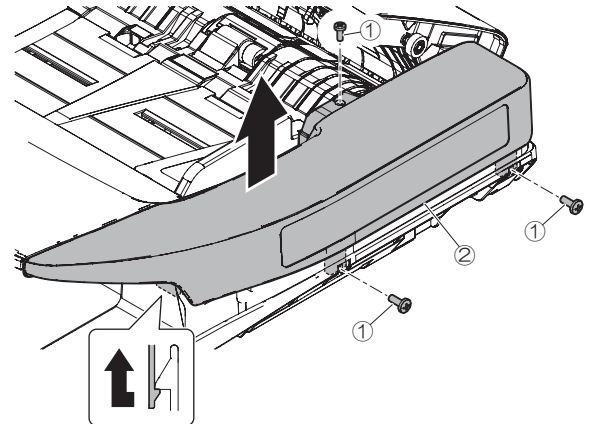
- 1) Turn over the left upper corner of the OC mat.



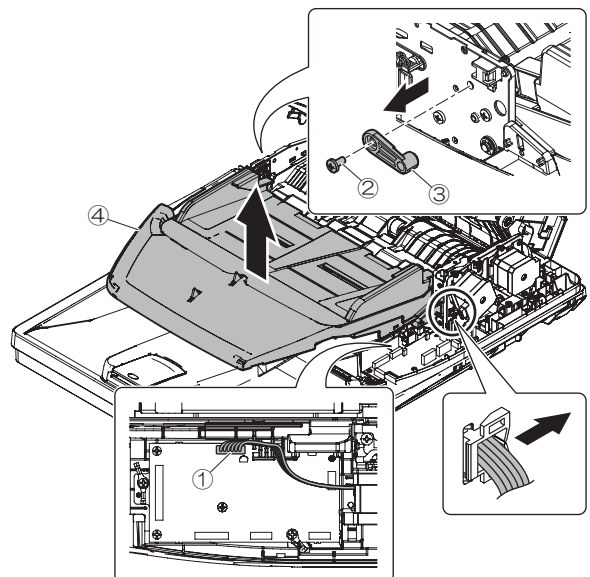
- 2) Remove the front cabinet.



- 3) Remove the rear cabinet.

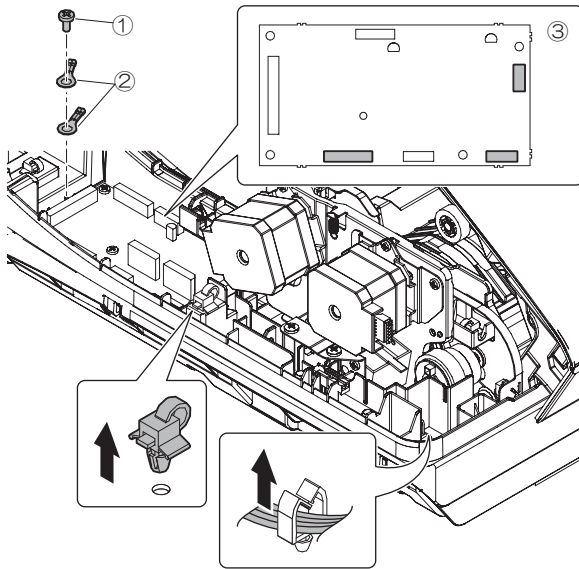


- 4) Disconnect the connector from the RSPF driver PWB. Remove the holder, and remove the RSPF paper feed tray unit.

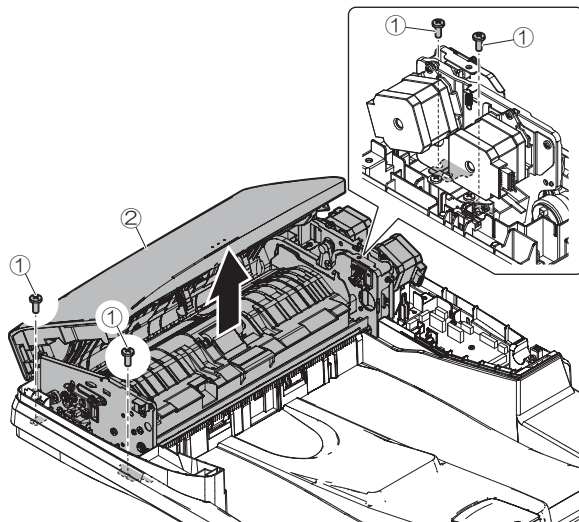


(4) RSPF paper transport unit

- 1) Remove the RSPF paper feed tray unit.
- 2) Remove the earth wire. Disconnect the connector from the RSPF driver PWB.

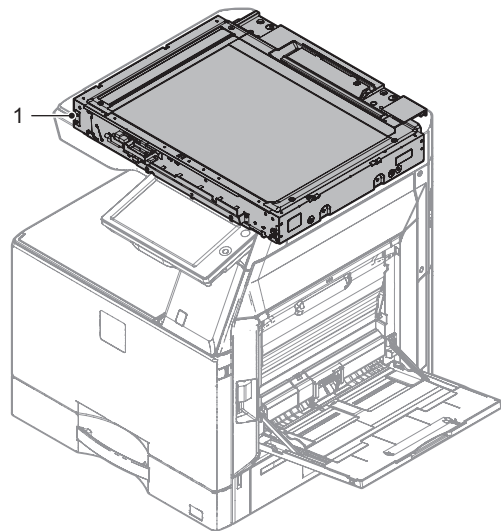


- 3) Remove the RSPF paper transport unit.



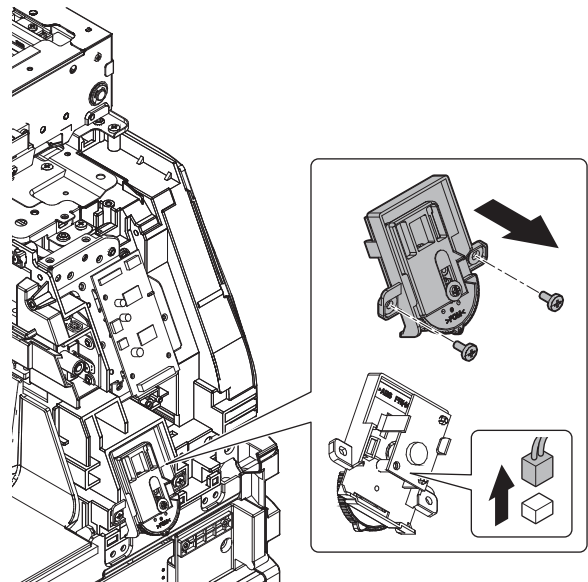
D. Scanner section

No.	Name
1	Scanner unit



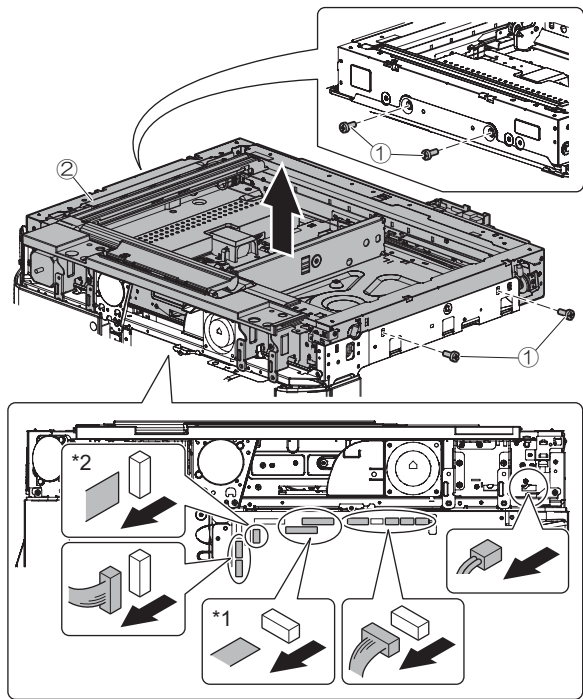
(1) Scanner unit

- 1) Remove the DSPF/RSPF unit.
- 2) Remove the operation panel unit.
- 3) Remove the table glass and the SPF glass.
- 4) Remove the upper cover front left, upper cover front right, upper cover left lower, upper cover right, rear cover upper and MFP cover.
- 5) Disconnect the connector.



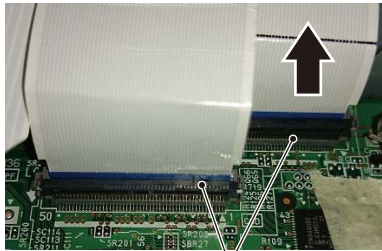
6) Remove the scanner unit.

*2

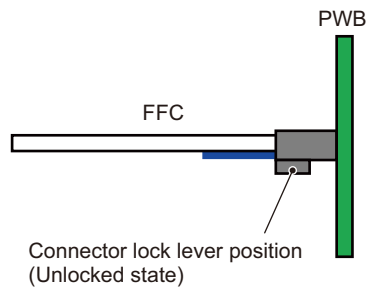


*1

Unlocked (when removing FFC)



FFC can be removed by releasing the lever.



Unlocked (when removing FFC)



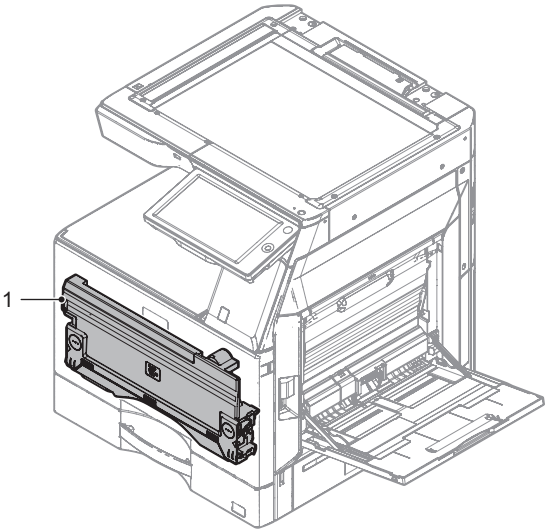
Slide the connector in the direction of the arrow to unlock.



Pull out FFC in the direction of the arrow.

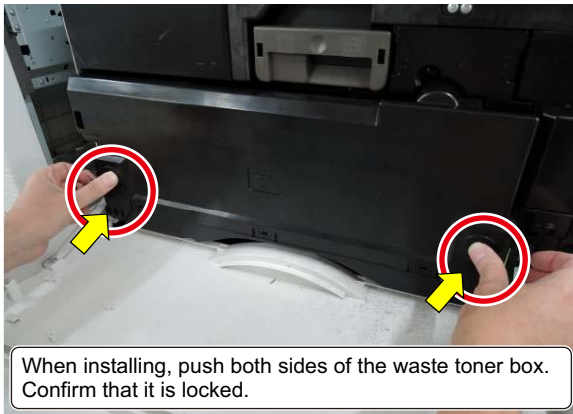
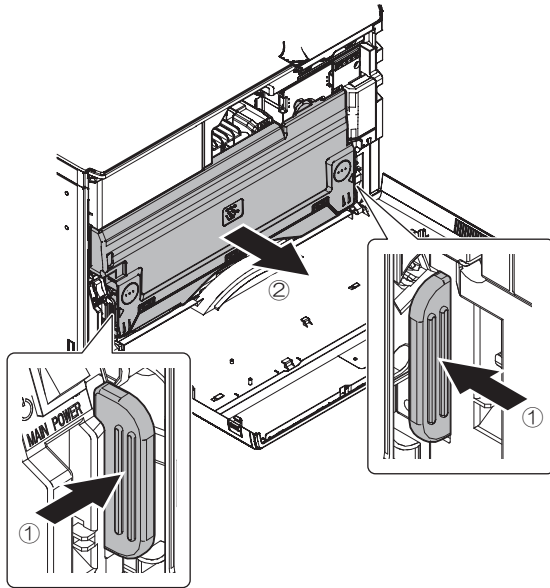
E. Waste toner collection section

No.	Name
1	Waste toner box



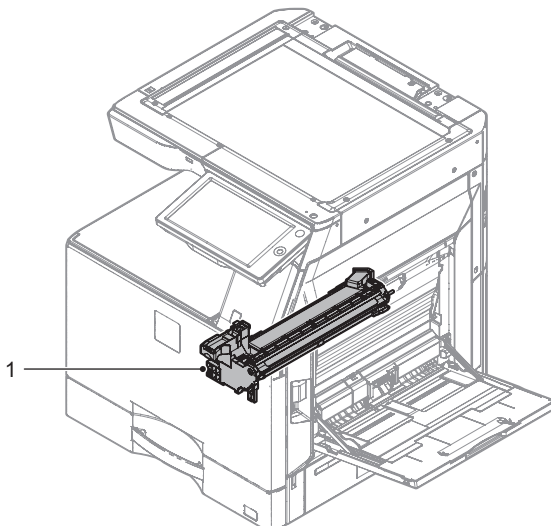
(1) Waste toner box

- 1) Open the front cover. Push the Waste toner lock lever to the inside, and remove the waste toner box.



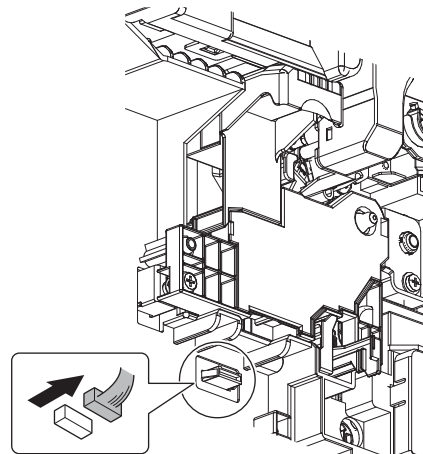
F. Developing section

No.	Name
1	Developing unit

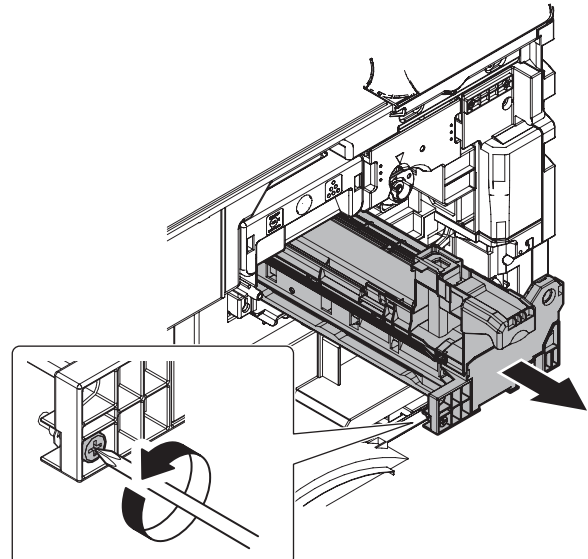


(1) Developing unit

- 1) Remove the waste toner box.
- 2) Disconnect the connector of the developing unit.



- 3) Remove the fixing screw of the developing unit, pull out the developing unit to remove.

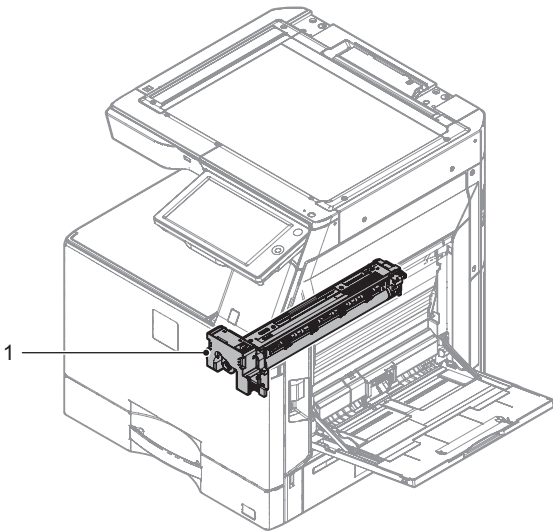


Important

When pulling out and pushing in the developing unit, put your hand beneath the unit and slide it horizontally along the guide. At the time, be careful not to touch the developing roller surface.

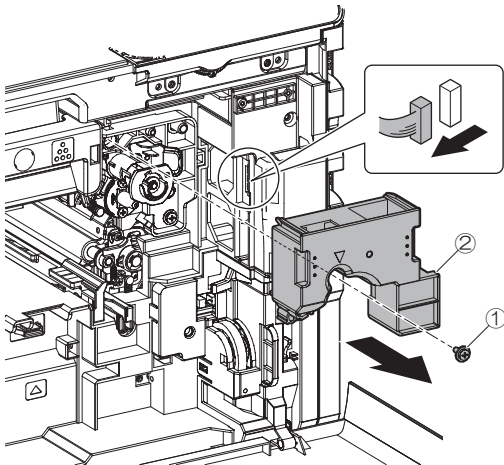
G. OPC drum section

No.	Name
1	OPC drum unit

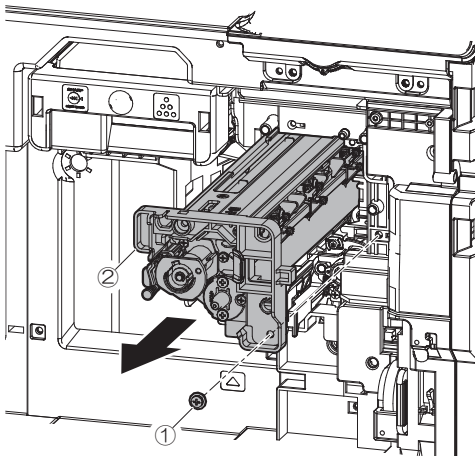


(1) OPC drum unit

- 1) Open the right door.
- 2) Remove the waste toner box.
- 3) Remove the developing unit.
- 4) Remove the screw and DL holder and disconnect the connector.



- 5) Remove the fixing screw of the OPC drum unit, pull out the OPC drum unit to remove.



Important

When pulling out the OPC drum unit, hold the parts shown in the figure below.

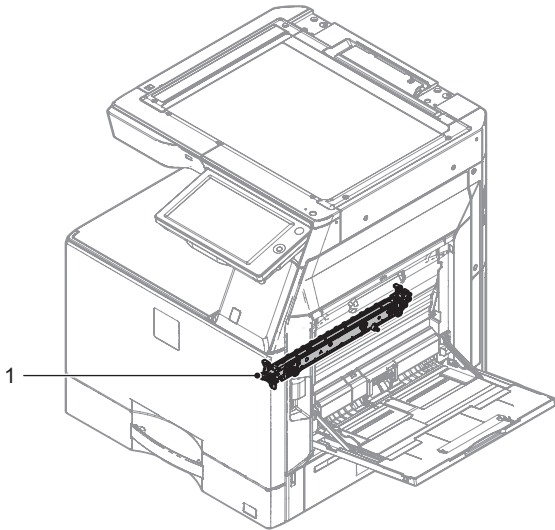


Important

When pulling out and pushing in the OPC drum unit, put your hand beneath the unit and slide it horizontally along the guide. At the time, be careful not to touch the OPC drum surface.

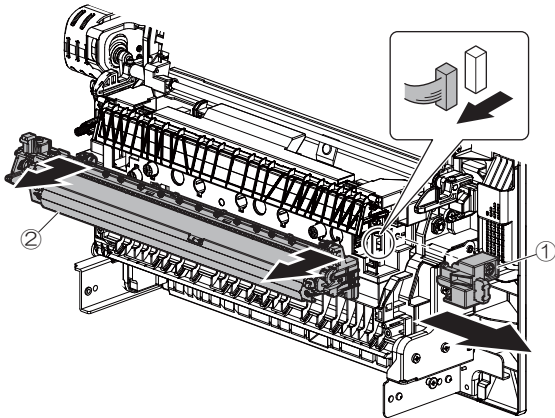
H. Transfer section

No.	Name
1	Transfer unit



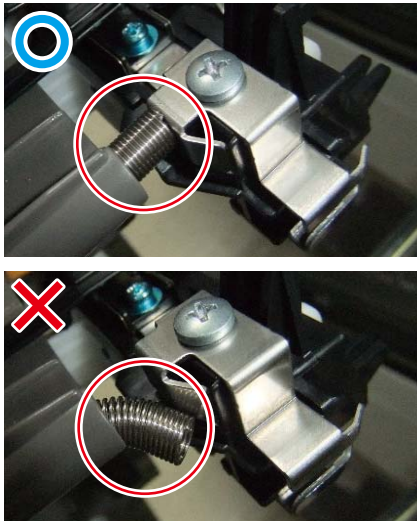
(1) Transfer unit

- 1) Open the right door.
 - 2) Remove the screw and the cover.
- Then, disconnect the connector and remove the transfer unit.



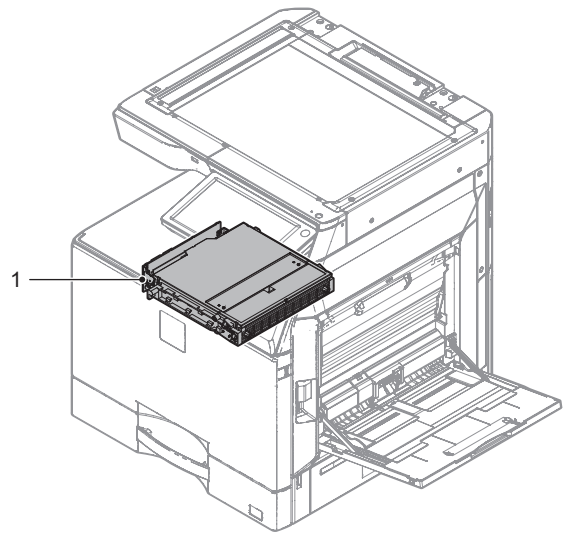
Important

When installing the transfer unit, confirm the spring is contacting the terminal.



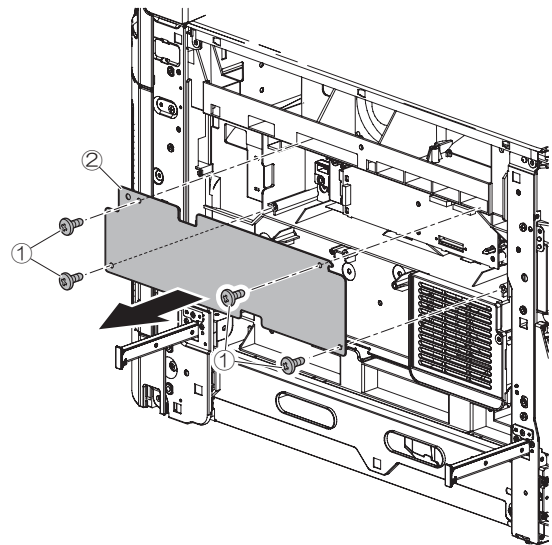
I. LSU section

No.	Name
1	LSU unit

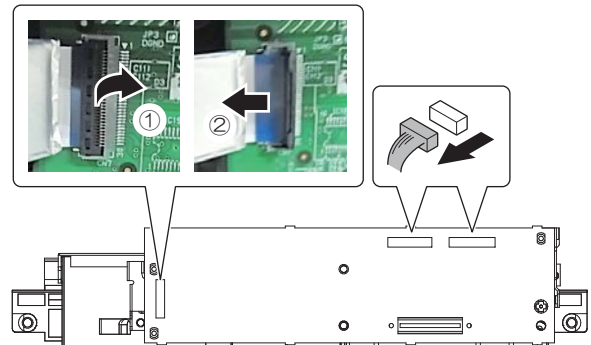


(1) LSU unit

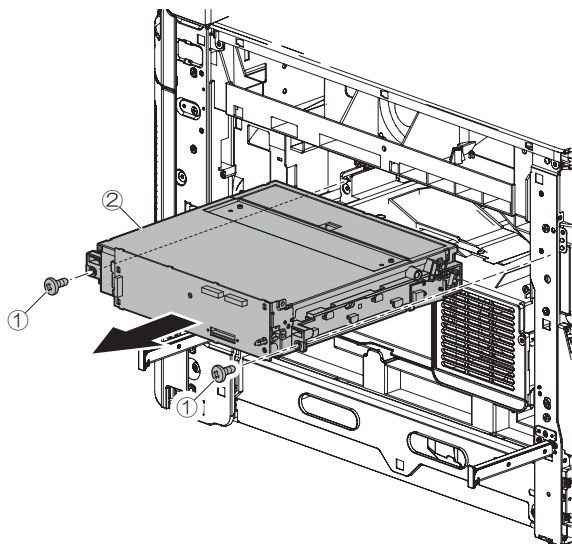
- 1) Remove the left cover.
- 2) Remove the screw and the LSU left plate.



- 3) Disconnect the connector and the FFC.

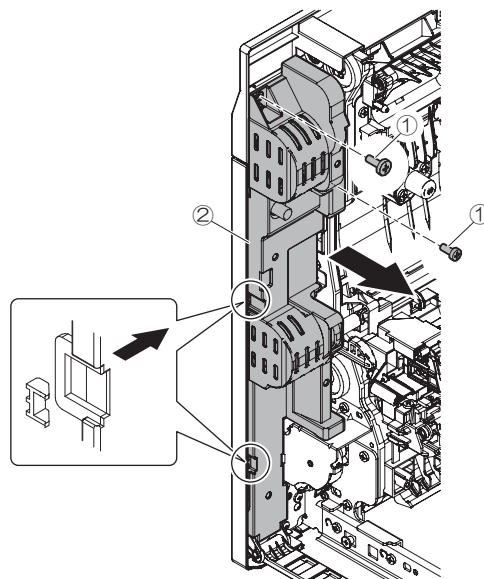


4) Remove the screw and the LSU unit.



(1) Manual paper feed tray

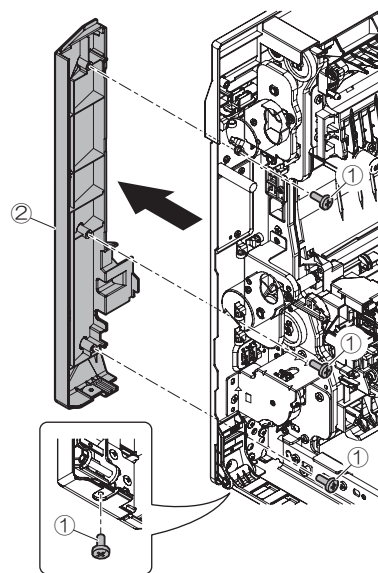
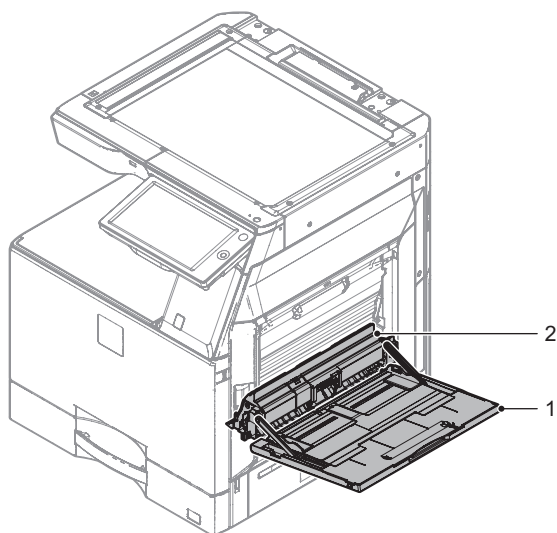
1) Remove the inner cover R upper.



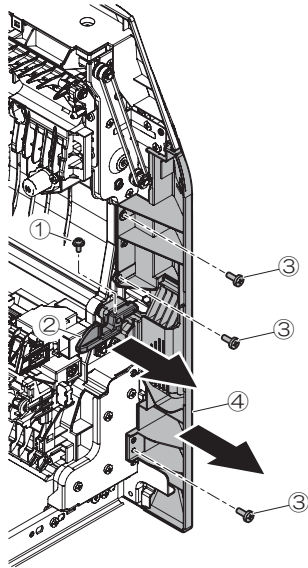
J. Manual paper feed section

No.	Name
1	Manual paper feed tray
2	Manual paper feed unit

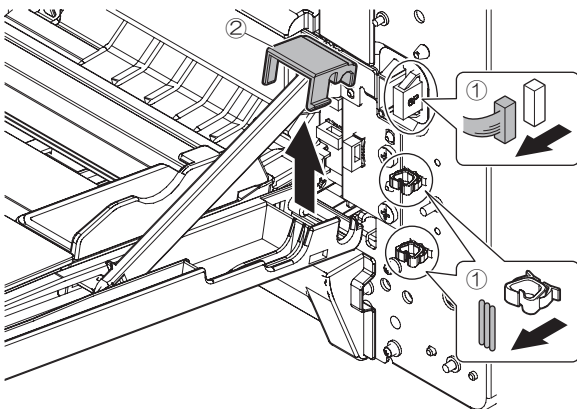
2) Remove the ADU cabinet R.



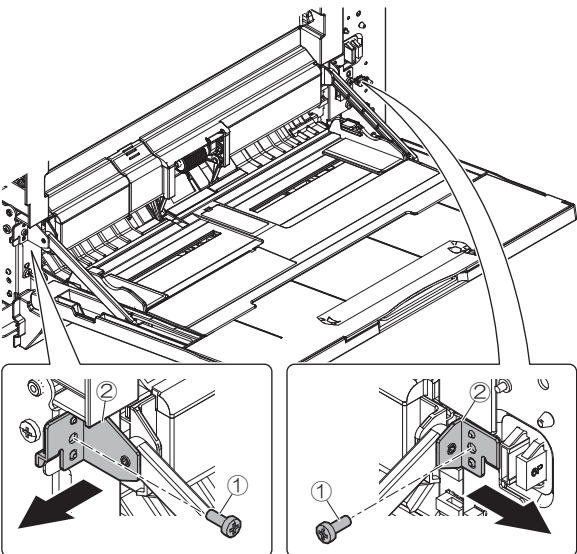
- 3) Remove the right door lock pawl F, and remove the ADU cabinet F.



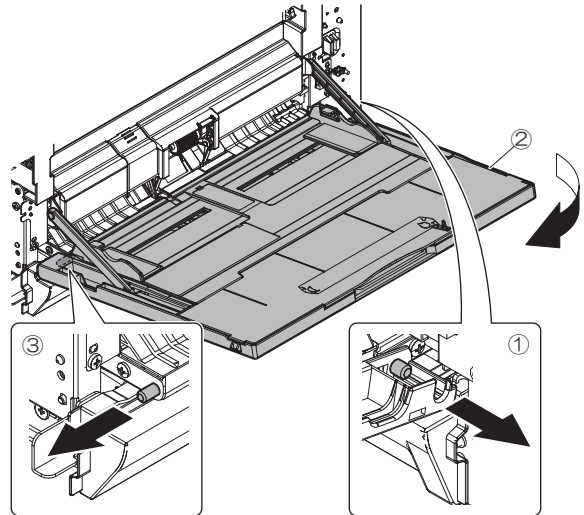
- 4) Remove the connector, and remove the multi-tray supporting point cover.



- 5) Remove the multi-tray angle.

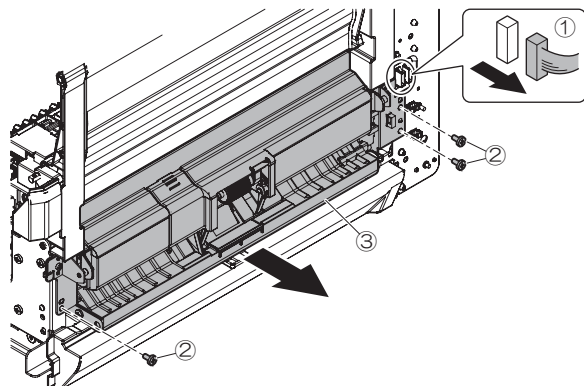


- 6) Remove the manual paper tray fulcrum shaft, and remove the manual paper tray.



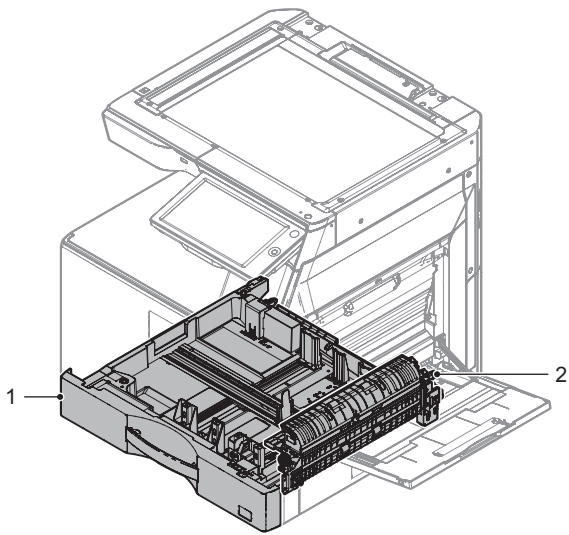
(2) Manual paper feed unit

- 1) Remove the manual paper feed tray.
- 2) Disconnect the connector, and remove the manual paper feed unit.



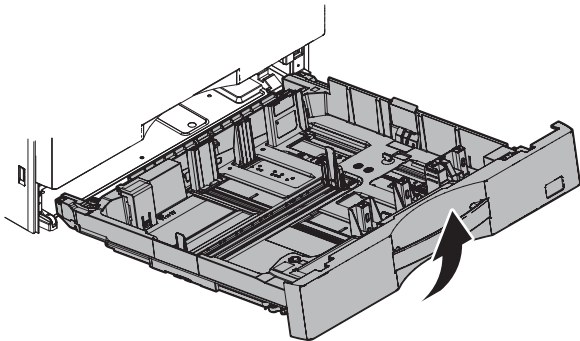
K. Tray paper feed section

No.	Name
1	Paper feed tray
2	Tray paper feed unit



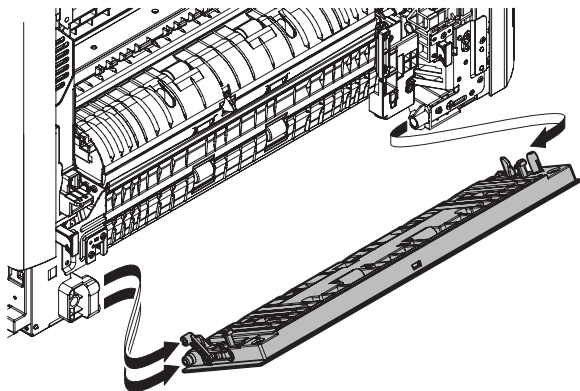
(1) Paper feed tray

- 1) Pull out the paper feed tray, and lift and remove it.

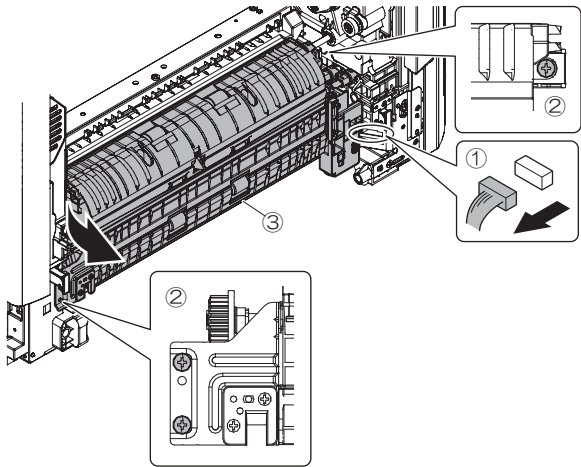


(2) Tray paper feed unit

- 1) Remove the paper feed tray.
2) Remove the right cover rear lower.
3) Remove the right cover front lower.
4) Remove the right door unit.

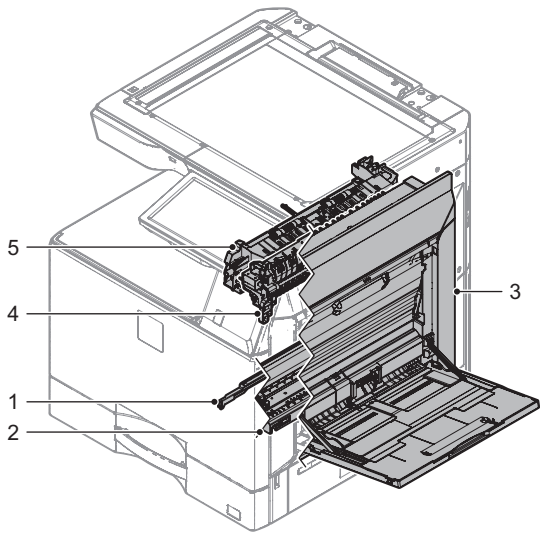


- 5) Disconnect the connector, and remove the tray paper feed unit.



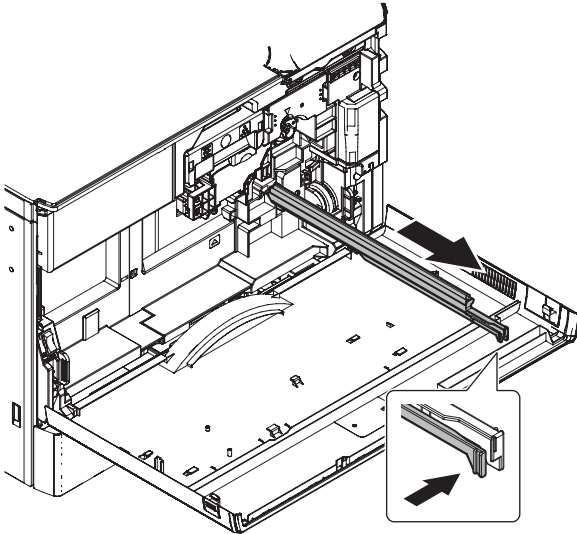
L. Paper transport/Paper exit/ADU section

No.	Name
1	Paper dust removing unit
2	PS unit
3	Right door unit
4	Fusing rear unit
5	Paper exit unit



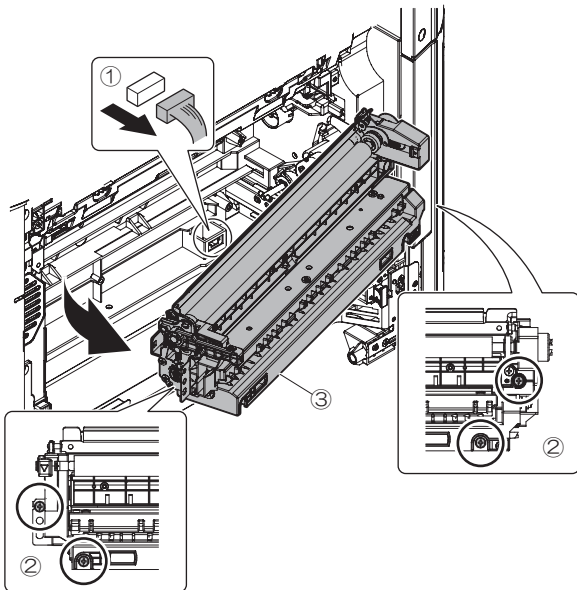
(1) Paper dust removing unit

- 1) Remove the waste toner box.
- 2) Remove the paper dust cleaner unit.



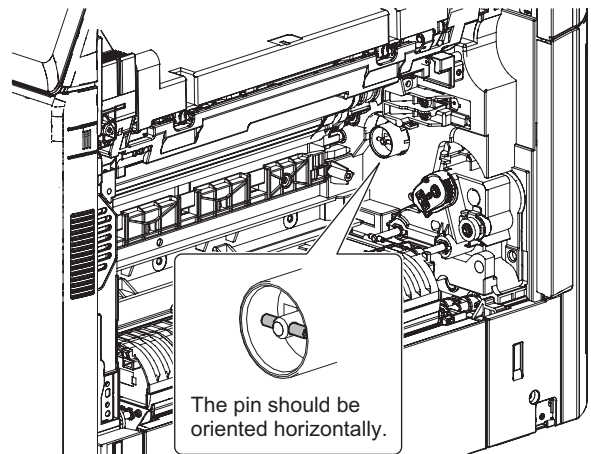
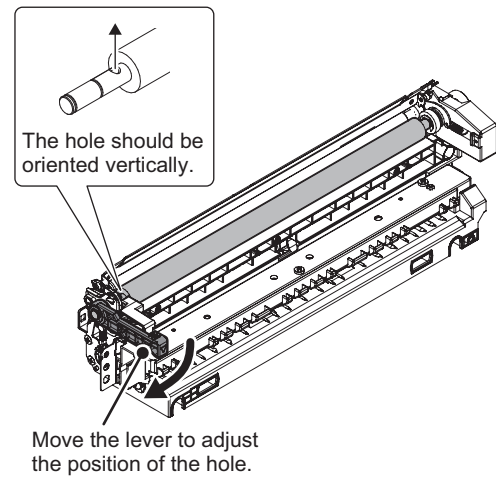
(2) PS unit

- 1) Remove the waste toner box.
- 2) Remove the paper dust removing unit
- 3) Remove the paper feed tray.
- 4) Remove the tray paper feed unit.
- 5) Disconnect the connector, and remove the PS unit.



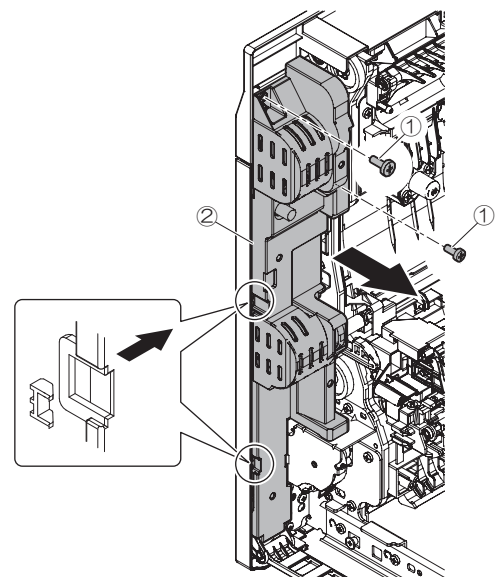
Important

When installing the PS unit, confirm the contents shown in the following figure.

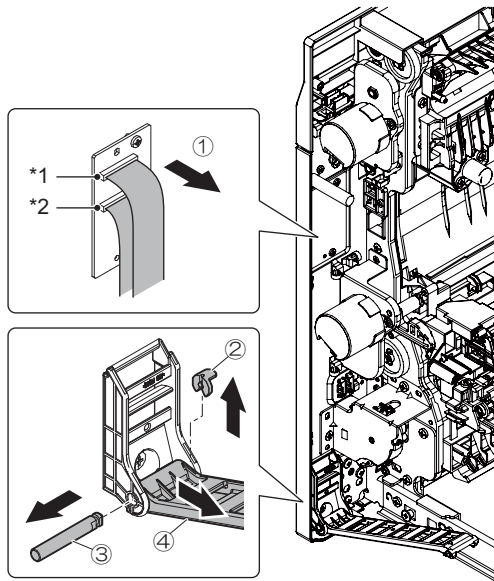


(3) Right door unit

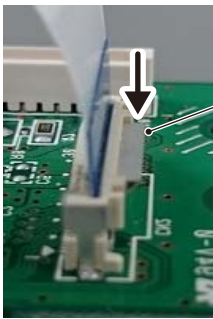
- 1) Remove the inner cover R upper.



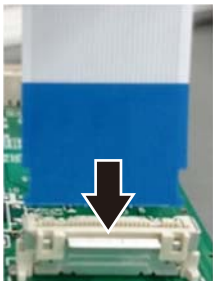
- 2) Remove the FFC, and remove the right door open/close harness holder.



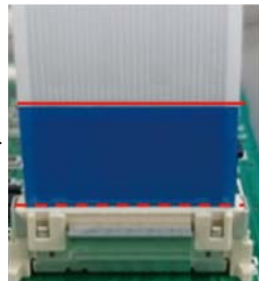
*1



The lock is released by pressing the tab of the FFC connector with the direction described by the arrow.

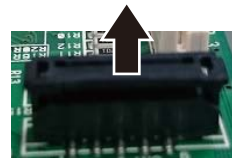


Insert the FFC straight until it stops.



CAUTION :
Check that the FFC
reinforce plate is parallel
to the connector.

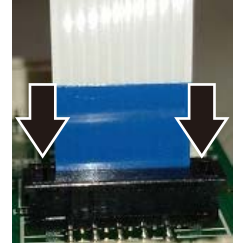
*2



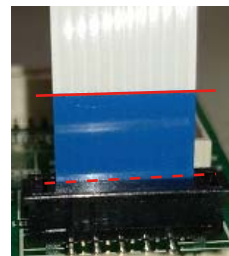
Lift up the lock lever
before inserting the FFC.



Insert the FFC straight
until it stops.

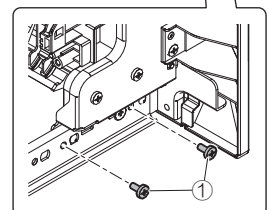
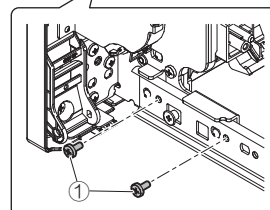
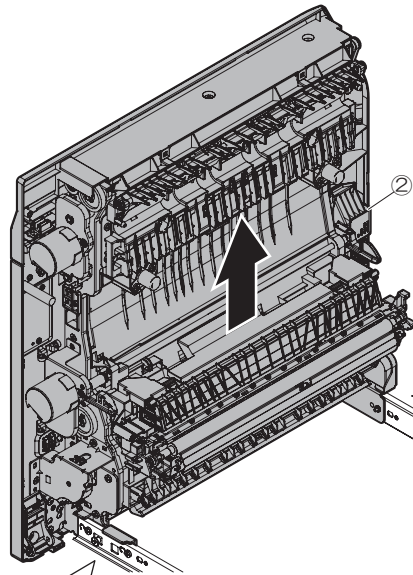


Pull down the lock lever
and lock the part.



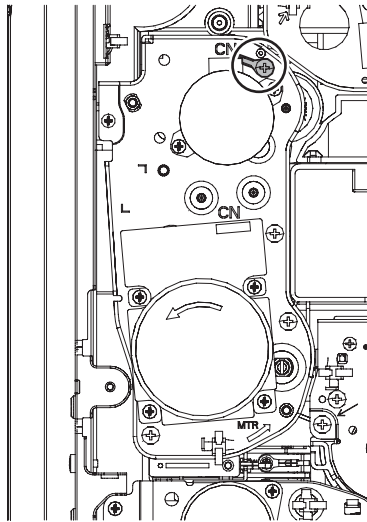
CAUTION :
Check that the FFC
reinforce
plate is parallel to the connector.

- 3) Remove the right door.

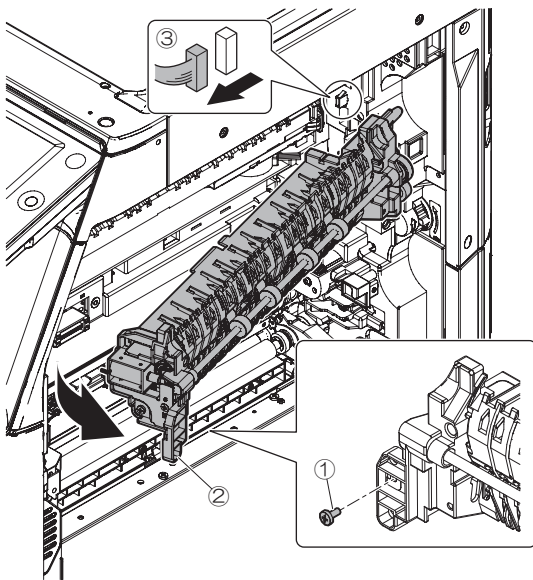


(4) Fusing rear unit

- 1) Remove the right cover rear upper.
- 2) Remove the ground wire from fusing drive unit.

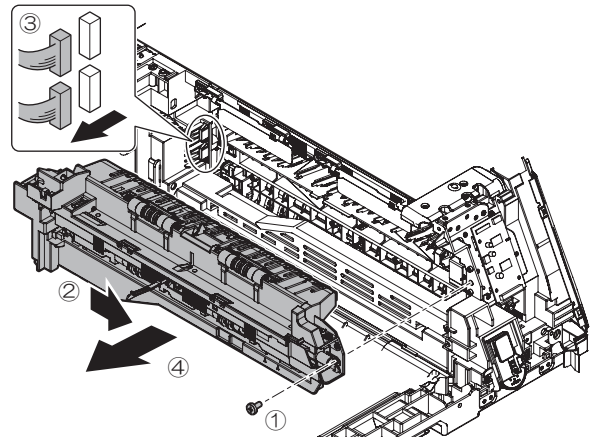


- 3) Remove the fusing unit.
- 4) Remove the fusing rear unit. Then disconnect the connector.



(5) Paper exit unit

- 1) Remove the front cover upper right.
- 2) Remove the Exit tray cabinet
- 3) Remove the paper exit unit.

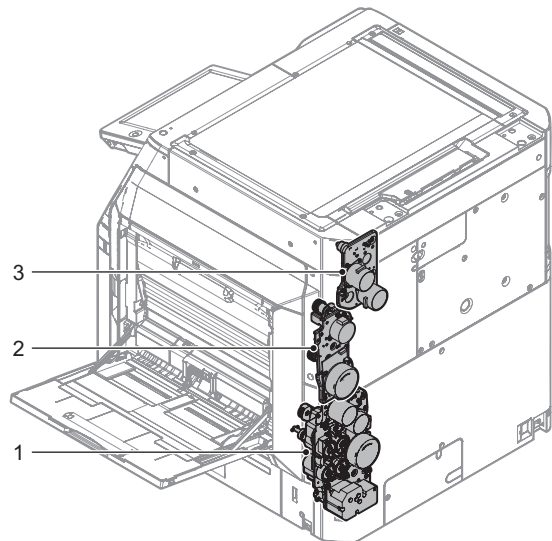


Important

When the connector is attached, check that the connector is attached firmly. (Check that the connector is attached straight.)

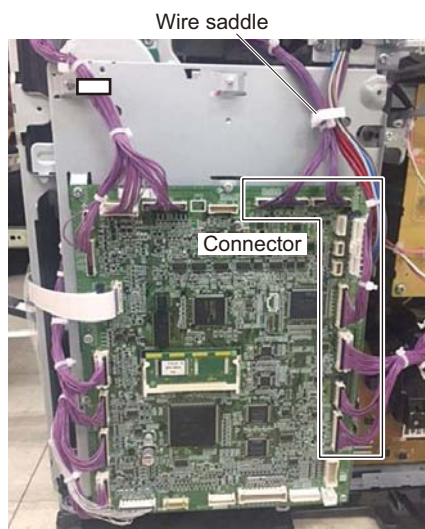
M. Drive section

No.	Name
1	Transport drive unit
2	Fusing drive unit
3	Paper exit drive unit

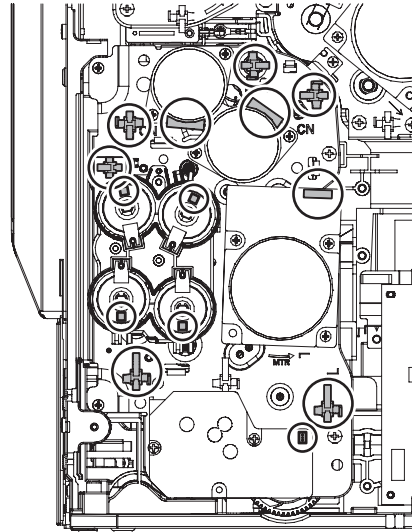


(1) Transport drive unit

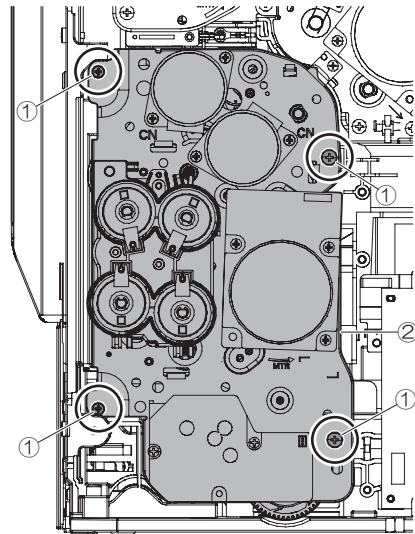
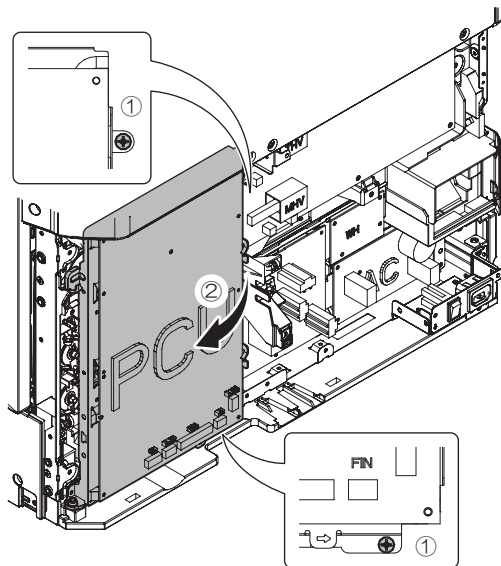
- 1) Remove the rear cover.
- 2) Remove the connector and the harness from the PCU PWB. Then, open the PCU PWB fixing plate unit.



- 3) Remove the connector and the reuse band from the transport drive unit.

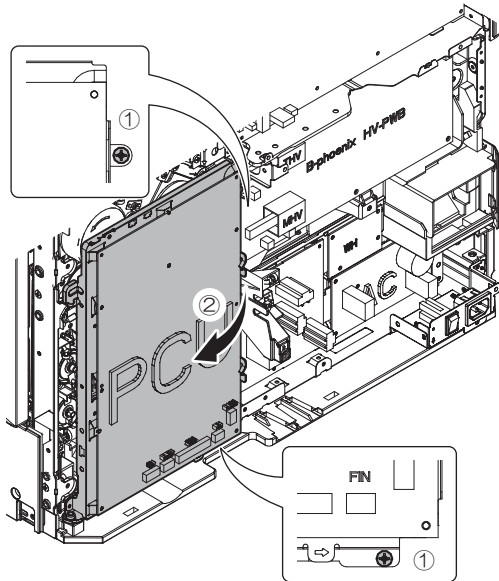


- 4) Remove the transport drive unit.

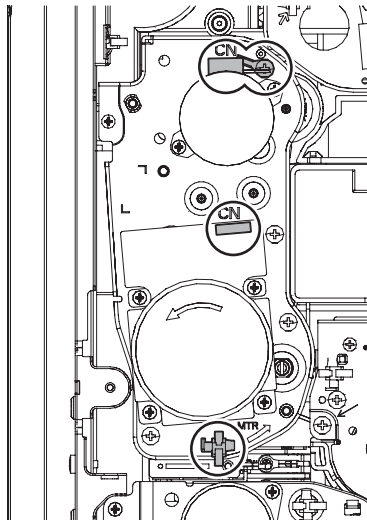


(2) Fusing drive unit

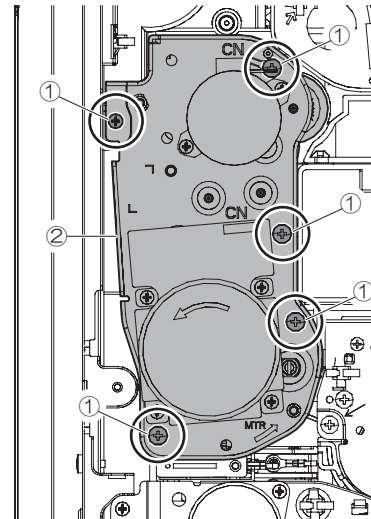
- 1) Remove the rear cover.
- 2) Remove the right cover rear upper.
- 3) Remove the connector and the harness from the PCU PWB. Then, open the PCU PWB fixing plate unit.



- 4) Remove the connector, the ground wire and the reuse band from the fusing drive unit.

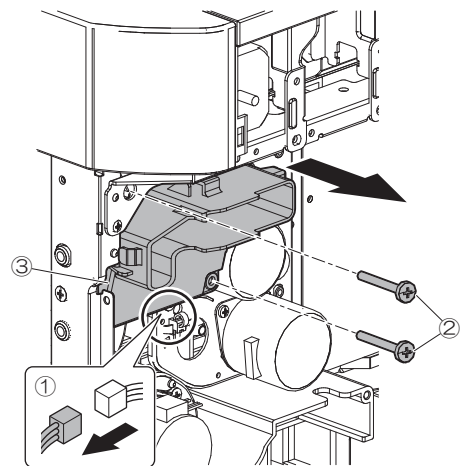


- 5) Remove the fusing drive unit

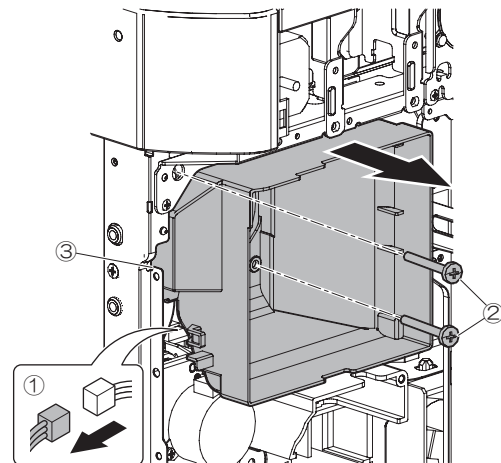


(3) Paper exit drive unit

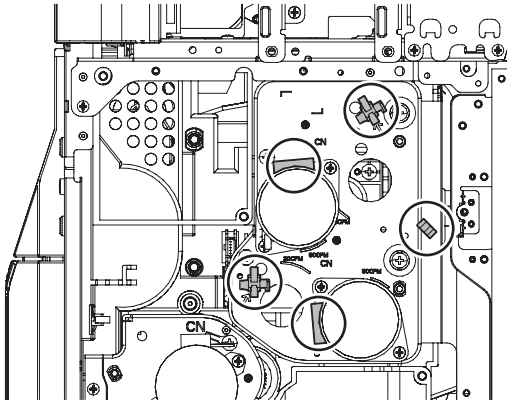
- 1) Remove the rear cover.
- 2) Remove the right cover rear upper.
- 3) Remove the paper exit fan cover.



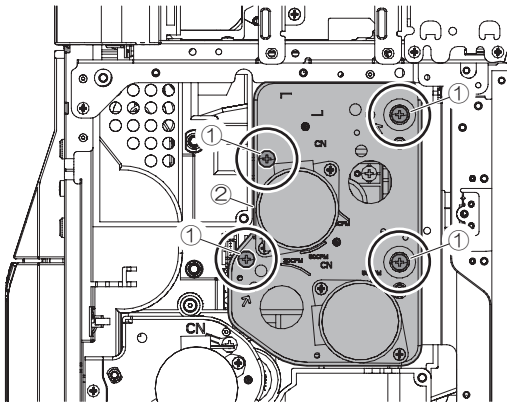
50/60 ppm machine for Europe.



- 4) Remove the connector, the reuse band and the harness from the paper exit drive unit.

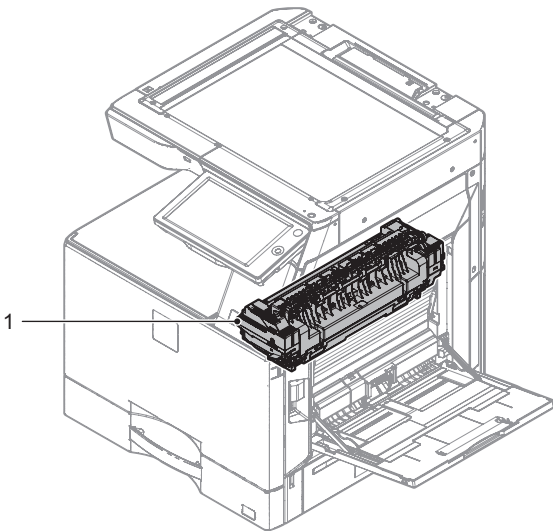


- 5) Remove the paper exit drive unit.



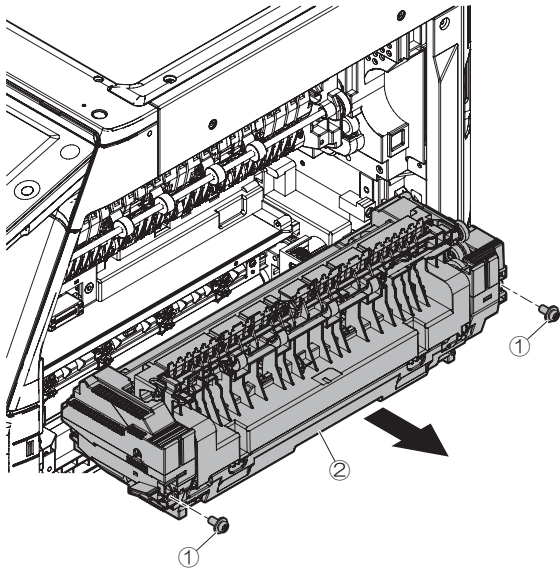
N. Fusing section

No.	Name
1	Fusing unit



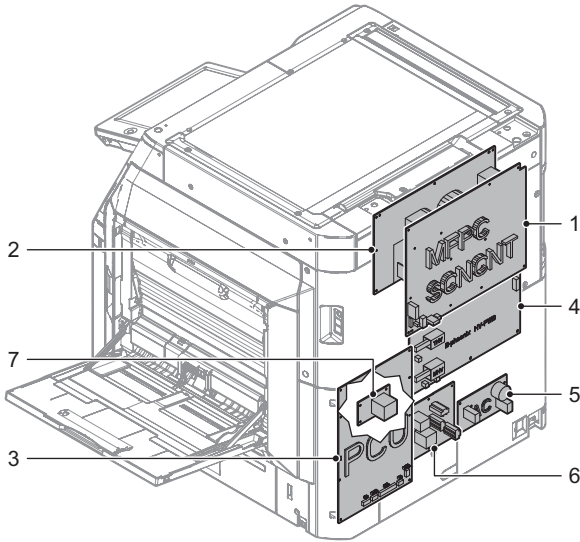
(1) Fusing unit

- 1) Open the right door, and remove the fusing unit.



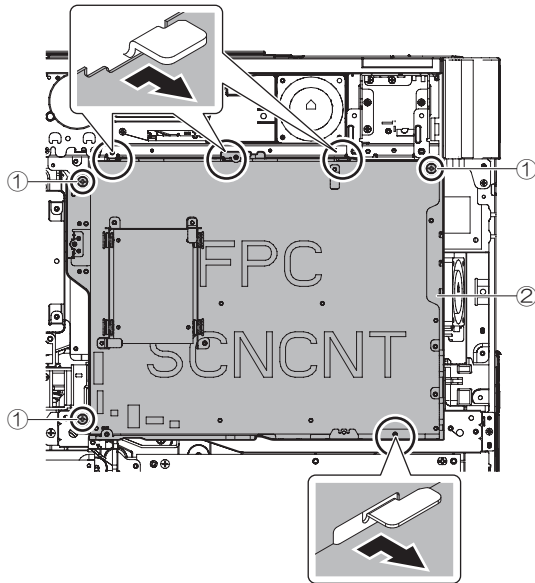
O. PWB section

No.	Name
1	SCN MFP PWB
2	DC PWB
3	PCU PWB
4	HV PWB
5	AC PWB
6	HL PWB
7	AC MONITOR PWB

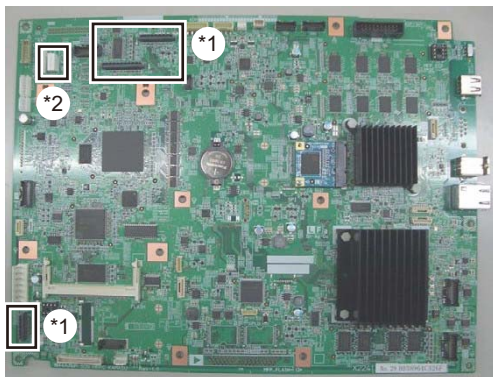


(1) SCN MFP PWB

- 1) Remove the MFP cover.
- 2) Remove the rear cover upper.
- 3) Remove the rear cover.
- 4) Remove the right cover rear upper.
- 5) Remove the left cover.
- 6) Remove the left cover upper rear.
- 7) Remove the connector and the FFC, and remove the MFP PWB fixing plate unit.

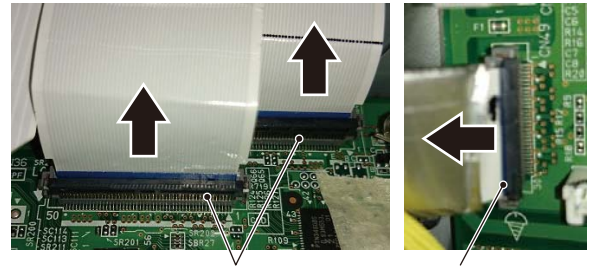


How to attach/remove the MFP PWB FFC

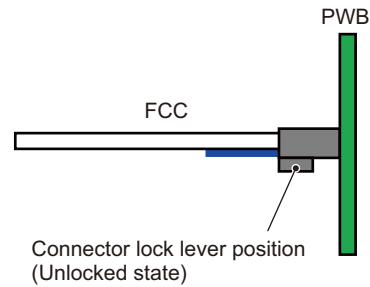


*1

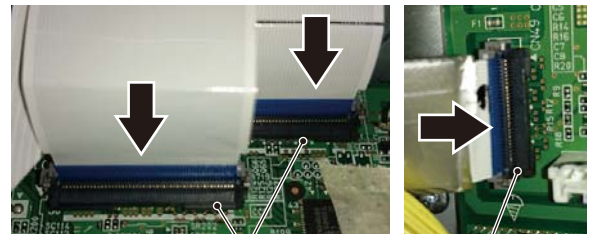
Unlocked (when removing FFC)



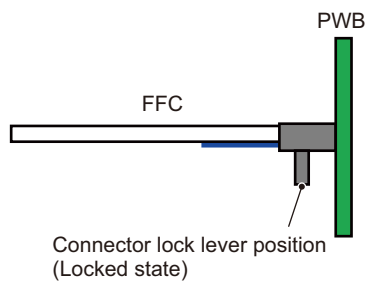
FFC can be removed by releasing the lever.



Locked (when connecting FFC)



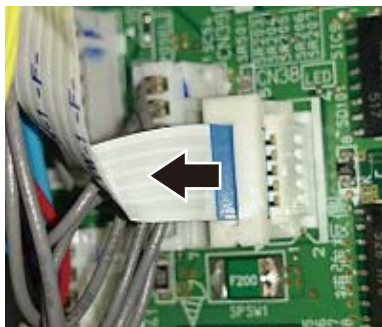
FFC is locked by raising the lever after inserting FFC.



Unlocked (when removing FFC)



Slide the connector in the direction of the arrow to unlock.



Pull out FFC in the direction of the arrow.

Locked (when connecting FFC)



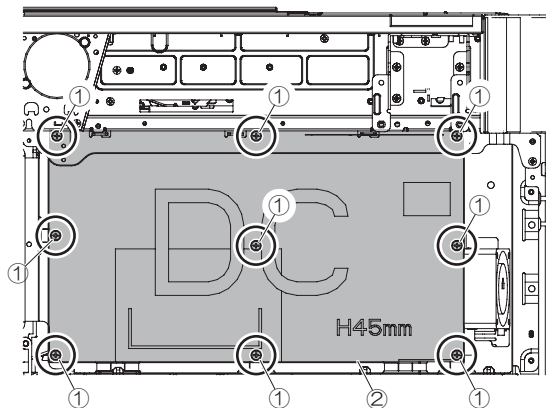
Insert FFC in the direction of the arrow, with the reinforcing plate (Blue) being placed at the right side.



Slide the connector in the direction of the arrow to lock.

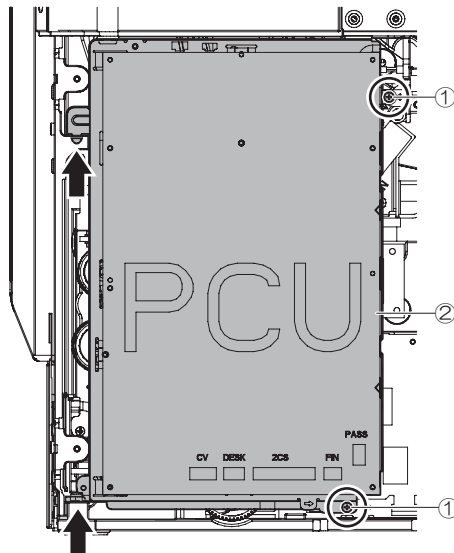
(2) DC PWB

- 1) Remove the MFP PWB fixing plate unit.
- 2) Remove the connector, and remove the low voltage power unit.



(3) PCU PWB

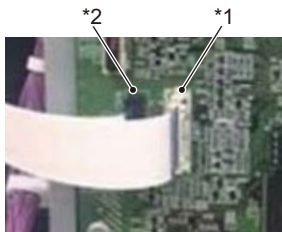
- 1) Remove the rear cover.
- 2) Remove the connector and the FFC, and remove the PCU PWB fixing plate unit.



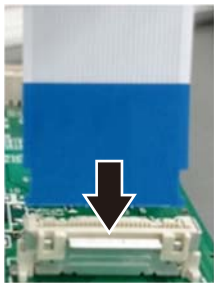
Perform the following operations after replacing the PCU PWB.

- Remove the fusing unit and turn ON the main power. Then, leave the main unit for 10 seconds.
- Turn OFF the main power.
- Attach the fusing unit.

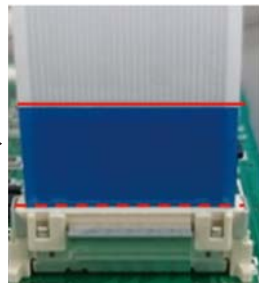
How to attach/remove the PCU PWB FFC



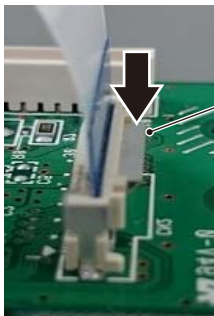
*1



Insert the FFC straight until it stops.

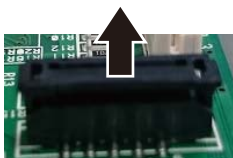


CAUTION :
Check that the FFC
reinforce plate is parallel to
the connector.



The lock is released by pressing
the tab of the FFC connector with
the direction described by
the arrow.

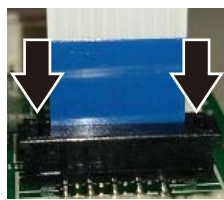
*2



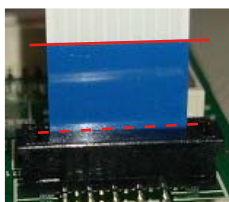
Lift up the lock lever
before inserting the FFC.



Insert the FFC straight
until it stops.



Pull down the lock lever
and lock the part.



CAUTION :
Check that the FFC reinforce
plate is parallel to the connector.

(4) HV PWB

- 1) Remove the rear cover.
- 2) Remove the connector and the HV PWB.

Important

When attaching the HV PWB, tighten the screw in the order of (1) - (3).

Important

There are two types of screws, so be careful.

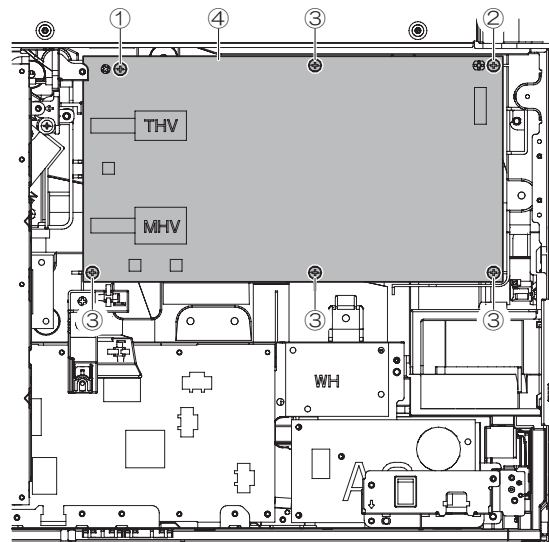
- M3x6 S-tight: x1 (1)
- M4x10 P-tight: x5 (2)(3)

Important

Grounding connection by the screw (1).

