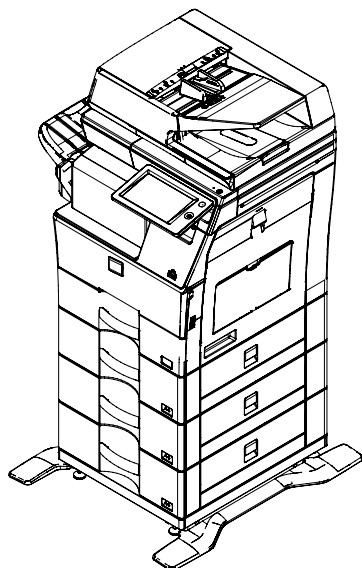


SHARP SERVICE MANUAL

CODE: 00ZMXB456WS4E



DIGITAL MULTIFUNCTIONAL SYSTEM

MX-B356W/B376W

MX-B456W/B476W


MX-B356WH/B376WH 

MODEL MX-B456WH/B476WH

CONTENTS

NOTE FOR SERVICE

[1] PRODUCT OUTLINE	1-1
[2] SPECIFICATIONS	2-1
[3] CONSUMABLE PARTS	3-1
[4] EXTERNAL VIEW AND INTERNAL STRUCTURE	4-1
[5] ADJUSTMENTS AND SETTINGS	5-1
[6] SIMULATION	6-1
[7] SELF DIAG AND TROUBLE CODE	7-1
[8] FIRMWARE UPDATE	8-1
[9] MAINTENANCE	9-1
[10] DISASSEMBLY AND ASSEMBLY	10-1
[11] OPERATIONAL DESCRIPTIONS	11-1
[12] ELECTRICAL SECTION	12-1
[13] OTHERS	13-1

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.

CONTENTS

NOTE FOR SERVICE

1. Precautions for servicing i
2. Warning for servicing i
3. Note for installing site i
4. Note for handling PWB and electronic parts ii
5. Note for repairing/replacing the LSU iii
6. Note for handling the drum unit, the transfer unit,
the developing unit iii
7. Screw tightening torque iii

[1] PRODUCT OUTLINE

1. System diagram 1-1
2. Product List 1-2
3. Option list 1-2

[2] SPECIFICATIONS

1. Basic specifications 2-1
2. Copy function 2-6
3. Printer function 2-7
4. Image send function 2-7
5. Dimension and weight 2-8
6. Environmental conditions 2-8

[3] CONSUMABLE PARTS

1. Supply system table 3-1
2. Maintenance parts list 3-1
3. Definition of developer/drum life end 3-2
4. Production number identification 3-2
5. Environmental conditions 3-3

[4] EXTERNAL VIEW AND INTERNAL STRUCTURE

1. Exterior 4-1
2. Interior, side and back 4-2
3. Automatic document feeder and document glass 4-3
4. Operation panel 4-4
5. DSPF 4-5
6. RSPF 4-7
7. Sensors 4-9
8. Switches 4-10
9. Clutches and solenoids 4-11
10. Drive motors 4-12
11. Rollers 4-13
12. Lamps 4-14
13. Fans and filter 4-15
14. PWB/memory device 4-16
15. Fuses and thermostats 4-18

[5] ADJUSTMENTS AND SETTINGS

1. General 5-1
2. Adjustment item list 5-1
3. Details of adjustment 5-3

[6] SIMULATION

1. General and purpose 6-1
2. Function of each key 6-1
3. Starting the simulation 6-1
4. List of simulation codes 6-2
5. Details of simulation 6-8
6. FAX software switch 6-81

[7] SELF DIAG AND TROUBLE CODE

1. Trouble code and troubleshooting 7-1
2. JAM and troubleshooting 7-22
3. Image send communication report code 7-23

[8] FIRMWARE UPDATE

1. Outline 8-1
2. Update procedure 8-1

[9] MAINTENANCE

1. Works necessary when executing the maintenance . . 9-1
2. Display of maintenance execution timing 9-1
3. Maintenance list 9-3

[10] DISASSEMBLY AND ASSEMBLY

1. Disassembly of Units 10-1
2. Disassembly and assembly of each unit 10-22

[11] OPERATIONAL DESCRIPTIONS

1. Operation panel section 11-1
2. Scanner section 11-2
3. Manual paper feed section 11-5
4. Paper feed tray section 11-6
5. Paper registration section 11-7
6. Paper exit section 11-8
7. ADU section 11-9
8. OPC drum section 11-10
9. Toner supply section 11-12
10. Developing section 11-13
11. Transfer section 11-15
12. Fusing section 11-17
13. DSPF section 11-19
14. RSPF section 11-26
15. Fan and Filter section 11-31

[12] ELECTRICAL SECTION

1. Block diagram 12-1
2. Power line diagram 12-8
3. Actual wiring chart 12-12

[13] OTHERS

1. TOOL LIST 13-1
2. VARIOUS STORAGE DATA HANDLING 13-1
3. CLEANIG BLADE REPLACEMENT PROCEDURE . . 13-5
4. Advanced Settings 13-9

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.
- When removing and servicing a unit with PWB or electronic parts installed to it, be sure to use an earth band.
- Be careful of electric shock!
When replacing the fuse, be sure to replace it with the same types as the specified rating.

CAUTION : Double pole, neutral fusing.
Disconnect mains before servicing.
ATTENTION. Double pôle, fusible sur le neutre.
Débrancher l'alimentation avant l'entretien.

- CAUTION!
For continued protection against risk of fire.
Replace only with the same type and rating of fuse.

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.

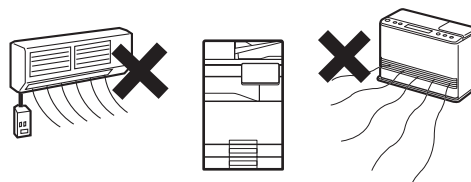
3. Note for installing site

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.**

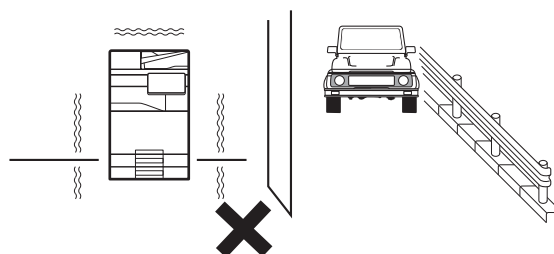
Paper may get damp and form condensation inside the machine, causing paper jam or copy dirt.

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



- **Place of extreme vibrations**

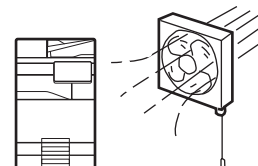
It may cause a breakdown.



- **Poorly ventilated place**

An electrostatic type copier will produce ozone.

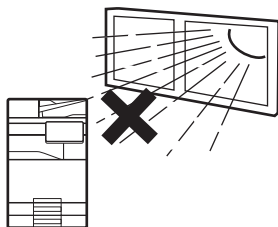
The quantity of ozone produced is designed to a low level so as not to affect human bodies. However, continuous use of such a machine may produce an ozone smell. Install the machine in a well ventilated place.



- **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**

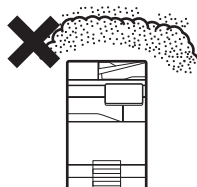
The organic photo-conductor (OPC) drum used in the machine may undergo qualitative change due to organic gases such as ammonium.

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



- **Place of much dust**

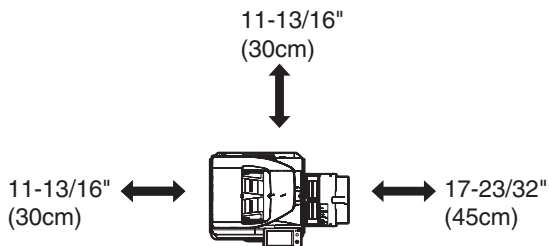
When dust or contaminants enters the machine, it may cause a breakdown or poor quality output.



- **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.

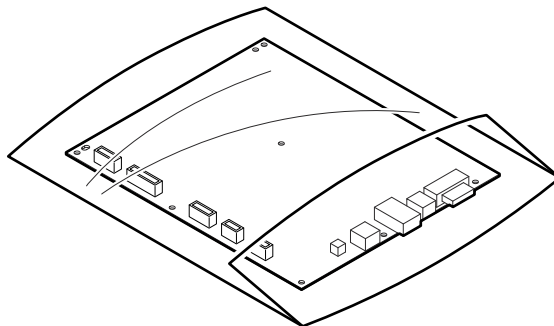
Use an optional desk or an exclusive-use desk.

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

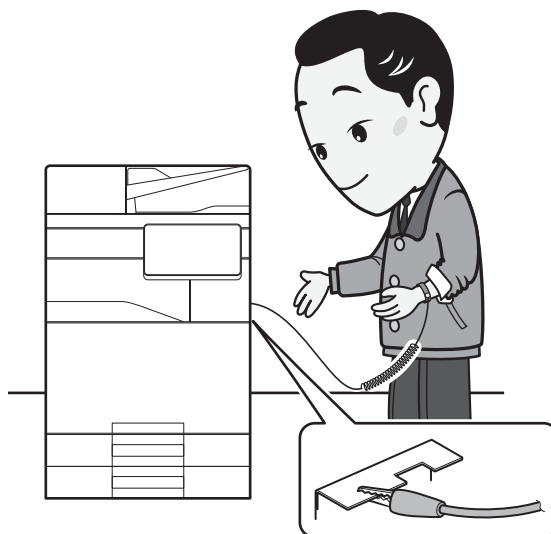
4. Note for handling PWB and electronic parts

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

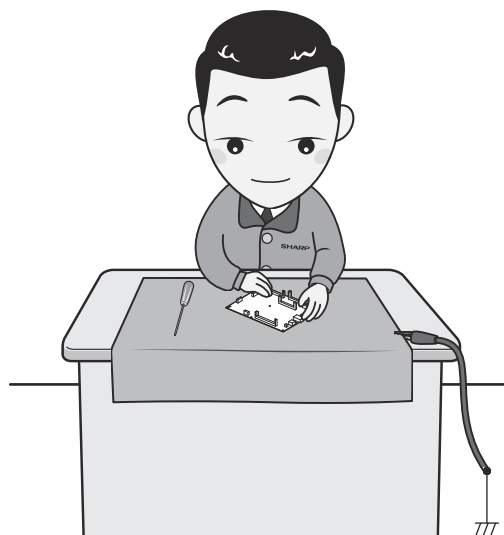
- When in transit or storing, put the parts in an anti-static bag or an anti-static case and do not touch them with bare hands.



- 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, ones safety may be at risk.

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

- To prevent damage to the OPC drum, avoid working on the OPC drum unit in high intensity light areas.
- 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.

Fusing unit

- Be careful not to "leave" fingerprints, oil, grease, or other foreign material on the fusing roller.
- Do not leave the fusing roller in contact state for a long time. If these items are neglected, trouble may be generated in the copy and print image quality.

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)

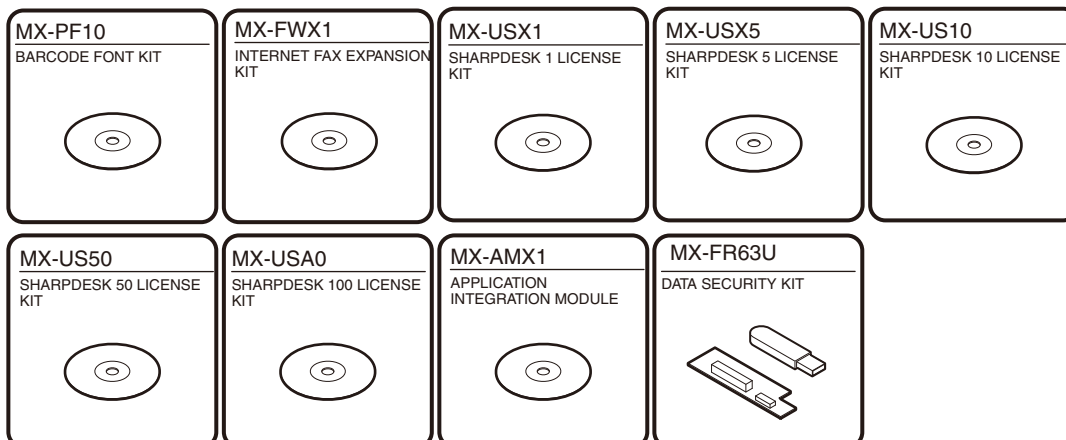
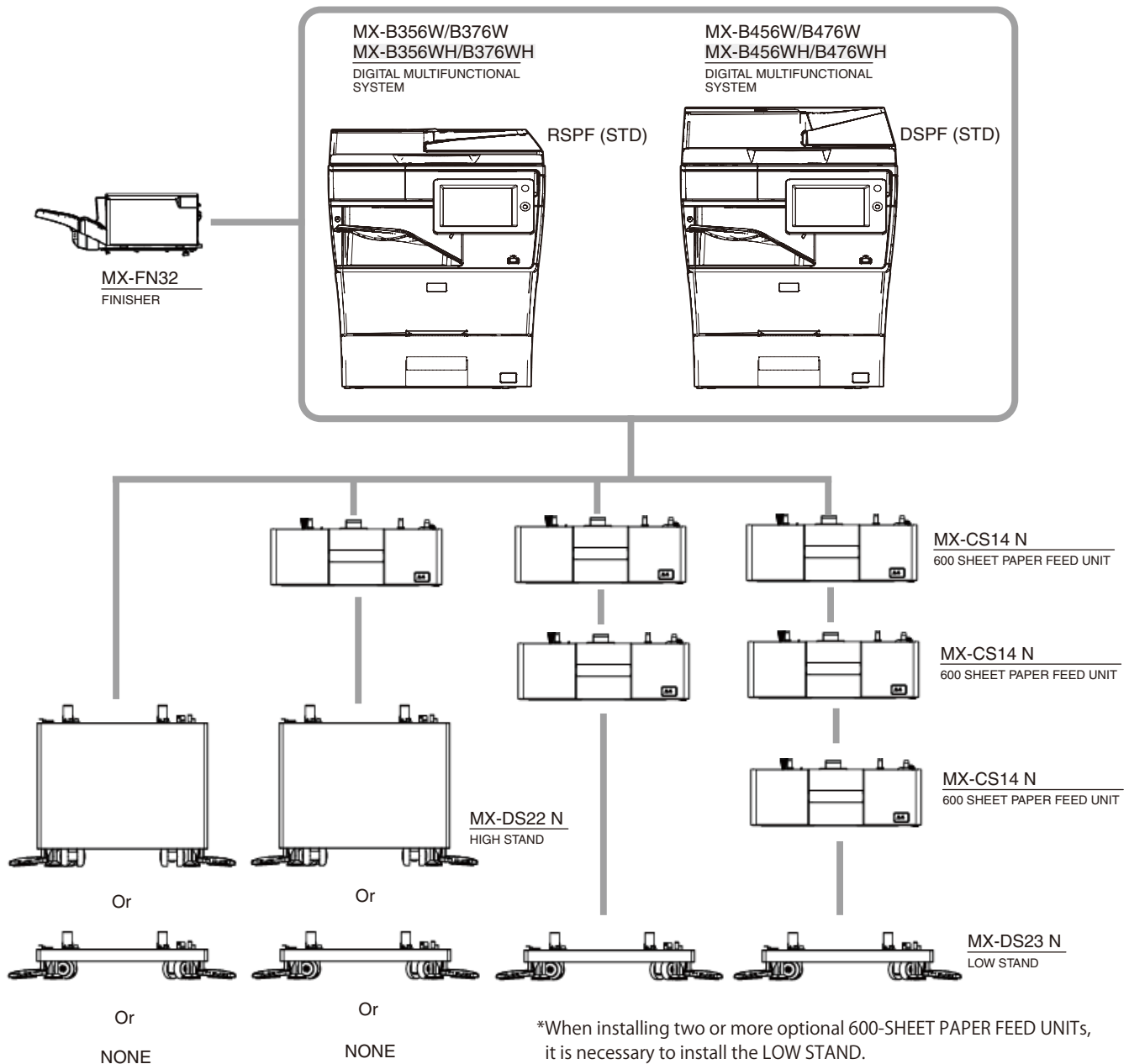
Screw diameter	Material to be fixed	Tightening torque (N·m)	Tightening torque (kgf·cm)	Tightening torque (lbft)
M3	Steel plate (Plate thickness 0.8mm or above)	1.0 - 1.2	10 - 12	0.7 - 0.9
M4	Steel plate (Plate thickness 0.8mm or above)	1.6 - 1.8	16 - 18	1.2 - 1.3
M3	Steel plate (Plate thickness less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



3 : '21/Dec.

2. Product List

<Main Unit for North America>

Model name	cpm	Panel (inch)	HDD (GB)	Enhanced Compression PDF	NIC	Copy	Print		SCAN	Fax	i-Fax	DF	Sharp OSA	Wireless LAN
							PCL	PS						
MX-B376W/ B376WH	37	7	STD 500	STD	STD	STD	STD	STD	STD	STD	OPT	STD RSPF	STD	STD
MX-B476W/ B476WH	47	7	STD 500	STD	STD	STD	STD	STD	STD	STD	OPT	STD DSPF	STD	STD

<Main Unit for Europe/Oceania>

Model name	cpm	Panel (inch)	HDD (GB)	Enhanced Compression PDF	NIC	Copy	Print		SCAN	Fax	i-Fax	DF	Sharp OSA	Wireless LAN
							PCL	PS						
MX-B356W/ B356WH	35	7	STD 500	STD	STD	STD	STD	STD	STD	STD	OPT	STD RSPF	STD	STD
MX-B456W/ B456WH	45	7	STD 500	STD	STD	STD	STD	STD	STD	STD	OPT	STD DSPF	STD	STD

NOTE: When replacing Wireless LAN adapter, use the adapter dedicated to each model.

*MX-B356W/B456W/B456WH/B476W

*MX-B356WH/B456WH/B456WH/B476WH

3. Option list

Item	Model name	Name	RSPF model		DSPF model	
			MX-B356W/ B376W	MX-B356WH/ B376WH	MX-B456W/ B476W	MX-B456WH/ B476WH
Paper Feeder	MX-CS14 N	600-SHEET PAPER FEED UNIT	OPT			
Stand	MX-DS22 N	HIGH STAND	OPT			
	MX-DS23 N	LOW STAND	OPT			
Paper Exit Device	MX-FN32	FINISHER	OPT			
Printer	MX-PF10	BARCODE FONT KIT	OPT			
Image Send	MX-FWX1	INTERNET FAX EXPANSION KIT	OPT			
Authentication /Security	MX-FR63U	DATA SECURITY KIT	OPT			
Application	MX-USX1	SHARPPDESK 1 LICENSE KIT	OPT*1	No Setting	OPT*1	No Setting
	MX-USX5	SHARPPDESK 5 LICENSE KIT	OPT*1	No Setting	OPT*1	No Setting
	MX-US10	SHARPPDESK 10 LICENSE KIT	OPT*1	No Setting	OPT*1	No Setting
	MX-US50	SHARPPDESK 50 LICENSE KIT	OPT*1	No Setting	OPT*1	No Setting
	MX-USA0	SHARPPDESK 100 LICENSE KIT	OPT*1	No Setting	OPT*1	No Setting
	MX-AMX1	APPLICATION INTEGRATION MODULE	OPT			
	MX-AMX2	APPLICATION COMMUNICATION MODULE	STD			
Other	-	EXTERNAL ACCOUNT MODULE	STD			
		WIRELESS LAN ADAPTOR	STD			

—: Connection not allowed

STD: Equipped as standard

OPT: Installable option

*1: Production discontinued

[2] SPECIFICATIONS

1. Basic specifications

A. Engine specification

Photo Conductor	OPC (Diameter : ϕ 30mm)
Recording method	Electronic Photo (Laser)
Development method	Dry-Type Dual-Component Magnetic Brush Development
Charging method	Charge roller
Transfer method	Transfer roller
Separation method	Natural Separation Method pawl is equipped.
Cleaning method	Counter Blade
Fusing method	Heat roller
Waste toner disposal	Collecting toner cartridges

B. Engine speed (ppm)

(1) Tray1

	35/37 ppm	45/47 ppm
8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5	N/A	N/A
8.5x11	37	47
B5, 7.25x10.5, 16K	35	45
A4	35	45
A5, 5.5x8.5	35	45
A6	35	45
Custom size	28	37

(2) Tray2-4

	35/37 ppm	45/47 ppm
8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5	28	37
8.5x11	37	47
B5, 7.25x10.5, 16K	35	45
A4	35	45
A5, 5.5x8.5	35	45
A6	N/A	N/A
Custom size	28	37
Heavy Paper (A4, A5, 8.5x11, 5.5x8.5, 16K)	26	26

(3) Bypass

	35/37 ppm	45/47 ppm
8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5	27	34
8.5x11, B5, 7.25x10.5, 16K	32	40
A4	32	40
A5, 5.5x8.5	32	40
A6	32	40
Custom size	27	34
OHP (A4, 8.5x11)	32	32
Envelope (Monarch, Com-9, Com-10, DL, C5, C6)	27	27
Heavy Paper (8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5)	27	27
Heavy Paper (A4, A5, 8.5x11, 5.5x8.5, 16K)	32	32
Heavy Paper (Postcard/A6 HIGH)	32	32
Heavy Paper (Postcard/A6 LOW)	27	27
Heavy Paper (Custom size)	27	27

C. First copy time

Engine	35/37 ppm	45/47 ppm
OC	5.3sec	3.7sec
DSPF	-	5.5sec
RSPF	7.3sec	-

D. Printable area

Loss width (Void area)	Top : 4 \pm 1mm, Rear: 2-5mm, Total 8mm or less FR : total 4 \pm 2mm
------------------------	---

E. Engine resolution

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

F. Scanner section

(1) Resolution / Gradation

		35/37 cpm	45/47 cpm
Scan Resolution for Copying (dpi)	OC	600x600dpi (default) 600x400dpi	600x600dpi (default) 600x400dpi
	DSPF	-	600x600dpi 600x400dpi (default)
	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	
Document size	Standard size: A4, B5, A5, A6, 16K 8.5x14, 8.5x13.5, 8.5x13.4, 8.5x13, 8.5x11, 5.5x8.5	
	Direct entry size: Horizontal Scanning: 105 mm – 216mm Vertical Scanning: 140 mm – 356mm	
	Long paper: 500mm (Monochrome 2 levels only)	
	Business card: Horizontal Scanning: 51mm - 55mm Vertical Scanning: 89mm - 91mm	
Mix feeding (same AB or inch system, same width)	Available (Simplex/Duplex)	
Random feeding (different combination of AB/inch system, different width)	No	
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
	Other	Business card: Thickness 0.1mm to 0.2mm

Document capacity	80g/m2: Max 100 sheets or max. 13mm or less Business card: Max 25sheets or max. 6.5mm 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	No
Paper Feeding Direction	Right hand feeding
Stamp	No
Power Source	Provided from the main unit
Dimensions (W x D x H)	492 x 517 x 638 (mm) 19-3/8 x 20-23/64 x 25-1/8 (inch)
Weight	Approx. 5.7 (kg) , Approx. 72.8 (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	
Document size	Standard size: A4, B5, A5, A6, 16K 8.5x14, 8.5x13.5, 8.5x13.4, 8.5x13, 8.5x11, 5.5x8.5	
	Direct entry size: Horizontal Scanning: 105 mm – 216mm Vertical Scanning: 140 mm – 356mm	
	Long paper: 500mm (Monochrome 2 levels only)	
	Business card: * Only simplex scanning Horizontal Scanning: 51mm - 55mm Vertical Scanning: 89mm - 91mm	
Mix feeding (same AB or inch system, same width)	Available (Simplex/Duplex)	
Random feeding (different combination of AB/inch system, different width)	No	
Document weight	Plain paper	50 to 105g/m2, 13 to 28 lb Bond
	Other	Business card: Thickness 0.1mm to 0.2mm
Document capacity	80g/m2: Max 50 sheets or max. 6.5mm or less Business card: Max 25sheets or max. 6.5mm 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	No	
Paper Feeding Direction	Right hand feeding	
Stamp	No	
Power Source	Provided from the main unit	
Dimensions (W x D x H)	492 x 517 x 588 (mm) 19-3/8 x 20-23/64 x 23-5/32 (inch)	
Weight	Approx. 3.5 (kg), Approx. 68.4 (lb.)	

(2) Scan Speed

DSPF

		Monochrome (A4 / 8.5x11)	Color (A4 / 8.5x11)
Simplex		70 sheets/minute (600x300dpi)	N/A
		52 sheets/minute (600x400dpi)	N/A
		35 sheets/minute (600x600dpi)	N/A
	Thin paper	44 sheets/minute (600x300dpi)	N/A
		33 sheets/minute (600x400dpi)	N/A
		22 sheets/minute (600x600dpi)	N/A
Duplex		110 pages/minute(600x300dpi)	N/A
		82 pages/minute (600x400dpi)	N/A
		55 pages/minute (600x600dpi)	N/A
Fax*1		Simplex: 70 sheets/min. (200x200dpi, 1bit) Duplex: 110 pages/min. (200x200dpi, 1bit)	N/A
Internet FAX*1		Simplex: 70 sheets/min. (200x200dpi, 1bit) Duplex: 110 pages/min. (200x200dpi, 1bit)	N/A
Scanner*1		Simplex: 70 sheets/min. (200x200dpi/300x300dpi, 1bit) Duplex: 110 pages/min. (200x200dpi/300x300dpi, 1bit)	Simplex: 70 sheets/min. (200x200dpi/ 300x300dpi, 1bit) Duplex: 110 pages/min. (200x200dpi/ 300x300dpi, 1bit)

*1 : Default 200x200dpi

RSPF

		Monochrome (A4 / 8.5x11)	Color (A4 / 8.5x11)
Simplex		40 sheets/minute (600x300dpi)	N/A
		30 sheets/minute (600x400dpi)	N/A
		20 sheets/minute (600x600dpi)	N/A
Duplex		18 pages/minute(600x300dpi)	N/A
		14 pages/minute (600x400dpi)	N/A
		10 pages/minute (600x600dpi)	N/A
Fax*1		Simplex: 40 sheets/min. (200x200dpi, 1bit) Duplex: 18pages/min. (200x200dpi, 1bit)	N/A
Internet FAX*1		Simplex: 40 sheets/min. (200x200dpi, 1bit) Duplex: 18 pages/min. (200x200dpi, 1bit)	N/A
Scanner*1		Simplex: 40 sheets/min. (200x200dpi/300x300dpi, 1bit) Duplex: 18 pages/min. (200x200dpi/300x300dpi, 1bit)	Simplex: 40 sheets/min. (200x200dpi/ 300x300dpi, 1bit) Duplex: 18 pages/min. (200x200dpi/ 300x300dpi, 1bit)

*1 : Default 200x200dpi

H. Paper feed section

(1) Basic specification

		Description
Form	Standard	1 Tray + Multi bypass
	Maximum	4 Tray + Multi bypass
Heater		No

Details of Paper Feeding Section

Tray		Tray 1	Multi Bypass
Paper Capacity	Standard paper (80g/m ²)	500 sheets*1	50 sheets
Paper Size Detection		Yes	No
Paper Type Settings		Yes	
Method to change paper size		By user	By user
Universal cassette handle		Yes (Lock mechanism is not available)	---
Default Paper Size Settings	Inch-system	---	8.5x11
	AB-system	---	A4
Detection of Remaining paper		Available (detect "None" status only)	

Tray	Tray 1	Multi Bypass
Display of paper remaining	No	---
Paper size display window	Yes	---
Priority of Auto-tray-switching	Tray 1 → Tray 2 → Tray 3 → Tray 4 → Multi Bypass	

*1: Paper capacity for A6 size is 150 sheets

(2) Extra Paper Capacity

Paper type	Tray 1	Tray 2-4(Opt.)	Multi Bypass
Envelope	N/A	N/A	10 sheets
OHP	N/A	N/A	10 sheets
Heavy paper: 106~176g/m ²	N/A	350 sheets	20 sheets
Heavy paper: 177~220g/m ²	N/A	250 sheets	20 sheets
Tab paper	N/A	N/A	N/A
Glossy paper	N/A	N/A	1 sheet
Others	N/A	N/A	1 sheet

(3) Feedable Paper Type

		Main unit	Options	Std.
		Tray1	Tray2-4	Multi Bypass
Min.paper weight		60g/m ²	55g/m ²	55g/m ²
Max.paper weight		105g/m ²	220g/m ²	220g/m ²
Paper Type	Thin paper 55-59g/m ² 13-16 lb. bond	-	Yes	Yes
	Plain paper 1 60-89g/m ² 16-24 lbs bond	Yes	Yes	Yes
	Plain paper 2 90-105g/m ² 24-28 lbs bond	Yes	Yes	Yes
	Recycled Paper	Yes	Yes	Yes
	Colored Paper	Yes	Yes	Yes
	Letter head	Yes	Yes	Yes
	Pre printed	Yes	Yes	Yes
	Pre Punched	Yes	Yes	Yes
	Heavy Paper 106-176g/m ² 28 lbs bond-65 lbs Cover	-	Yes	Yes
	Heavy Paper 177-220g/m ² 65 lbs Cover-80 lbs Cover	-	Yes	Yes
	Heavy Paper 221g/m ² or more 80 lbs Cover or more	-	-	-
	Embossed paper	-	-	-
	Envelope	-	-	Yes
	Transparency	-	-	Yes
	Label	-	-	Yes
	Tab Paper	-	-	-
	Glossy Paper	-	-	Yes
	User setting 1-7	Yes	Yes	Yes
Paper Size	Legal (8.5x14)	216x356	-	Yes
	Asian Legal (8.5x13.5)	216x343	-	Yes
	Mexican Legal (8.5x13.4)	216x340	-	Yes
	Foolscap (8.5x13)	216x330	-	Yes
	Letter (8.5x11)	216x279	Yes	Yes
	Executive (7.25x10.5)	184x266	Yes	Yes
	Invoice(5.5x8.5)	140x216	Yes	Yes
	A4	210x297	Yes	Yes
	B5	182x257	Yes	Yes
	A5	148x210	Yes	Yes
	A6	105x148	Yes	Yes
	16K	195x270	Yes	Yes
	Monarch	98x191	-	Yes
	COM9	98.4x225.4	-	Yes
	COM10	105x241	-	Yes
	DL	110x220	-	Yes
	C5	162x229	-	Yes
	C6	114x162	-	Yes
	Custom-Custom Size	Yes	Yes	Yes
	Extra	-	-	Yes
	Custom range	Min X	148mm, 5- 7/8inch	140mm, 5-1/2inch
		Max X	297mm, 11- 5/8inch	356mm, 14inch
		Min Y	105mm, 4- 1/4inch	90mm/3_ 5/8inch
		Max Y	216mm, 8- 1/2inch	216mm, 8- 1/2inch

(4) Detection Size

			Tray1		Tray2-4		Multi Bypass
			Auto-AB	Auto-Inch	Auto-AB	Auto-Inch	
Paper Size	Legal (8.5x14)	216x356	-	-	No	Yes	No
	Asian Legal (8.5x13.5)	216x343	-	-	No	No	No
	Mexican Legal (8.5x13.4)	216x340	-	-	No	No	No
	Foolscap (8.5x13)	216x330	-	-	Yes	No	No
	Letter (8.5x11)	216x279	No	Yes	No	Yes	No
	Executive (7.25x10.5)	184x266	No	Yes	No	Yes	No
	Invoice(5.5x8.5)	140x216	No	Yes	No	Yes	No
	A4	210x297	Yes	No	Yes	No	No
	B5	182x257	Yes	No	Yes	No	No
	A5	148x210	Yes	No	Yes	No	No
	A6	105x148	Yes	No	-	-	No
	16K	195x270	No	No	No	No	No

Yes: Automatically detected

No: Paper can be set / cannot be automatically detected

-: Paper cannot be set.

I. Paper exit section

(1) Basic specification

Exit Location	Center of the main unit
Exit Method	Face down
Exit Capacity	250 sheets (A4 / 8.5x11) (80g/m ² , recommended paper)
Shifting function	No
Exit Paper Detection	No
Exit Tray Full Detection	Yes

(2) Usable Paper Size

		Duplex section	Center Tray
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
	Plain paper 2 90-105g/m ² 24-28 lbs bond	Yes	Yes
	Recycled Paper	Yes	Yes
	Colored Paper	Yes	Yes
	Letter head	Yes	Yes
	Pre printed	Yes	Yes
	Pre Punched	Yes	Yes
	Heavy Paper 106-176g/m ²	-	Yes
	Heavy Paper 177-220g/m ²	-	Yes
	Heavy Paper 221g/m ² or more	-	-
	Embossed paper	-	-
	Envelope 75-90g/m ²	-	Yes
	Transparency	-	Yes
	Label	-	Yes
	Tab Paper	-	-
	Glossy Paper	-	Yes
	User setting 1-7	Yes	Yes

Paper Size			Duplex section	Center Tray
Paper Size	Legal (8.5x14)	216x356	Yes	Yes
	Asian Legal (8.5x13.5)	216x343	Yes	Yes
	Mexican Legal (8.5x13.4)	216x340	Yes	Yes
	Foolscap (8.5x13)	216x330	Yes	Yes
	Letter (8.5x11)	216x279	Yes	Yes
	Executive (7.25x10.5)	184x266	-	Yes
	Invoice (5.5x8.5)	140x216	Yes	Yes
	A4	210x297	Yes	Yes
	B5	182x257	Yes	Yes
	A5	216x148	Yes	Yes
	A6	105x148	-	Yes
	16K	195x270	Yes	Yes
	Monarch	98x191	-	Yes
	COM9	98.4x225.4	-	Yes
	COM10	105x241	-	Yes
	DL	110x220	-	Yes
	C5	162x229	-	Yes
	C6	114x162	-	Yes
	Custom-Custom Size		Yes	Yes
	Extra		-	-
	Custom range	Min X	210mm, 8- 3/8inch	140mm, 5-1/2inch
		Max X	356mm, 14inch	356mm, 14inch
		Min Y	140mm, 5- 1/2inch	90mm/3_ 5/8inch
		Max Y	216mm, 8- 1/2inch	216mm, 8- 1/2inch

J. Operation panel

(1) Display Device

LCD

Size	7 inch
Form	Dot matrix LCD, Touch panel
Number of Display Dot	1024 x 600 dot (WSVGA)
Color	Yes
LCD Drive Display Area (WxD)	154.21 x 85.92mm
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)	2 port (Front/Rear, can be used simultaneously)	ARM11	Not used
		SOC	For Wireless LAN module (internal)
		USB HUB (4 port)	Front port For IC card reader (internal) Rear port Blank
USB 2.0 (High speed) (device)	1 port		

L. Memory·Hard disk

(1) Capacity

35/37cpm,45/47cpm models

Flash memory	eMMC	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.