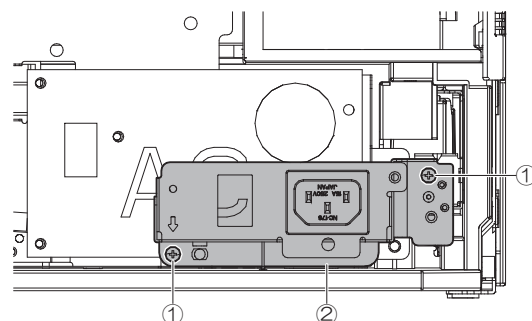
Confirm the screw (1) are not loose.

Loosening of the screw (1) may cause an error.

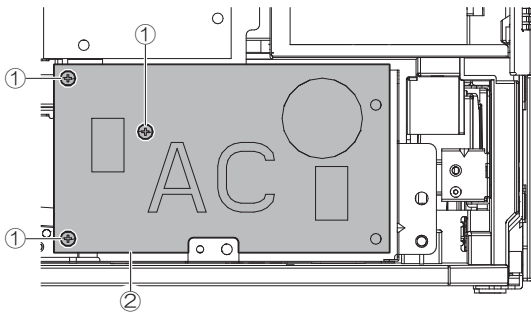


(5) AC PWB

- 1) Remove the rear cover.
- 2) Disconnect the all connectors from the AC PWB.
- 3) Remove the AC cord fixing plate unit.

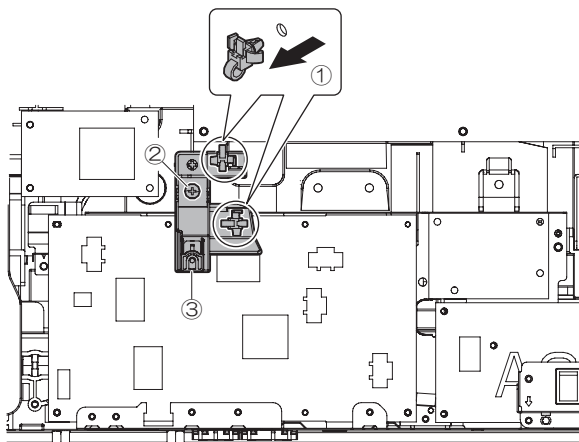


- 4) Remove the AC PWB.



(6) HL PWB

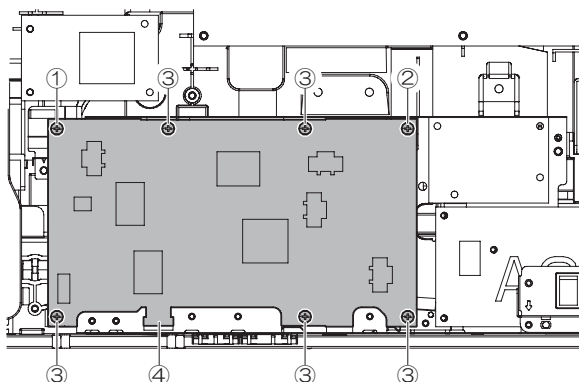
- 1) Remove the rear cover.
- 2) Remove the connector and the harness from the PCU PWB. Then, open the PCU PWB fixing plate unit.
- 3) Remove the reuse band from fixing holder. Then, remove the fixing holder.



- 4) Disconnect the connector and remove the HL PWB.

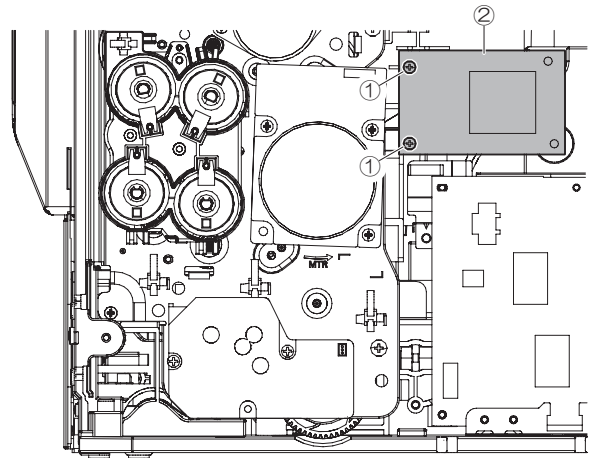
Important

When attaching the HL PWB, tighten the screw in the order of (1) - (3).



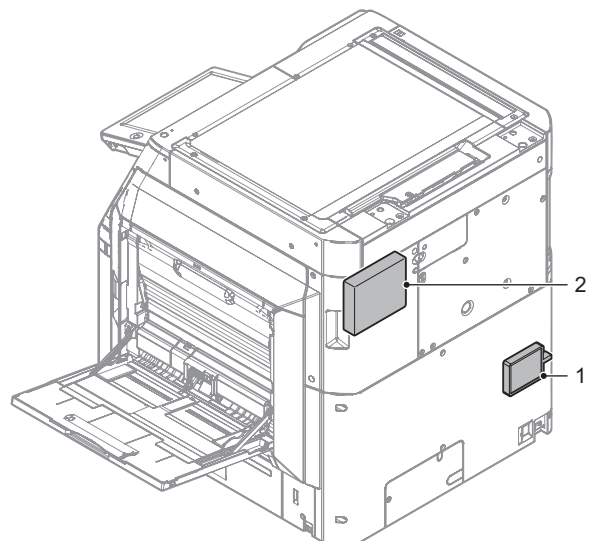
(7) AC MONITOR PWB

- 1) Remove the rear cover.
- 2) Remove the connector and the harness from the PCU PWB. Then, open the PCU PWB fixing plate unit.
- 3) Disconnect the connector and remove the AC MONITOR PWB.



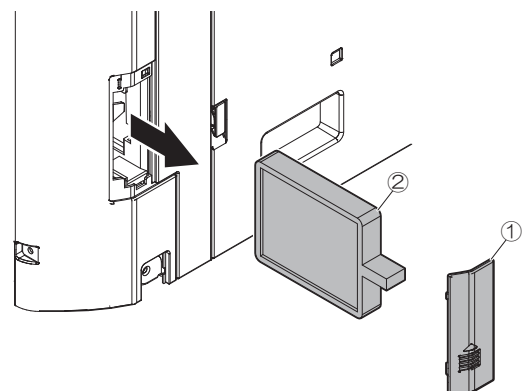
P. Filter section

No.	Name
1	Ozone filter
2	UFP filter



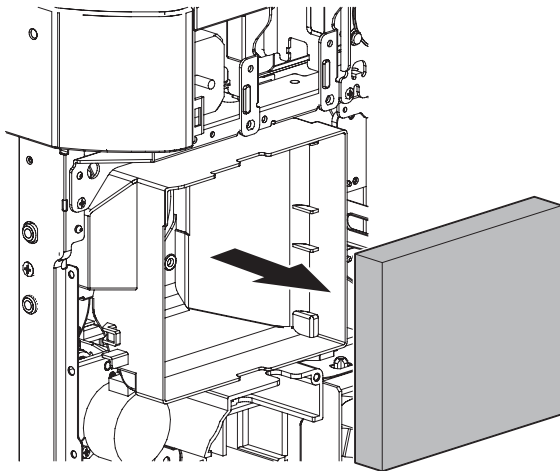
(1) Ozone filter

- 1) Remove the ozone filter cover, and remove the ozone filter.



(2) UFP filter

- 1) Remove the MFP cover.
- 2) Remove the rear cover upper.
- 3) Remove the rear cover.
- 4) Remove the right cover rear upper
- 5) Remove the UFP filter.

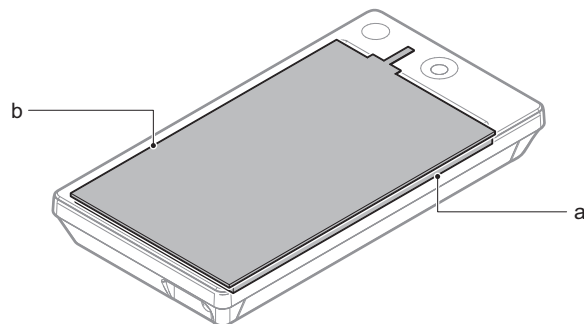


2. Disassembly and assembly of each unit

A. Operation panel section

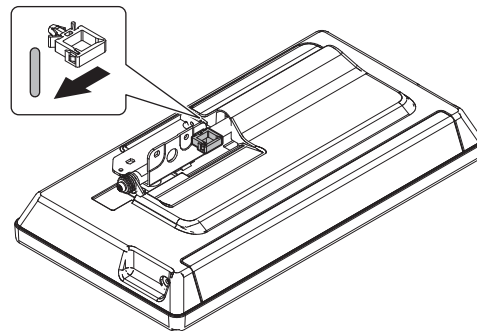
(1) Operation panel section

Part No.	Part name
a	LCD
b	Touch panel

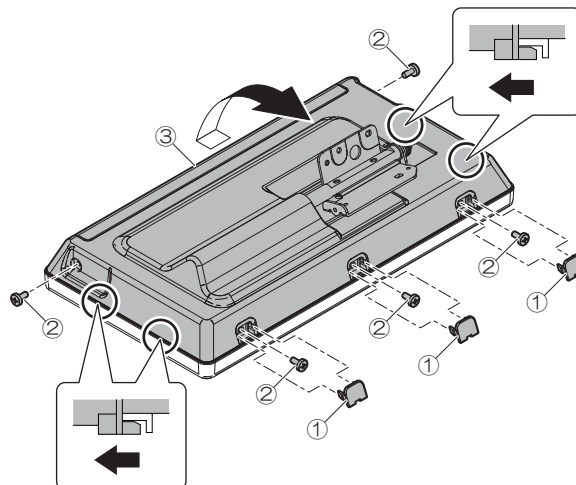


a. LCD

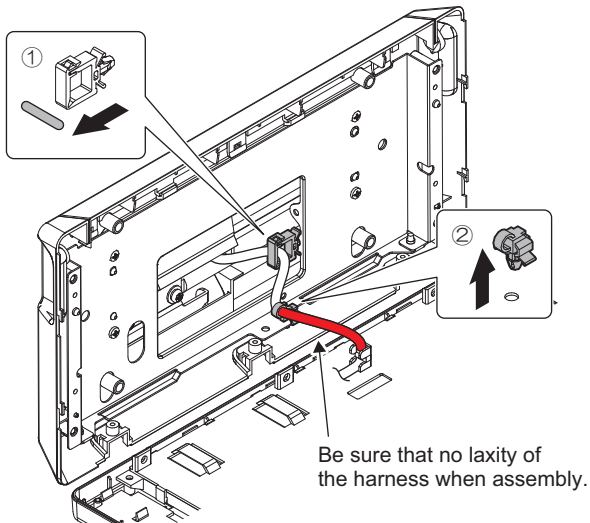
- 1) Remove the harness from the clamp.



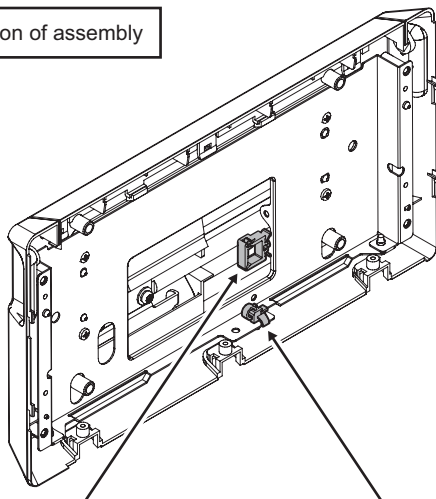
- 2) Remove the cover and the screw then open the cover.



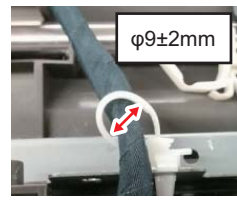
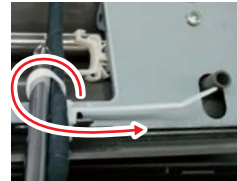
3) Remove the harness from the clamp and band.



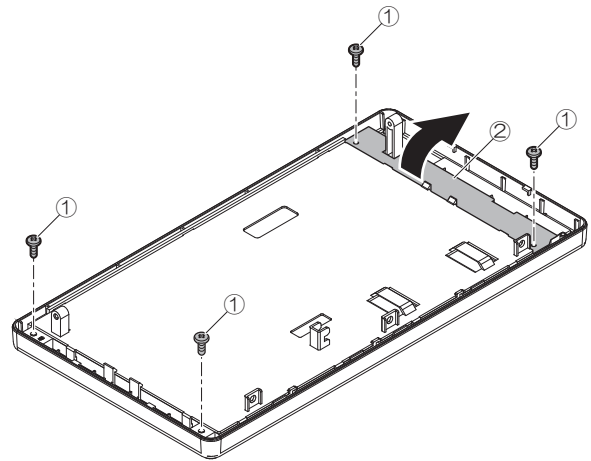
Caution of assembly



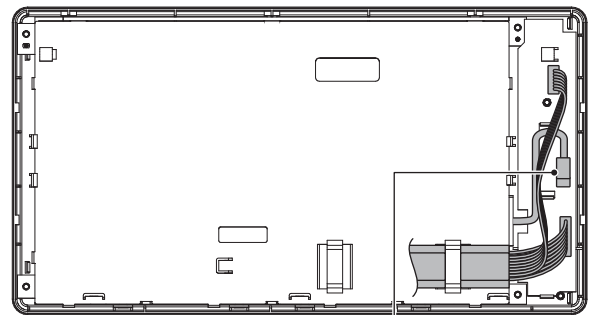
Banding band direction.



4) Remove the screw and open the mylar.



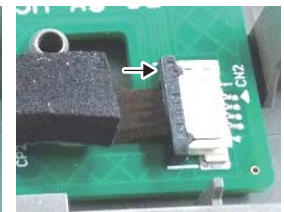
5) Remove the connector and the FFC.



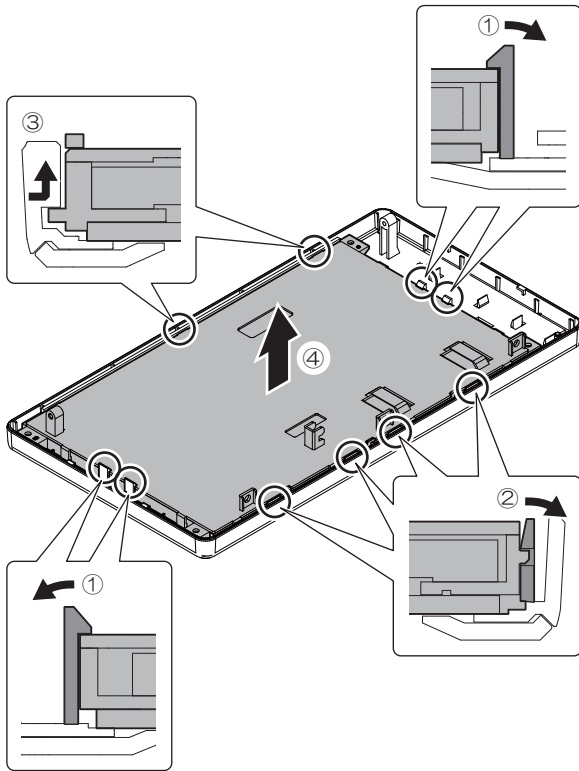
Unlocked condition



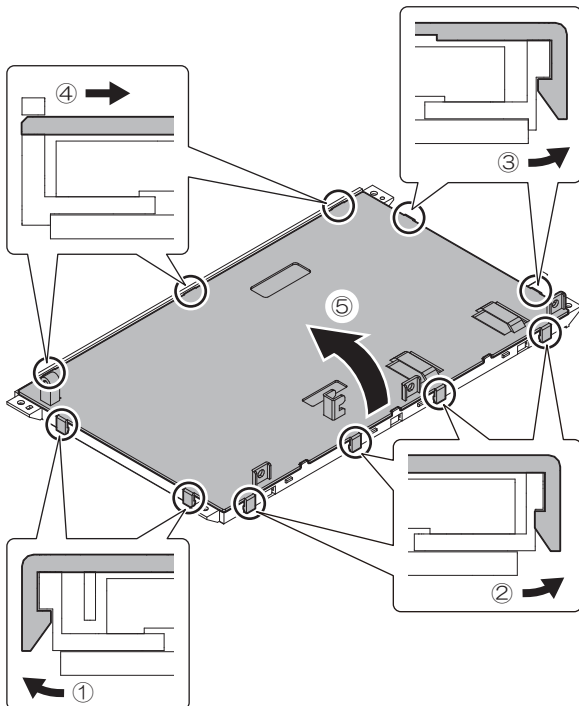
Locked condition



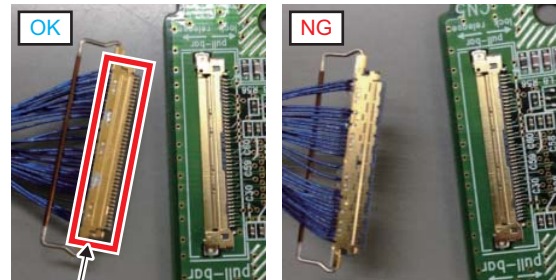
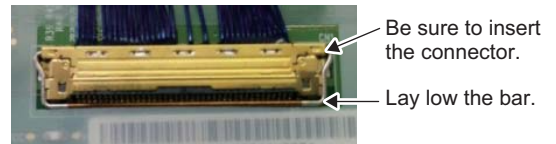
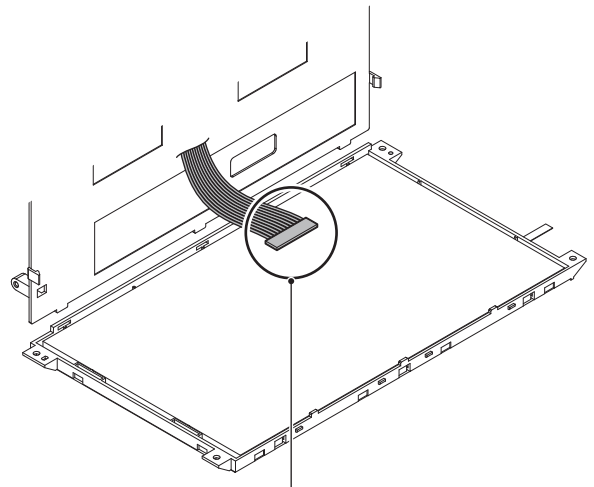
6) Remove the pawl and LCD holder unit.



7) Remove the pawl and open the LCD holder.

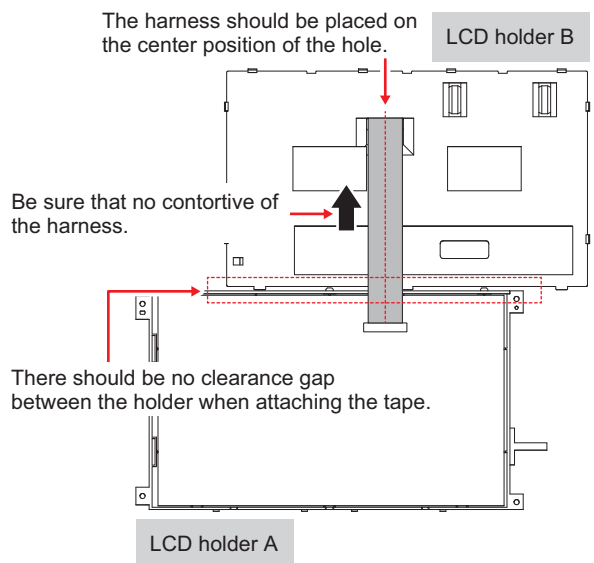


8) Remove the connector.



Insert the terminal side is top.

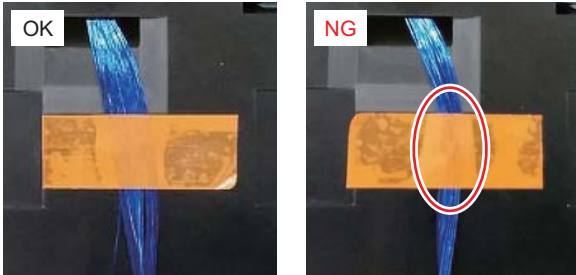
Caution of assembly



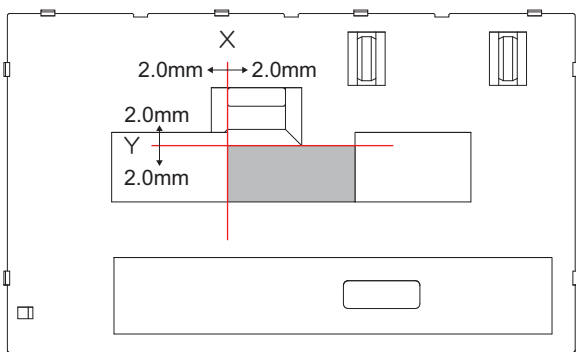
Harness fix by the tape with flat condition of the harness.



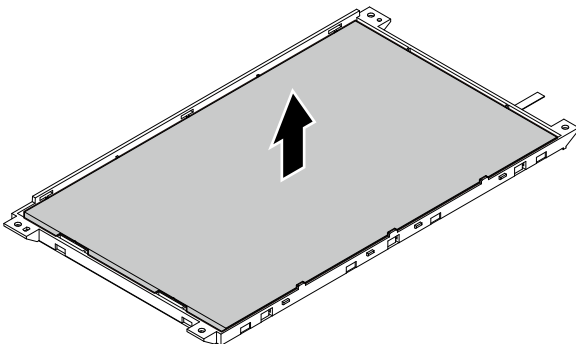
Harness do not place on the harness.



Attaching reference

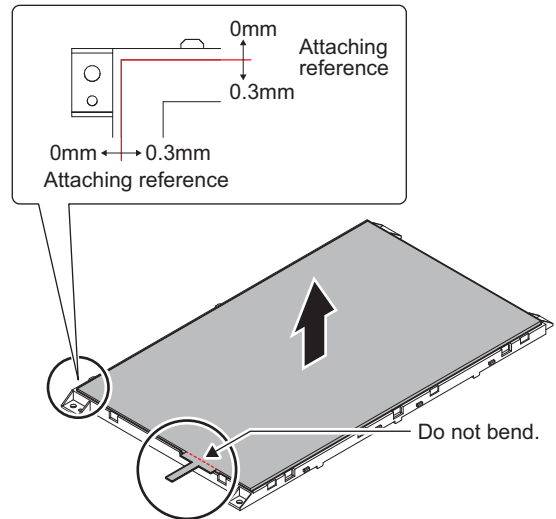


9) Remove the LCD.

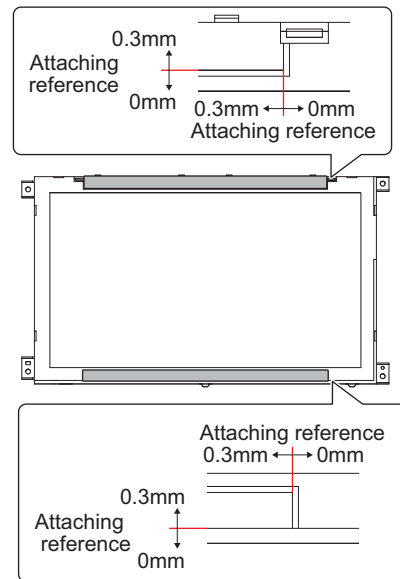


b. Touch panel

1) Remove the touch panel.

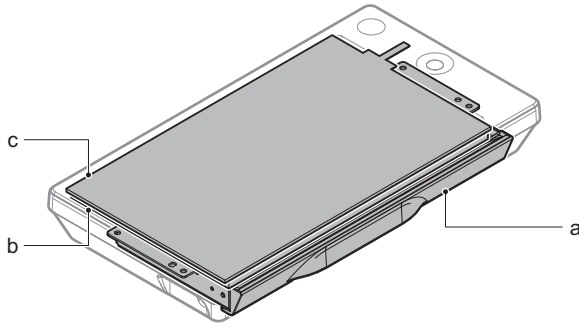


2) Remove the sheet.



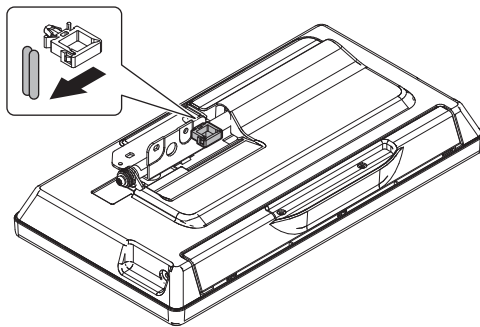
(2) Operation panel section (Keyboard standard model)

Part No.	Part name
a	Keyboard
b	LCD
c	Touch panel

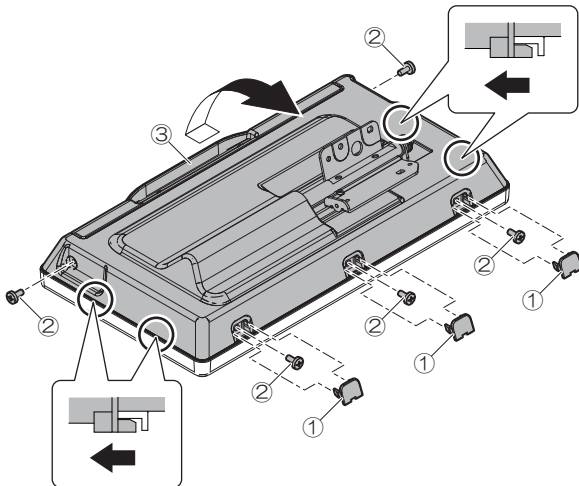


a. Keyboard

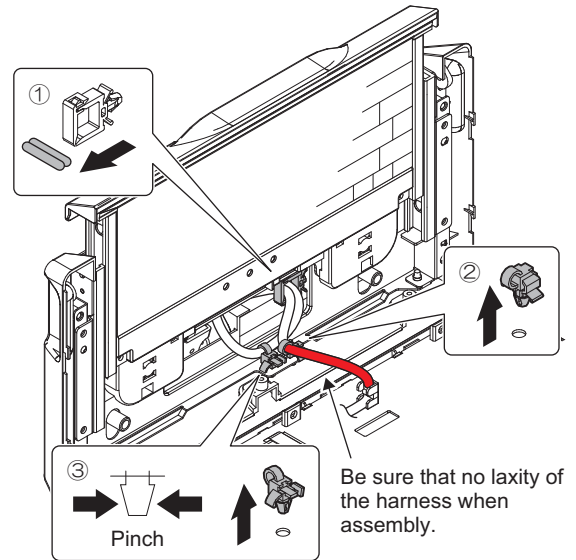
- 1) Remove the harness from the clamp.



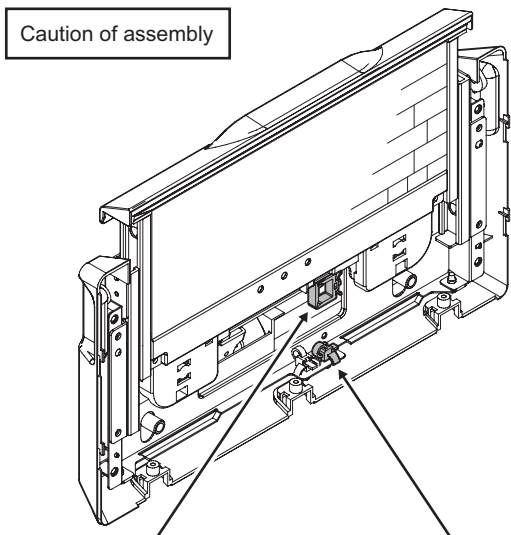
- 2) Remove the cover and the screw then open the cover.



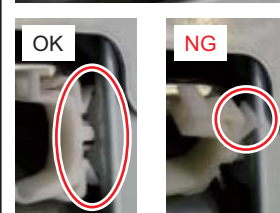
- 3) Remove the harness from the clamp and band.



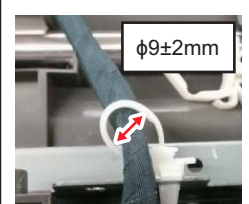
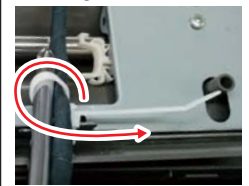
Caution of assembly



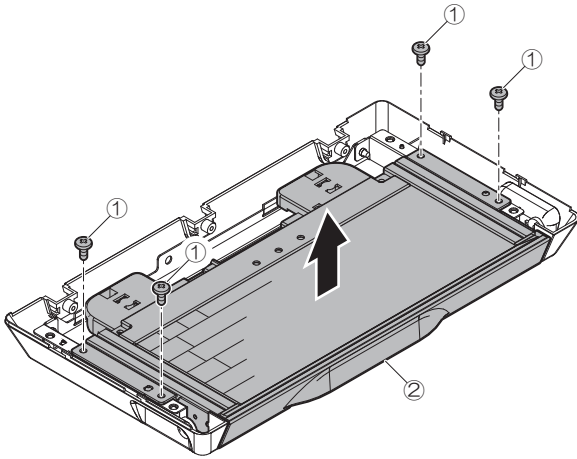
Be sure to attach the lock lever as shown by figure below.



Banding band direction.

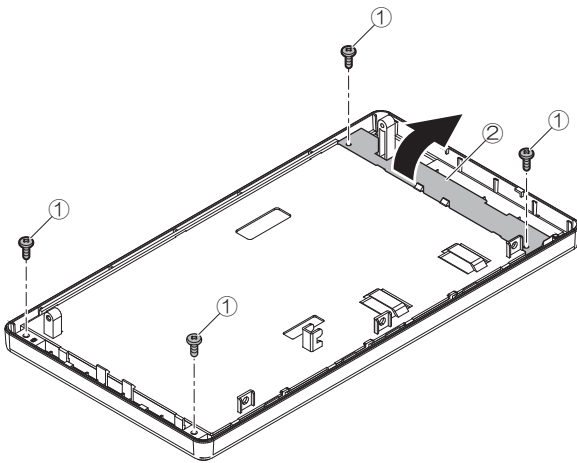


4) Remove the screw and the keyboard.

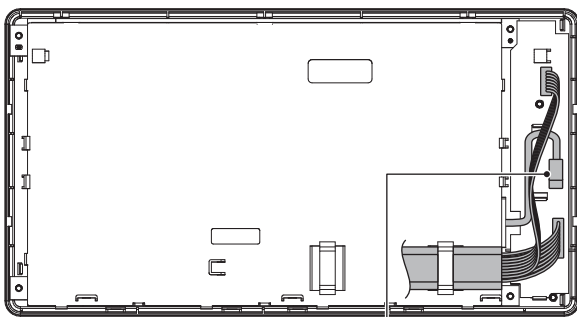


b. LCD

1) Remove the screw and open the mylar.



2) Remove the connector and the FFC.

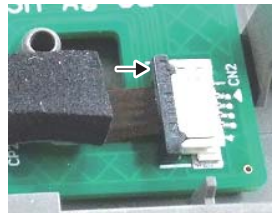


Unlocked condition



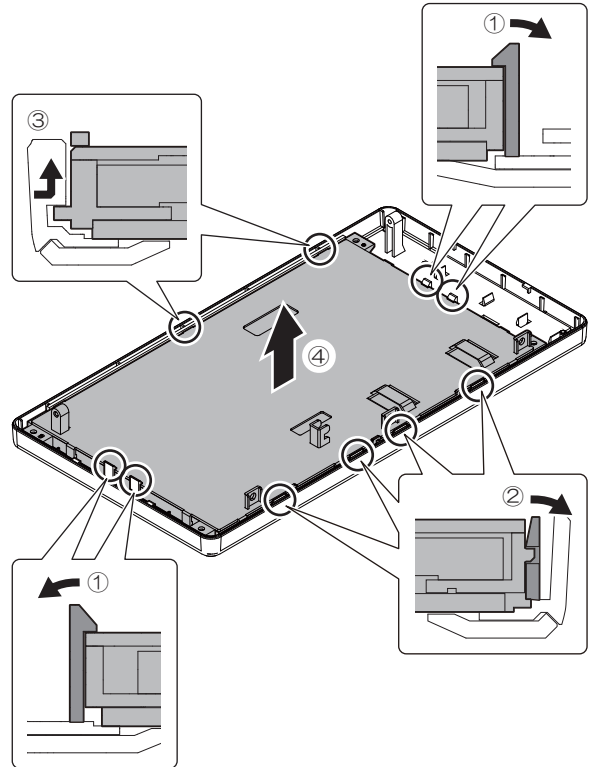
Insert the connector with unlocked condition.

Locked condition

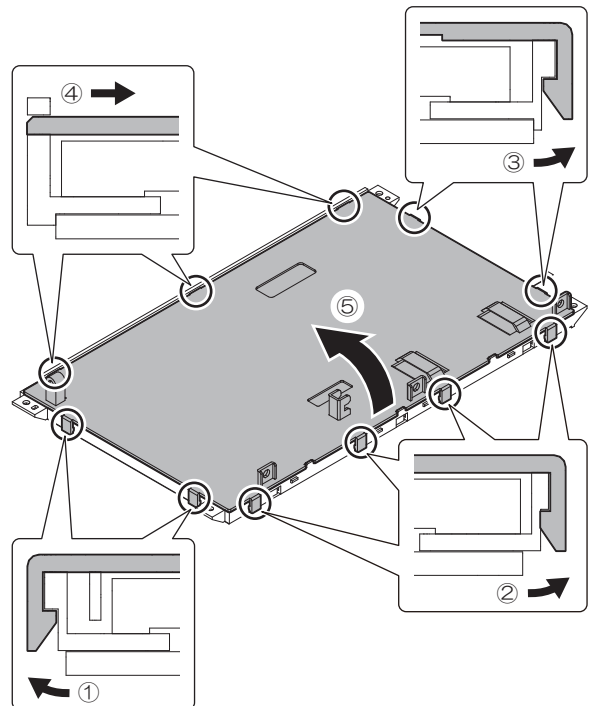


Be sure to lock.

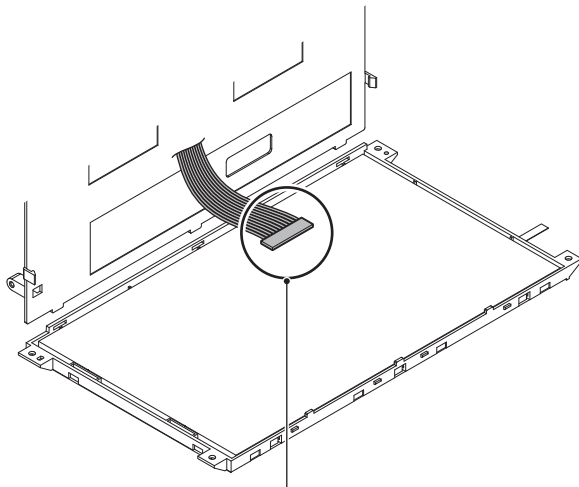
3) Remove the pawl and LCD holder unit.



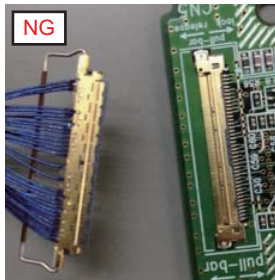
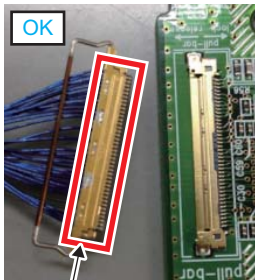
4) Remove the pawl and open the LCD holder.



5) Remove the connector.



Be sure to insert the connector.
Lay low the bar.



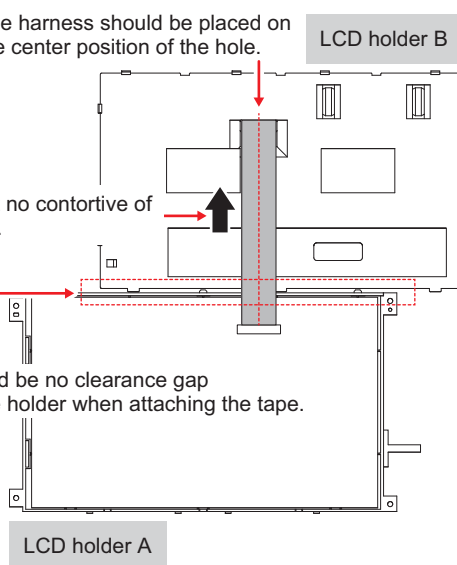
Insert the terminal side is top.

Caution of assembly

The harness should be placed on the center position of the hole.

Be sure that no contortive of the harness.

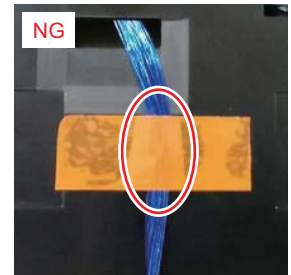
There should be no clearance gap between the holder when attaching the tape.



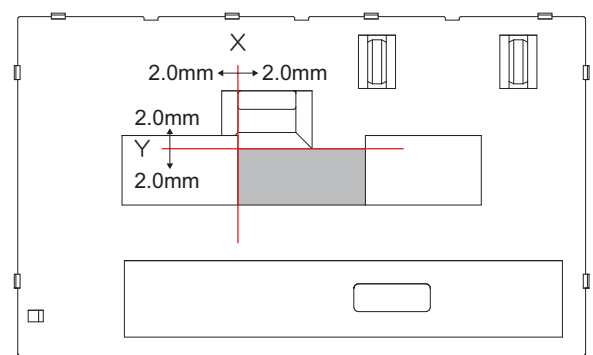
Harness fix by the tape with flat condition of the harness.



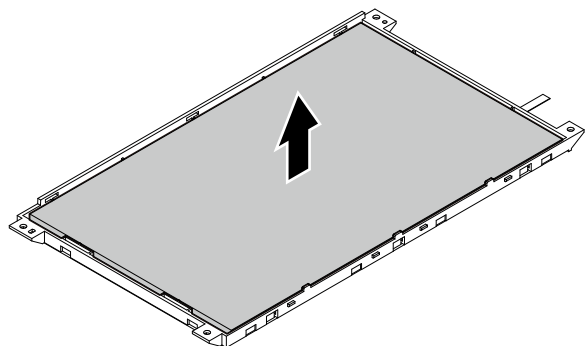
Harness do not place on the harness.



Attaching reference

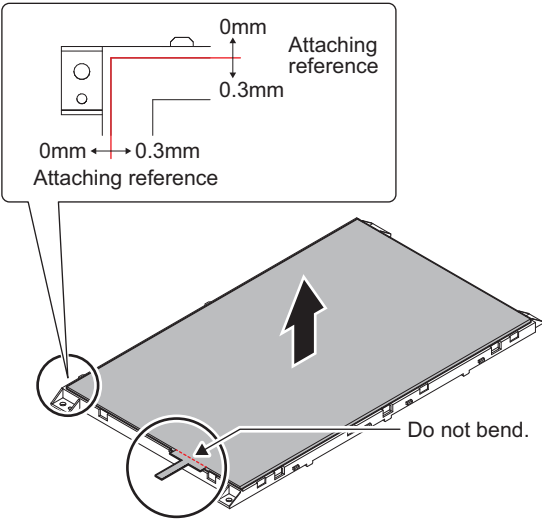


6) Remove the LCD.

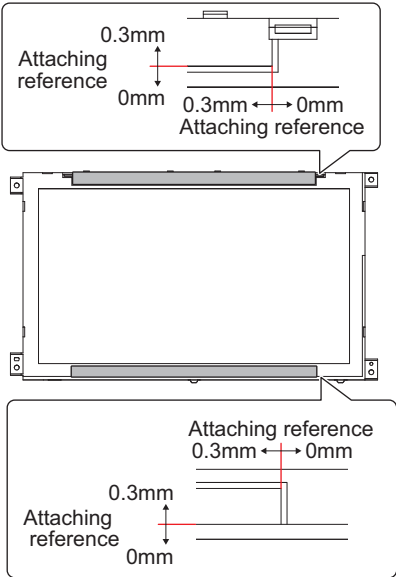


c. Touch panel

1) Remove the touch panel.



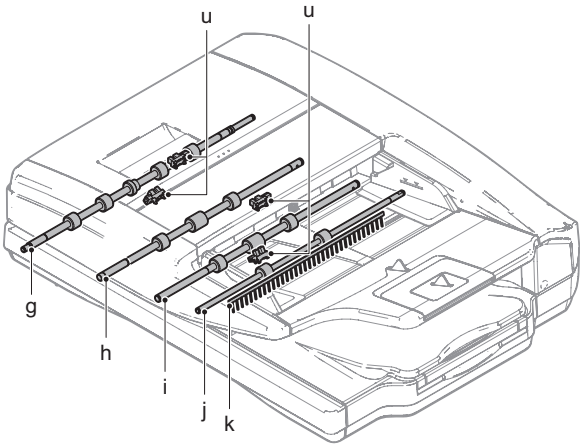
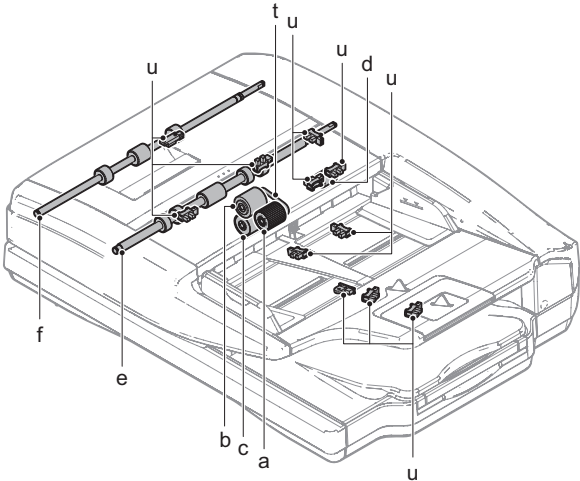
2) Remove the sheet.

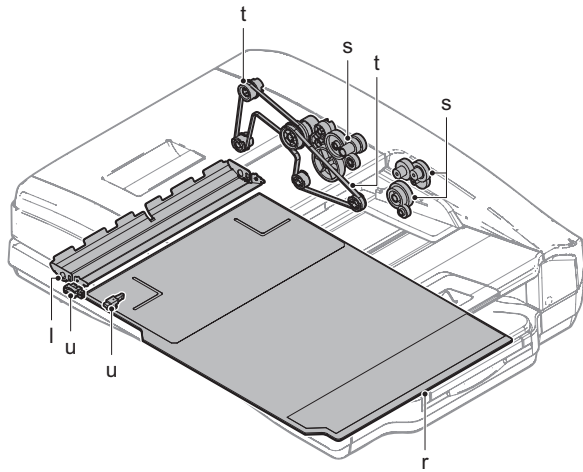


B. Document feed section

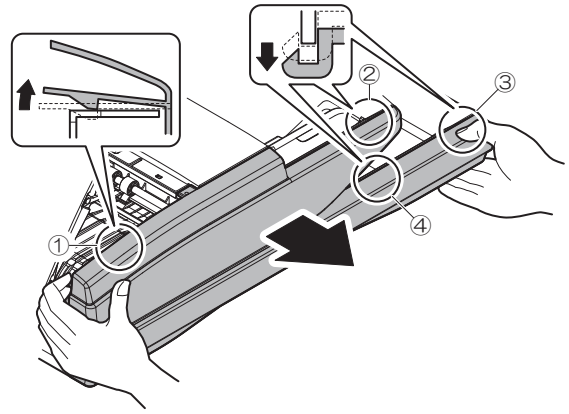
(1) DSPF unit

Part No.	Part name
a	Paper pickup roller
b	Paper feed roller
c	Separation roller
d	Torque limiter
e	Transport roller 1
f	Transport roller 2
g	Registration roller
h	Transport roller 3
i	Transport roller 4
j	Paper exit roller
k	Discharge brush
l	No.1 scanning plate
m	No.2 scanning section, scanning glass
n	No.2 scanning section, white reference glass
o	Mirror
p	Lens, CCD
q	Lamp
r	OC mat
s	Gears
t	Belts
u	Sensors

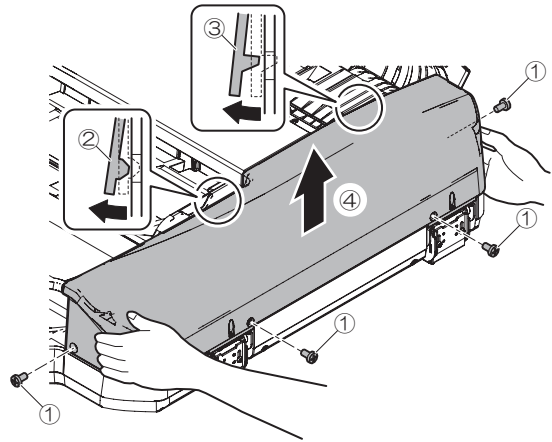




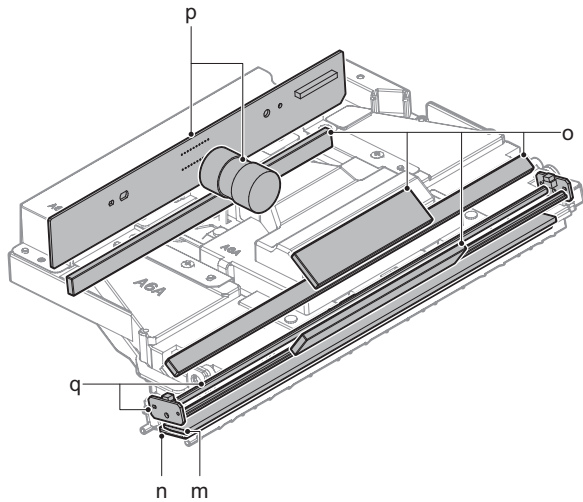
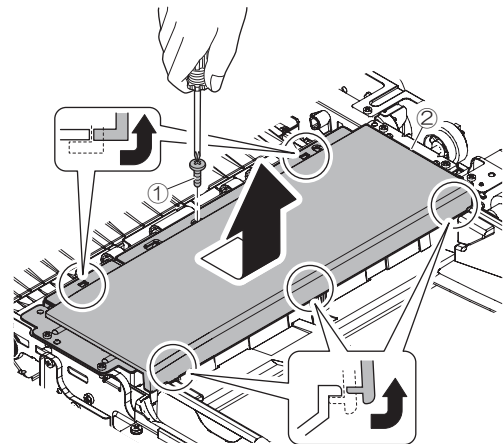
2) Remove the front cabinet.



3) Remove the screw, and remove the rear cabinet.



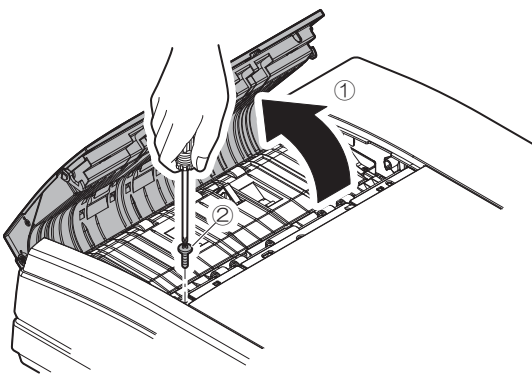
4) Remove the screw. Remove the paper feed cover.



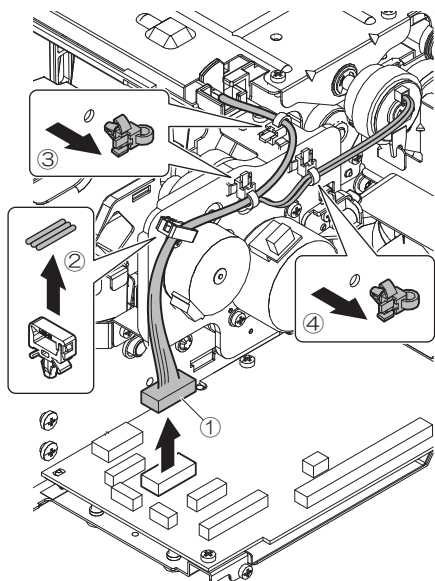
a. Paper pickup roller

b. Paper feed roller

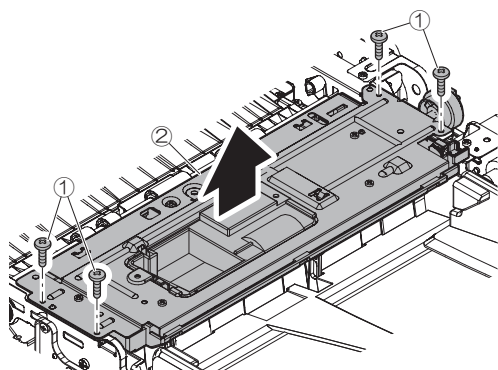
1) Open the upper door, and remove the screw.



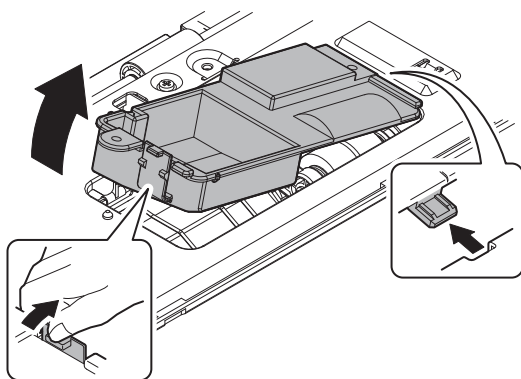
- 5) Disconnect the connector. Open the wire saddle. Remove the snap band.



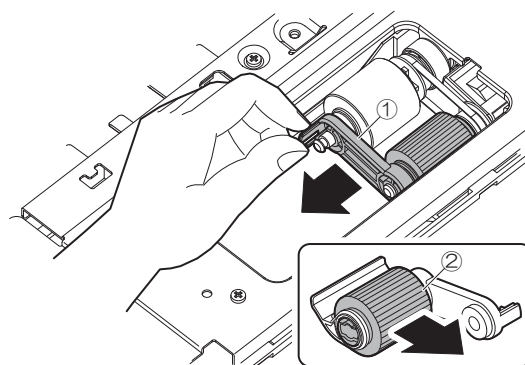
- 6) Remove the screw, and remove the document feed unit.



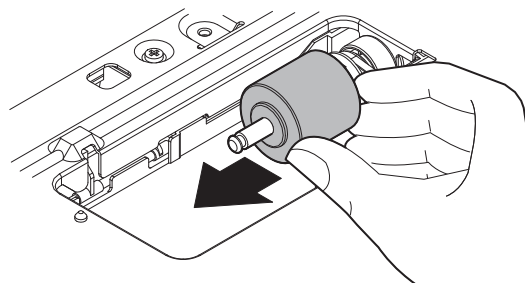
- 7) Remove the paper feed PG upper cover.



- 8) Remove the pickup roller holder. Remove the paper pickup roller from the pickup roller holder.

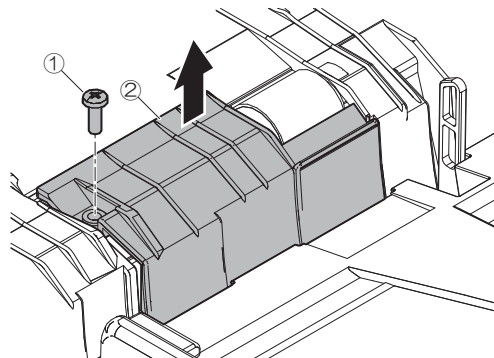


- 9) Remove the paper feed roller.

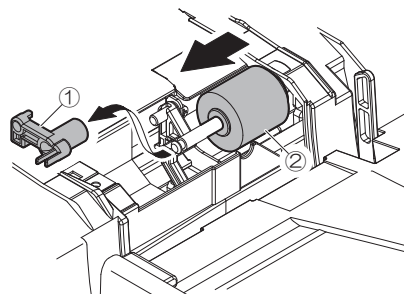


c. Separation roller

- 1) Remove the screw, and remove the paper feed PG lower cover.

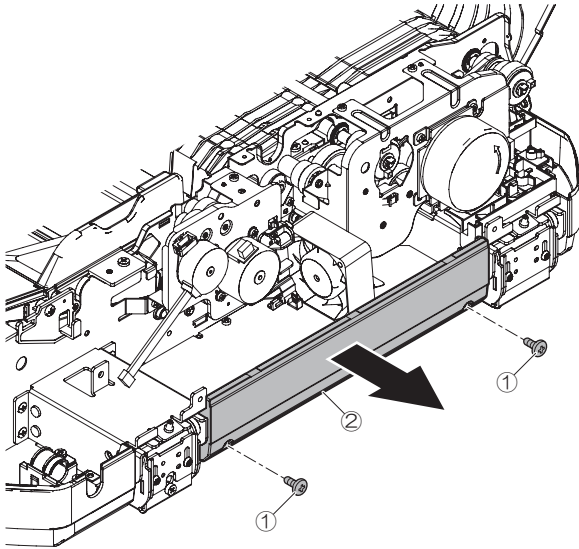


- 2) Remove the reverse pressure release lever, and remove the separation roller.

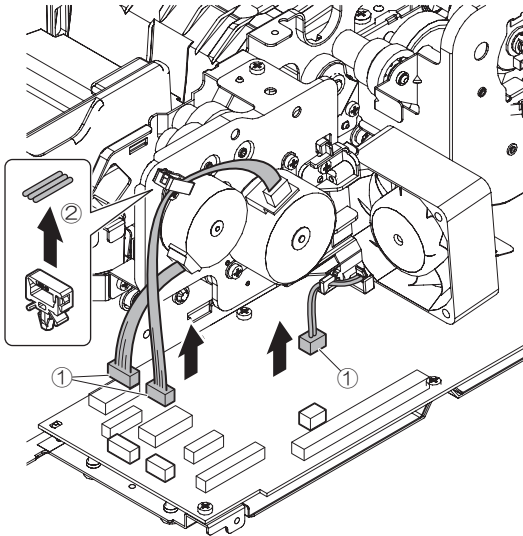


d. Torque limiter

- 1) Remove the rear cabinet lower.



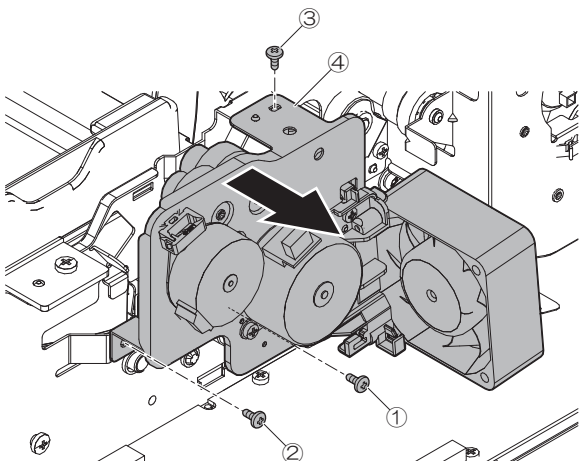
- 2) Disconnect the connector and open the edge saddle.



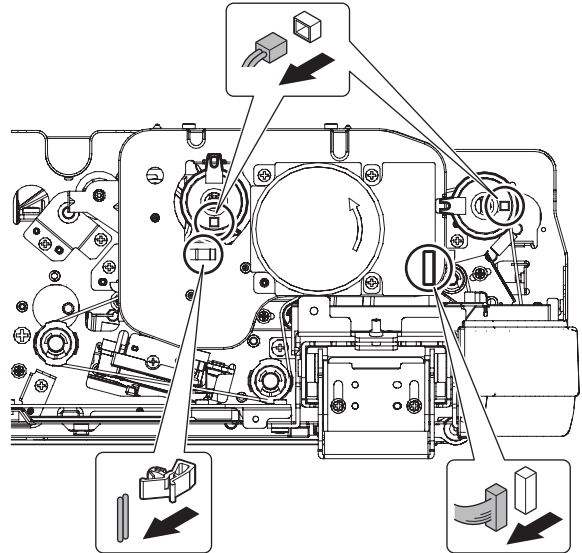
- 3) Remove the screws and the paper exit drive unit.

Important

When attaching the paper exit drive unit, tighten the screw in the order of (1) - (3).

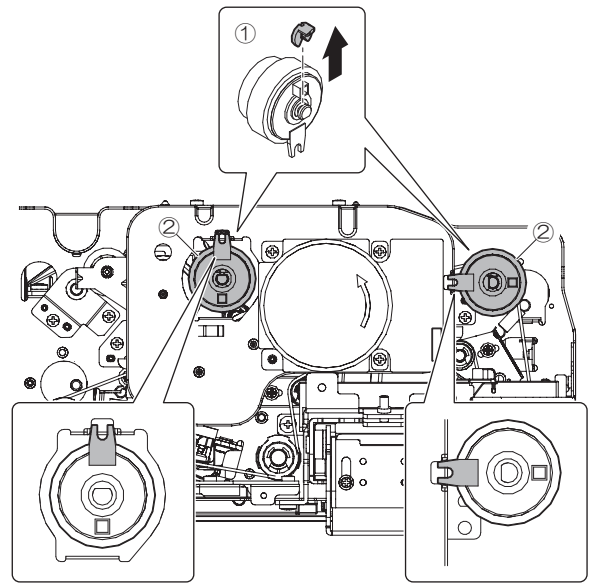


- 4) Disconnect the connectors. Remove the harness from the wire saddle.

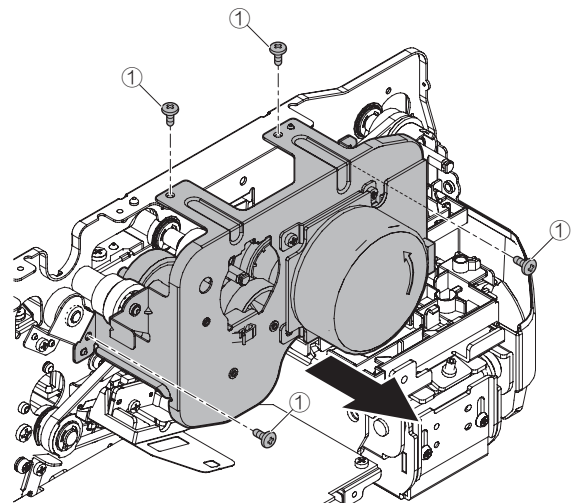


- 5) Remove E-ring, separation clutch and transport clutch.

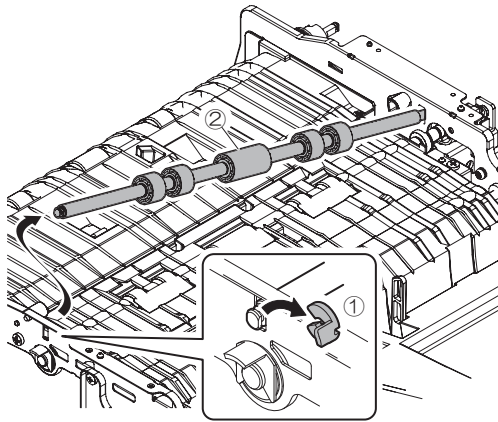
NOTE: make sure that stopping section in the clutch is fit into the plate during the assembly.



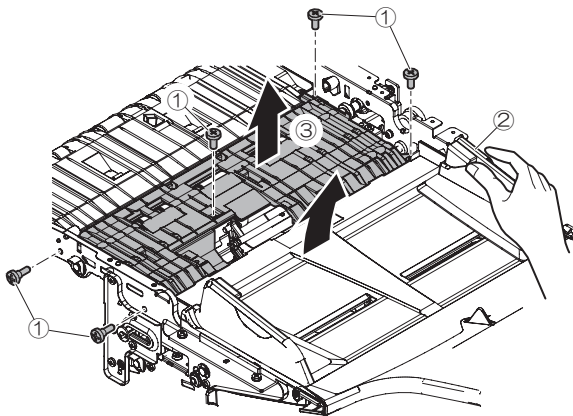
- 6) Remove the screws and the paper feed drive unit.



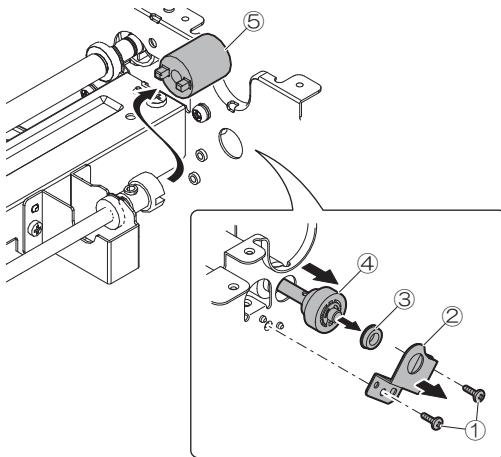
- 7) Remove the E-ring, and remove the Transport roller 1 (Idle).



- 8) Remove the screw. Lift the document paper feed tray and remove the paper guide.



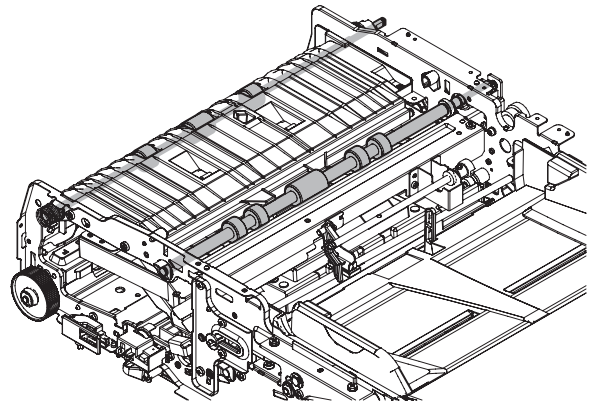
- 9) Remove the screw, and remove the support plate and the bearing. Remove the roller shaft, and remove the torque limiter.



e. Transport roller 1

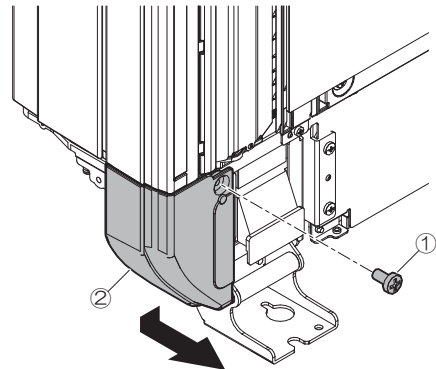
f. Transport roller 2

- 1) Clean the transport roller 1 and the transport roller 2.

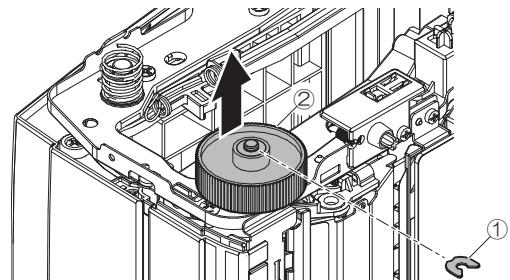


g. Registration roller

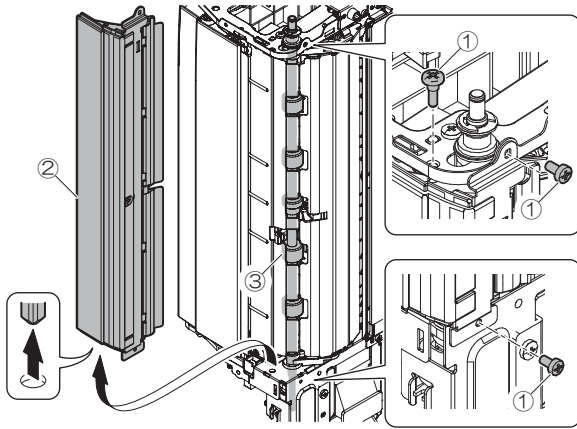
- 1) Remove the screw, and remove the left rear lower cabinet.



- 2) Remove the E-ring, and remove the PS knob.



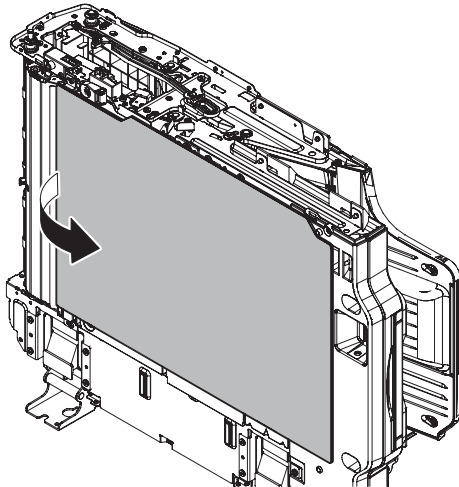
- 3) Remove the screw, and remove the paper guide.
Clean the registration roller.



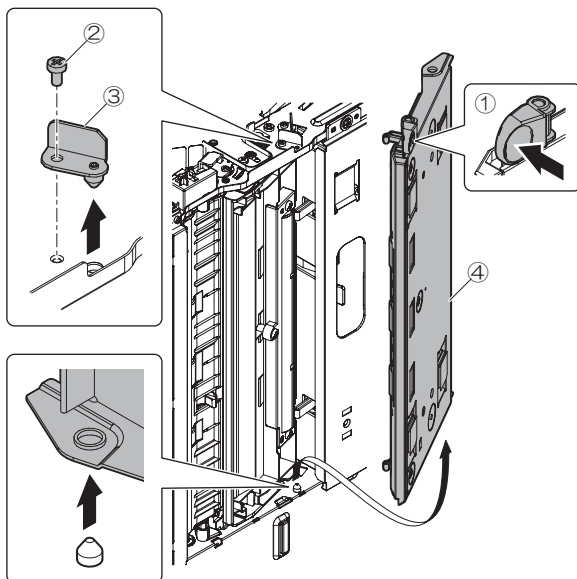
h. Transport roller 3

i. Transport roller 4

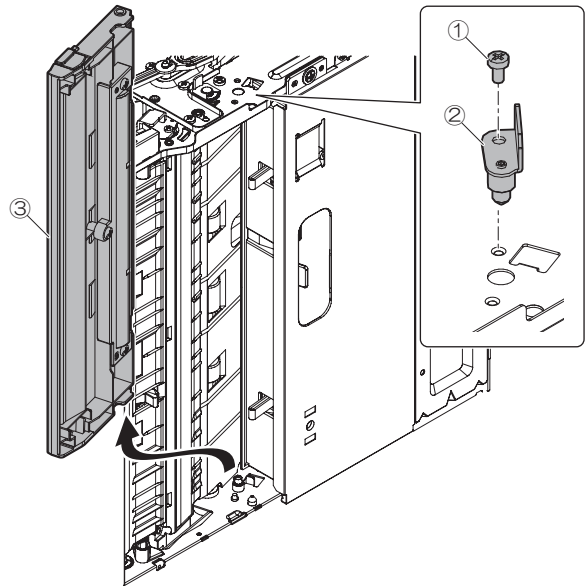
- 1) Open the OC mat.



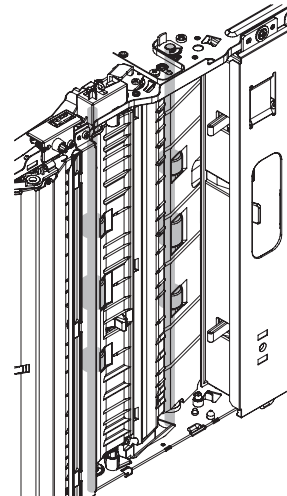
- 2) Open the lower door. Remove the screw, and remove the fulcrum plate. Remove the lower door.



- 3) Remove the screw, and remove the fulcrum plate. Remove the white reference plate.

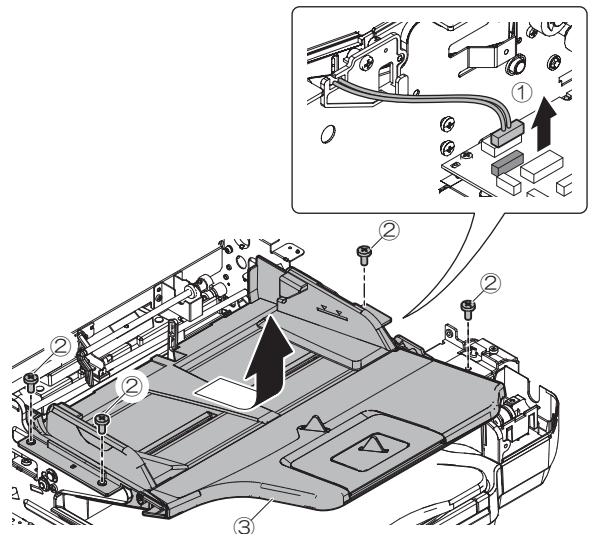


- 4) Clean the transport roller 3 and transport roller 4.

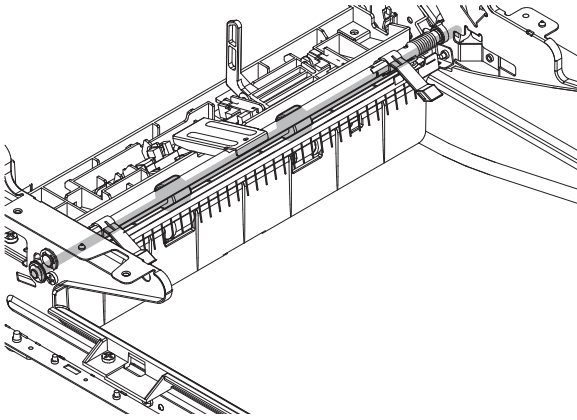


j. Paper exit roller

- 1) Disconnect the connector. Remove the screw, and remove the document feed tray.



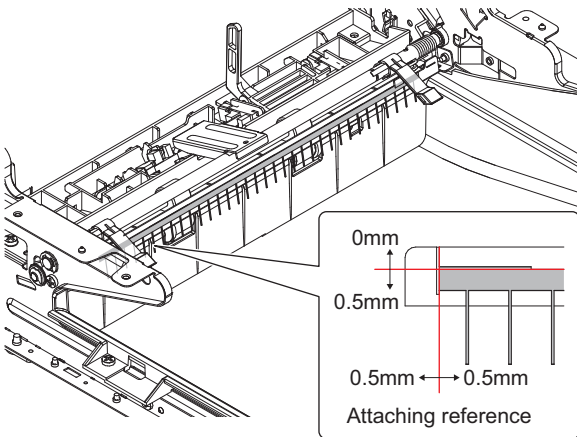
- 2) Clean the paper exit roller.



k. Discharge brush

- 1) Check the discharge brush.

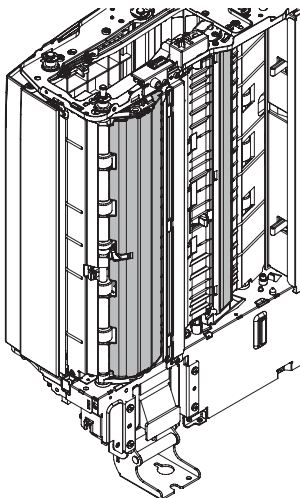
NOTE: when replacing the discharge brush, attach to the attachment reference.



l. No.1 scanning plate

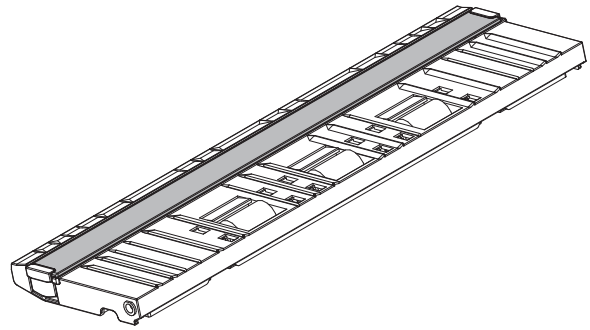
m. No.2 scanning section, scanning glass

- 1) Clean the no.1 scanning plate and the no.2 scanning section, scanning glass.



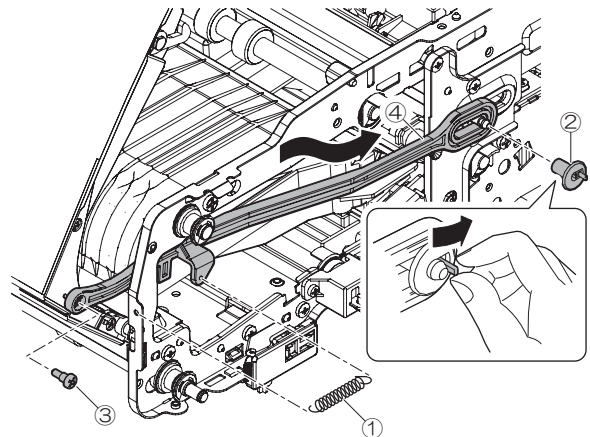
n. No.2 scanning section, white reference glass

- 1) Use cleaner to clean the no.2 scanning section, white reference glass.

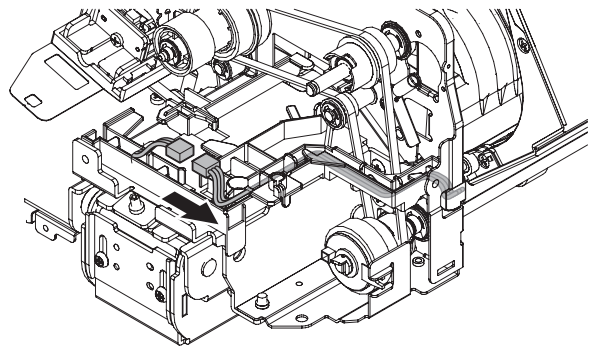


o. Mirror

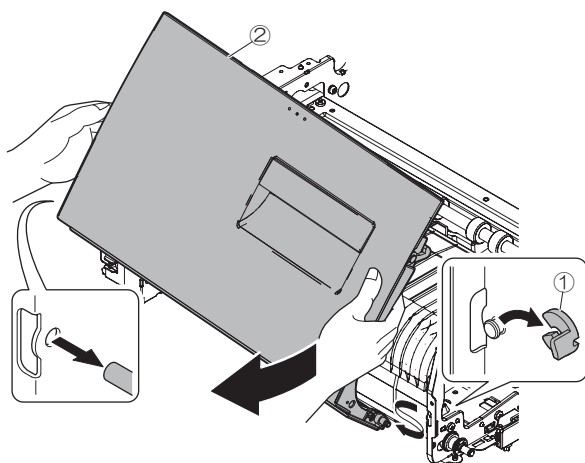
- 1) Remove the spring, pressure release axis holder, screw and pressure release link lever.



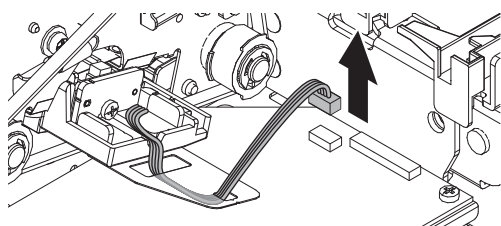
- 2) Disconnect the connector.



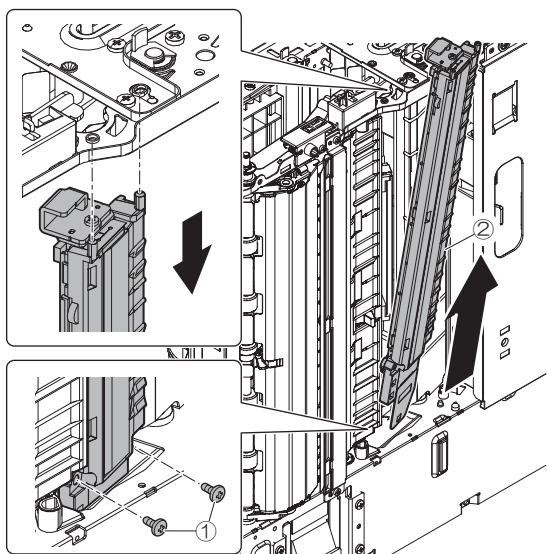
3) Remove the E-ring, and remove the upper door unit.



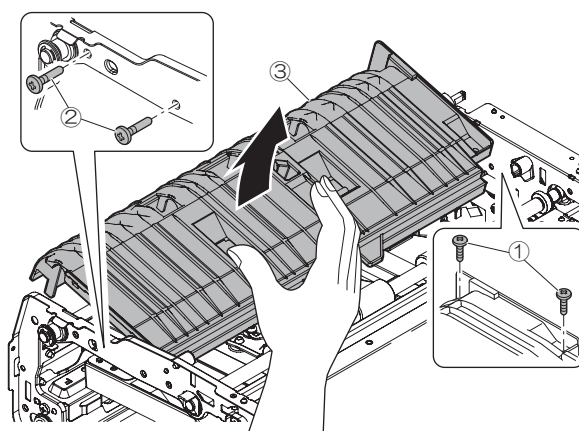
4) Disconnect the connector for lamp unit from the control PWB.



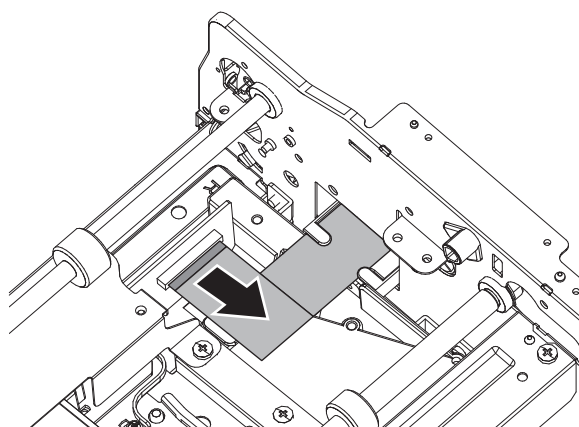
5) Remove the screw and lamp unit.



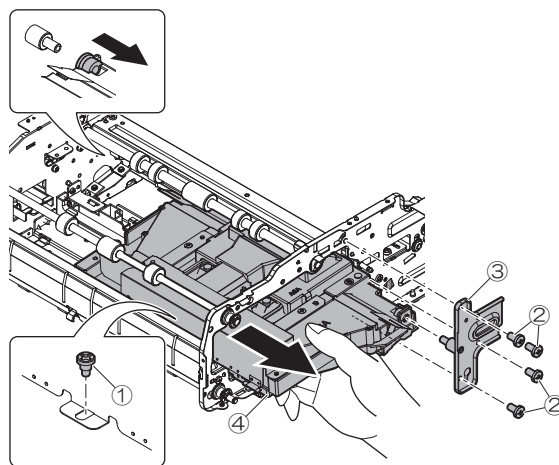
6) Remove the screws and paper guide.



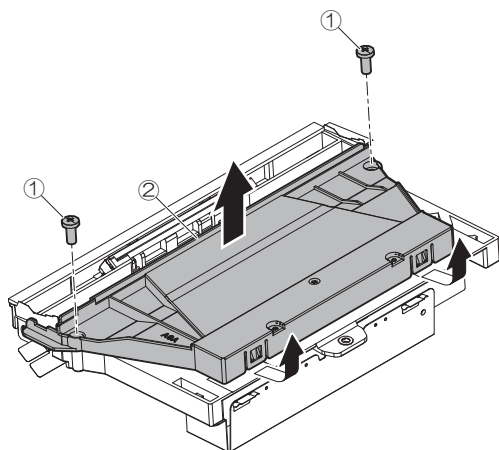
7) Remove the CCD FFC from the CCD PWB.



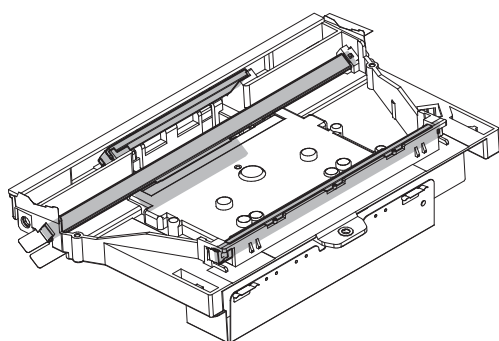
8) Remove the screw and cushion. Remove optics fixing plate and optical unit.



9) Remove the screw, and remove the mirror base cover.

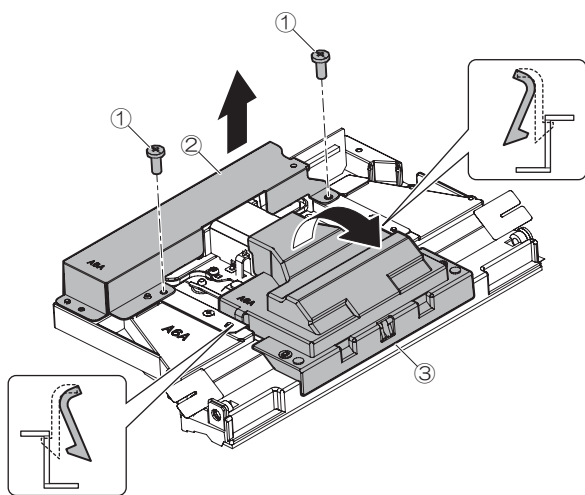


10) Clean the mirror.

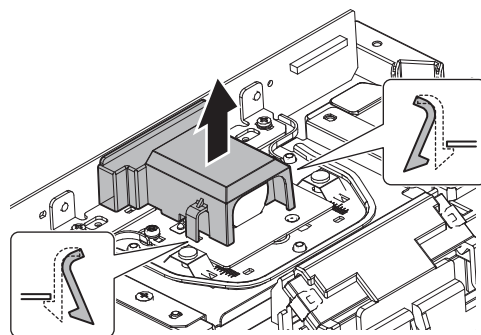


p. Lens, CCD

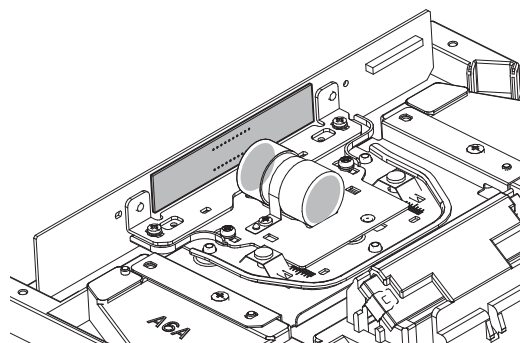
1) Remove the screw, and remove the dark box. Remove the dust-proof cover.



2) Remove the lens cover.

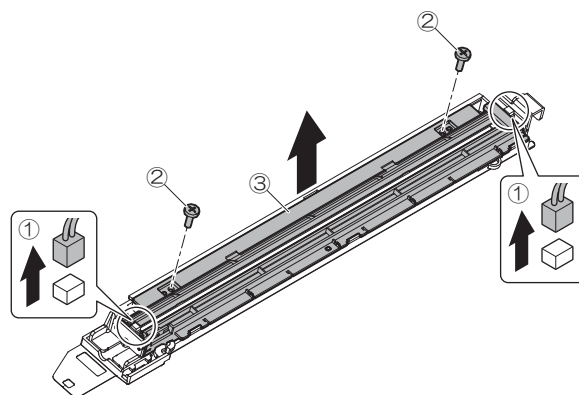


3) Clean the lens and the CCD.

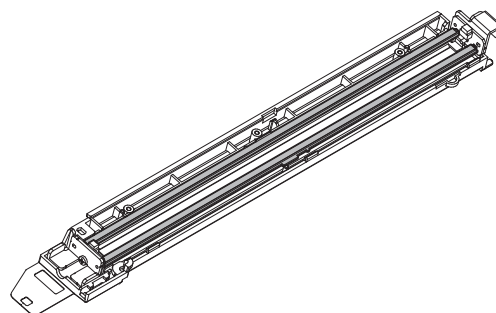


q. Lamp

1) Remove the screw, and remove the LED PWB guide.

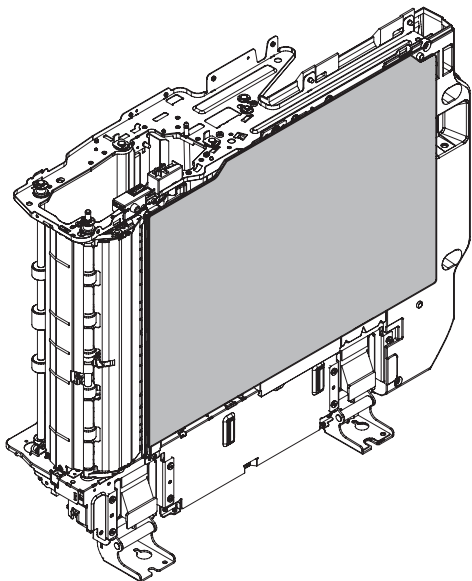


2) Clean the lamp.



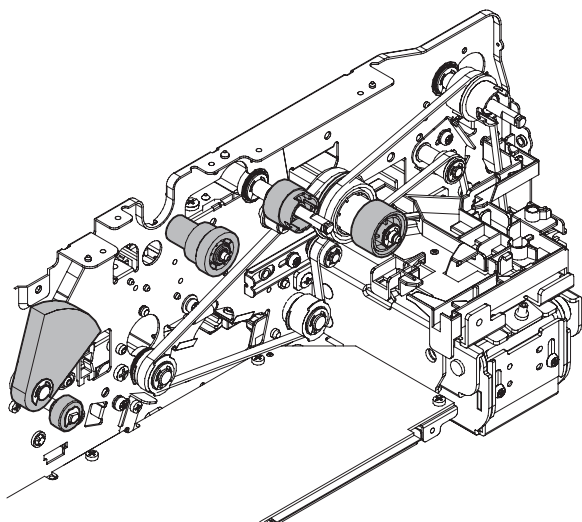
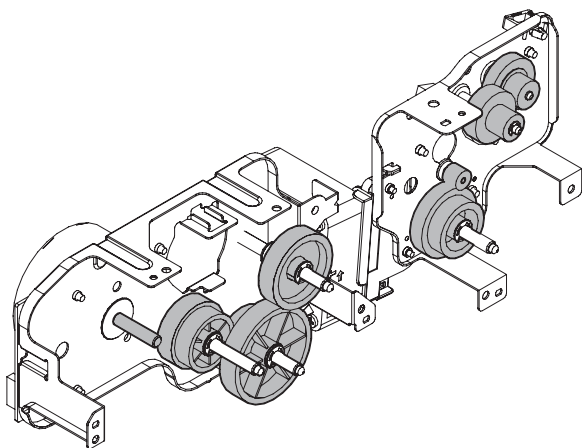
r. OC mat

- 1) Clean the OC mat.



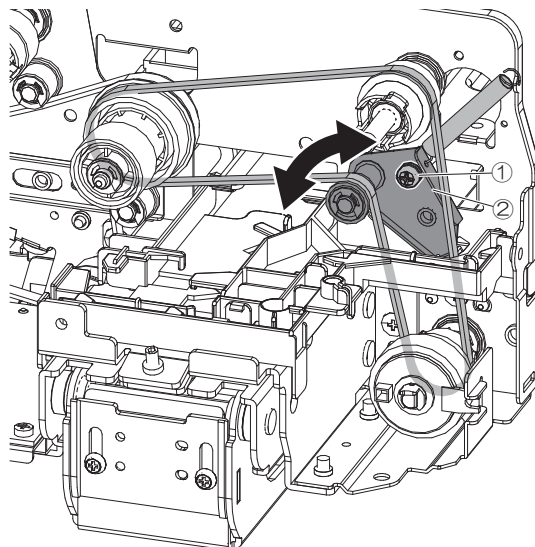
s. Gears

- 1) Clean the Gears.

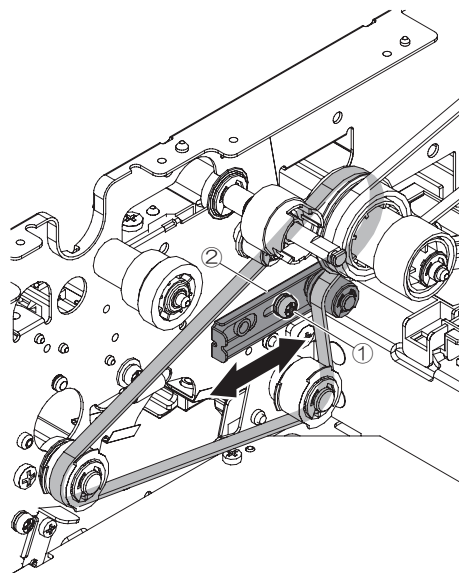


t. Belts

- 1) When attaching the belt, loosen the screw. Then, tighten the screw while applying tension.

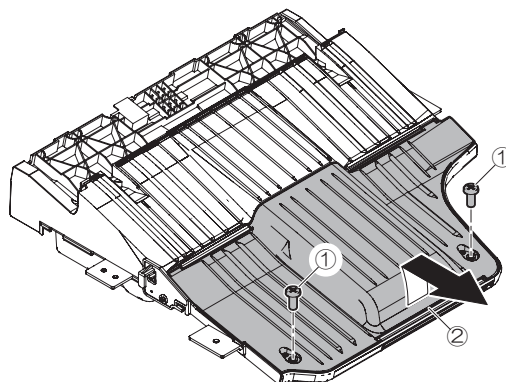


- 2) When attaching the belt, loosen the screw. Then, tighten the screw again after reapplying tension in the direction of the arrow.

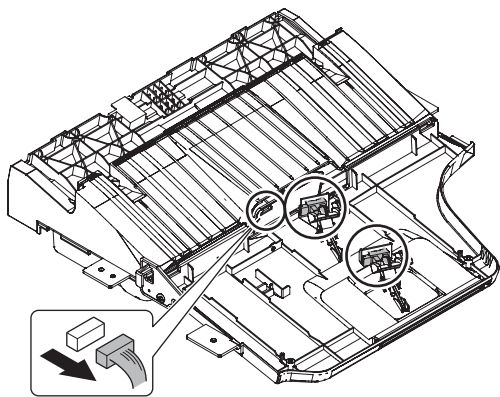


u. Sensors

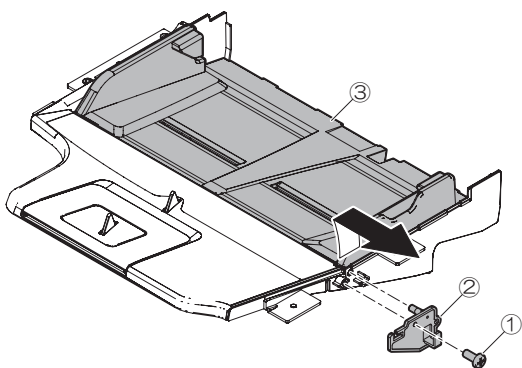
- 1) Remove the screw and the document feed tray lower.



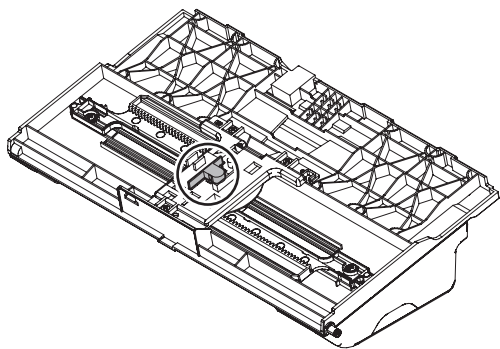
- 2) Disconnect the connector.
Clean the sensor.



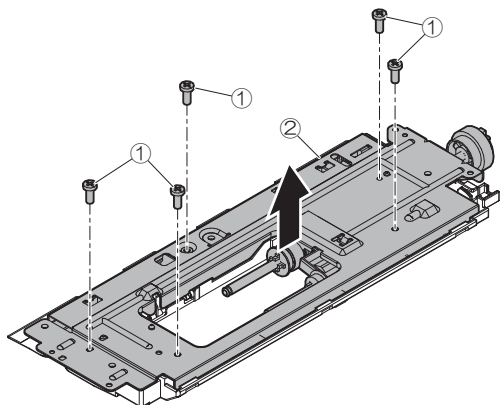
- 3) Remove the screw and the rotation tray shaft. Then, remove the document feed tray upper.



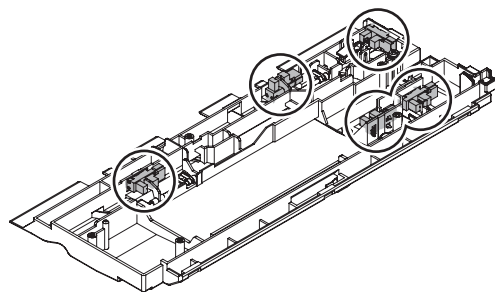
- 4) Clean the sensor.



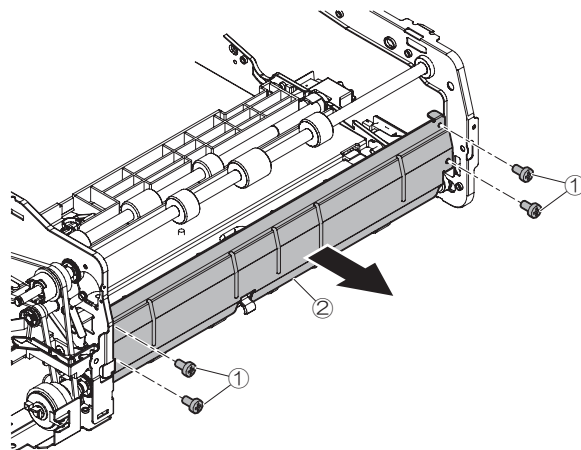
- 5) Remove the screw and the paper feed paper guide upper reinforcing plate.



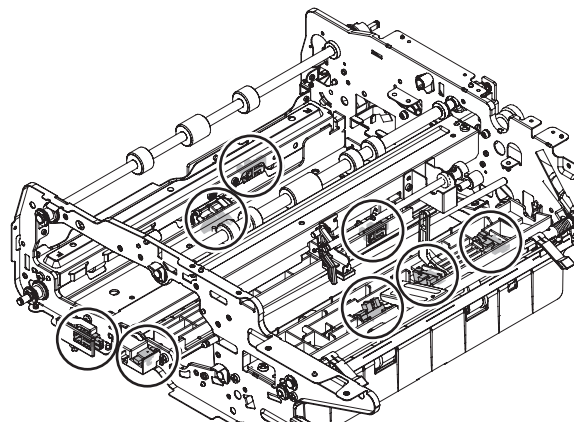
- 6) Clean the sensor.



- 7) Remove the screw and the PS upper paper guide.

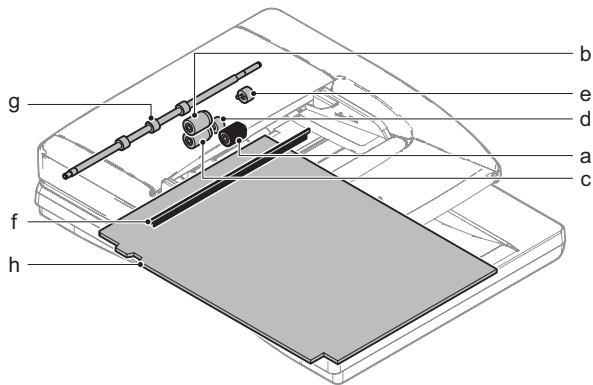


- 8) Clean the sensor.



(2) RSPF unit

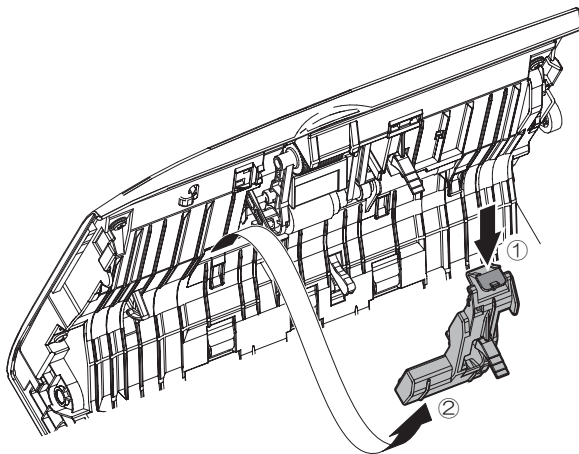
Part No.	Part name
a	Paper pickup roller
b	Paper feed roller
c	Separation roller
d	Torque limiter
e	Torque limiter pickup
f	Discharge brush
g	Registration roller
h	OC mat



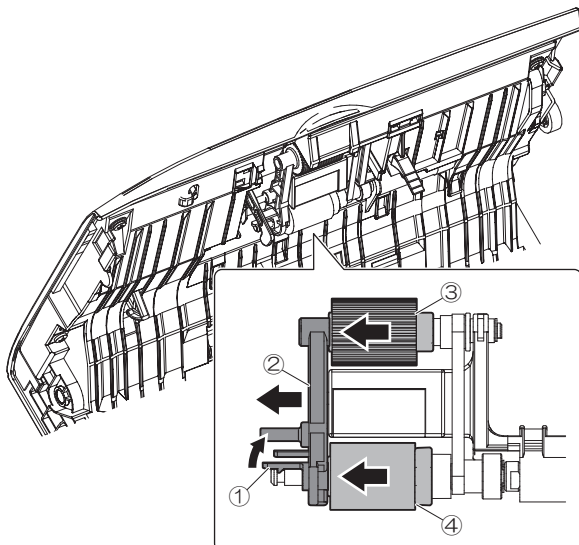
a. Paper pickup roller

b. Paper feed roller

- 1) Open the paper feed unit and remove the cover



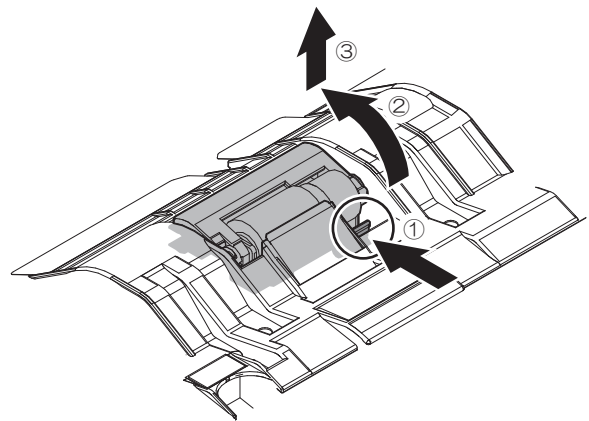
- 2) Remove the holder, the paper pickup roller and the paper feed roller.



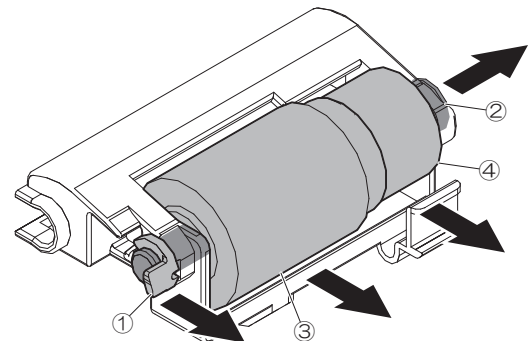
c. Separation roller

d. Torque limiter

- 1) Open the paper feed unit and remove the cover.

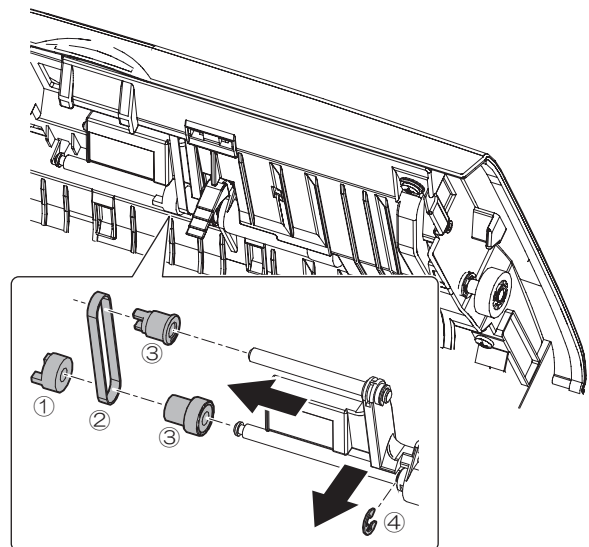


- 2) Remove the E-ring, the shaft, the separation roller and the torque limiter.

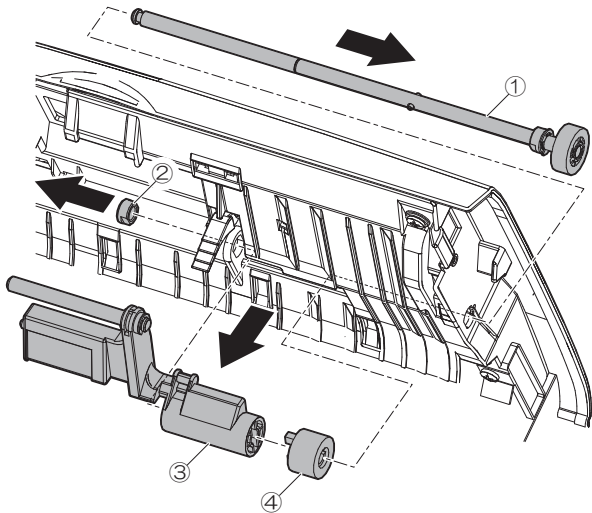


e. Torque limiter pickup

- 1) Remove the one-way coupling, the belt, the pulley and the E-ring.

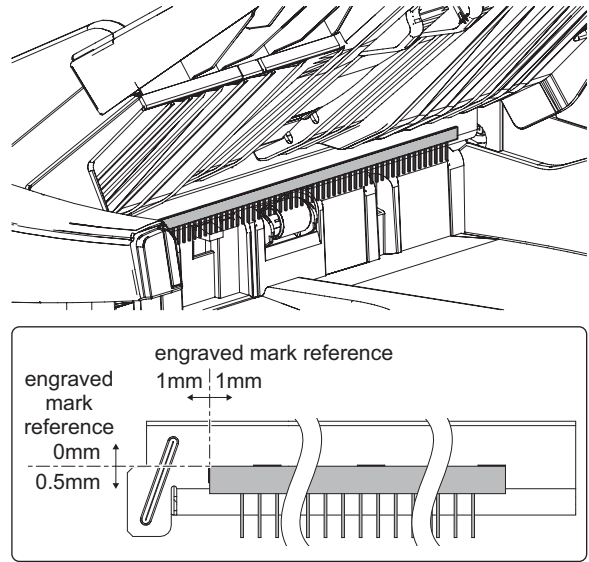


- 2) Pull out the shaft, remove the bearing, the holder and the torque limiter pickup.



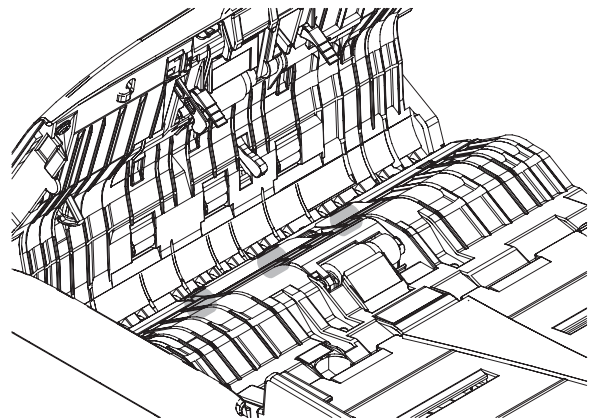
f. Discharge brush

- 1) Open the document tray and remove the discharge brush.



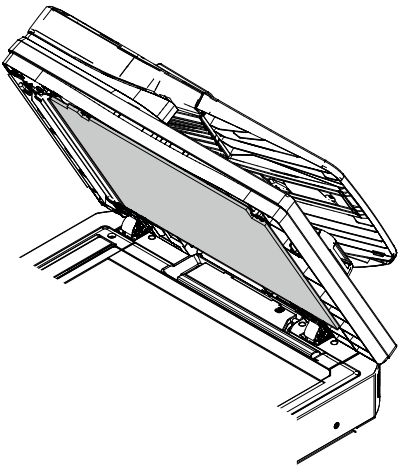
g. Registration roller

- 1) Open the paper feed unit and clean the registration roller.



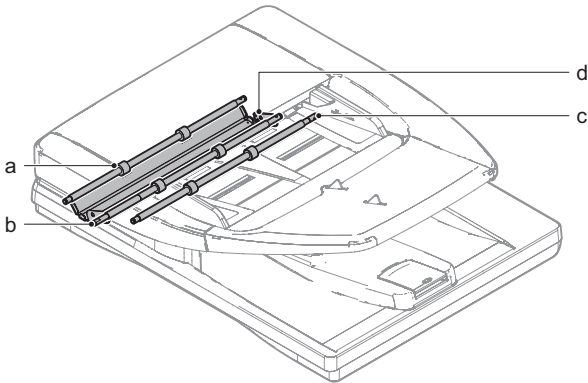
h. OC mat

- 1) Open the RSPF unit and clean the OC mat.



(3) RSPF transport unit

Part No.	Part name
a	Transport roller 1
b	Transport roller 2
c	Paper exit roller
d	Scan plate



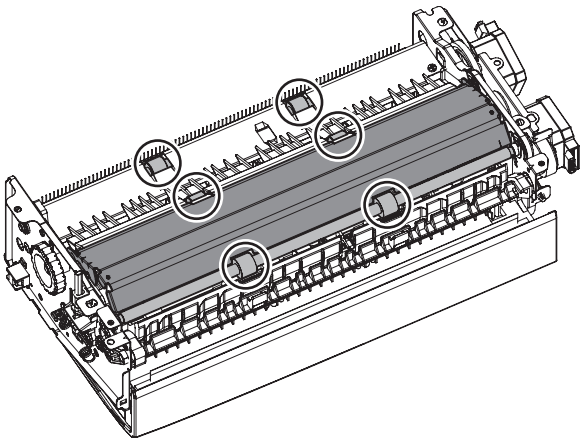
a. Transport roller 1

b. Transport roller 2

c. Paper exit roller

d. Scan plate

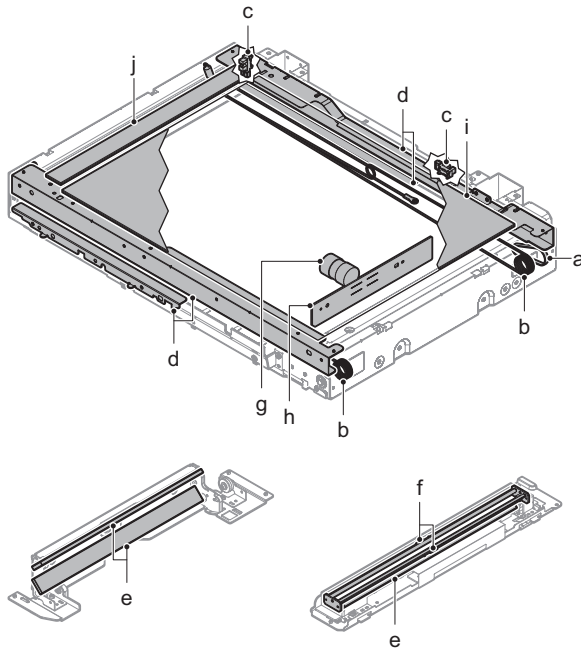
- 1) Clean the transport roller 1, the transport roller 2, the paper exit roller and the scan plate.



C. Scanner section

(1) Scanner unit

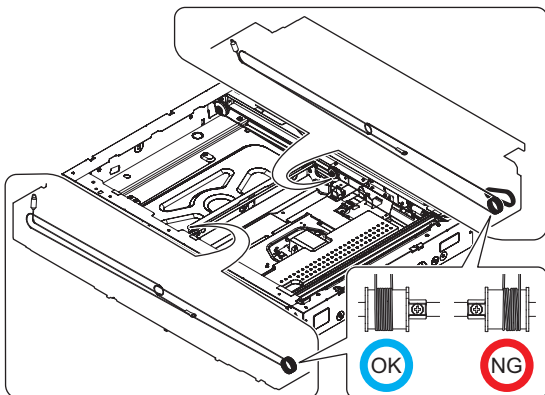
Part No.	Part name
a	Drive belt
b	Drive wire
c	Sensors
d	Rails
e	Mirror
f	Lamp
g	Lens
h	CCD
i	Table glass
j	SPF glass



a. Drive belt

b. Drive wire

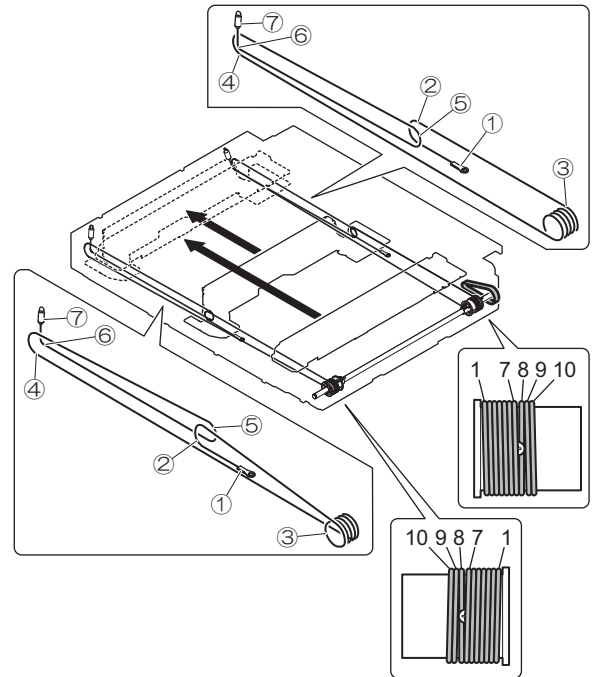
- 1) Remove the table glass.
- 2) Check the tension of the drive belt and the drive wire. Check to confirm that the drive wire in the winding pulley is wound without clearance.



Important

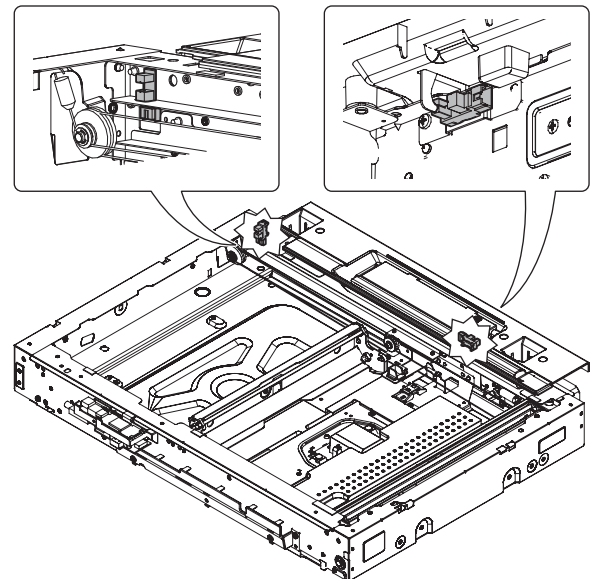
Wind the drive wire in the sequence of 1 to 7 as shown in the figure below and fix it.

When winding the drive wire around the pulley, shift the mirror unit to the vicinity of the home position, and wind 7 turns as shown in the figure, and fix the 8th turn with a screw. Then wind two turns furthermore around the pulley.



c. Sensors

- 1) Clean the each sensor.

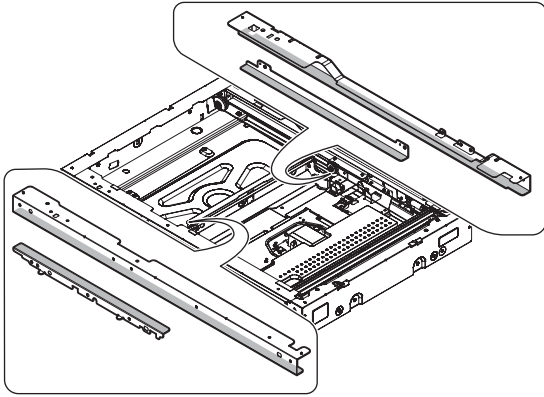


d. Rails

- 1) Remove the table glass.
- 2) Grease each rail.

Important

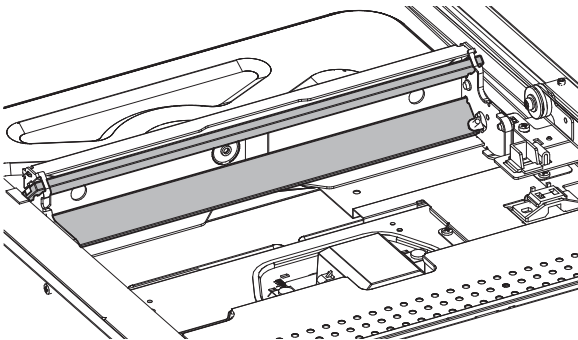
Be careful not to allow grease to come in contact with drive wires. If grease contacts drive wires, clean wires thoroughly.



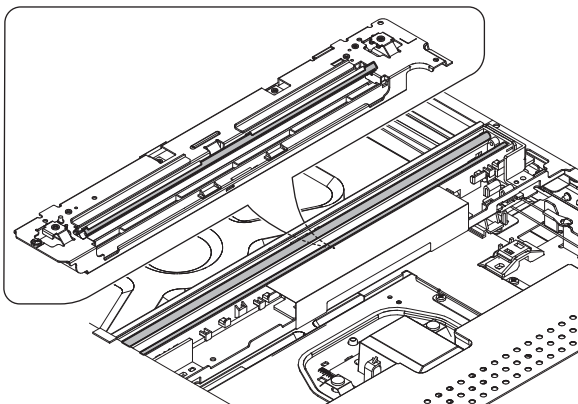
e. Mirror

f. Lamp

- 1) Remove the table glass.
- 2) Clean the No. 2 mirror, and the No. 3 mirror.



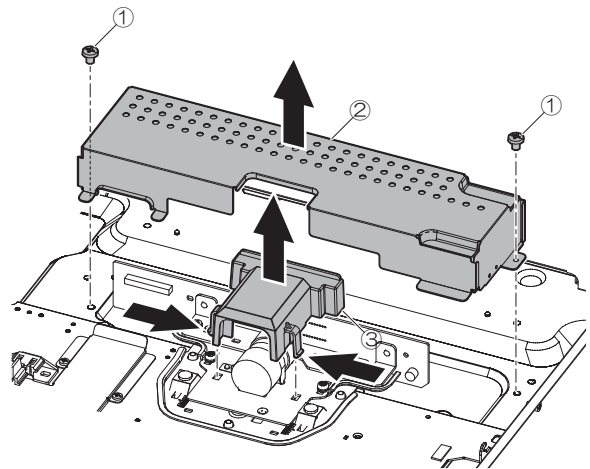
- 3) Clean the lamp and the No. 1 mirror.



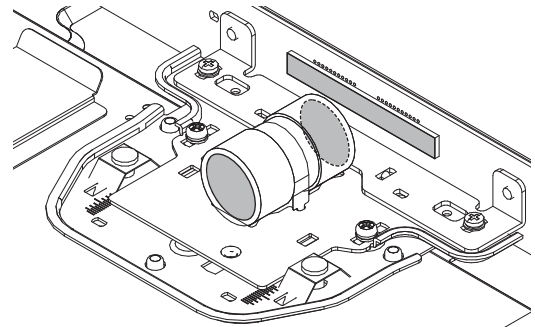
g. Lens

h. CCD

- 1) Remove the table glass.
- 2) Remove the dark box, and the cover.



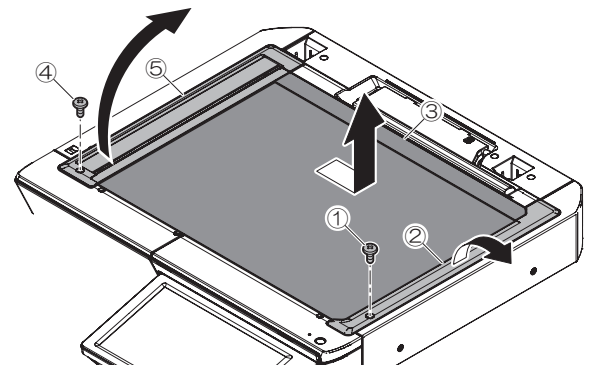
- 3) Clean the lens, and the CCD.



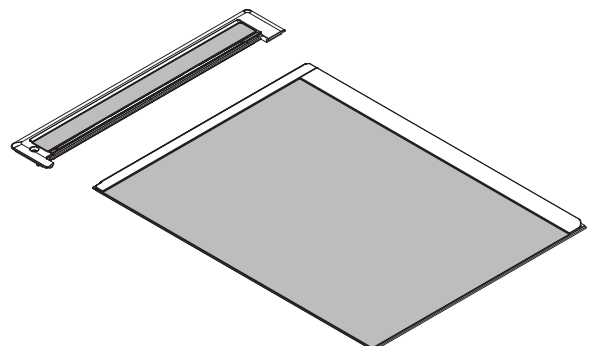
i. Table glass

j. SPF glass

- 1) Remove the glass holder, the table glass and the SPF glass.



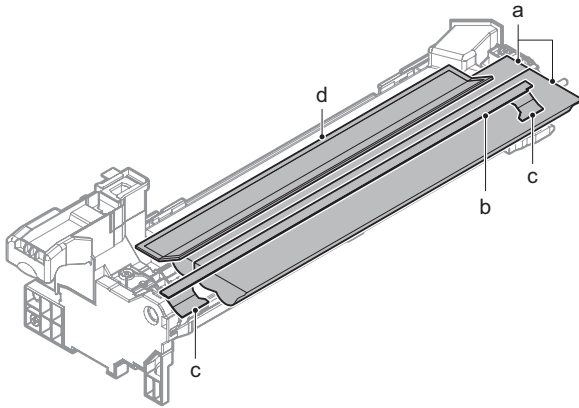
- 2) Clean the both surfaces of the table glass and the SPF glass.



D. Developing section

(1) Developing unit

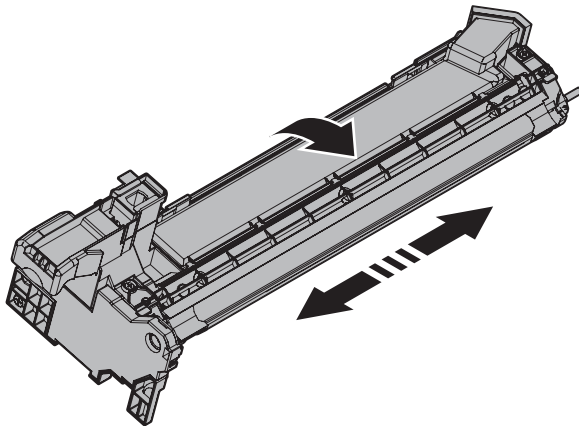
Part No.	Part name
a	Developer
b	DV seal
c	DV side seal F/R
d	Toner filter



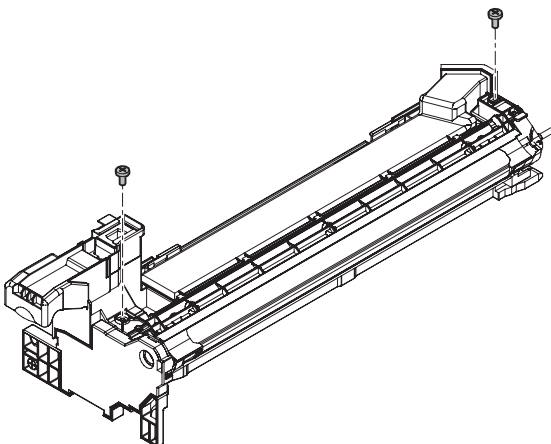
a. Developer

- 1) Tilt the developing unit slightly toward the direction of arrow and gently shake up a little.

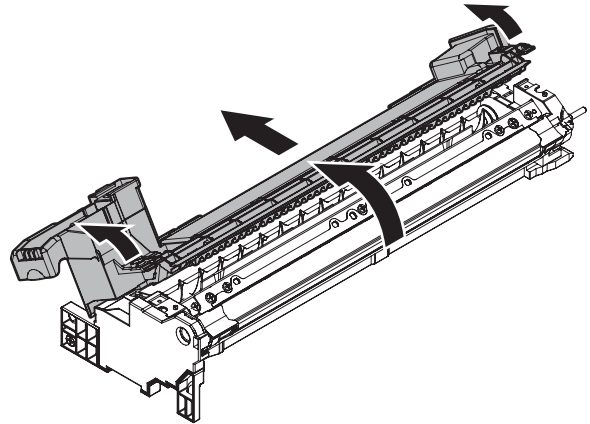
*To prevent the developer spilling out of developing unit.



- 2) Remove the screw

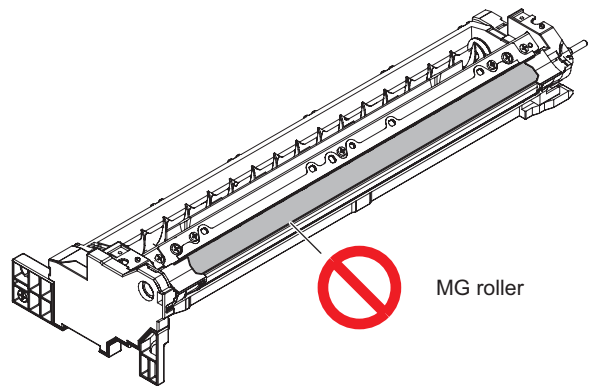


- 3) Press both edges of the DV upper cover and remove it while rotating.

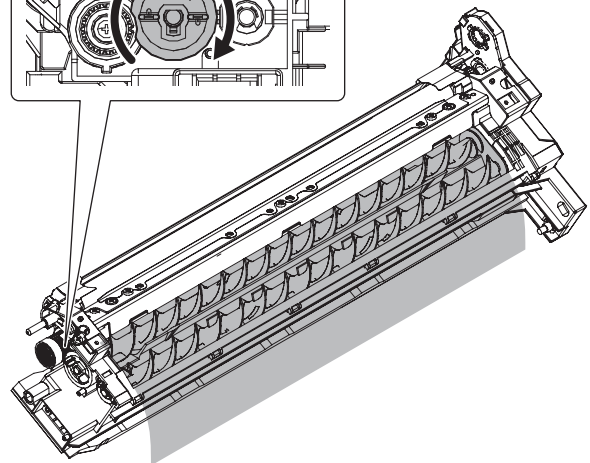
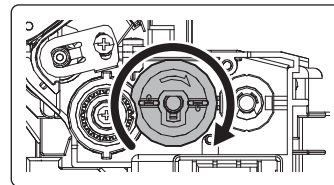


Important

Do not touch the MG roller.



- 4) While rotating the gear, dispose of developer.



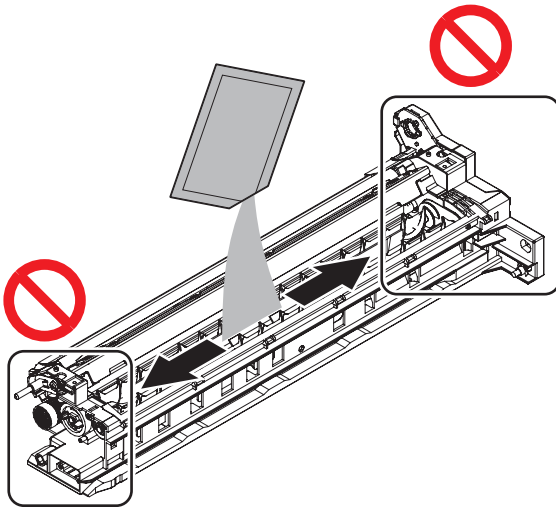
- 5) Loading developer to the developing unit.

Important

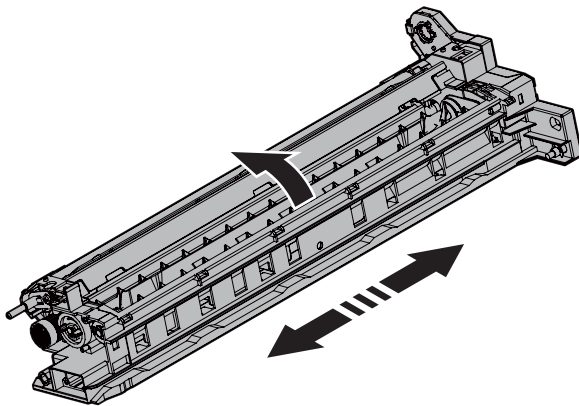
Be sure to shake the bag of developer thoroughly before pouring into the developing unit.

Important

When pouring the developer into the unit, use care not to get developer into the drive section.



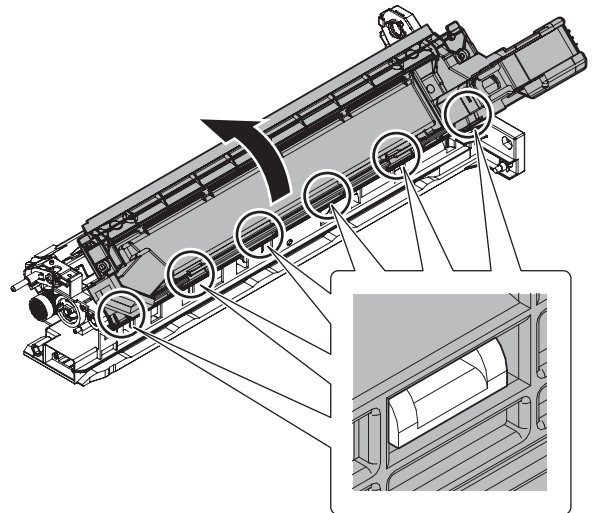
- 6) Slightly tilt the developing unit. Load developer on lower side of MG roller evenly on left and right.



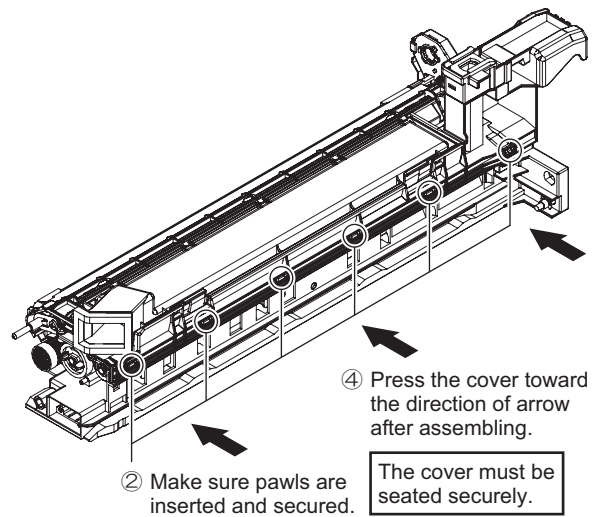
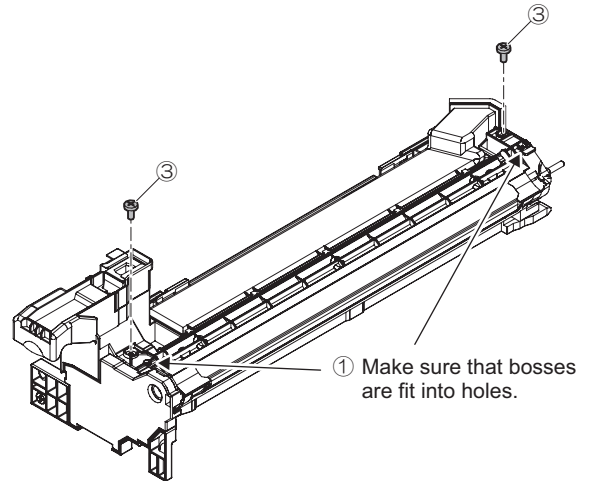
Important

Do not tilt the developing unit after loading the developer.

- 7) Rotate and insert the DV upper cover.



- 8) Check the mounting condition of the DV upper cover and tighten screws.



Note

Execute developer adjustment after replacement of the developer.
(Sim25-2)

b. DV seal

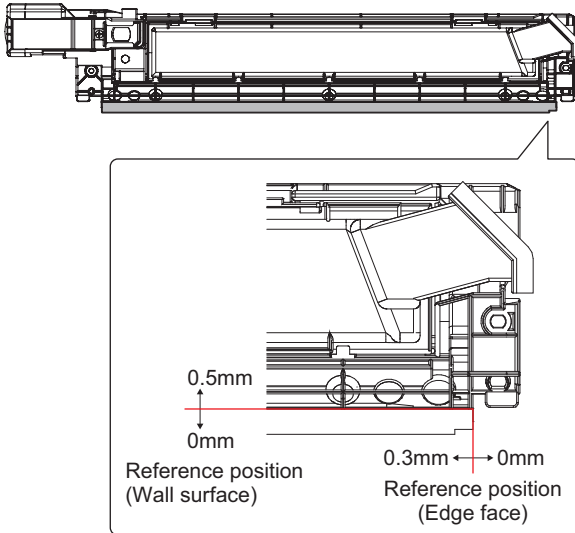
- 1) Remove the DV upper cover.
- 2) Remove the DV seal.

Important

When replacing the DV seal, affix the DV seal based on the reference position.

Important

Before affixing new DV seal, make sure to remove any foreign material and remaining adhesive from affixing surface completely.



c. DV side seal F/R

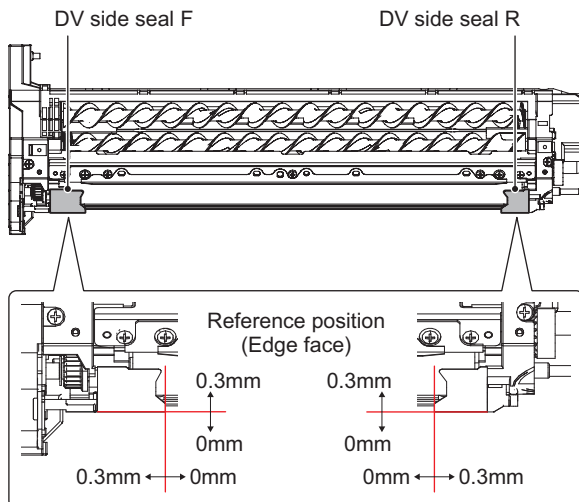
- 1) Remove the DV upper cover.
- 2) Remove the DV side seal F/R.

Important

When replacing the DV side seal F/R, affix the seals based on the reference position.

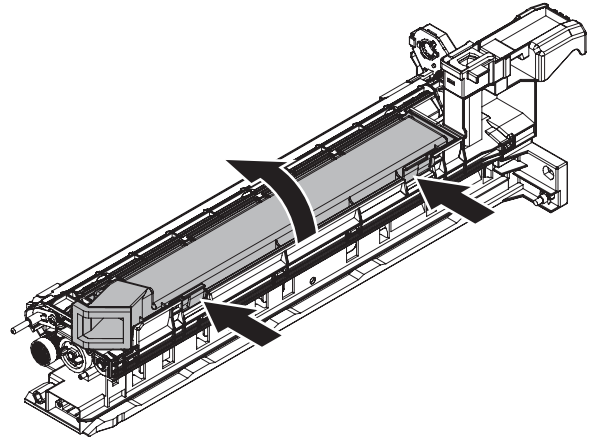
Important

Before affixing new DV side seal F/R, make sure to remove any foreign material and remaining adhesive from affixing surface completely.

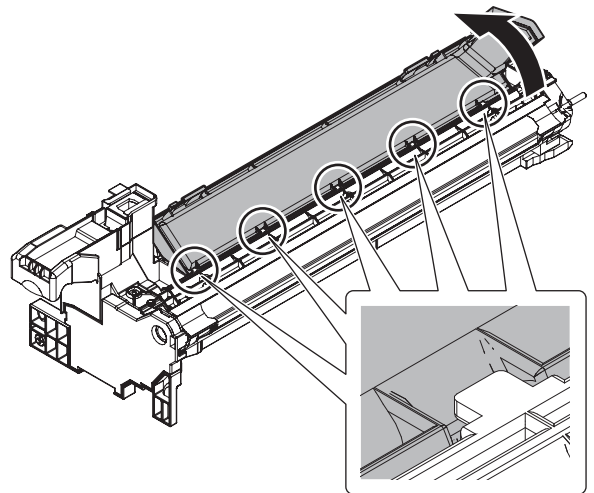


d. Toner filter

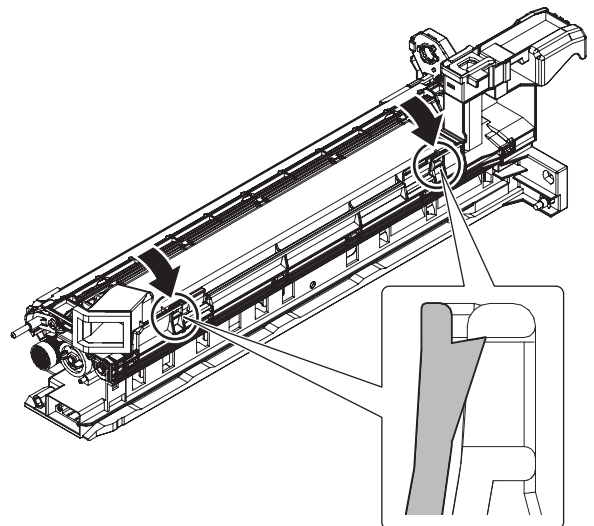
- 1) Remove the pawl and the filter cover.



- 2) Attach the filter cover.



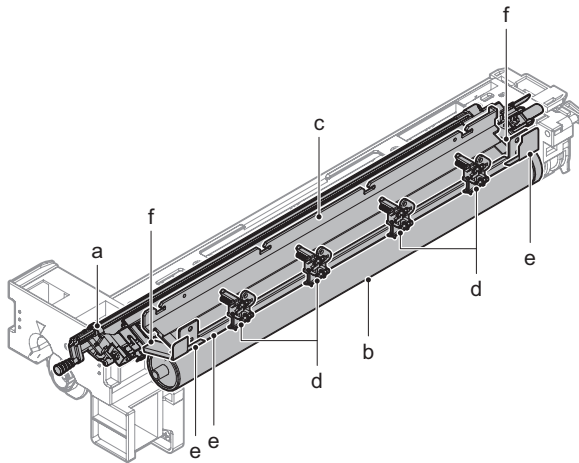
Hook the pawls.



E. OPC drum section

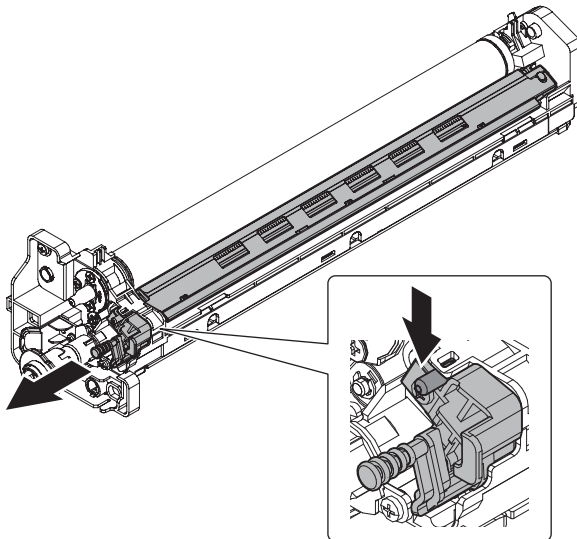
(1) OPC drum unit

Part No.	Part name
a	Charger unit
b	Drum
c	Cleaning blade
d	Drum separation pawl unit
e	Toner reception blade
f	Side seal F/R



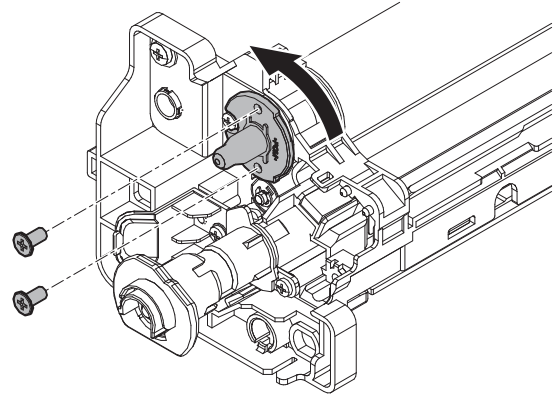
a. Charger unit

- 1) Remove the pawl and pull out the charger unit.



b. Drum

- 1) Remove the blue screw, and rotate the fixing shaft to remove.



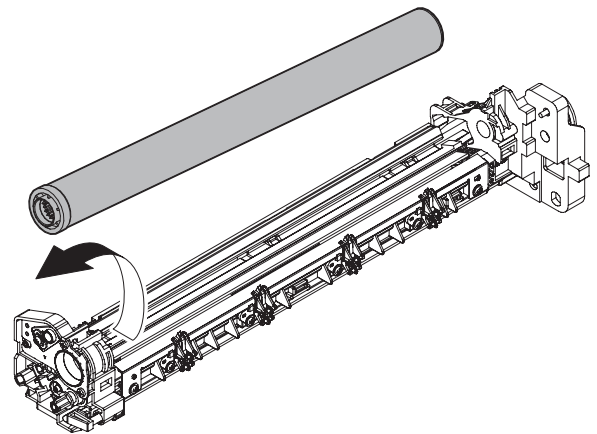
- 2) Slide the drum to the front side to remove.

Important

Apply stearic acid powder (UKOG-0312FCZZ) to the whole surface of the drum if the drum is reused.

Important

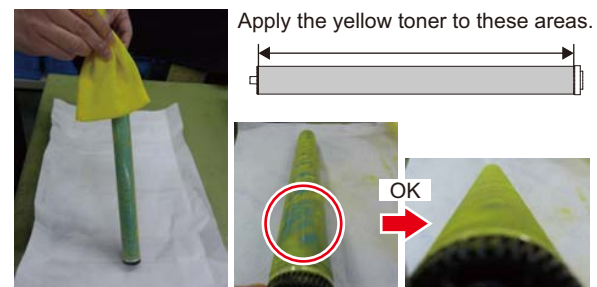
When removing and installing, be careful not to scratch the drum by making it into contact with the separation pawl.



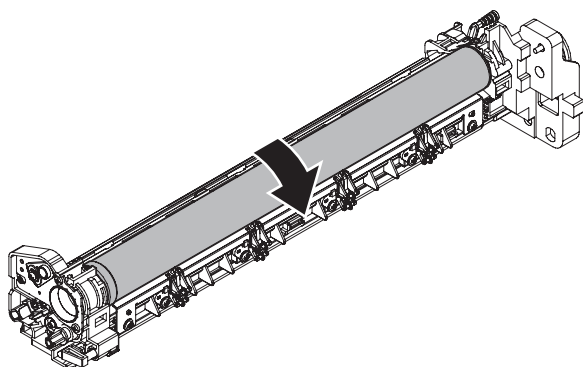
Important

When the drum is replaced perform the following procedures.

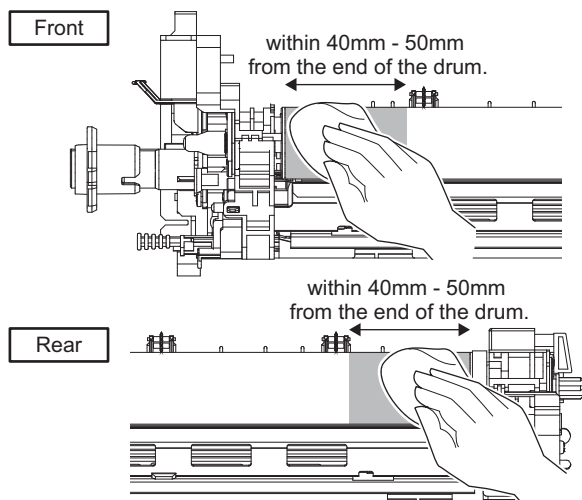
- a) Before installing the drum to the OPC drum unit, apply the yellow toner (UKOG-0345DS51) over the stearic acid (white) which is applied to the drum for replacement in advance.



b) Rotate the drum once to make it collect the yellow toner.



c) Apply the stearic acid powder (UKOG-0312FCZZ) within 40mm - 50mm from the both ends of the drum. (Be sure to apply the powder while rotating the drum for 3 times or so)

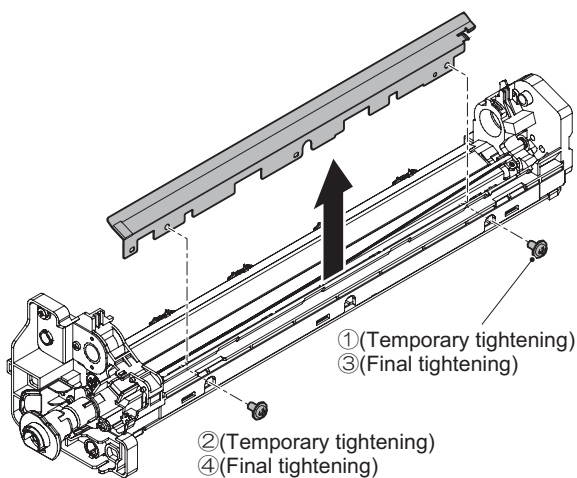


c. Cleaning blade

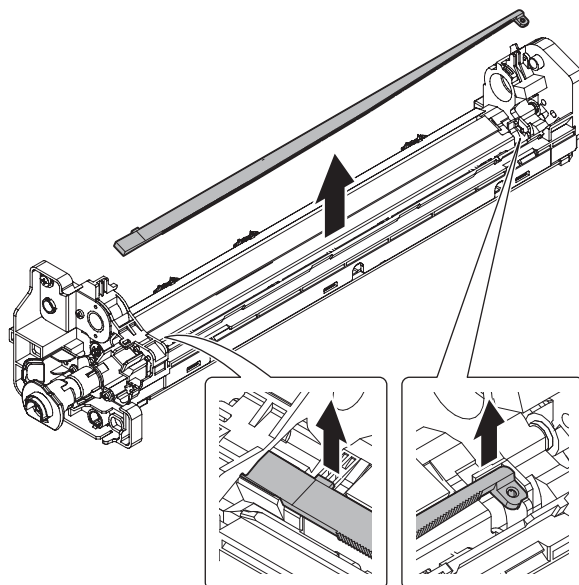
1) Remove the screw and the MC case.

Important

When attaching the MC case, tighten the screw in the order of (1) - (4).



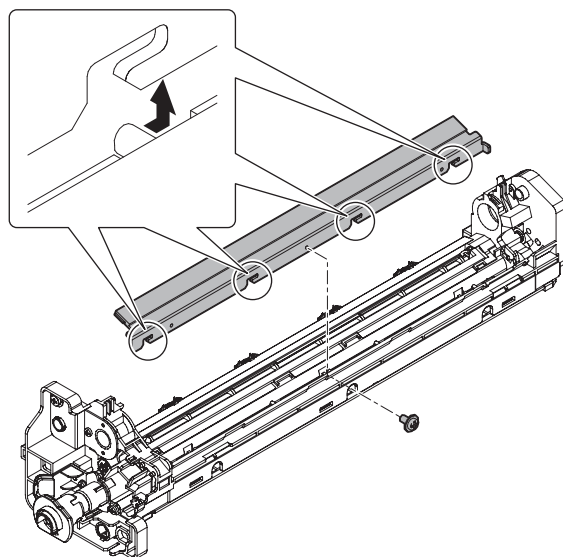
2) Remove the lens.