(2) eMMC PWB

Utilized memory Area	Boot/Program area FAX data storage area: 1GB
----------------------	---

M. Wireless LAN

Item	Specification	
Compliant regulation	IEEE802.11 n/g/b	
Transmission method	IEEE802.11n/g	OFDM method
	IEEE802.11b	DS-SS method
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 PSK, WPA2 EAP* *Not applicable to Software AP mode MX-B356WH/B456WH/B376WH/B476WH only Add the following WPA2/WPA3-mixed personal , WPA2/WPA3-mixed enterprise, WPA3 personal ,WPA3 enterprise	

N. Warm-up time

		35/37 ppm	45/47 ppm
Warm up time	Main power SW on	30 sec	30 sec
	Sub Power SW on	20 sec	20 sec
Availability of Preheat mode		Yes	Yes
Jam recovery time		20 sec	20 sec

O. Power source

	100V System	200V System
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: on the left rear side. Secondary switch (momentary SW): on the operation panel.	

P. Power consumption

	100V System	200V System
Max. rated power consumption*1	1.44 kW	1.84 kW
Fax waiting power consumption	1W or less	1W or less
*Condition of Standing by Network: Connect with TCP/IP protocol only.		
Time to move into Preheat mode	1 minute (Default)	
Recovery time from Preheat mode	10 sec	
Time to move into Sleep mode	1 minute (Default)	Europe : 16 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%, 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 (Color: Magical view, B/W: Character AE or magical view (selectable by Sim. Default setting is Magical view)) Text, 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
Toner save mode	Yes

3. Printer function

A. Printer driver supported OS

OS *1	Custom PCL6 SPDL2	Custom PCL5c	Custom PS	PPD	PC-Fax	TWAIN
Windows	Server 2008	Web	No	Web	Web	Web
	Server 2008 x 64	Web	No	Web	Web	Web
	Windows 7	Web	No	Web	Web	Web
	Windows 7 x 64	Web	No	Web	Web	Web
	Server 2008 R2 x 64	Web	No	Web	Web	Web
	Server 2012 x 64	Web	No	Web	Web	Web
	Windows 8.1	Web	No	Web	Web	Web
	Windows 8.1 x 64	Web	No	Web	Web	Web
	Server 2012 R2 x 64	Web	No	Web	Web	Web
	Windows 10	Web	No	Web	Web	Web
	Windows 10 x 64	Web	No	Web	Web	Web
	Server 2016 x 64	Web	No	Web	Web	Web
	Server 2019 x 64	Web	No	Web	Web	Web
Mac	X10.6	No	No	No	No	No
	X10.7	No	No	No	No	No
	X10.8	No	No	No	No	No
	X10.9	No	No	Web	No	No
	X10.10	No	No	Web	No	No
	X10.11	No	No	Web	No	No
	X10.12	No	No	Web	No	No
	X10.13	No	No	Web	No	No
	X10.14	No	No	Web	No	No
	X10.15	No	No	Web	No	No
	X11	No	No	Web	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	Arficc 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)

Mode	Format / Compression method	Item
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
Gray scale/ Monochrome automatic selection for push scan*			

*Only valid when simple scan mode's "auto select" button is selected.

(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.)

Level	Scanner	Internet Fax/ Direct SMTP	Fax
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

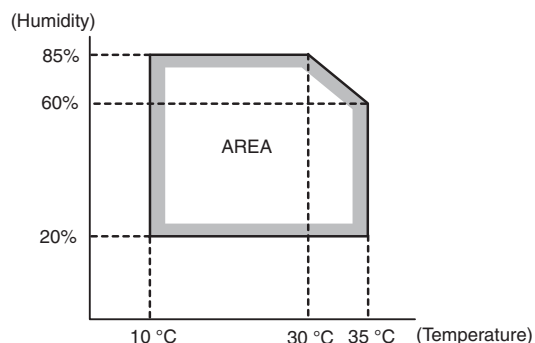
(3) Exposure / Original Type

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
	Text / Photo	Yes	N/A
	Text / Printed photo	Yes	N/A
	Photo	Yes	N/A
	Printed photo	Yes	N/A
	Map	Yes	N/A
Magical scan (Area division + Suppress Background)	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

Model	35/37 cpm model	45/47 cpm model
Outer dimensions (WxDxH)	492 x 517 x 588 (mm) 19-3/8 x 20-23/64 x 23-5/32 (inch)	492 x 517 x 638 (mm) 19-3/8 x 20-23/64 x 25-1/8 (inch)
Footprint	492 x 517 (mm) 19-3/8 x 20-23/64 (inch)	
Occupied area (when extending Multi bypass sub tray, Operation panel is tilted at the max angle)	687 x 533 (mm) 27-1/16 x 20-63/64 (inch)	
Weight (Including Drum and developer cartridge. Not including Toner cartridge.)	Approx. 31 (kg) Approx. 68.4 (lb.)	Approx. 33 (kg) Approx. 72.8 (lb.)

6. Environmental conditions



[3] CONSUMABLE PARTS

1. Supply system table

A. North America

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-B45NT	Toner cartridge	1	30K	10	*Life: A4/Letter size at area coverage 5%
Toner cartridge	MX-B35NT	Toner cartridge	1	12K	10	*Life: A4/Letter size at area coverage 5%
Developer	MX-B45NV	Developer	1	100K	10	
Drum unit	MX-B45DU	Drum unit	1	100K	10	

B. Europe, Australia, New Zealand

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Toner cartridge	MX-B45GT	Toner cartridge	1	30K	10	*Life: A4/Letter size at area coverage 5%
Toner cartridge	MX-B35GT	Toner cartridge	1	12K	10	*Life: A4/Letter size at area coverage 5%
Developer	MX-B45GV	Developer	1	100K	10	
Drum unit	MX-B45DU	Drum unit	1	100K	10	



2. Maintenance parts list

A. North America

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Fusing unit	MX-B36FU1	Fusing unit (120V series)	1	100K	4	
Transfer unit	MX-B35U1	Transfer unit	1	100K	10	
DV filter	MX-B35FK	DV filter	1	100K	10	
Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	

B. Europe/Australia, New Zealand

Item	Model name	Content	Qty	Life	Qty in collective package	Remarks
Fusing unit	MX-B36FU	Fusing unit (200V series)	1	100K	4	
Transfer unit	MX-B35U1	Transfer unit	1	100K	10	
DV filter	MX-B35FK	DV filter	1	100K	10	
Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	

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
35/37/45/47 cpm machine	100K	600K

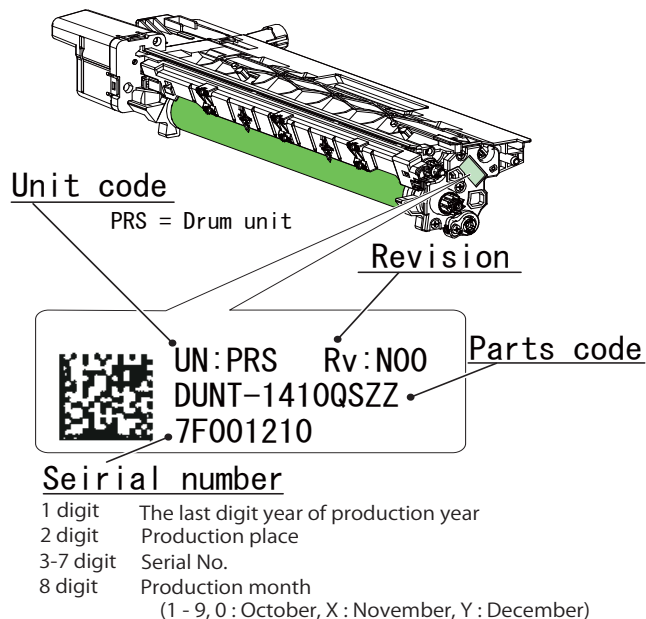
Drum unit

	Counter	Rotation
35/37/45/47 cpm machine	100K	600K

4. Production number identification

A. Drum unit

The label indicating the management number is attached to the rear side of the Drum unit.



B. Developer



1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

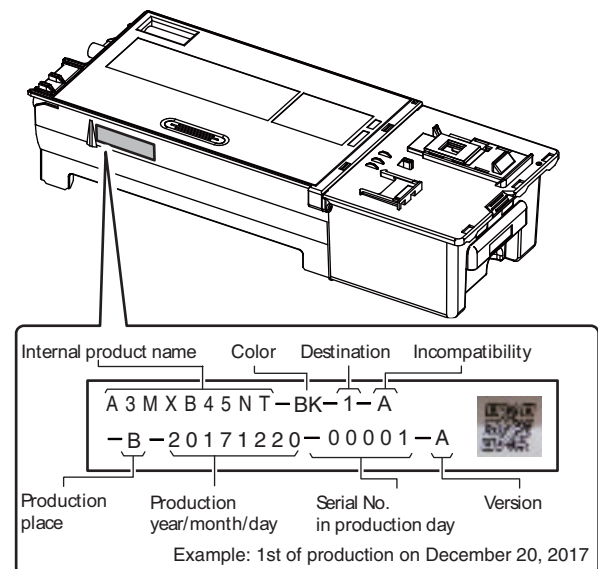
The lot number is of 8 digits. Each digit indicates the content as follows.

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

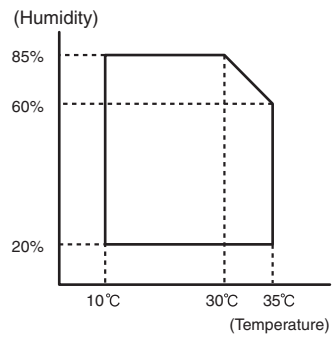
Digit	Character type	Content
1	Alphabet	Indicates the production factory.
2	Number	Indicates the production year.
3	Number	Indicates the production month.
4		
5	Number	Indicates the production day.
6		
7	Hyphen	
8	Number	Indicates the production lot.

C. Toner cartridge

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



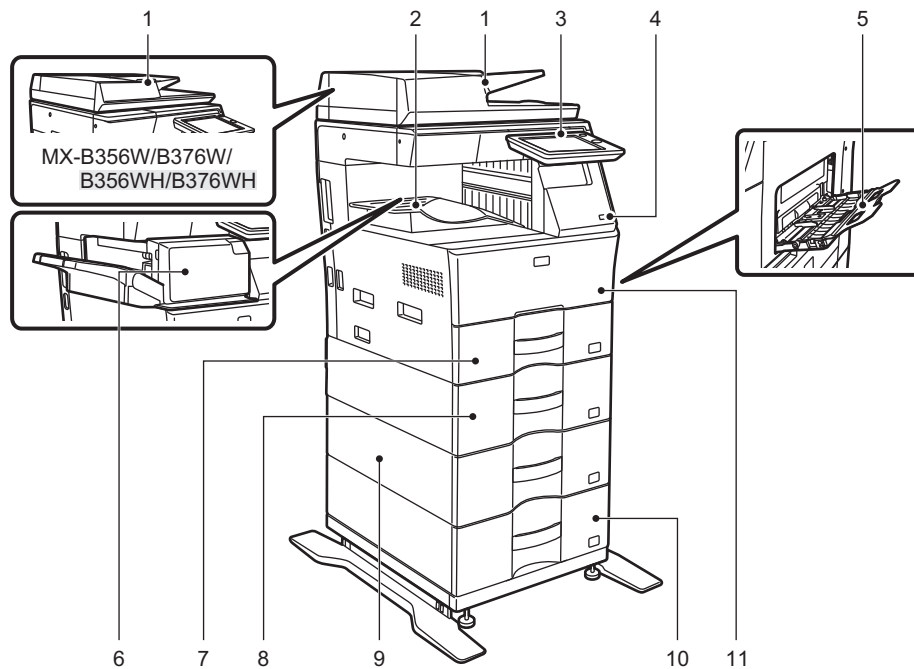
5. Environmental conditions



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/Drum unit: 24 months from the manufactured month (Production lot) under unsealed state	

[4] EXTERNAL VIEW AND INTERNAL STRUCTURE

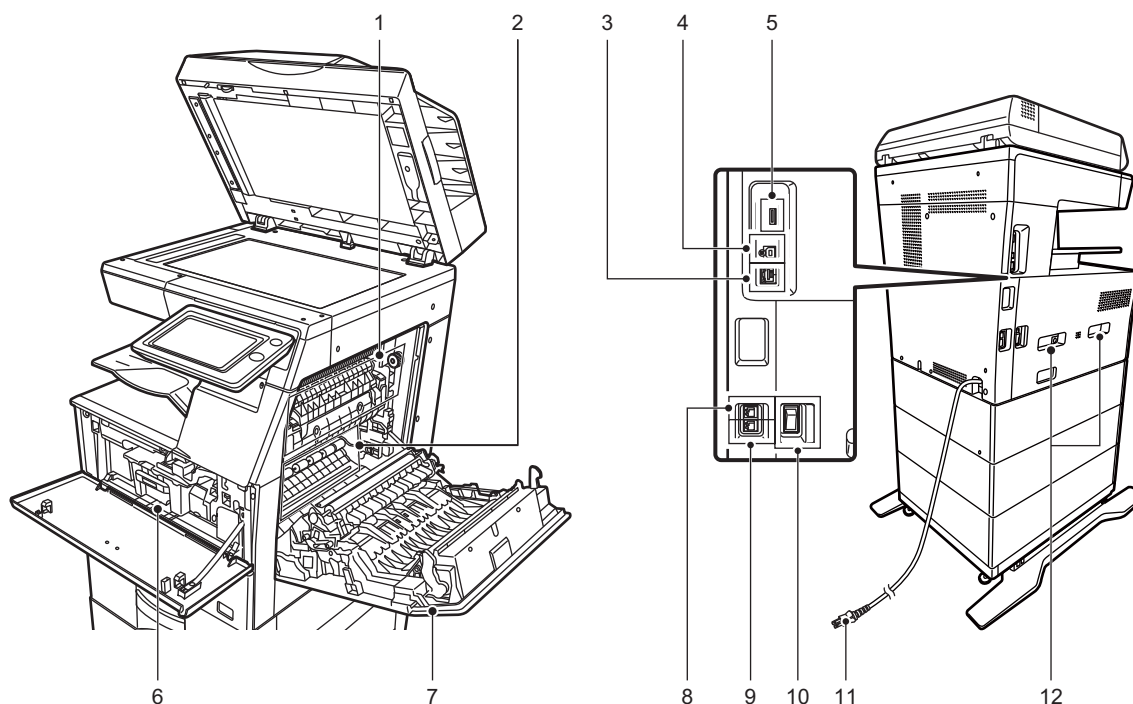
1. Exterior



No.	Name	Function and Operation
1	Automatic document feeder	It automatically feeds and scans multiple originals. 2-sided originals can be automatically scanned. For the MX-B456W/B476W/B456WH/B476WH, both sides of 2-sided originals can be automatically scanned at one time.
2	Output tray (exit tray cabinet)	Received faxes and printed papers are delivered to this tray.
3	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.
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). If USB memory devices are connected to both the front and back sides, only the USB memory device that was inserted first will be recognized.
5	Bypass tray	Use this tray to feed paper manually. When loading paper, also open the extension tray.
6	Inner finisher*	This staples paper.
7	Tray 1	Store paper in this tray.
8	Tray 2 (when a 600-sheet paper feed unit is installed)*	Store paper in this tray.
9	Tray 3 (when two 600-sheet paper feed units are installed)*	Store paper in this tray.
10	Tray 4 (when three 600-sheet paper feed units are installed)*	Store paper in this tray.
11	Front cover	Open this cover to replace a toner cartridge.

* Optional

2. Interior, side and back

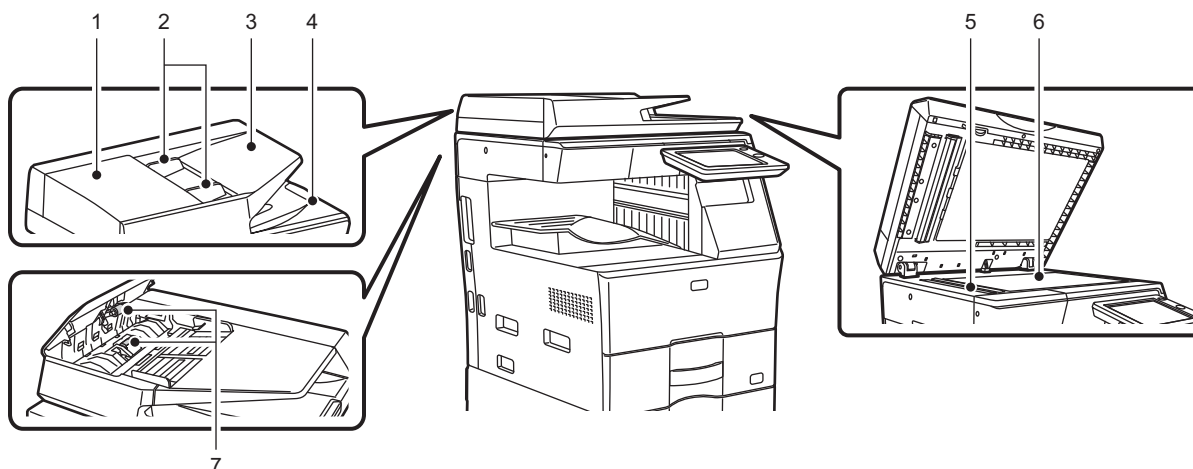


No.	Name	Function and Operation
1	Fusing unit	Heat is applied here to fuse the transferred image onto the paper. WARNING: The fusing unit is hot. Take care not to burn yourself when removing a misfeed.
2	Photoconductive drum	Images are formed on the photoconductive drum. CAUTION: Do not touch or damage the drum. This may cause a defective image.
3	LAN connector	Connect the LAN cable to this connector when the machine is used on a network. Use a shielded LAN cable.
4	USB port (B type)	The machine does not use this connector.
5	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). If USB memory devices are connected to both the front and back sides, only the USB memory device that was inserted first will be recognized.
6	Toner cartridge	This cartridge contains toner. When the toner in a cartridge runs out, replace with new one.
7	Right side cover	Open this cover to remove a paper misfeed.
8	Telephone line jack (LINE)	When the fax function of the machine is used, the telephone line is connected to this jack.
9	Extension phone jack (TEL)	When the fax function of the machine is used, an extension phone can be connected to this jack.
10	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.
11	Power plug	
12	Handle	Grasp it when moving the machine.

3. Automatic document feeder and document glass

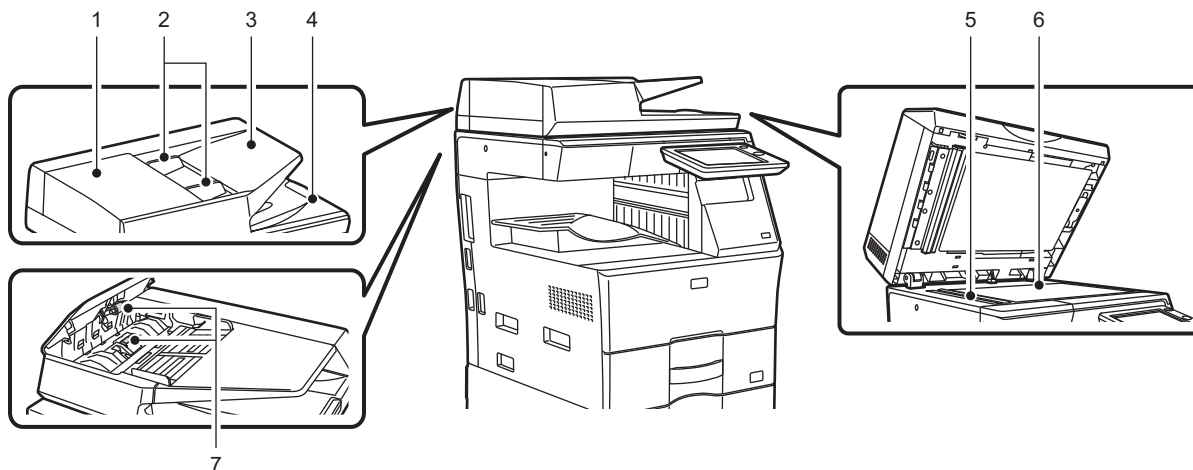
3

MX-B356W/B376W/B356WH/B376WH



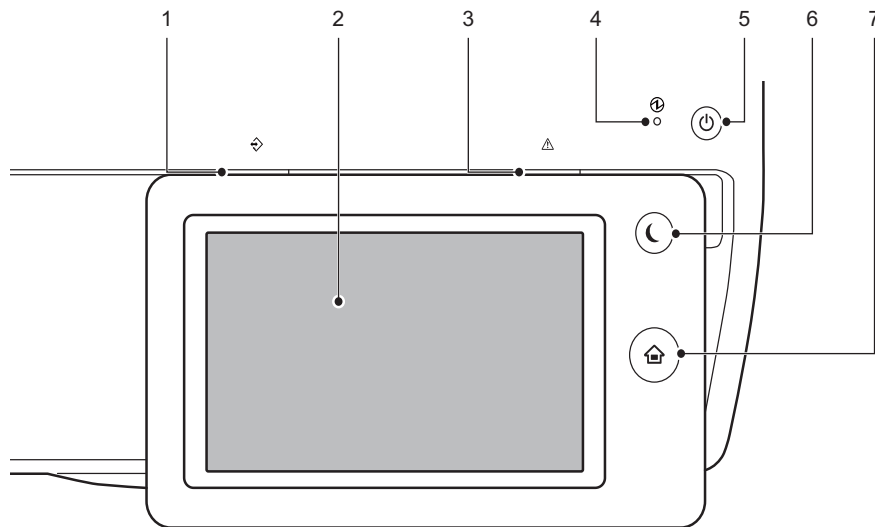
3

MX-B456W/B476W/B456WH/B476WH



No.	Name	Function and Operation
1	Document feeding cover	Open this cover to remove an original misfeed. This cover is also opened to clean the paper feed roller.
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	Scanning area	Originals placed in the automatic document feeder are scanned here.
6	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.
7	Paper feed roller	This roller rotates to automatically feed the original.

4. Operation panel



No.	Name	Function and Operation
1	Data notification indicator	The indicator lights solidly or blinks to indicate the status of a job.
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.

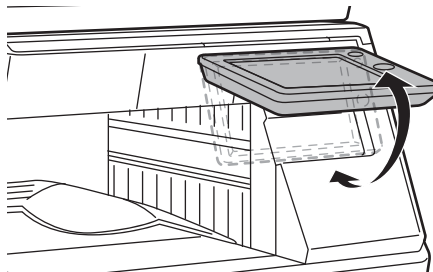
CAUTION: [Home Screen] key

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.

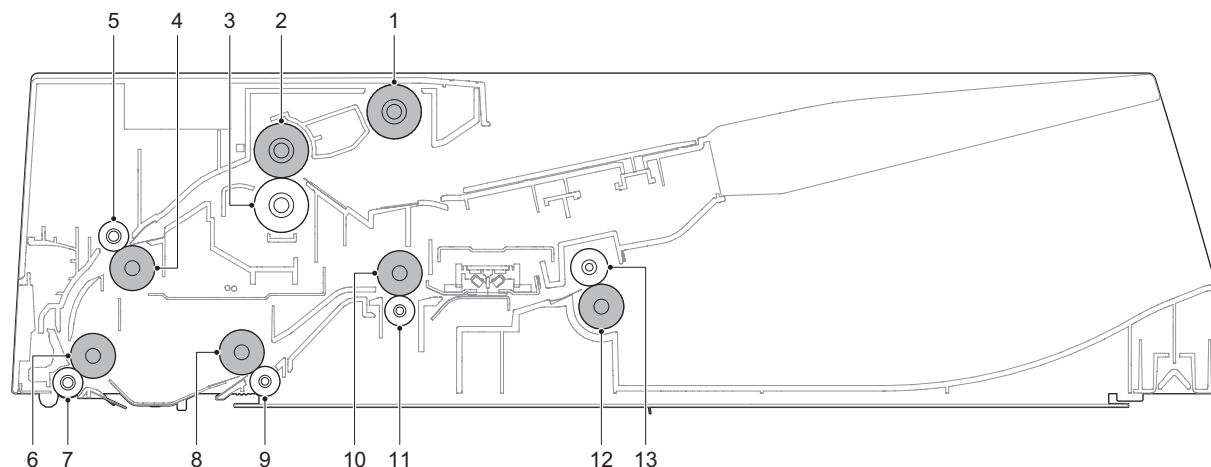
Risk of malfunctioning if you use with jewelry or other accessories.

NOTE: You can change the angle of the touch panel.



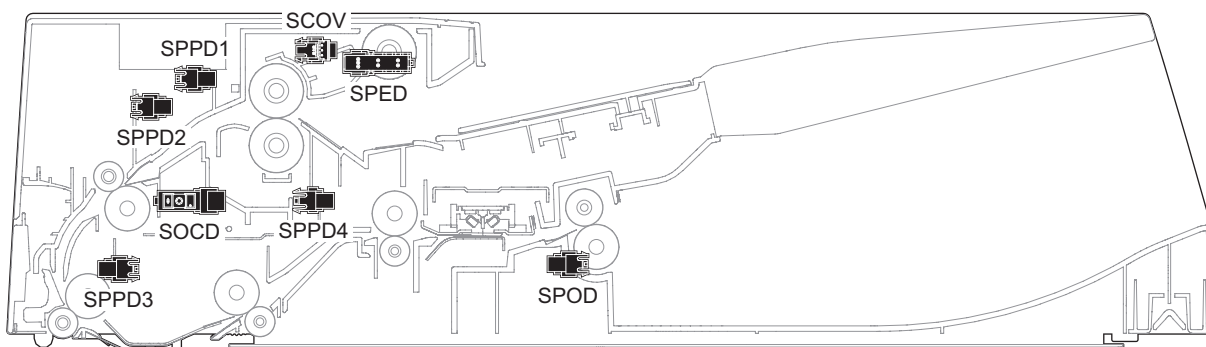
5. DSPF

A. Rollers



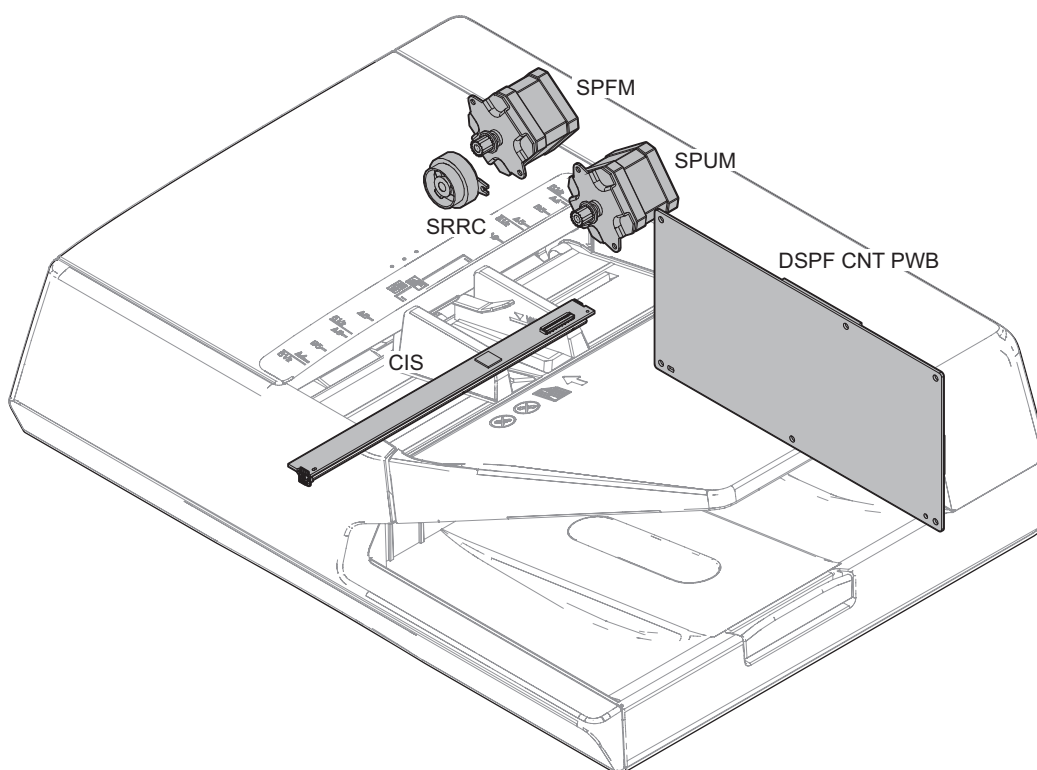
No.	Name	Function and Operation
1	Pickup roller	Picks up document and feed it to the document feed roller.
2	Document feed roller	Feeds a document to the transport section. Makes a buckle on paper between the registration roller and this roller to correct the start position of document skew and document 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 transport roller 3.
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	Transport roller 3 (Drive)	Transports a document transported from the transport roller 2 to the paper exit roller.
11	Transport roller 3 (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.
12	Paper exit roller (Drive)	Discharges a document.
13	Paper exit roller (Idle)	Apply a pressure to a document and the paper exit roller to provide the transport power of the paper exit roller to the document.

B. Sensors



Signal name	Name	Type	Function and Operation
SCOV	Cover open/close sensor	Transmission type	Detects open/close of the DSPF cover
SPOD	Document exit sensor	Transmission type	Detects document exit of the document
SOCD	DSPF UNIT open/close sensor	Transmission type	Detects open/close of the DSPF unit
SPED	Document tray empty sensor	Transmission type	Detects document empty in the document feed tray
SPPD1	Document pass sensor 1	Transmission type	Detects pass of the document
SPPD2	Document pass sensor 2	Transmission 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

C. Motors/Clutches/PWB/Lamps/Fan

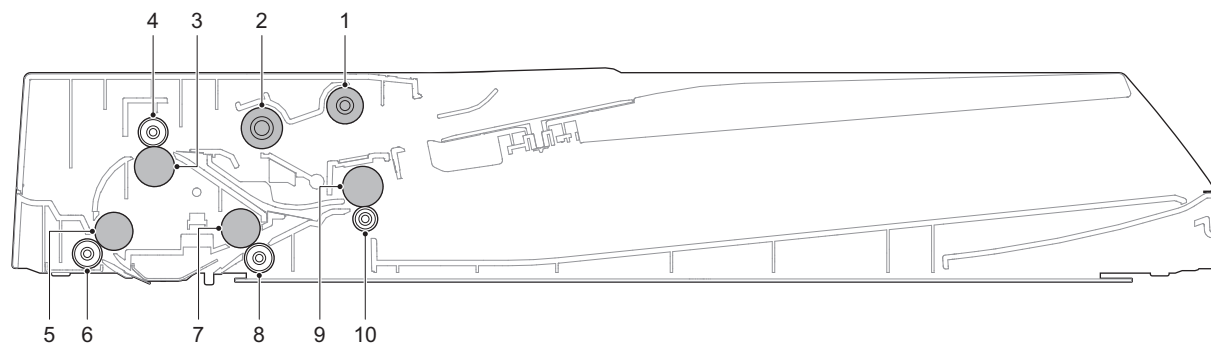


Signal name	Name	Type	Function and Operation
SPUM	DSPF paper feed motor	Stepping motor	Feeds a document
SPFM	DSPF transport motor	Stepping motor	Transports a document
SRRC	Registration roller clutch	Electromagnetic clutch	Controls ON/OFF of registration roller

Name	Function and Operation
CIS	Scan the image of the original and perform A/D conversion of the read signal
DSPF CNT PWB	Perform the image processing of image data and control the whole DSPF

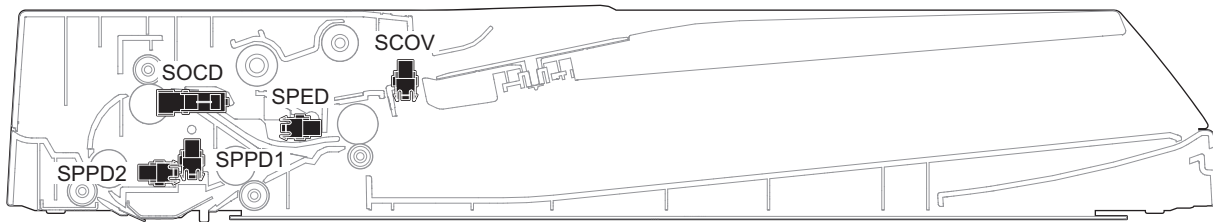
6. RSPF

A. Rollers



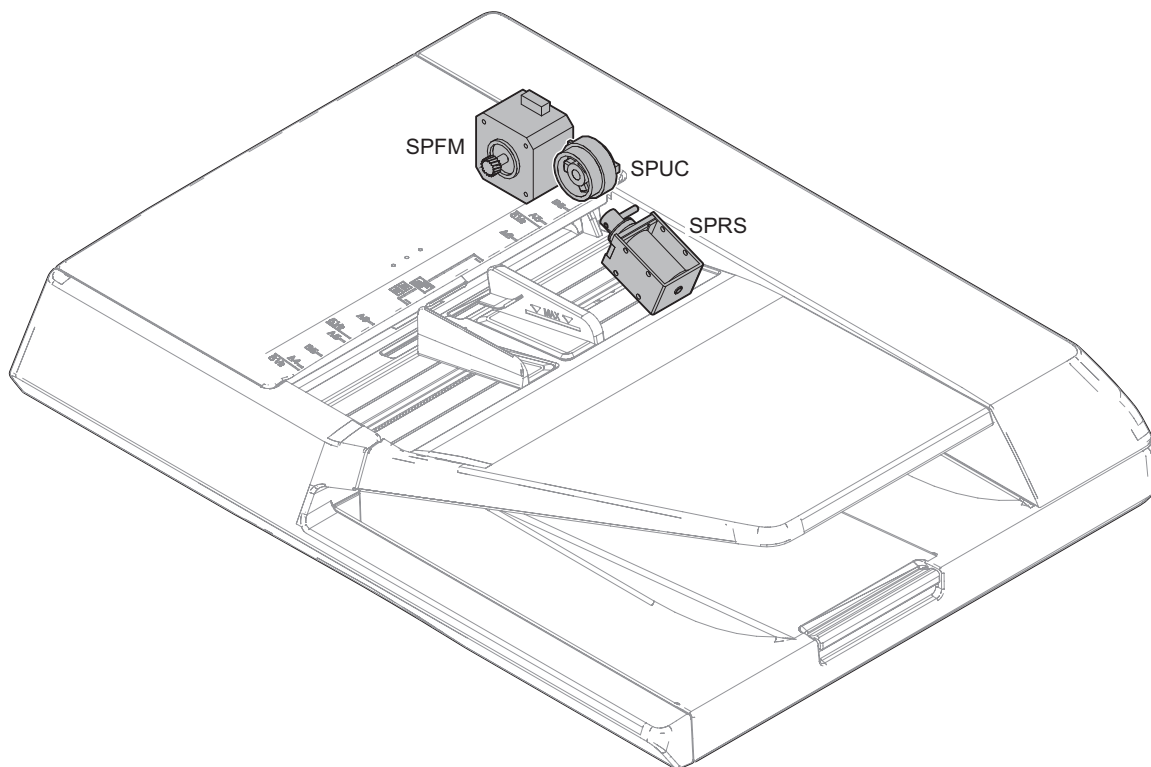
No.	Name	Function and Operation
1	Pickup roller	Feeds a document to the paper feed roller.
2	Separation roller	Separates a document to prevent double-feeding.
3	Registration roller (Drive)	Transports a document to the Before reading roller. / Controls the transport timing of the document and adjusts the document scanning timing.
4	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.
5	Before reading roller (Drive)	Transports a document transported from the registration roller to the document scanning section.
6	Before reading roller (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.
7	After reading roller (Drive)	Transports a document transported from the document scanning section to the paper exit roller.
8	After reading roller (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.
9	Exit roller (Drive)	Discharges a document. Switchbacks the document and transports it to the registration roller when scanning the back surface.
10	Exit roller (Idle)	Apply a pressure to a document and the paper exit roller to provide the transport power of the paper exit roller to the document.