3) Remove the screw, and slide the cleaner blade to the rear side to remove.

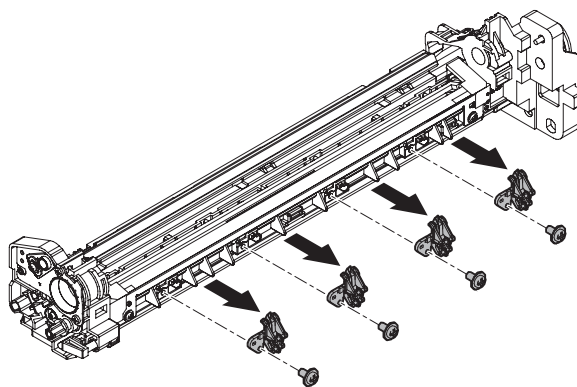
Important

Be careful not to touch or scratch the tip of the cleaner blade.



d. Drum separation pawl unit

1) Remove the screw and the drum separation pawl unit.



e. Toner reception blade, Toner reception seal F/R

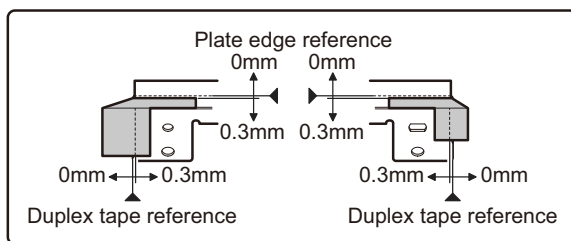
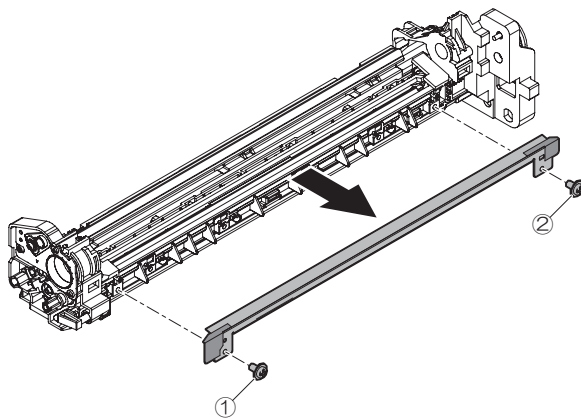
- 1) Remove the screw and the toner reception blade.

Important

When attaching the toner reception blade, tighten the screw in the order of (1) - (2).

Important

When replacing the toner reception seal F/R, affix it based on the reference position.

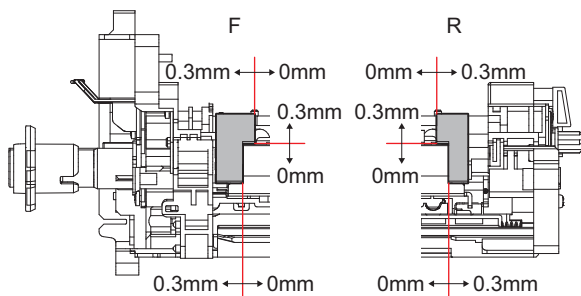


f. Side seal F/R

- 1) Remove the side seal F/R.

Important

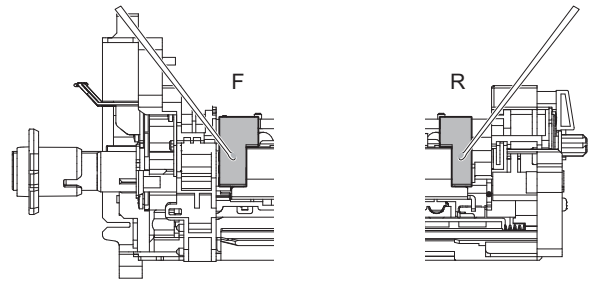
Attach with the cleaner blade edge as the reference so that the clearance is within 0 - 0.3mm. Press to secure attachment.



- 2) After replacement of the side seal F/R, apply stearic acid (UKOG-0309FCZZ) evenly to the side seal F/R by using the micro-spatula (UKOG-0311FCZZ).

Important

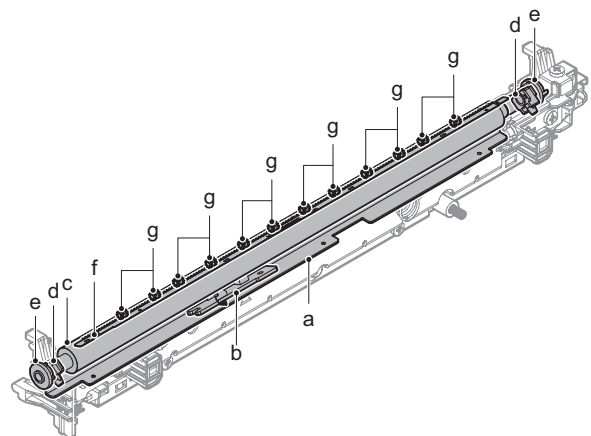
Be careful not to apply excessively to the parts on the periphery.



F. Transfer section

(1) Transfer unit

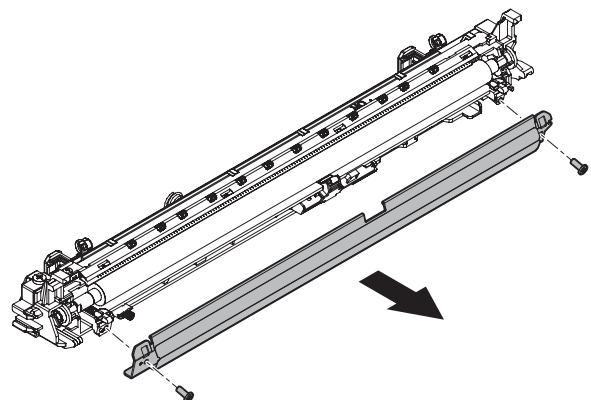
Part No.	Part name
a	Paper guide
b	Sensors
c	Transfer roller
d	Transfer roller bearing F/R
e	Transfer roller collar
f	Discharge plate
g	Transfer rear star ring



a. Paper guide

b. Sensors

- 1) Remove the paper guide. Clean the paper guide and the sensor.



c. Transfer roller

d. Transfer roller bearing F/R

e. Transfer roller collar

- 1) Disengage the pawl, and remove the transfer roller.
Remove the transfer roller bearing R and the transfer roller collar from the transfer roller.

Important

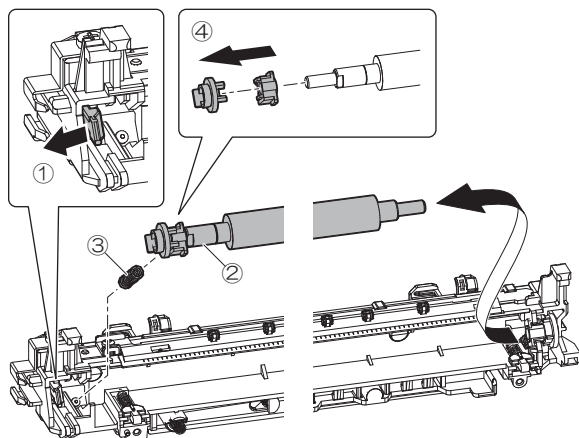
When installing, be sure to insert the spring into the transfer roller bearing R and the holder boss securely.

Important

Be careful of the installing direction of the transfer roller collar.

Important

Do not touch the sponge part of the transfer roller directly.



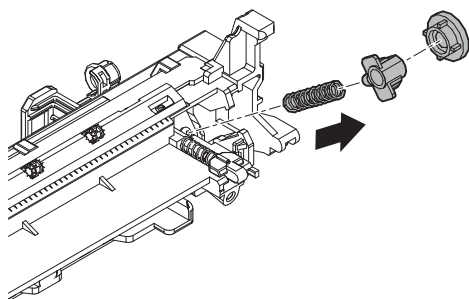
- 2) Remove the transfer roller collar and the transfer roller bearing F from the holder.

Important

When installing, be sure to insert the spring into the transfer roller bearing F and the holder boss securely.

Important

Be careful of the installing direction of the transfer roller collar.



f. Discharge plate

g. Transfer rear star ring

- 1) Remove the screw, the discharge plate holder and the discharge plate.
Clean the transfer rear star ring.

Important

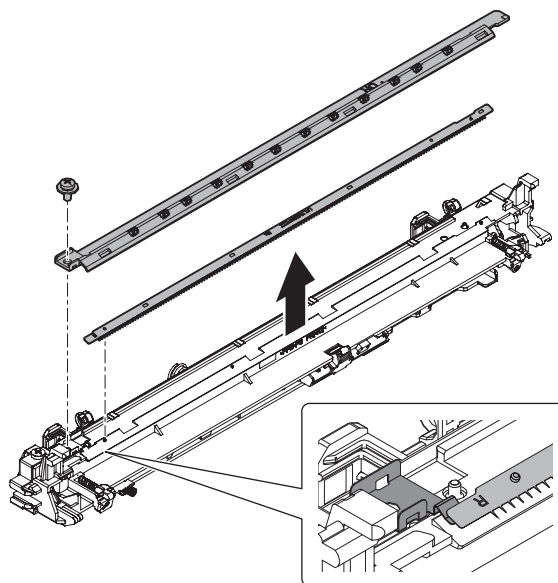
When installing, insert the discharge plate into the boss and check to confirm that it is securely on the ground electrode. F and R should be on the top.

Important

Do not touch the tooth part of the discharge plate directly.

Important

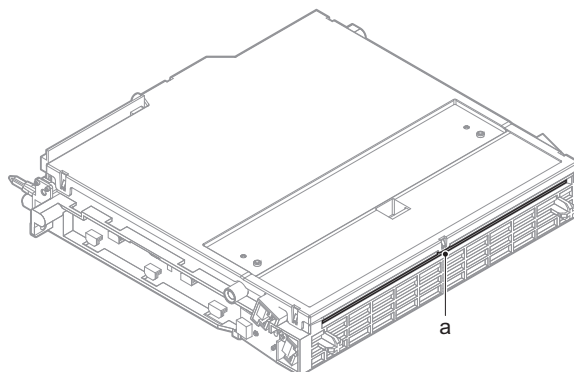
Do not deform the tooth part of the discharge plate.



G. LSU section

(1) LSU unit

Part No.	Part name
a	Dust-proof glass

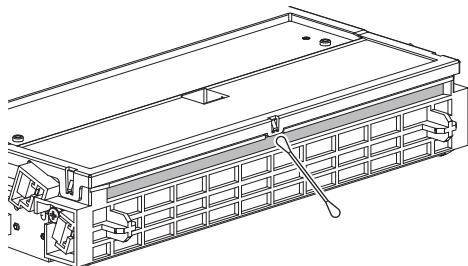


a. Dust-proof glass

- 1) Clean the dust-proof glass.

Important

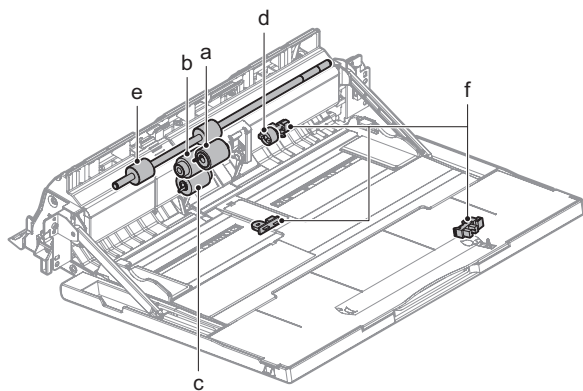
Do not touch the dust-proof glass with bare hands.



H. Manual paper feed section

(1) Manual paper feed unit

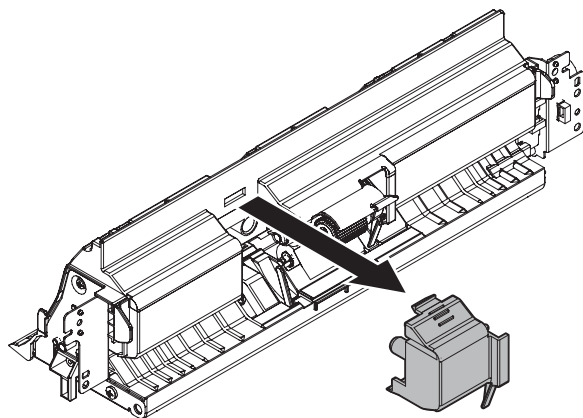
Part No.	Part name
a	Paper pickup roller
b	Paper feed roller
c	Separation roller
d	Torque limiter
e	Transport roller 11
f	Sensors



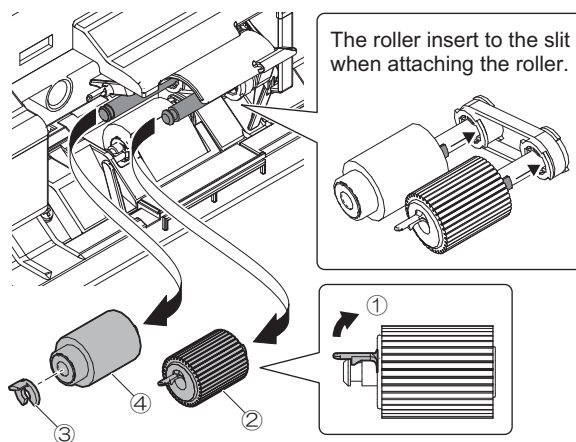
a. Paper pickup roller

b. Paper feed roller

- 1) Remove the cover

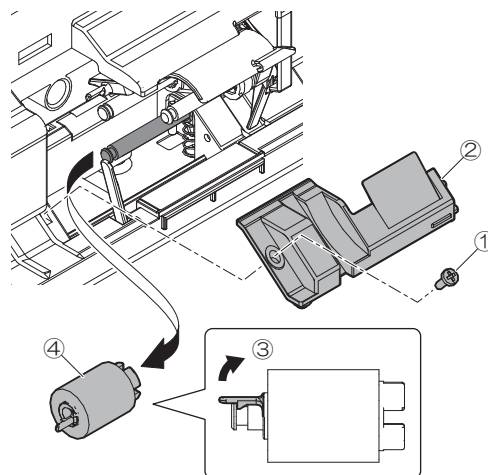


- 2) Uplift the pawl and detach the paper pickup roller. Remove the E-ring and detach the paper feed roller.



c. Separation roller

- 1) Remove a screw and then detach the paper guide. Uplift the pawl and then detach the separation roller.

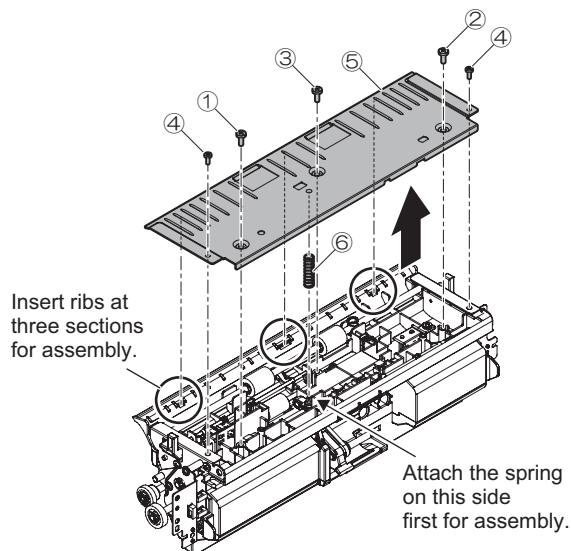


d. Torque limiter

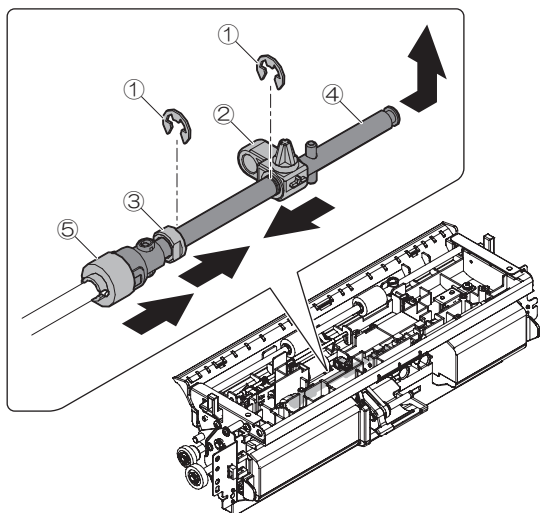
- 1) Remove the screw and the frame

Important

Fasten screws in the order of (1) and (2) for assembly.



- 2) Remove the E-ring and slide the holder and the bearing toward the direction of arrow in the illustration below. Remove the shaft and then remove the torque limiter.

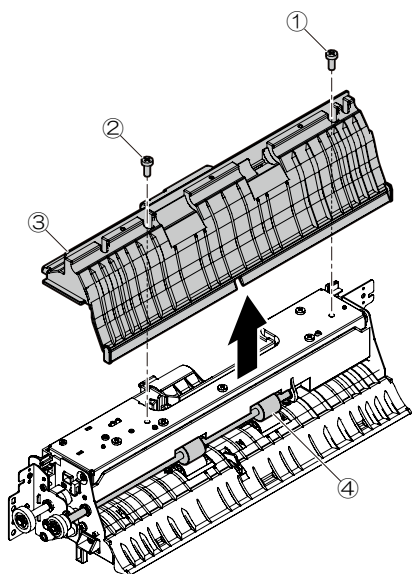


e. Transport roller 11

- 1) Remove the screw and the paper guide

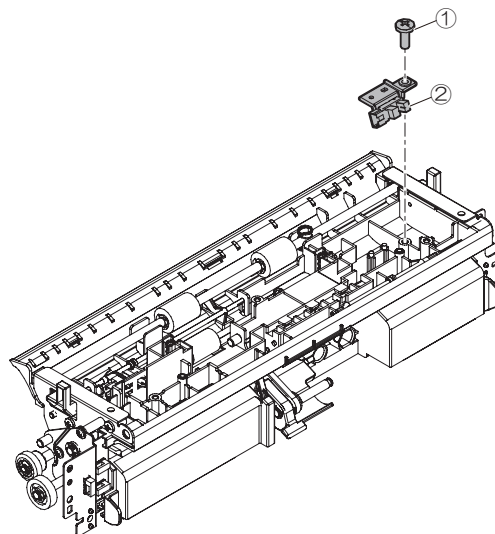
Important

Fasten screws in the order of (1) and (2) for assembly. Clean the transport roller 11.

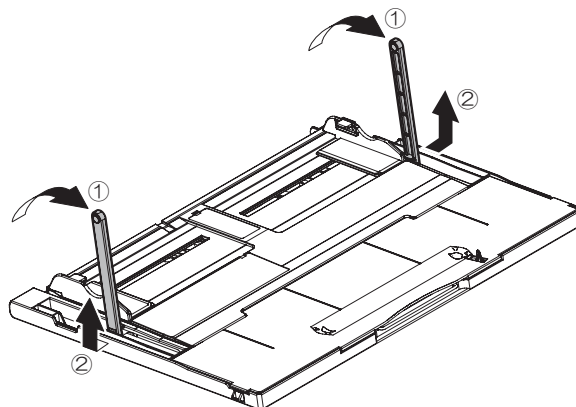


f. Sensors

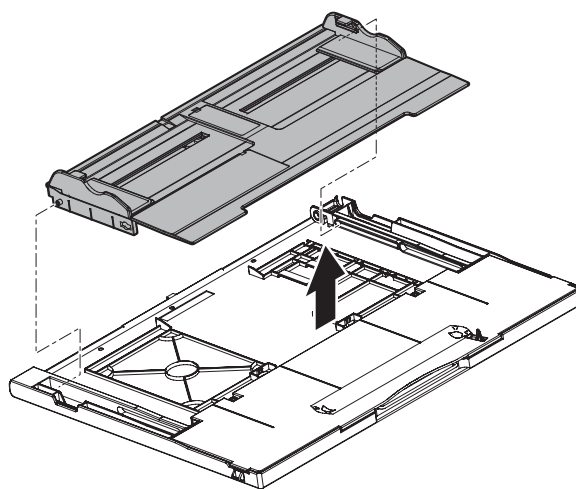
- 1) Remove the screw and the sensor.



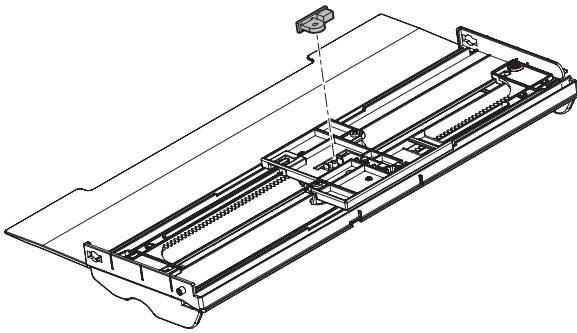
- 2) Remove the arm



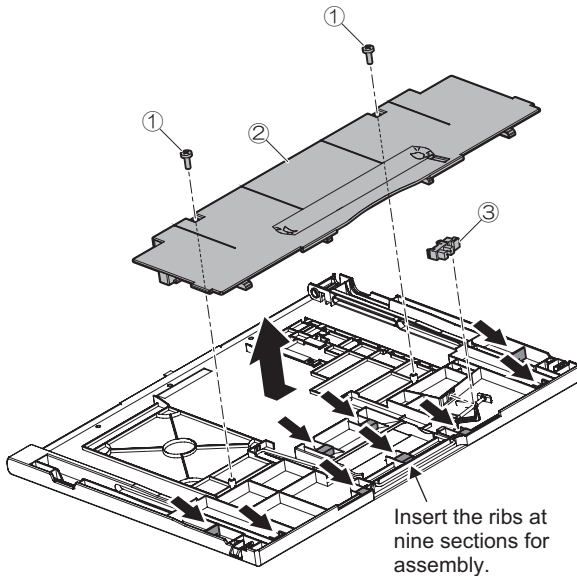
- 3) Remove the tray



- 4) Remove the sensor



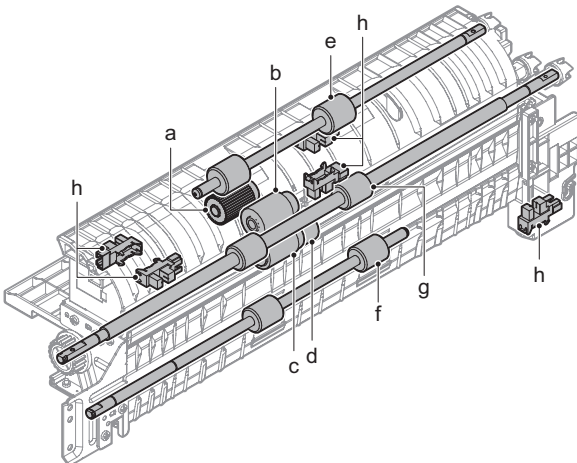
- 5) Remove the screw, the tray and the sensor



I. Tray paper feed section

(1) Tray paper feed unit

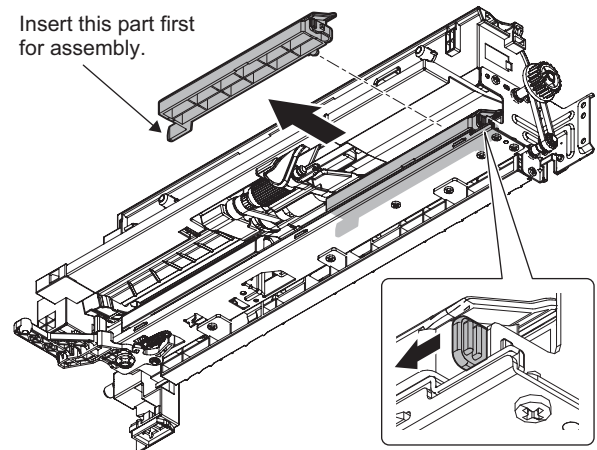
Part No.	Part name
a	Paper pickup roller
b	Paper feed roller
c	Separation roller
d	Torque limiter
e	Transport roller 4
f	Transport roller 1
g	Transport roller 2
h	Sensors



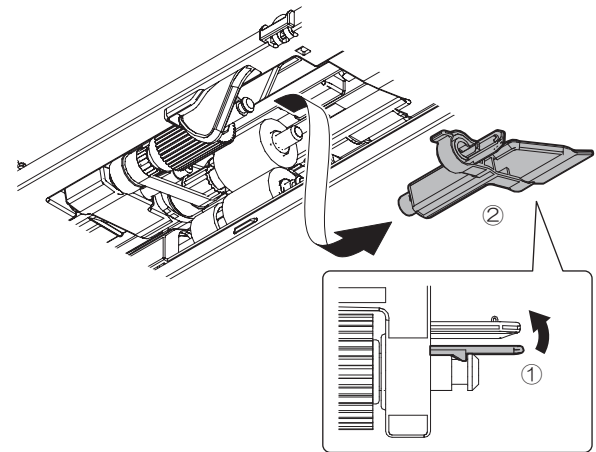
a. Paper pickup roller

b. Paper feed roller

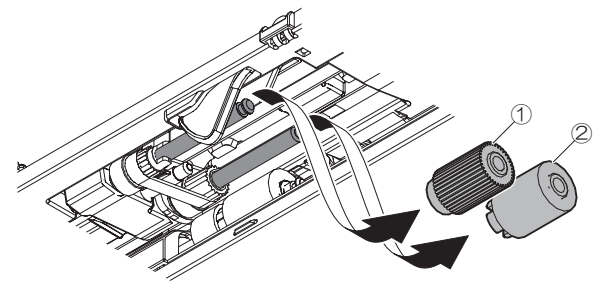
- 1) Remove the paper guide



- 2) Remove the pawl and then remove the holder.



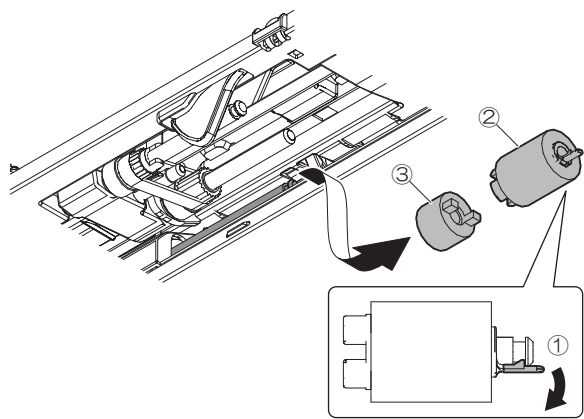
- 3) Remove the paper pickup roller and the paper feed roller.



c. Separation roller

d. Torque limiter

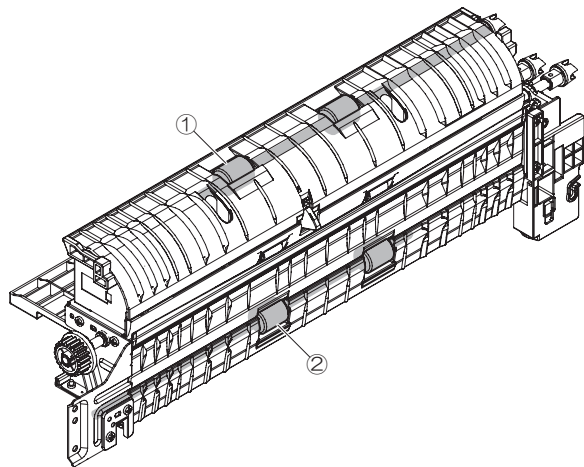
- 1) Remove the pawl, separation roller and then torque limiter.



e. Transport roller 4

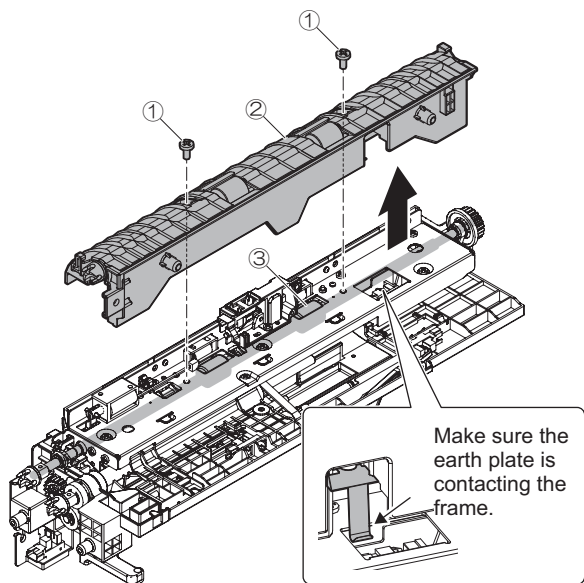
f. Transport roller 1

- 1) Clean the transport roller 4 and transport roller 1.



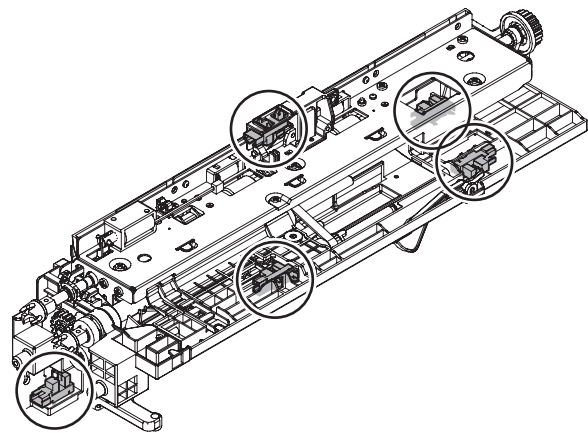
g. Transport roller 2

- 1) Remove the screws and the paper guide. Clean transport roller 2.



h. Sensors

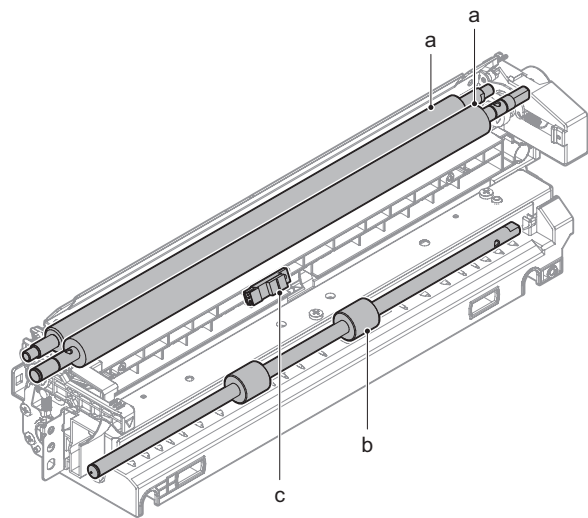
- 1) Clean the each sensor.



J. Paper registration section/
Paper exit section/ADU section

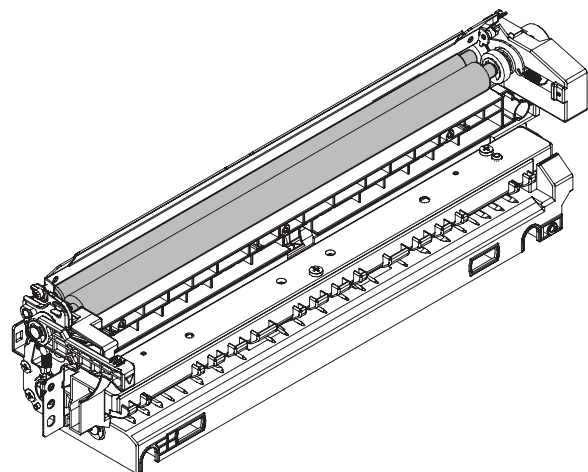
(1) PS unit

Part No.	Part name
a	Registration roller
b	Transport roller 5
c	Sensors



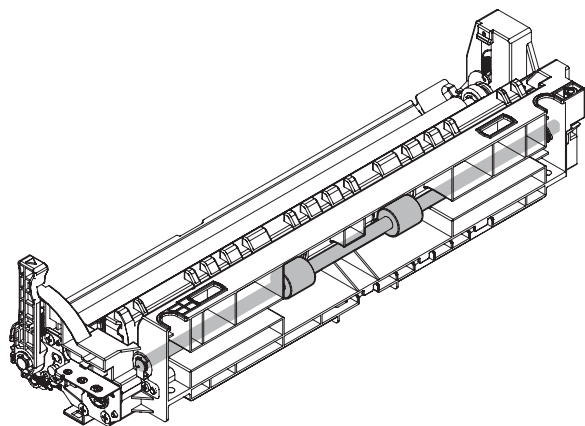
a. Registration roller

- 1) Clean the registration roller.



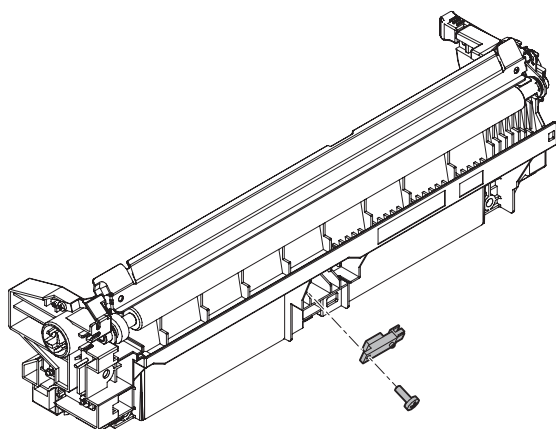
b. Transport roller 5

- 1) Clean the transport roller 5.



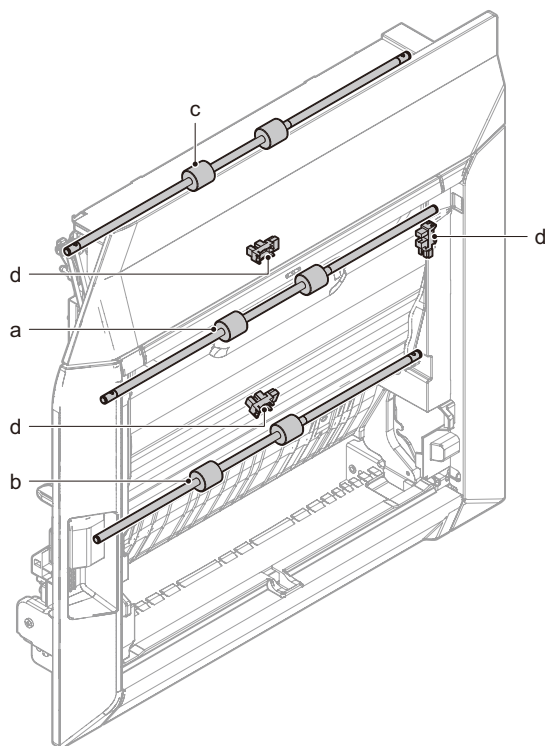
c. Sensors

- 1) Remove the screw and the sensor.



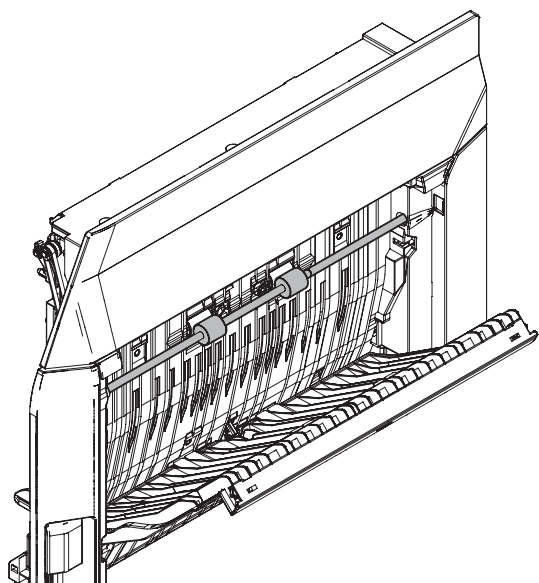
(2) Right door unit

Part No.	Part name
a	Transport roller 9
b	Transport roller 10
c	Transport roller 8
d	Sensors



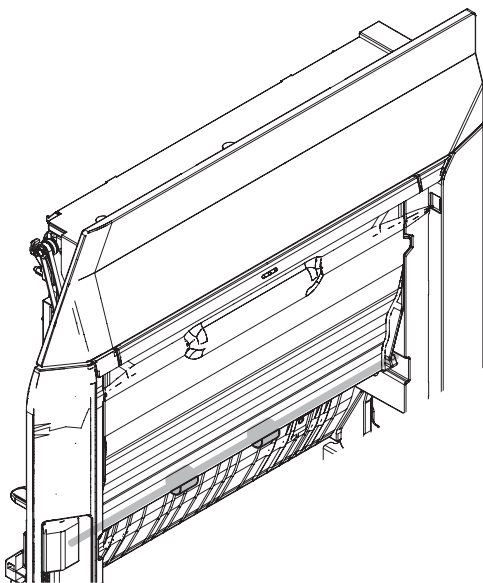
a. Transport roller 9

- 1) Open the door and clean the transport roller 9.



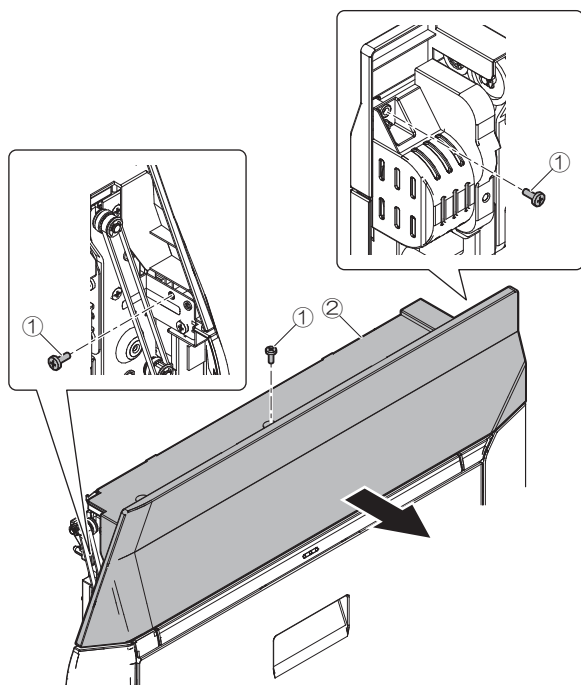
b. Transport roller 10

- 1) Remove the manual paper feed unit and clean the transport roller 10.

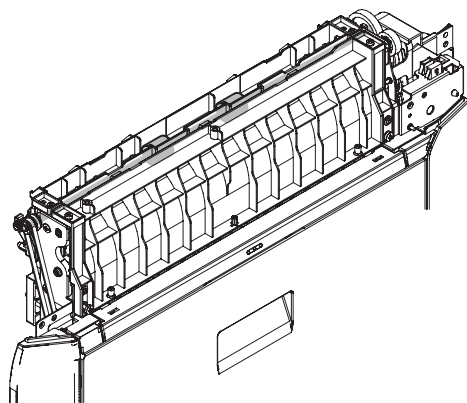


c. Transport roller 8

- 1) Remove the screw and cover.

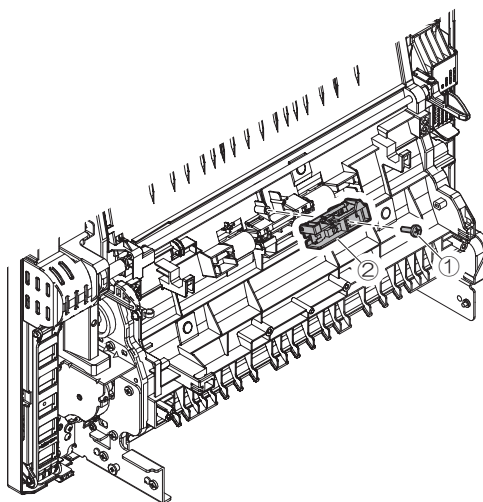


- 2) Clean the transport roller 8.

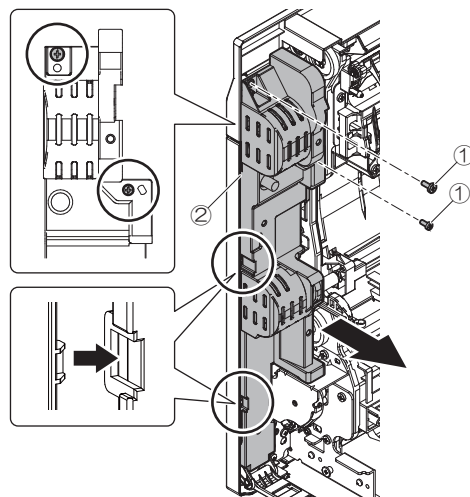


d. Sensors

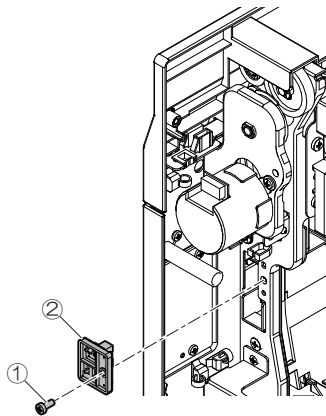
- 1) Remove the transfer unit.
- 2) Remove the screw and sensor.



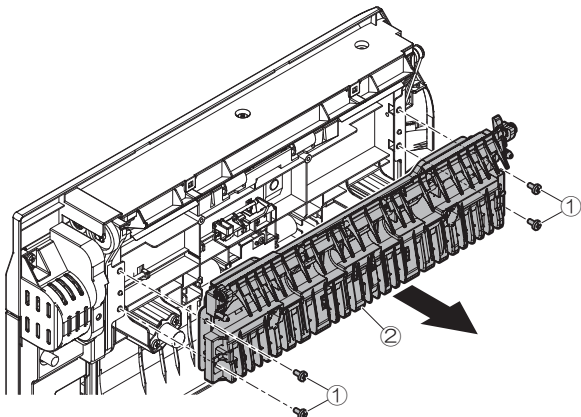
- 3) Remove the screw and cover.



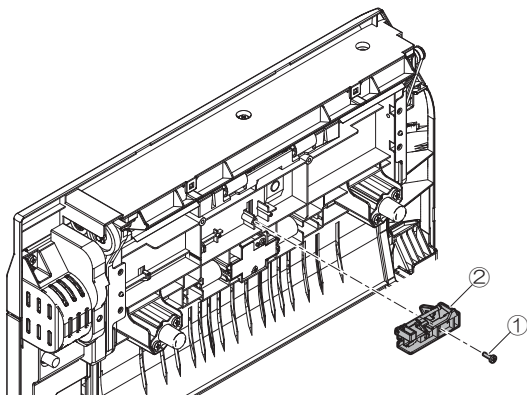
4) Remove the screw and the sensor.



5) Remove the screw and the paper guide.

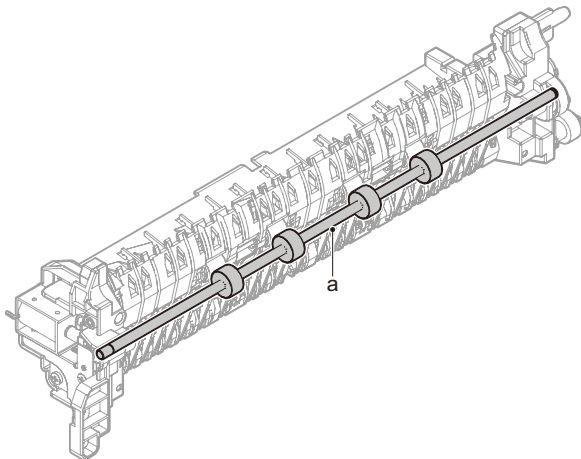


6) Remove the screw and sensor.



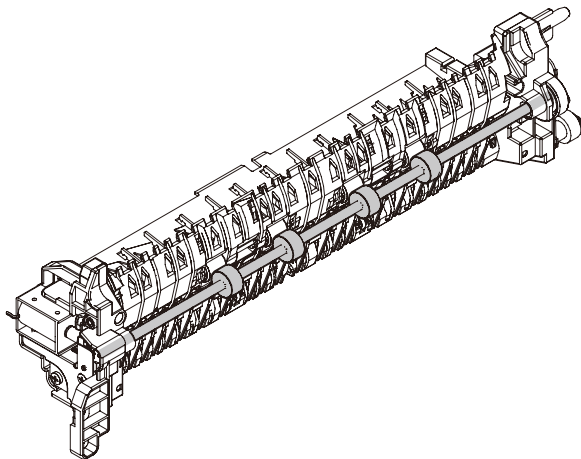
(3) Fusing rear unit

Part No.	Part name
a	Transport roller 7



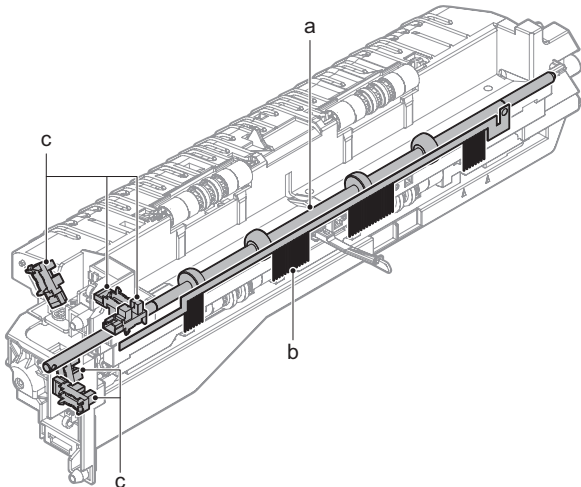
a. Transport roller 7

1) Clean the transport roller 7.



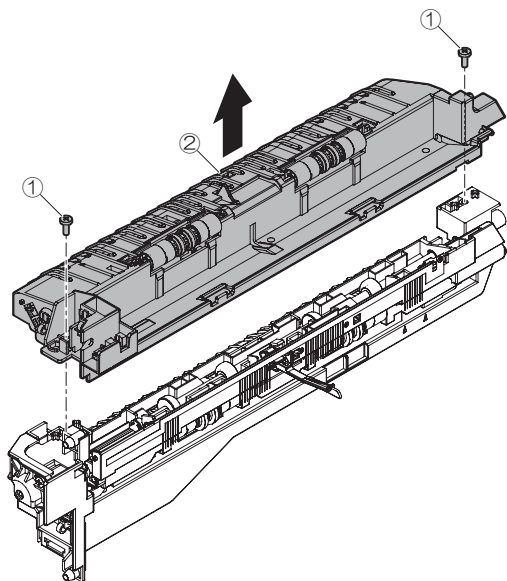
(4) Paper exit unit

Part No.	Part name
a	Paper exit roller 2
b	Discharge brush
c	Sensors

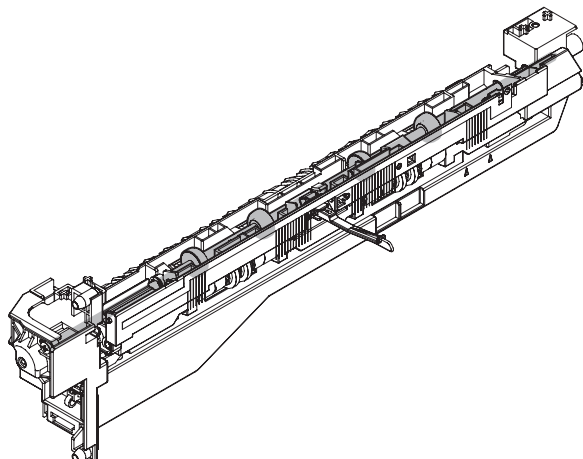


a. Paper exit roller 2

- 1) Remove the screw and the paper guide.

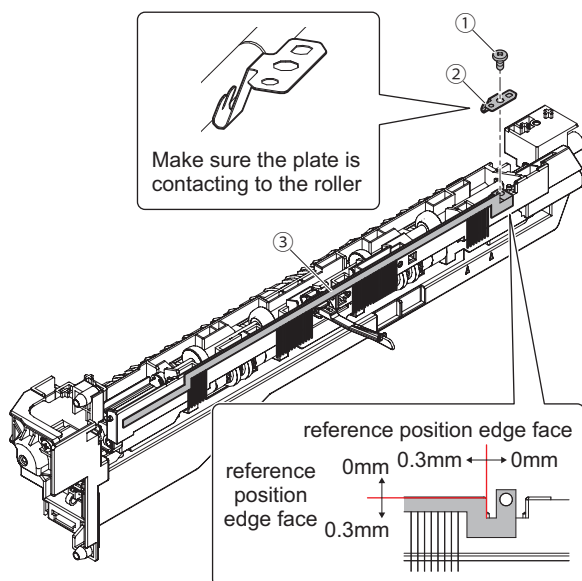


- 2) Clean the paper exit roller 2.



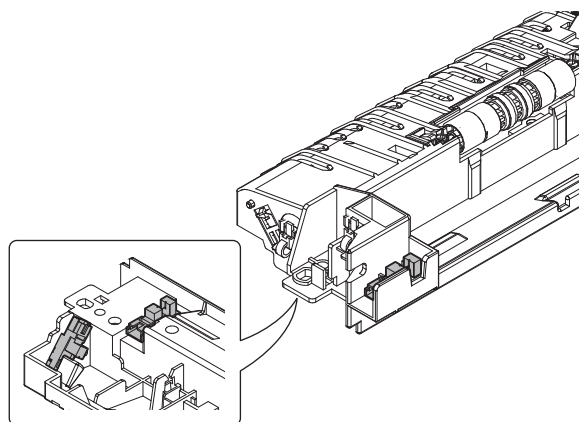
b. Discharge brush

- 1) Remove the screw, the earth plate and the discharge brush.

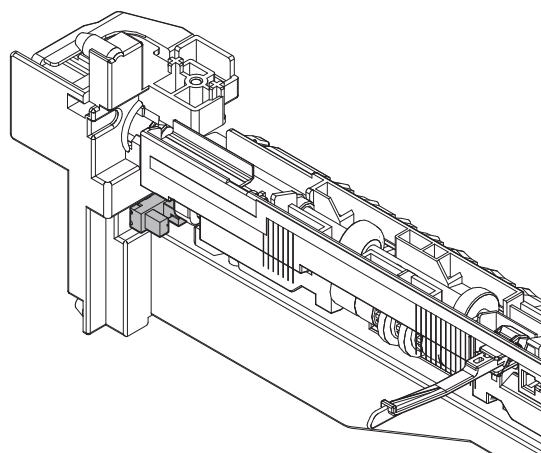


c. Sensors

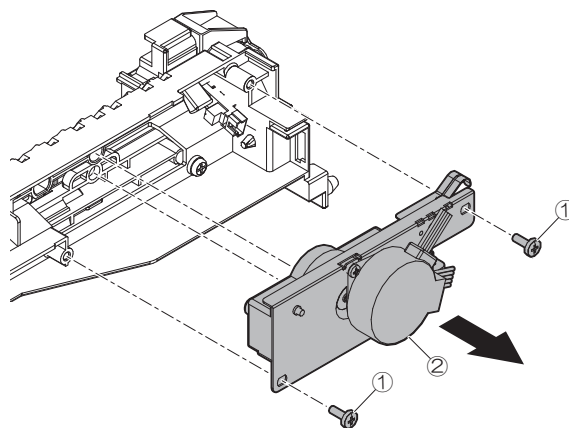
- 1) Remove sensors (x3) from the paper guide.



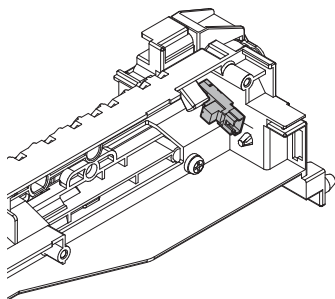
- 2) Remove the sensor from the paper guide.



- 3) Remove the screw and shifter drive.

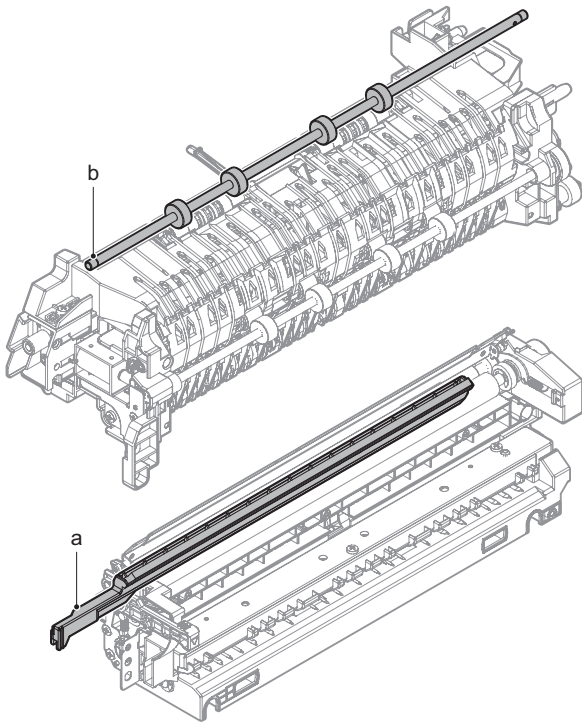


4) Remove the sensor from the paper guide.



(5) Other

Part No.	Part name
a	Paper dust removing unit
b	Paper exit roller 1



a. Paper dust removing unit

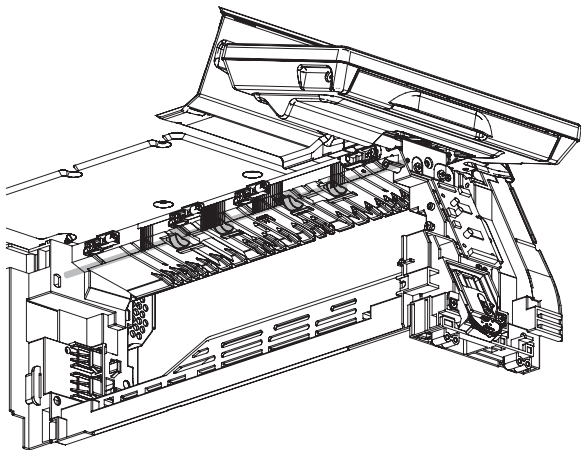
1) Clean the paper dust removing unit.



b. Paper exit roller 1

1) Remove the paper exit unit.

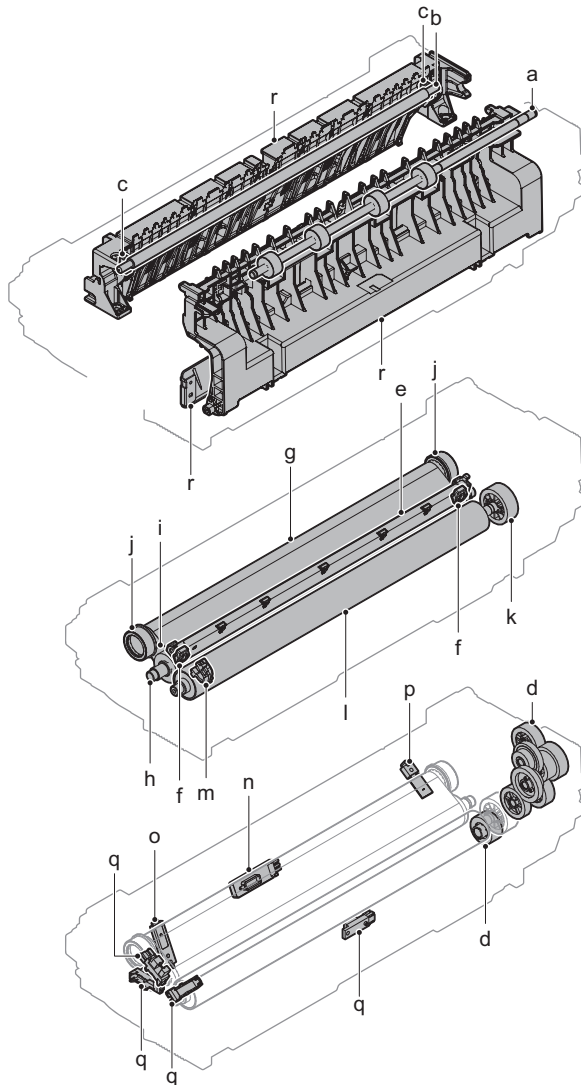
2) Clean the paper exit roller 1.



K. Fusing section

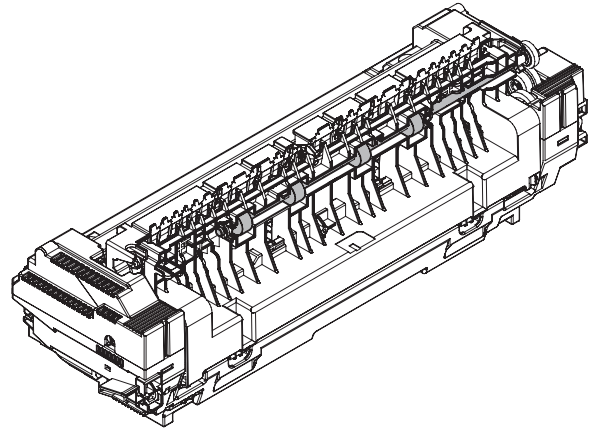
(1) Fusing unit

Part No.	Part name
a	Fusing transport roller lower
b	Fusing transport roller upper
c	Bearing holder
d	Gears
e	Separation plate
f	Separation plate spacer
g	Fusing belt
h	Fusing roller
i	Heat roller
j	Insulation bush
k	Pressure roller gear
l	Pressure roller
m	Pressure oscillation guide
n	Thermistor main
o	Thermistor sub
p	Thermistor sub 2
q	Sensors
r	Paper guides

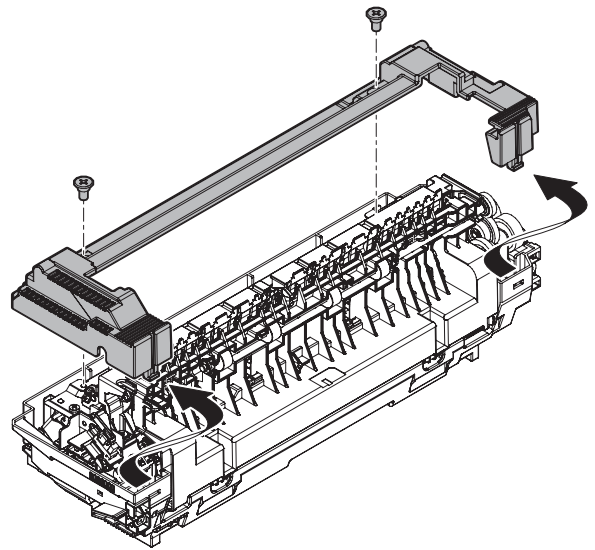


a. Fusing transport roller lower

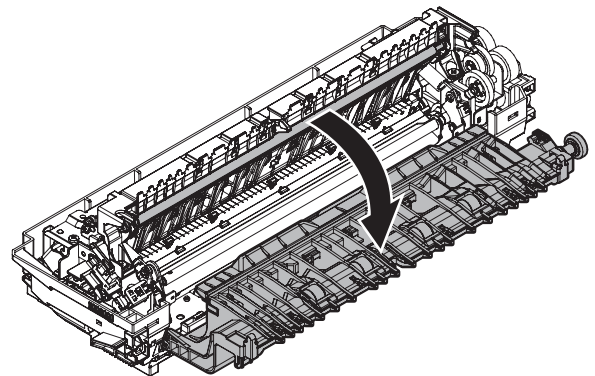
- 1) Clean the fusing transport roller lower.



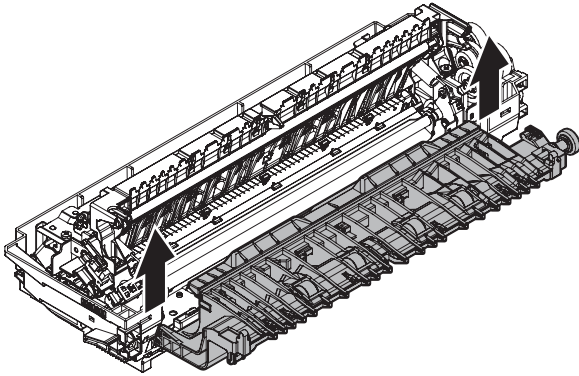
- 2) Remove the screw and the fusing upper cover.



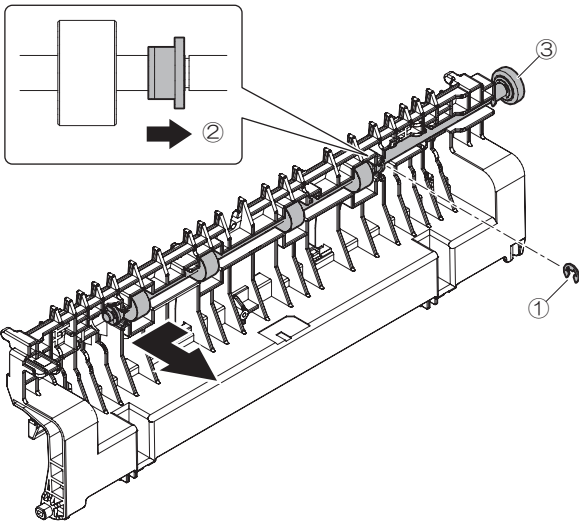
- 3) Open the lower paper guide and clean the upper paper guide, the lower paper guide and the fusing transport roller upper.



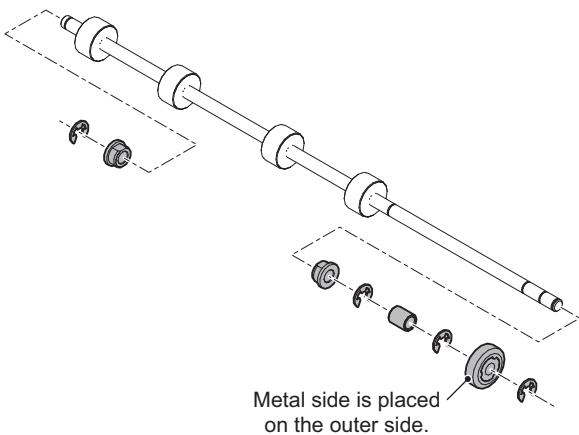
- 4) Remove the lower paper guide.
Rotate the lower paper guide to the horizontal position and then lift it up.



- 5) Remove the E ring, shift the bearing and remove the fusing transport roller lower.



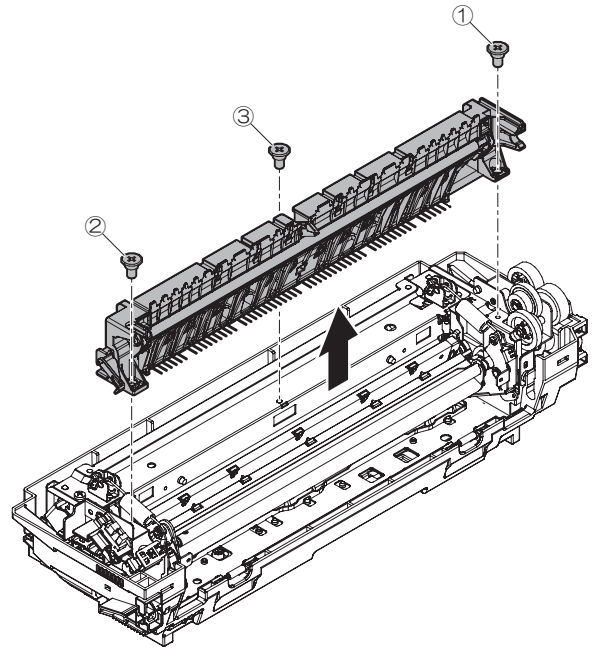
- 6) Remove the E-ring, the gear and the bearing.



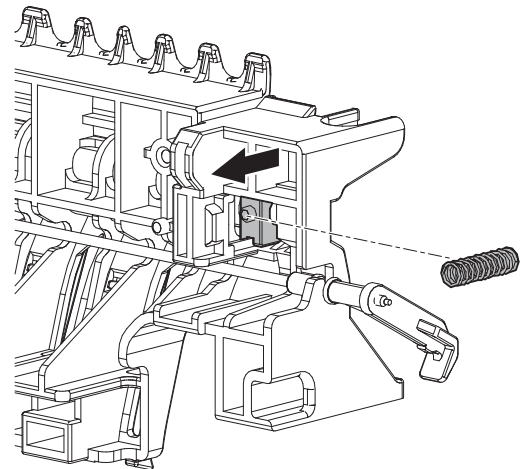
Metal side is placed
on the outer side.

b. Fusing transport roller upper

- 1) Remove the screw and the upper paper guide.



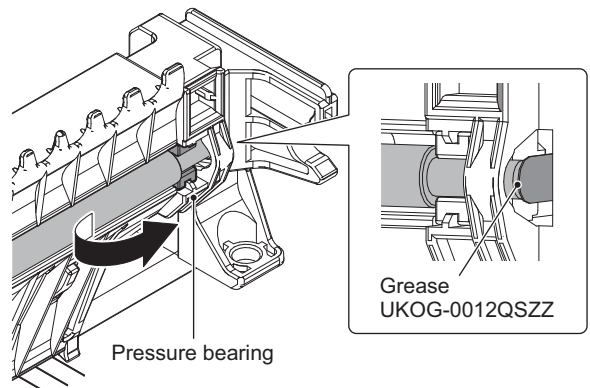
- 2) Remove the spring and shift the bearing holder.



- 3) Hold the bearing holder and remove the fusing transport roller upper.

Important

Be sure to confirm that the edge of the fusing transport roller upper and earth plate are contacted when assembled.

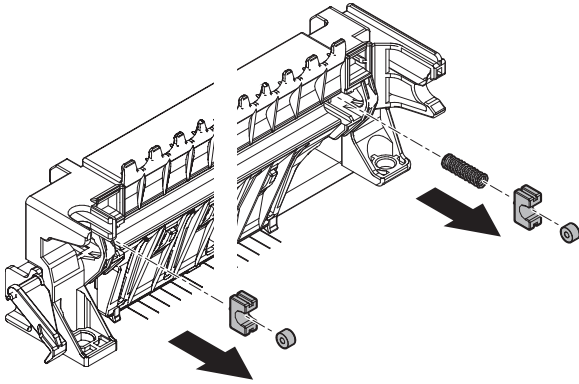


Pressure bearing

Grease
UKOG-0012QSZZ

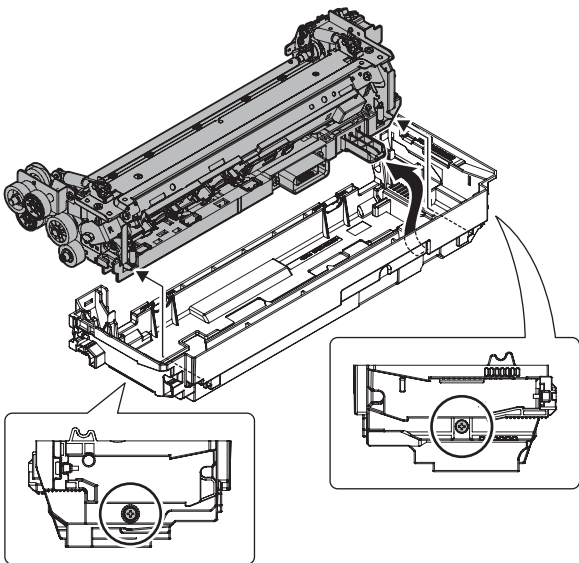
c. Bearing holder

- 1) Remove the bearing holder, the ball bearing and the spring.



d. Gears

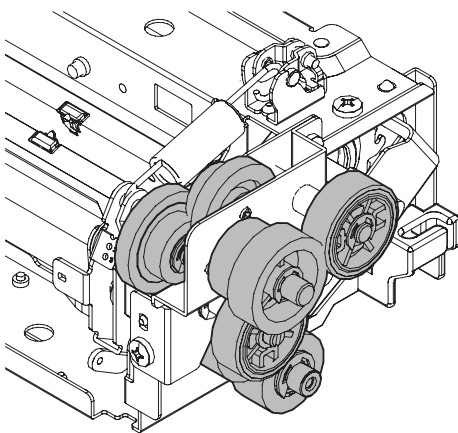
- 1) Remove the screw and the fusing flame unit.



- 2) Clean the each gear.

Important

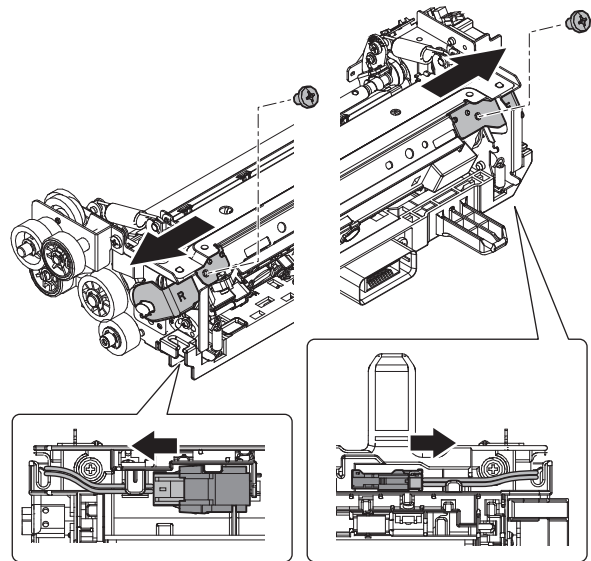
Do not grease to the tooth surface of the each gear.



e. Separation plate

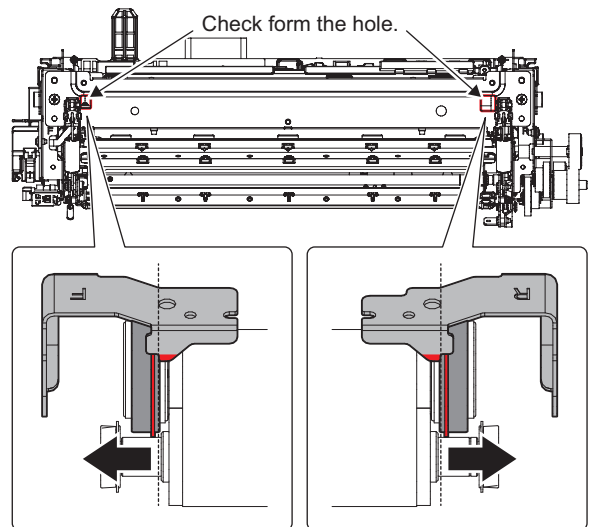
f. Separation plate spacer

- 1) Disconnect the connectors. Then, remove the screw and the lamp holder.

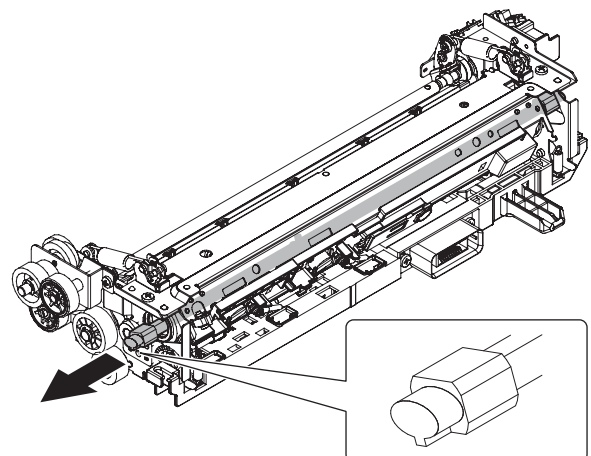


Important

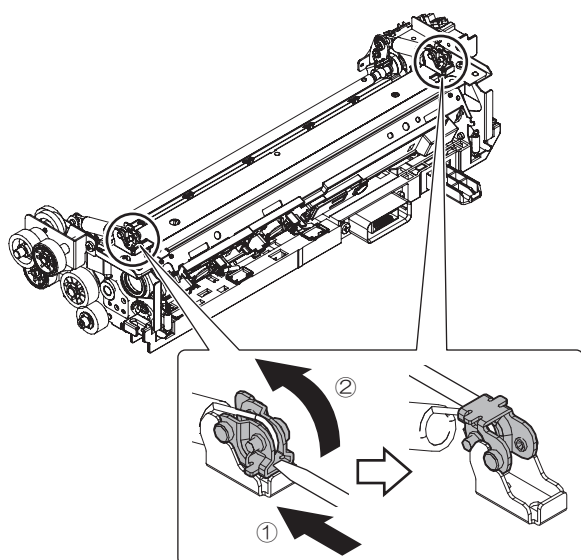
When attaching the lamp holder F/R, the stopper must be outside the convex part of the lamp holder F/R.



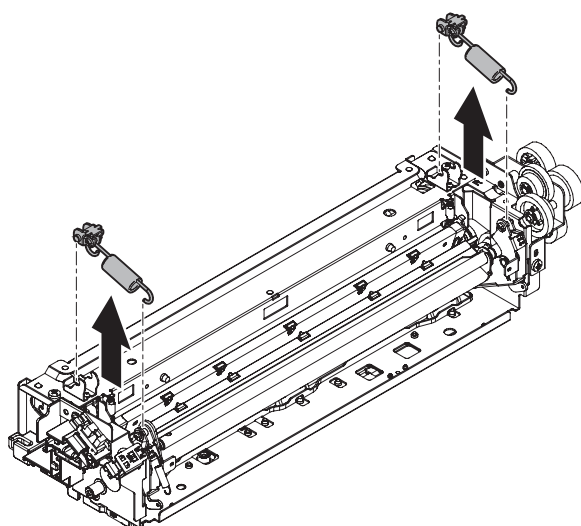
- 2) Pull out the heater lamp.



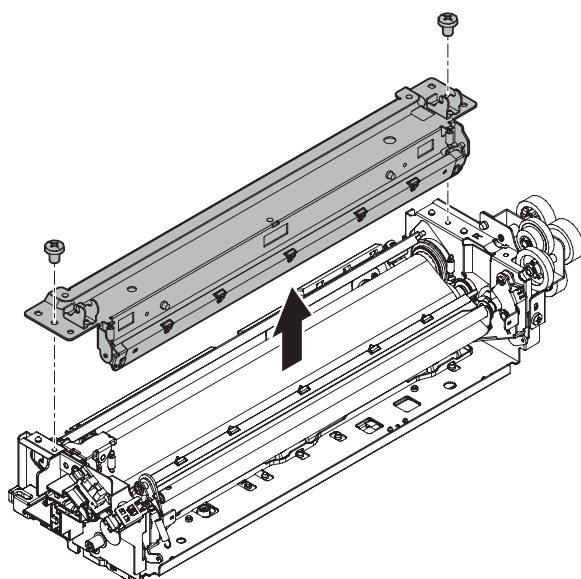
- 3) Turn the plate with flat blade screwdriver.



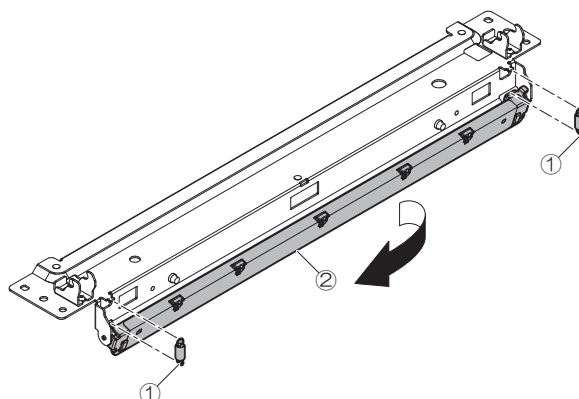
- 4) Remove the spring.



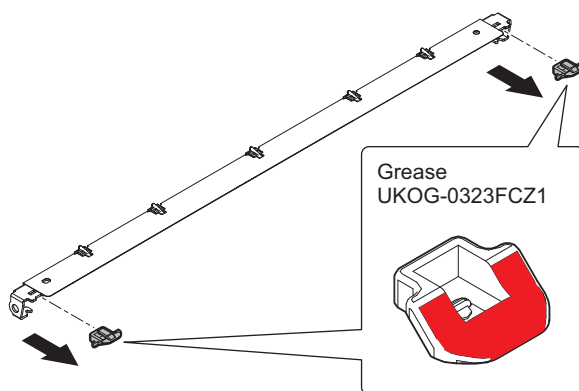
- 5) Remove the screw and fusing upper stay.



- 6) Remove the upper separation plate spring and the fusing upper separation plate.



- 7) Remove the separation plate spacer.



Important

Be sure to execute the SIM 6-8 at the time of following parts replacement, disassembly.

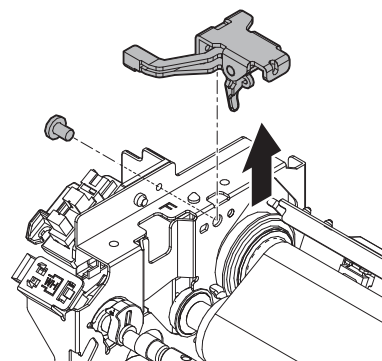
g. Fusing belt

h. Fusing roller

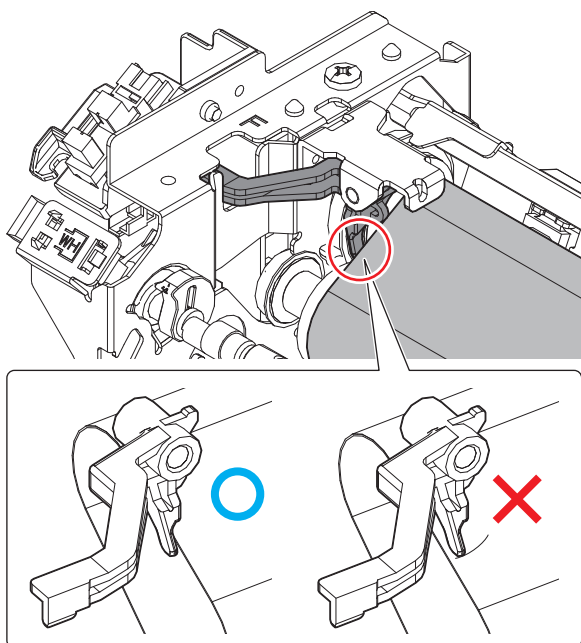
i. Heat roller

j. Insulation bush

- 1) Remove the screw and the holder.

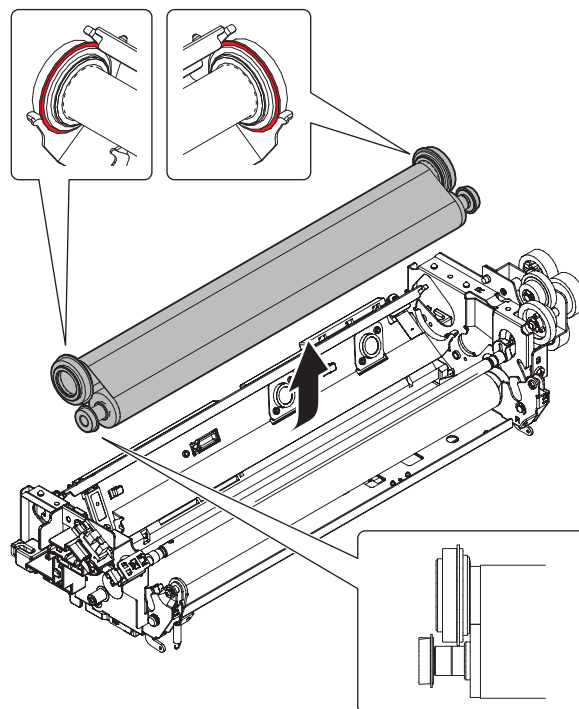


When attaching the holder, the holder and the fusing belt are in contact.

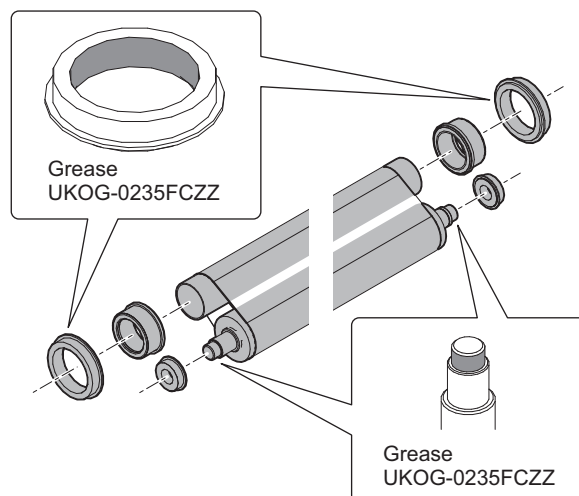


-

- Attach the pressure roller without removing the protector sheet.
Remove the sheet after completing the assembly.



- When attaching the belt, place the marking on the belt protection paper on the front side.

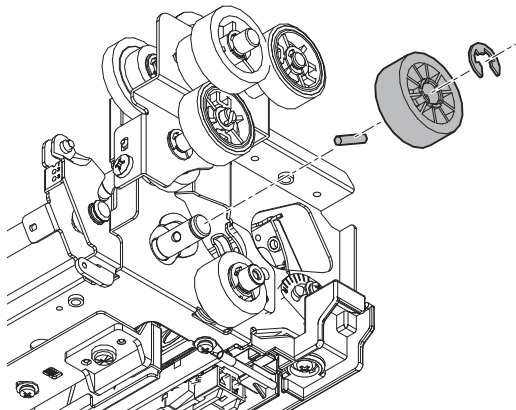


Important

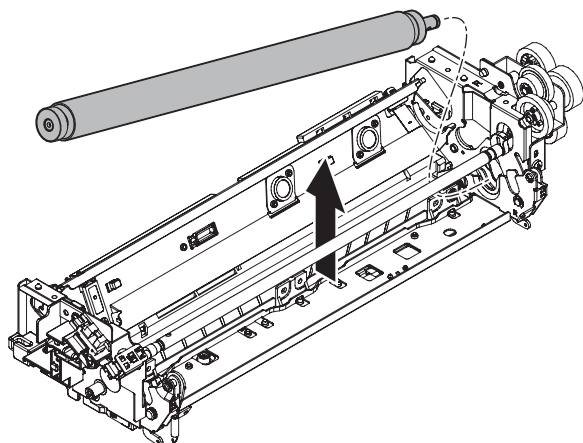
Be sure to execute the SIM 6-8 at the time of following parts replacement, disassembly.

k. Pressure roller gear**l. Pressure roller****m. Pressure oscillation guide**

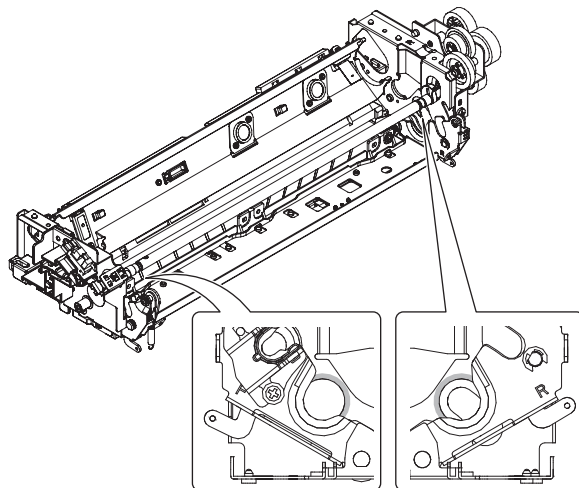
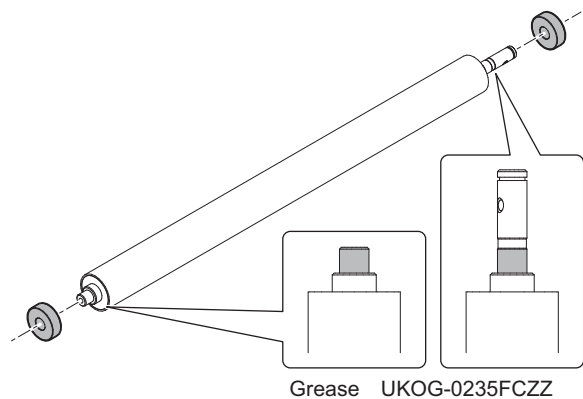
- 1) Remove the E-ring, the pressure roller gear and the pin.



- 2) Remove the pressure roller.

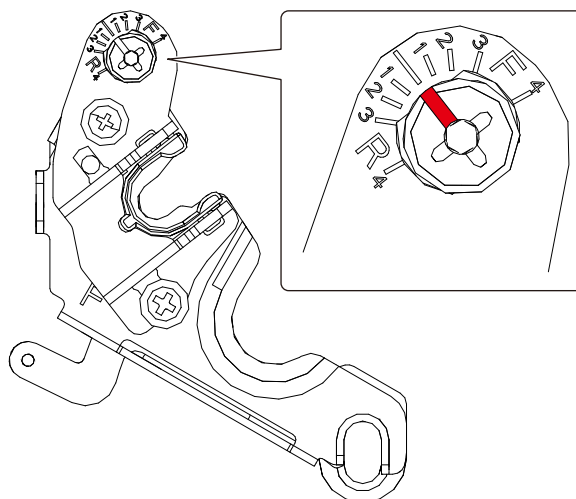


- 3) Remove the pressure roller bearing.

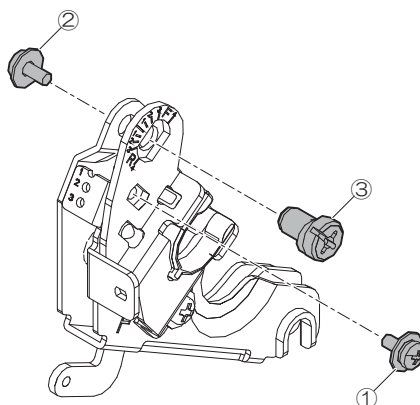


Grease UKOG-0235FCZZ

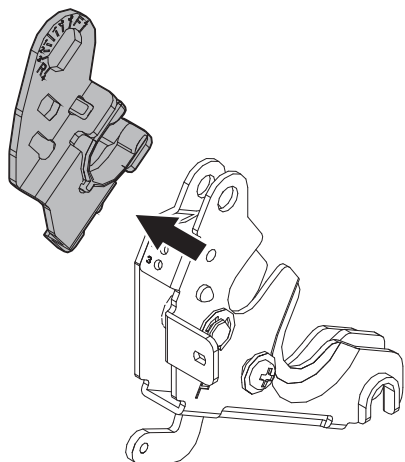
- 4) Record the memory location.



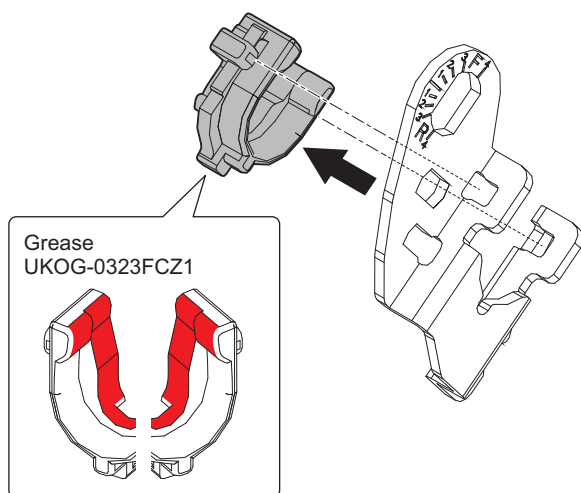
- 5) Remove the screws.



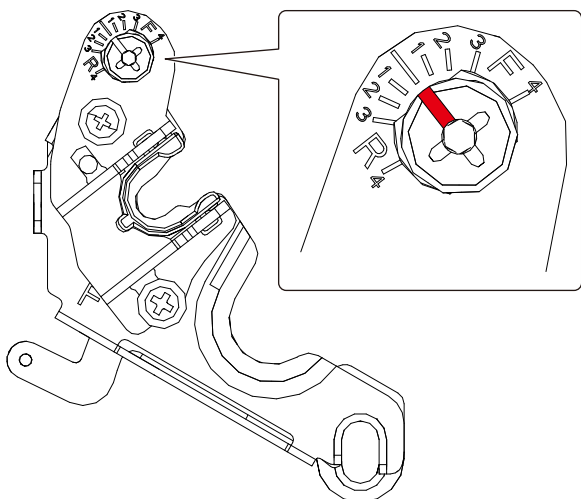
- 6) Remove the Pressure oscillation guide plate.



- 7) Remove the Pressure oscillation guide.



- 8) Assemble the each parts and return the memory to its original position.

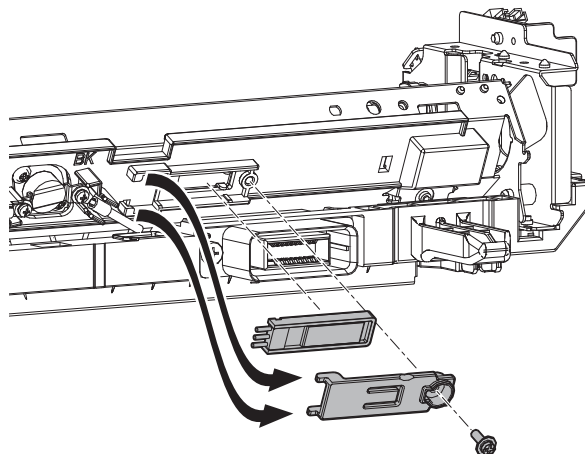


n. Thermistor main

- 1) Remove the screw, the cover and the thermistor main.

Important

Do not deform or contaminate the film surface.

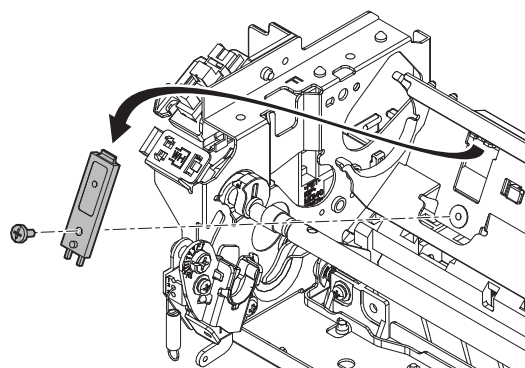


o. Thermistor sub

- 1) Remove the screw and the thermistor sub.

Important

Do not deform or contaminate the film surface.

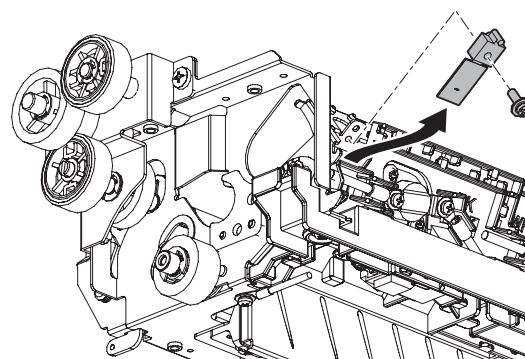


p. Thermistor sub 2

- 1) Remove the screw and the thermistor sub 2.

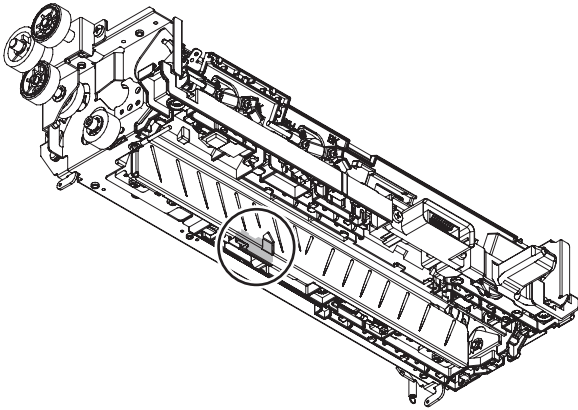
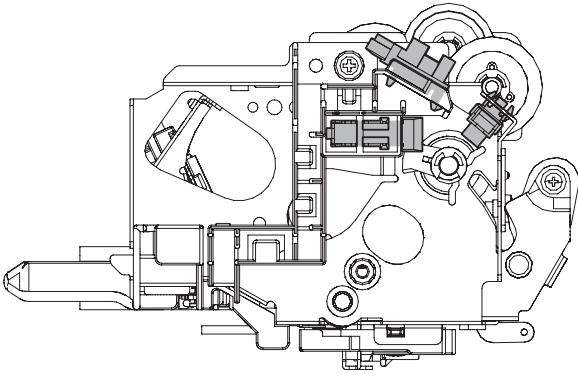
Important

Do not deform the heat sensitive element part.



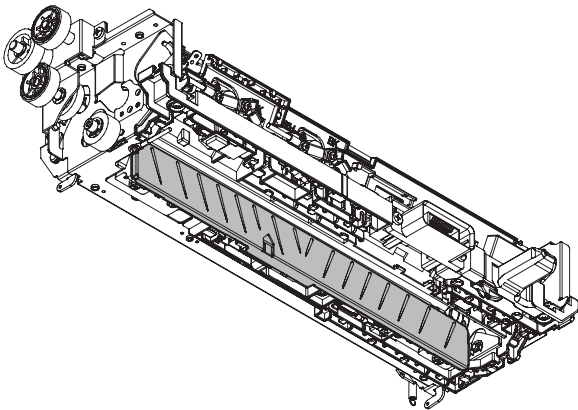
q. Sensors

- 1) Clean the each sensor.



r. Paper guides

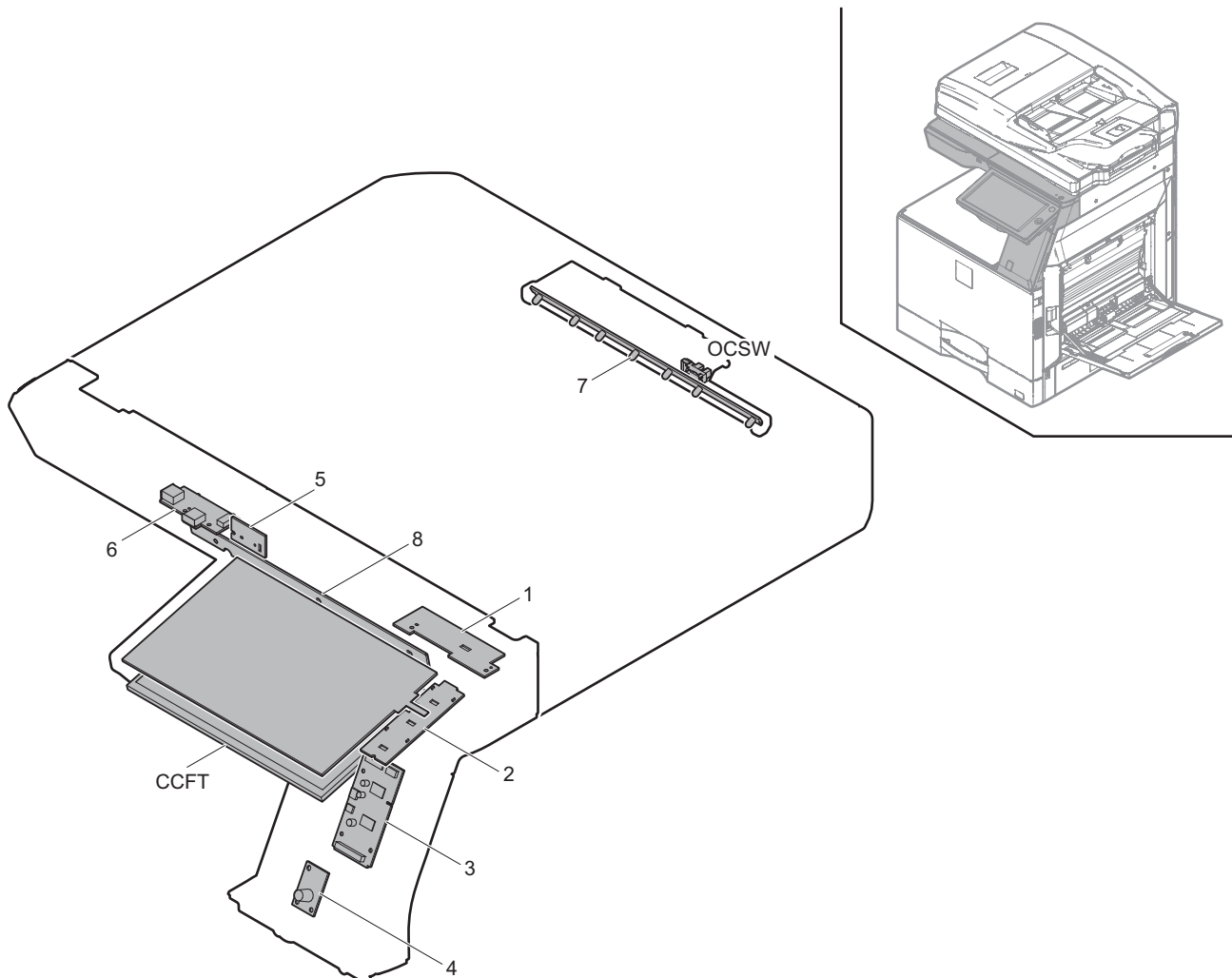
- 1) Clean the paper guide.



[11] OPERATIONAL DESCRIPTIONS

1. Operation panel section

A. Electrical and mechanical parts location



Signal name	Name	Function/Operation
CCFT	LCD backlight	LCD backlight
OCSW	Paper size detection trigger sensor	Detects generation of the paper size detection trigger signal

No.	Name	Function/Operation
1	KEY PWB	Power switch, Buzzer, sound, power ON/OFF condition display LED, error display LED (red)
2	NFC HOME KEY PWB	Outputs the key operation signal and built in NFC tag (For MX-Mxx70 series)
	HOME KEY PWB	Outputs the key operation signal (For MX-Mxx50 series)
3	LVDS PWB	Converts the display data signal to the LCD display signal from SCN MFP PWB and controls the touch panel
4	MOTION SENSOR PWB	Detects the approach of human in energy saving mode.and send signal to SCN MFP PWB
5	FRONT LED PWB	Display indication state of MFP
6	USB I/F PWB	USB interface
7	ORS_LED	Drives the LED for the document size detection
8	ORS_PD	Outputs the document size detection signal

B. Operational descriptions

The operation panel unit is composed of the LCD unit, the LVDS PWB, the USB I/F PWB, and the KEY PWB. It displays the machine operation. It is provided with the USB I/F which is used for the firmware update, USB print, and Scan to USB.

In addition, the USB I/F line is provided inside the operation panel to connect with the keyboard and the IC card reader.

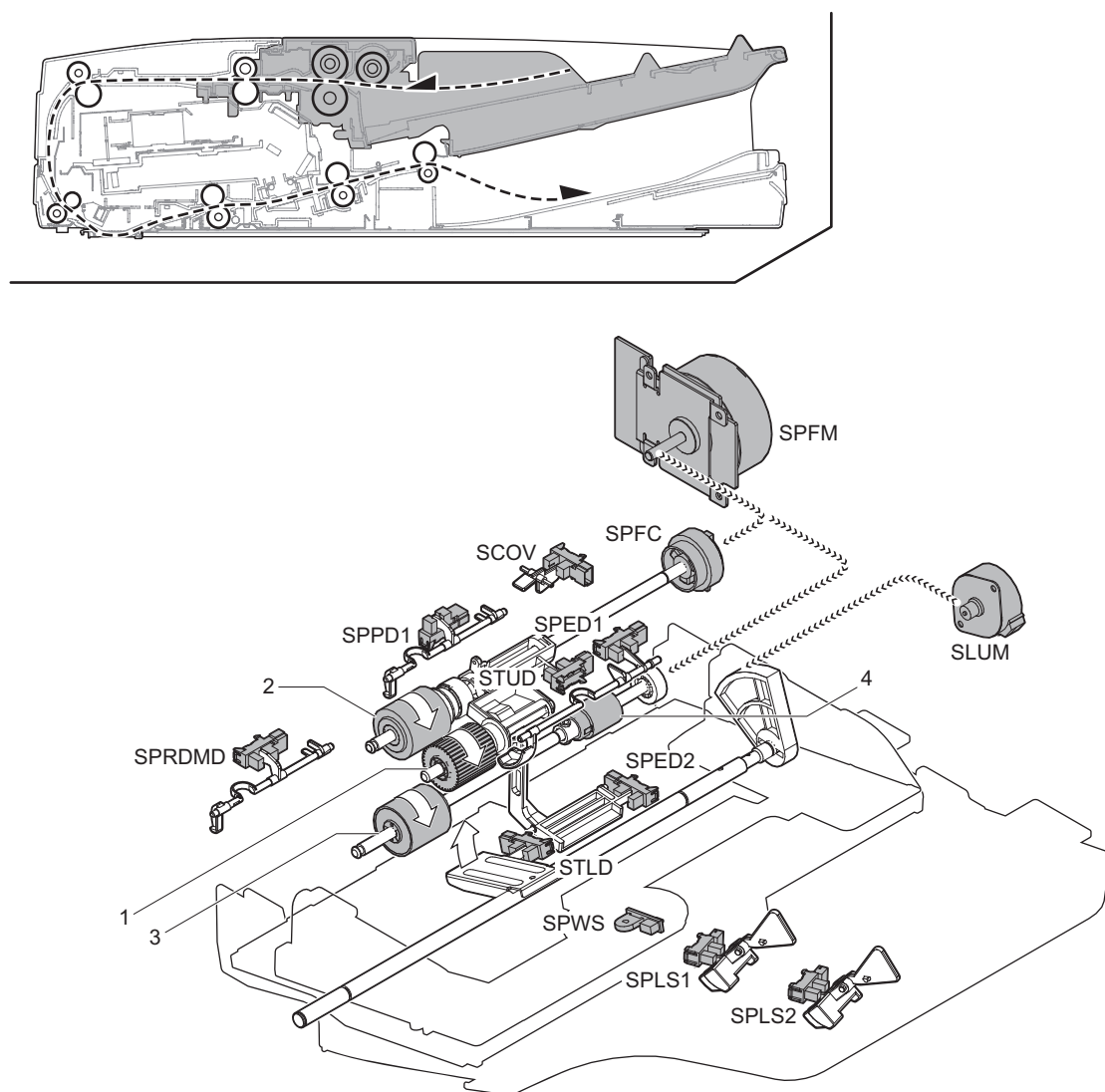
A document size is detected by the ORS_LED and the ORS_PD.

The detection timing of document size is determined according to the document size detection trigger sensor signal.

2. DSPF section

A. Electrical and mechanical parts location

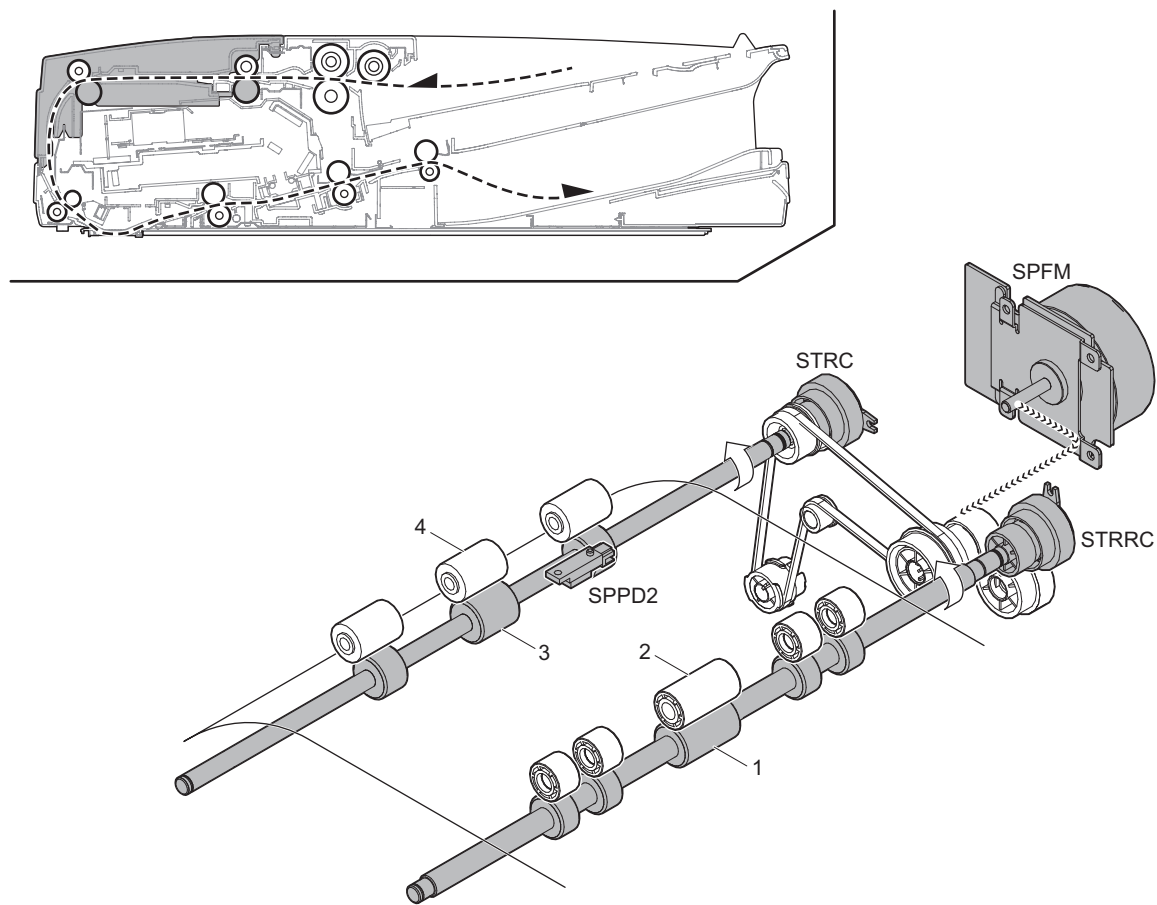
(1) Paper feed section



Signal name	Name	Function/Operation
SCOV	Upper cover sensor	Detects open/close of the upper cover
SLUM	Lift motor	Lifts up or moves down the document feed tray
SPED1	Document sensor 1	Detects document empty of the document feed tray
SPED2	Document sensor 2	Detects document empty of the document feed tray
SPFC	Document feed clutch	Controls ON/OFF of the rollers in the document feed section
SPFM	Transport motor	Drives the transport roller
SPLS1	Document length sensor 1	Detects the document length of the document feed tray
SPLS2	Document length sensor 2	Detects the document length of the document feed tray
SPPD1	Document pass sensor 1	Detects pass of the document
SPRDMD	Document random sensor	Detects the document size in random document feed
SPWS	Document width sensor	Detects the document width of the document feed tray
STLD	Document feed tray lower limit sensor	Detects the lower limit of the document feed tray
STUD	Document feed tray upper limit sensor	Detects the upper limit of the document feed tray

No.	Name	Function/Operation
1	Pickup roller	Picks up document and feed it to the document feed roller
2	Document feed roller	Perform the document feed operation of documents
3	Separation roller	Separate a document to prevent against double feed
4	Torque limiter	A fixed level of resistance is always provided for rotation of the separation roller to prevent double feed.

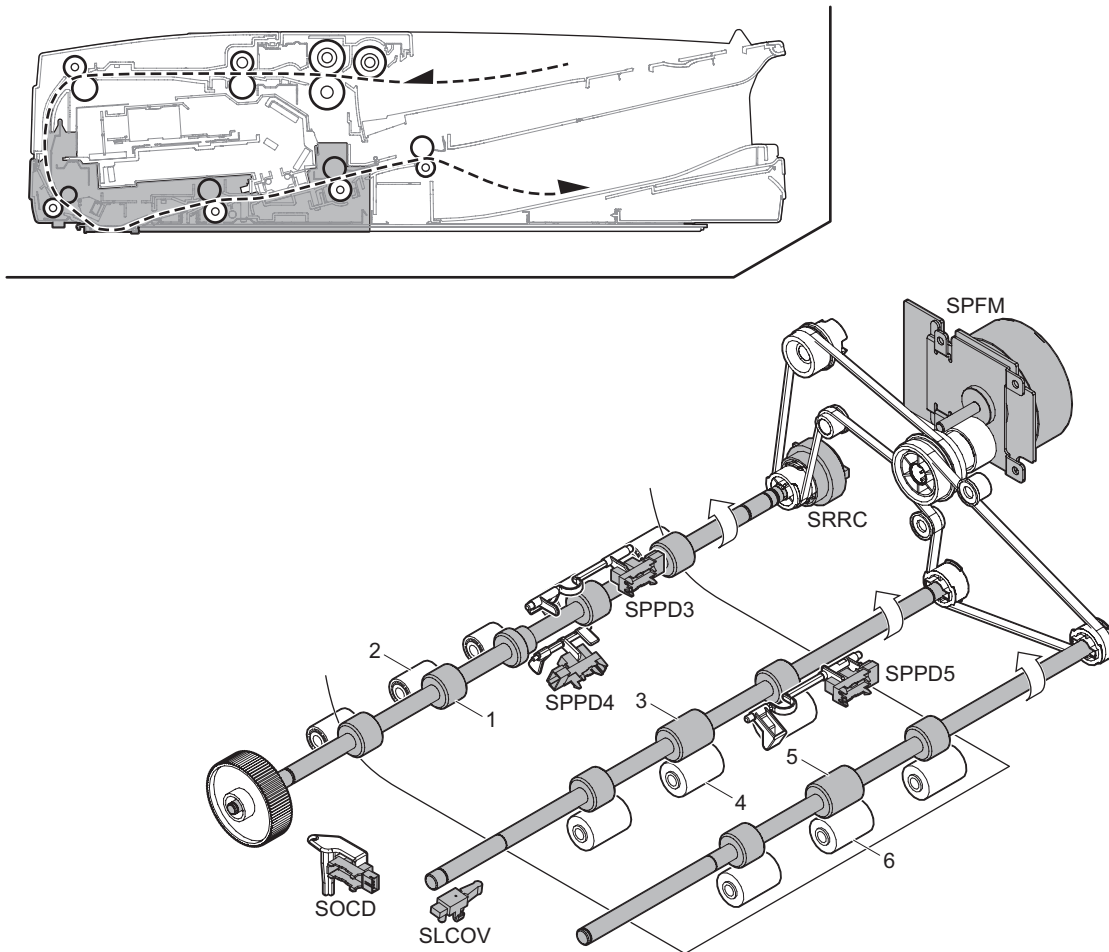
(2) Upper transport section



Signal name	Name	Function/Operation
SPFM	Transport motor	Drives the transport roller
SPPD2	Document pass sensor 2	Detects pass of the document
STRC	Transport roller 2 clutch	Controls ON/OFF of the transport roller 2
STRRC	Transport roller 1 clutch	Controls ON/OFF of the transport roller 1

No.	Name	Function/Operation
1	Transport roller 1 (Drive)	Transports document from paper feed roller to transport roller 2
2	Transport roller 1 (Idle)	Applied a pressure to document and the transport roller, and provides transport power of the transport roller to document
3	Transport roller 2 (Drive)	Transports document from transport roller to registration roller
4	Transport roller 2 (Idle)	Applied a pressure to document and the transport roller, and provides the transport power of the transport roller to document

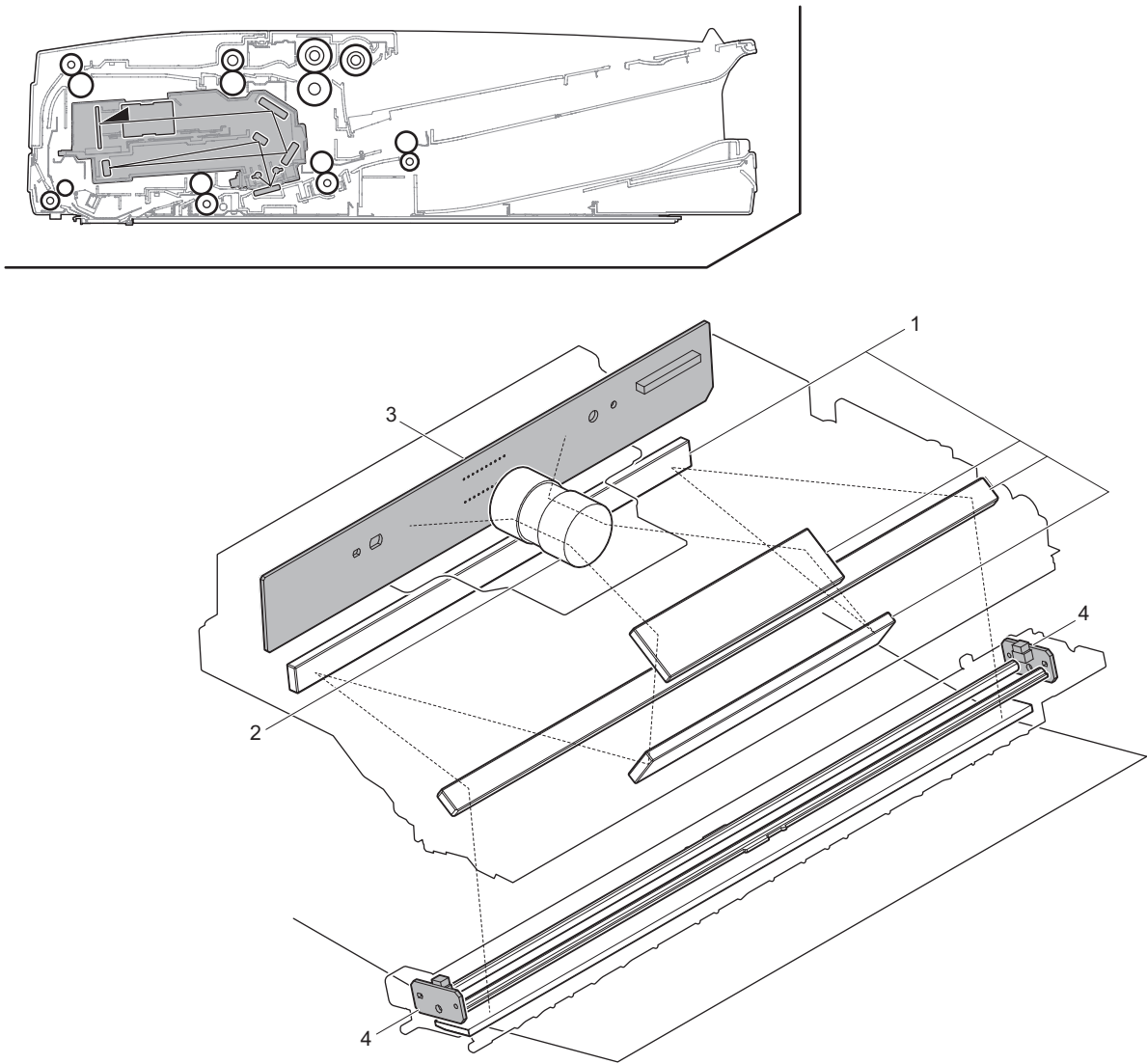
(3) Lower transport section



Signal name	Name	Function/Operation
SLCOV	Lower cover sensor	Detects open/close of the lower cover
SOCD	SPF sensor	Detects open/close of the SPF unit
SPFM	Transport motor	Drives the transport roller
SPPD3	Document pass sensor 3	Detects pass of the document
SPPD4	Document pass sensor 4	Detects pass of the document
SPPD5	Document pass sensor 5	Detects pass of the document
SRRC	Registration roller clutch	Controls ON/OFF of registration roller

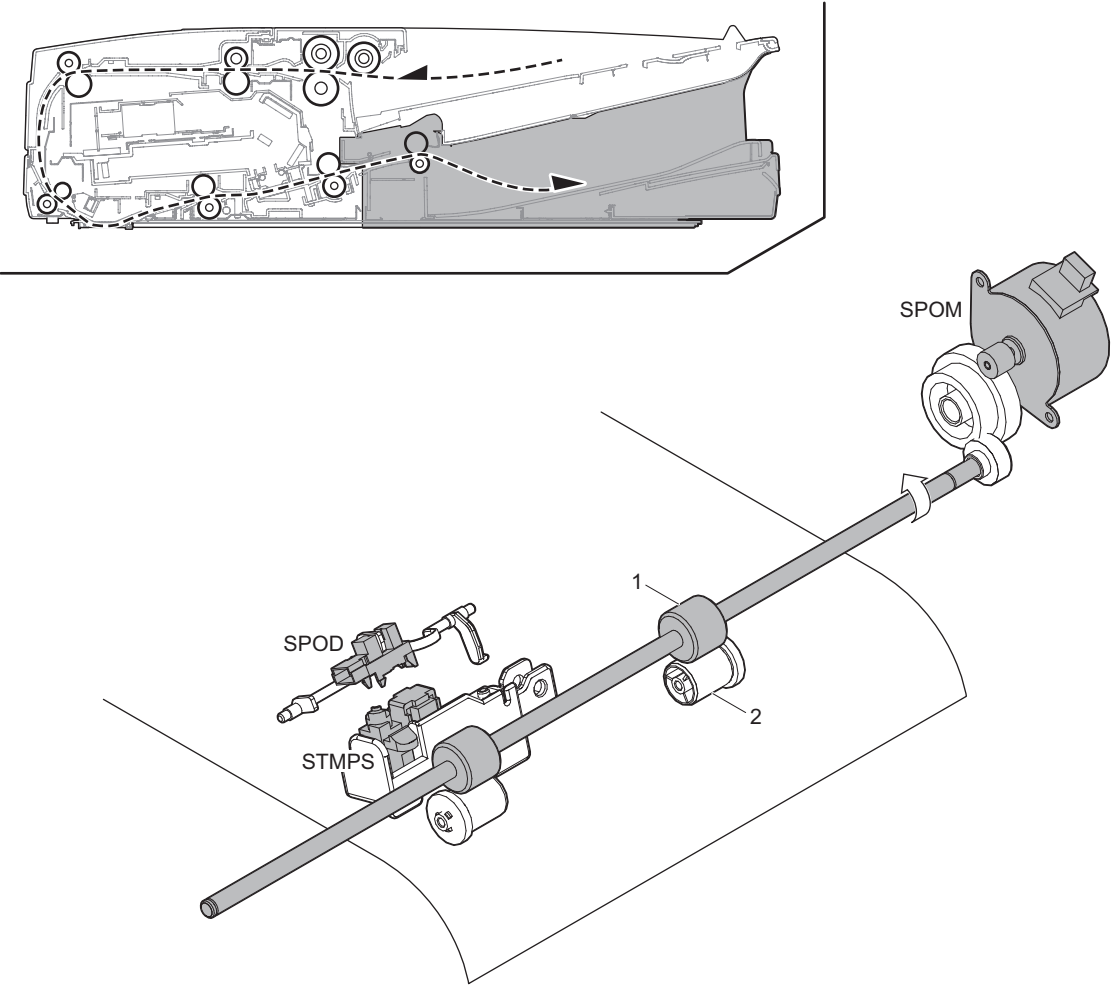
No.	Name	Function/Operation
1	Registration roller (Drive)	Performs resist of document transport
2	Registration roller (Idle)	Applies a pressure to document and the registration roller, and provides transport power of the registration roller to document
3	Transport roller 3 (Drive)	Transports document from the No.1 scan section to the transport roller 4
4	Transport roller 3 (Idle)	Applies a pressure to document and the transport roller and provides transport power of the transport roller to document
5	Transport roller 4 (Drive)	Transports document from the transport roller 3 to the document exit roller
6	Transport roller 4 (Idle)	Applies a pressure to document and the transport roller and provides transport power of the transport roller to document

(4) Optical section



No.	Name	Function/Operation
1	Mirror	Sends the document image to the lens.
2	Lens	Reduces the document image (light) and reflects it onto the CCD.
3	CCD PWB	Scans document images and perform A/D conversion of the scanning signal
4	LED PWB	Radiates light onto a document for the CCD to scan the document image

(5) Paper exit section



Signal name	Name	Function/Operation
SPOD	Document exit sensor	Detects document exit of the document
SPOM	Document exit motor	Drives the document exit roller
STMPS	Stamp solenoid	Drives the stamp solenoid

No.	Name	Function/Operation
1	Document exit roller (Drive)	Discharges document
2	Document exit roller (Idle)	Applies a pressure to document and the document exit roller and provides transport power of the document exit roller to document

B. Operational descriptions

(1) Document size detection

Size detection on the document tray

The document size is detected by the document width sensor (SPWS), and the document length is detected by the document length sensors (SPLS1, SPLS2). The document size is judged from the document width and the document length as shown in the table below.

When, however, documents of different sizes are mixed and set on the document tray, the largest size is detected.

	Document size	Document length sensor	
		SPLS1	SPLS2
AB series	A5	OFF	OFF
	B5	OFF	OFF
	11" x 8.5"	OFF	OFF
	A4	OFF	OFF
	B5R	ON	OFF
	A4R	ON	OFF
	8.5" x 13"	ON	ON
	B4	ON	ON
	A3	ON	ON
	11" x 17"	ON	ON
	8.5" x 14"	ON	ON
	8.5" x 13.4"	ON	ON
	8.5" x 13.5"	ON	ON
	8.5" x 5.5"	OFF	OFF
Inch series	11" x 8.5"	OFF	OFF
	A4	OFF	OFF
	11" x 8.5"R	ON	OFF
	8.5" x 13"	ON	ON
	8.5" x 14"	ON	ON
	A3	ON	ON
	11" x 17"	ON	ON
	8.5" x 13.4"	ON	ON

(2) DSPF paper feed and transport operations

When a job is started, the document tray is lifted until a document at the top in the document tray turns on the document feed tray upper limit sensor (STUD).

The pressure between the document at the top in the document tray and the pick up roller is maintained at a constant level to improve the paper feed capacity.

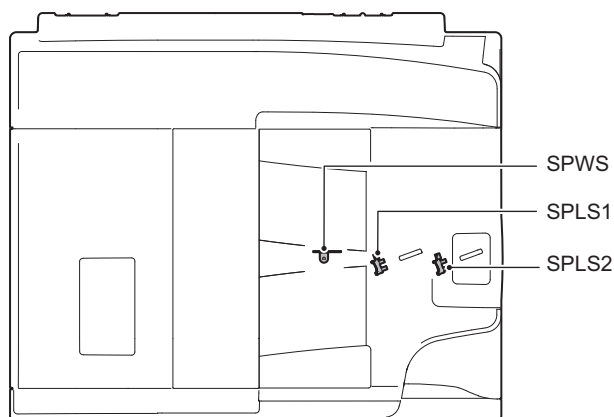
When paper to be scanned is exhausted, the document sensor 1 (SPED1) turns off and the document tray moves down automatically until the document feed tray lower limit sensor (STLD) detects it.

Up and down movements of the document tray are performed by the lift motor (normal rotation and reverse rotation) and the lift gear.

The document fed by the pick up roller is sent through the paper feed roller and the transport roller to the resist roller section.

In the resist roller section, the document lead edge and the scan start position are synchronized.

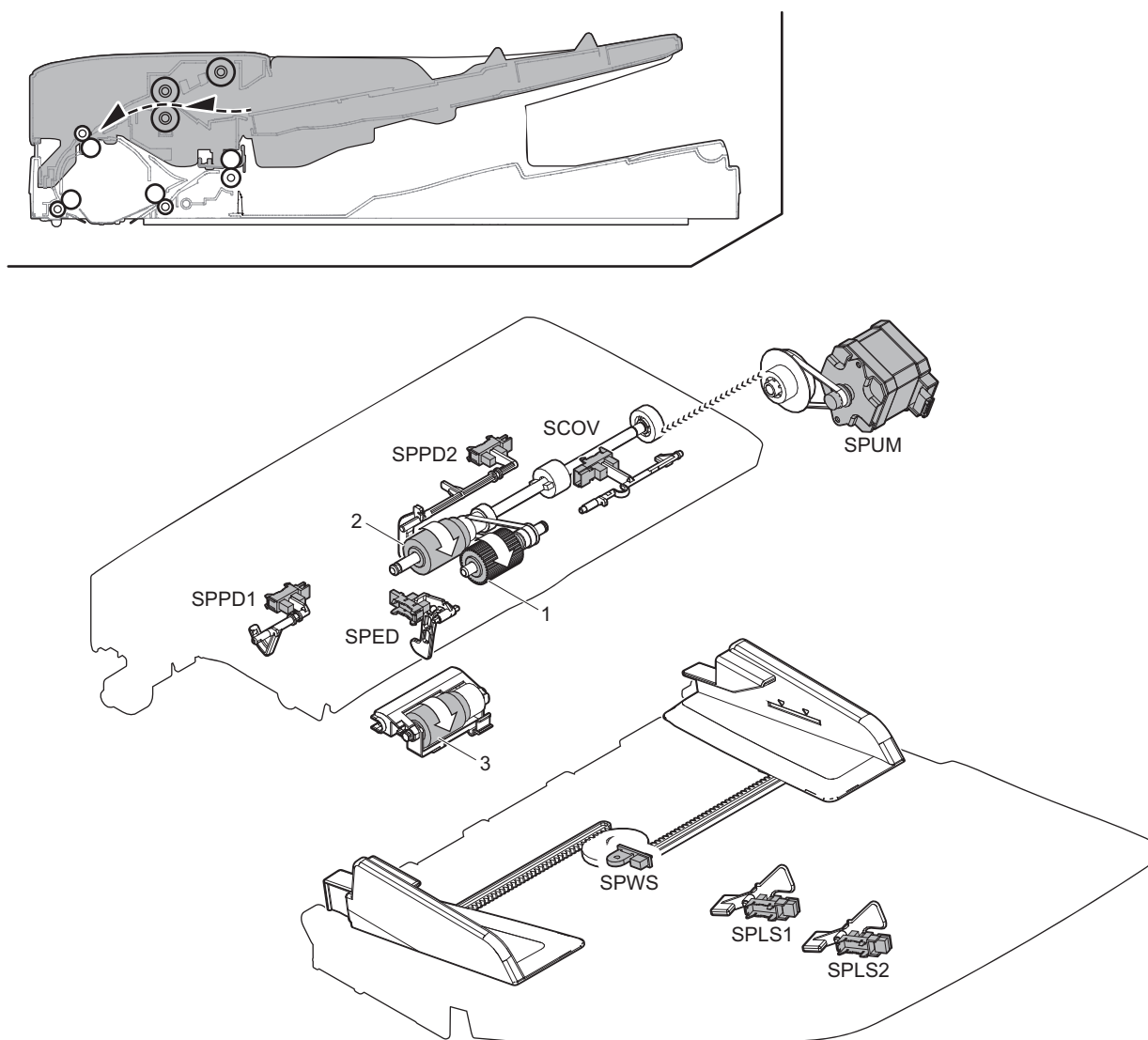
The document is transported to the scan section. After being scanned, the document is sent to the document exit tray by the exit roller.



3. RSPF section

A. Electrical and mechanical parts location

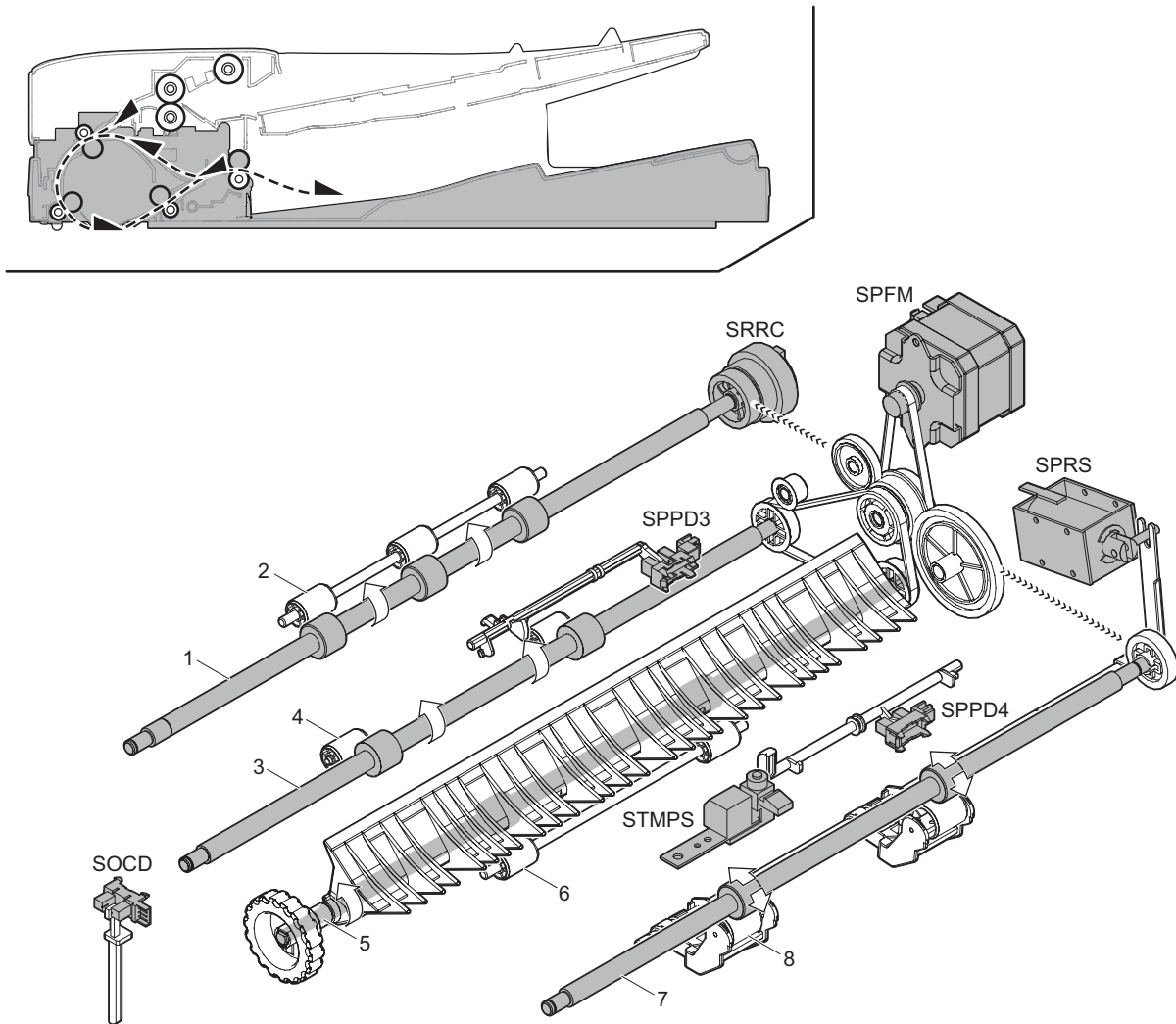
(1) Paper feed section



Signal name	Name	Function/Operation
SCOV	Cover sensor	Detects open/close of the cover
SPED	Document sensor	Detects document empty of the document feed tray
SPLS1	Document length sensor 1	Detects the document length of the document feed tray
SPLS2	Document length sensor 2	Detects the document length of the document feed tray
SPPD1	Document pass sensor 1	Detects document feed and the document size in random paper feed
SPPD2	Document pass sensor 2	Detects document pass
SPUM	Document feed motor	Drives the document feed roller
SPWS	Document width sensor	Detects the document width of the document feed tray

No.	Name	Function/Operation
1	Pickup roller	Picks up document and feed it to the document feed roller
2	Document feed roller	Feeds a document to the transport section. Makes a buckle on paper between the registration roller and this roller to correct the start position of document skew and document image scan
3	Separation roller	Separates a document to prevent double-feeding

(2) Transport/paper exit section



Signal name	Name	Function/Operation
SOCD	SPF sensor	Detects open/close of the SPF unit
SPFM	Transport motor	Drives the transport roller
SPPD3	Document pass sensor 3	Detects document pass
SPPD4	Document pass sensor 4	Detects document exit and switchback
SPRS	Document exit roller solenoid	Controls ON/OFF of the power of the document exit roller
SRRC	Registration roller clutch	Controls ON/OFF of registration roller
STMPs	Stamp solenoid	Drives the finish stamp

No.	Name	Function/Operation
1	Registration roller (Drive)	Transports a document to the transport roller 1 / Controls the transport timing of the document and adjusts the document scanning timing
2	Registration roller (Idle)	Apply a pressure to a document and the registration roller to provide the transport power of the transport roller to the document
3	Transport roller 1 (Drive)	Transports a document transported from the registration roller to the document scanning section
4	Transport roller 1 (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document
5	Transport roller 2 (Drive)	Transports a document transported from the document scanning section to the paper exit roller
6	Transport roller 2 (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document
7	Document exit roller (Drive)	Discharges a document. Switchbacks the document and transports it to the registration roller when scanning the back surface
8	Document exit roller (Idle)	Apply a pressure to a document and the document exit roller to provide the transport power of the document exit roller to the document

B. Operational descriptions

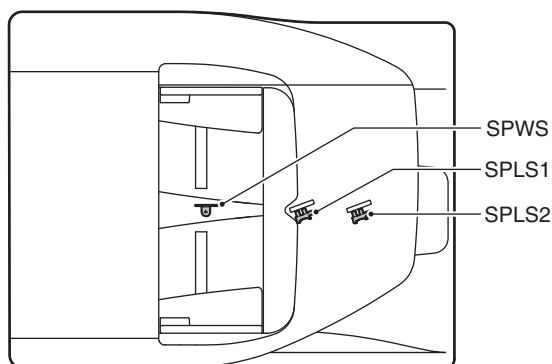
(1) Document size detection

Size detection on the document tray

The document width is detected with the document width sensor (SPWS), and the document length is detected with the document length sensors (SPLS1, SPLS2). The document size is judged from the document width and the document length according to the table below. When documents of different sizes are mixed and set on the document tray, the largest document size is detected.

	Document size	Document length sensor	
		SPLS1	SPLS2
AB series	A5	OFF	OFF
	B5	OFF	OFF
	11" x 8.5"	OFF	OFF
	A4	OFF	OFF
	B5R	ON	OFF
	A4R	ON	OFF
	8.5" x 13"	ON	ON
	B4	ON	ON
	A3	ON	ON
	11" x 17"	ON	ON
	8.5" x 14"	ON	ON
	8.5" x 13.4"	ON	ON
Inch series	8.5" x 5.5"	OFF	OFF
	11" x 8.5"	OFF	OFF
	A4	OFF	OFF
	11" x 8.5"R	ON	OFF
	8.5" x 13"	ON	ON
	8.5" x 14"	ON	ON
	A3	ON	ON
	11" x 17"	ON	ON
	8.5" x 13.4"	ON	ON

RSPF unit



(2) RSPF paper feed and transport operations

a. Paper feed operation

The document feed motor is turned ON and the power of the document feed motor is transmitted to the pickup roller and the document feed roller.

The pickup roller descends to pickup the top document and feed it to the document feed roller.

The document feed roller feeds a document to the transport section.

At that time, the document is separated by the separation roller to prevent double-feeding.

b. Single face scanning

The lead edge of the fed document is aligned (registration) by the registration roller, and passed through transport roller 1 to the document scanning section, where images are scanned.

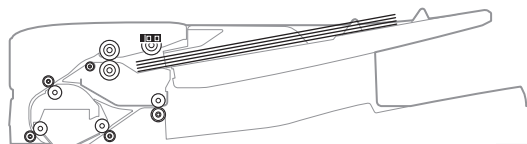
Then the document is passed through transport roller 2 to the document exit roller.

The rollers (the registration roller, transport rollers 1 and 2, the document exit roller) in the transport section are driven by the transport motor.

The document exit roller (drive pulley) is separated by the document exit roller solenoid.

When the read edge of the document passes the scanning section, the both rollers are brought into close contact to supply the power for paper exit.

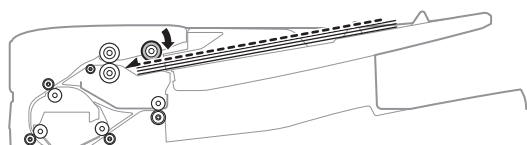
1) Document set (Document sensor ON)



2) Paper feed start (1st sheet)

The pick-up roller descends. (The document feed motor is booted.)

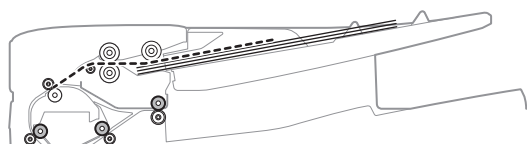
(The transport motor is booted simultaneously.)



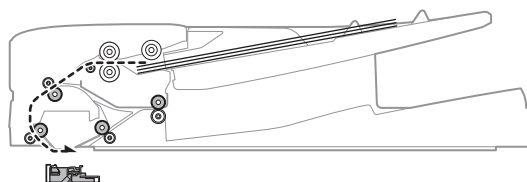
3) Registration operation (1st sheet)

(Registration roller clutch ON)

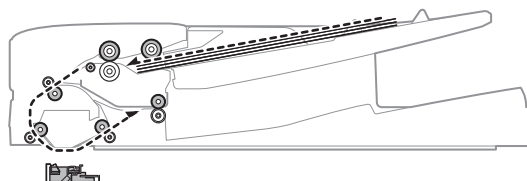
(When a certain time passes after turning ON the registration roller clutch, the document feed motor is turned OFF.)



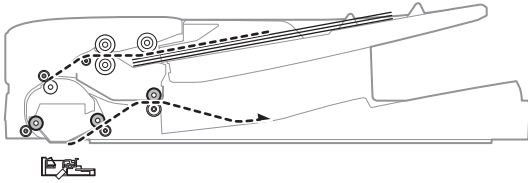
4) Scanning start (1st sheet)



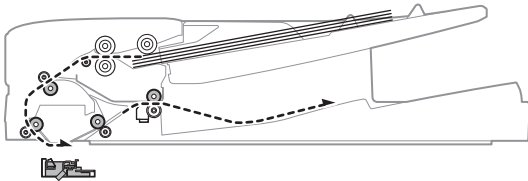
5) Paper feed start (2nd sheet)



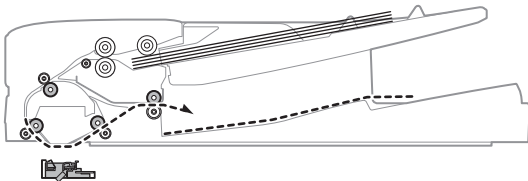
- 6) Scanning complete (1st sheet)/Registration operation (2nd sheet)
(When a certain time passes after turning ON the registration roller clutch, the document feed motor is turned OFF.)



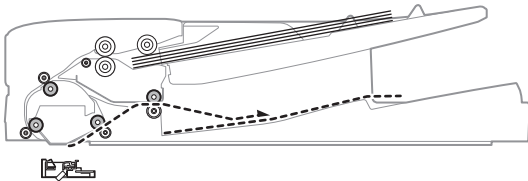
- 7) Scanning start (2nd sheet)



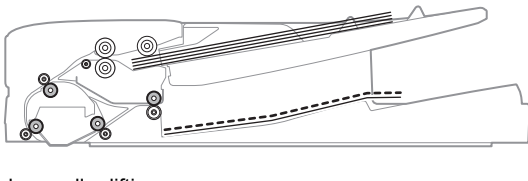
- 8) Paper exit complete (1st sheet)



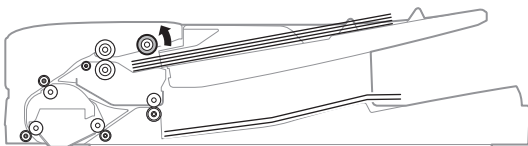
- 9) Scanning complete (2nd sheet)



- 10) Paper exit complete (2nd sheet)



- 11) Pick-up roller lifting up
(After completion of a job, the document feed motor is rotated reversely at a low speed for a certain time to lift the pickup roller.)



c. Duplex scanning

Images on the document surface are scanned, and detection of the rear edge of the document by sensor SPPD3 triggers the following. That is, when the rear edge of the document passes the reverse gate, the transport motor is reversed.

Due to the above operation, the document exit roller is reversed to switchback the document, returning it to the registration roller section and aligning (registration) the document.

Then the transport motor is rotated normally to transport the document to the scanning section, scanning images on the back surface.

To reset the page order of the documents, the following operations are made which are triggered by the detection of the rear edge of the document. That is, when the rear edge of the document passes the reverse gate, the transport motor is reversed.

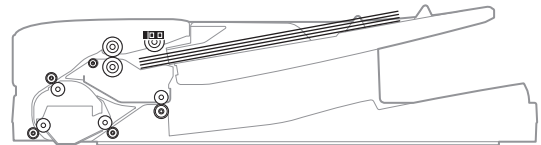
Due to the above operation, the document exit roller is reversed to switchback the document, returning it to the registration roller section and aligning (registration) the document.

Then the transport motor is rotated normally to transport the document to the paper exit section and discharge it.

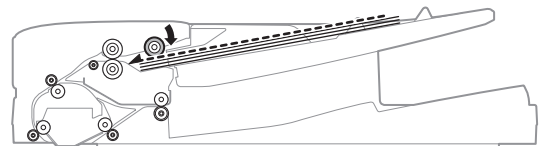
When a duplex document is scanned, the document lead edge section and the rear edge section intersect. At that timing, the document exit roller solenoid is turned ON to make a gap between the document exit roller (drive) and the document exit roller (idle).

During the time from when the document rear edge passes the scanning section to when it is switch backed and send to the registration roller section, the document exit roller solenoid is turned OFF to keep the document exit roller (drive) and the document exit roller (idle) in contact.

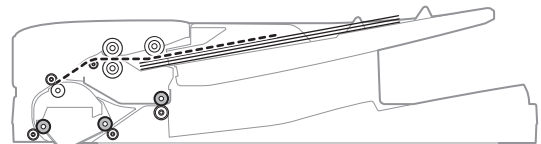
- 1) Document set (Document sensor ON)



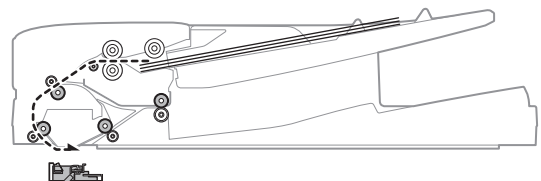
- 2) Paper feed start (1st sheet)
Pick-up roller descending



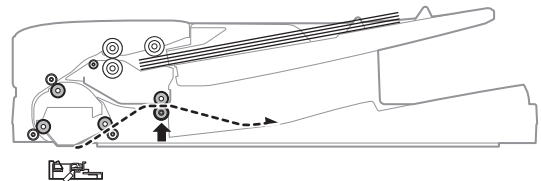
- 3) Registration operation (1st sheet, front surface)



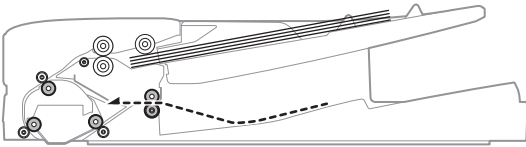
- 4) Scanning start (1st sheet, front surface)



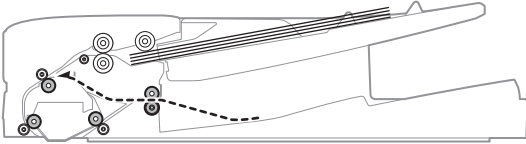
- 5) After completion of scanning, the document exit roller (Idle) is pressed. (Document exit roller solenoid ON)



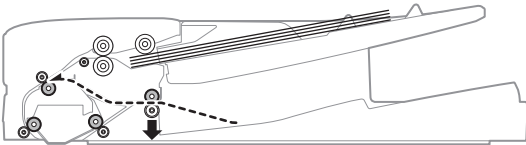
6) After stopping the operation, reversing is started.



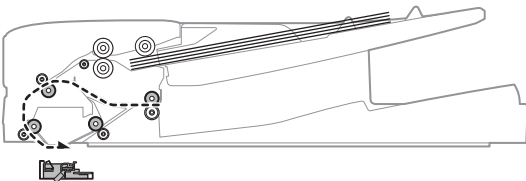
7) After reversing, registration operation is executed.