B. Sensors



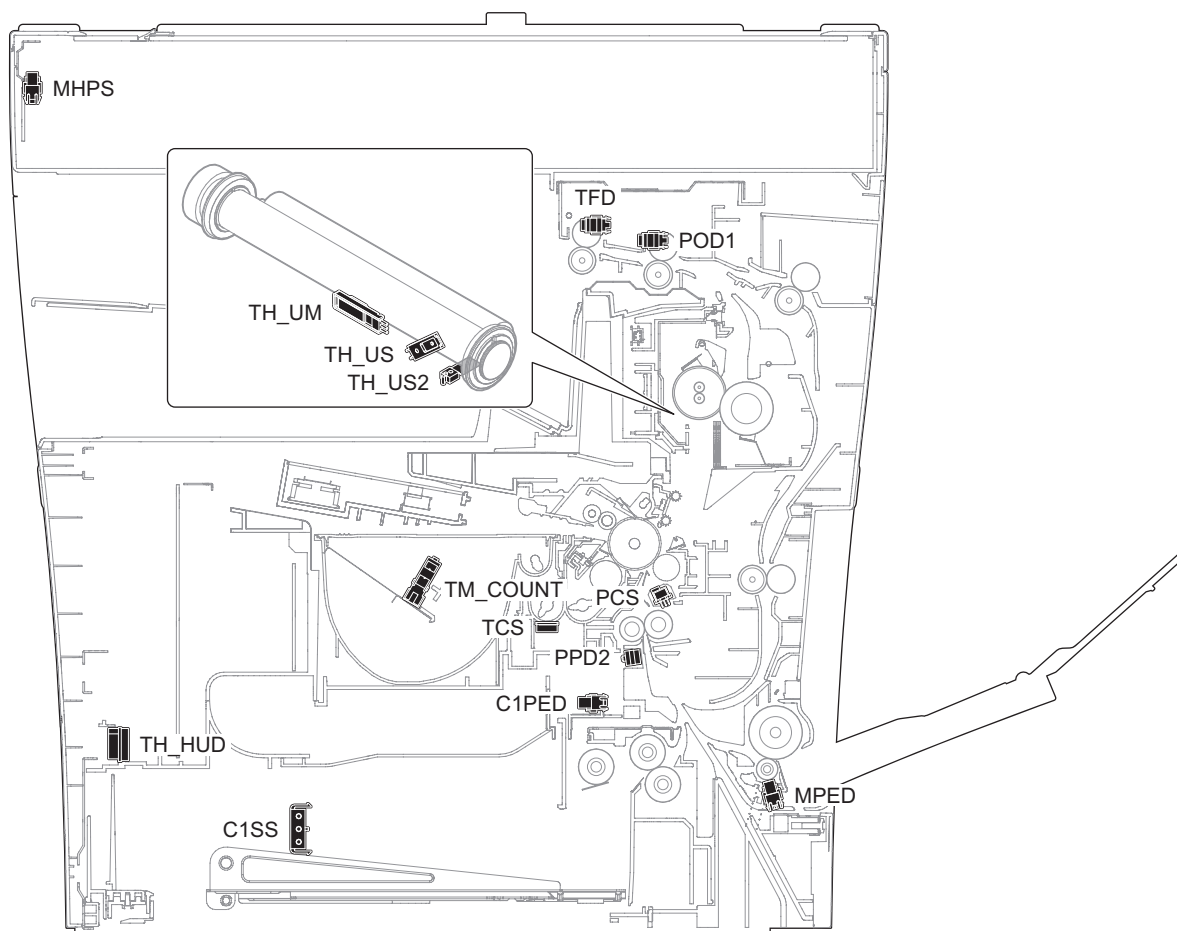
Signal name	Name	Type	Function and Operation
SCOV	RSPF cover open/close sensor	Transmission type	Detects open/close of the RSPF cover
SOCD	RSPF UNIT open/close sensor	Transmission type	Detects open/close of the RSPF unit
SPED	Document tray empty sensor	Transmission type	Detects document empty in the RSPF paper feed tray
SPPD1	Document pass sensor 1	Transmission type	Detects paper feed and the document length.
SPPD2	Document pass sensor 2	Transmission type	Detects paper pass

C. Motors/Clutches/Solenoids



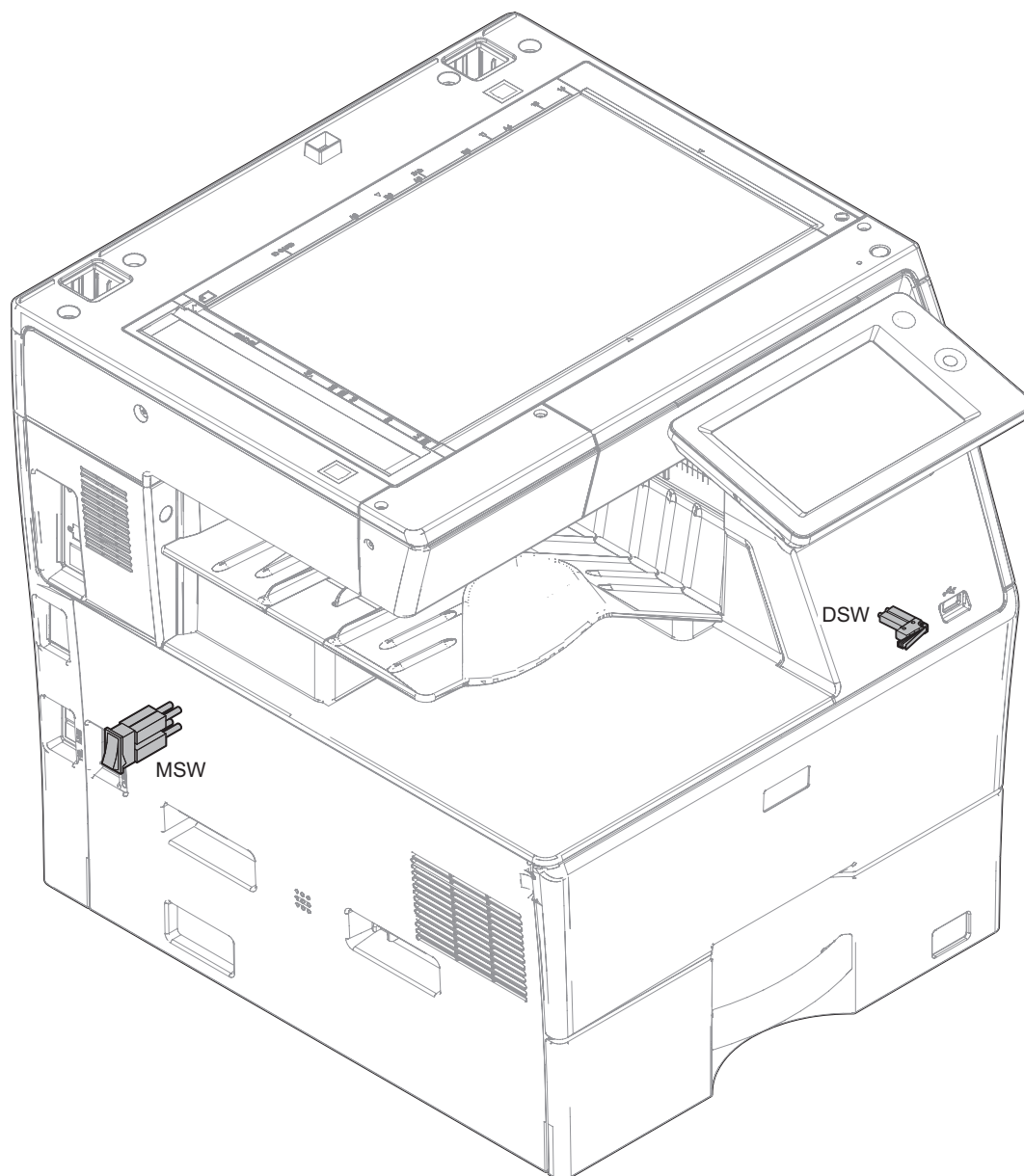
Signal name	Name	Type	Function and Operation
SPFM	RSPF transport motor	Stepping motor	Transports a document
SPRS	Paper exit roller solenoid	Electromagnetic solenoid	Control the driven pressure of the paper exit roller (idle)
SPUC	Paper feed clutch	Electromagnetic clutch	Controls ON/OFF of the pickup and separation roller

7. Sensors



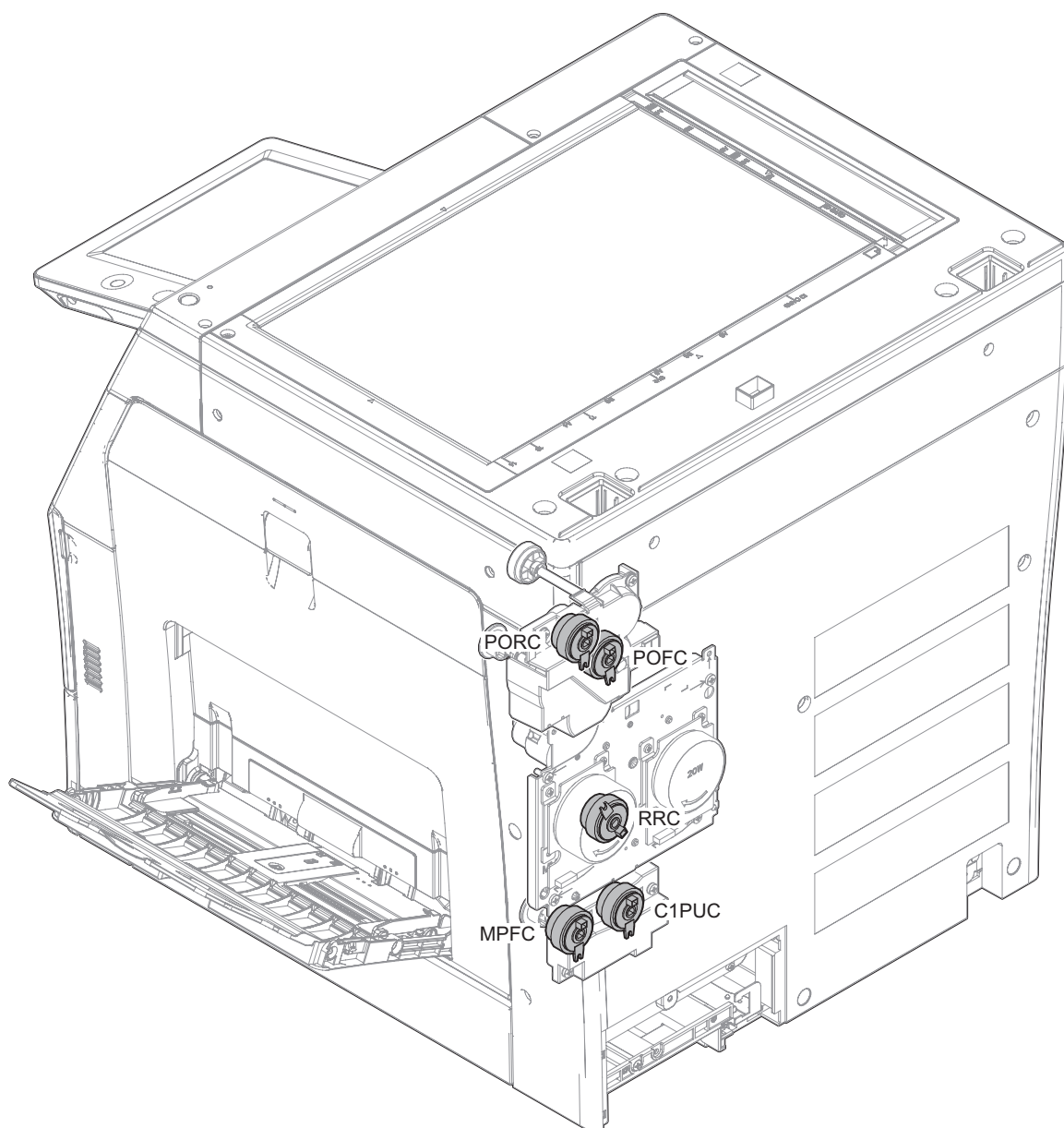
Signal name	Name	Type	Function and Operation	Unit
C1PED	1st cassette paper empty detect	Transmission type	Detects paper empty (Paper feed tray 1)	Frame unit: 1st cassette (Paper feed)
C1SS	Paper size detection switch	Switch type	Detect the paper size in the tray (Paper feed tray1). It also serves as cassette insertion detection.	Frame unit: 1st cassette (Paper feed)
MHPS	Scanner home position sensor	Transmission type	Detects the scanner home position	Scanner unit
MPED	Paper empty sensor (Manual paper feed tray)	Transmission type	Detects presence of paper (Manual paper feed tray)	Manual paper tray unit
PCS	Process control sensor	Reflection type	Detects toner patch density	Right side door
POD1	Paper exit sensor 1	Transmission type	Detects paper transport from the fusing section	Frame unit: Paper exit
PPD2	Paper transport sensor 2	Reflection type	Detection of paper fed from each paper feed port and detection of paper transferred from ADU	Frame unit: main (Paper feed)
TCS	Toner density sensor	Magnetic sensor	Detects the toner density	Developer unit
TFD	Paper exit tray full sensor	Transmission type	Detects paper full in the paper exit tray	Frame unit: Paper exit
TH_HUD	Temperature and humidity sensor	Thermistor	Detects the temperature and the humidity	Frame unit: main
TH_UM	Fusing thermistor UM (Upper Main)	Thermistor	Detects the surface temperature at the center of the fusing roller	Fusing unit
TH_US	Fusing thermistor US (Upper Sub)	Thermistor	Detects the surface temperature at the edge section of the fusing roller	Fusing unit
TH_US2	[Reserve] Fusing thermistor US2 (Upper Sub2)	Thermistor	Detects the surface temperature at the edge section of the fusing roller	Fusing unit
TM_COUNT	Toner motor drive detect sensor	Transmission type	Detect the rotating operation of toner motor	Toner motor drive unit

8. Switches



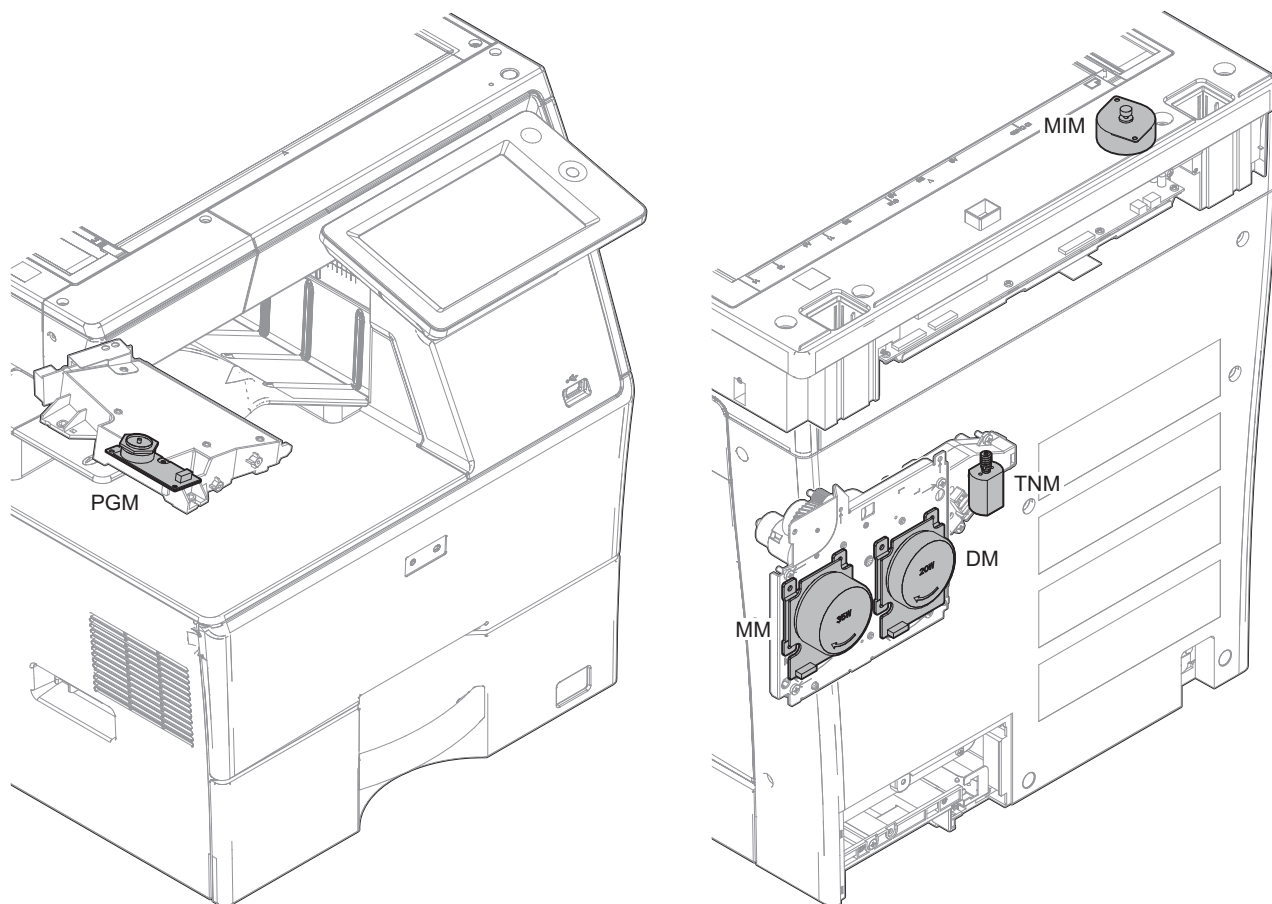
Signal name	Name	Type	Function and Operation	Unit
DSW	Right transport unit (right door) open/close switch	Micro switch	Detects open/close of the right paper transport section (right door) and the front door. Detects ON/OFF of the power line of the fusing unit, the motors, and LSU laser.	Frame unit: main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

9. Clutches and solenoids



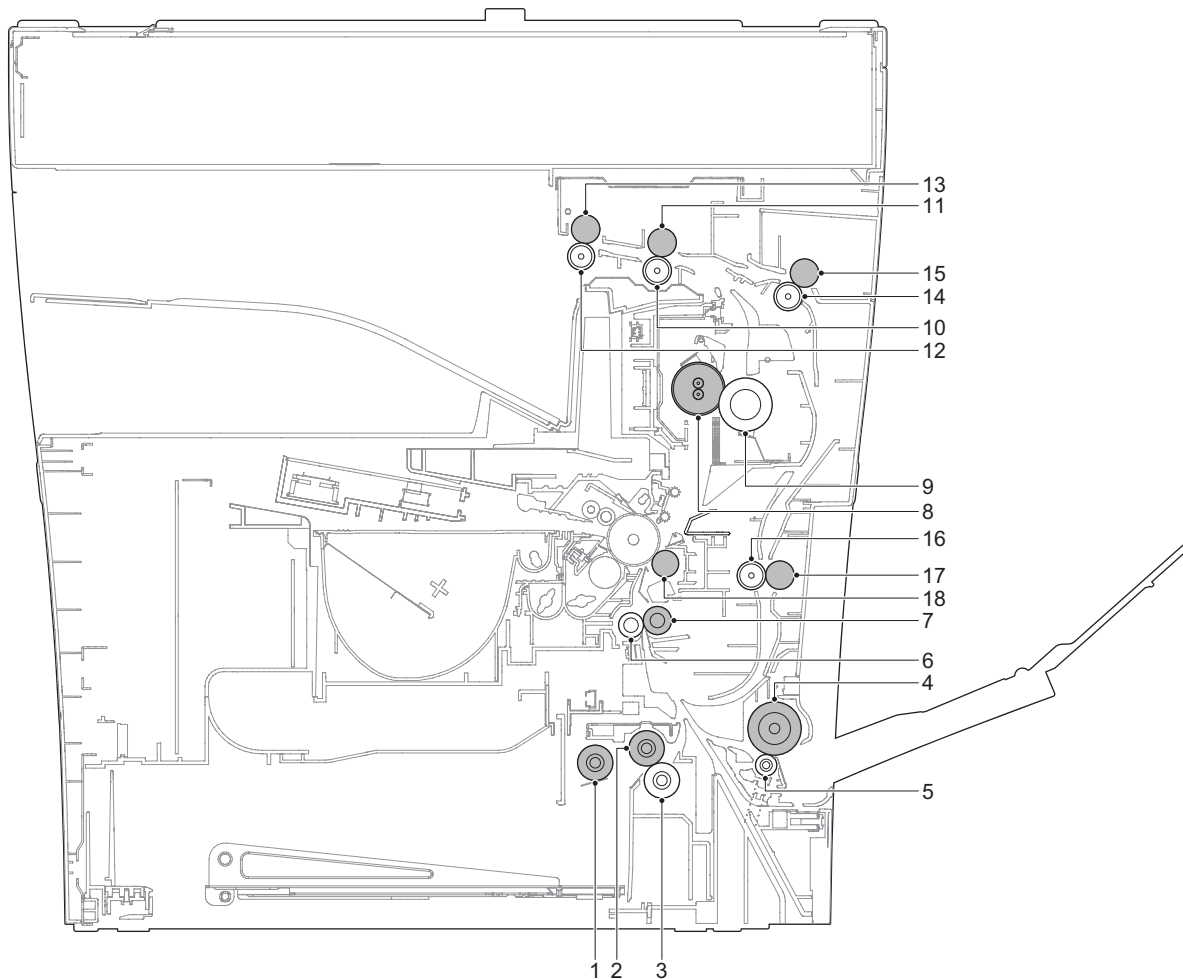
Signal name	Name	Type	Function and Operation	Unit
C1PUC	Paper feed clutch (Paper feed tray 1)	Magnetic clutch	Controls ON/OFF of the paper feed roller in the paper feed tray 1 section (Paper feed tray 1)	Frame unit: 1st cassette (Paper feed)
MPFC	Manual paper feed clutch (Manual paper feed tray)	Magnetic clutch	Controls ON/OFF of the paper feed roller in the manual paper feed section (Manual paper feed tray)	Frame unit: Manual paper tray (Paper feed)
POFC	Paper exit clutch (normal rotation)	Magnetic clutch	Control ON / OFF of normal rotation of paper discharge roller	Frame unit: Paper exit
PORC	Paper exit clutch (reverse rotation)	Magnetic clutch	Control ON / OFF of reverse rotation of paper discharge roller	Frame unit: Paper exit
RRC	Paper stop (resist) clutch	Magnetic clutch	Controls ON/OFF of registration roller	Main Engine Drive Unit

10. Drive motors



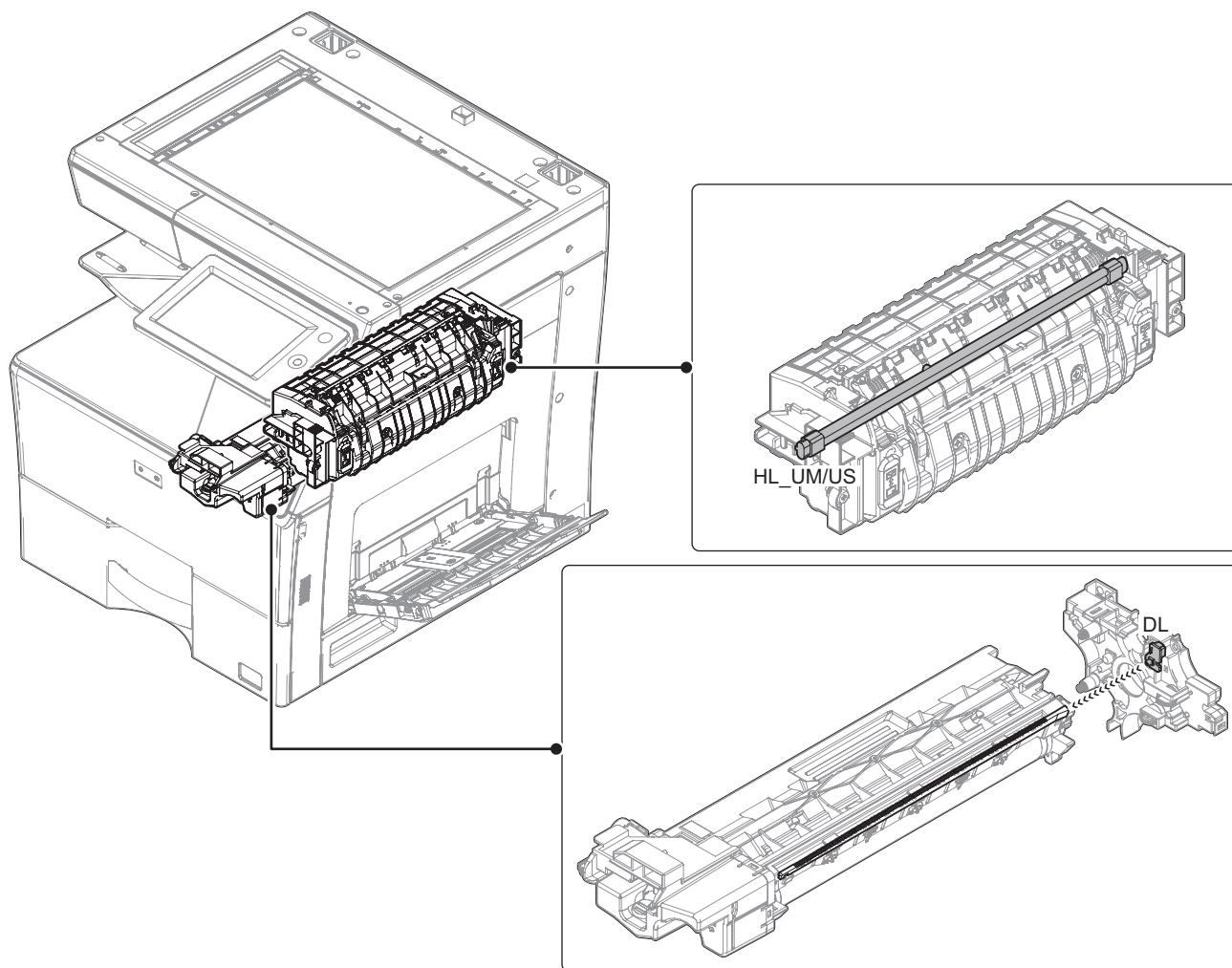
Signal name	Name	Type	Function and Operation	Unit
DM	Drum motor	DC brushless motor	Drives the OPC drum/developing section	Main engine drive unit
PGM	Polygon Motor	DC brushless motor	Scans laser beams	LSU
MM	Main motor	DC brushless motor	Main drive	Main engine drive unit
MIM	SCAN Motor	Stepping motor	Drives the scanner unit. (scan, return operations)	Scanner unit
TNM	Toner motor (DCM)	DC brush motor	Sends toner to the DV unit.	Toner motor drive unit

11. Rollers



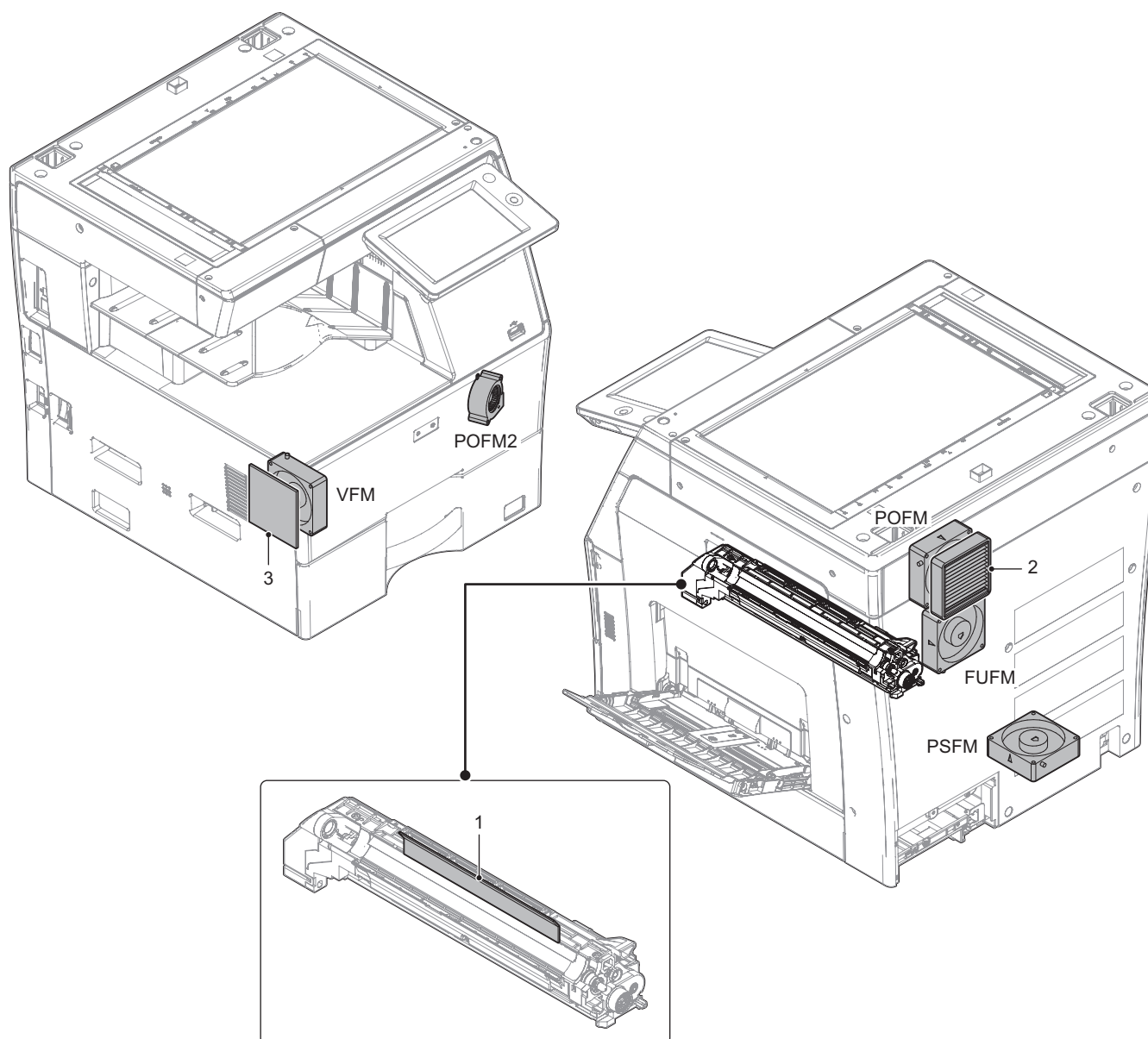
No.	Name	Function and Operation	Unit
1	Paper pick up roller (Paper feed tray 1)	This roller sends a paper to Paper feed roller.	500 cassette
2	Paper feed roller (Paper feed tray 1)	This roller sends a paper to Resist roller.	500 cassette
3	Separation roller (Paper feed tray 1)	This roller separates papers to prevent double-feeding.	500 cassette
4	Paper feed roller (Manual paper feed tray)	This roller sends a paper to registration roller.	Right side door
5	Separation roller (Manual paper feed tray)	This roller separates a paper to prevent double-feeding.	Right side door
6	Registration roller (Idle)	This roller applies a pressure to a paper and the registration roller, and provides transport power of the registration roller to the paper.	PS unit
7	Registration roller (Drive)	This roller sends a paper to the transport section, controlling the timing for transportation to adjust correlation between image and paper.	PS unit
8	Fusing roller	This roller adheres toner onto a paper.	Fusing unit
9	Pressure roller	This roller applies pressure to fuse toner onto a paper.	Fusing unit
10	Paper exit roller 1 (Idle)	This roller applies pressure to a paper and the exit roller to provide transport power of the exit roller to the paper.	Paper exit unit
11	Paper exit roller 1 (Drive)	This roller sends a paper to Paper exit roller 2 or reverses a paper for duplex printing.	Paper exit unit
12	Paper exit roller 2 (Idle)	This roller applies pressure to a paper and the exit roller to provide transport power of the exit roller to the paper.	Paper exit unit
13	Paper exit roller 2 (Drive)	This roller discharges paper to a tray.	Paper exit unit
14	Transport roller 2 (Idle)	This roller applies pressure to a paper and the Transport roller to provide transport power of the Transport roller to the paper.	Right side door
15	Transport roller 2 (Drive)	This roller sends a paper to Transport roller 3.	Right side door
16	Transport roller 3 (Idle)	This roller applies pressure to a paper and the Transport roller to provide transport power of the Transport roller to the paper.	Right side door
17	Transport roller 3 (Drive)	This roller sends a paper to Registration roller.	Right side door
18	Transfer roller	Transfer toner to paper	Transfer unit