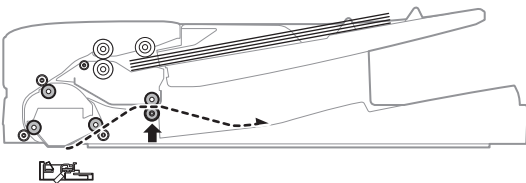
8) After turning ON the registration roller clutch, the document exit roller (Idle) pressure is released.



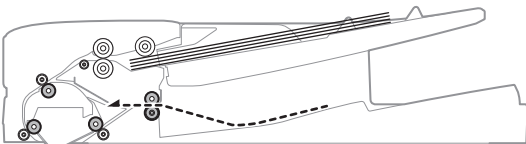
9) Scanning start (First sheet, back surface)



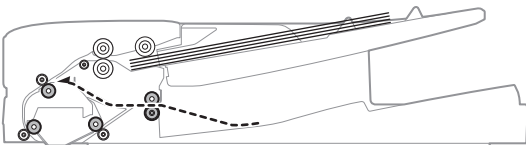
10) After completion of scanning, the document exit roller (Idle) is pressed.



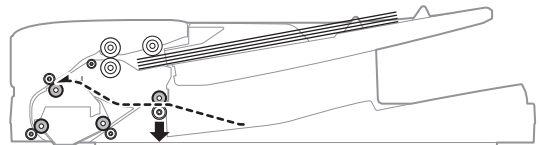
11) After stopping the operation, reversing is started.



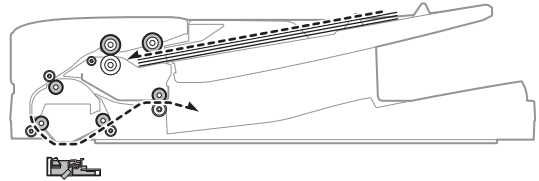
12) After reversing, registration operation is executed.



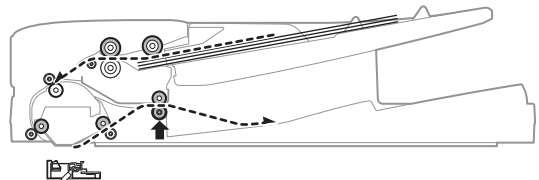
13) After turning ON the registration roller clutch, the document exit roller (Idle) pressure is released.



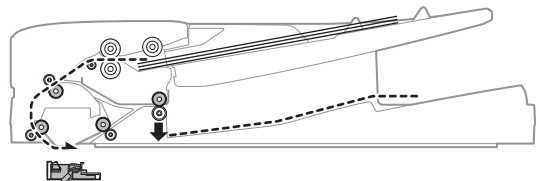
14) Scanning start (Second sheet)



15) After passing the scanning section, the document exit roller (Idle) is pressed.

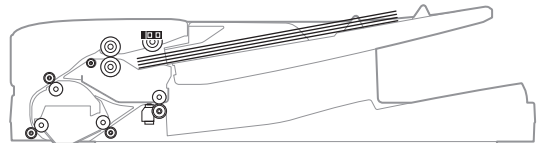


16) After discharge (First sheet), the document exit roller (Idle) pressure is released.



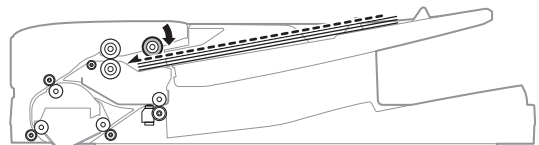
d. Stamp operation

1) Document set (Document sensor ON)

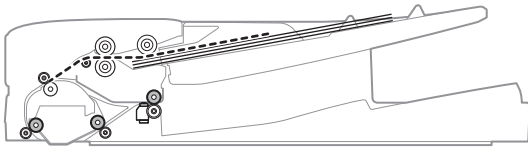


2) Paper feed start (1st sheet)

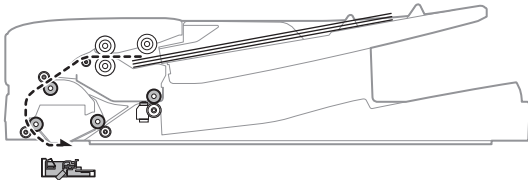
Pickup roller descending (The document feed motor is booted.)
(The transport motor is booted simultaneously.)



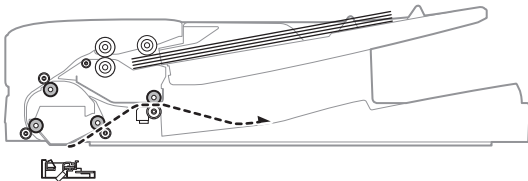
- 3) Registration operation (1st sheet)
(Registration roller clutch ON)
(When a certain time passes after turning ON the registration roller clutch, the document feed motor is turned OFF.)



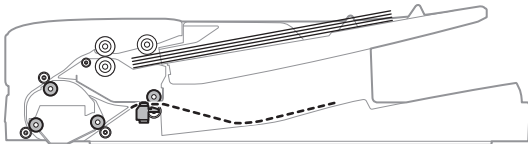
- 4) Scanning start (1st sheet)



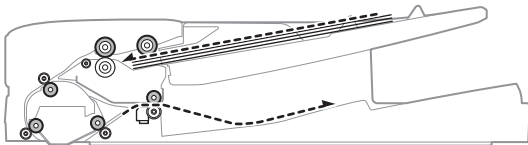
- 5) Scanning complete (1st sheet)



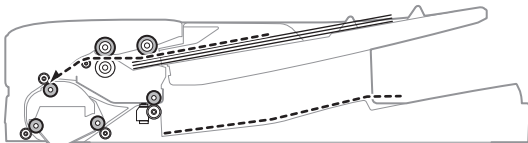
- 6) Stop at the stamp position/Stamp operation (1st sheet)
(Stamp solenoid ON)



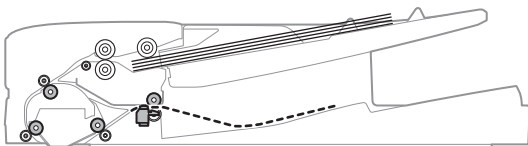
- 7) Paper exit start (1st sheet)/Preliminary paper feed start (2nd sheet)



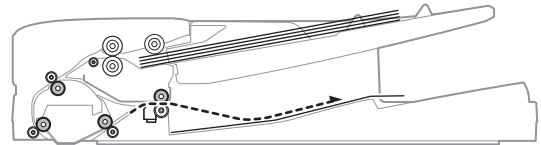
- 8) Paper exit complete (1st sheet)



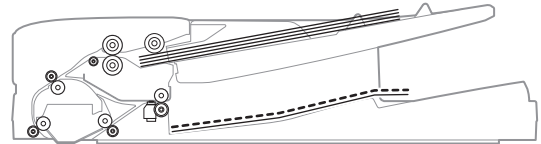
- 9) Stop at the stamp position/Stamp operation (2nd sheet)
(Stamp solenoid ON)



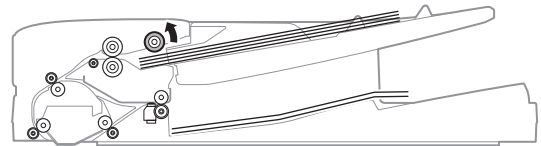
- 10) Paper exit start (2nd sheet)



- 11) Paper exit complete (2nd sheet)

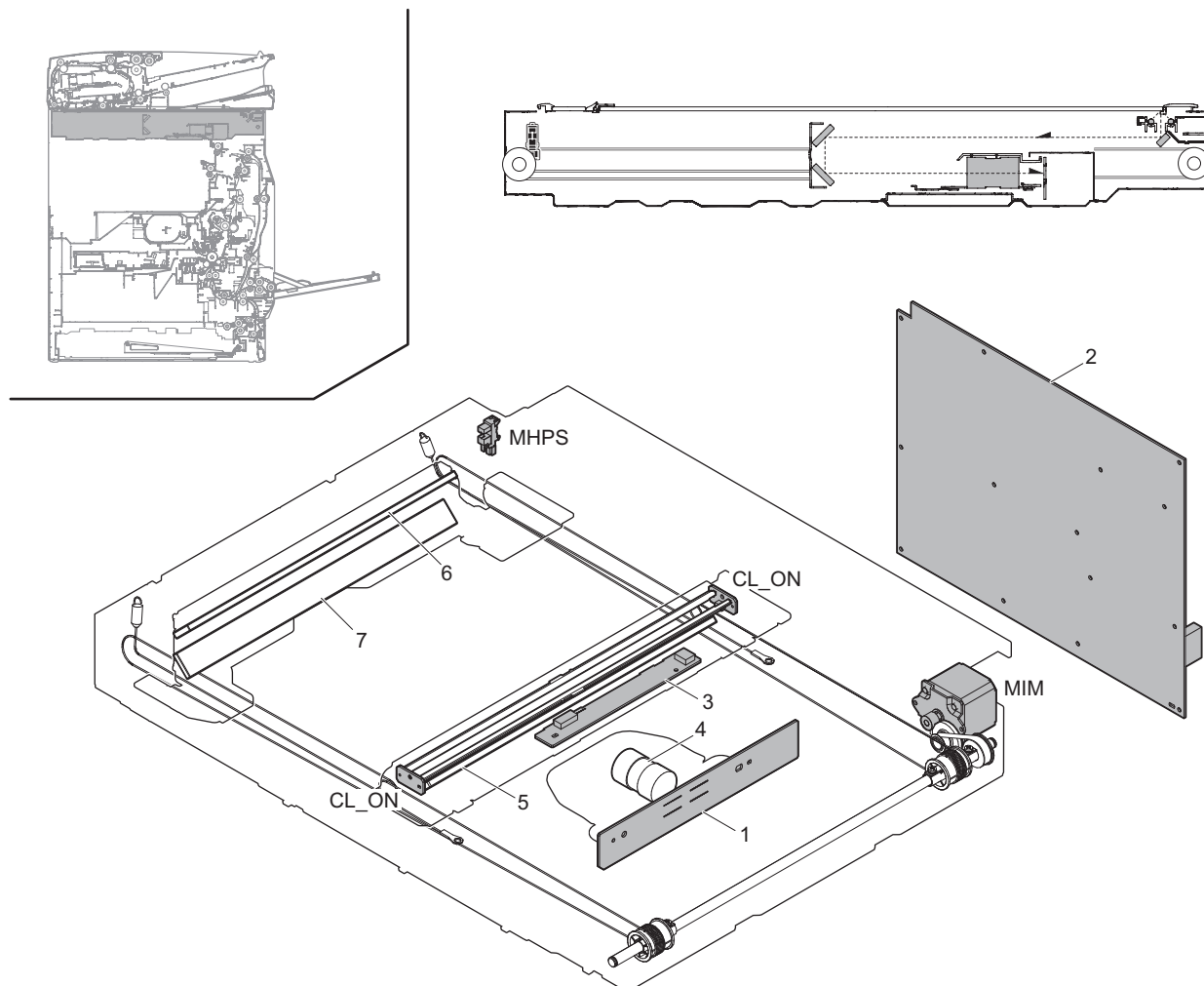


- 12) Pick-up roller lifting up
(After completion of a job, the document feed motor is rotated reversely at a low speed for a certain time to lift the pickup roller.)



4. Scanner section

A. Electrical and mechanical parts location



Signal name	Name	Function/Operation
CL_ON	Scanner lamp	Radiates light onto a document for the CCD to scan the document image
MHPS	Scanner home position sensor	Detects the scanner home position
MIM	Scan motor	Drives the scanner unit (scan, return operations)

No.	Name	Function/Operation
1	CCD PWB	Scan document images and performs A/D conversion of the scanning signal
2	SCN MFP PWB	Controls image data (compression, decompression and filing) and controls the whole machine. Converts print data into image data.
3	LED DRIVER PWB	Drives the scanner lamp
4	Lens	Reduces a document image (light) and project it to the CCD.
5	1st mirror	Leads a document image to the lens.
6	2nd mirror	
7	3rd mirror	

B. Operational descriptions

(1) General

This section performs the following operations.

- 1) Light is radiated onto the document by the scanner lamp and the reflected image is scanned by the 3-line (RGB) CCD elements to be converted into analog image signals.
- 2) The analog image signals are converted into 10-bit digital signals by the A/D converter.
- 3) The digital image signals are sent to the SCN MFP PWB for image processing.

(2) Detailed descriptions

a. Optical section drive

The optical section is driven as follows: The drive power is transmitted from the scanner motor (MIM) through the belt to the drive pulley/wire, and the copy lamp unit and the mirror base which are attached to the wire are driven.

The scanner motor (MIM) is controlled with the signals sent from the SCN MFP PWB.

b. Scanner lamp drive

The scanner lamp is driven by the scanner lamp drive voltage which is generated by the LED DRIVER PWB with the control signals sent from the SCN MFP PWB.

c. Image scan and color separation

Light is radiated onto the document by the scanner lamp and the reflected image is scanned by the 3-line (RGB) CCD elements to be converted into analog image signals.

The color components are extracted into R, G, and B by the three kinds of CCD elements (R, G, and B).

The red CCD extracts the red component of an image, the green CCD extracts the green component, and the blue CCD extracts the blue component. This operation is called color separation.

The CCD element is apparently seen as one unit, but it includes the three kinds of elements (R, G, and B).

The CCD element scans the document in the main scanning direction. Scanning in the sub scanning direction is made by shifting the scanner unit with the scanner motor.

The document images are optically reduced by the lens and reflected to the CCD.

The scanning direction is 600dpi.

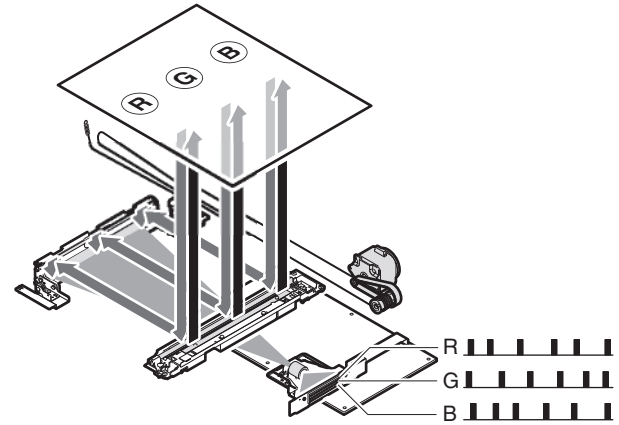
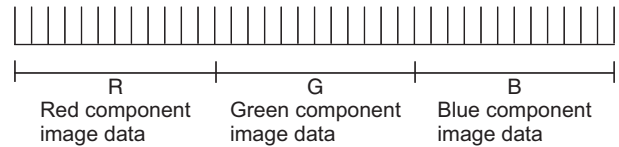
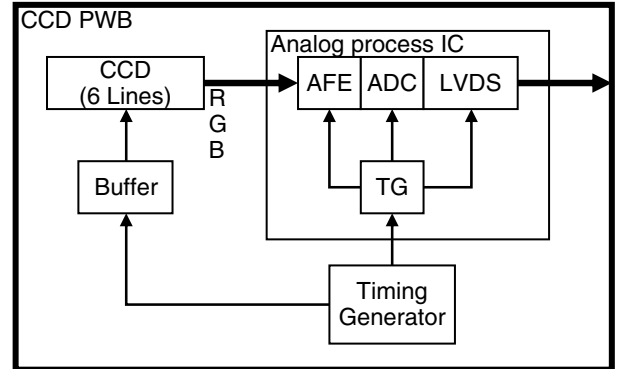


Image data of one line



d. Image signal A/D conversion

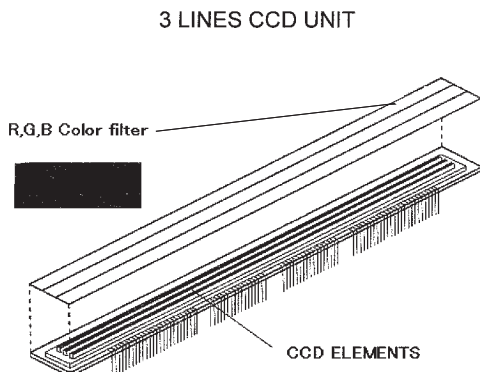
- 1) Each image signal (analog) of R, G, and B is converted into a 10bit digital signal by the A/D converter in the CCD PWB. Each color pixel has 10bit information.
- 2) Each 10bit digital image signal of R, G, and B is outputted from the CCD PWB and sent to the SCN MFP PWB, where it is converted into an 8bit signal.



e. Zooming operation

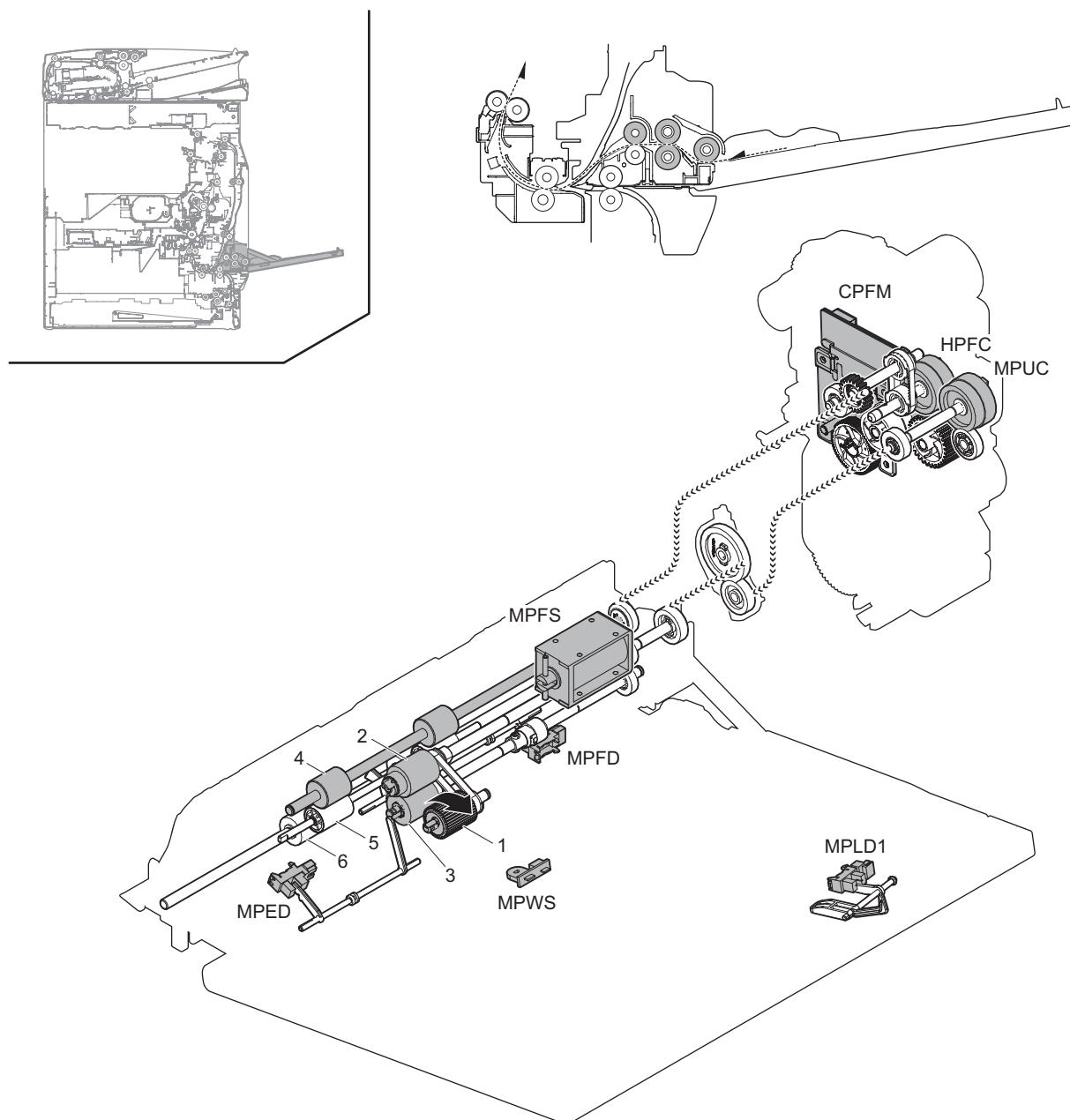
Zooming in the sub scanning direction is performed by changing the scanning speed in the sub scanning direction.

Zooming in the main scanning direction is not made optically, but performed by the image process technology (software).



5. Manual paper feed section

A. Electrical and mechanical parts location



Signal name	Name	Function/Operation
CPFM	Paper feed motor	Drives the paper feed section
HPFC	Horizontal transport clutch	Controls ON/OFF of the transport roller (Paper feed tray1, Manual paper feed tray)
MPED	Paper empty sensor	Detects presence of paper (Manual paper feed tray)
MPFD	Paper feed sensor	Detects paper pass (Manual paper feed tray)
MPFS	Paper feed solenoid	Controls the paper feed roller (Manual paper feed tray)
MPLD1	Paper length sensor	Detects the paper length (Manual paper feed tray)
MPUC	Manual paper feed clutch	Controls ON/OFF of the paper feed roller (Manual paper feed)
MPWS	Paper width sensor	Detects the paper width (Manual paper feed tray)

No.	Name	Function/Operation
1	Paper pickup roller	Feeds paper to the paper feed roller (Manual paper feed tray)
2	Paper feed roller	Feeds paper to the paper transport section (Manual paper feed tray)
3	Separation roller	Separate paper to prevent double feeding (Manual paper feed tray)
4	Transport roller 11 (Drive)	Transports paper transported from manual paper tray to the transport roller 5
5	Transport roller 11 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
6	Transport roller 4 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper

B. Operational descriptions

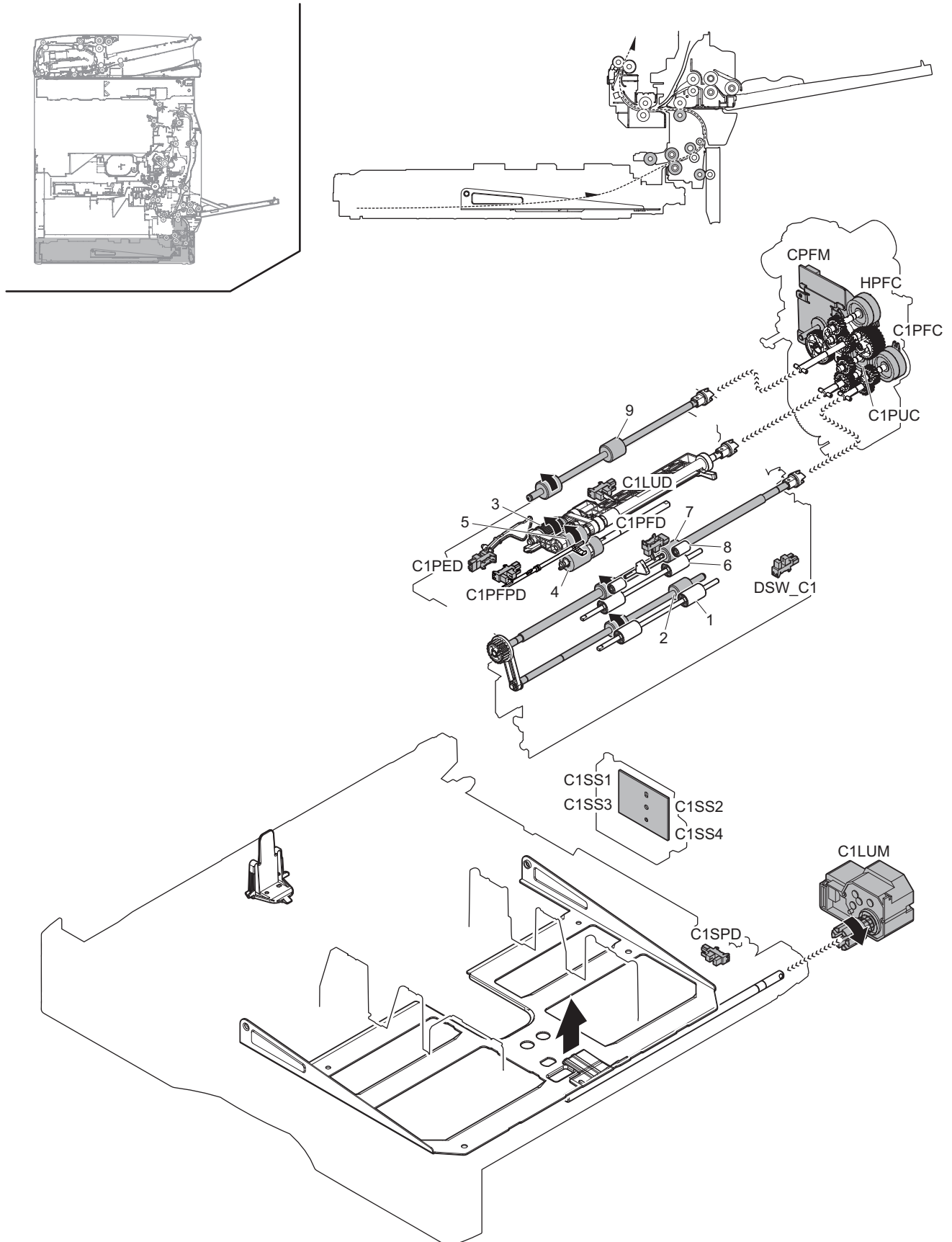
(1) Paper feed operation

The paper pickup roller moves up and down to press the paper surface, separating the paper on the top of the paper bundle and sending it to the paper feed roller section.

The paper feed roller feeds paper to the transport section to prevent against double feed with the separation roller. The manual paper feed clutch controls ON/OFF of the paper pickup roller and the paper feed roller. Paper is sent to the registration roller by the transport roller.

6. Tray paper feed section

A. Electrical and mechanical parts location



Signal name	Name	Function/Operation
C1LUD	Paper feed tray upper limit sensor	Detects the upper limit of the paper lift up (Paper feed tray1)
C1LUM	Paper tray lift motor	Lifts the lift plate of the paper feed tray (Paper feed tray1)
C1PED	Paper empty sensor	Detects paper empty (Paper feed tray1)
C1PFC	Vertical transport clutch	Controls the transport roller (Paper feed tray1)
C1PFD	Paper transport sensor	Detects paper pass in the paper transport section (Paper feed tray1)
C1PFPD	Paper pass sensor	Detects paper pass in the paper transport section (Paper feed tray1)
C1PUC	Paper feed clutch	Controls ON/OFF of the paper feed roller (Paper feed tray1)
C1SPD	Paper remaining quantity sensor	Detects the paper remaining quantity (Paper feed tray1)
C1SS1 - 4	Paper size sensor	Detects paper size (Paper feed tray1)
CPFM	Paper feed motor	Drives the paper feed section
DSW_C1	Transport cover sensor	Detects open/close of the transport section cover (Paper feed tray1)
HPFC	Horizontal transport clutch	Controls ON/OFF of the transport roller (Paper feed tray1, Manual paper feed tray)

No.	Name	Function/Operation
1	Transport roller 1 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
2	Transport roller 1 (Drive)	Transports paper fed from the paper feed tray to the transport roller 4
3	Paper pickup roller	Feeds paper to the paper feed roller (Paper feed tray1)
4	Separation roller	Separates paper to prevent double feeding (Paper feed tray1)
5	Paper feed roller	Feeds paper to the paper transport section (Paper feed tray1)
6	Transport roller 2 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
7	Transport roller 2(Drive)	Transports paper fed from the paper feed tray 1 to the transport roller 3
8	Transport roller 3	Transports paper from the transport roller 2 to the transport roller 4
9	Transport roller 4 (Drive)	Transports paper from the transport roller 1 and 3 to the transport roller 5

B. Operational descriptions

(1) Paper feed front operation

- Set paper and insert the paper feed tray, detects paper size and paper pickup roller falls.
- The paper tray lift motor drives the rotating plate to move it up.
- The paper feed tray upper limit sensor turns ON, and the rotation plate stops at the specified position.

(2) Paper feed operation

- When copy/print operation is started, the motor and the clutch are turned ON to rotate the paper pickup roller in the paper pickup timing, feeding paper.
- At the same time, the paper feed roller rotates to transport paper to the transport section. At that time, the separation roller rotates to prevent against double feed of paper.

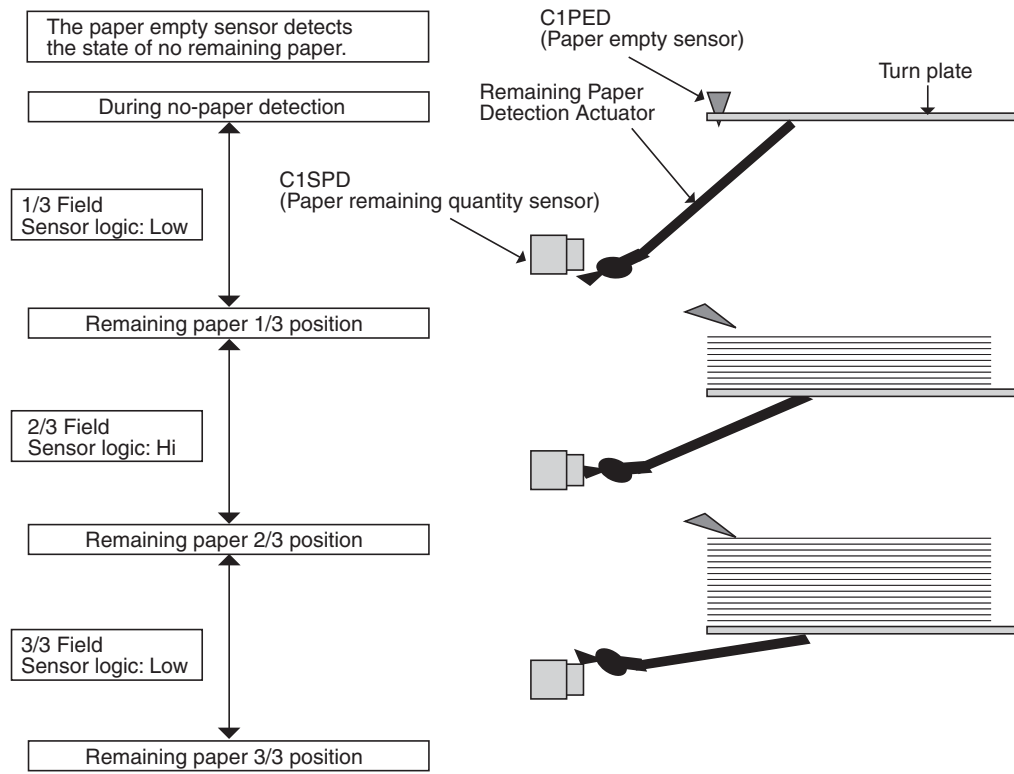
(3) Paper remaining detection

The notifying levels of paper remaining quantity are 4 steps in total; 3 steps of paper remaining quantity and 1 step of paper empty. The result is displayed.

(4) Paper remaining quantity detection method

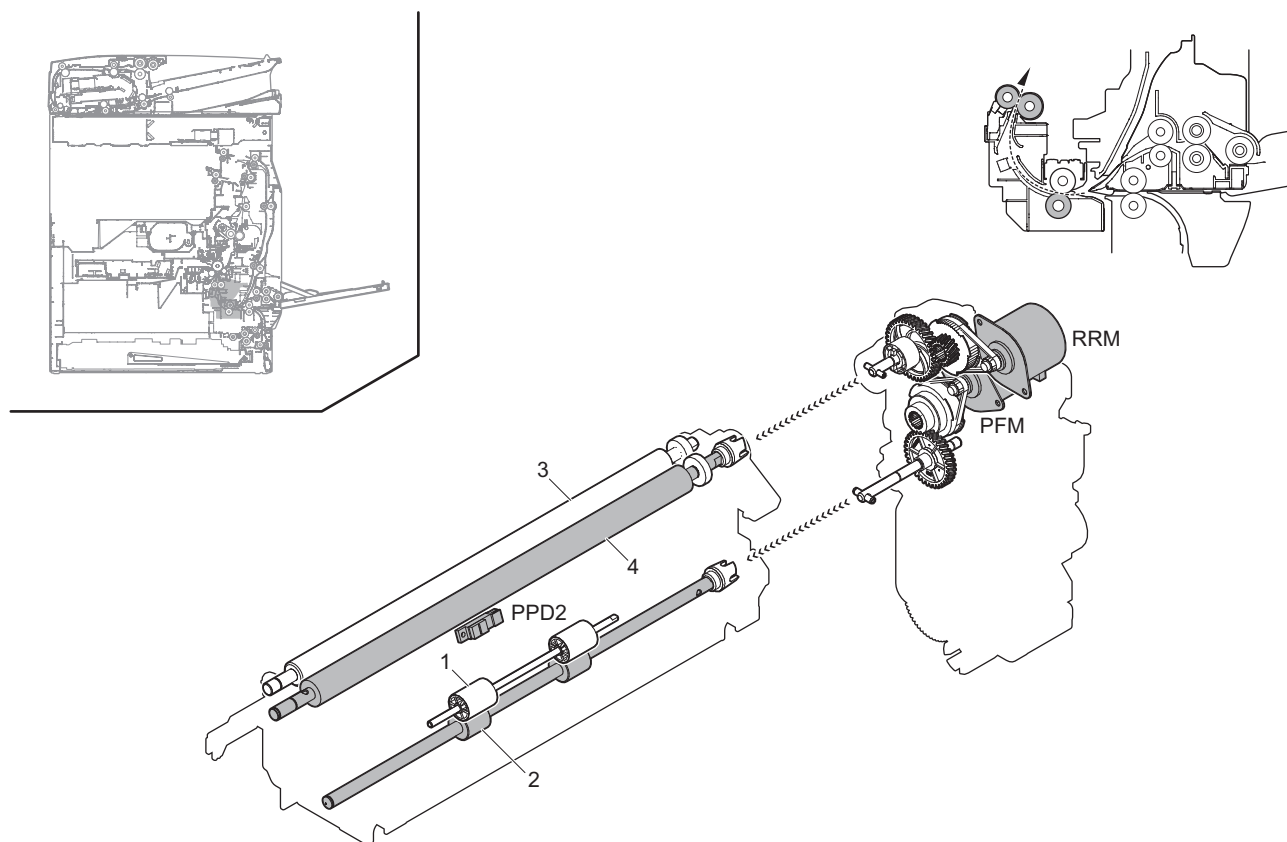
- The paper remaining quantity is judged from the number of rotations of the paper remaining quantity sensor from starting the lift-up operation of the paper feed tray to turning ON the paper feed tray upper limit sensor.

(Figure showing state transition of the paper remaining quantity sensor during tray elevation and changes in status according to the number of remaining sheets)



7. Paper registration section (Paper transport section)

A. Electrical and mechanical parts location



Signal name	Name	Function/Operation
PFM	Transport motor	Drives the transport roller 5
PPD2	Paper transport sensor2	Detects paper pass in the transport roller 5 and registration roller
RRM	Registration motor	Drives the registration roller (Controls the timing of the transfer image for the paper)

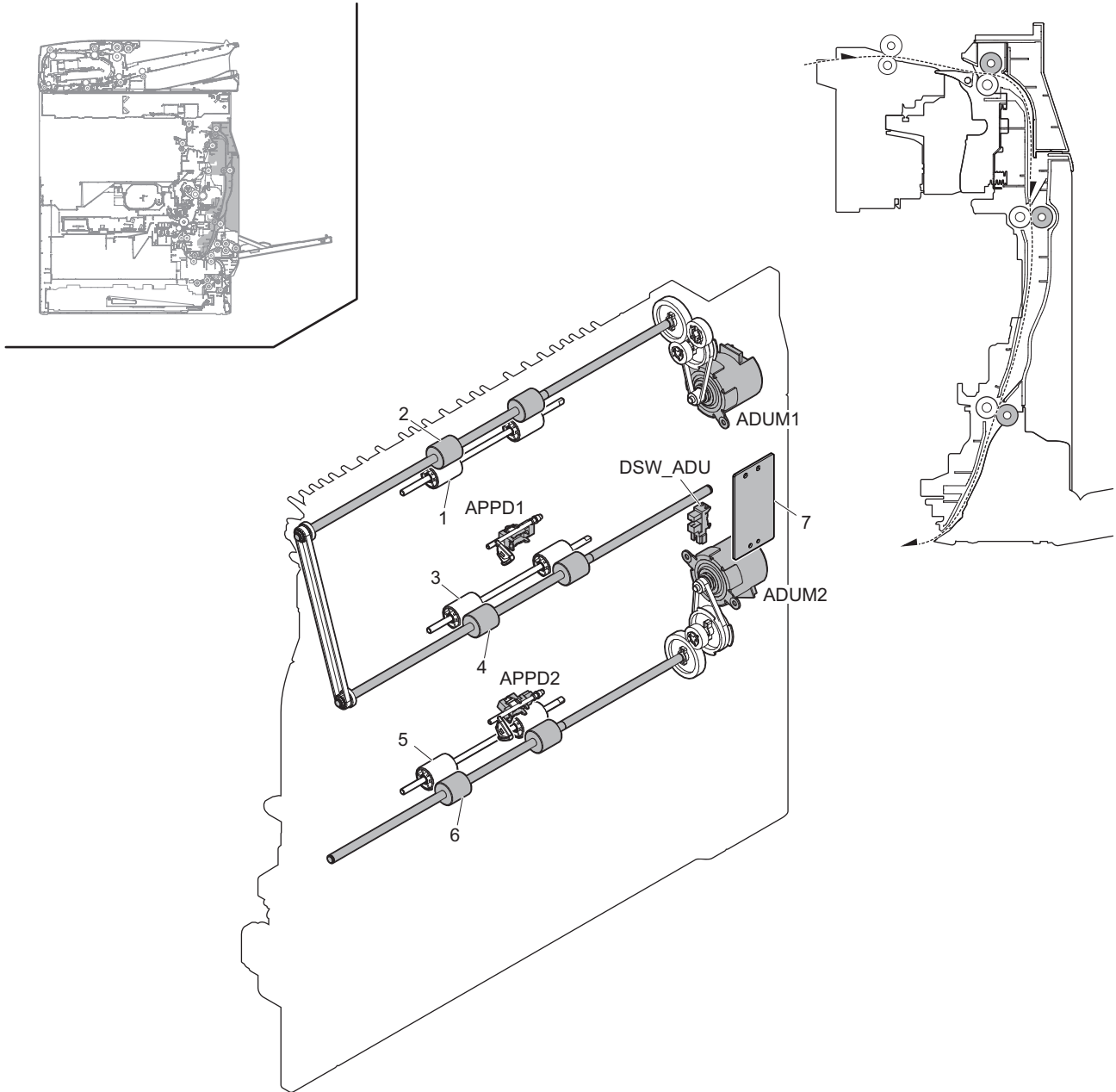
No.	Name	Function/Operation
1	Transport roller 5 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
2	Transport roller 5 (Drive)	Transports paper to the registration roller. Paper is buckled between the registration roller and this roller to correct the paper skew and the relation between images and paper
3	Registration roller (Idle)	Apply a pressure to paper and the registration roller to provide the transport power of the transport roller to paper
4	Registration roller (Drive)	Transports paper to the transfer section. Controls the transport timing of paper and adjusts relative position between the images and paper

B. Operational descriptions

Paper is fed from each paper feed section and transported to the registration roller by the transport rollers. ON/OFF control of each transport roller is made by the paper transport clutch. The registration roller controls the relative positions of transported paper and the transfer image. The registration roller is driven by the transport motor. The relative positions of paper and the transfer image are determined by the ON timing of the transport motor.

8. ADU section

A. Electrical and mechanical parts location



Signal name	Name	Function/Operation
ADUM1	ADU motor1	Drives the transport roller in the right door and right paper exit section
ADUM2	ADU motor2	Drives the transport roller in the right door section
APPD1	ADU paper transport sensor1	Detects paper entry and paper pass in the ADU section
APPD2	ADU paper transport sensor2	Detects paper pass of the transport roller 10 in the ADU section
DSW_ADU	ADU cover sensor	Detects open/close of the ADU cover

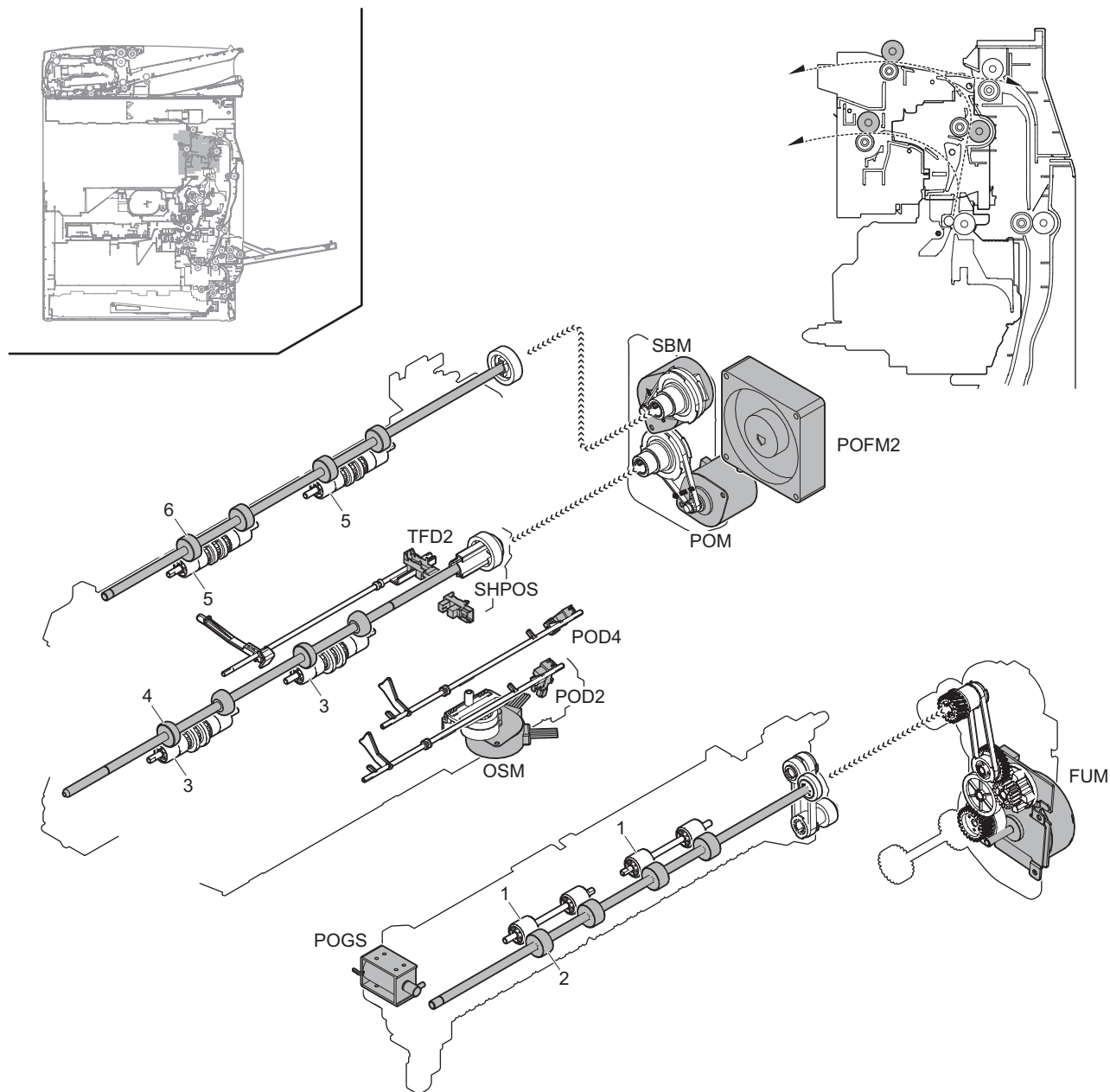
No.	Name	Function/Operation
1	Transport roller 8 (Idle)	Apply a pressure to paper and the paper exit roller to provide the transport power of the transport roller to paper
2	Transport roller 8 (Drive)	Transports paper to transport roller 9
3	Transport roller 9 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
4	Transport roller 9 (Drive)	Transports paper transported from the switchback section to the transport roller 10
5	Transport roller 10 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
6	Transport roller 10 (Drive)	Transports paper transported from transport roller 9 to the transport roller 5
7	RD I/F PWB	Detects each sensor in the right door unit

B. Operational descriptions

- The paper transported from the fusing section is sent from transport roller 7 (which is driven by the fusing motor) to paper exit roller 1. At that time, the paper passed under the gate.
- When POD4 detects the paper lead edge, the reverse motor reverses.
- By reversion of the reverse motor, the paper is sent to the ADU section. At that time, the paper passes over the ADU guide which fell by its own weight.
- Transport rollers 8 and 9 are driven the ADU motor1, and transport roller 10 by the ADU motor2. The paper is transported to the duplex paper feed position.
- The paper is once stopped at the duplex paper feed position, and transported again to the inside of the machine.

9. Paper exit section

A. Electrical and mechanical parts location



FUM	Name	Function/Operation
FUM	Fusing motor	Drives the fusing section
OSM	Offset motor	Offsets (shifts) paper
POD2	Paper exit sensor2	Detects paper transport to the center paper exit tray
POD4	Paper exit sensor4	Detects paper transport to the upper paper exit tray
POFM2	Paper exit fan 2	Cools the fusing section and the paper exit section
POGS	Gate solenoid	Controls ON/OFF of the gate solenoid selecting upper tray and lower tray
POM	Paper exit motor	Drives the roller in the paper exit section
SBM	Reverse motor	Drives the transport roller in duplex mode
SHPOS	Shifter home position sensor	Detects the shifter home position
TFD2	Paper exit tray full sensor	Detects paper full in the center paper exit tray

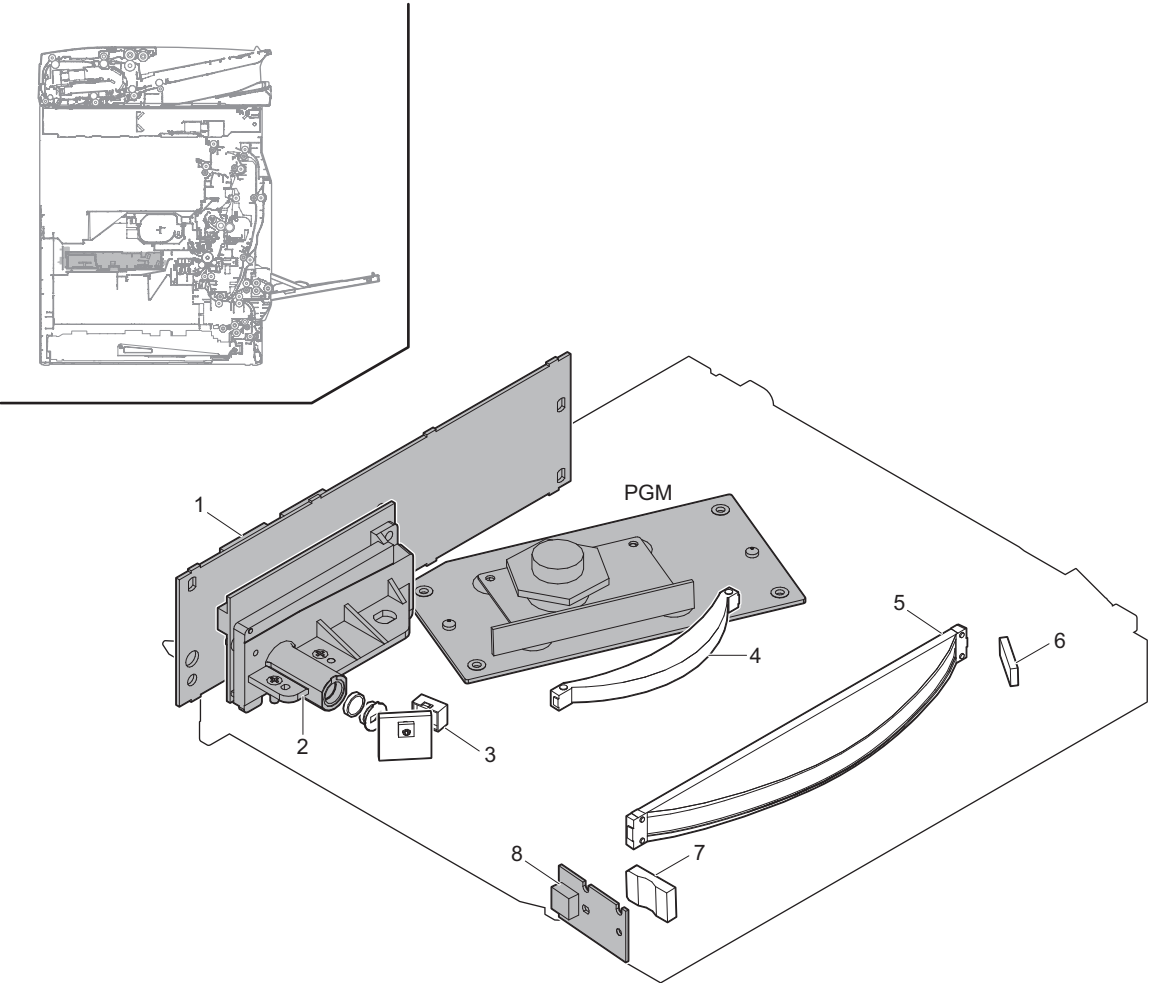
No.	Name	Function/Operation
1	Transport roller 7 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper
2	Transport roller 7 (Drive)	Transports paper to the paper exit section
3	Paper exit roller 2 (Idle)	Apply a pressure to paper and paper exit roller to provide the transport power of the paper exit roller to paper
4	Paper exit roller 2 (Drive)	Transports paper to the lower paper exit tray
5	Paper exit roller 1 (Idle)	Apply a pressure to paper and paper exit roller to provide the transport power of the paper exit roller to paper
6	Paper exit roller 1 (Drive)	Transports paper to the upper paper exit tray or switchback to the ADU section

B. Operational descriptions

- The paper transported from the fusing section is sent from transport roller 6 (which is driven by the Fusing motor) to paper exit roller 2, and then discharged to the output tray.

10. LSU section

A. Electrical and mechanical parts location



Signal name	Name	Function/Operation
PGM	Polygon motor	Scans laser beams

No.	Name	Function/Operation
1	LSU PWB	Controls the LSU and generates the video data. Controls laser diode and power
2	LD PWB	Drives the laser diode
3	Cylindrical lens	Converges laser beams to focus.
4	fθ lens 1	Laser beams are refracted so that the laser scanning speed at the both ends of the OPC drum is the same as that at the center.
5	fθ lens 2	
6	Reflection mirror for BD	Laser beams for BD are reflected to the BD PWB.
7	Collective lens for BD	Converges laser beams to the BD PWB.
8	BD PWB	Detects laser and outputs the synchronous signal

B. Operational descriptions

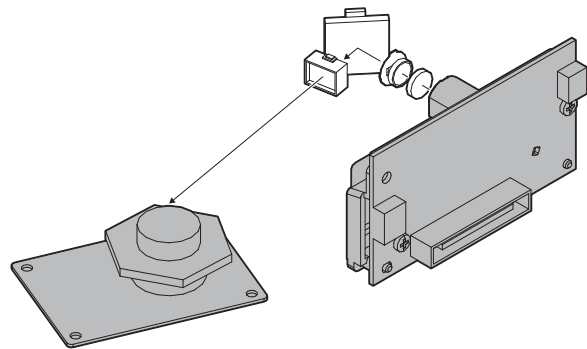
(1) Outline

Image data sent from the image process circuit are converted into laser beams which are radiated to the surface of the OPC drum.

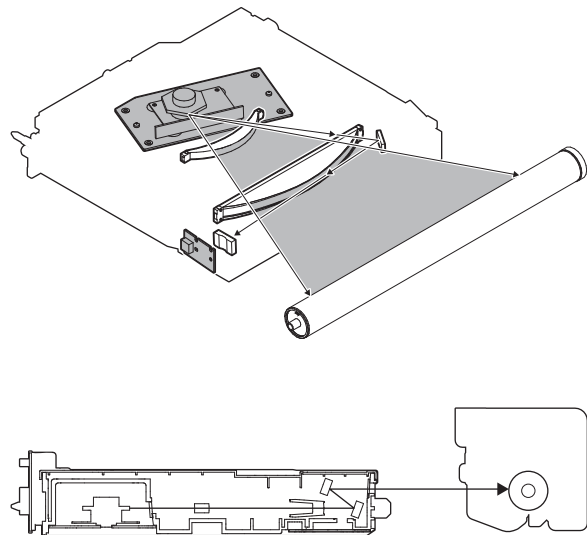
In this model, the 4/2-laser system is employed which radiates two laser beams. The LSU unit is composed of the primary system from the laser to the polygon mirror and the scanning system of the optical elements including the polygon mirror.

(2) Composition

(Primary system)



(Scanning system)



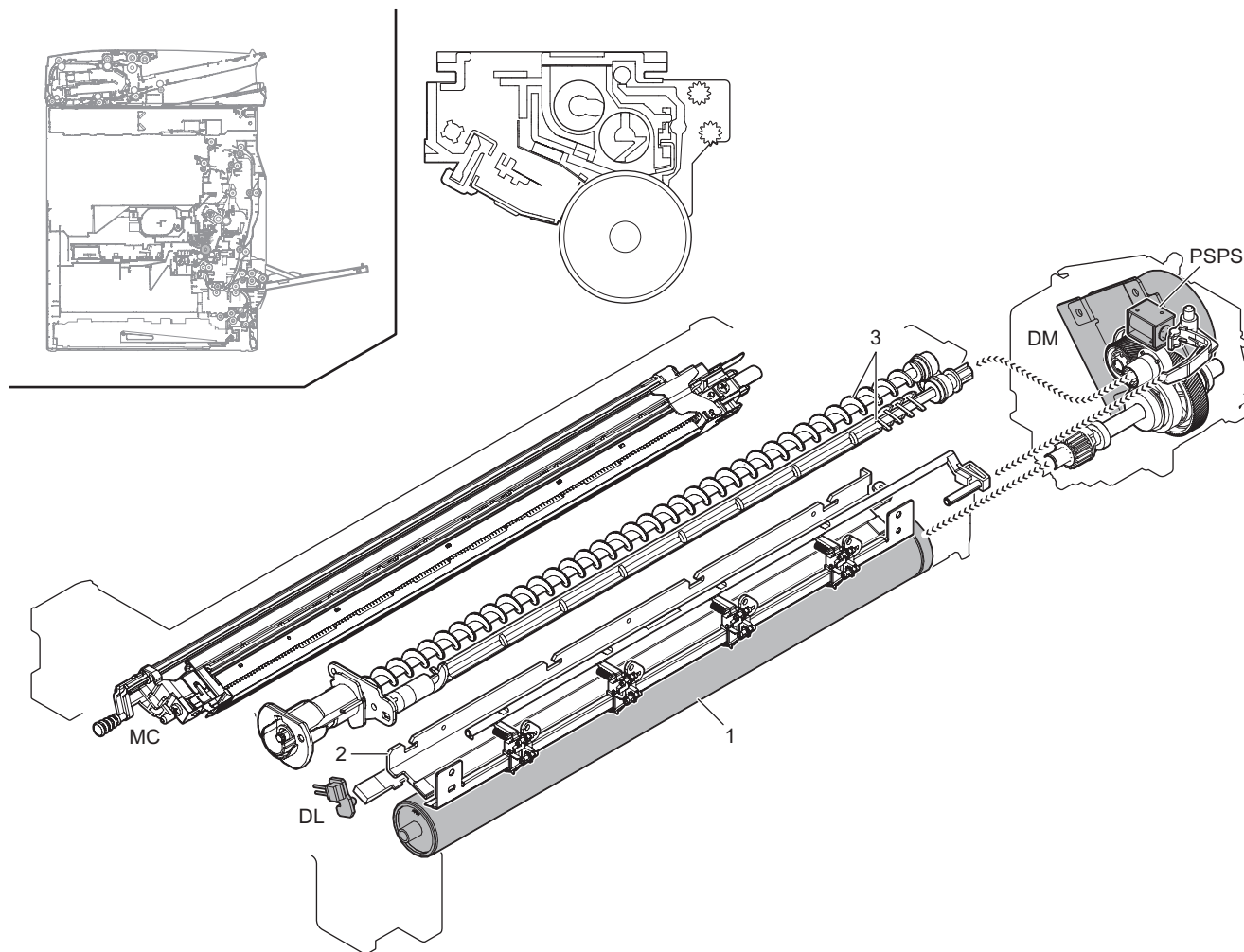
(3) Outline of LSU specifications

	MX-Mxx70 series		
	30/35/40ppm machine	50ppm machine	60ppm machine
Process speed (mm/s)	175	225	260
Resolution (dpi)	1200		
Laser beam	2	4	
Polygon motor rotation speed (rpm)	41339	26575	30709
Laser power (mW/beam)	0.12	0.0765	
Bearing type	Oil		
Number of mirrors	6		
Laser beam diameter (μm)	Main scan: 50-80 Sub scan: 50-90		
Effective scan length (mm)	310		
Laser wave length (nm)	780 - 800		

	MX-Mxx50 series		
	30/35/40ppm machine	50ppm machine	60ppm machine
Process speed (mm/s)	175	225	260
Resolution (dpi)	600		
Laser beam	2		
Polygon motor rotation speed (rpm)	20669	26575	30709
Laser power (mW/beam)	0.12		
Bearing type	Oil		
Number of mirrors	6		
Laser beam diameter (μm)	Main scan: 50-80 Sub scan: 50-90		
Effective scan length (mm)	310		
Laser wave length (nm)	780 - 800		

11. OPC drum section

A. Electrical and mechanical parts location



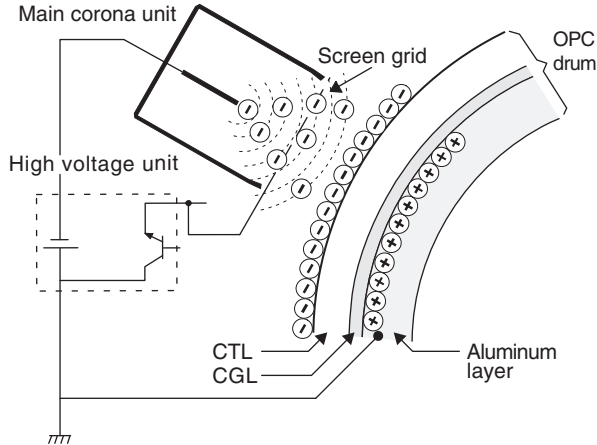
Signal name	Name	Function/Operation
DL	Discharge lamp	Discharges electric charges on the OPC drum
DM	Drum motor	Drives the OPC drum/developing section
MC	Main charger	The OPC drum surface is negatively charged
PSPS	Separation solenoid	Separates paper from the OPC drum section

No.	Name	Function/Operation
1	OPC drum unit	Latent electrostatic images are formed.
2	Cleaning blade	Remaining toner on the OPC drum surface is cleaned.
3	Waste toner transport screw	Waste toner in the OPC drum unit is transported to the waste toner collection section.

B. Operational descriptions

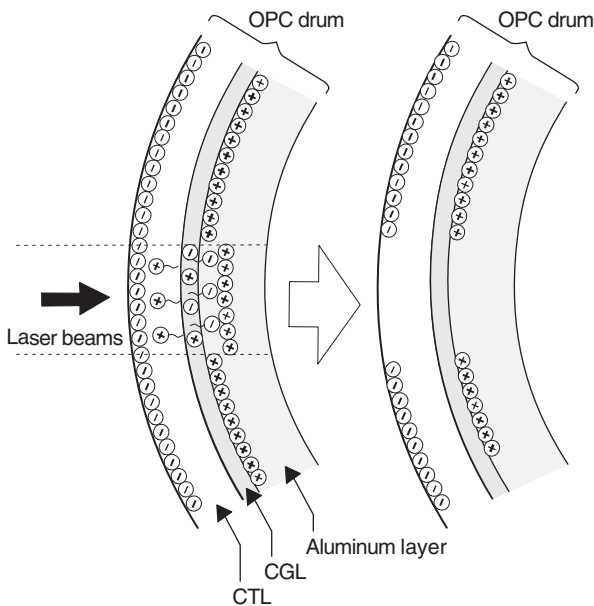
The OPC drum surface is negatively charged by the main charger, then laser image beams are radiated to the OPC drum surface by the laser (writing) unit to form electrostatic latent images.

- 1) The OPC drum surface is negatively charged by the main charger.



The main charger grid is provided with the screen grid. The OPC drum is charged at a voltage virtually same as the voltage applied to the screen grid.

- 2) Laser beams are radiated to the OPC drum surface by the laser (writing) unit to form electrostatic latent images.



When laser beams are radiated onto the CGL of the OPC drum, positive and negative charges are generated.

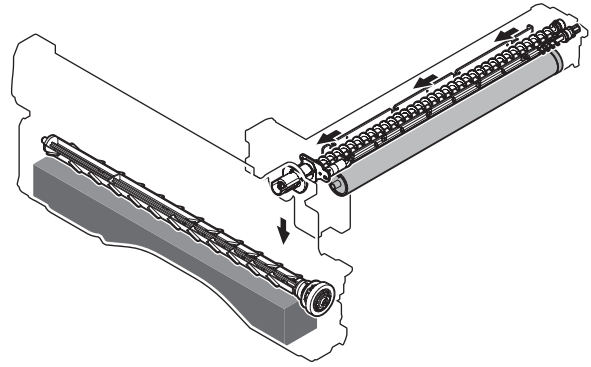
Positive charges generated in CGL are attracted to the negative charges on the OPC drum surface. On the other hand, negative charges are attracted to positive charges in the aluminum layer of the OPC drum.

Therefore, positive charges and negative charges are balanced out on the OPC drum and in the aluminum layer, reducing positive and negative charges to decrease the OPC drum surface voltage. Electric charges remain at a position where laser beam are not radiated.

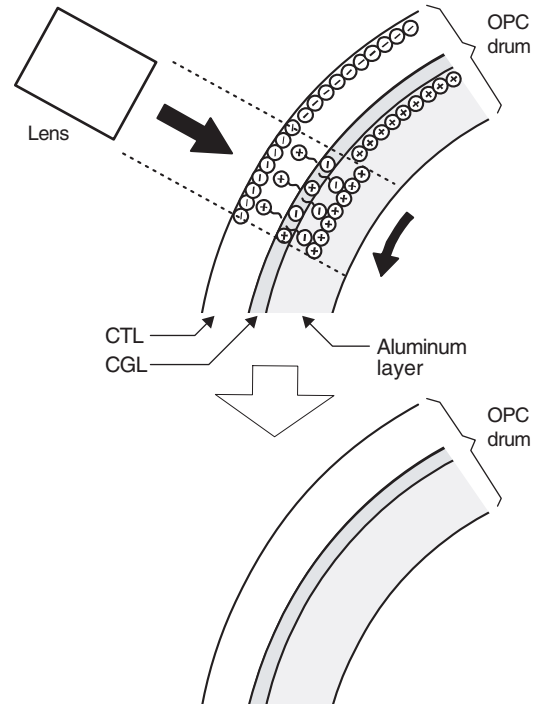
As a result, latent electrostatic images are formed on the OPC drum surface.

- 3) After transfer operation, remaining toner is removed by the cleaning blade.

Toner removed from the OPC drum surface is transported to the waste toner section by the waste toner transport screw.



- 4) The whole surface of the OPC drum is discharged.

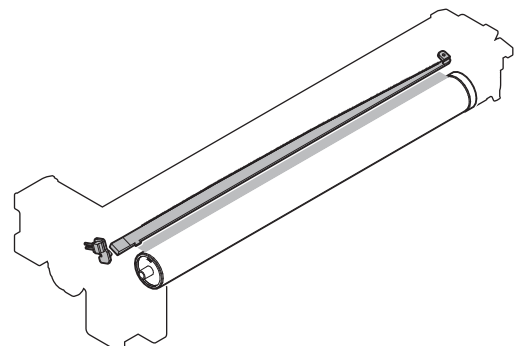


By radiating the discharge lamp light to the discharge lens, light is radiated through the lens to the OPC drum surface.

When the discharge lamp light is radiated to the OPC drum CGL, positive and negative charges are generated.

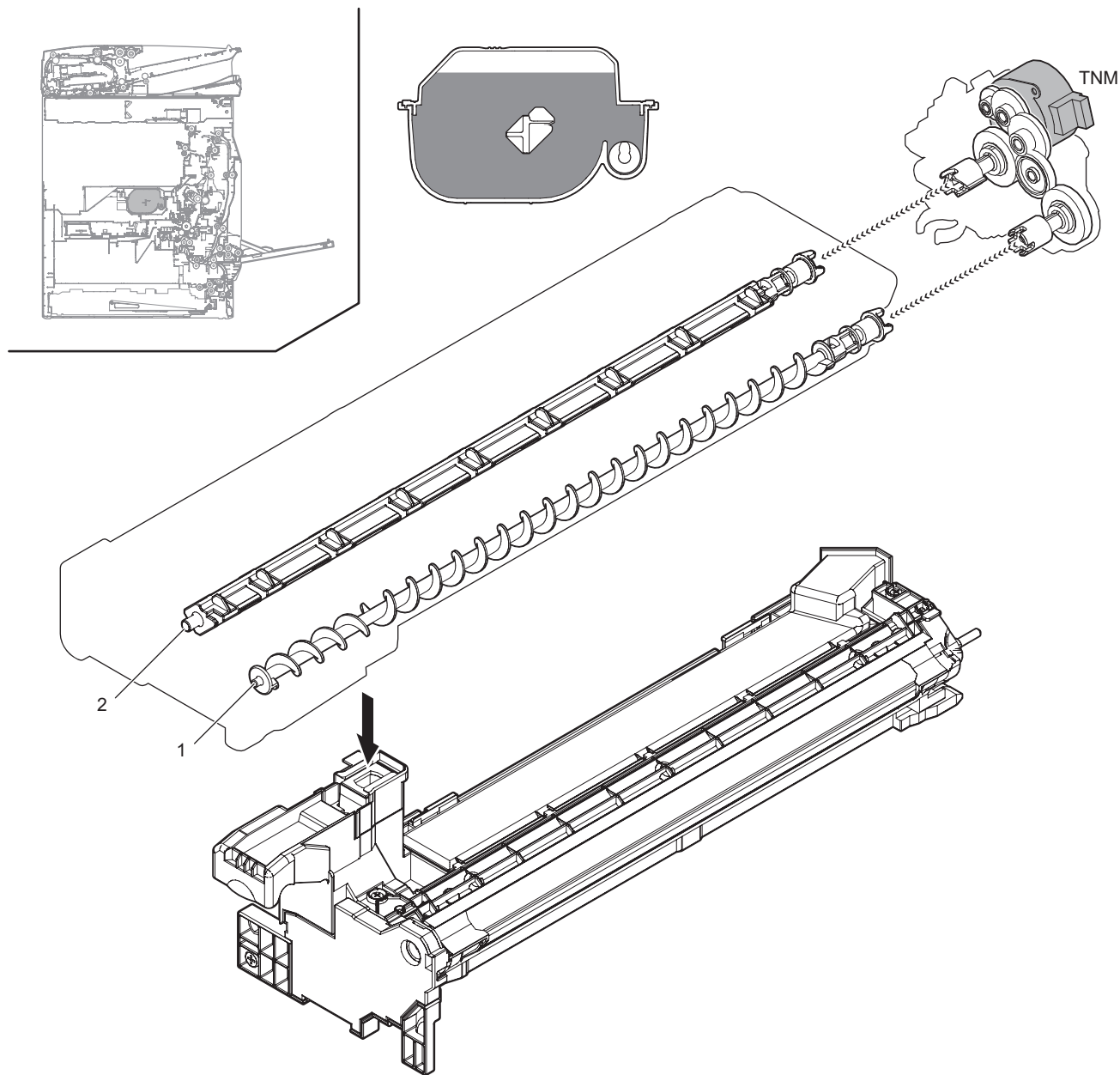
Positive charges generated in CGL are attracted to the negative charges on the OPC drum surface. On the other hand, negative charges are attracted to positive charges in the aluminum layer of the OPC drum.

Therefore, positive and negative charges are balanced out on the OPC drum surface and in the aluminum layer, reducing positive and negative charged to decrease the surface voltage of the OPC drum.



12. Toner supply section

A. Electrical and mechanical parts location



Signal name	Name	Function/Operation
TNM	Toner motor	Supplies toner from the toner cartridge to the developing unit

No.	Name	Function/Operation
1	Toner transport screw	Transports toner from the toner cartridge to the developing unit
2	Toner stirring plate	Moves toner to the toner transport screw to assist the toner transport operation

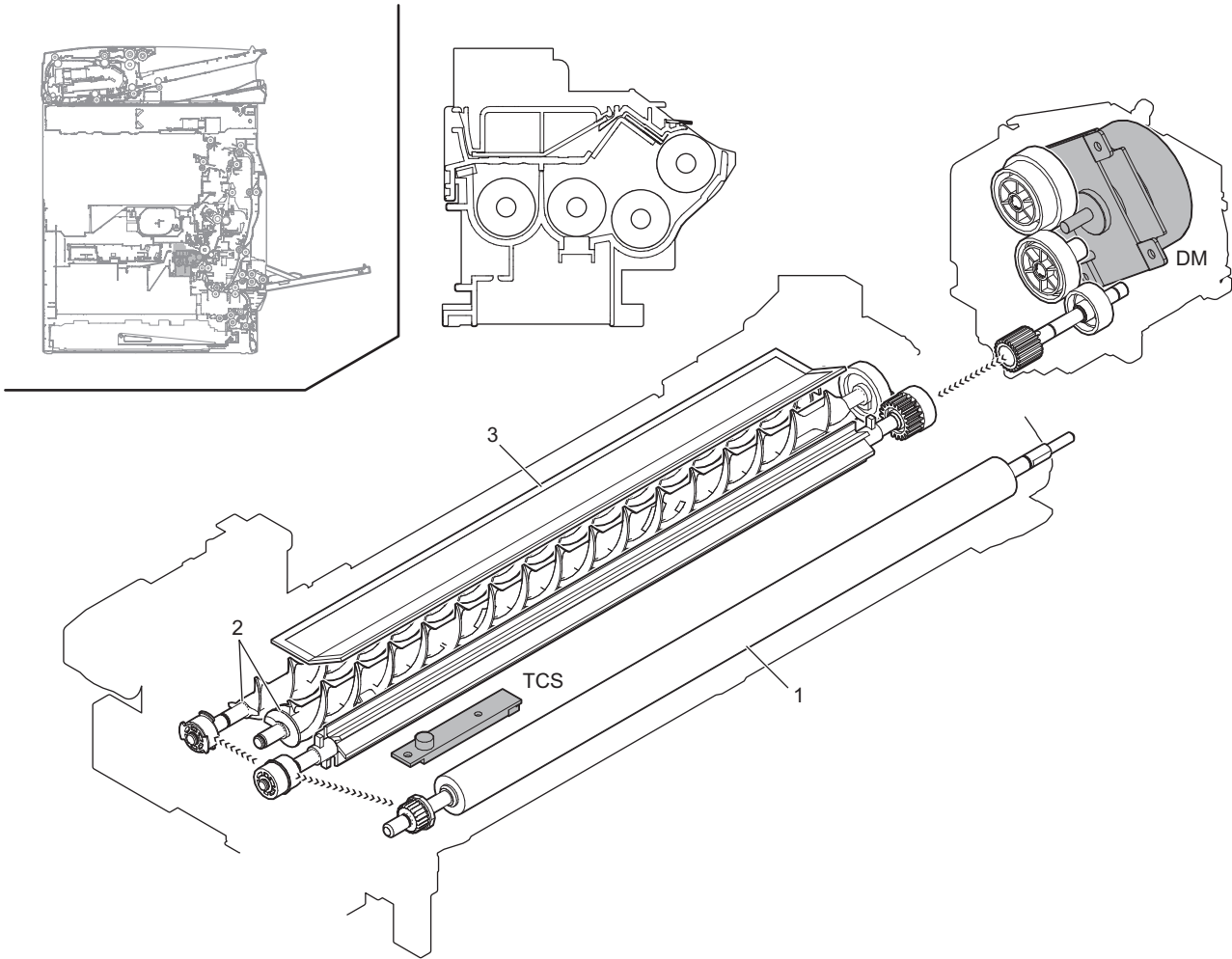
B. Operational descriptions

Based on the print pixel count and the process control information, Yes/No of toner supply is judged.

When it is judged that the toner density is decreasing, the toner motor is rotated to supply toner in the toner cartridge through the toner transport screw to the developing unit.

13. Developing section

A. Electrical and mechanical parts location

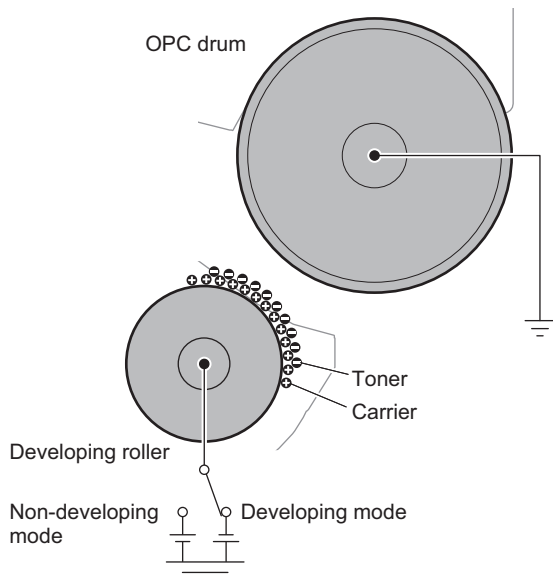


Signal name	Name	Function/Operation
DM	Drum motor	Drives the OPC drum/developing section
TCS	Toner sensor	Detects toner supply from the toner cartridge Detects the toner density

No.	Name	Function/Operation
1	Developing roller	Forms electrostatic latent images on the OPC drum into visible images.
2	Stirring roller	Stirs toner and developer to charge toner negatively by friction.
3	Toner filter	Prevents dispersing of toner.

B. Operational descriptions

This converts the electrostatic latent images on the OPC drum generated by the laser (writing) unit into visible images with toner.



Toner and carrier in the developing unit are stirred and transported by the mixing roller.

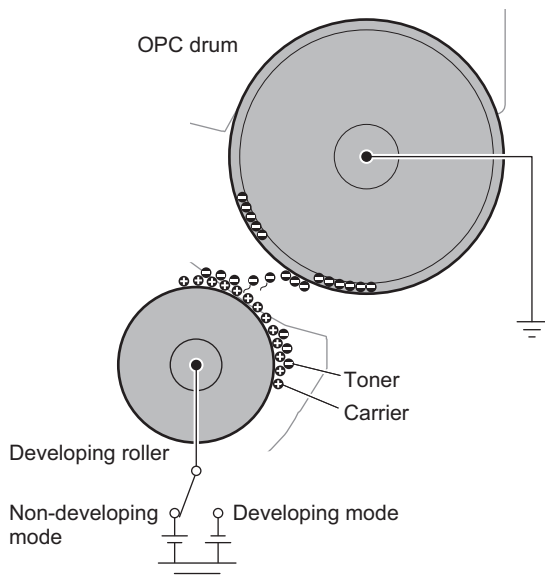
By mixing and transporting, toner and carrier are negatively charged due to mechanical friction.

The developing bias voltage (negative) is applied to the developing roller.

Negatively charged toner is attracted to the exposed section on the OPC drum where the negative potential falls due to the developing bias (negative).

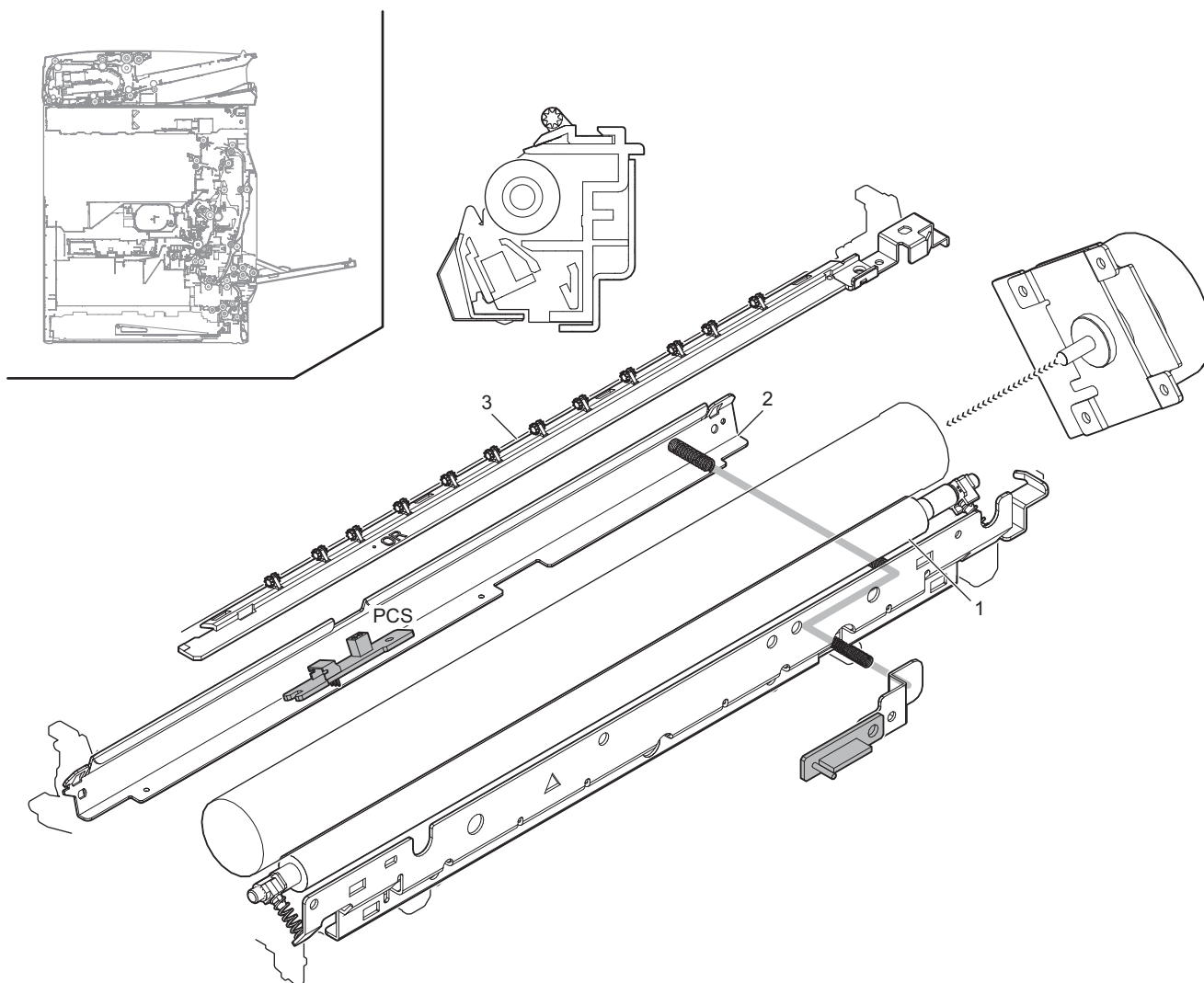
If the OPC drum is not exposed, the negative potential is higher than the developing bias voltage, and toner is not attracted.

When rotation of the OPC drum is started and stopped, some area on the OPC drum is not charged negatively. To prevent toner from attaching to that area, a positive voltage is applied to the drum.



14. Transfer section

A. Electrical and mechanical parts location



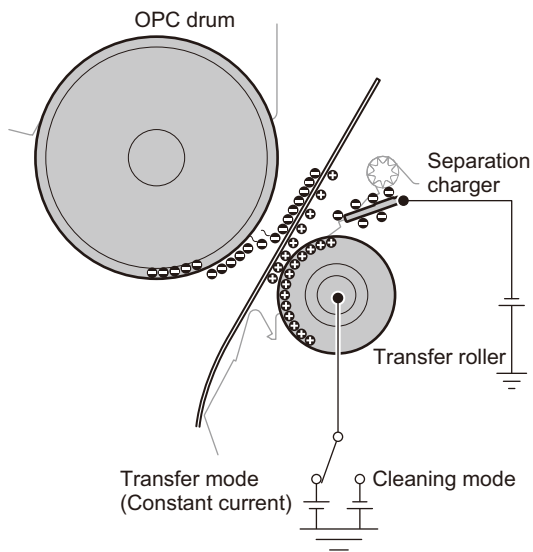
Signal name	Name	Function/Operation
PCS	Image density sensor	Detects toner patch density

No.	Name	Function/Operation
1	Transfer roller	Transfers toner images from the OPC drum to paper.
2	Paper guide electrode	Connected to the ground through a high resistor to maintain the paper guide at a proper potential, stabilizing the transfer operation.
3	Separation charger	Applies a high negative voltage to the paper which was charged positively in the transfer process in order to discharge it.

B. Operational descriptions

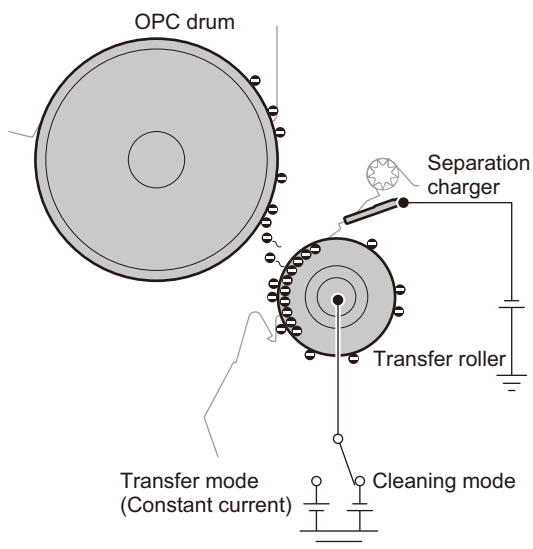
(1) Transfer operation

A positive high voltage is applied to the transfer roller to transfer the toner images from the OPC drum to paper.



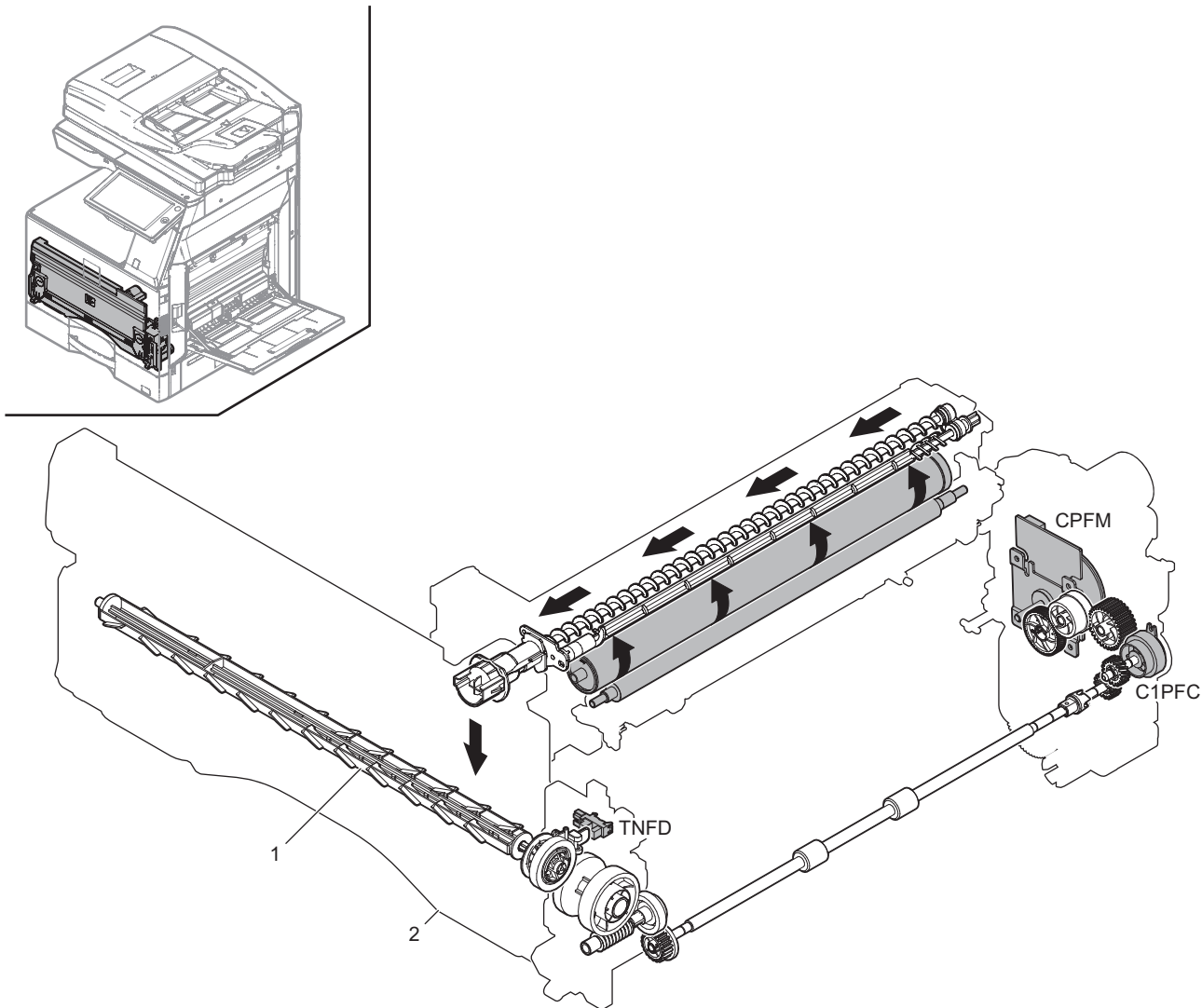
(2) Cleaning operation

The polarity of the voltage applied to the transfer roller is made negative, and unnecessary toner on the transfer roller is sent to the OPC drum, cleaned with the cleaning blade, and transported to the waste toner section.



15. Waste toner collection section

A. Electrical and mechanical parts location



Signal name	Name	Function/Operation
C1PFC	Vertical transport clutch	Controls the transport roller (Paper feed tray1)
CPFM	Paper feed motor	Drives the paper feed section
TNFD	Waste toner sensor	Detects full of waste toner

No.	Name	Function/Operation
1	Waste toner transport screw	Transports waste toner to the waste toner box.
2	Waste toner box	Collects waste toner.

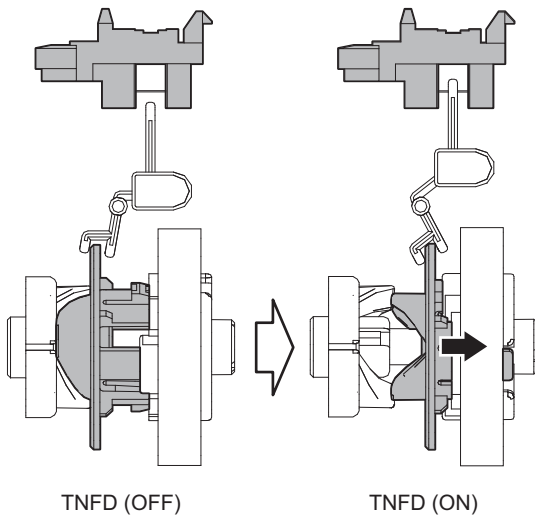
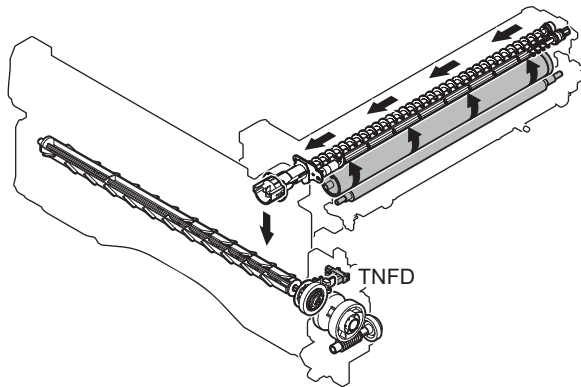
B. Operational descriptions

(1) Waste toner full detection operation

Waste toner generated in the OPC drum and the primary transfer cleaning section is transported to the waste toner box by the waste toner transport screw which is driven by the paper feed motor.

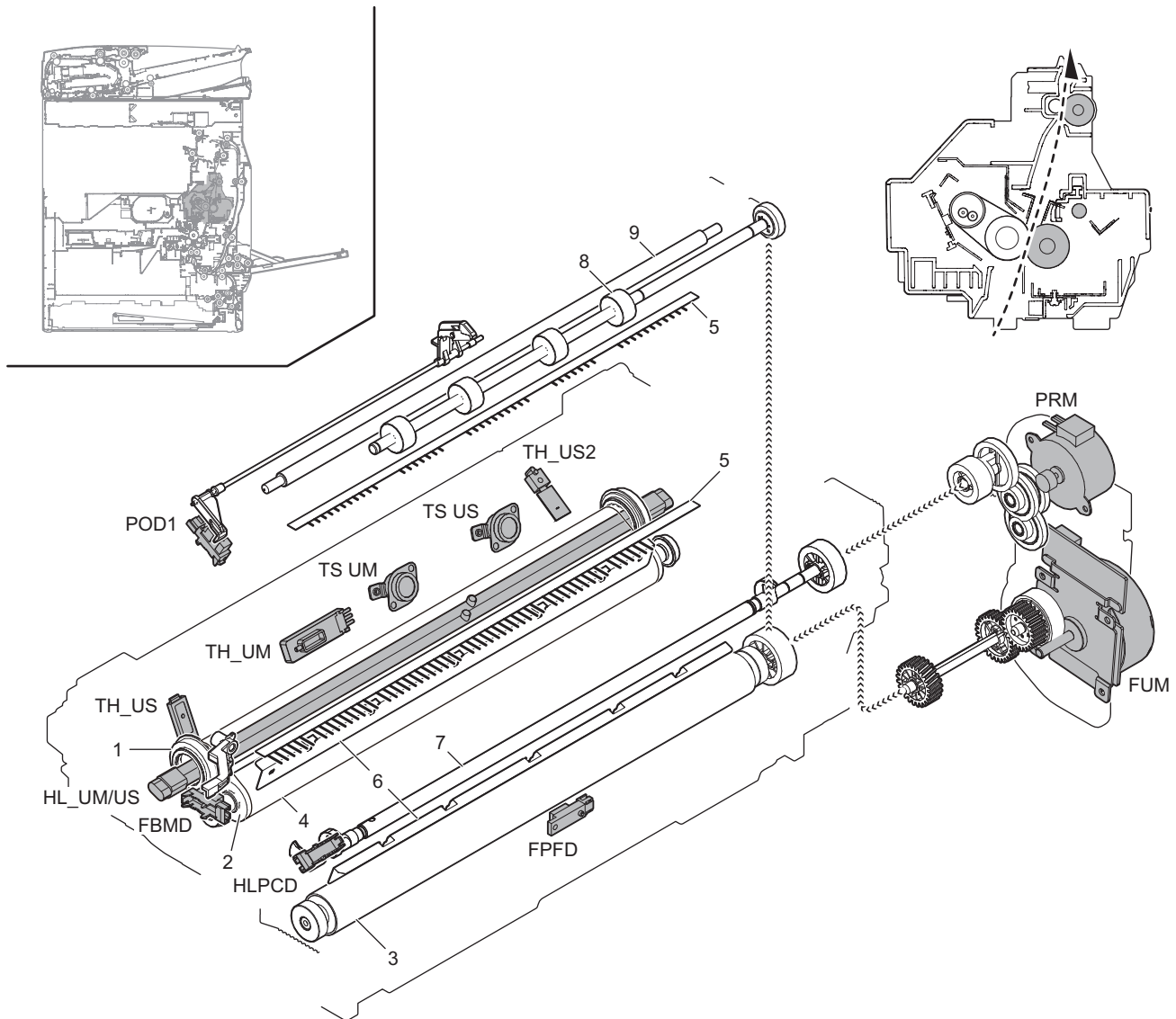
The toner collection box section is provided with the waste toner full detection mechanism. When the waste toner quantity in the toner collection box becomes full, the rotation load of the waste toner transport screw increases and the waste toner transport screw drive coupler is stranded to turn ON the waste toner sensor (TNFD).

When the waste toner sensor is turned ON continuously for 3 sec, it is judged as near end, and the message is display to indicate that the replacement of the toner collection box is approaching.



16. Fusing section

A. Electrical and mechanical parts location



Signal name	Name	Function/Operation
FBMD	Fusing belt sensor	Detects meandering of the fusing belt
FPDF	Fusing paper entry sensor	Detects paper pass before entering fusing section
FUM	Fusing motor	Drives the fusing section
HL_UM/US	Heater lamp	Heats the fusing roller and the fusing belt
HLPCD	Fusing pressure sensor	Detects the fusing pressure state
POD1	Paper exit sensor1	Detects paper transport from the fusing section
PRM	Fusing pressure motor	Controls ON/OFF of the fusing roller pressure and meandering correction for the fusing belt
TH_UM	Fusing temperature sensor (main)	Detects the surface temperature at the center of the fusing belt
TH_US	Fusing temperature sensor (sub)	Detects the surface temperature at the edge section of the fusing belt
TH_US2	Fusing temperature sensor (sub2)	Detects the surface temperature at the edge section of the fusing belt
TS_UM	Thermostat	Shuts down the heater lamp (HL_UM) circuit when the fusing section is overheated (center section)
TS_US	Thermostat	Shuts down the heater lamp (HL_US) circuit when the fusing section is overheated (edge section)

No.	Name	Function/Operation
1	Heat roller	Heats the fusing belt
2	Fusing roller	The sponge layer of the roller forms a wide nip between the fusing belt and fusing roller
3	Pressure roller	Heats the back surface of paper to fuse toner on the paper
4	Fusing belt	Heats the front surface of paper to fuse toner on the paper.
5	Discharge brush	Discharges static electricity generated in the fusing section to the ground.
6	Separation plate	Separates the whole surface of paper. (non-contact)
7	Pressure shaft	Pressure fusing roller and pressure roller.
8	Transport roller 6 (Drive)	Transports paper to the paper exit section
9	Transport roller 6 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper

B. Operational descriptions

(1) Outline of operations

This machine employs the fusing system by the belt.

The features of the belt-type fusing system are as follows:

- 1) Short warm-up time
- 2) Low power consumption
- 3) Wide nip providing high fusing capability

(2) Heater lamp driving

The surface temperature of the fusing belt detected by the fusing temperature sensor is sent to the PCU. If the temperature is lower than the specified temperature, the heater lamp lighting signal is sent from the PCU to the heater lamp drive circuit in the HL PWB.

When the power triac in the heater lamp drive circuit is turned ON, the AC power is supplied to the heater lamp to light the lamp and heat the fusing belt.

A thermostat is provided as a safety device against an abnormally high temperature in the fusing belt and the pressure roller.

When the thermostat is opened, the AC power supply to the heater lamp is cut off.

The heater lamp is arranged to heat roller.

In heater lamp (HL_UM/US), two lamps are integrated into one.

Heater lamp operations

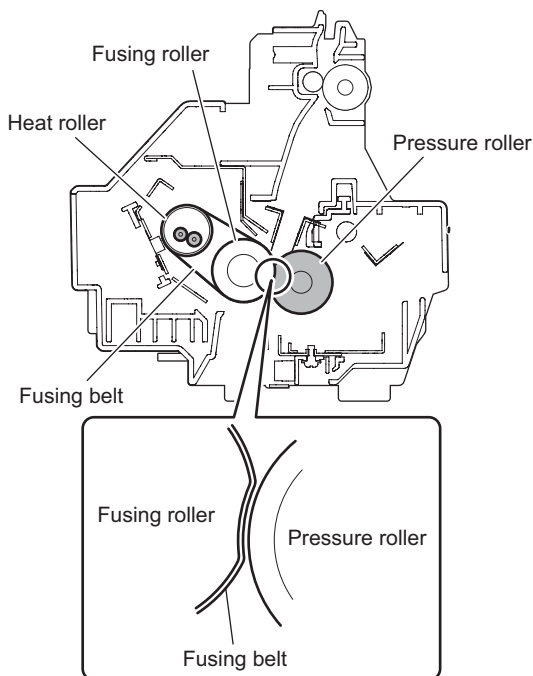
Heater lamp	Operation
Heater lamp (HL_UM)	Heats heat roller and the fusing belt.
Heater lamp (HL_US)	Heats heat roller and the fusing belt.

(3) Fusing operation

Toner on paper is heated and pressed by the fusing belt, fusing roller, and pressure roller to be fused on paper.

The fusing belt, fusing roller which is provided with the sponge layer, and pressure roller realize the following operations.

- 1) The nip amount is increased and the heat capacity to paper is increased.
- 2) By pressing with the flexible roller, toner can be fused without being deformed.



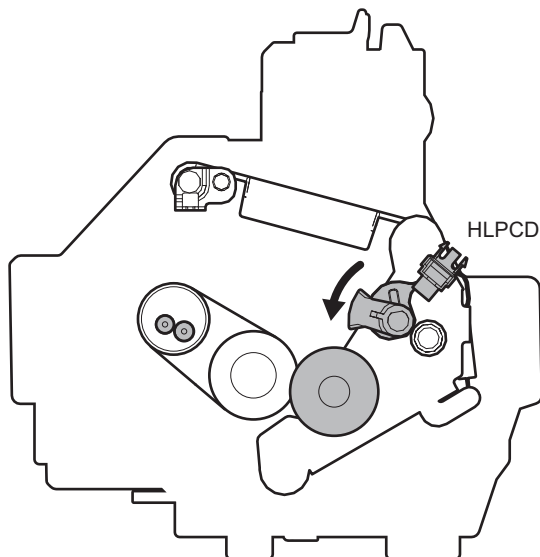
(4) Automatic pressure release system

Normally the fusing roller and pressure roller are pressed. When, however, the following conditions are satisfied, the pressure is released.

- When the machine shifts to the preheat mode.
- When the machine shifts to the auto power shut off mode.
- When the power switch of the operation panel is turned OFF.
- When in the envelope mode.
- When a jam occurs.

a. Pressure release operation

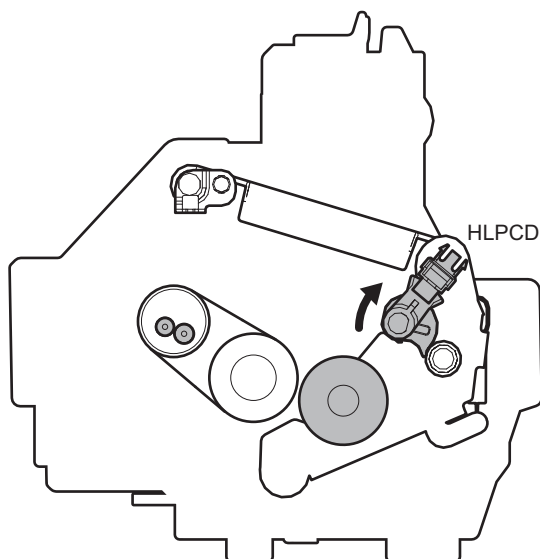
The fusing pressure motor (PRM) rotates to turn ON the fusing pressure sensor (HLPCD) (H level). When the specified time passes after turning ON the fusing pressure sensor (HLPCD) (H level) by rotation of the fusing pressure motor (PRM), the fusing pressure motor stops to complete the pressure release operation.



b. Pressure release operation

When the end user makes some operations or when the machine receives the Job signal, the fusing pressure motor (PRM) rotates reversely to drive the pressure release lever to the pressing state.

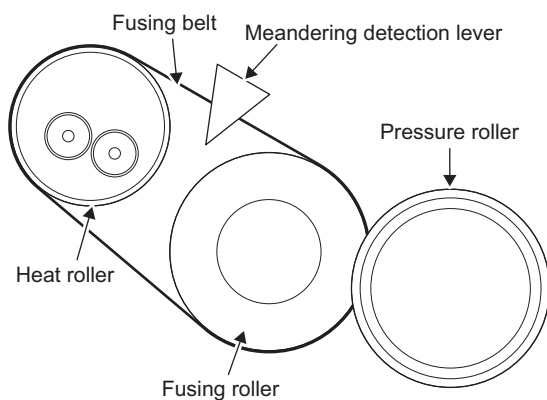
When the specified time passes from turning OFF the fusing pressure sensor (HLPCD), the fusing pressure motor stops to complete the pressing operation.



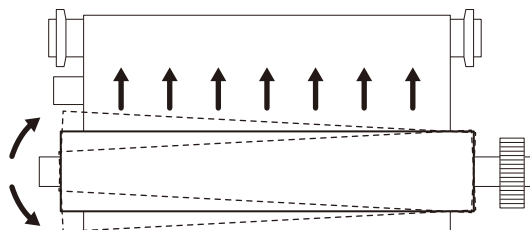
Important

When turning OFF the main power switch of the machine, be sure to turn OFF the power switch of the operation panel and check to confirm that the LCD display goes off before turning OFF the main power switch.

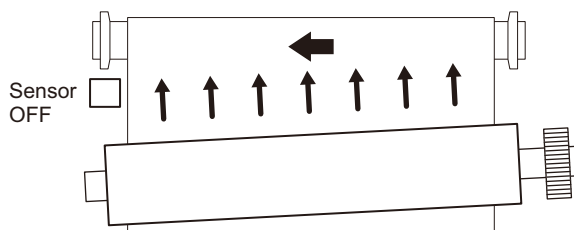
If the main power switch is turned OFF with the LCD lighted, the power is cut off before completion of the pressure release operation. If this state is kept for a long time, the fusing roller may be deformed.

(5) Principle of fusing belt meandering control

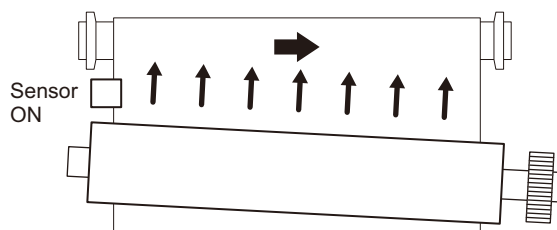
Pressure roller by the drive of the fusing pressure motor (PRM) for the line of the belt (approximately ± 0.1 degrees) and, based on the information of the fusing belt sensor (FBMD), control a meandering direction.



- When belt runs apart from sensor.



- When belt runs toward contact with sensor.



17. Fan and filter

A. Electrical and mechanical parts location

The machine is provided with the following fan to discharge air from the process section and cool the fusing section and the power unit.

Signal name	Name	Function/Operation
POFM1	Paper exit fan 1	Cools the fusing section and the paper exit section
POFM2	Paper exit fan 2	Cools the fusing section and the paper exit section
PROFM1	Process fan 1	Discharges air and cools the process section
PROFM2	Process fan 2	Discharges air and cools the process section
PSFM1	Power supply fan 1	Cools the power supply unit

B. Functions and operations of major parts

The machine is provided with the following filter to remove ozone generated in the process section.

Filter Process fan 1 produces an air flow to generate a difference in the air pressure between inside outside of the developing unit, preventing toner from splashing from the open port of the developing unit.

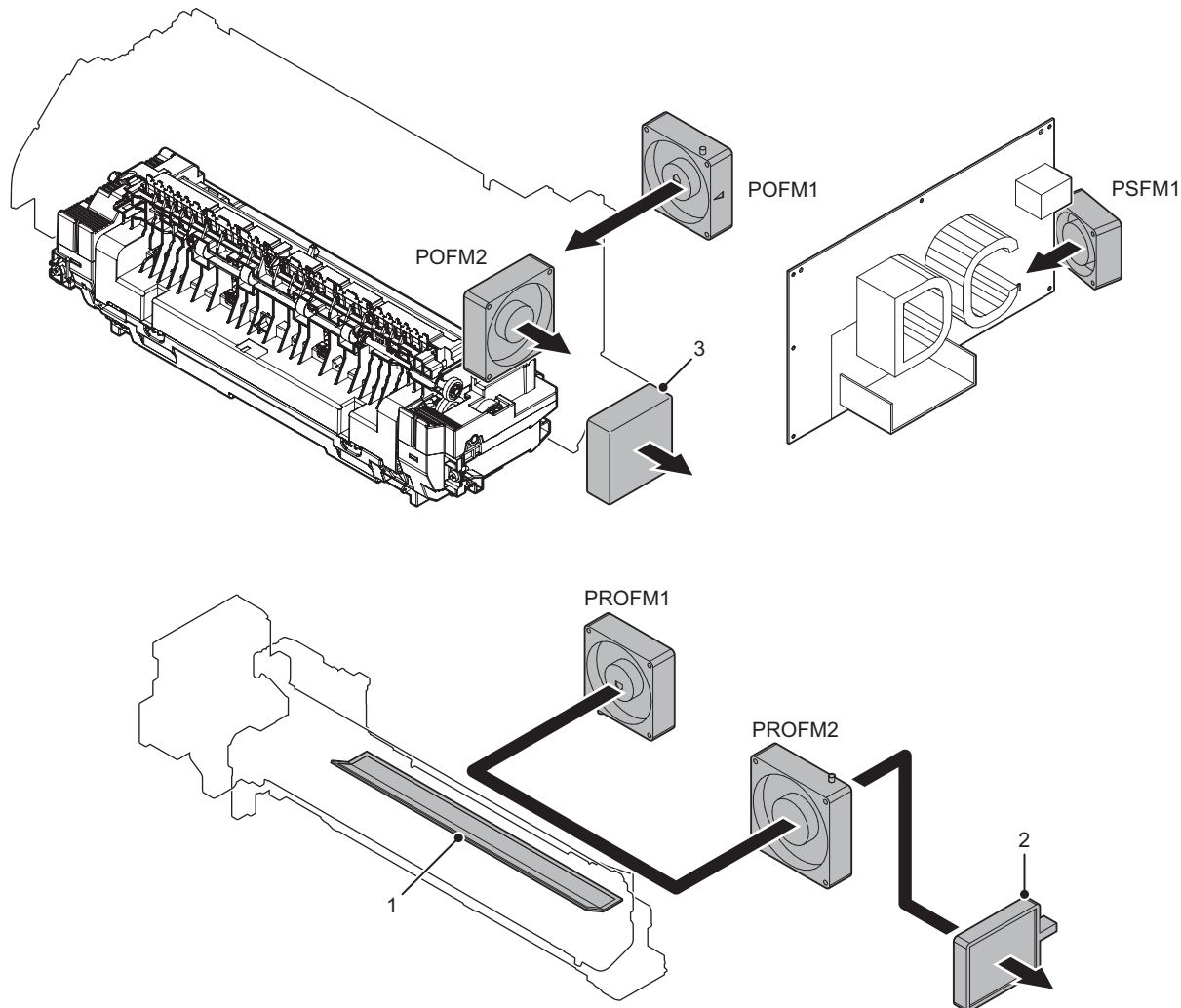
The toner filter prevents toner from leaking from the slit caused by this difference in air pressure.

No.	Name	Function/Operation
1	Toner filter	Prevents toner splash
2	Ozone filter	Absorbs ozone generated in the image process section
3	UFP filter	Absorbs ultrafine particle

(For Europe)

C. Operational descriptions (Air flow chart)

The flow of air is as shown in the figure below.