12. Lamps



Signal name	Name	Type	Function and Operation	Unit
DL	Discharge lamp	LED	Discharges electric charges on the OPC drum	Frame unit: main
HL_UM	Heater lamp (Main)	Halogen lamp	Heats the fusing roller	Fusing unit
HL_US	Heater lamp (Sub)	Halogen lamp	Heats the fusing roller	Fusing unit

13. Fans and filter

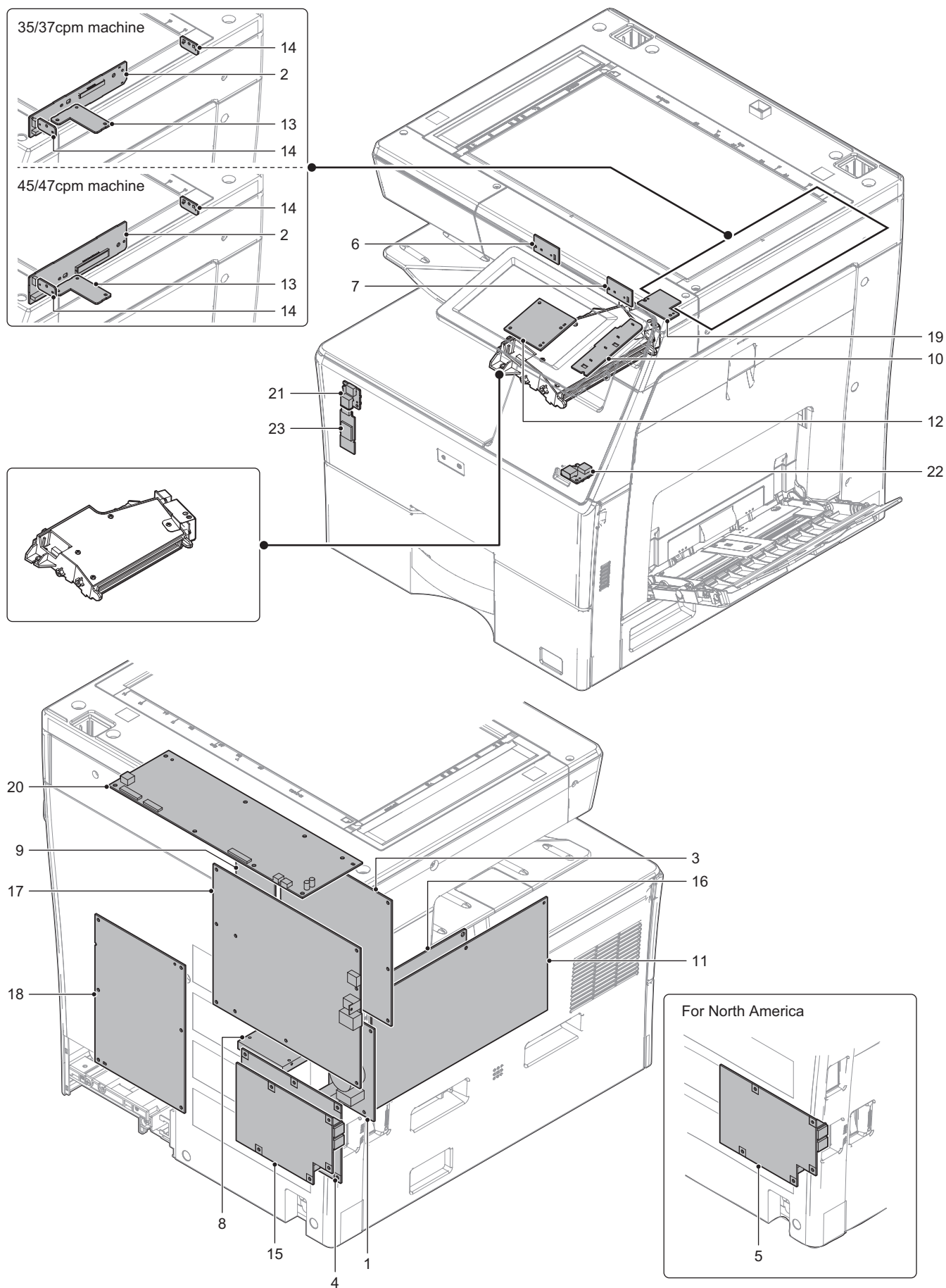


Signal name	Name	Function and Operation	Unit
FUFM	Fusing cooling Fan (Exhaust)	Cools the fusing section	Frame unit: main (FAN)
POFM	Paper exit cooling Fan (Exhaust)	Cools the paper exit section	Frame unit: main (FAN)
POFM2	Paper cooling Fan (Aspirated)	Cools the paper	Frame unit: main (FAN)
PSFM	Power supply cooling Fan	Cools the power unit	Frame unit: main (FAN)
VFM	Ventilation Fan (Aspirated)	Cools the inside of the machine	Frame unit: main (FAN)

No.	Name	Function and Operation	Unit
1	DV filter	Prevents toner splash	Developer unit
2	UFP filter *1	Absorb UFP generated in the machine (EU only)	Frame unit: main (Paper exit cooling FAN)
3	Intake Filter	Prevent the dust from entering inside the machine	Frame Unit main

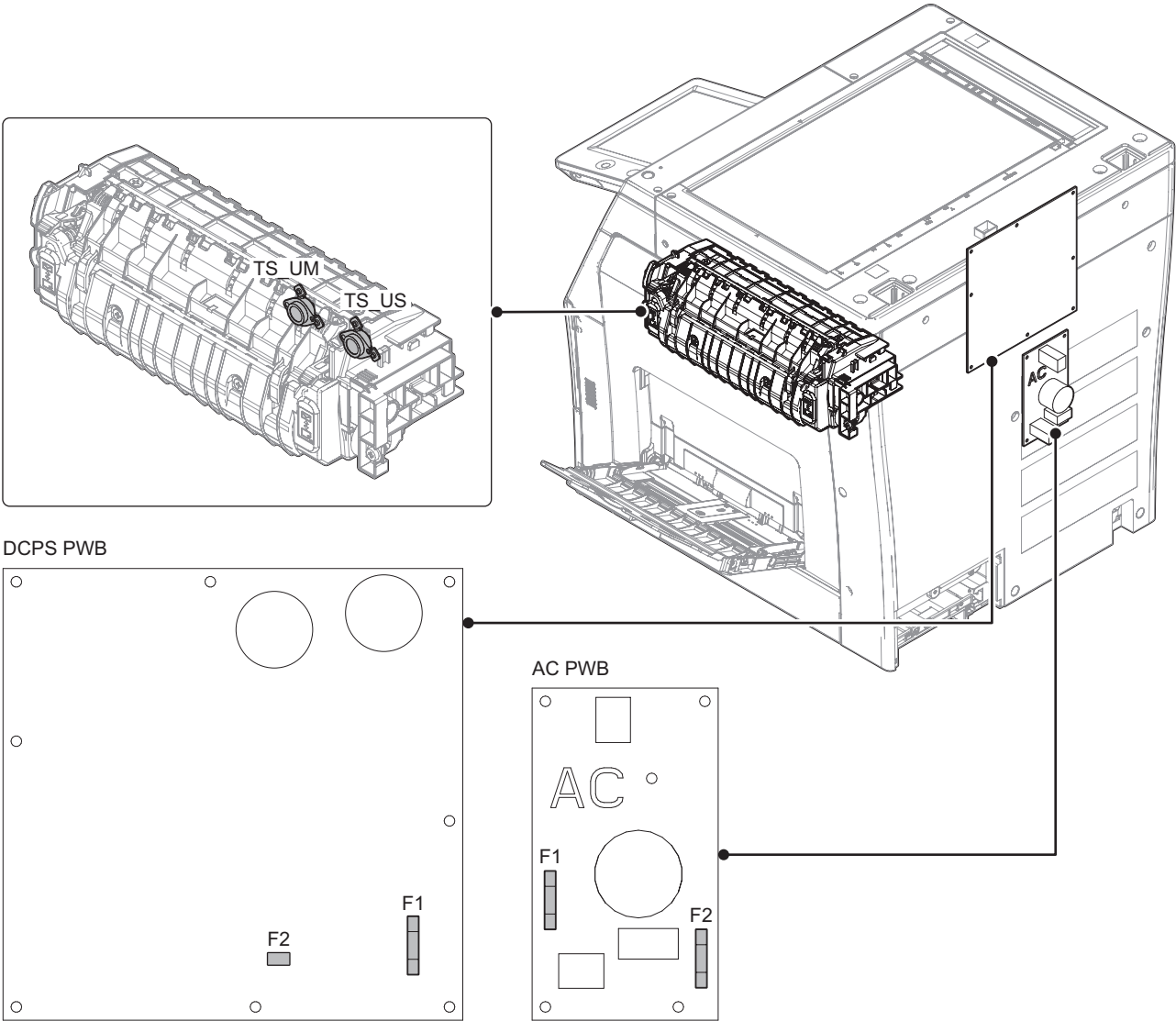
*1 UFP : Ultrafine Particle (particle that is 0.1 micrometer or less in diameter)

14. PWB/memory device



No.	Name	Function and Operation	Unit
1	AC PWB	This PWB is a noise filter for AC input power supply.	AC
2	CCD PWB	This PWB scans the document image and converts read signal from analog to digital.	Scanner unit
3	DCPS PWB	This PWB generates DC power.	
4	FAX MAIN PWB	This PWB controls entire Fax unit.	FAX (Except North America)
5	FAX PWB	This PWB controls entire Fax unit.	FAX (North America)
6	Front LED_G PWB	This PWB displays operating status of main unit.	Front side
7	Front LED_R PWB	This PWB displays operating status of main unit.	Front side
8	HDD	HDD stores filing data, log data, authentication data and is used as work area.	
9	HL PWB	This PWB drives Heater lamp.	
10	HM-KEY PWB	This PWB outputs key operation signal.	Operation unit
11	HV PWB	This PWB generates main charger voltage, developing bias voltage and transfer voltage.	High voltage PWB
12	LCD I/F PWB	Output the signal to LCD unit, Touch Panel	Operation unit
13	LED DRIVER PWB	This PWB connects LED PWB and CCD PWB.	Scanner unit
14	LED PWB	This PWB drives scanner lamp.	Scanner unit
15	LIU PWB	This PWB controls phone line.	FAX (Except North America)
16	LSU-cnt PWB	This PWB controls LSU.	LSU
17	MFPc PWB	This PWB controls entire machine.	
18	PCU PWB	This PWB controls engine section.	
19	PW-KEY PWB	This PWB controls key operation signal.	Front side
20	SCN-cnt PWB	This PWB controls image data.	
21	USB CN PWB	This PWB connects Wireless LAN PWB and MFPc PWB.	Front side
22	USB I/F PWB	USB Interface	Front side
23	Wireless LAN PWB	This PWB makes a wireless network connection.	

15. Fuses and thermostats



Signal name	Name	Type	Function and Operation	Unit
TS_UM	Thermostat (Main)	Mechanical thermostat	Shuts down the heater lamp (HL_UM) circuit when the fusing section is overheated (center section)	Fusing unit
TS_US	Thermostat (Sub)	Mechanical thermostat	Shuts down the heater lamp (HL_US) circuit when the fusing section is overheated (edge section)	Fusing unit

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)
F1	Fuse	6.3A 250V	DCPS PWB
F2	Fuse	2A 250V	DCPS PWB

[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	Adjust the developing unit	1A	Toner density control reference value setting		25-2	
ADJ 2	Adjusting high voltage values	2A	Adjust the charging bias voltage		8-1	
		2B	Adjust the developing bias voltage		8-1	
		2C	Transfer current and voltage adjustment		8-6	
		2D	Transfer separation bias voltage adjustment		8-6	
ADJ 3	Print engine image skew, image position, image magnification ratio, void area adjustments (Manual adjustments)	3A	Print engine image magnification ratio adjustment (Main scanning direction)		50-10	
		3B	Print engine print area (void area) adjustment		50-10/50-1	
		3C	Print engine image off-center adjustment		50-10	
ADJ 4	Scanner image skew adjustment (DSPF/RSPF mode)	4A	DSPF/RSPF skew adjustment (Front surface mode)		64-2	
		4B	DSPF skew adjustment (Back surface mode)		64-2	
ADJ 5	Scan image magnification ratio adjustment (Manual adjustment)	5A	Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (Document table mode)		48-1	
		5B	Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (Document table mode)		48-1/48-5	
		5C	Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (SPF mode)		48-1	
		5D	Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (SPF mode)		48-1	
ADJ 6	Scan image off-center adjustment (Manual adjustment)	6A	Scan image off-center adjustment (Manual adjustment) (Document table mode)		50-12	
		6B	Scan image off-center adjustment (Manual adjustment) (SPF mode)		50-12/50-6	
ADJ 7	Print lead edge image position, void area adjustment (Printer mode)				50-5	
ADJ 8	Copy image position, image loss adjustment (Manual adjustment)	8A	Copy image position, image loss, void area adjustment (Manual adjustment) (Document table mode)		50-1	
		8B	Copy image position, image loss, void area adjustment (Manual adjustment) (SPF mode)		50-6	
ADJ 9	Gray balance/density adjustment		Note before execution of the image quality adjustment			
			Copy image quality check			
			Printer image quality check			
		9A	Scanner calibration (CCD calibration)	9A (1)	CCD gamma adjustment (CCD calibration) (Document table mode)	63-3 (63-5)
				9A (2)	Shading adjustment (Calibration) (DSPF mode)	63-2
				9A (3)	CCD gamma adjustment (CCD calibration) (DSPF mode)	63-3
		9B	Copy/Printer gray balance and density adjustment (Automatic adjustment) (Basic adjustment)			46-74
		9C	Copy quality adjustment (Basic adjustment)	9C (1)	Copy gray balance and density adjustment (Automatic adjustment)	46-24
				9C (2)	Copy gray balance and density adjustment (Manual adjustment)	46-16

Job No	Adjustment item list					Simulation
ADJ 9	Gray balance/density adjustment	9D	Copy/Image send/FAX image quality adjustment (Individual adjustment)	9D (1)	Monochrome copy density adjustment (for each monochrome copy mode) (separately for the low density area and high density area)) (No need to adjust normally)	46-2
				9D (2)	Copy gray balance, gamma adjustment (No need to adjust normally)	46-10
				9D (3)	Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)	46-19
				9D (4)	Document low density image density reproduction adjustment in the automatic monochrome (Copy/Scan/FAX) mode (No need to adjust normally) (Background density adjustment in the scanning section)	46-32
				9D (5)	Copy/Scan low density image density adjustment)for each mode) (No need to adjust normally)	46-63
				9D (6)	Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)	46-37
				9D (7)	Monochrome copy/color scan mode sharpness adjustment (No need to adjust normally)	46-60
				9D (8)	Copy high density image density reproduction setting (Normally unnecessary the setting change)	46-23
				9D (9)	DSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)	46-9
				9D (10)	Copy gamma, gray balance adjustment for each dither (Automatic adjustment)	46-54
				9D (11)	Dropout color adjustment (Normally not required)	46-55
				9D (12)	Watermark adjustment (Normally not required)	46-66
		9E	Printer image quality adjustment (Basic adjustment)	9E (1)	Printer gray balance adjustment (Automatic adjustment)	67-24
				9E (2)	Printer gray balance adjustment (Manual adjustment)	67-25
		9F	Printer image quality adjustment (Individual adjustment)	9F (1)	Printer density adjustment (Low density section density adjustment) (No need to adjust normally)	67-36
				9F (2)	Printer high density image density reproduction setting (Supporting the high density section tone gap) (No need to adjust normally)	67-34
				9F (3)	Printer gamma adjustment for each dither (Automatic adjustment) (No need to adjust normally)	67-54
ADJ 10	Image density sensor adjustment	10A	Image density sensor adjustment			44-2
ADJ 11	Image send, FAX send mode, image quality adjustment	11A	Color image send mode, image density and gradation adjustment (by each mode)			46-4
		11B	Monochrome image send mode, image density and gradation adjustment (by each mode)			46-5
		11C	Image send mode, image color balance adjustment			46-8
		11D	FAX send mode, image sharpness adjustment			46-39
ADJ 12	FAX send mode image quality adjustment	12A	Image density and gradation adjustment in the FAX send mode (Collective adjustment of all the FAX mode)			46-40
		12B	Image density and gradation adjustment in the FAX send mode (Normal mode)			46-41
		12C	Image density and gradation adjustment in the FAX send mode (Fine mode)			46-42
		12D	Image density and gradation adjustment in the FAX send mode (Super fine mode)			46-43
		12E	Image density and gradation adjustment in the FAX send mode (Ultra fine mode)			46-44
		12F	Image density and gradation adjustment in the in the iFAX send mode (600dpi mode)			46-45
ADJ 13	Touch panel coordinate setting					65-1

3. Details of adjustment

ADJ 1 Adjust the developing unit

1-A Toner density control reference value setting

This adjustment is needed in the following situations:

- * When developer is replaced.

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

- 1) With the front cabinet open, enter SIM 25-2.
Install developer unit and toner cartridge with developer replacement.
- 2) Close the front cabinet and press [EXECUTE] button.
- 3) After completion of the adjustment of the toner density control reference value.
- 4) When [EXECUTE] key is pressed, it is highlighted. The developing roller rotates, and the toner density sensor detects toner density, and the output value is displayed. The above operation is executed for 70 seconds, and the average value of the toner density sensor detection level is set (saved) 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.

NOTE:

If the operation is interrupted within 70 seconds, the adjustment result is not reflected. When [EXECUTE] key is pressed during rotation, 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.

Error display	Content	Details of content
EE-EL	EL abnormality	Auto developer adjustment reference value is less than TPC_AIR + over toner threshold.
EE-EU	EU abnormality	Auto developer adjustment reference value exceeds TPC_AIR + under toner threshold.
EE-EC	EC abnormality	Peak to Peak of sensor output value is less than 1count.

NOTE: When not replacing the developer, do not execute SIM25-2.

ADJ 2 Adjusting high voltage values

2-A Adjust the charging bias voltage

This adjustment is needed in the following situations:

- * When the high voltage PWB is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

- 1) Enter the SIM 8-2 mode.
- 2) Select an output mode and an item to be adjusted.

Item/Display		Content	Setting range	Actual voltage	
				35/37 ppm machine	45/47 ppm machine
MIDDLE	A	MIDDLE SPEED MHV_K Charging bias voltage (Medium speed mode)	500 - 2000	-1300V ±5V	-1300V ±5V
LOW	A	LOW SPEED MHV_K Charging bias voltage (Low speed mode)	500 - 2000	-1300V ±5V	-1300V ±5V

- 3) Enter the adjustment value (specified value) in the middle speed mode and press [OK] key.

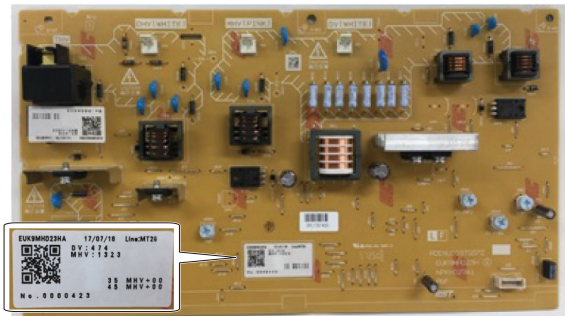
Enter the adjustment value of each mode which is specified on the label attached on the high voltage power PWB.

MHV: XXXX

The default value s specified for each model must be changed as follows.

35/37 ppm machine: +0

45/47 ppm machine: +0



Important

Note that the adjustment value may differ depending on the high voltage power PWB. Since the adjustment value label is attached on the high voltage 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 values of the other modes 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, a judgment of the output must be made by checking the print image quality.

2-B Adjust the developing bias voltage

This adjustment is needed in the following situations:

- * When the high voltage PWB is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

- 1) Enter the SIM 8-1 mode.
- 2) Select an output mode and an item to be adjusted.

Item/Display			Content	Setting range	Default value	
					35/37 ppm machine	45/47 ppm machine
MIDDLE	A	MIDDLE SPEED DVB_K	Developing bias voltage (Medium speed mode)	0 - 650	-475V ± 5V	
LOW	A	LOW SPEED DVB_K	Developing bias voltage (Low speed mode)	0 - 650	-475V ± 5V	

- 3) Enter the adjustment value (specified value) in the middle speed mode and press [OK] key.

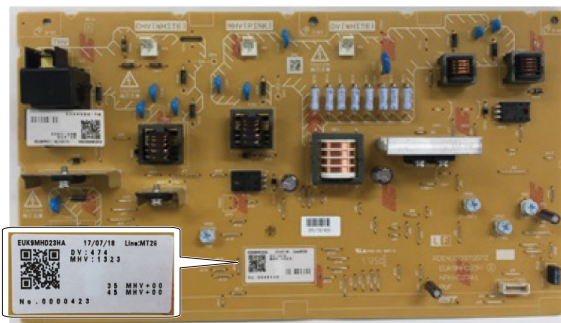
Enter the adjustment value of each mode which is specified on the label attached on the high voltage power PWB.

DV: XXX

The Default values specified for each model must be changed accordingly.

35/37 ppm machine: +0

45/47 ppm machine: +0



Important

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

Important

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

2-C Transfer current and voltage adjustment

This adjustment must be performed in the following cases.

- U2 trouble has occurred
- The PCU PWB has been replaced
- The EEPROM of the PCU PWB has been replaced

- 1) Enter the Sim 8-6 mode
- 2) Select an item to be adjusted

Item/Display		Content		Paper Surface	Setting range		35/37 ppm machine		45/47 ppm machine	
					Speed	Value	Default value	Actual output value	Default value	Actual output value
A	TC PLAIN BW SPX	Transfer bias reference value	Plain paper 1 (60-89g/m2)	Front	Middle	0 - 255	93	18 µA	98	20 µA
B	TC PLAIN BW DPX			Back	Middle	0 - 255	80	13 µA	85	15 µA
C	TC PLAIN2 BW SPX		Plain paper 2 (90-105g/m2)	Front	Middle	0 - 255	93	18 µA	98	20 µA
D	TC PLAIN2 BW DPX			Back	Middle	0 - 255	80	13 µA	85	15 µA
E	TC HEAVY1 BW SPX		Heavy paper 1 (106-176g/m2)	Front	Low	0 - 255	72	10 µA	72	10 µA
F	TC HEAVY1 BW DPX			Back	Low	0 - 255	72	10 µA	72	10 µA
G	TC HEAVY2 BW SPX		Heavy paper 2 (177-220g/m2)	Front	Low	0 - 255	72	10 µA	72	10 µA
H	TC HEAVY2 BW DPX			Back	Low	0 - 255	72	10 µA	72	10 µA
I	TC OHP BW		OHP	Front	Low	0 - 255	72	10 µA	72	10 µA
J	TC ENVELOPE BW		Envelope	Front	Low	0 - 255	72	10 µA	72	10 µA
K	TC THIN BW	Transfer tip bias reference value	Thin paper	Front	Middle	0 - 255	72	10 µA	72	10 µA
L	TC GLOSSY PAPER BW		Gloss paper	Front	Low	0 - 255	72	10 µA	72	10 µA
M	TC LABEL BW		Label paper	Front	Low	0 - 255	72	10 µA	72	10 µA
N	TC FRONT EDGE LOW SPX		low speed	Front	Low	0 - 255	72	10 µA	72	10 µA
O	TC FRONT EDGE LOW DPX		low speed	Back	Low	0 - 255	72	10 µA	72	10 µA
P	TC FRONT EDGE MIDDLE SPX		middle speed	Front	Middle	0 - 255	93	18 µA	98	20 µA
Q	TC FRONT EDGE MIDDLE DPX		middle speed	Back	Middle	0 - 255	80	13 µA	85	15 µA
R	TC ADSORPTION LOW	Transfer adsorption bias reference value	low speed(+)	-	Low	0 - 255	80	13 µA	72	10 µA
S	TC ADSORPTION MIDDLE		middle speed(+)	-	Middle	0 - 255	80	13 µA	85	15 µA
T	TC BACKEND LOW SPX	Transfer back end bias reference value	low speed	Front	Low	0 - 255	72	10 µA	72	10 µA
U	TC BACKEND LOW DPX		low speed	Back	Low	0 - 255	72	10 µA	72	10 µA
V	TC BACKEND MIDDLE SPX		middle speed	Front	Middle	0 - 255	64	7 µA	72	10 µA
W	TC BACKEND MIDDLE DPX		middle speed	Back	Middle	0 - 255	59	5 µA	72	10 µA

3

Item/Display		Content		Paper Surface	Setting range		35/37 ppm machine		45/47 ppm machine	
					Speed	Value	Default value	Actual output value	Default value	Actual output value
X	TC INTERVAL LOW	Reference value between transfer sheets	low speed(+)	-	Low	0 - 255	80	13 μ A	72	10 μ A
Y	TC INTERVAL MIDDLE		middle speed(+)	-	Middle	0 - 255	80	13 μ A	85	15 μ A
Z	TC COUNTER LOW	Transfer counter bias reference value	low speed(-)	-	Low	0 - 255	182	-800 μ A	182	-800 μ A
AA	TC COUNTER MIDDLE		middle speed(-)	-	Middle	0 - 255	182	-800 μ A	182	-800 μ A
AB	TC CLEANING MINUS LOW	Cleaning minus bias reference value	low speed(-)	-	Low	0 - 255	182	-800 μ A	182	-800 μ A
AC	TC CLEANING MINUS MIDDLE		middle speed(-)	-	Middle	0 - 255	182	-800 μ A	182	-800 μ A
AD	TC CLEANING PLUS LOW	Cleaning plus bias reference value	low speed(+)	-	Low	0 - 255	59	5 μ A	59	5 μ A
AE	TC CLEANING PLUS MIDDLE		middle speed(+)	-	Middle	0 - 255	59	5 μ A	59	5 μ A
AF	DHV LOW SPX	Separation bias reference value	low speed	Front	Low	0 - 255	111	-1400V	111	-1400V
AG	DHV LOW DPX		low speed	Back	Low	0 - 255	111	-1400V	111	-1400V
AH	DHV MIDDLE SPX		middle speed	Front	Middle	0 - 255	85	-1000V	85	-1000V
AI	DHV MIDDLE DPX		middle speed	Back	Middle	0 - 255	85	-1000V	85	-1000V

3) Enter the adjustment value (specified value) and press [OK] key.
When [EXECUTE] key is pressed, the voltage entered in the procedure 3) is outputted for 30sec and the set value is saved. When [EXECUTE] key is pressed again the output is stopped.

By setting the value (specified value) the specified output is provided.

2-D Transfer separation bias voltage adjustment

This adjustment is needed in the following situations:

- * When the high voltage PWB is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

- 1) Enter the SIM 8-6 mode.
- 2) Select a mode to be adjusted with the scroll key.
- 3) Enter an adjustment value (specified value) and press [OK] key.

By setting the default value, the specified voltage is outputted.

When [EXECUTE] key is pressed, the transfer separation bias voltage is outputted.

3

Item/Display		Content		Paper Surface	Setting range		35/37 ppm machine		45/47 ppm machine	
					Speed	Value	Default value	Actual output value	Default value	Actual output value
AF	DHV LOW SPX	Separation bias reference value	low speed	Front	Low	0 - 255	111	-1400V	111	-1400V
AG	DHV LOW DPX		low speed	Back	Low	0 - 255	111	-1400V	111	-1400V
AH	DHV MIDDLE SPX		middle speed	Front	Middle	0 - 255	85	-1000V	85	-1000V
AI	DHV MIDDLE DPX		middle speed	Back	Middle	0 - 255	85	-1000V	85	-1000V

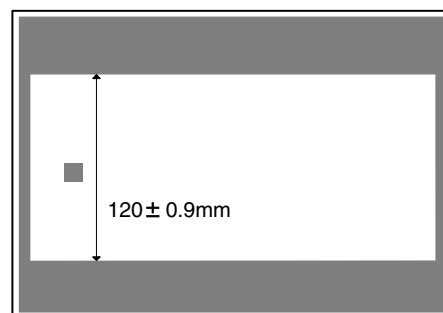
ADJ 3 Print image magnification ratio, void area adjustments (Manual adjustments)

3-A Print engine image magnification ratio adjustment (Main scanning direction)

This adjustment is needed in the following situations:

- * When the LSU (writing) unit is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

- 1) Enter the SIM 50-10 mode.
- 2) Set A4 (11" x 8.5") paper in the paper feed tray.
- 3) Select the paper feed tray set in procedure 2) with the scroll key.
- 4) Press [EXECUTE] key.
The check pattern is printed out.
- 5) Check that the inside dimension of the printed half tone is 120 ± 0.9 mm.



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

- 6) Change the set value of set item A.
When the set value is changed by 1, the dimension is changed by 0.1mm.
When the set value is increased, the BK image magnification ratio in the main scanning direction is increased. When the set value is decreased, the BK image magnification ratio in the main scanning direction is decreased.

Repeat procedures 2) - 6) until a satisfactory result is obtained.

3-B Print engine print area (void area) adjustment

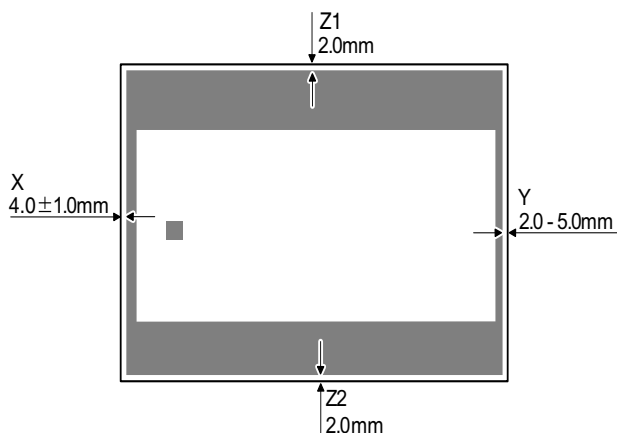
This adjustment must be performed in the following cases

- * 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

- ADJ3A Print image magnification ratio 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±1.0mm
Y	Rear edge void area	2.0mm - 5.0mm
Z1 / Z2	FRONT/REAR void area	Total 4.0±2.0mm

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.

3-C Print engine image off-center adjustment

This adjustment is needed in the following situations:

- * When the LSU is replaced or removed.
- * When a paper tray is replaced.
- * When the paper tray section is disassembled.
- * When ADJ 3A Print engine image magnification ratio adjustment (Main scanning direction) is performed.
- * When the manual feed tray is replaced.
- * When the manual feed tray is disassembled.
- * When the duplex section is disassembled.
- * When the duplex section is installed or replaced.
- * When the registration roller section is disassembled.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

(Note)

Before execution of this adjustment, check to insure the following item.

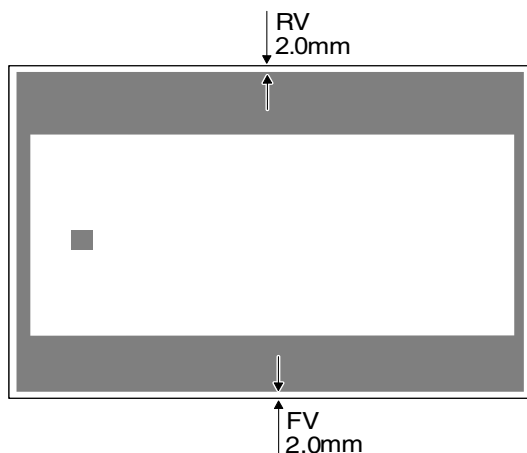
- * Check that the ADJ 3A Print engine image magnification ratio adjustment (Main scanning direction) has been properly adjusted.