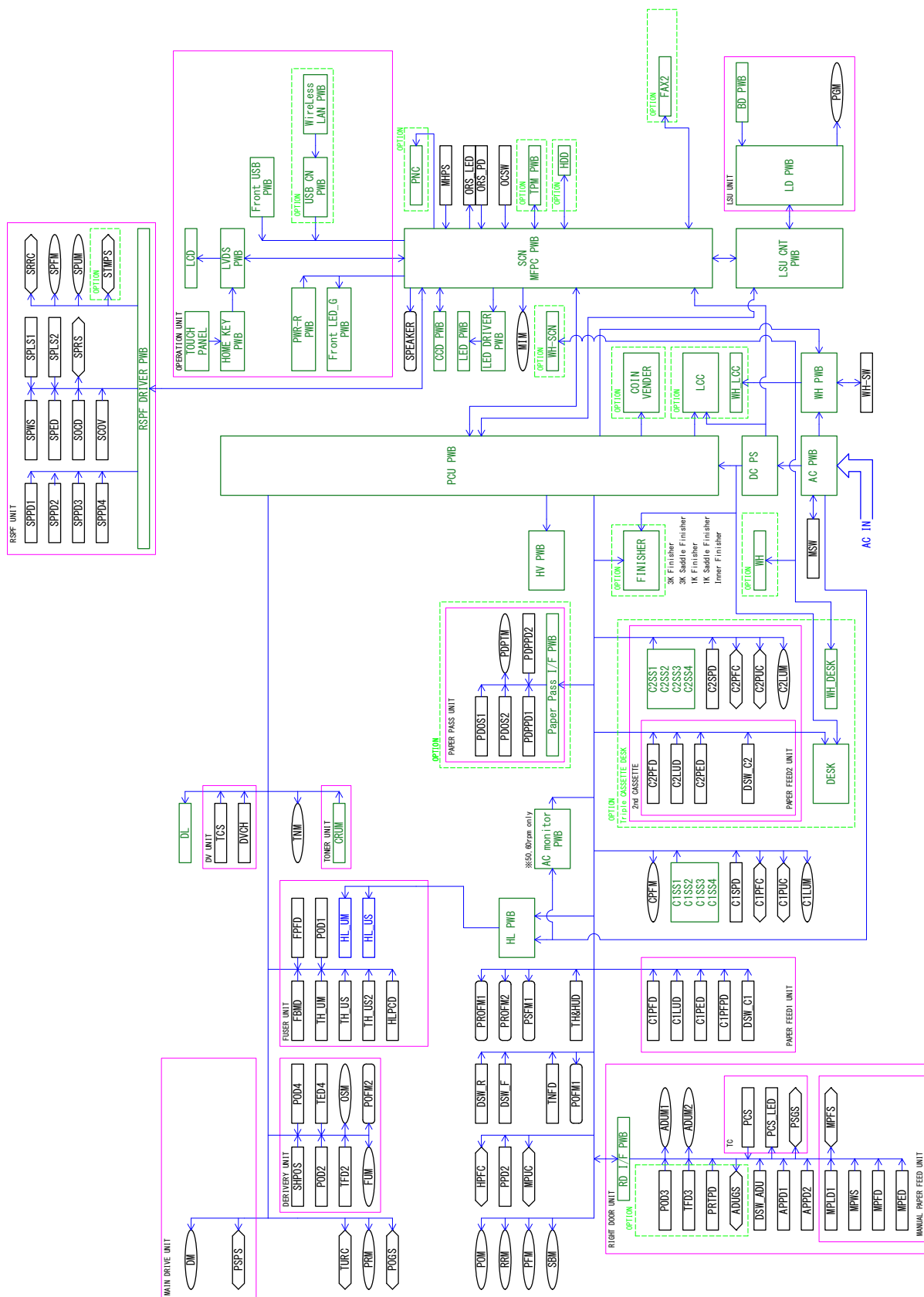
1. Block diagram

A. System block diagram

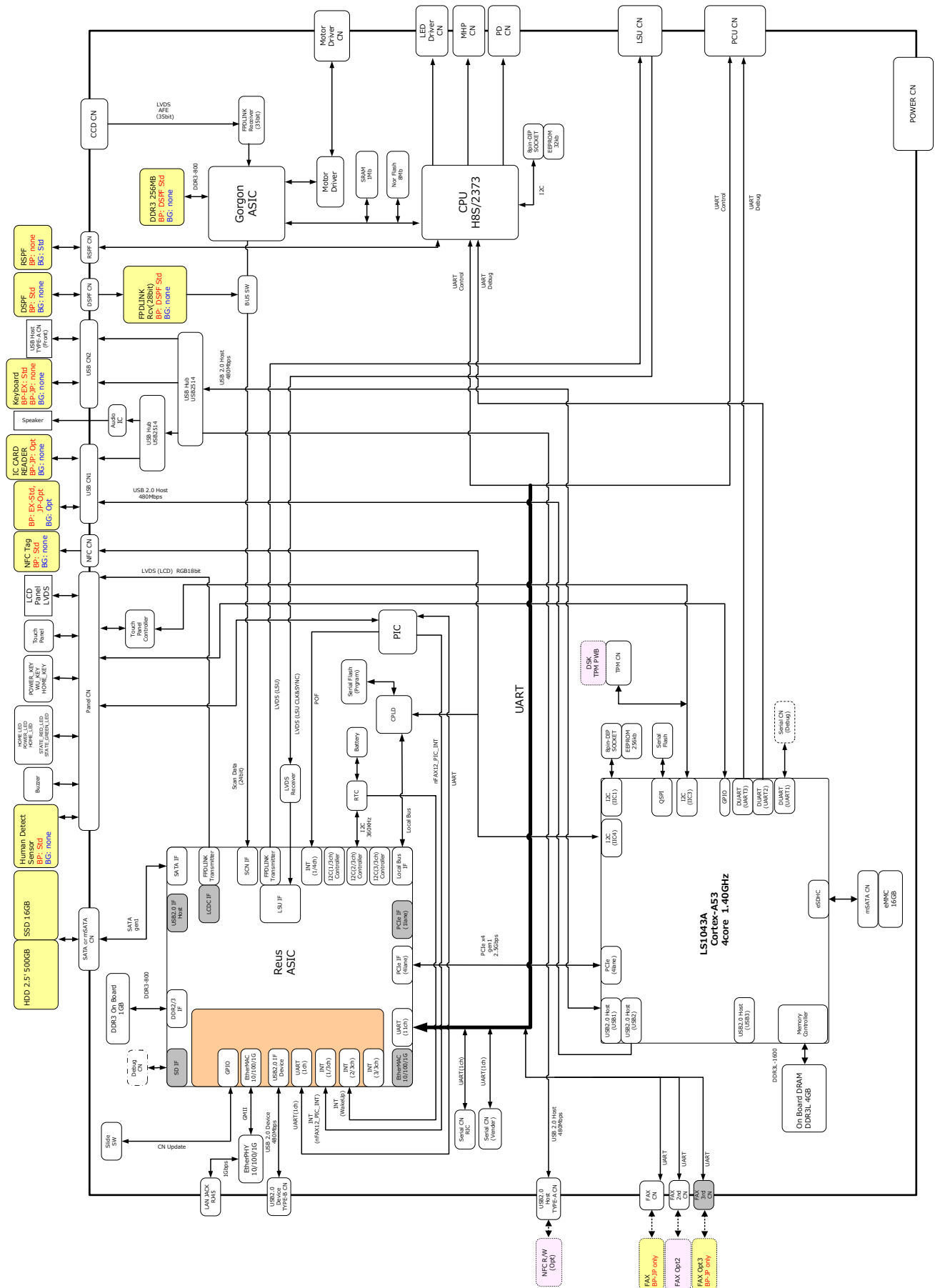
(1) MX-Mxx70 series



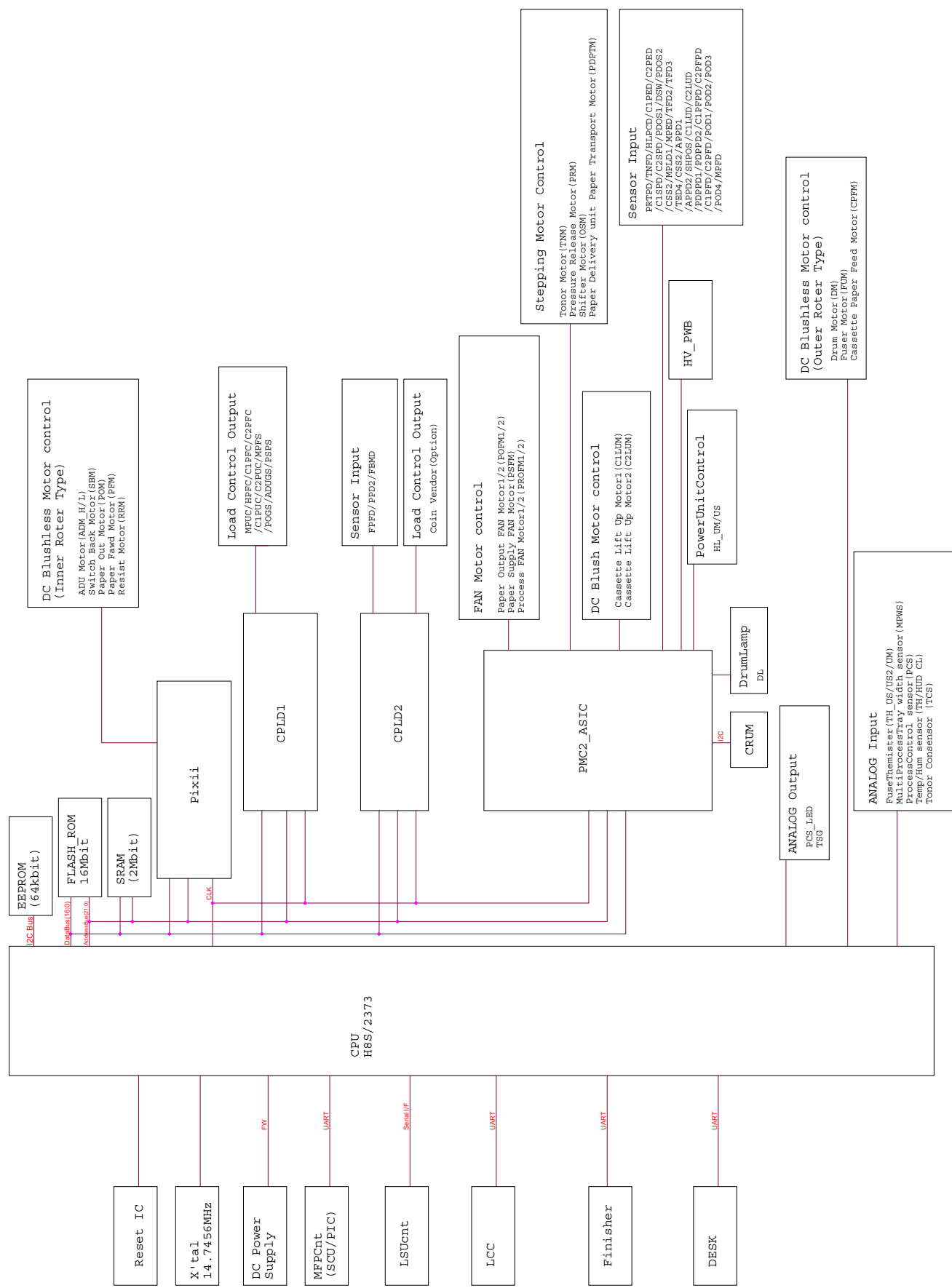
(2) MX-Mxx50 series



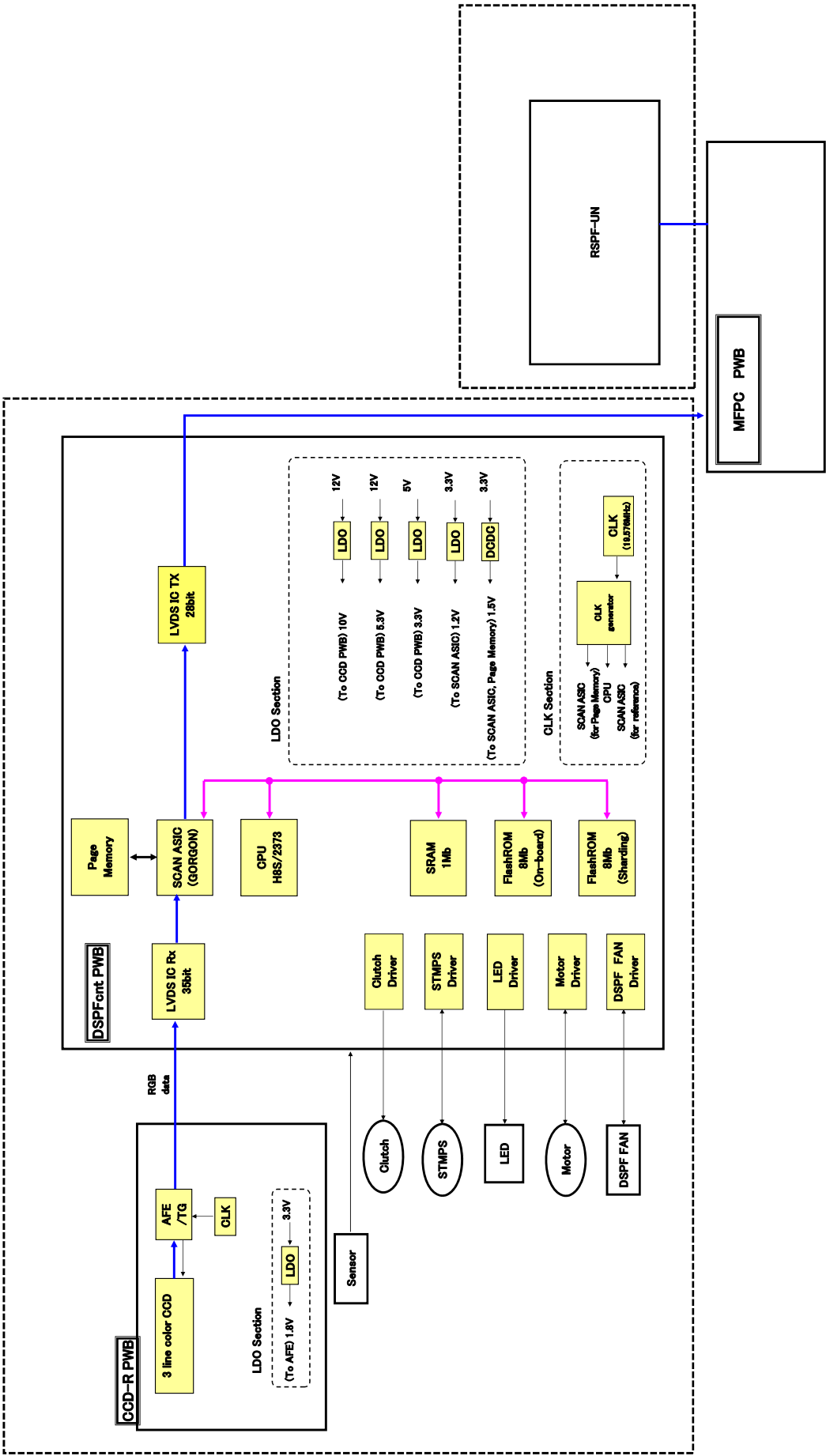
B. SCN MFP PWB



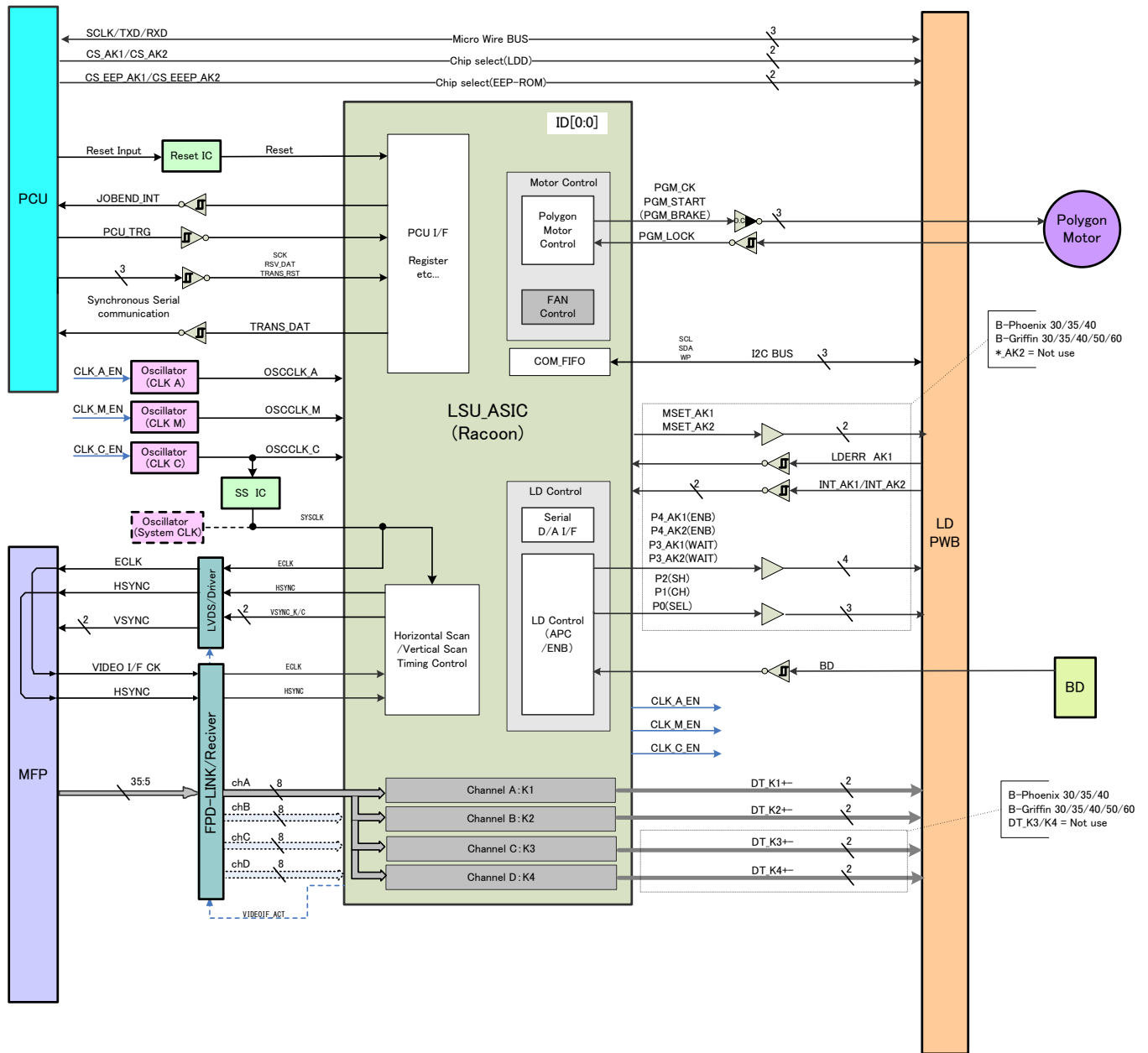
C. PCU PWB



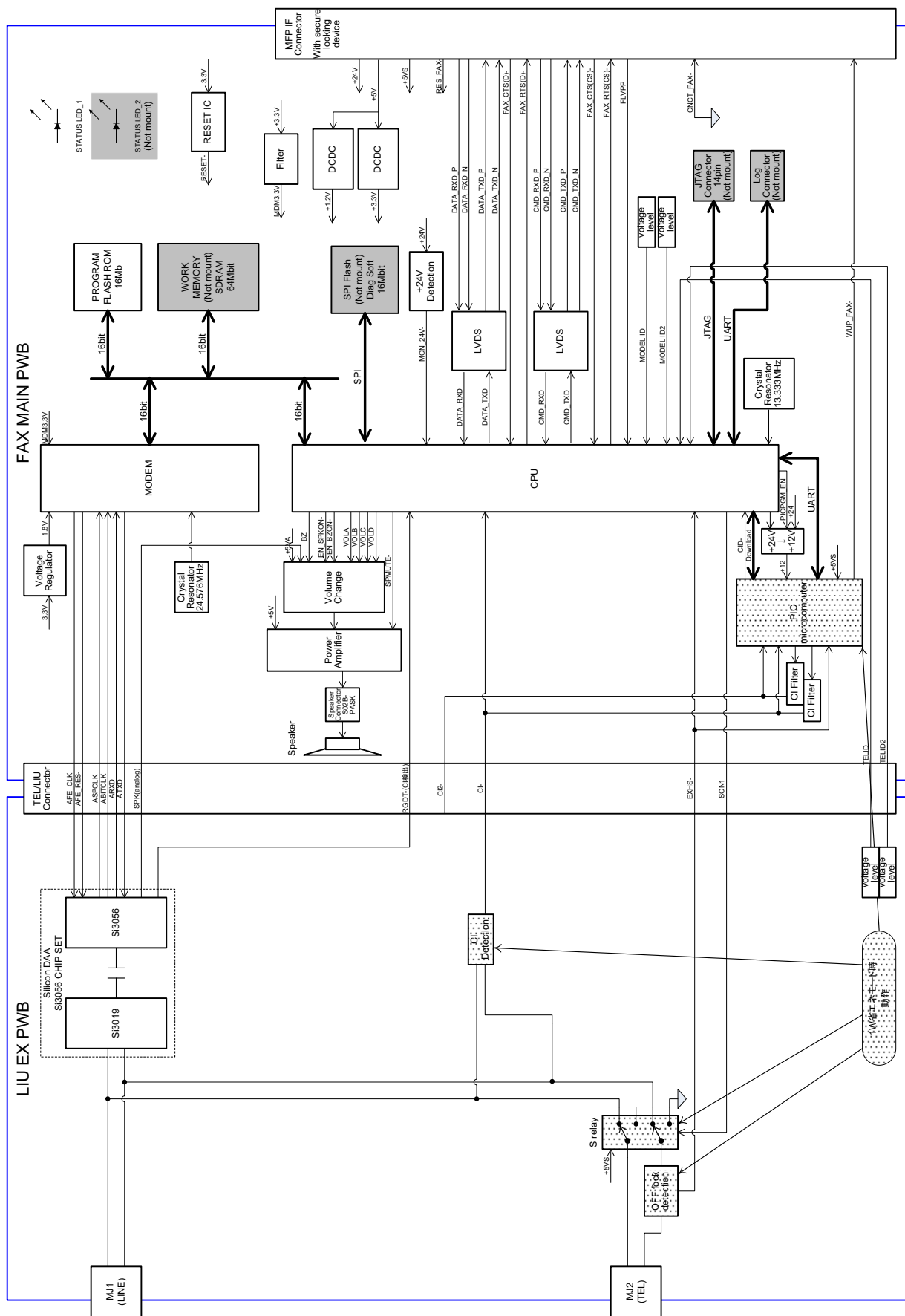
D. DSPF/RSPF PWB



E. LSU PWB

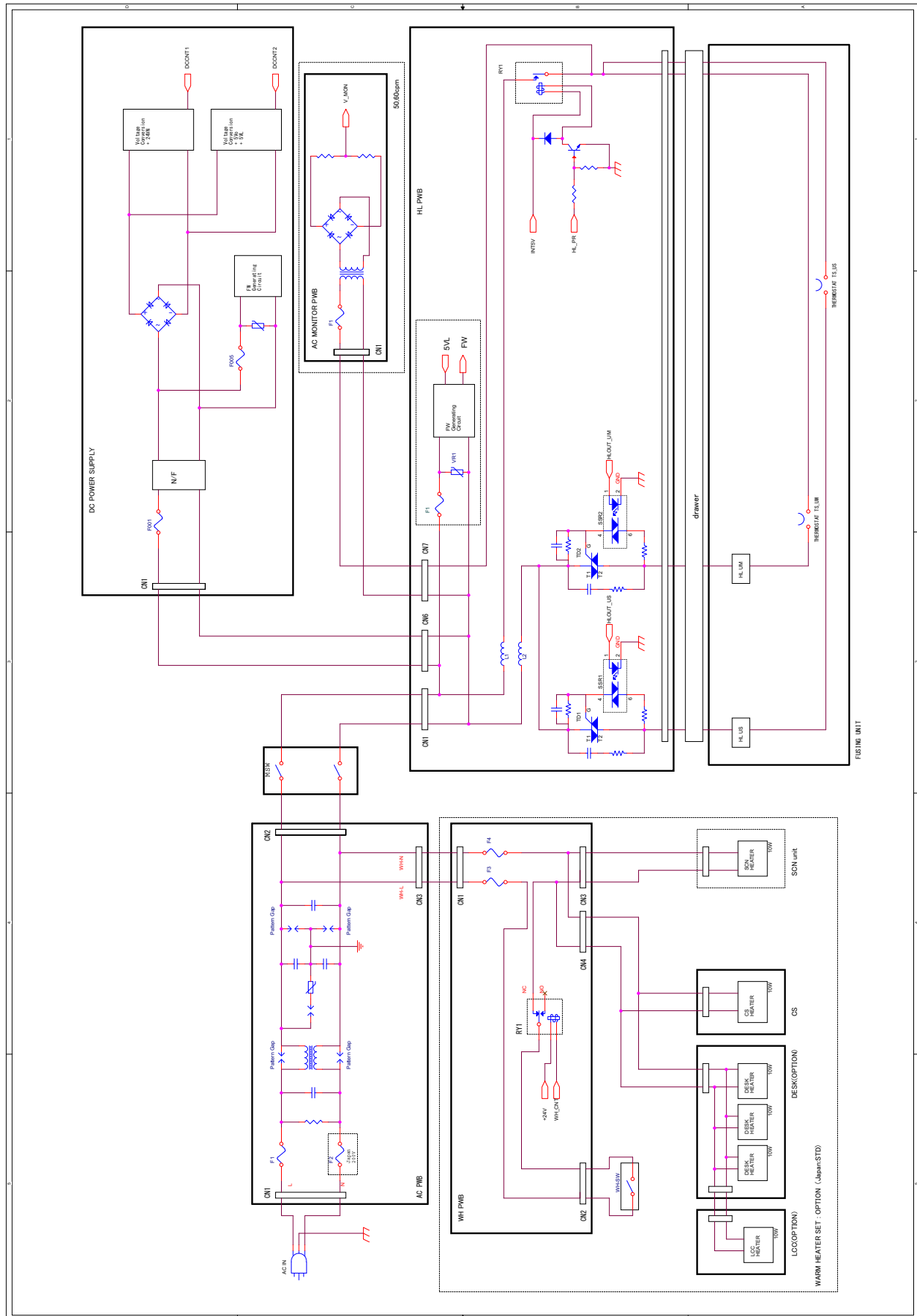


F. FAX PWB

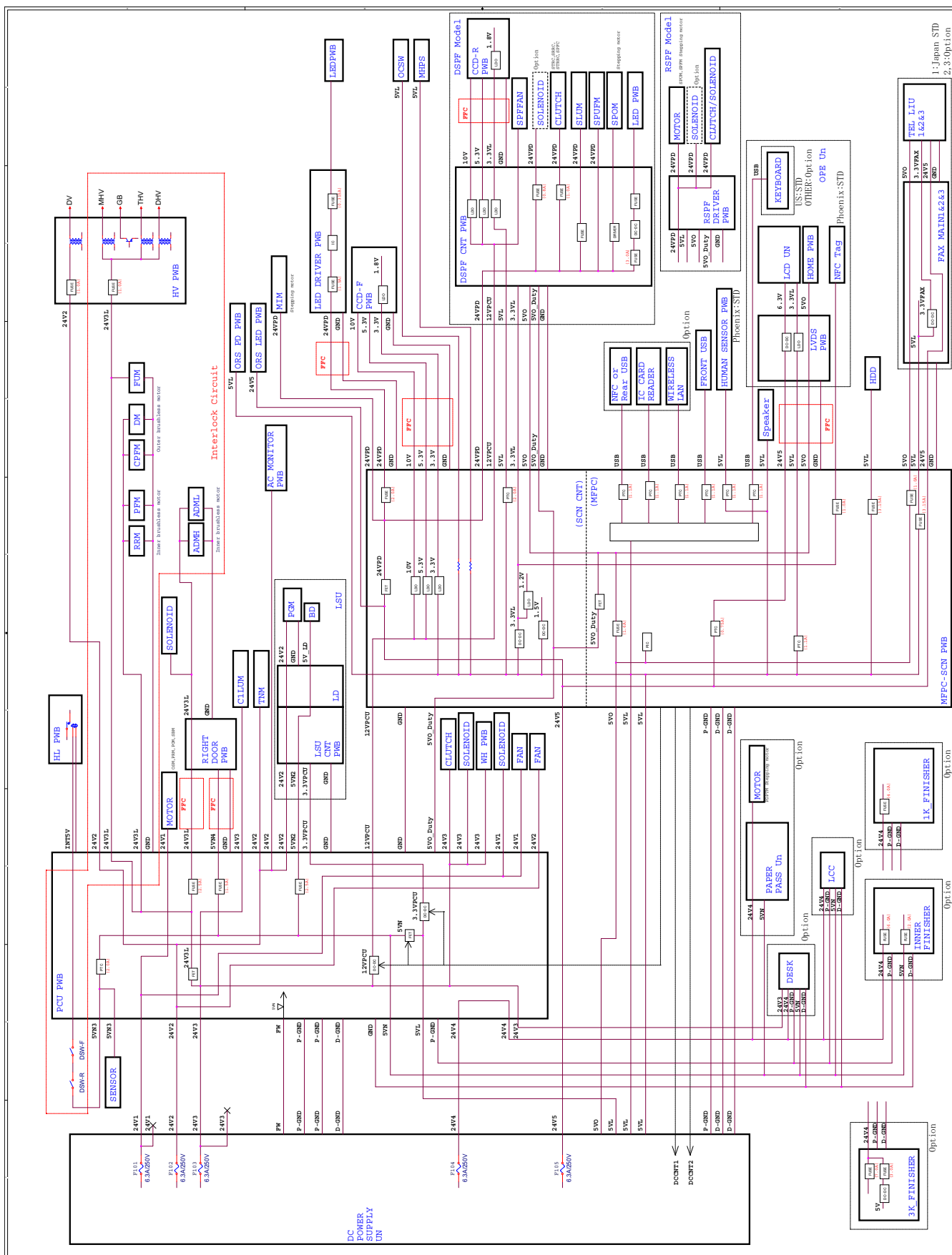


2. Power line diagram

A. AC power line diagram

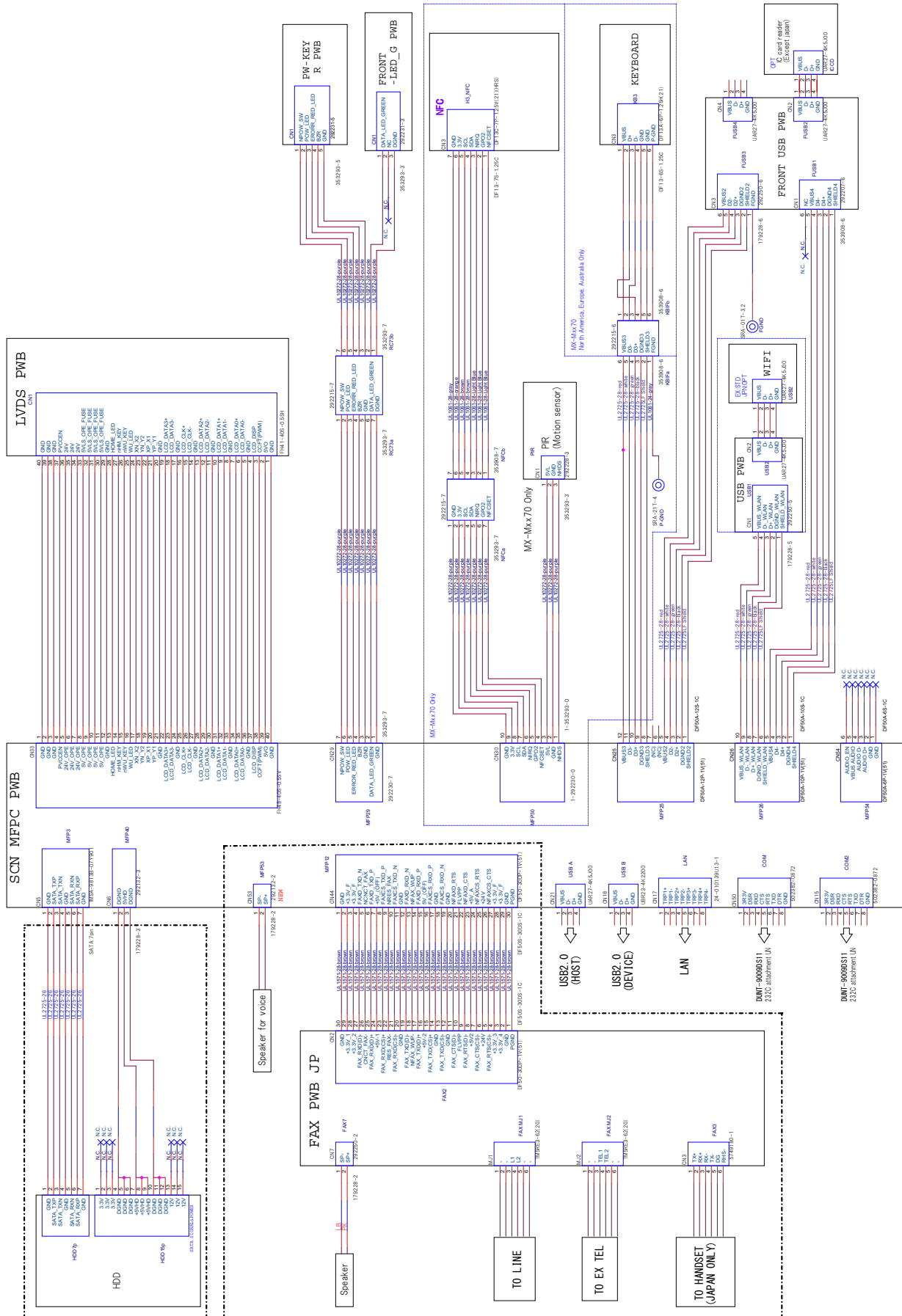


B. DC power line diagram

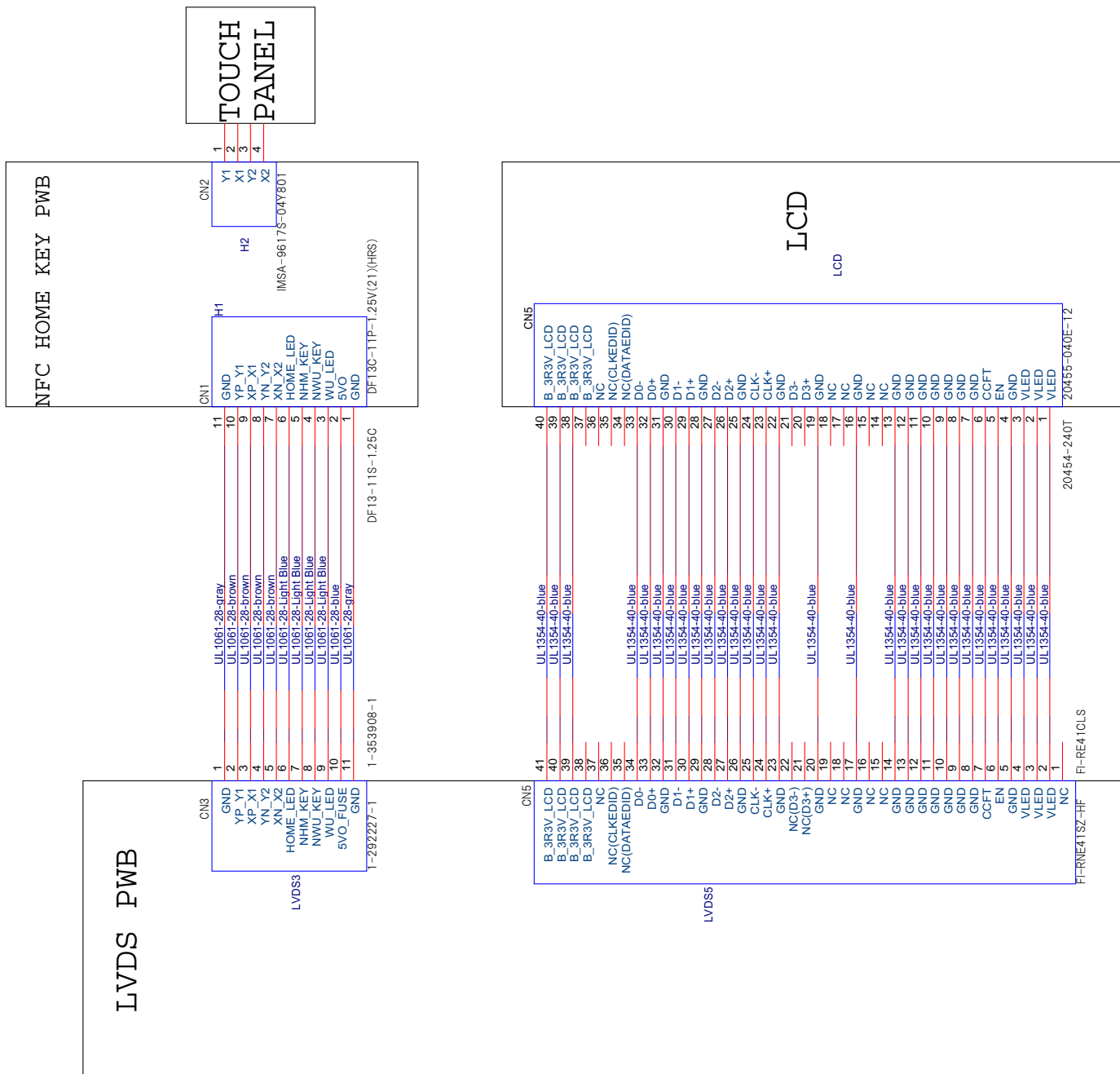


3. Actual wiring chart

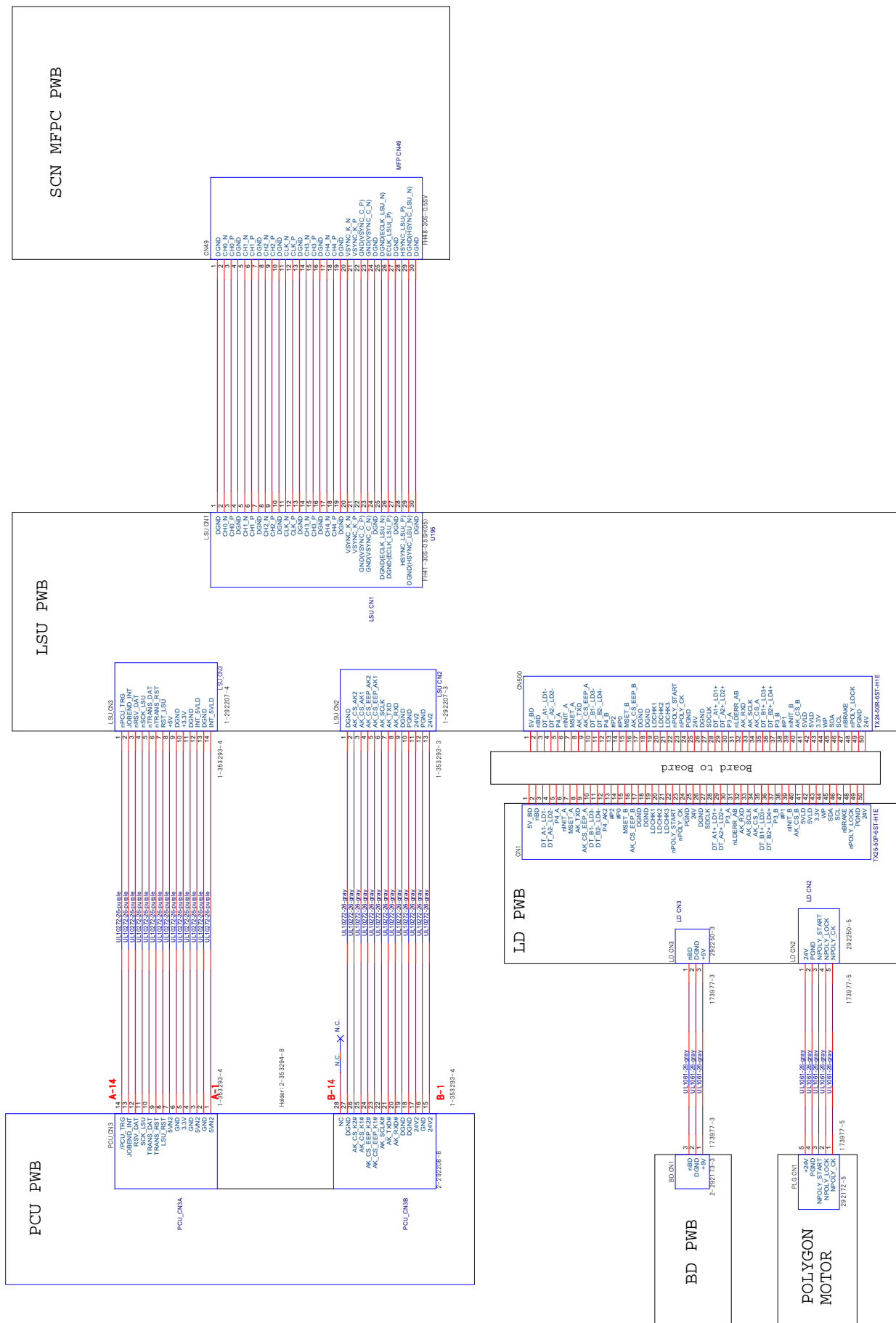
A. MFPC/FAX



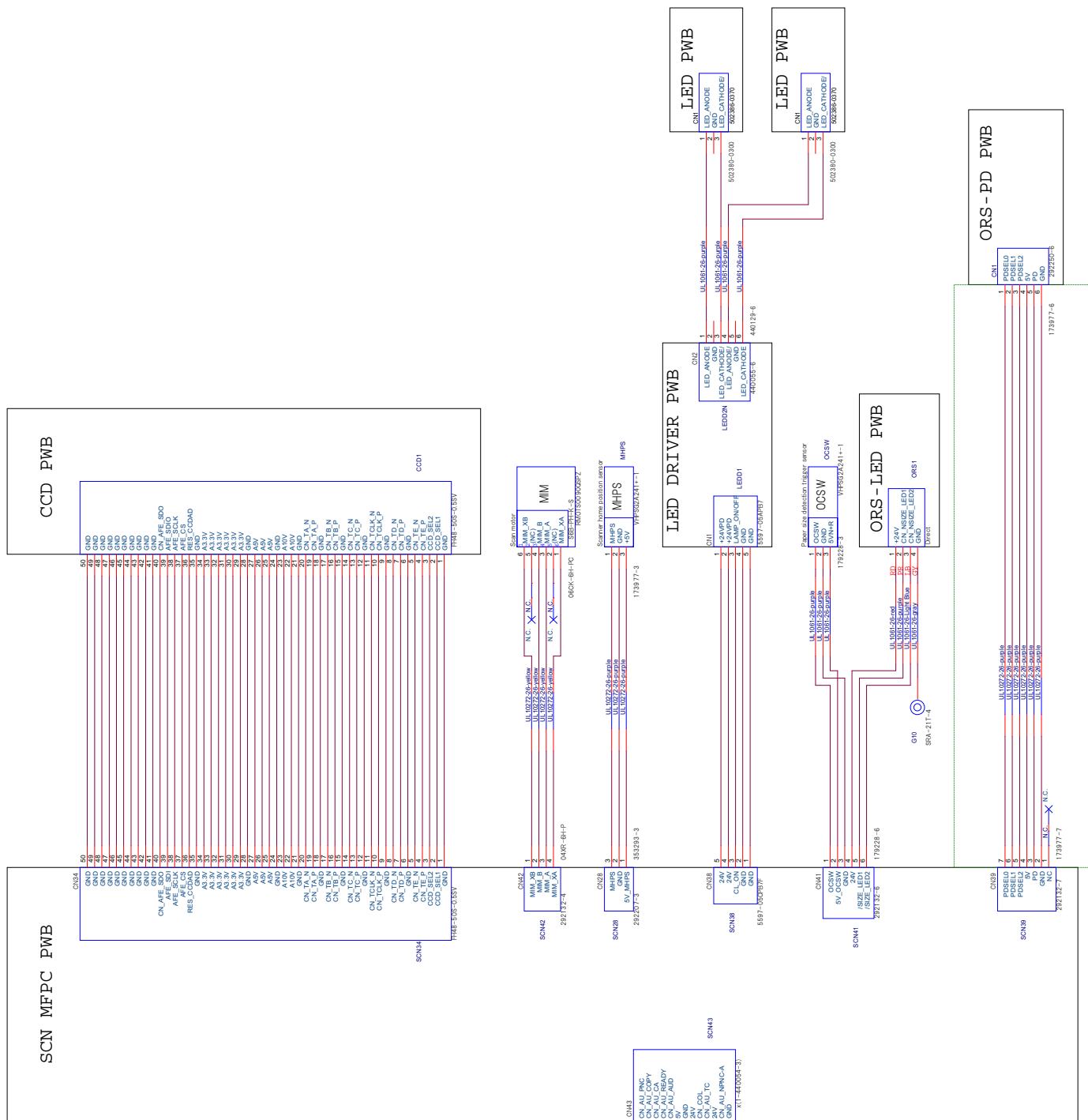
B. Operation panel



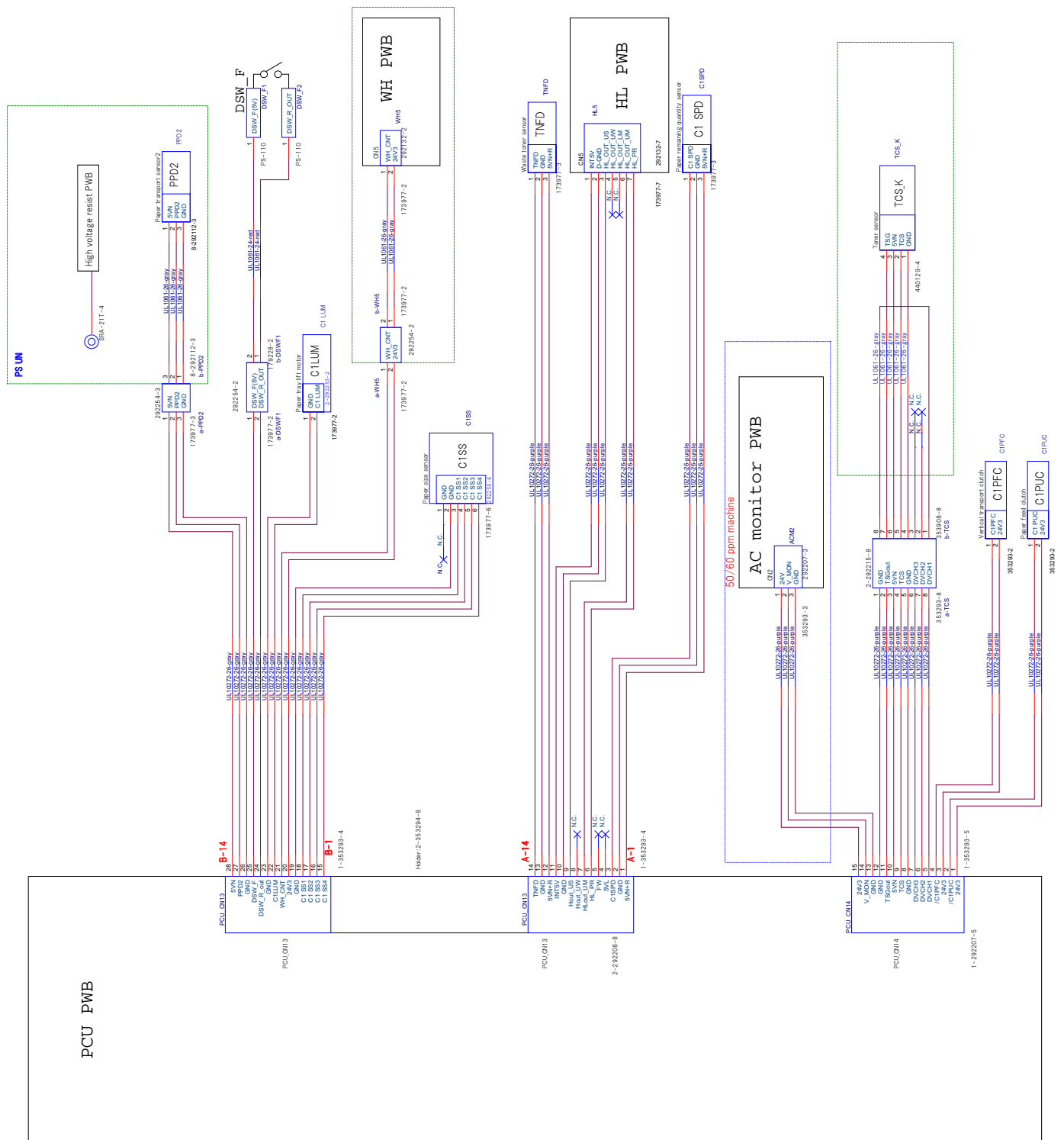
C. LSU



D. Scanner

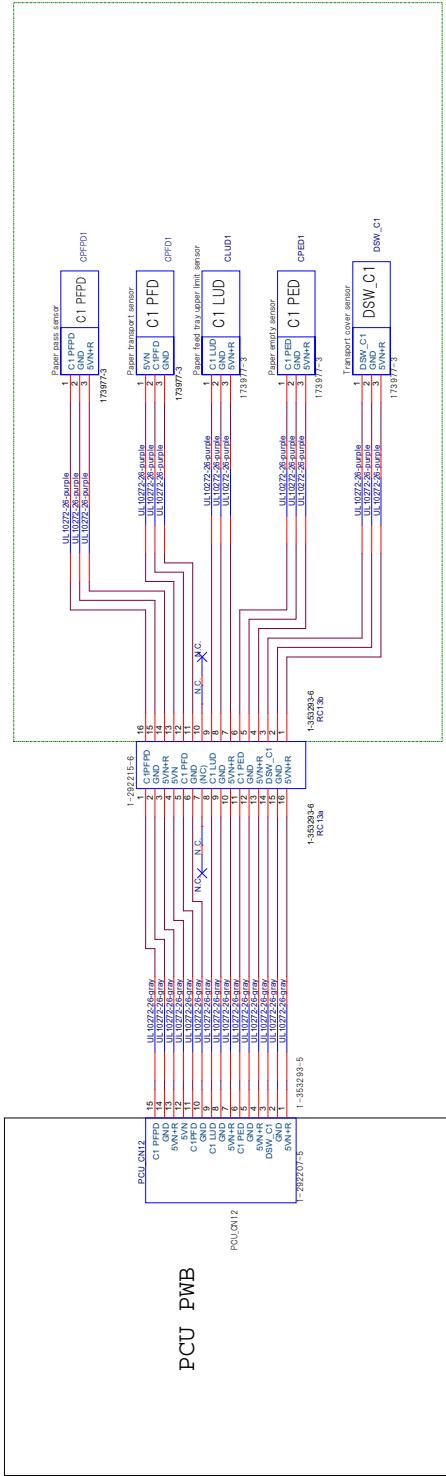


E. CSS/PS/DV

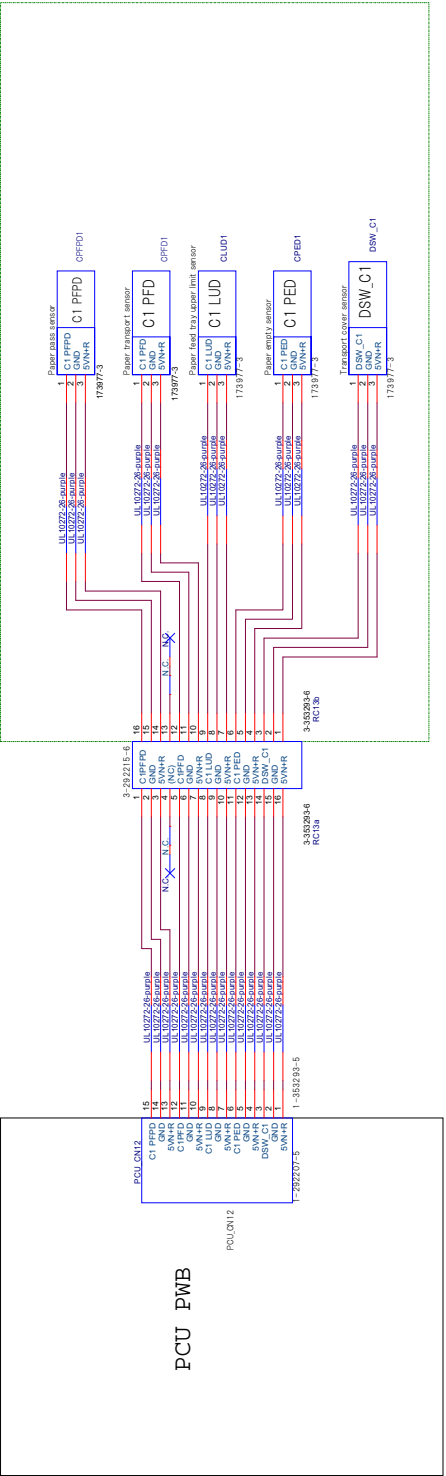


F. Paper feed

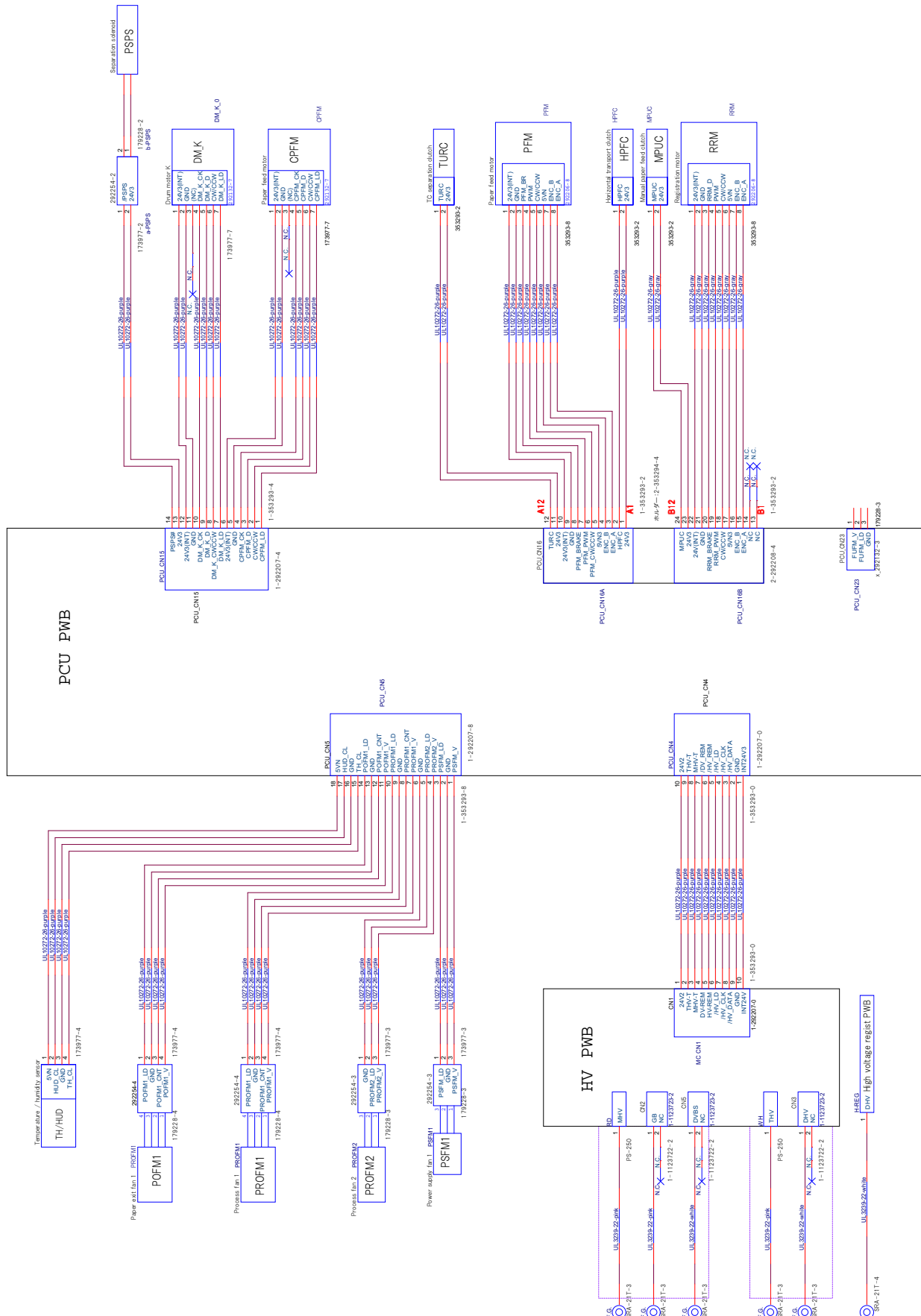
50/60 ppm machine



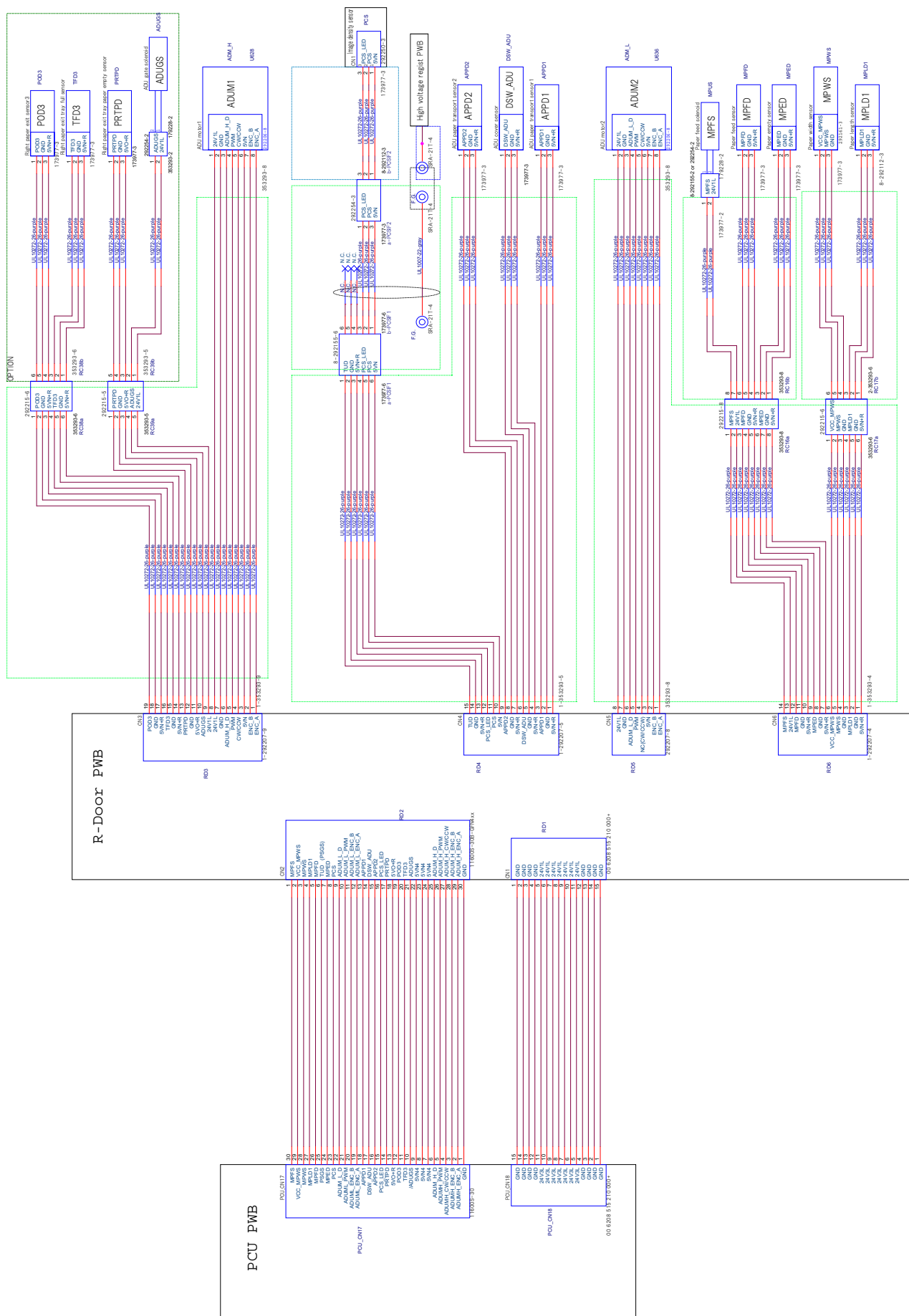
30/35/40 ppm machine



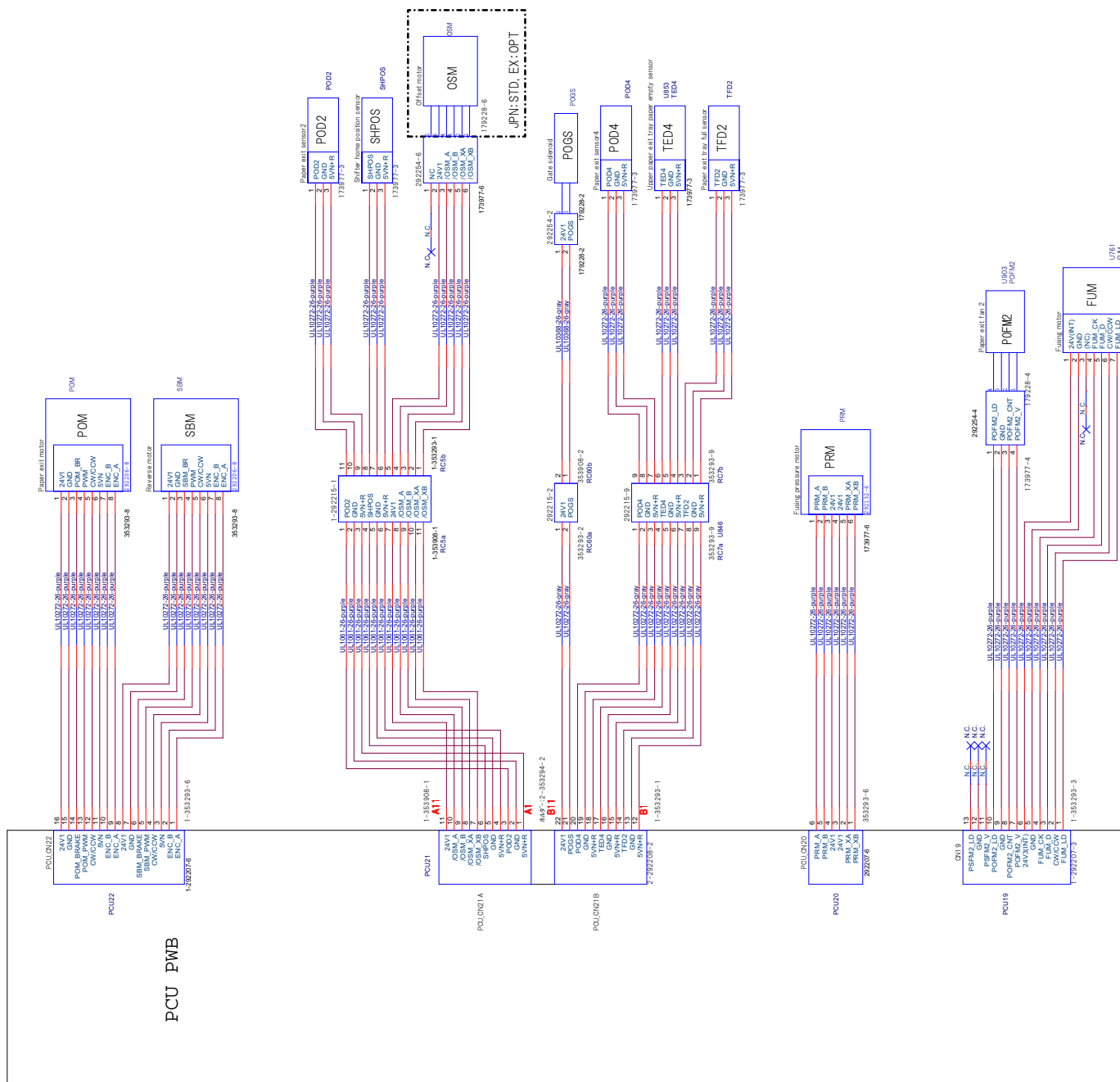
G. Drive/HV/FAN



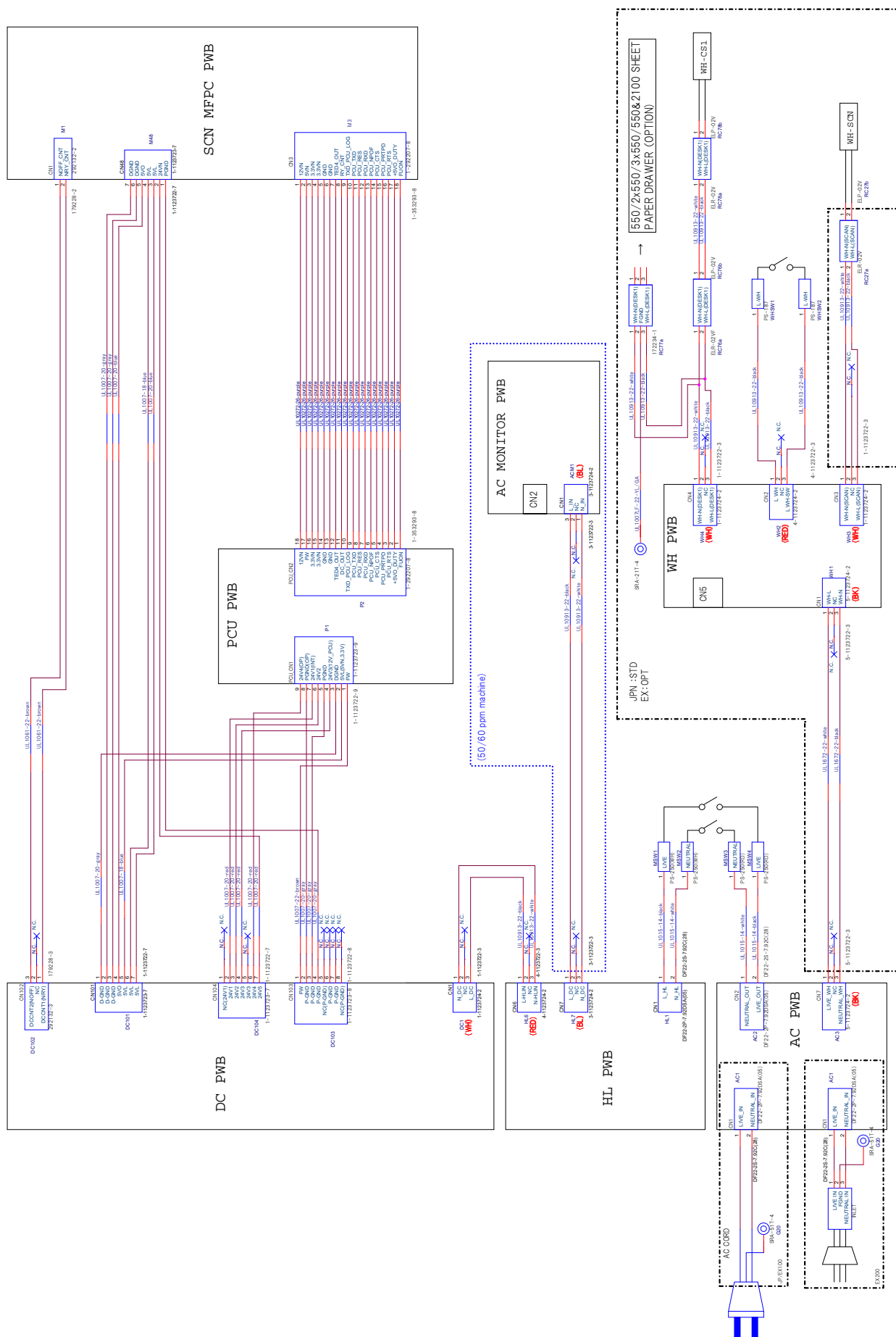
H. Right door



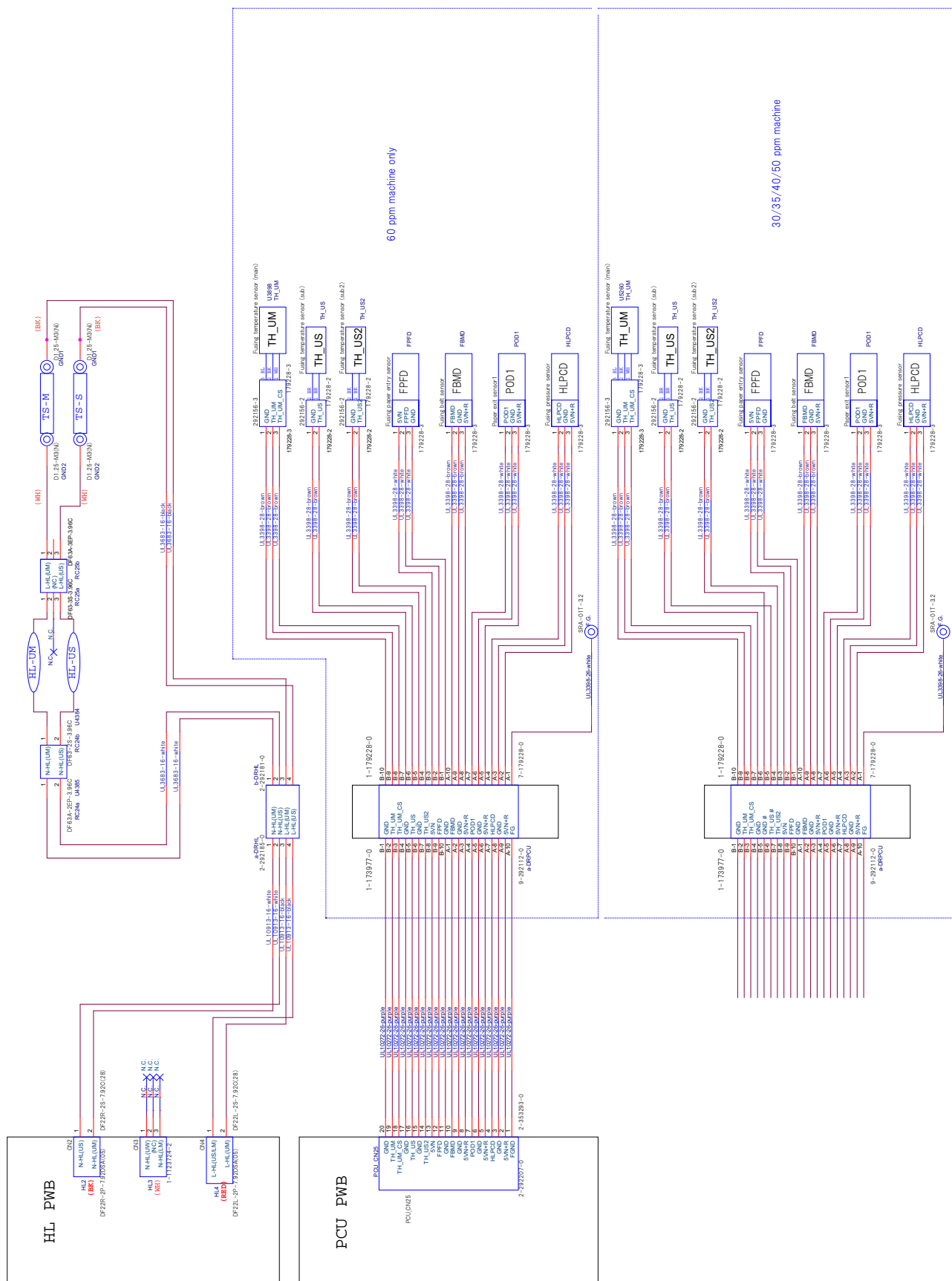
I. Paper exit



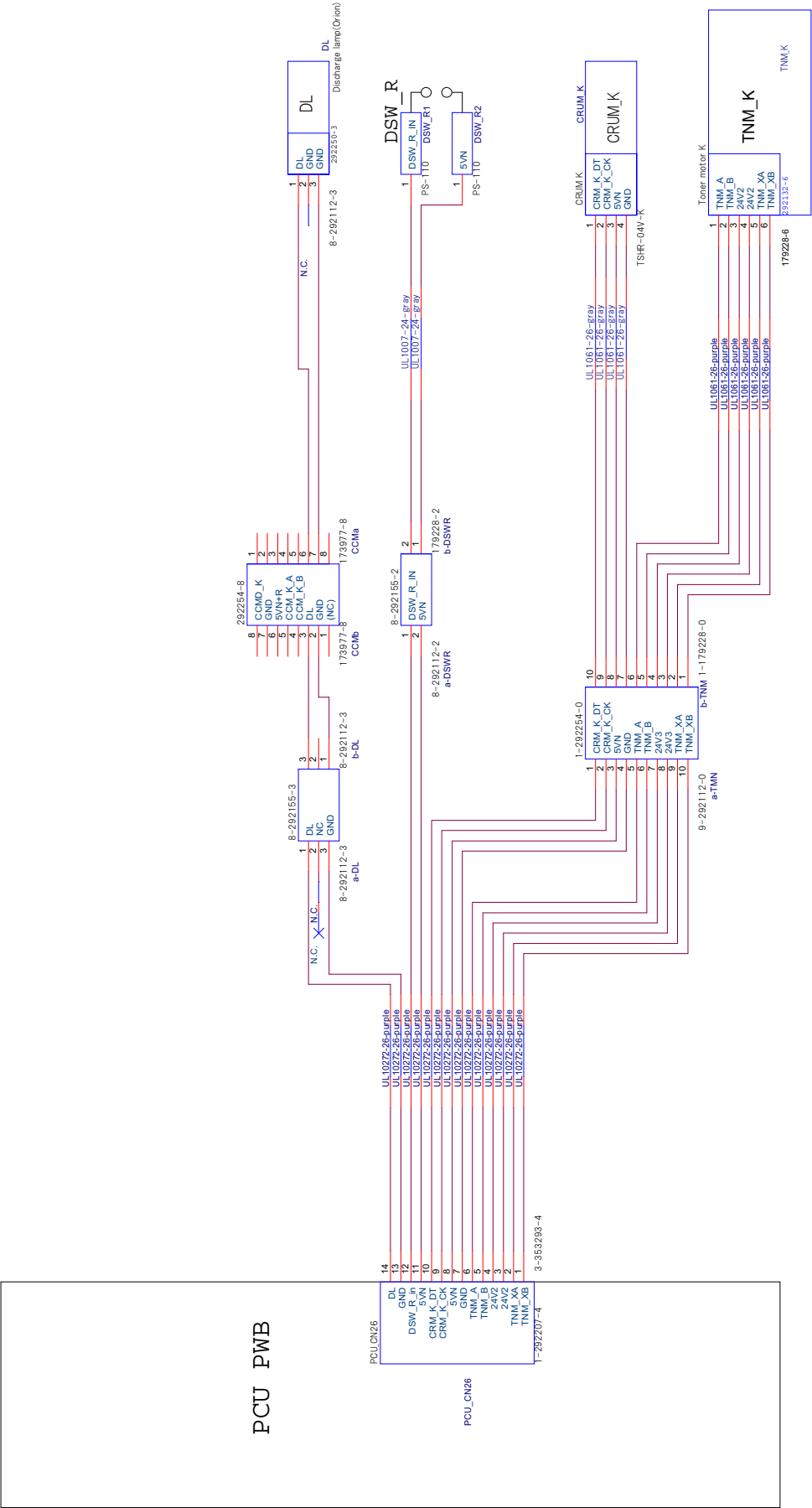
J. Power supply/WH

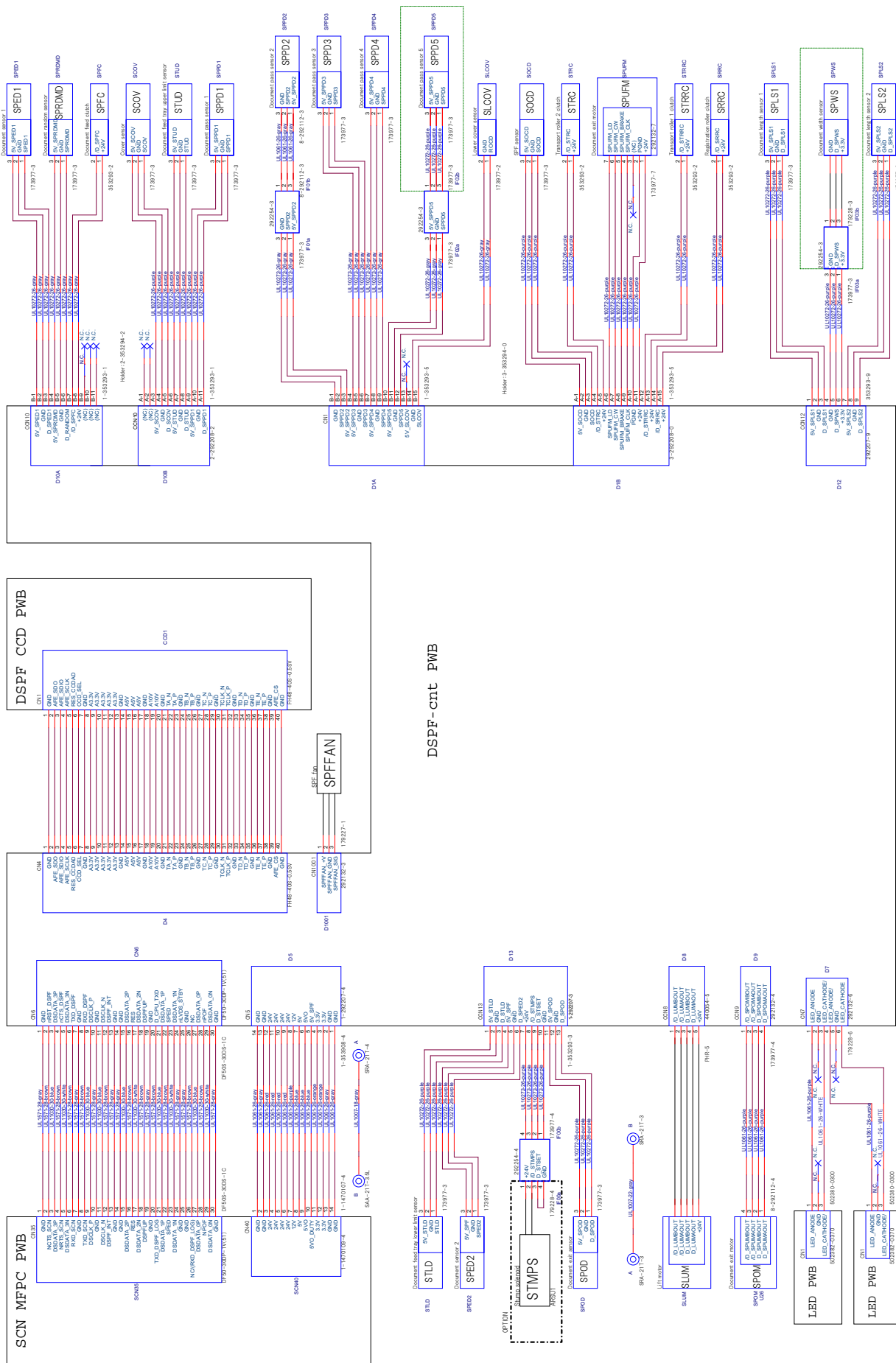


K. Fusing

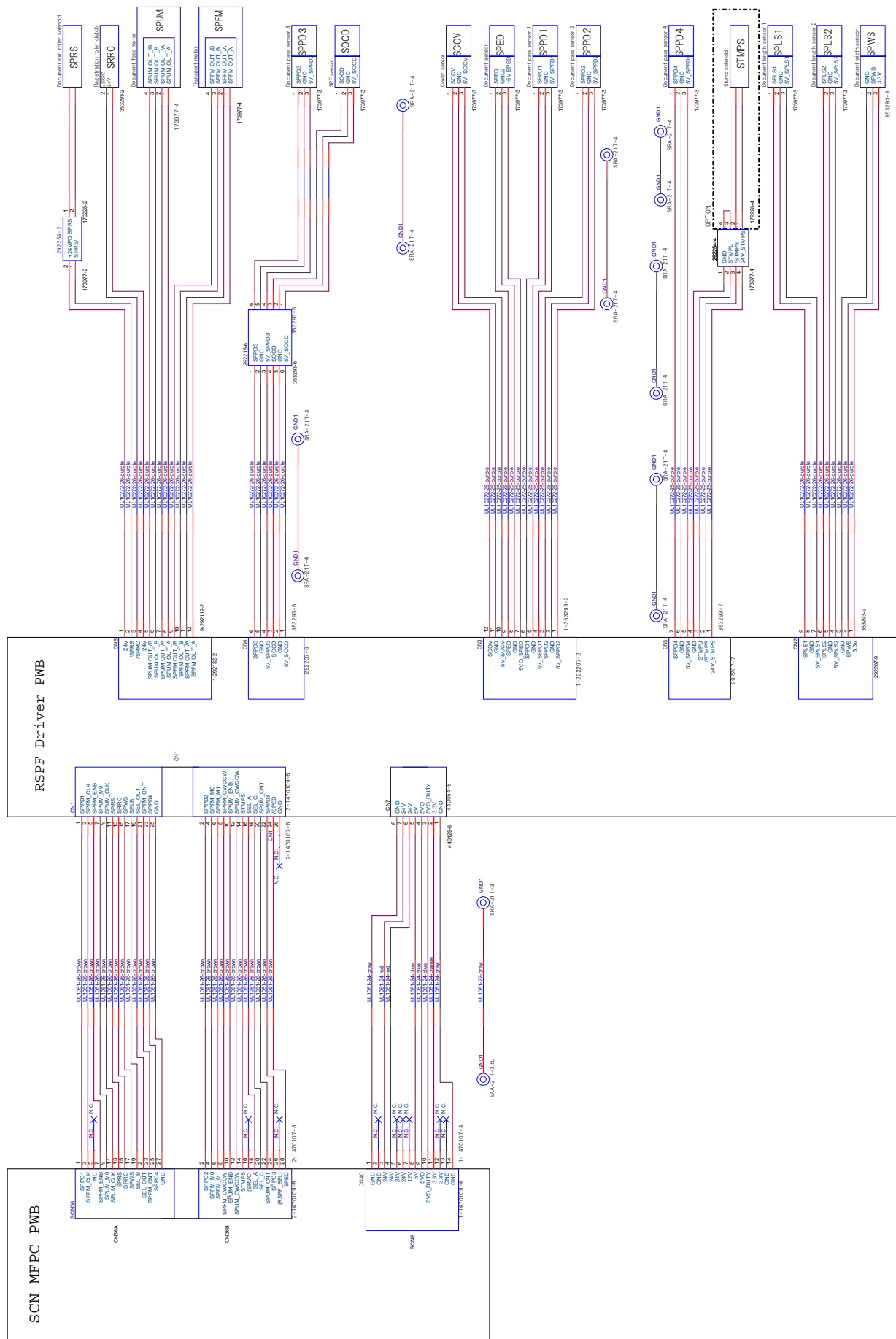


L. Toner drive/Process

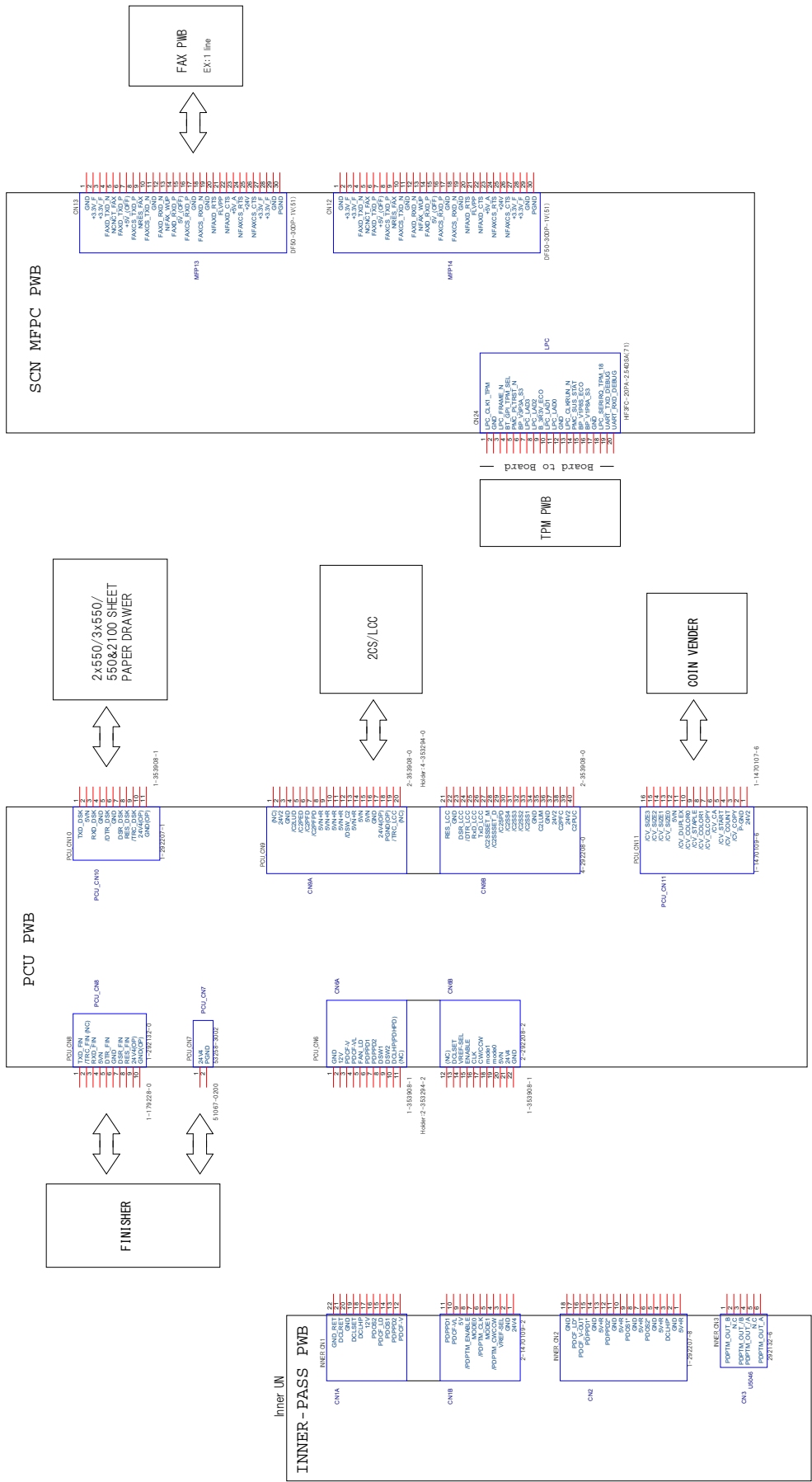




N. RSPF



O. Option



[13] OTHERS

1. TOOL LIST

PARTS CODE	Name	NOTE
UKOG-0013QSZZ	Grease (FLOIL GP-501MR)	
UKOG-0158FCZZ	Grease (MOLYKOTE X5-6020)	Scanner rail
UKOG-0162FCZZ	Gray test chart	Gray balance adjustment
UKOG-0235FCZZ	Grease (JFE552)	
UKOG-0299FCZZ	Grease (HANARL FL-955R)	
UKOG-0307FCZZ	Grease (FLOIL G-313S)	
UKOG-0309FCZZ	Stearic acid powder	Side seal
UKOG-0311FCZZ	Micro-spatula	Side seal
UKOG-0312FCZZ	Stearic acid powder	OPC drum
UKOG-0323FCZ1	Silicon oil	When replacing the pressure oscillation guide, applying the silicon oil is necessary.
UKOG-0326FC11	Service test chart	Gray balance adjustment
UKOG-0326FCZZ	Service test chart	Gray balance adjustment
UKOG-0333FCZZ	Shading adjustment chart	DSPF Shading
UKOG-0356FCZZ	Scanner adjustment chart	CCD calibration

2. VARIOUS STORAGE DATA HANDLING

A. HDD / eMMC PWB / mSATA SSD memory contents

(1) with HDD model

a. HDD data contents

No.	File system	Stored data
L-1	Not available	ICU firmware
I-1	Image data	Image data (ERDH + document filing)
I-2	Image data	Image data (temporary storage)
I-3	Image data	User watermark/stamp
I-4	Image data	FAX/internet FAX received images
L-2	Not available	System registration data
S-1	Universal	System registration data (for backup)
S-2	Universal	Download font Download color profile User macro Key operation registration data Database system file Custom icon User registration sound data
S-3	Universal	System log
S-4	Universal	Document filing Job log Job log completion list
S-5	Universal	Address book Account management data Paper property registration data Billing account data Cookie file for OSA application
S-6	Universal	Database file
S-7	Universal	Spool area for printer
S-8	Universal	Print release storage data Print release file management information
S-9	Universal	Work area for OCR
S-10	Universal	Work area for application
S-11	Universal	User file saved in the SMB
S-12	Universal	Address book, account data User data of set value etc which must not be erased when installing the DSK

b. eMMC PWB data contents

No.	File system	Stored data
L-101	Universal	ICU firmware
S-101	Universal	Font Web help Spdl Option font ROM
L-102	Not available	Snapshot image
S-102	Universal	e-manual Watermark OCR dictionary Sound
S-103	Universal	System registration data
S-104	Universal	eOSA application file
L-104	Not available	Format data
I-101	Image data	FAX/internet FAX received data (backup)
S-105	Universal	Backup data
S-106	Universal	Log data
L-105	Not available	Swap area

(2) without HDD model

a. mSATA SSD data contents

No.	File system	Stored data
L-1	Not available	ICU firmware
I-1	Image data	Image data (ERDH + document filing)
I-4	Image data	FAX/internet FAX received images
L-2	Not available	System registration data
S-1	Universal	System registration data (for backup)
S-2	Universal	Download font Download color profile User macro Key operation registration data Database system file Custom icon User registration sound data
S-3	Universal	System log
S-4	Universal	Document filing Job log Job log completion list
S-5	Universal	Address book Account management data Paper property registration data Billing account data Cookie file for OSA application
S-7	Universal	Spool area for printer

b. eMMC PWB data contents

No.	File system	Stored data
L-101	Universal	ICU firmware
S-101	Universal	Font Web help Spdl Option font ROM
L-102	Not available	Snapshot image
S-102	Universal	e-manual Watermark OCR dictionary Sound
S-103	Universal	System registration data
S-104	Universal	eOSA application file
L-104	Not available	Format data
I-101	Image data	FAX/internet FAX received data (backup)
S-105	Universal	Backup data Work area for OCR Work area for application
S-106	Universal	Log data
L-105	Not available	Swap area

c. HDD storage data and backup

Some HDD storage data can be backed up, some storage data can be reinstalled, If HDD operate normally before replacement and can be backed up data before replacement of the HDD referring to the HDD storage data list. Then reinstall the data after replacement of HDD.

c-1. HDD storage data list

No.	Data kind	Before installation (when shipping from the factory)	After installation (after use by users)	Data backup	Backup method	Data reinstallation	Data reinstall procedures	Reinstall operator
1	Address book	Not available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service/ User
2	Image send registration data (sender's information, meta data etc)	Not available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service/ User
3	User authentication Account management	Not available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service
4	Japanese FEP dictionary	Not available	Available	Disable	---	Disable	---	---
5	Chinese FEP dictionary	Not available	Available	Disable	---	Disable	---	---
6	JOB log	Not available	Available	Enable	Sim56-4/ WEB PAGE	Disable	---	---
7	JOB completion list	Not available	Available	Disable	---	Disable	---	---
8	New N/A (FSS) information	Not available	Available	Disable	---	Disable	---	---
9	User font	Not available	Available	Disable	---	Enable	WEB PAGE	Service/ User
10	User macro	Not available	Available	Disable	---	Enable	WEB PAGE	Service/ User
11	Document filing	Not available	Available	Enable	SIM56-3/ WEB PAGE	Enable	WEB PAGE	Service/ User
12	System registration data	Not available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service/ User
13	User color profile	Not available	Available	Disable	---	Enable	WEB PAGE	Service/ User
14	Cookie file for OSA application	Not available	Available	Disable	---	Disable	---	---
15	User file saved in the SMB	Not available	Available	Disable	---	Disable	---	---
16	Paper property registration data	Not available	Available	Enable	SIM56-2/ Device cloning	Enable	SIM56-2/ Device cloning	Service/ User
17	Billing account data	Not available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service
18	Print release stored data	Not available	Available	Disable	---	Disable	---	---

B. Necessary steps when replacing PWB, HDD, eMMC PWB and mSATA SSD

(1) with HDD model

a. SCN MFP PWB replacement procedure (work flow)

Registered user information will not be recovered if SCN MFP PWB is affected by U2-05 trouble.

- 1) Attach EEPROM, eMMC PWB of the SCN MFP PWB onto the new SCN MFP PWB and install it to the main unit.
Ground your body with grounding band during the work.
- 2) U2 trouble occurs, use Sim16 to cancel it.
- 3) Set as follows after rebooting the main unit.
Set the appropriate country code by Sim66-2 (clear software switch related to FAX).

b. Procedures necessary for HDD replacement

- Data of the following list are saved in the HDD of the complex machine. If HDD operates normally and data backup is possible before replacement, perform data backup and then replace HDD.
- HDD does not operate normally, data cannot be backed up.
- HDD replacement procedures with a broken HDD differs from that with a normal HDD.

d. Replacement procedures when HDD storage data can be backed up

d-1. Work contents and procedures

Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *
Step 1	Back up the HDD storage data before replacement. (Servicing) Use SIM56-2 or the device cloning, or the storage backup function to backup the data. (Back up the data to the USB memory.) (Backup enable data: HDD storage data list No. 1, 2, 3 (Address book, Image send series registration data, User authentication data))	
Step 2	Back up the HDD storage data before replacement. (User or servicing) Back up the data to PC with Web page. (Backup enable data: HDD storage data list No. 6, 11 (JOB LOG data, Document filing data))	
Step 3	When there are some FAX or Internet Fax data, use SIM66-62 to backup the image data from the eMMC PWB to the USB memory. (The backup image data are of PDF file type, and cannot be restored to the machine. The backup data are given to the user.)	
Step 4	Replace the HDD.	
Step 5	Boot the complex machine. → Formatting is automatically performed.	Boot the complex machine.
Step 6		The trouble code, U2-05, is displayed. → Cancel with SIM16.
Step 7	Since a blank HDD is automatically formatted, there is no need to perform formatting procedure with SIM.	Use SIM62-1 to format the HDD.
Step 8	Use SIM66-10 to clear the FAX image memory. The memory is cleared in order to keep compliance between the HDD data and the image related memory and to prevent malfunctions. (The memory must be cleared not only in the FAX model but in the scanner and the Internet Fax models.)	
Step 11	Import the data backed up in Step 1. Use SIM56-2, or the device cloning, or the storage backup to import. (Import enable data: HDD storage data list No. 1, 2, 3 (Address book, Image send series registration data, User authentication data))	
Step 12	Import the data backed up with the Web page function in Step 2. Import enable data: Document filing data, User font, Use macro (The JOB LOG data can be backed up but cannot be imported.)	

e. Replacement procedures when HDD storage data cannot be backed up due to breakdown

e-1. Display when HDD breakdown

When a trouble occurs in the HDD, the error code display of E7-03 is popped up.

In this case, the main power must be turned OFF and the HDD must be replaced.

e-2. Work contents and procedures

Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *
Step 1	Install a HDD to the machine, and boot the complex machine. → Formatting is automatically performed.	Install a HDD to the machine, and boot the complex machine.
Step 2		The trouble code, U2-05, is displayed. → Cancel with SIM16.
Step 3	Since a blank HDD is automatically formatted, there is no need to perform formatting procedure with SIM.	Use Sim62-1 to format the HDD.
Step 4	When there are some FAX or Internet Fax data, use SIM66-62 to backup the image data from the eMMC PWB to the USB memory. (The backup image data are of PDF file type, and cannot be restored to the machine. The backup data are given to the user.)	
Step 5	Use SIM66-10 to clear the FAX image memory. The memory is cleared in order to keep compliance between the HDD data and the image related memory and to prevent malfunctions. (The memory must be cleared not only in the FAX model but in the scanner and the Internet Fax models.)	

With the above procedures, the HDD is reset to the state of factory shipping.

f. eMMC PWB storage data and backup

Some eMMC PWB storage data can be backed up, some storage data can be reinstalled, If eMMC PWB operate normally before replacement and can be backed up data before replacement of eMMC PWB referring to eMMC PWB storage data list. Then reinstall the data after replacement of eMMC PWB.

f-1. eMMC PWB storage data list

No.	Data kind	Before installation (when shipping from the factory)	After installation (after use by users)	Data backup	Backup method	Data reinstallation	Data reinstall procedures	Reinstall operator
1	ICU firmware/ Snapshot	Available	Available	Disable	---	Enable	SIM49-1	Service
2	font web help spdl	Available	Available	Disable	---	Enable	SIM49-1	Service
3	Option font ROM	Available	Available	Disable	---	Enable	SIM49-1	Service
4	e-Manual	Available	Available	Disable	---	Enable	SIM49-7	Service
5	Watermark	Available	Available	Disable	---	Enable	SIM49-7	Service
6	OCR dictionary	Available	Available	Disable	---	Enable	SIM49-7	Service
7	Sound	Available	Available	Disable	---	Enable	SIM49-7	Service
8	Backup data	Not available	Available	Disable	---	Disable	---	---
9	System registration data	Available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service/User
10	FAX/internet FAX received data	Not available	Available	Enable	SIM66-62	Disable	---	---
11	eOSA application file	Not available	Install application	Disable	---	Disable	Install application	Service

f-2. Work contents and procedures

Step	
Step 1	Use Sim56-2 to backup eMMC PWB data to USB memory
Step 2	Backup eMMC PWB by device cloning function when operation panel screen is customized
Step 3	Replace eMMC PWB with new one
Step 4	Upgrade firmware to the latest version
Step 5	Use Sim56-2 to restore data backed up in step1)
Step 6	Restore data backed up in step2) by using device cloning function

(2) without HDD model

a. SCN MFP PWB replacement procedure (work flow)

Registered user information will not be recovered if SCN MFP PWB is affected by U2-05 trouble.

- 1) Attach EEPROM, eMMC PWB, mSATA SSD of the SCN MFP PWB onto the new SCN MFP PWB and install it to the main unit.
Ground your body with grounding band during the work.
- 2) U2 trouble occurs, use Sim16 to cancel it.
- 3) Set as follows after rebooting the main unit.
Set the appropriate country code by Sim66-2 (clear software switch related to FAX).

b. mSATA SSD storage data and backup

Some mSATA SSD storage data can be backed up, some storage data can be reinstalled, If mSATA SSD operate normally before replacement and can be backed up data before replacement of the mSATA SSD referring to mSATA SSD storage data list. Then reinstall the data after replacement of mSATA SSD.

b-1. mSATA SSD storage data list

No.	Data kind	Before installation (when shipping from the factory)	After installation (after use by users)	Data backup	Backup method	Data reinstallation	Data reinstall procedures	Reinstall operator
1	Address book	Not available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service/ User
2	Image send registration data (sender's information, meta data etc)	Not available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service/ User
3	User authentication Account management	Not available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service
4	Japanese FEP dictionary	Not available	Available	Disable	---	Disable	---	---
5	Chinese FEP dictionary	Not available	Available	Disable	---	Disable	---	---
6	JOB log	Not available	Available	Enable	Sim56-4/ WEB PAGE	Disable	---	---
7	JOB completion list	Not available	Available	Disable	---	Disable	---	---
8	New N/A (FSS) information	Not available	Available	Disable	---	Disable	---	---
9	User font	Not available	Available	Disable	---	Enable	WEB PAGE	Service/ User
10	User macro	Not available	Available	Disable	---	Enable	WEB PAGE	Service/ User
11	System registration data	Not available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service/ User

No.	Data kind	Before installation (when shipping from the factory)	After installation (after use by users)	Data backup	Backup method	Data reinstallation	Data reinstall procedures	Reinstall operator
12	User color profile	Not available	Available	Disable	---	Enable	WEB PAGE	Service/ User
13	Cookie file for OSA application	Not available	Available	Disable	---	Disable	---	---
14	Paper property registration data	Not available	Available	Enable	SIM56-2/ Device cloning	Enable	SIM56-2/ Device cloning	Service/ User
15	Billing account data	Not available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service

c. eMMC PWB storage data and backup

Some eMMC PWB storage data can be backed up, some storage data can be reinstalled, If eMMC PWB operate normally before replacement and can be backed up data before replacement of eMMC PWB referring to eMMC PWB storage data list. Then reinstall the data after replacement of eMMC PWB.

c-1. eMMC PWB storage data list

No.	Data kind	Before installation (when shipping from the factory)	After installation (after use by users)	Data backup	Backup method	Data reinstallation	Data reinstall procedures	Reinstall operator
1	ICU firmware/ Snapshot	Available	Available	Disable	---	Enable	SIM49-1	Service
2	font web help spdl	Available	Available	Disable	---	Enable	SIM49-1	Service
3	Option font ROM	Available	Available	Disable	---	Enable	SIM49-1	Service
4	e-Manual	Available	Available	Disable	---	Enable	SIM49-7	Service
5	Watermark	Available	Available	Disable	---	Enable	SIM49-7	Service
6	OCR dictionary	Available	Available	Disable	---	Enable	SIM49-7	Service
7	Sound	Available	Available	Disable	---	Enable	SIM49-7	Service
8	Backup data	Not available	Available	Disable	---	Disable	---	---
9	System registration data	Available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service/ User
10	FAX/internet FAX received data	Not available	Available	Enable	SIM66-62	Disable	---	---
11	eOSA application file	Not available	Install application	Disable	---	Disable	Install application	Service

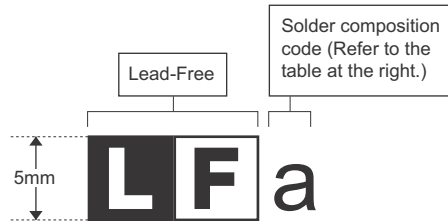
c-2. Work contents and procedures

Step	
Step 1	Use Sim56-2 to backup eMMC PWB data to USB memory
Step 2	Backup eMMC PWB by device cloning function when operation panel screen is customized
Step 3	Replace eMMC PWB with new one
Step 4	Upgrade firmware to the latest version
Step 5	Use Sim56-2 to restore data backed up in step1)
Step 6	Restore data backed up in step2) by using device cloning function

LEAD-FREE SOLDER

The PWB's of this model employs lead-free solder. The "LF" marks indicated on the PWB's and the Service Manual mean "Lead-Free" solder. The alphabet following the LF mark shows the kind of lead-free solder.

Example:



<Solder composition code of lead-free solder>

Solder composition	Solder composition code
Sn-Ag-Cu	a
Sn-Ag-Bi Sn-Ag-Bi-Cu	b
Sn-Zn-Bi	z
Sn-In-Ag-Bi	i
Sn-Cu-Ni	n
Sn-Ag-Sb	s
Bi-Sn-Ag-P Bi-Sn-Ag	p

(1) NOTE FOR THE USE OF LEAD-FREE SOLDER THREAD

When repairing a lead-free solder PWB, use lead-free solder thread.

Never use conventional lead solder thread, which may cause a breakdown or an accident.

Since the melting-point of lead-free solder thread is about 40°C higher than that of conventional lead solder thread, the use of the exclusive-use soldering iron is recommended.

(2) NOTE FOR SOLDERING WORK

Since the melting-point of lead-free solder is about 220°C, which is about 40°C higher than that of conventional lead solder, and its soldering capacity is inferior to conventional one, it is apt to keep the soldering iron in contact with the PWB for longer time. This may cause land separation or may exceed the heat-resistive temperature of components. Use enough care to separate the soldering iron from the PWB when completion of soldering is confirmed.

Since lead-free solder includes a greater quantity of tin, the iron tip may corrode easily. Turn ON/OFF the soldering iron power frequently.

If different-kind solder remains on the soldering iron tip, it is melted together with lead-free solder. To avoid this, clean the soldering iron tip after completion of soldering work.

If the soldering iron tip is discolored black during soldering work, clean and file the tip with steel wool or a fine filer.

CAUTION FOR BATTERY REPLACEMENT

(Danish)

ADVARSEL !

Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.

Udskiftning må kun ske med batteri

af samme fabrikat og type.

Levér det brugte batteri tilbage til leverandoren.

(English)

Caution !

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type

recommended by the manufacturer.

Dispose of used batteries according to manufacturer's instructions.

(Finnish)

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.

Vaihda paristo ainoastaan laitevalmistajan suosittelemaan

tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden

mukaisesti.

(French)

ATTENTION

Il y a danger d'explosion s' il y a remplacement incorrect

de la batterie. Remplacer uniquement avec une batterie du

même type ou d'un type équivalent recommandé par

le constructeur.

Mettre au rebut les batteries usagées conformément aux

instructions du fabricant.

(Swedish)

VARNING

Explosionsfara vid felaktigt batteribyte.

Använd samma batterityp eller en ekvivalent

typ som rekommenderas av apparattillverkaren.

Kassera använt batteri enligt fabrikantens

instruktion.

(German)

Achtung

Explosionsgefahr bei Verwendung inkorrektter Batterien.

Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder

vom Hersteller empfohlene Batterien verwendet werden.

Entsorgung der gebrauchten Batterien nur nach den vom

Hersteller angegebenen Anweisungen.

CAUTION FOR BATTERY DISPOSAL

(For USA, CANADA)

"BATTERY DISPOSAL"

THIS PRODUCT CONTAINS A LITHIUM PRIMARY
(MANGANESE DIOXIDE) MEMORY BACK-UP BATTERY
THAT MUST BE DISPOSED OF PROPERLY. REMOVE THE
BATTERY FROM THE PRODUCT AND CONTACT YOUR
LOCAL ENVIRONMENTAL AGENCIES FOR INFORMATION
ON RECYCLING AND DISPOSAL OPTIONS.

"TRAITEMENT DES PILES USAGÉES"

CE PRODUIT CONTIENT UNE PILE DE SAUVEGARDE DE
MÉMOIRE LITHIUM PRIMAIRE (DIOXYDE DE MANGANESE)
QUI DOIT ÊTRE TRAITÉE CORRECTEMENT. ENLEVEZ LA
PILE DU PRODUIT ET PRENEZ CONTACT AVEC VOTRE
AGENCE ENVIRONNEMENTALE LOCALE POUR DES
INFORMATIONS SUR LES MÉTHODES DE RECYCLAGE ET
DE TRAITEMENT.



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First edition: October 2017