- 1) Enter SIM 50-10 mode.
- 2) Use the scroll key to select a paper feed tray which is to be adjusted. (Items B - H)

Item/Display		Content	Setting range	Default value
A	BK-MAG	Main scan print magnification ratio BK	80 - 120	100
B	MAIN-STD	Reference adjustment value (off center)	1 - 99	62
C	SUB-STD	Reference adjustment value (Transport direction)	1 - 99	46
D	MAIN-MFT	Print off center adjustment value (Manual paper feed)	1 - 99	33
E	MAIN-CS1	Print off center adjustment value (Tray 1)	1 - 99	50
F	MAIN-CS2	Print off center adjustment value (Tray 2)	1 - 99	50
G	MAIN-CS3	Print off center adjustment value (Tray 3)	1 - 99	50
H	MAIN-CS4	Print off center adjustment value (Tray 4)	1 - 99	50
I	MAIN-ADU	Print off center adjustment value (ADU) NOTE: Before execution of this adjustment check to insure that the adjustment items A - H have been properly adjusted. If not, this adjustment cannot be made properly.	1 - 99	48

Item/Display			Content		Setting range		Default value
J	SUB-MFT		Registration motor ON Timing adjustment	Manual paper feed	1 - 99		50
K	SUB-CS1			Standard tray	1 - 99		50
L	SUB-CS2			Standard tray	1 - 99		50
M	SUB-CS3			Standard tray	1 - 99		50
N	SUB-CS4			Standard tray	1 - 99		50
O	SUB-ADU			ADU	1 - 99		42
P	SUB-HV-A		Shift amount	Heavy paper 1,2	1 - 99		50
Q	SUB-HV-B			Heavy paper 3,4	1 - 99		50
R	SUB-GLOSSY PAPER			Glossy paper	1 - 99		50
S	SUB-OHP			OHP	1 - 99		50
T	SUB-ENV			Envelope	1 - 99		50
U	MULTI COUNT		Number of print		1 - 999		1
V	PAPER	MFT	Tray selection	Manual paper feed	1 - 5	1	2 (CS1)
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
W	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1 (NO)
		NO		No		1	
X	ALT FEED	NO RM AL	Other cassette paper feed selection switch	Normal operation	0 - 1	0	0 (NORMAL)
		ALL OTHER		Output from all paper feeding ports except for "PAPER" specified		1	

- Set A4 (11" x 8.5") paper in the paper feed tray selected in procedure 2).
- Press [EXECUTE] key.
The adjustment pattern is printed.
- Check that the adjustment pattern image is printed in the correct position.
Measure the dimension of the void area in the front and the rear frame direction of the adjustment pattern, and check that all the following conditions are satisfied.



RV: REAR VOID AREA
FV: FRONT VOID AREA
RV + FV 4.0mm ± 2.0mm

*The void must be 1 mm or more on both sides.

RV = 2.0mm -5.0mm

FV = 4.0 ± 1.0mm

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

- Change the adjustment value.
Enter the adjustment value and press the [OK] key or the [EXECUTE] key.
When [EXECUTE] key is pressed, the adjustment pattern is printed. When the adjustment value is increased, the adjustment pattern is shifted to the front frame side. When it is decreased, the adjustment pattern is shifted to the rear frame side. When the set value is changed by 1, the shift distance is changed by about 0.1mm. Repeat procedures 3) - 6) until the conditions of procedure 5) are satisfied. In case a satisfactory result cannot be obtained by repeating the above procedures, perform the following procedure.

ADJ 4 Scanner image skew adjustment (RSPF/DSPF)

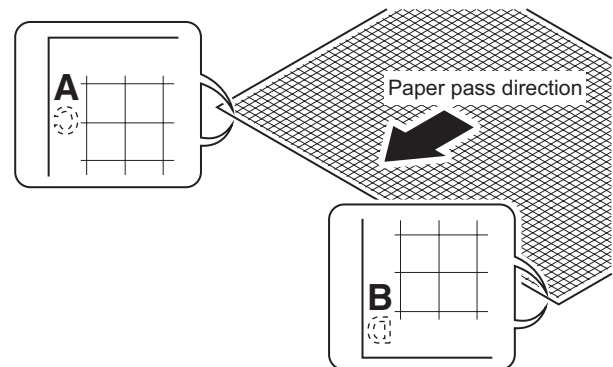
4-A SPF scan image skew adjustment

This adjustment must be performed in the following cases

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

- 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



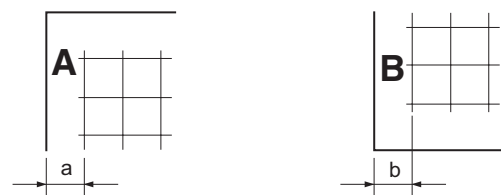
- Copy the adjustment chart (created in step1) to A4 (11" x 8.5") paper in RSPF duplex mode and check the image for skews (set in the RSPF feed tray so that the mark on the adjustment chart is at the edge)
* Check with in of the following methods

Method 1

(Front side)

Make sure that the output satisfies the condition

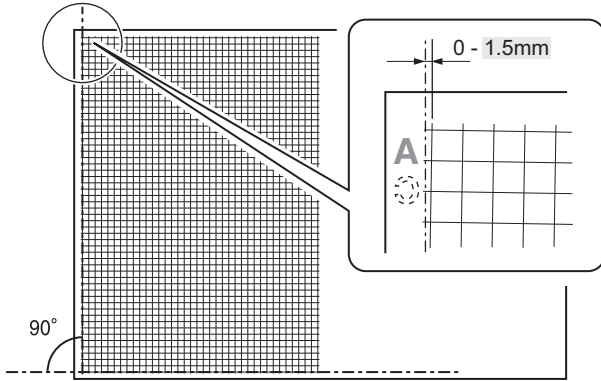
$$a-b \leq \pm 1.5 \text{ mm}$$



2 : '20/Aug.

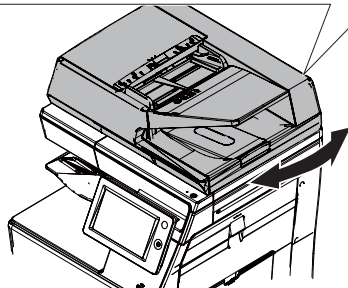
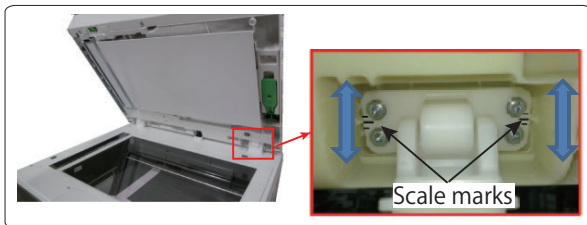
Method 2

Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.5mm



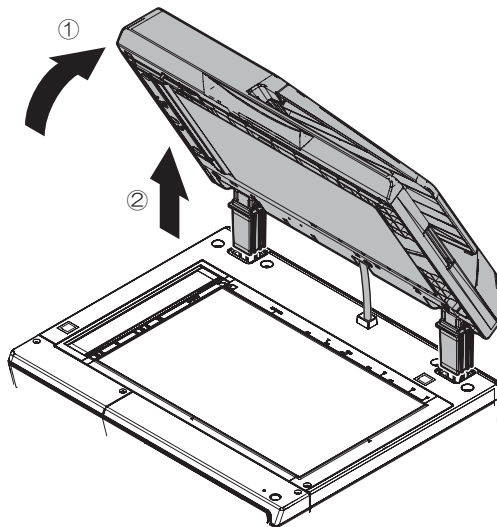
If the copy image is not in the above state, perform the step3)

- 3) Adjust the position of the right hinge of the SPF unit.

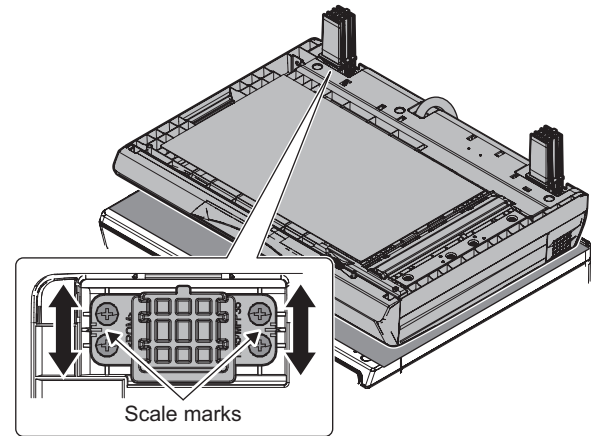


For RSPF procedure

- a) Open the DSPF unit and lift it.

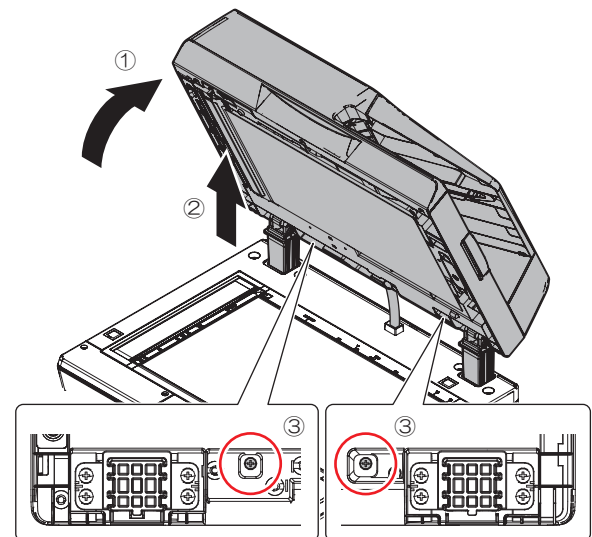


- b) Place the RSPF unit on the protective sheet then, adjust the position of the hinge, after loosening four screws of the right hinge of the RSPF unit.

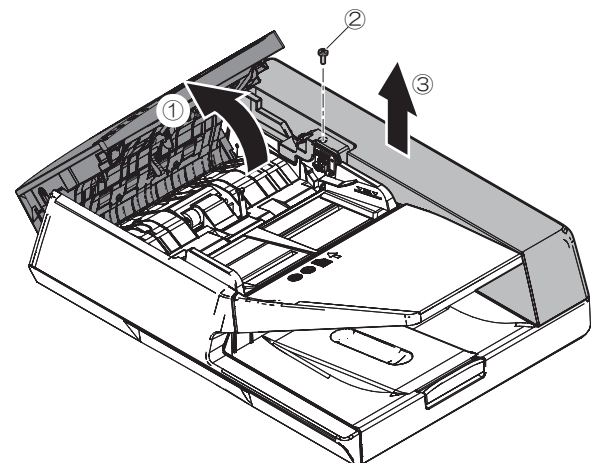


For DSPF procedure

- a) Open the DSPF unit and lift it then, remove the screws.

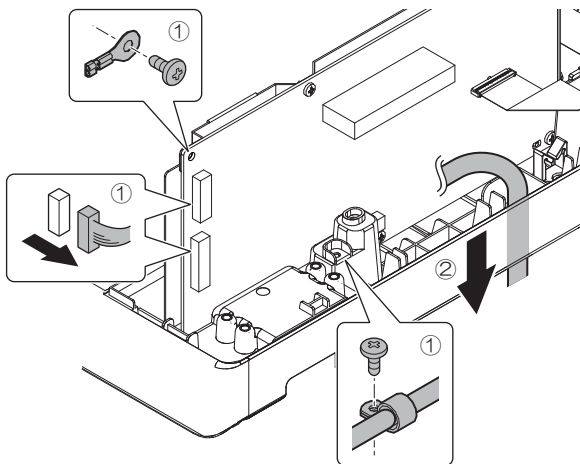


- b) Open the cover and remove the screw, then remove the right cabinet.

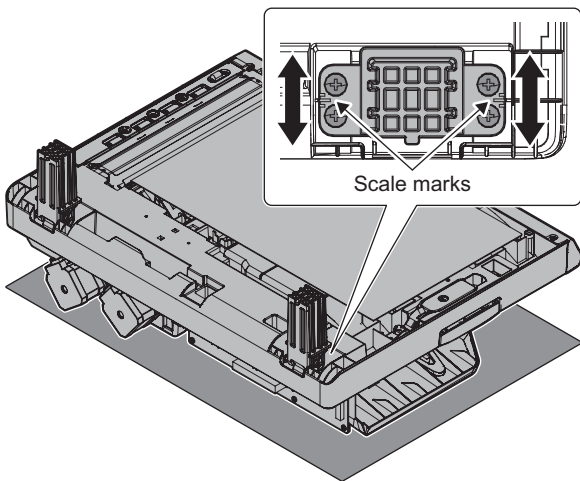


2 : '20/Aug.

- c) Disconnect the connectors and the ground wire then, pull out the harness from the square hole.



- d) Place the DSPF unit on the protective sheet then, adjust the position of the hinge, after loosening four screws of the right hinge of the DSPF unit.



- 4) Fasten the four screws of the hinge, after adjusting the position of it.
- 5) Make copy again and measure a and b on the copied test chart. Repeat step2) to 4) until the condition $(a-b) \pm 1.5\text{mm}$ or less is satisfied

2

4-B SPF skew adjustment (Back surface mode)

This adjustment is needed in the following situations:

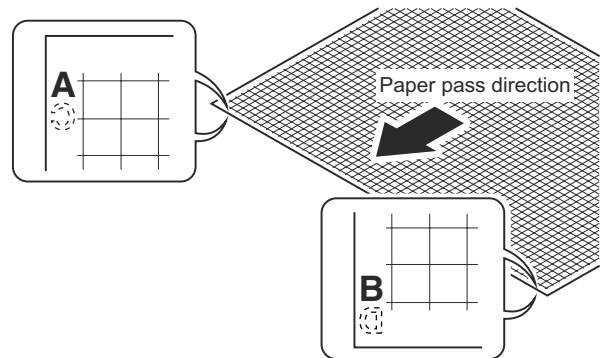
- * The SPF section has been disassembled.
- * When replacing the SPF unit.
- * The SPF unit generates skewed scanned images.

- 1) Create an adjustment chart by printing in duplex mode the self-print pattern (grid pattern) specified in Simulation 64-2.

SIM 64-2 set values

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

Make sure that the print grid pattern is almost in parallel with the paper edges, and apply position marks 'A', 'B', 'C' and 'D' to the leading and trailing edges of the paper for both front and back sides of the paper.



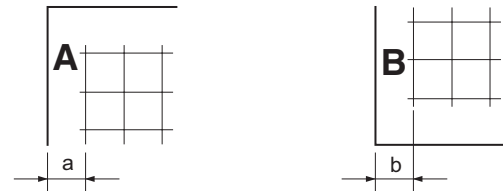
- 2) Copy the adjustment chart (created in step 1) to A4 (11" x 8.5") paper in SPF duplex mode, and then check the image for skews (Set in the DSPF feed tray so that the mark on the adjustment chart is at the edge).

* Check with one of the following methods.

[Check Method 1]

(Front side)

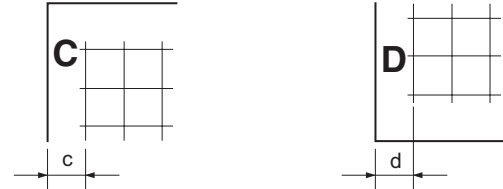
Make sure that the output satisfies the condition: $|a-b| \pm 1.5\text{ mm}$



2

(Back side)

Make sure that the output satisfies the condition: $|c-d| \pm 1.5\text{ mm}$

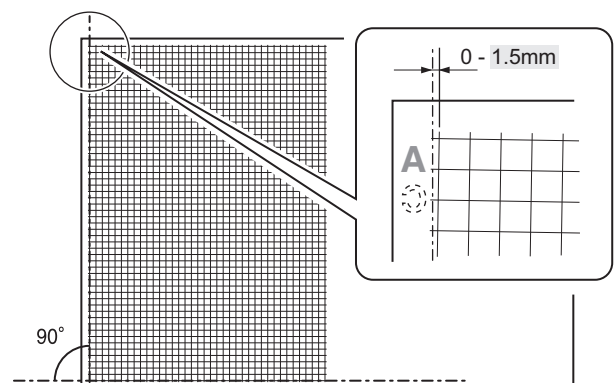


2

[Check Method 2]

Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.5mm.

2

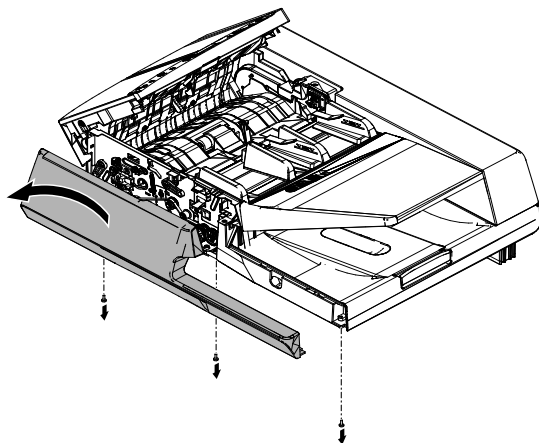


2

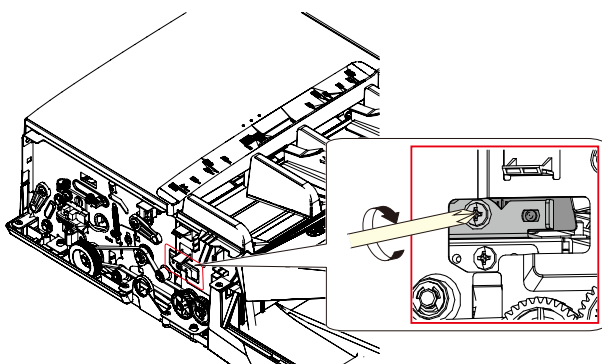
If the back surface copy image is as shown above and the front surface copy is not as shown above, go to the step 3) of "ADJ 4A SPF skew adjustment (Front surface mode)".

If the back surface copy is not as shown above, perform the procedures of step 3) or later.

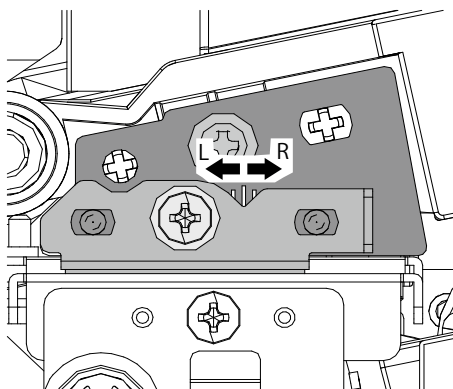
- 3) Remove the front frame cabinet of the SPF.



- 4) Loosen the adjustment plate fixing screw. (On the front frame side)



- 5) Check the image skew state, and shift the CIS mounting plate to L or R direction to adjust.



ADJ 5 Scan image magnification ratio adjustment (Manual adjustment)

Note

Normally if the adjustment is executed by ADJ 4 (automatic adjustment), there is no need to execute this adjustment.

Only when the manual adjustment is required, execute this adjustment.

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 4).

5-A Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (Document table mode)

Important

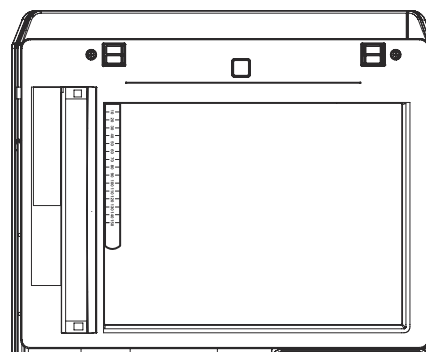
If the default adjustment value of the scan image magnification ratio adjustment (main scanning direction) of SIM 48-1, copy image quality may be degraded. Therefore, this adjustment must be executed only when there is a special necessity.

This adjustment must be performed in the following cases:

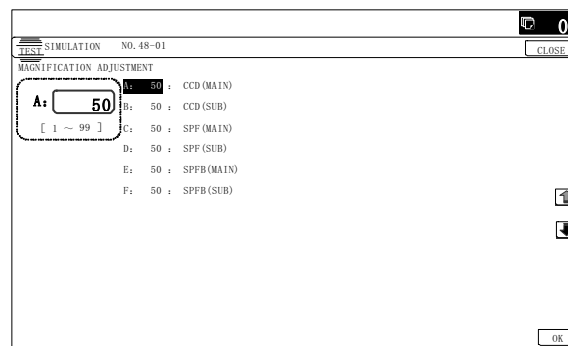
- * When the copy magnification ratio in the copy image main scanning direction is not properly adjusted.
- * When the scanner motor is replaced.
- * U2 trouble has occurred.
- * When the SCN PWB is replaced.
- * When the EEPROM of the scanner control PWB is replaced.

Before this adjustment, the focus adjustment (CCD unit installing position adjustment) must have been completed.

- 1) Place a scale on the document table as shown in the figure below.



- 2) Enter the SIM 48-1 mode.



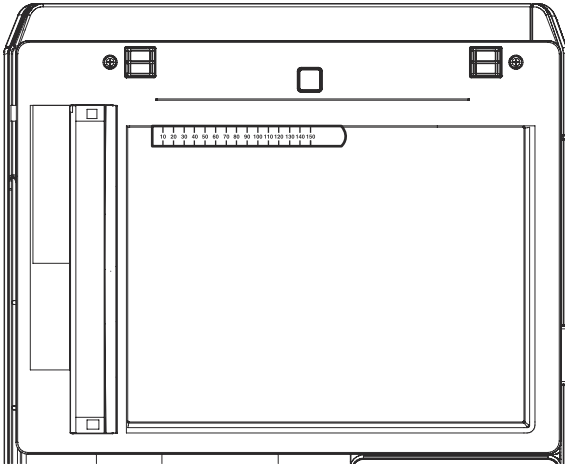
- 3) Make a normal copy and obtain the copy magnification ratio.
Press [CLOSE] key to shift from the simulation mode to the copy mode, and make a copy.
- 4) Check that the copy magnification ratio is within the specified range (100 +/- 0.8%).
If the copy magnification ratio is within the specified range (100 +/- 0.8%), the adjustment is completed. If the copy magnification ratio is not within the specified range, perform the following procedure.
- 5) Change the CCD (MAIN) adjustment value of Simulation 48-1.
When the adjustment value is increased, the copy magnification ratio is increased.
When the adjustment value is changed by 1, the copy magnification ratio is changed by about 0.02%.
Repeat the procedures 3) - 5) until the copy magnification ratio is within the specified range (100 +/- 0.8%).

5-B Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (Document table mode)

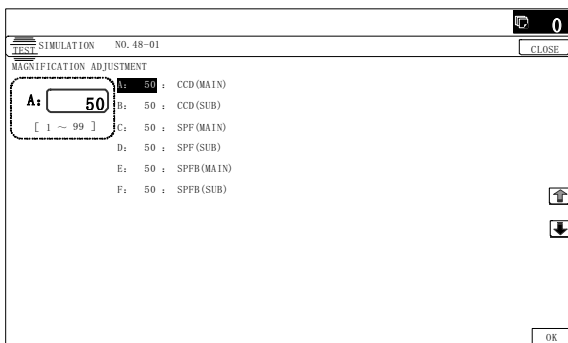
This adjustment must be performed in the following cases:

- * When the copy magnification ratio in the copy image sub scanning direction is not properly adjusted.
- * When the scanner motor is replaced.
- * U2 trouble has occurred.
- * When the SCNPWB is replaced.
- * When the EEPROM of the scanner control PWB is replaced.

- 1) Place a scale on the document table as shown in the figure below.

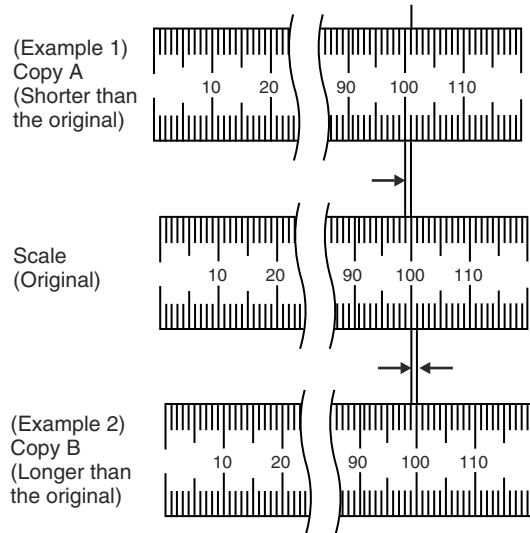


- 2) Enter the SIM 48-1 mode.



- 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 procedure.

- 5) Change the CCD (SUB) adjustment value of Simulation 48-1.
When the adjustment value is increased, the copy magnification ratio in the sub scanning direction is increased.
When the adjustment value is changed by 1, the copy magnification ratio is changed by about 0.1%.

Repeat the procedures 3) - 5) until the copy magnification ratio is within the specified range (100 +/- 0.8%).

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

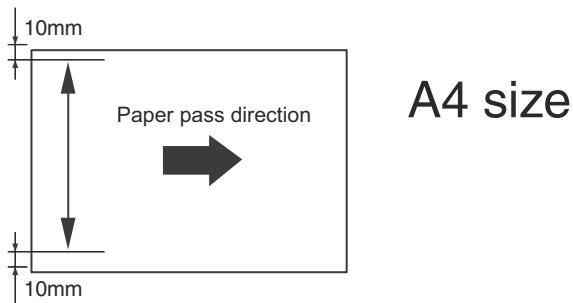
This adjustment must be performed in the following cases:

- * When the SCN PWB is replaced.
- * When the EEPROM on the SCN PWB is replaced.
- * When U2 trouble occurs.
- * When the copy magnification ratio of the SPF mode copy image in the sub scanning direction is not proper.
- * When the SPF is disassembled.

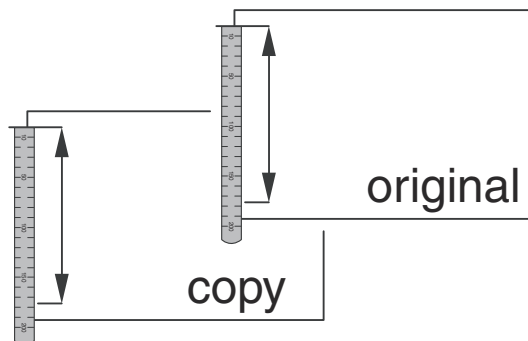
- 1) Place the duplex adjustment chart shown below on the document tray of the SPF.

The adjustment chart is prepared by the following procedures.

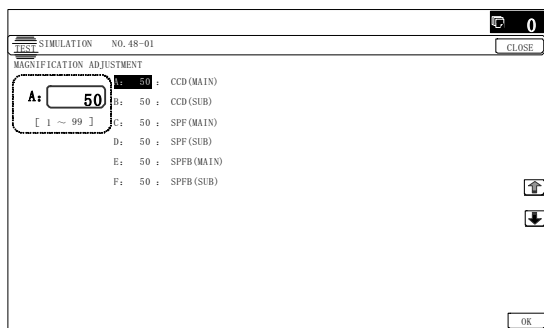
Use A4 (11" x 8.5") paper, and put marks on both sides and both surfaces of the paper at 10mm from each edge.



- 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 procedures.
- 5) Enter the SIM 48-1 mode.



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)	SPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
D	SPF(SUB)	SPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
E	SPFB(MAIN)	SPF 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

- 6) Select an adjustment 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 an image magnification ratio adjustment value with 10-key, and press [OK] key.

When the adjustment value is increased, the image magnification ratio is increased.

When the adjustment 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 the procedures of 1) - 8) until a satisfactory result is obtained.

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

This adjustment must be performed in the following cases:

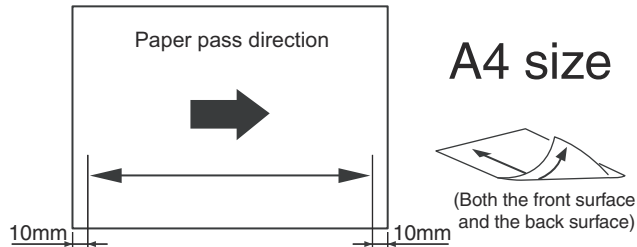
- * When the SCN PWB is replaced.
- * When the EEPROM on the scan control PWB is replaced.
- * When U2 trouble occurs.
- * When the copy magnification ratio of the RSPF mode copy image in the main scanning direction is not proper.
- * When the RSPF is disassembled.

a. Adjustment procedures

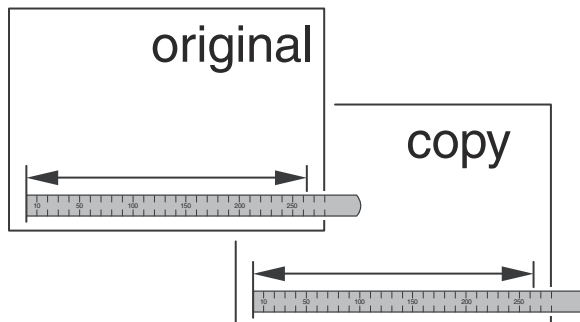
- 1) Place the duplex adjustment chart shown below on the document tray of the RSPF.

The adjustment chart is prepared by the following procedures.

Use A4 (11" x 8.5") paper, and put marks on both sides and both surfaces 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:

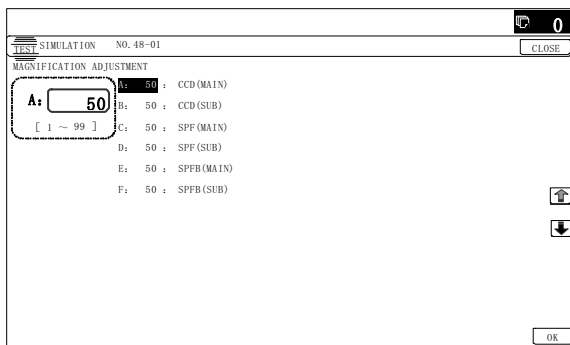
Image magnification ratio = Original size / Original size x 100 (%)

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 procedures.

- 5) Enter the SIM 48-1 mode.



SPF

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)	SPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
D	SPF(SUB)	SPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
E	SPFB(MAIN)	SPF 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

- 6) Select an adjustment item 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 an adjustment value with 10-key, and press [OK] key.
When the adjustment value is increased, the image magnification ratio is increased. When the adjustment 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 the procedures of 1) - 8) until a satisfactory result is obtained.

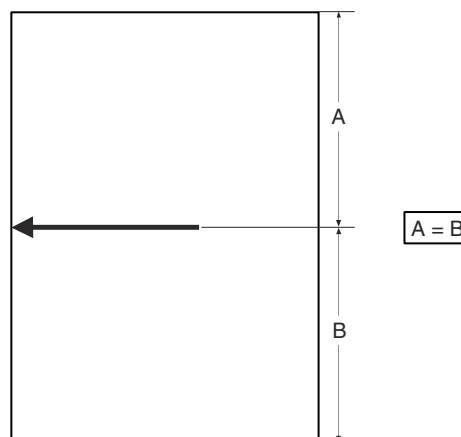
ADJ 6 Scan image off-center adjustment (Manual adjustment)

6-A Scan image off-center adjustment (Manual adjustment) (Document table mode)

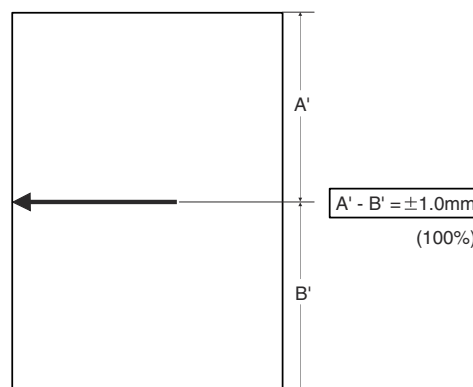
This adjustment must be performed in the following cases:

- * When the scanner (reading) section is disassembled.
- * When the scanner (reading) unit is replaced.
- * When a U2 trouble occurs.
- * When the SCN PWB is replaced.
- * When the EEPROM on the scanner control PWB is replaced.

- 1) Make a copy of the adjustment chart (made by yourself) in the adjustment mode (document table).



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



If the above condition is not satisfied, perform the following procedures.

- 3) Enter the SIM 50-12 mode.
- 4) Select the adjustment mode OC with the scroll key.
- 5) Enter the adjustment value with 10-key, and press [OK] key.
The entered value is set.
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 the procedures of 1) - 6) until the above condition is satisfied.

6-B Scan image off-center adjustment (Manual adjustment) (RSPF/DSPF mode)

This adjustment must be performed in the following cases:

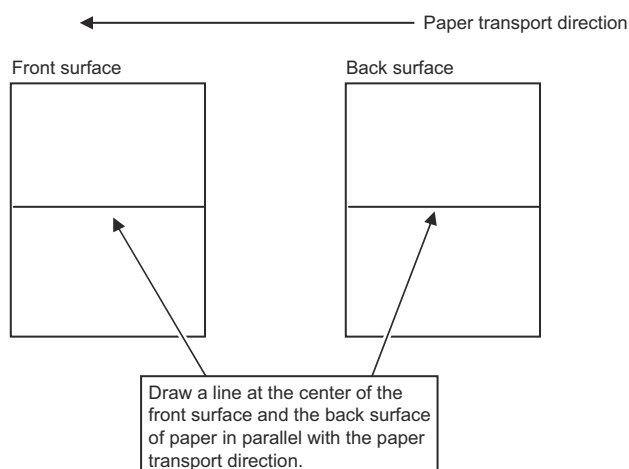
- * When the SCN PWB is replaced.
- * When the EEPROM on the scan control PWB is replaced.
- * When the scanner (reading) section is disassembled.
- * When the scanner (reading) section is replaced.
- * When U2 trouble occurs.
- * When the SPF section is disassembled.
- * When the SPF unit is replaced.

Important

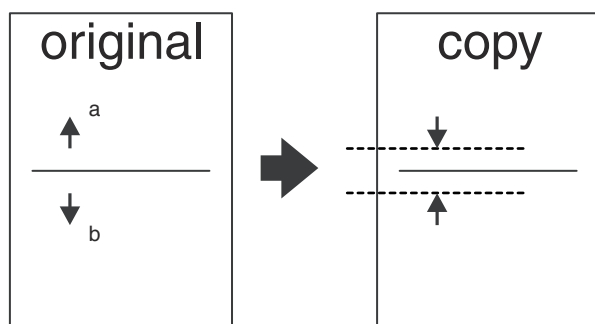
To execute this adjustment, it is required that the ADJ6A Scan image off-center adjustment (Document table mode) must have been properly adjusted.

- 1) Prepare the adjustment chart.

Draw a line at the center of the front surface and the back surface of A4 (11" x 8.5") paper in parallel with the paper transport direction.



- 2) Set the adjustment chart to the 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 the back surface of the copy paper.



If the difference is within the range of 0 +/- 2.7mm there is no need to perform the adjustment.

If the adjustment is required, perform the following procedures.

- 4) Enter the SIM 50-12 or 50-6 mode.

SIM50-12

Item	Display	Content	Setting range	Default value
A	OC	Document table image off-center adjustment	20 - 80	50
B	SPF(SIDE1)	SPF front surface image off-center adjustment	20 - 80	50
C	SPF(SIDE2)	SPF back surface image off-center adjustment	20 - 80	50

A - C: When the adjustment value is increased, the image position is shifted to the rear frame side.

1step = 0.1mm

SIM50-6

Item/Display		Content	Setting range	Default value	
				RSP F	DSP F
A	SIDE1	Front surface document scan position adjustment (CCD)	1 - 99	50	50

Item/Display		Content	Setting range	Default value	
				RSP F	DSP F
B	SIDE2	Back surface document scan position adjustment (CCD)	1 - 99	50	50
C	Image loss amount setting SIDE1	LEAD_EDGE (SIDE1) Front surface lead edge image loss amount setting	0 - 99	30	30
D		FRONT_REAR (SIDE1) Front surface side image loss amount setting	0 - 99	20	20
E		TRAIL_EDGE (SIDE1) Front surface rear edge image loss amount setting	0 - 99	30	30
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2) Back surface lead edge image loss amount setting	0 - 99	30	30
G		FRONT_REAR (SIDE2) Back surface side image loss amount setting	0 - 99	20	20
H		TRAIL_EDGE (SIDE2) Back surface rear edge image loss amount setting	0 - 99	30	30
I	OFFSET_SPF1	SPF front surface document off-center adjustment	20 - 80	50	50
J	OFFSET_SPF2	SPF back surface document off-center adjustment	20 - 80	50	50
K	SCAN_SPEED_SPF1	SPF document front surface magnification ratio (Sub scan)	1 - 99	50	50
L	SCAN_SPEED_SPF2	SPF 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 A - H: 1 step = 0.1mm change

* The SPF rear edge image loss setting is provided for countermeasures against the case when shades are produced.

- 5) Select an adjustment mode with the scroll key.

(SIM50-12)

SPF(SIDE1) Front surface mode

SPF(SIDE2) Back surface mode

(SIM50-6)

OFFSET SPF1 Front surface mode

OFFSET SPF2 Back surface mode

- 6) Enter an adjustment value with 10-key, and press [OK] key.
(Change for change in the adjustment value: 0.1mm/step)
(When the adjustment value is increased, the print image is shifted to the rear.)
Repeat the procedures of 2) - 6) until a satisfactory result is obtained.

ADJ 7 Print lead edge image position, void area adjustment (Printer mode)

This adjustment is needed in the following situations:

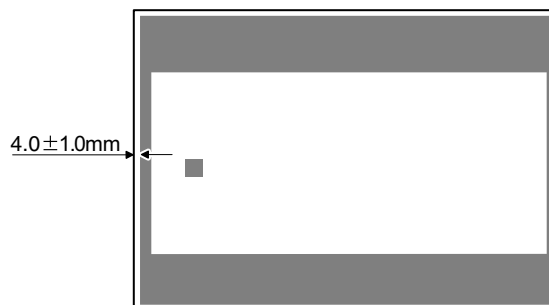
- * When the registration roller section is disassembled.
- * When the LSU is replaced or removed.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

NOTE: This adjustment is performed by the user to increase the lead edge void area to greater than the standard value (3mm) in the printer mode.

- 1) Enter the SIM 50-5 mode.
- 2) Select the set item L with the scroll key, and enter the value corresponding to the paper feed tray with A4 (11" x 8.5") paper in it.

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		20
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 rear edge void area adjustment correction value		1 - 99		50
L	MULTI COUNT		Number of print		1 - 999		1
M	PAPER	MFT	Tray selection	Manual paper feed	1 - 6	1	2 (CS1)
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
		LCC		LCC		6	
N	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1 (NO)
		NO		No		1	

- 3) Press [EXECUTE] key.
The adjustment 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 adjustment value: $4.0 \pm 1.0\text{mm}$



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

- 5) Select the adjustment target of the paper feed mode adjustment item DENC with the scroll key.
- 6) Change the adjustment value.

Enter the adjustment value and press the [OK] key or the [EXECUTE] key.

When [EXECUTE] key is pressed, the adjustment pattern is printed. 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 is decreased. When the set value is changed by 1, the distance is changed by about 0.1mm.

Repeat the procedures 4) - 6) until the condition of 4) is satisfied.

ADJ 8 Copy image position and image loss adjustment (Manual adjustment)

8-A Copy image position and image loss adjustment (Manual adjustment) (Document table mode)

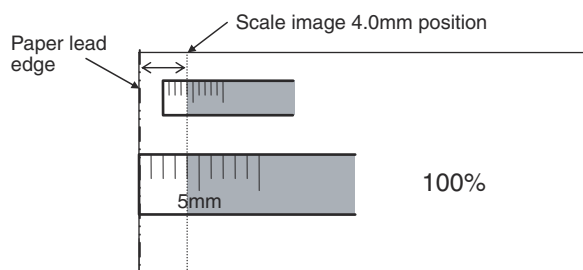
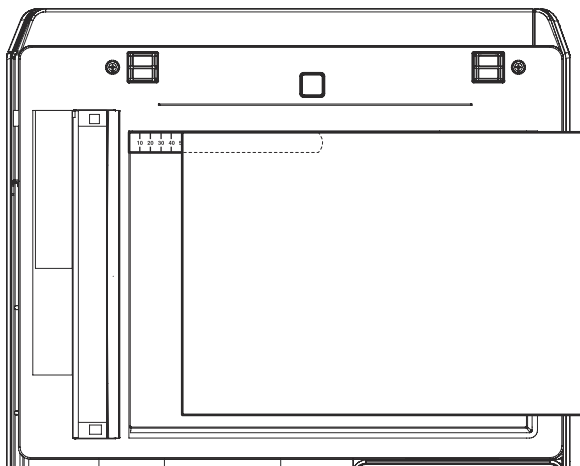
This adjustment must be performed in the following cases:

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

Note

Before executing this adjustment, be sure to confirm that the ADJ 3 Print engine image position, image loss, image magnification ratio, void area adjustments has been completed normally.

- 1) Place a scale on the document table as shown in the figure 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 white paper on the document table so that the scale lead edge can be seen.



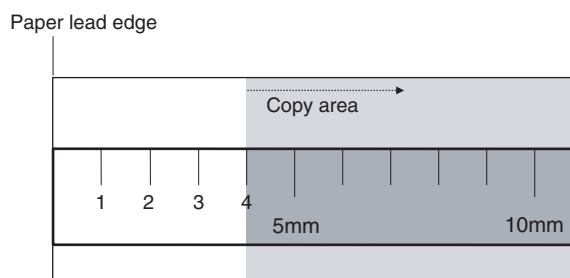
- 2) Enter the SIM 50-1 mode.
- 3) Set RRCA, LEAD, and SIDE to the default values.

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 setting value	LEAD	Lead edge image loss area setting	0 - 99	30
C		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	40
F		FRONT/REAR	FRONT/REAR void area adjustment	1 - 99	23
G	Off-center adjustment	OFFSET_OC	OC document off-center adjustment	20 - 80	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-ADU	ADU correction value	1 - 99	50
O		DENB-HV	Heavy paper correction value	1 - 99	50

- 4) Perform the image lead edge reference position adjustment.
Shift to the copy mode, and make a copy at each of 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 either of 100% copy scale.
If not, change and adjust the RRCA value.
(Adjust so that the lead edge image from 4.0mm is not copied in either of different copy magnification ratios.)
Repeat the above procedures until a 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 adjustment	0 - 99	30	4.0+/- 1.0mm
SIDE		Side image loss adjustment	0 - 99	20	2.0+/- 1.0mm

When the adjustment value is increased, the image loss is increased. When the adjustment value is decreased, the image loss is decreased.

When the adjustment value is changed by 1, the void area is changed by 0.1mm.

8-B Copy image position and image loss adjustment (Manual adjustment) (RSPF / DSPF mode)

This adjustment must be performed in the following cases:

- * When the SCN PWB is replaced.
- * When the EEPROM on the scan control PWB is replaced.
- * When the scanner (reading) section is disassembled.
- * When the scanner (reading) unit is replaced.
- * When U2 trouble occurs.
- * When the SPF section is disassembled.
- * When the SPF unit is replaced.

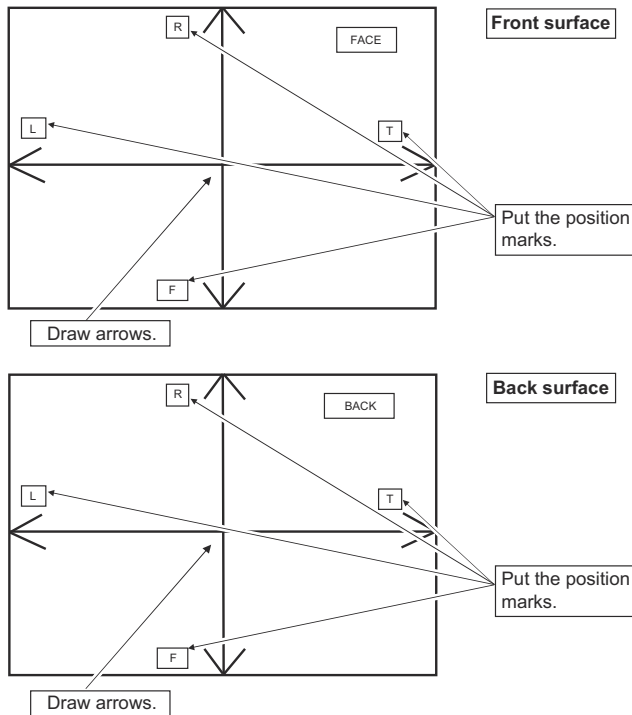
a. Adjustment procedures

1) Prepare the adjustment chart.

The adjustment chart can be made by the following procedures.

Use A4 (11" x 8.5") paper and draw arrow marks vertically and horizontally on the front and the back surfaces.

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



2) Enter the SIM 50-6 mode.

Item/Display	Content	Setting range	Default value	
			RSP F	DSP F
A SIDE1	Front surface document scan position adjustment (CCD)	1 - 99	50	50
B SIDE2	Back surface document scan position adjustment (CCD)	1 - 99	50	50

Item/Display	Content	Setting range	Default value	
			RSP F	DSP F
C Image loss amount setting SIDE1	LEAD_EDGE (SIDE1)	0 - 99	30	30
D	FRONT_REAR (SIDE1)	0 - 99	20	20
E	TRAIL_EDGE (SIDE1)	0 - 99	30	30
F Image loss amount setting SIDE2	LEAD_EDGE (SIDE2)	0 - 99	30	30
G	FRONT_REAR (SIDE2)	0 - 99	20	20
H	TRAIL_EDGE (SIDE2)	0 - 99	30	30
I OFFSET_SPF1	SPF front surface document off-center adjustment	20 - 80	50	50
J OFFSET_SPF2	SPF back surface document off-center adjustment	20 - 80	50	50
K SCAN_SPEED_SPF1	SPF document front surface magnification ratio (Sub scan)	1 - 99	50	50
L SCAN_SPEED_SPF2	SPF 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 A - H: 1 step = 0.1mm change
- * The RSPF rear edge image loss setting is provided for counter-measures against the case when shades are produced.

(Lead edge image loss adjustment)

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

(Standard set value)

TRAIL EDGE (SIDE 1):

30 Lead edge image loss set value (Front surface)

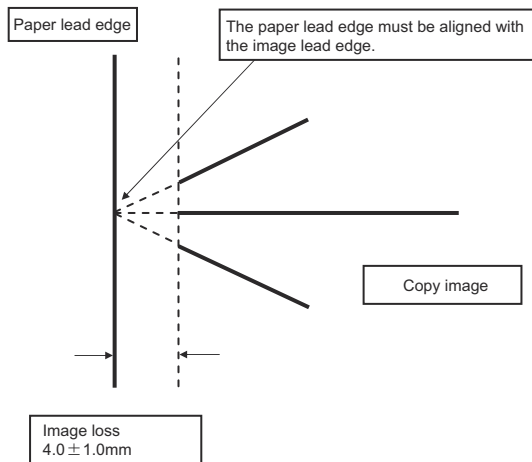
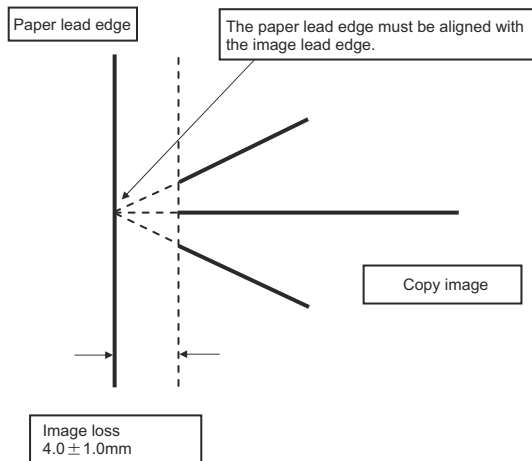
TRAIL EDGE (SIDE 2):

30 Lead edge image loss set value (Back surface)

(When the set value is increased, the lead edge image loss is increased.)

(Change for change in the set value: 0.1mm/step)

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



If the above condition is not satisfied, perform the following procedure.

- 3) Enter the adjustment value of SIDE1/SIDE2 with 10-key, and press [OK] key.
Adjust so 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

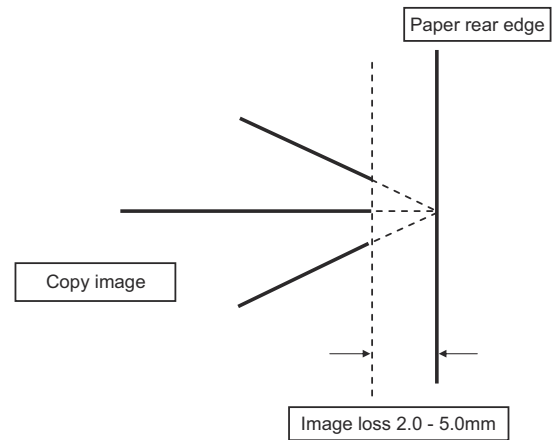
(When the adjustment value is increased, the print image position is shifted to the delaying direction for the paper.)

(Change for change in the set value: 0.1mm/step)

Perform the procedures of 2) - 3) until a satisfactory result is obtained.

(Rear edge image loss adjustment)

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



If the above condition is not satisfied, perform the following procedure.

- 2) Enter the adjustment value of TRAIL EDGE (SIDE1/SIDE2) with 10-key, and press [OK] key.

TRAIL EDGE (SIDE 1):

Rear edge image loss adjustment value (Front surface)

TRAIL EDGE (SIDE 2):

Rear edge image loss adjustment value (Back surface)

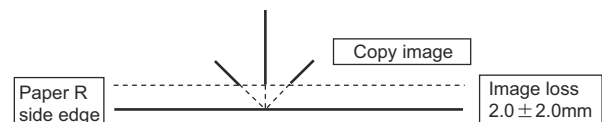
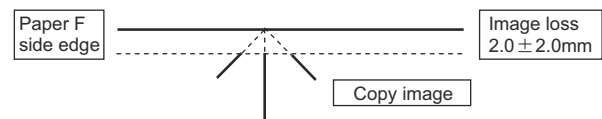
(When the adjustment value is increased, the rear edge image loss is increased.)

(Change for change in the set value: 0.1mm/step)

Perform the procedures of 1) - 2) until a satisfactory result is obtained.

(Front/rear frame direction image loss adjustment)

- 1) Make a duplex copy in 100% in the RSPF mode. Check to confirm that the image losses on the front frame side and the rear frame side are $2.0 \pm 2.0\text{mm}$ on the front surface and the back surface.



If the above condition is not satisfied, perform the following procedure.

- 2) Enter the adjustment value of FRONT/REAR (SIDE 1) / FRONT/REAR (SIDE 2), and press [OK] key.

FRONT/REAR (SIDE 1):

Front/Rear image loss adjustment value (Front surface)

FRONT/REAR (SIDE 2):

Front/Rear image loss adjustment value (Back surface)

(When the adjustment value is increased, the front/rear image loss is increased.)

(Change for change in the adjustment value: 0.1mm/step)

Perform the procedures of 1) - 2) until a satisfactory result is obtained.

ADJ 9 Gray balance/density adjustment

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

- * Requisite conditions before execution of the gray balance/density adjustment

Before execution of the gray balance/density adjustment, check to insure that the adjustments which affect the gray balance/density have been completed properly.

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

- The following items must be adjusted properly.

Job No	Adjustment item			Sim
ADJ 2	High voltage value adjustment	ADJ 2A	Developing bias voltage adjustment	8-1
		ADJ 2B	Transfer current and voltage adjustment	8-6
		ADJ 2C	Transfer separation bias voltage adjustment	8-6
ADJ 1	Developing unit adjustment	ADJ 1A	Toner density control reference value setting	25-2
ADJ 9	Gray balance and density adjustment	ADJ 9A	Scanner calibration (CCD calibration)	63-3

Note for the gray balance/density check and adjustments

When setting the adjustment pattern on the document table in the automatic gray balance adjustment procedures, 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/density check and adjustment

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

Follow the flowchart of the gray balance/density adjustment procedures depending on the actual conditions.

There are following four, major cases.

- When installing (When a printer option is installed)
- When a periodic maintenance is performed.
- When a repair, an inspection, or a maintenance is performed. (When a consumable part is replaced.)
- When an installation, a repair, or inspection is performed. (Without replacement of a 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 (Process correction) forcibly. (SIM 44-6)
- * Execute the half-tone image correction forcibly. (SIM 44-26)

Method 1

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

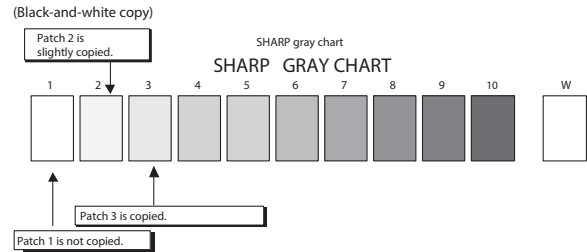
Note for checking the density

To check the density, use the gray test chart (UKOG-0162FCZZ) and the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11). Set the copy density level to "Manual 3" in the Text/Printed Photo mode (Manual).

In addition, all the gray balance adjustments in the user adjustment mode must be set to the default (center).

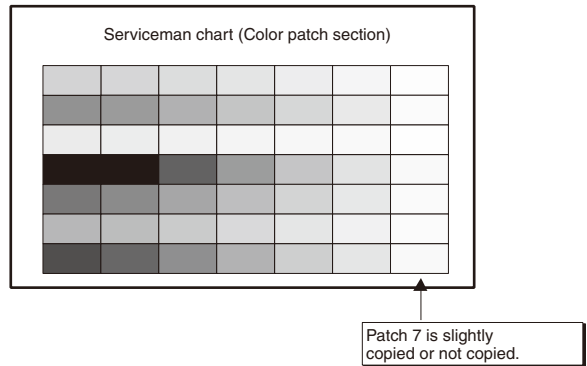
Check with the gray test chart (UKOG-0162FCZZ)

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



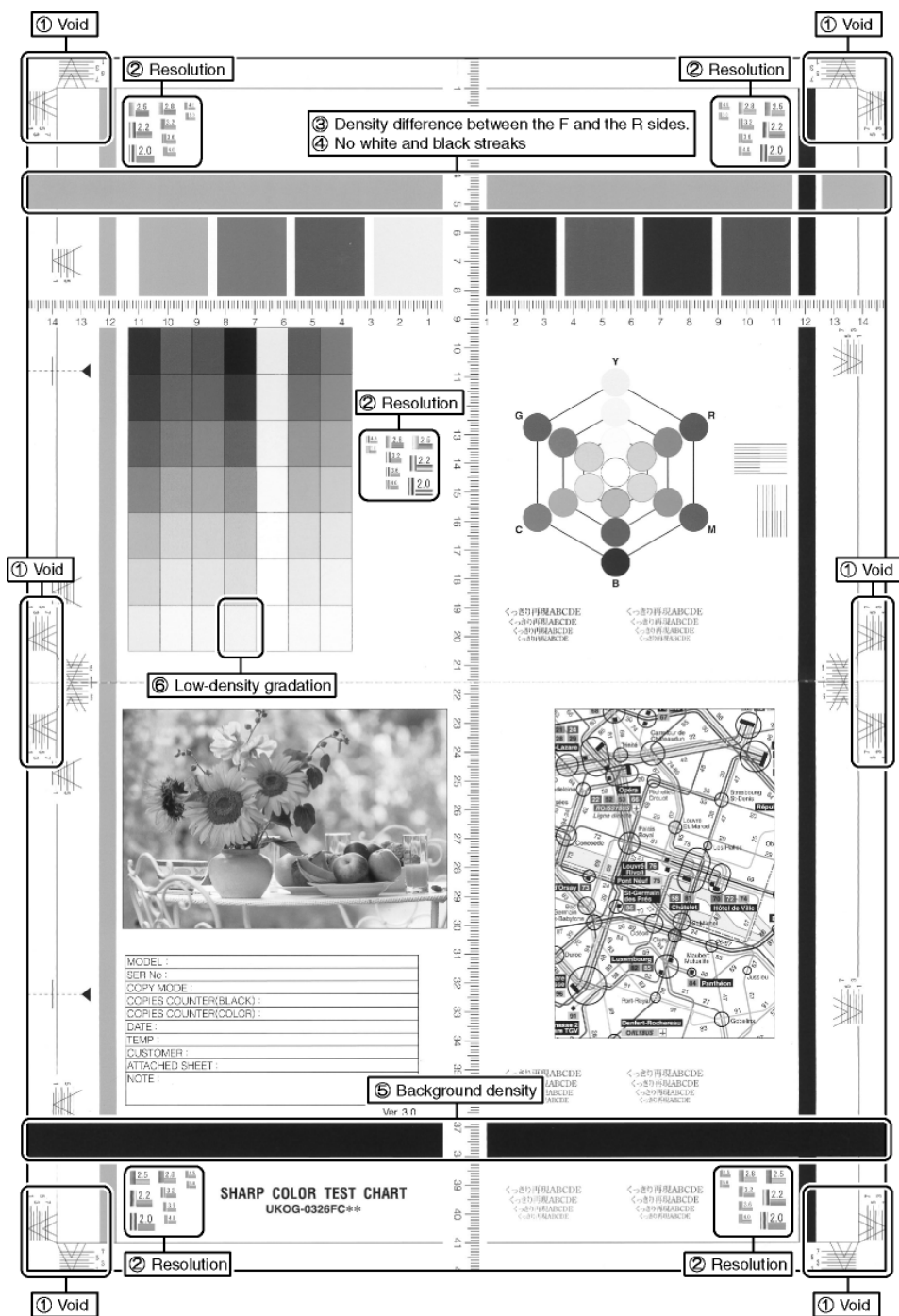
Check with the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11)

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/density check

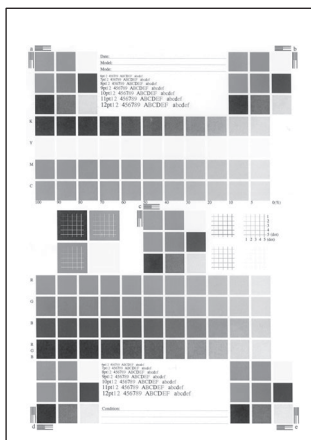
NOTE: Before checking the copy gray balance and the density, be sure to execute the following procedures in advance.

- * Execute the high density image correction forcibly. (SIM 44-6)
- * The half-tone image correction is forcibly executed. (SIM 44-26)

Method 1

Execute SIM 64-5 to print the print test pattern.

Set each set value to the default and press [EXECUTE] key. The 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 reversed.

9-A Scanner calibration (CCD calibration)

This adjustment must be performed in the following cases:

- * When the CCD unit is replaced.
- * When a U2 trouble is occurred.
- * When the scanner control PWB is replaced.
- * When the EEPROM on the scanner control PWB is replaced.

9-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

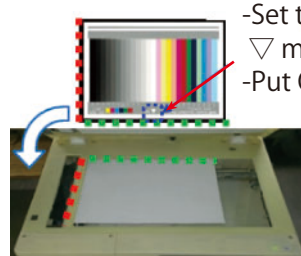
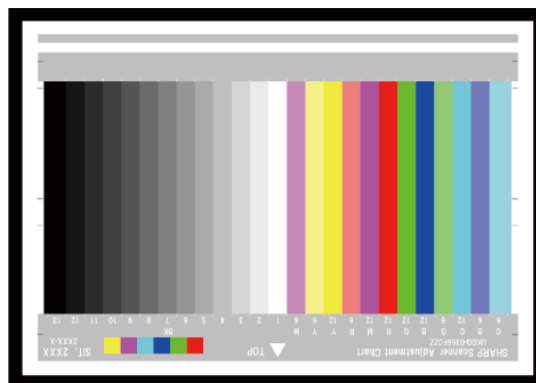
- * Check that the table glass, No 1, 2, 3 mirror and the lens surface are free from dirt and dust (when there is some dirt or dust clean with ethanol alcohol)
- * Check to confirm that the patches arrays of the scanner adjustment chart (UKOG-0356FCZZ) is free from dirt and scratch. If it is dirt, clear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



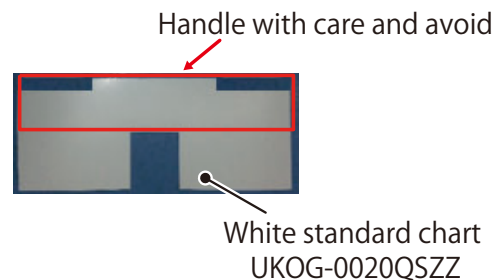
- Set the chartface down so that ▽ mark is placed on rear side.
- Put OC mat over the chart.

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

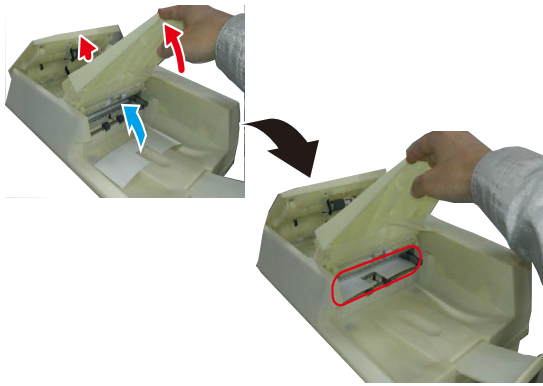
9-A (2) Shading adjustment (Calibration) (DSPF mode)

(1) Note before adjustment

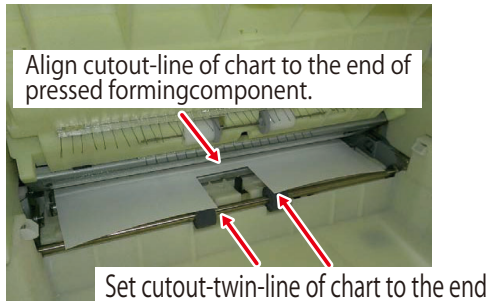


- 1) Check to insure that there is no dirt or dust on the DSPF scanning glass and the lens surface. (If there is, clean it with alcohol.)
- 2) Enter the SIM 63-2 mode.

- 3) Open upper door and document tray, and put white standard chart on the tray.



* Setting position of white



- 4) Close document tray and upper door.
- 5) Select [DSPF SHADING].
- 6) Press [EXECUTE] key. (The shading adjustment process is started.)
 - * The shading adjustment sheet is transported by about 25mm, and shading data are obtained during transport.
 - * During shading adjustment, "SHADING EXECUTING..." is displayed.
 - * When [EXECUTE] key is pressed during shading adjustment, the operation is interrupted.
 - * When shading adjustment is completed normally, [EXECUTE] key returns to the normal display and "COMPLETE" is displayed.

<Descriptions of keys>

Display	Content
OC SHADING	OC analog correction level correction, and shading correction data making (Document table mode)
DSPF SHADING	DSPF analog correction level correction, and shading correction data making (SPF mode)

<Result display>

Display	Content
COMPLETE	Normal completion
ERROR	Abnormal completion
INCOMPLETE	Incomplete, interruption

9-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

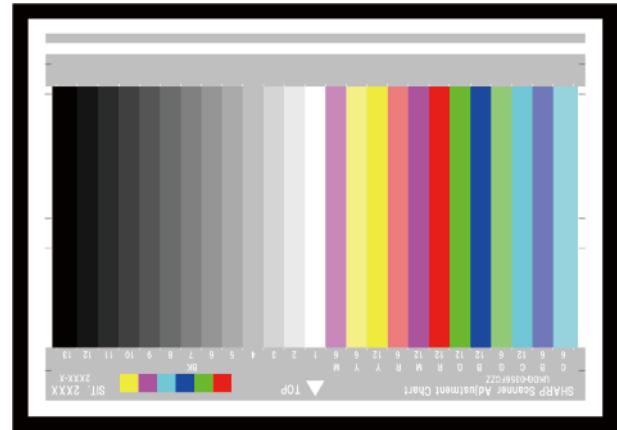
(1) Note before adjustment

- * 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

9-B Copy/Printer gray balance and density adjustment (Automatic adjustment) (Basic adjustment)

This adjustment must be performed in the following cases:

- * When a consumable part (developer, OPC drum, transfer roller) is replaced.
- * When the CCD unit is replaced.
- * When the scanner (reading) section is disassembled.
- * When the scanner (reading) unit is replaced.
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.

- * When the EEPROM on the MFP PWB is replaced.
- * The scanner control PWB has been replaced.
- * The EEPROM on the scanner control PWB has been replaced.

a. General

SIM46-74 is used to perform the automatic copy gray balance and density adjustment (SIM46-24) and the automatic printer gray balance and density adjustment (SIM67-24) 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.

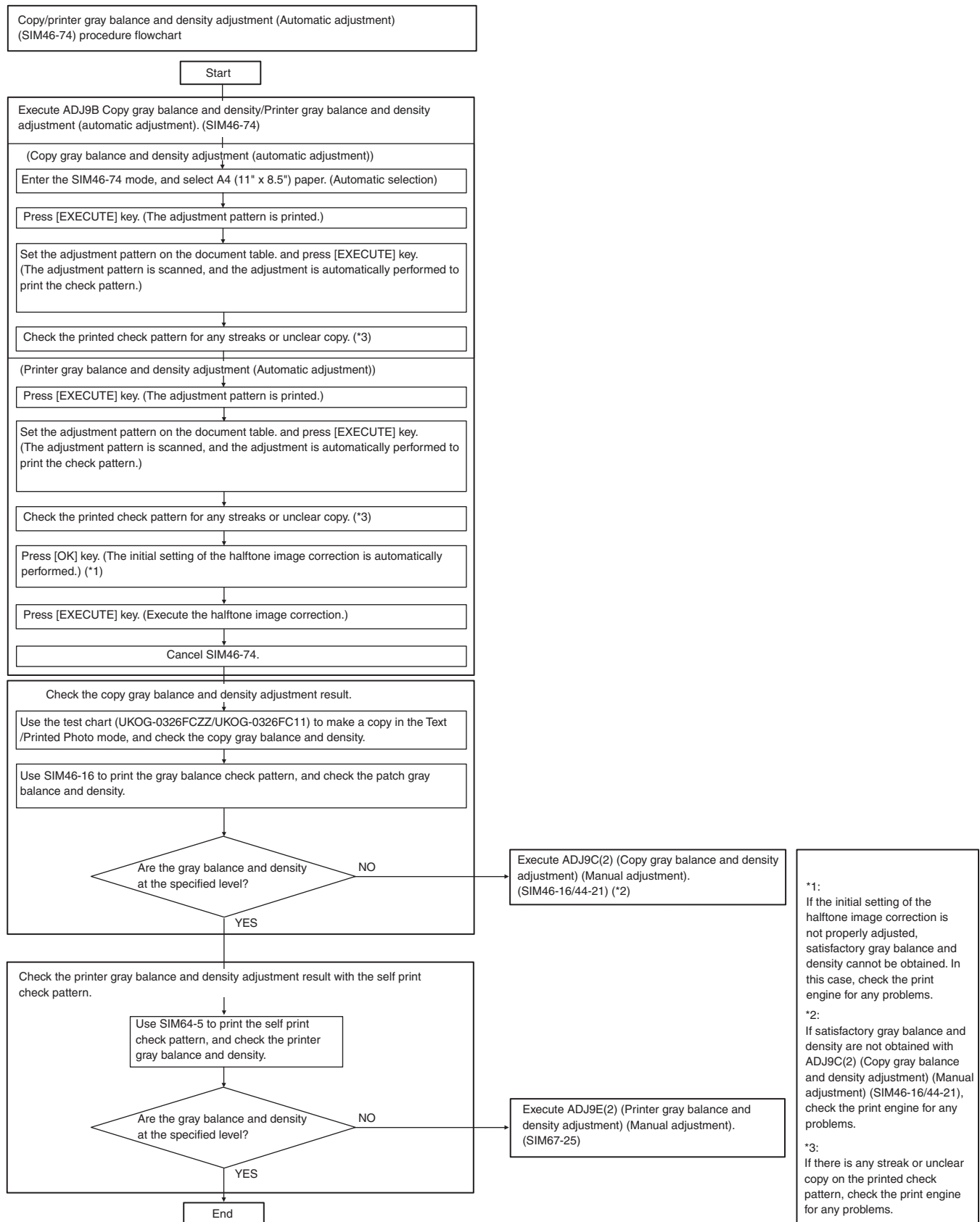
This mode is also advisable to effectively perform both of the automatic copy gray balance and density adjustment (SIM46-24) and the automatic printer gray balance and density adjustment (SIM67-24). It saves considerable time when compared with performing each of the auto copy/printer gray balance and the density adjustment individually.

The gray balance adjustment (automatic adjustment) is used to adjust the density automatically.

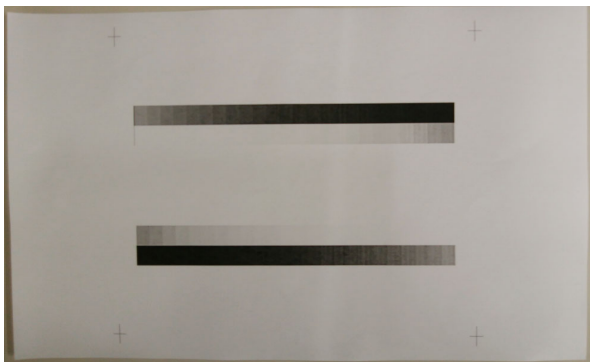
When this adjustment is executed, the gray balance adjustments of all the copy/printer modes are revised.

b. Adjustment procedures

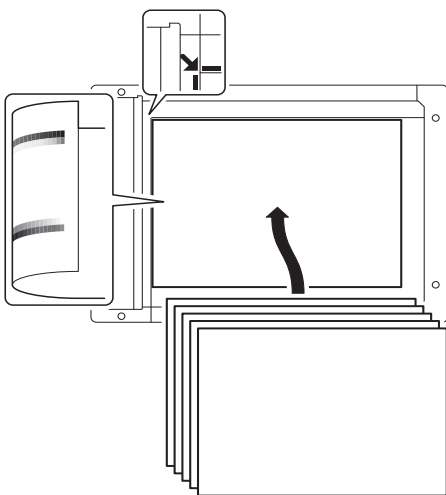
(Auto gray balance adjustment by the serviceman)



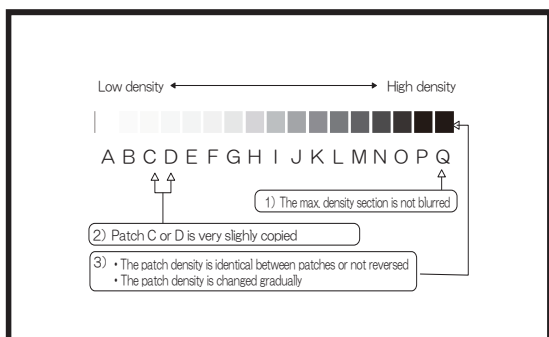
- 1) Enter the SIM46-74 mode.
- 2) Press [EXECUTE] key.
The high density process control is performed, and the copy gray patch image (adjustment pattern) is printed out.
(A4/11" x 8.5"R paper is automatically selected.)



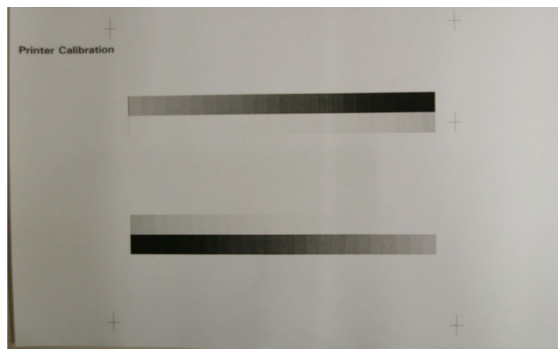
- 3) Set the gray patch image (adjustment pattern) paper printed in procedure 2) on the document table.
Set the gray patch image (adjustment pattern) printed in the procedure 2) on the document table. Place the gray patch image so that the fine lines are on the left side. At that time, place 5 sheets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



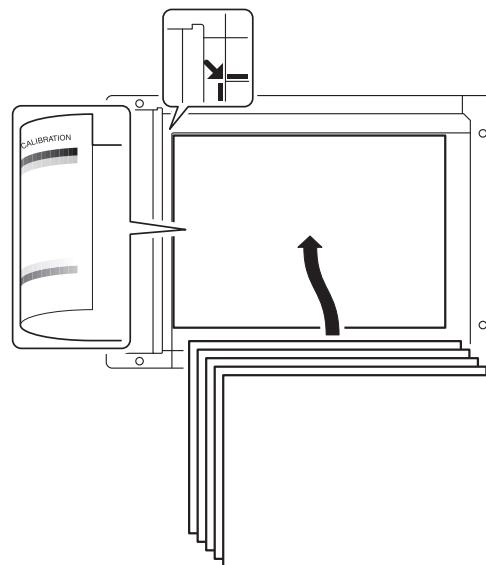
- 4) Press [EXECUTE] key.
The copy gray balance adjustment is automatically executed and prints the gray balance check patch image.
If there is any streak or unclear print on the printed check pattern, check the print engine for any problems.



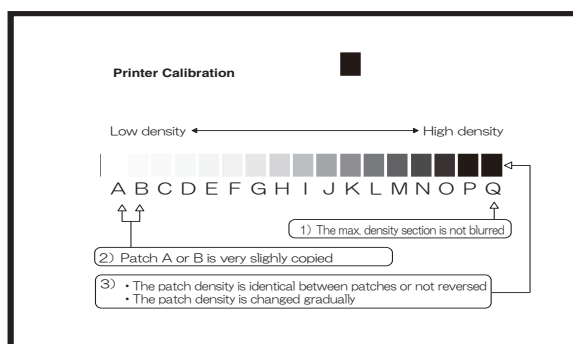
- 5) Press [EXECUTE] key.
The printer gray patch image (adjustment pattern) is printed out.
(A4/11" x 8.5"R paper is automatically selected.)



- 6) Set the gray patch image (adjustment pattern) printed in the procedure 5) on the document table.
Set the gray patch image (adjustment pattern) printed in the procedure 2) on the document table. Place the gray patch image so that the fine lines are on the left side.
At that time, place 5 sheets of white paper on the printed gray patch image (adjustment pattern).



- 7) Press [EXECUTE] key.
The printer gray balance adjustment (step 1) is automatically performed and the gray balance check patch image is printed out.
If there is any streak 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.
Press [OK] key.
The initial setting of the halftone image correction is performed.
- 9) Wait until [EXECUTE] key is displayed.
When it is displayed, press it.
The halftone image correction is performed.
- 10) When "COMPLETED THIS PROCEDURE" is displayed, the adjustment operation is completed.
Cancel SIM46-74.

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 canceled, 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 in procedure 4), execute the manual gray balance adjustment (ADJ9C (2)).
- 12) Check the printer 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 9E (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.

9-C Copy quality adjustment (Basic adjustment)

This adjustment must be performed in the following cases:

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

9-C (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 adjustments of all the copy modes are revised.

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

- 1) Auto gray balance adjustment by the serviceman (SIM 46-24 is used.)
- 2) Auto gray balance adjustment by the user (The user program mode is used.)

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

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

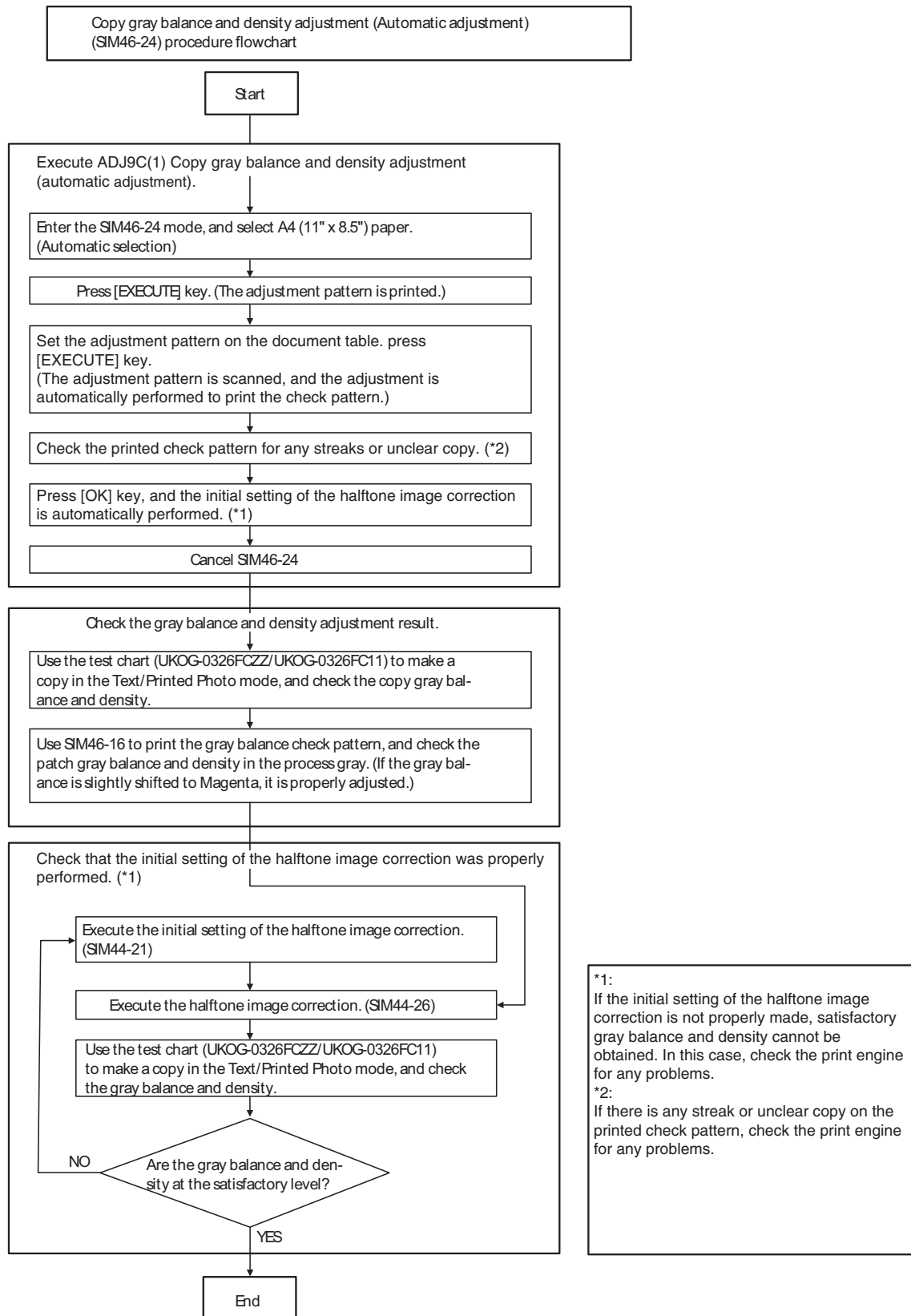
When, however, the machine has a fatal problem or when the machine condition is greatly changed, this function does not work effectively.

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.

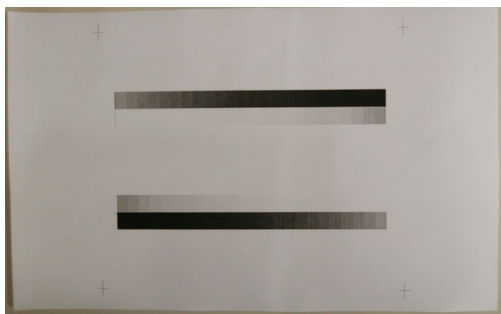
b. Adjustment procedure

(Auto gray balance adjustment by the serviceman)



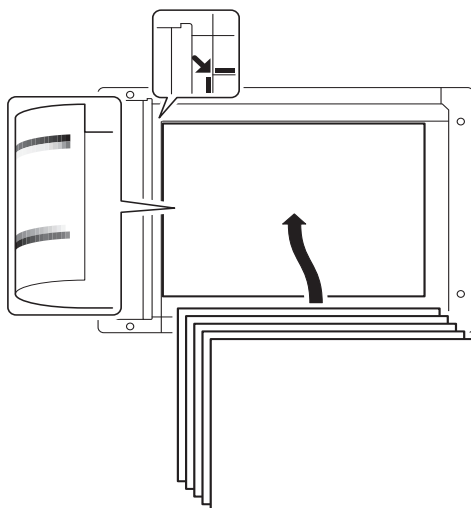
- 1) Enter the SIM 46-24 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" paper is automatically selected.)

The patch image (adjustment pattern) is printed out.



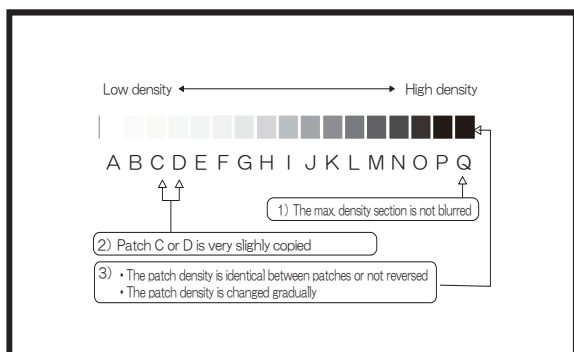
- 3) Set the patch image (adjustment pattern) paper printed in procedure 2) on the document table.

Place the printed 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 patch image (adjustment pattern) paper.



- 4) Press [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 procedure 5) is displayed.



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

According to data of this adjustment, the initial setting of the half-tone image correction is performed.

NOTE:

After pressing [OK] key, the initial setting of the half-tone 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) Use SIM44-26 to execute the half-tone image correction.
(Forcible execution)
Enter the SIM44-26 mode and press [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.
After completion of the operation, the simulation is canceled.
- 8) Use the servicing color 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 procedures.
- 9) Execute the initial setting of the half-tone image correction. (SIM 44-21)
- 10) Execute the half-tone image correction. (Forcible execution) (SIM44-26)
- 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 procedures 9) - 11) are performed, the copy gray balance and density are not in the specified range, there may be another cause.

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 in procedure 4), execute the manual adjustment (SIM46-16)(ADJ9C (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.

9-C (2) Copy gray balance and density adjustment (Manual adjustment)

This adjustment is used to execute the density adjustment for each density level in each monochrome copy mode.

This adjustment must be performed in the following cases:

- * When it is required to change the gamma in each copy mode.
- * When there is request from the user.

- 1) Enter the SIM 46-16 mode.
- 2) Select the density level (point) to be adjusted with the scroll key.

Item/Display		Density level (Point)	Adjustment value range	Default
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

Item/Display		Density level (Point)	Adjustment value range	Default
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 adjustment value with 10-key and press [OK] key.

When the adjustment value is increased, the density is increased.
When the adjustment value is decreased, the density is decreased.

When the arrow key is pressed, 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 [EXECUTE] key is pressed, the adjustment pattern is printed out.

The density at each density level (point) can be checked by referring to this printed adjustment pattern. However, it is more practical to make a copy and check it.

This adjustment pattern can be used to check the gray balance and the density for each density level (point).

- 4) Make a copy and check the adjustment result.

Switch the adjustment simulation mode and the normal copy mode alternately, and adjust and check the adjustment result.

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

9-D 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 adjustments ADJ 9B and ADJ 9C or 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.

		Copy MODE		IMAGE SEND(SCAN) MODE					
		Monochrome mode		Color mode		Monochrome mode			
		Auto	Manual	Auto	Manual	Auto	Manual	FAX	Printer
46-02	Monochrome copy density adjustment (for each monochrome copy mode) (separately for the low-density area and the high-density area) (No need to adjust normally)	○	○	-	-	-	-	-	-
46-04	Color image send mode image density adjustment (for each mode) (No need to adjust normally)	-	-	○	○	-	-	-	-
46-05	Monochrome image send mode image density adjustment (for each mode) (No need to adjust normally)	-	-	-	-	○	○	-	-
46-08	Image send mode RGB gray balance adjustment (separately for the low-density area and the high-density area) (No need to adjust normally)	-	-	○	○	-	-	-	-
46-09	DSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)	○	○	○	○	○	○	○	-
46-10	Copy gray balance, gamma adjustment (for each copy mode) (No need to adjust normally)	○	○	-	-	-	-	-	-
46-16	Monochrome copy density, gamma adjustment (for each monochrome copy mode) (No need to adjust normally)	○	○	-	-	-	-	-	-
46-19	Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)	○	-	-	-	○	-	○	-
46-23	Copy high density image density reproduction setting (Normally unnecessary to the setting change)	○	○	-	-	-	-	-	-
46-24	Copy gray balance and density adjustment (Automatic adjustment)	○	○	-	-	-	-	-	-
46-32	Document low density image density reproduction adjustment in the automatic monochrome (Copy/Scan/FAX) mode (No need to adjust normally) (Background density adjustment in the scanning section)	○	-	-	-	○	-	○	-
46-37	Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)	○	○	-	-	○	○	○	○
46-39	FAX send image sharpness adjustment	-	-	-	-	-	-	○	-
46-40	FAX send image density 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 unnecessary to the setting change)	○	○	○	○	○	○	○	○
46-48	Copy output resolution setting	○	○	-	-	-	-	-	-
46-51	Gamma manual adjustment for the copy mode heavy paper and the image process mode (dither) (No need to adjust normally)	○	○	-	-	-	-	-	-
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) (No need to adjust normally)	○	○	-	-	-	-	-	-
46-55	Dropout color setting	-	-	-	-	-	○	-	-
46-60	Color (Scan) mode sharpness adjustment (No need to adjust normally)	-	-	○	-	-	-	-	○
46-61	Area separation recognition level adjustment (No need to adjust normally)	○	○	○	○	○	○	-	-
46-62	ACS, area separation, background image process, automatic exposure mode operation conditions setting (Normally unnecessary to the setting change)	○	○	○	○	○	○	-	-
46-63	Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally)	○	○	○	○	○	○	-	-
46-66	Watermark adjustment	○	○	-	-	-	-	-	-
46-74	Printer/Copy gray balance and density adjustment (Automatic adjustment) (Basic adjustment)	○	○	-	-	-	-	-	○
46-90	High-compression PDF image process operation setting (Normally unnecessary to the setting change)	-	-	○	○	-	-	-	-
46-91	Black text emphasis fine adjustment	-	-	○	○	-	-	-	-

9-D (1)

**Monochrome copy density adjustment
(for each monochrome copy mode)
(separately for the low-density area and the
high-density area)
(No need to adjust normally)**

The density is adjusted in each copy mode individually.

This adjustment must be performed in the following cases:

- * When there is necessity to change the copy density of the low density and high density part at each copy density individually.
 - * When there is necessity to change the density gradient of the copy by each the copy mode individually.
 - * When there is necessity to change all copy density by each the copy mode individually.
 - * When there is request from the user.
- 1) Enter the SIM 46-2 mode.
 - 2) Select the copy mode to be adjusted with the 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)	Auto 1(Copy document)	LOW	1 - 99	50
			HIGH	1 - 99	50
K	AUTO2(COPY TO COPY)	Auto 2(Copy document)	LOW	1 - 99	50
			HIGH	1 - 99	50
L	AUTO3(COPY TO COPY)	Auto 3(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 adjustment value with 10-key and press [OK] key.
When adjusting the copy density on the low density part, select "LOW" mode and change the adjustment value. When adjusting the copy density on the high density part, select "HIGH" mode and change the adjustment value.
When the adjustment value is increased, the copy density is increased. When the adjustment value is decreased, the copy density is decreased.
- 4) Make a copy and check the adjustment result.
Switch the adjustment simulation mode and the normal copy mode alternately, and adjust and check the adjustment result.
Repeat switching the adjustment simulation mode and the normal copy mode and changing the adjustment value and checking the copy until a satisfactory result is obtained.

9-D (2)

**Copy gray balance, gamma adjustment
(for each copy mode)
(No need to adjust normally)**

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

This adjustment must be performed in the following cases:

- * When there is necessity to change the gray balance and gamma by each the copy mode individually.
 - * When there is request from the user.
- 1) Enter the SIM 46-10 mode.
 - 2) Select the copy mode to be adjusted with the mode key.
 - 3) Select the density level (point) to be adjusted with the scroll key.

Item/Display		Density level (Point)	Adjustment value range	Default
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 adjustment value with 10-key and press [OK] key.
When the adjustment value is increased, the density is increased. When the adjustment value is decreased, the density is decreased.
When the arrow key is pressed, 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 [EXECUTE] key is pressed, the adjustment pattern is printed out.
This adjustment pattern can be used to check the gray balance and the density for each density level (point).
- 5) Make a copy and check the adjustment result.
Switch the adjustment simulation mode and the normal copy mode alternately, and adjust and check the adjustment result.
Repeat switching the adjustment simulation mode and the normal copy mode and changing the adjustment value and checking the copy until a satisfactory result is obtained.

9-D (3)

Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)

Use for setting the condition of read operation (Exposure) for document density in monochrome auto copy mode.

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

This setting is required in the following cases.

- * When a proper density copy is not obtained in the monochrome automatic copy mode.
- * When a document with images near its lead edge is copied.
- * When a document with colored background is copied.

- 1) Enter the SIM 46-19 mode.
- 2) Set REALTIME, STOP or PRE-SCAN to adjustment item AE STOP COPY. For contents of each setting item, refer to below. Change the setting value of "AE WIDTH" item to "FULL" or "PART", in some cases.

Display/Item	Content	Set value	Default
AE_MODE	Auto exposure mode	MODE1	MODE2
		MODE2	
		MODE3	
AE_STOP_COPY	Auto B/W exposure Stop (for copy)	REALTIME	PRESCAN
		STOP	
		PRESCAN	
AE_STOP_FAX	Auto B/W exposure Stop (for FAX)	ON	ON
		OFF	
AE_STOP_SCAN	Auto B/W exposure Stop (for scanner)	REALTIME	STOP
		STOP	
		PRESCAN	
AE_FILTER	Auto exposure filter setting	SOFT	NORMAL
		NORMAL	
		SHARP	
AE_WIDTH	AE exposure width	FULL	FULL
		PART	

NOTE:

MODE1: Normal gamma

MODE2: High gamma (Improves the image contrast)

MODE3: Normal gamma (improves back image)

STOP:

Reads the density of 3 - 7 mm area from leading edge of document, decides the output image density according to the density of that part. (The 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 part of the document. (The 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. (The output image density is even for all the surface.)

AE WIDTH FULL:

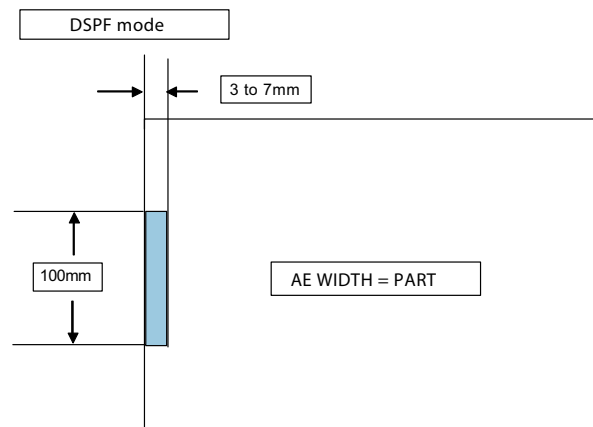
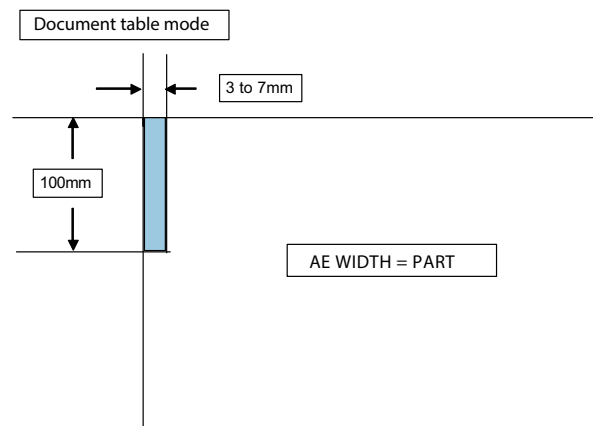
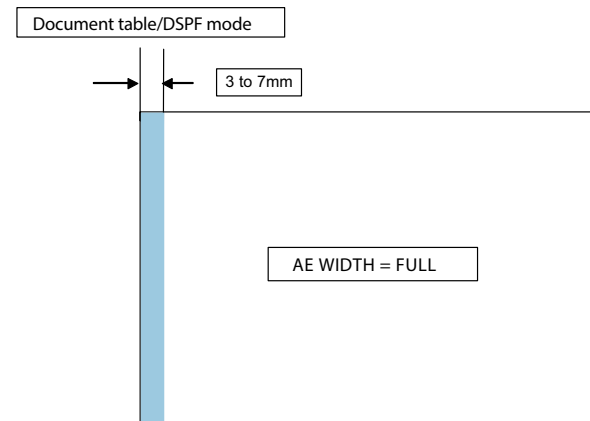
Document density reading area in monochrome auto mode is 3 - 7 mm (leading edge of document) x Document width. No relationship to PRESCAN MODE

AE WIDTH PART:

Document density reading area in monochrome auto mode is 3 - 7 mm (leading edge of document) x 100 mm (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

9-D (4)

Document low density image density reproduction adjustment in the automatic monochrome (Copy/Scan/FAX) mode (No need to adjust normally) (Background density adjustment in the scanning section)

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.
 - 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.

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 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 value
A COPY: OC	Copy mode (for OC)	1 - 250	196
B COPY: RSPF	Copy mode (for RSPF front surface)	1 - 250	196
C SCAN: OC	Scanner mode (for OC)	1 - 250	196
D SCAN: RSPF	Scanner mode (for RSPF front surface)	1 - 250	196
E FAX: OC	FAX mode (for OC)	1 - 250	196
F FAX: RSPF	FAX mode (for RSPF front surface)	1 - 250	196

9-D (5)

Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally)

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.

Display/Item	Content	Set value	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.

9-D (6)**Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment
(No need to adjust normally)**

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	121
B G-Ratio Default	Gray making setting (G)	0 - 1000	767
C R-Ratio Fluorescence	Gray making setting (R) Fluorescent pen	0 - 1000	100
D G-Ratio Fluorescence	Gray making setting (G) Fluorescent pen	0 - 1000	450
E R-Ratio Default DSPF	Gray making setting (R) (DSPF For back side)	0 - 1000	139
F G-Ratio Default DSPF	Gray making setting (G) (DSPF For back side)	0 - 1000	703
G R-Ratio Fluorescence DSPF	Gray making setting (R) Fluorescent pen (DSPF For back side)	0 - 1000	50
H G-Ratio Fluorescence DSPF	Gray making setting (G) Fluorescent pen (DSPF For back side)	0 - 1000	400
I R-Ratio RIP	Print gray making setting (G)	0 - 1000	299
J G-Ratio RIP	Print gray making setting (G)	0 - 1000	587

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

9-D (7)**Monochrome copy/color scan mode sharpness adjustment
(No need to adjust normally)**

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 RGB FILTER LEVEL	SOFT CENTER HIGH RGB sharpness (filter) adjustment for Copy/ Push/Fax.	1 - 3 1 2 3	2 (CENTER)
B CPY PUSH AUTO FILTER LEVEL	SOFT CENTER HIGH Sharpness: The sharpness is specified when the document mode is judged as A5 or A6 by the auto mode of PUSH.	1 - 3 1 2 3	2 (CENTER)
C B/W COPY	OFF ON Filter mixture, Register select pattern, Monochrome copy	0 - 1 0 1	1(ON)
D COLOR PUSH: RGB	OFF ON Filter mixture, Register select pattern, Color push	0 - 1 0 1	1(ON)
E B/W PUSH	OFF ON Filter mixture, Register select pattern, Monochrome push	0 - 1 0 1	1(ON)
F B/W PRINT	OFF ON Filter mixture, Register select pattern, Monochrome print	0 - 1 0 1	1(ON)

- 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.

9-D (8)

Copy high density image density reproduction setting (Normally unnecessary to the setting change)

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 A, B with the scroll key.

Item	Display	Content	Setting range	Default value
A	K (0:ENABLE 1:DISABLE)	0 K engine highest density correction mode: Enable	0 - 1	1
		1 K engine highest density correction mode: Disable		
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

* 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)

9-D (9)

RSPF/DSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)

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

* When copy in DSPF mode differs from copy in document table mode.

* When copy density in DSPF mode is low or too high.

* When the DSPF unit is replaced.

* When the DSPF unit is disassembled.

* The CCD unit has been replaced.

* U2 trouble has occurred.

* When the MFP PWB is replaced.

* When the EEPROM on the MFP PWB is replaced.

a. Adjustment procedure

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
B	SCAN: LOW	Scanner mode exposure adjustment (Low density side)	1~99
C	FAX: LOW	FAX mode exposure adjustment (Low density side)	1~99
D	COPY: HIGH	Copy mode exposure adjustment (High density side)	1~99
E	SCAN: HIGH	Scanner mode exposure adjustment (Low density side)	1~99
F	FAX: HIGH	FAX mode exposure adjustment (High density side)	1~99

- 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.

9-D (10)

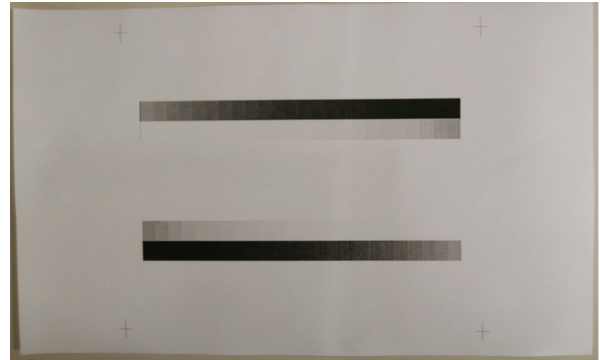
Copy gamma, gray balance adjustment for each dither (Automatic adjustment)

a. General

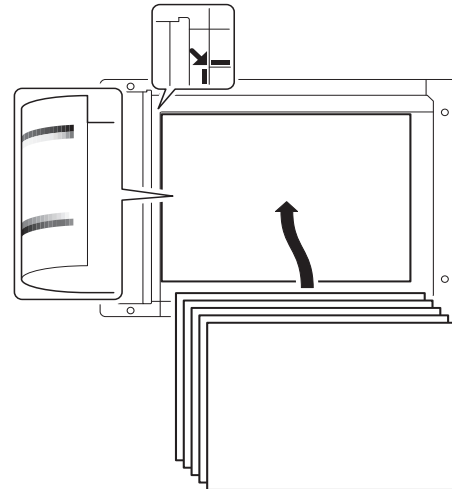
This simulation is used to improve the image quality in a certain mode. (Refer to the list in procedure 6.)

b. Adjustment procedures

- 1) Enter the SIM46-54 mode.
- 2) Press [EXECUTE] key.
A4/11" x 8.5" 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).

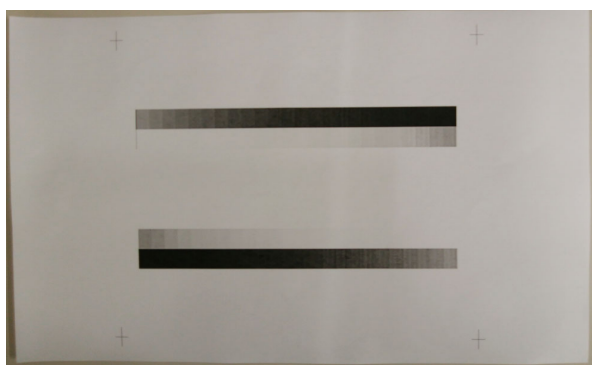
Select item (Mode/Image)	Content
Heavy Paper *1	Adjustment item to improve the gray balance in the heavy paper mode
B/W Ed	Adjustment item to improve the gray balance in the text mode, Text/Photograph mode, Light density document mode and the map mode.
WOVEN1	Adjustment item when adjusting the watermark 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

*1: When performing adjustments in the heavy paper mode, load paper in the tray 3, 4.

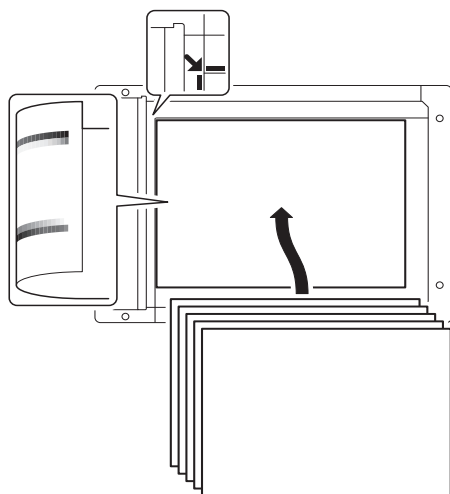
- 7) Press [EXECUTE] key.

A4/11" x 8.5" 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.

9-D (11)

Dropout color adjustment (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.

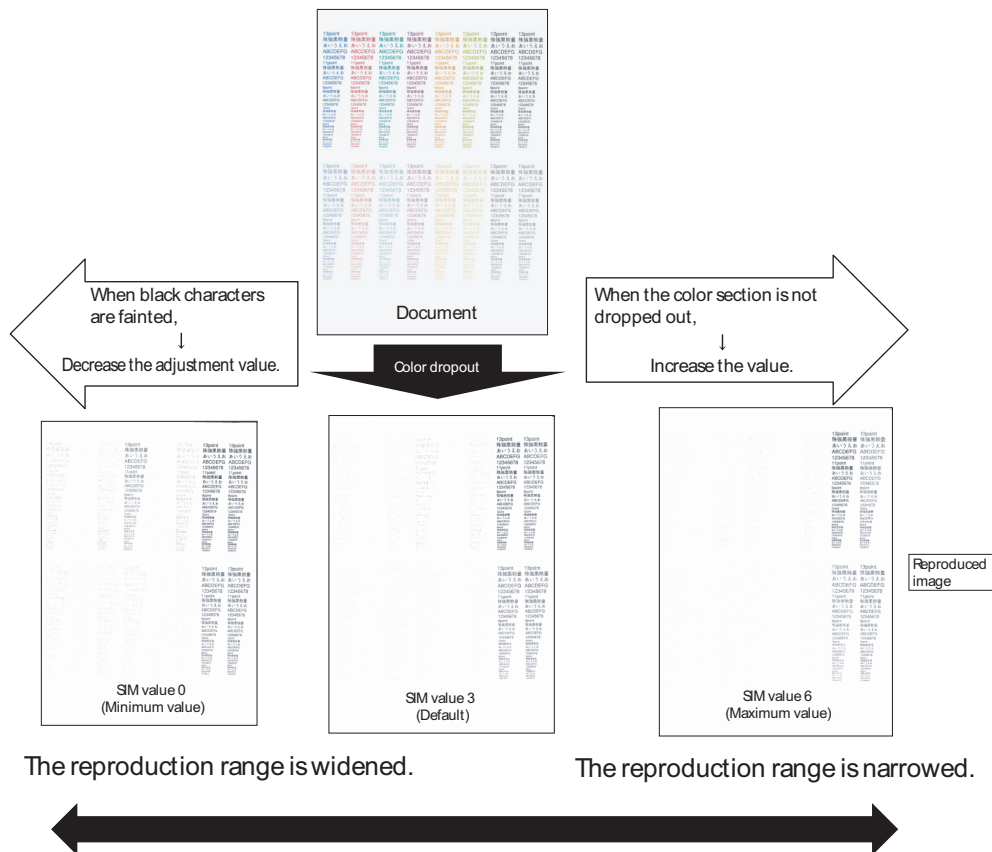
b. Adjustment procedures

- 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.

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

- 3) Scan the document in the image send mode (monochrome manual text mode) and check the adjustment result.



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.

9-D (12) Watermark adjustment (normally not required)

a. General

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

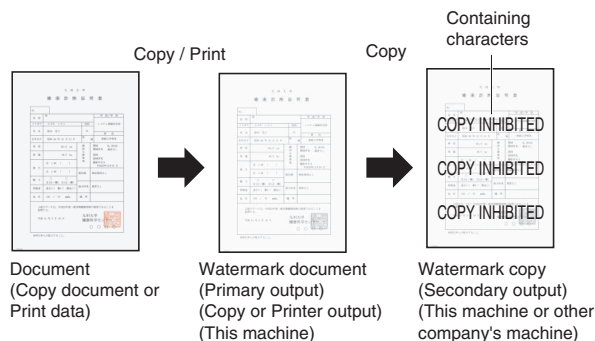
Item/Display	Content	Setting range	Default value
A	WOVEN DEN BK LOW	Watermark density level (LOW)	0~255 15
B	WOVEN DEN BK MIDDLE	Watermark density level (MIDDLE)	0~255 19
C	WOVEN DEN BK HIGH	Watermark density level (HIGH)	0~255 23
D	CONTRAST	Contrast adjustment	0~255 2
E	HT TYPE (POSI)	For halftone index 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: <ul style="list-style-type: none"> * 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. <ul style="list-style-type: none"> * 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.

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.

9-E Printer image quality adjustment (Basic adjustment)

Requisite condition before execution of the printer gray balance/density adjustment

Before execution of the printer gray balance/density adjustment, the copy gray balance/density adjustment must have been completed properly.

This adjustment is required in the following cases.

- * Basically same as when the copy gray balance/density adjustment is required.
- * After the copy gray balance/density adjustment.

9-E (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 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.

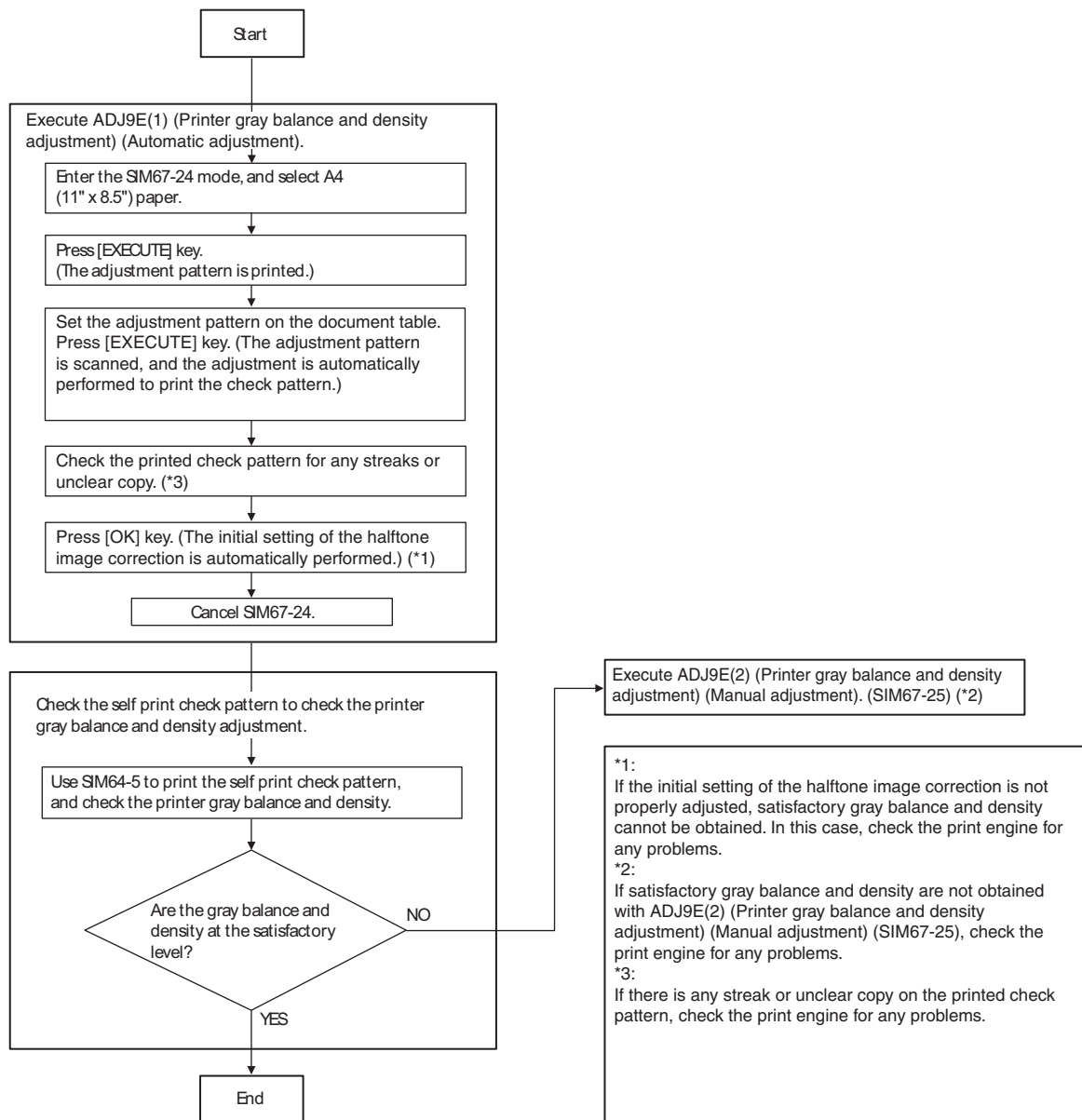
On the other hand, the auto gray balance adjustment by the serviceman functions to recover the normal gray balance though the machine condition is greatly changed. If the machine has a fatal problem, repair and adjust it for obtaining the normal gray balance.

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

b. Adjustment procedure

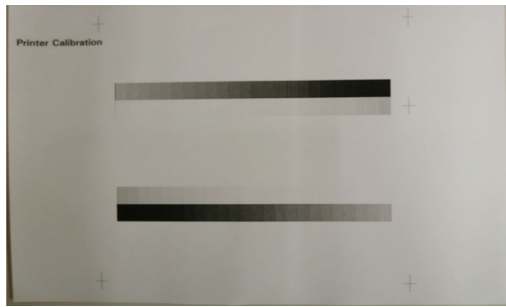
(Auto gray balance adjustment by the serviceman)

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



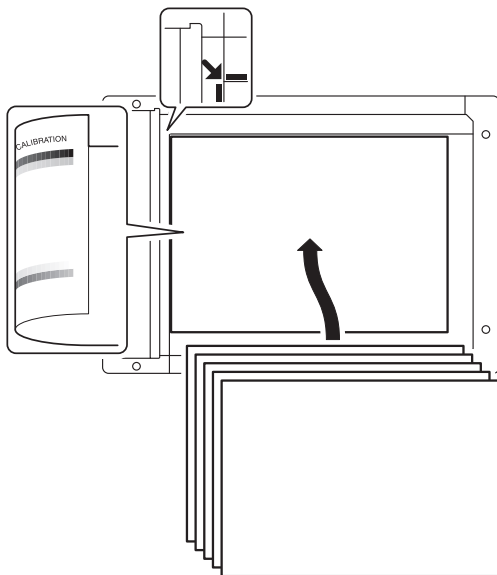
- 1) Enter the SIM 67-24 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" paper is automatically selected.)

The gray patch image (adjustment pattern) is printed out.

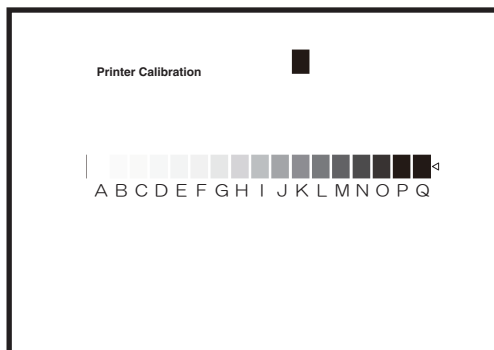


- 3) Set the gray patch image (adjustment pattern) paper printed in procedure 2) on the document table.

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) 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 9E (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.

9-E (2)

Printer gray balance adjustment (Manual adjustment)

a. General

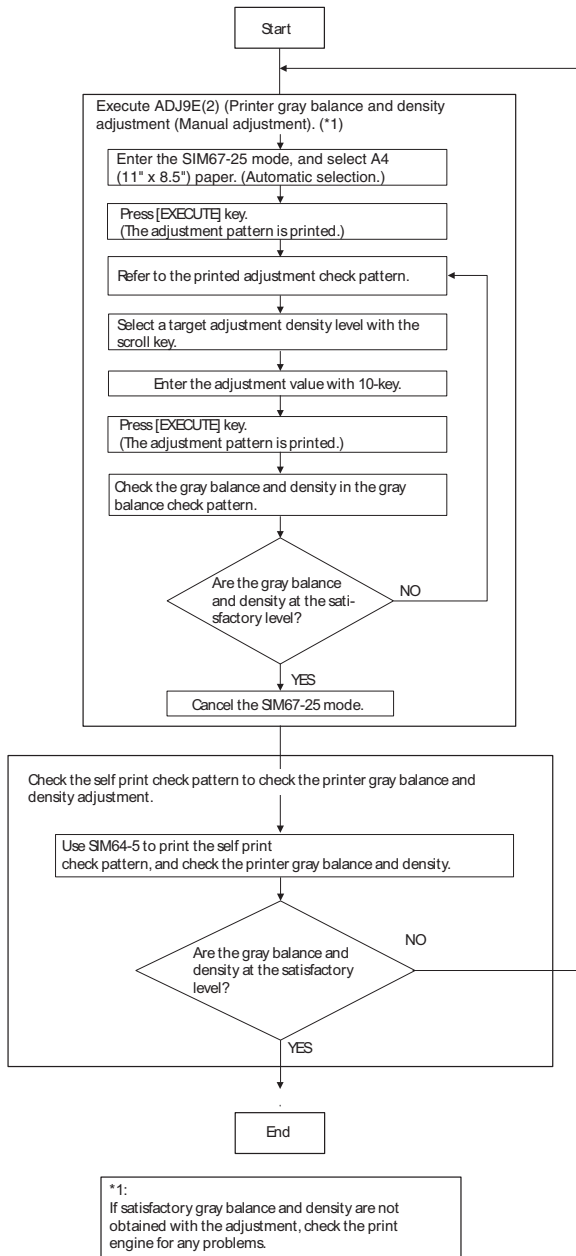
The gray balance adjustment (Manual adjustment) is used to adjust the printer density. This is used at the following situation. When the result of auto adjustment described above is not existing within the range of reference. When a fine adjustment is required. When there is request from the user for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

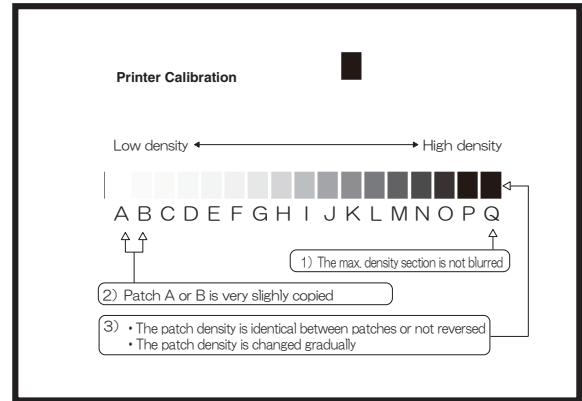
b. Adjustment procedure

Printer gray balance and density adjustment (Manual adjustment) procedure flowchart (SIM67-25)



- 1) Enter the SIM 67-25 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" 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.)

9-F 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 9E (1) and ADJ 9E (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.

9-F (1) Printer density adjustment (Low density section density adjustment) (No need to adjust normally)

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.

9-F (2) Printer high density image density reproduction setting (Supporting the high density section tone gap) (No need to adjust normally)

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)

9-F (3) Printer gamma adjustment for each dither (Automatic adjustment) (No need to adjust normally)

a. General

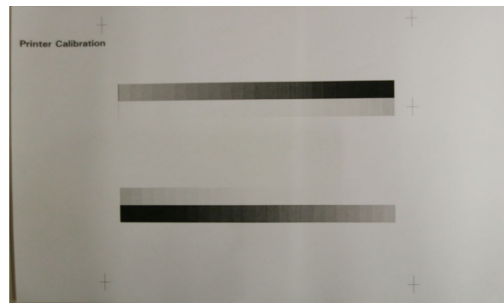
This adjustment is used to adjust the gray balance and the density in the monochrome mode, the heavy paper mode, and the gloss paper mode.

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

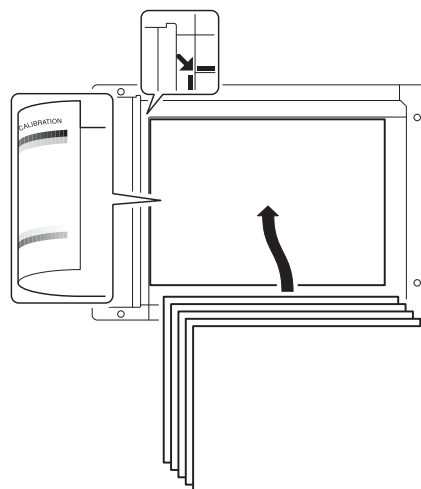
b. Adjustment procedures

- 1) Enter the SIM67-54 mode.
- 2) Press [EXECUTE] key.

A4/11" x 8.5" 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).

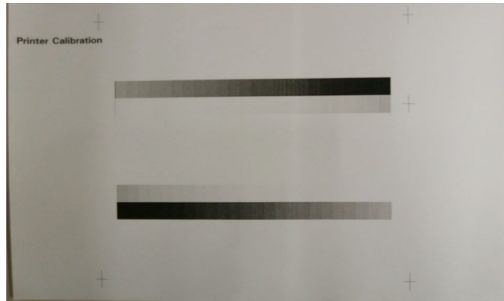


- 4) Press [EXECUTE] key.
The gray balance adjustment is automatically performed.
The adjustment pattern is printed out. Check it for any abnormality.

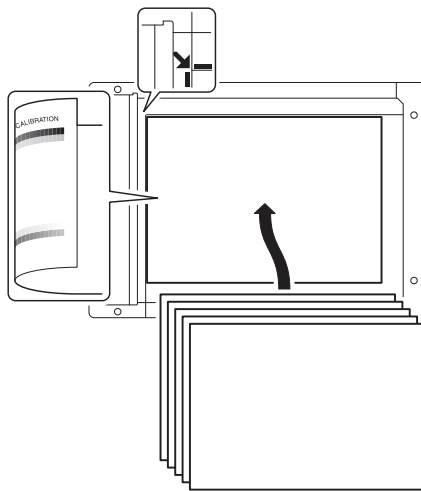
- 5) Press [OK] key.
The list of the adjustment items (for each dither) is displayed.
- 6) Select an adjustment item (for each dither).

HEAVY PAPER	Adjustment for heavy paper and that for gloss paper
4BIT_HIGH	For adjustments for each screen of 600/4bit HIGH screen
4BIT_SHIGH	For adjustments for each screen of 600/4bit SHIGH screen

- 7) Press [EXECUTE] key.
A4/11" x 8.5" 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 10 Image density sensor adjustment

Before executing this adjustment, check to confirm the following items.

- Check to confirm that the color image density sensor (image registration sensor) is clean
- Check to confirm that the transfer belt is clean and free from scratches.

10-A Image density sensor adjustment

The image density sensor and the OPC drum surface are used to make the sensitivity adjustment of the image registration sensor.

This adjustment executes automatically at the outset of registration adjustment operation and process control operation as well as Sim 44-2

Normally therefore it is not required to perform this adjustment. It is performed only when the sensor is replaced or when the adjustment result is checked.

- 1) Enter Sim 44-2 mode
- 2) Press [EXECUTE] key.

The sensitivity adjustment of the color image density sensor (image registration sensor) is automatically performed.

After completion of the adjustment the adjustment result is displayed and [EXECUTE] key returns to the normal display.

If the adjustment is not completed normally, "ERROR" is displayed.

When an error occurs, check the following sections for any abnormality.

- Color image density sensor
- The PCU PWB
- Transfer belt (dirt, scratch)
- Transfer belt cleaner

ADJ 11 Image send, FAX send mode image quality adjustment

11-A Color image send mode, image density and gradation adjustment (by each mode)

Normally, there is no need to perform this adjustment. In the following cases, however, this adjustment must be performed.

- * When the user requests to perform the adjustment.
- * When there is a defective copy in a scan image.
- * When the scan image density is too light.

- 1) Enter the Sim. 46-4 mode.
- 2) Select a mode to be adjusted with the scroll button.

Item/Mode	Display	Document mode	Setting range	Default value
A	LOW	AUTO	Auto	1 - 99
B		TEXT	Text	1 - 99
C		TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99
D		TEXT/PHOTO	Text/Photograph	1 - 99
E		PRINTED PHOTO	Printed photo	1 - 99
F		PHOTOGRAPH	Photograph	1 - 99
G		MAP	Map	1 - 99
H		RIP	-	1 - 99
A	HIGH	AUTO	Auto	1 - 99
B		TEXT	Text	1 - 99
C		TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99
D		TEXT/PHOTO	Text/Photograph	1 - 99
E		PRINTED PHOTO	Printed photo	1 - 99
F		PHOTOGRAPH	Photograph	1 - 99
G		MAP	Map	1 - 99
H		RIP	-	1 - 99

- 3) Enter the adjustment value with 10-key, and press [OK] button.
When the adjustment value is increased, the image density is increased. When the adjustment value is decreased, the image density is decreased.
- 4) Scan the color document in the color scan mode (Scan to PC or Scan to e-Mail), and check the density of the received image.
Check can be made also in the copy mode by the following procedure. The scanned image, however, is in monochrome.
4) Press [CLOSE] button in the simulation mode to jump to the normal copy mode, and make a copy and check the adjustment result.
Switch alternatively between the simulation mode and the normal copy mode, and adjust and check the adjustment result with an actual copy.
Repeat the procedures 3 and 4 until a satisfactory result is obtained.

11-B Monochrome image send mode, image density and gradation adjustment (by each mode)

Normally, there is no need to perform this adjustment. In the following cases, however, this adjustment must be performed.

- * When the user requests to perform the adjustment.
- * When there is a defective copy in a scan image.
- * When the scan image density is too light.

- 1) Enter the Sim. 46-5 mode.
- 2) Select a mode to be adjusted with the scroll button.

Item/Mode	Display	Document mode	Setting range	Default value
A	LOW	AUTOTEXT	Auto/Text	1 - 99
B		TEXT	Text	1 - 99
C		TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99
D		TEXT/PHOTO	Text/Photograph	1 - 99
E		PRINTED PHOTO	Printed photo	1 - 99
F		PHOTOGRAPH	Photograph	1 - 99
G		MAP	Map	1 - 99
H		RIP	-	1 - 99
A	HIGH	AUTOTEXT	Auto/Text	1 - 99
B		TEXT	Text	1 - 99
C		TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99
D		TEXT/PHOTO	Text/Photograph	1 - 99
E		PRINTED PHOTO	Printed photo	1 - 99
F		PHOTOGRAPH	Photograph	1 - 99
G		MAP	Map	1 - 99
H		RIP	-	1 - 99

- 3) Enter the adjustment value with 10-key, and press [OK] button.
When the adjustment value is increased, the image density is increased. When the adjustment value is decreased, the image density is decreased.
- 4) Scan a monochrome document in the color scan mode (Scan to PC or Scan to e-Mail), and check the density of the received image.
Check can be made also in the copy mode by the following procedure.
4) Press [CLOSE] button in the simulation mode to jump to the normal copy mode, and make a copy and check the adjustment result.
Switch alternatively between the simulation mode and the normal copy mode, and adjust and check the adjustment result with an actual copy.
Repeat the procedures 3 and 4 until a satisfactory result is obtained.

11-C Image send mode, image gray balance adjustment

Normally, there is no need to perform this adjustment. In the following cases, however, this adjustment must be performed.

- * When the user requests to perform the adjustment.
- * When the scan image gray balance is defective.

- 1) Enter the Sim. 46-8 mode.
- 2) Select a color to be adjusted with [R], [G], [B] buttons.
- 3) Select a mode (low density section or high density section) to be adjusted with the scroll button.

Display/Item	Content	Setting range	Default
A	LOW DENSITY POINT	Low density section gray balance adjustment value	1 - 99
B	HIGH DENSITY POINT	High density section gray balance adjustment value	1 - 99

- 4) Enter the adjustment value with 10-key, and press [OK] key.
To increase the density of the target color, increase the adjustment value. To decrease the density of the target color, decrease the adjustment value.
- 5) Scan a color document in the color scan mode (Scan to PC or Scan to e-Mail), and check the density of the received image.
Check can be made also in the copy mode by the following procedure. The scanned image, however, is in monochrome.

5) Press [CLOSE] button in the simulation mode to jump to the normal copy mode, and make a copy and check the adjustment result.

Switch alternatively between the simulation mode and the normal copy mode, and adjust and check the adjustment result with an actual copy.

Repeat the procedures 3 and 4 until a satisfactory result is obtained.

11-D FAX send mode, image sharpness adjustment

Normally, there is no need to perform this adjustment. In the following cases, however, this adjustment must be performed.

- * When the user requests to perform the adjustment.
- * When the sharpness in the FAX send mode is too low.

Note:

Normally this adjustment value may be set to the default and there is no need to perform the adjustment. When, however, the sharpness of a printed image on the receiving FAX side is too low, perform this adjustment.

When performing this adjustment, be sure to check that the receiving side FAX is normal.

- 1) Enter the Sim. 46-39 mode.
- 2) Select a mode to be adjusted with the scroll button.

Display/Item	Content	Setting range	Default
A 200 X 100 [DPI] OFF	200 X 100 [DPI] Half-tone OFF mode	0 - 2	1
B 200 X 200 [DPI] OFF	200 X 200 [DPI] Half-tone OFF mode	0 - 2	1
C 200 X 200 [DPI] ON	200 X 200 [DPI] Half-tone ON mode	0 - 2	1
D 200 X 400 [DPI] OFF	200 X 400 [DPI] Half-tone OFF mode	0 - 2	1
E 200 X 400 [DPI] ON	200 X 400 [DPI] Half-tone ON mode	0 - 2	1
F 400 X 400 [DPI] OFF	400 X 400 [DPI] Half-tone OFF mode	0 - 2	1
G 400 X 400 [DPI] ON	400 X 400 [DPI] Half-tone ON mode	0 - 2	1
H 600 X 600 [DPI] OFF	600 X 600 [DPI] Half-tone OFF mode	0 - 2	1
I 600 X 600 [DPI] ON	600 X 600 [DPI] Half-tone ON mode	0 - 2	1

- 3) Enter the adjustment value with 10-key, and press [OK] button.
To increase the sharpness, increase the adjustment value. To decrease the sharpness, decrease the adjustment value.
- 4) Send a FAX message.
- 5) Check the sharpness of the received FAX image.
Repeat the above procedures until a satisfactory result is obtained.

ADJ 12 FAX send mode image quality adjustment

Normally this adjustment is not required. However, perform this adjustment in the following cases:

- * When the user request for performing this adjustment.
- * When the FAX send image density is low or high.

NOTE:

Normally, the adjustment value may be set to the default value and there is no need to make this adjustment. When, however, the image density on the receiving FAX side is unsatisfactory, perform this adjustment.

Before execution of this adjustment, however, be sure to confirm that the receiving FAX operates normally.

12-A Image density and gradation adjustment in the FAX send mode (Collective adjustment of all the FAX modes)

- 1) Enter the Sim. 46-40 mode, and select the I-FAX or FAX.
- 2) Press [EXECUTE] button.
The adjustment pattern is printed.
- 3) Check the print density in the adjustment pattern.
If the print density of the adjustment pattern is unsatisfactory, perform the following procedure.
- 4) Enter the adjustment value with 10-key, and press [OK] button.
When the adjustment value is increased, the image density is increased. When the adjustment value is decreased, the image density is decreased.
Repeat the procedures 2 thru 4 until a satisfactory result is obtained.

12-B Image density and gradation adjustment in the FAX send mode (Normal mode)

- 1) Enter the Sim. 46-41 mode, and select the I-FAX or FAX.
- 2) Select a mode to be adjusted with the scroll button.

Display/Item	Content	Setting range	Default
A AUTO	FAX auto exposure mode send image density (Normal mode)	1 - 99	50
B EXPOSURE1	FAX exposure level 1 send image density (Normal mode)	1 - 99	50
C EXPOSURE2	FAX exposure level 2 send image density (Normal mode)	1 - 99	50
D EXPOSURE3	FAX exposure level 3 send image density (Normal mode)	1 - 99	50
E EXPOSURE4	FAX exposure level 4 send image density (Normal mode)	1 - 99	50
F EXPOSURE5	FAX exposure level 5 send image density (Normal mode)	1 - 99	50
G EXECUTE MODE	AUTO EXP1 EXP2 EXP3 EXP4 EXP5	1 2 3 4 5 6	1 (AUTO)

- 3) Press [EXECUTE] button.
The adjustment pattern is printed.
- 4) Check the print density of the adjustment pattern.
If the print density of the adjustment pattern is unsatisfactory, perform the following procedure.
- 5) Enter the adjustment value with 10-key, and press [OK] button.
When the adjustment value is increased, the image density is increased. When the adjustment value is decreased, the image density is decreased.
Repeat the procedures 3 thru 5 until a satisfactory result is obtained.
To select the exposure mode actually used in the FAX send mode, select item G and enter the set value corresponding to the exposure mode with 10-key and press [EXECUTE] button.

12-C Image density and gradation adjustment in the FAX send mode (Fine mode)

- 1) Enter the Sim. 46-42 mode, and select the I-FAX or FAX.
- 2) Select a mode to be adjusted with the scroll button.

Display/Item		Content	Setting range	Default
A	AUTO	FAX auto exposure mode send image density (Fine mode)	1 - 99	50
B	EXPOSURE1	FAX exposure level 1 send image density (Fine mode)	1 - 99	50
C	EXPOSURE2	FAX exposure level 2 send image density (Fine mode)	1 - 99	50
D	EXPOSURE3	FAX exposure level 3 send image density (Fine mode)	1 - 99	50
E	EXPOSURE4	FAX exposure level 4 send image density (Fine mode)	1 - 99	50
F	EXPOSURE5	FAX exposure level 5 send image density (Fine mode)	1 - 99	50
G	AUTO H_TONE	FAX auto exposure mode send image density (Half-tone/Fine mode)	1 - 99	50
H	EXPOSURE1 H_TONE	FAX exposure level 1 send image density (Half-tone/Fine mode)	1 - 99	50
I	EXPOSURE2 H_TONE	FAX exposure level 2 send image density (Half-tone/Fine mode)	1 - 99	50
J	EXPOSURE3 H_TONE	FAX exposure level 3 send image density (Half-tone/Fine mode)	1 - 99	50
K	EXPOSURE4 H_TONE	FAX exposure level 4 send image density (Half-tone/Fine mode)	1 - 99	50
L	EXPOSURE5 H_TONE	FAX exposure level 5 send image density (Half-tone/Fine mode)	1 - 99	50
M	EXECUTE MODE	AUTO	1	1 (AUTO)
		EXP1	2	
		EXP2	3	
		EXP3	4	
		EXP4	5	
		EXP5	6	
		AUTO H_TONE	7	
		EXP1 H_TONE	8	
		EXP2 H_TONE	9	
		EXP3 H_TONE	10	
		EXP4 H_TONE	11	
		EXP5 H_TONE	12	

- 3) Press [EXECUTE] button.
The adjustment pattern is printed.
- 4) Check the print density of the adjustment pattern.
If the print density of the adjustment pattern is unsatisfactory, perform the following procedure.
- 5) Enter the adjustment value with 10-key, and press [OK] button.
When the adjustment value is increased, the image density is increased. When the adjustment value is decreased, the image density is decreased.
Repeat the procedures 3 thru 5 until a satisfactory result is obtained.
To select the exposure mode actually used in the FAX send mode, select item M and enter the set value corresponding to the exposure mode with 10-key and press [EXECUTE] button

12-D Image density and gradation adjustment in the FAX send mode (Super fine mode)

- 1) Enter the Sim. 46-43 mode.
- 2) Select a mode to be adjusted with the scroll button.

Display/Item		Content	Setting range	Default
A	AUTO	FAX auto mode send image density (Super fine mode)	1 - 99	50
B	EXPOSURE1	FAX exposure level 1 send image density (Super fine mode)	1 - 99	50
C	EXPOSURE2	FAX exposure level 2 send image density (Super fine mode)	1 - 99	50
D	EXPOSURE3	FAX exposure level 3 send image density (Super fine mode)	1 - 99	50
E	EXPOSURE4	FAX exposure level 4 send image density (Super fine mode)	1 - 99	50
F	EXPOSURE5	FAX exposure level 5 send image density (Super fine mode)	1 - 99	50
G	AUTO H_TONE	FAX auto exposure mode send image density (Half-tone/Super fine mode)	1 - 99	50
H	EXPOSURE1 H_TONE	FAX exposure level 1 send image density (Half-tone/Super fine mode)	1 - 99	50
I	EXPOSURE2 H_TONE	FAX exposure level 2 send image density (Half-tone/Super fine mode)	1 - 99	50
J	EXPOSURE3 H_TONE	FAX exposure level 3 send image density (Half-tone/Super fine mode)	1 - 99	50
K	EXPOSURE4 H_TONE	FAX exposure level 4 send image density (Half-tone/Super fine mode)	1 - 99	50
L	EXPOSURE5 H_TONE	FAX exposure level 5 send image density (Half-tone/Super fine mode)	1 - 99	50
M	EXECUTE MODE	AUTO	1	1 (AUTO)
		EXP1	2	
		EXP2	3	
		EXP3	4	
		EXP4	5	
		EXP5	6	
		AUTO H_TONE	7	
		EXP1 H_TONE	8	
		EXP2 H_TONE	9	
		EXP3 H_TONE	10	
		EXP4 H_TONE	11	
		EXP5 H_TONE	12	

- 3) Press [EXECUTE] button.
The adjustment pattern is printed.
- 4) Check the print density of the adjustment pattern.
If the print density of the adjustment pattern is unsatisfactory, perform the following procedure.
- 5) Enter the adjustment value with 10-key, and press [OK] button.
When the adjustment value is increased, the image density is increased. When the adjustment value is decreased, the image density is decreased.
Repeat the procedures 3 thru 5 until a satisfactory result is obtained.
To select the exposure mode actually used in the FAX send mode, select item M and enter the set value corresponding to the exposure mode with 10-key and press [EXECUTE] button.

12-E Image density and gradation adjustment in the FAX send mode (Ultra fine mode)

- 1) Enter the Sim. 46-44 mode.
- 2) Select a mode to be adjusted with the scroll button.

Display/Item	Content	Setting range	Default
A AUTO	FAX auto exposure mode send image density (Ultra fine mode)	1 - 99	50
B EXPOSURE1	FAX exposure level 1 send image density (Ultra fine mode)	1 - 99	50
C EXPOSURE2	FAX exposure level 2 send image density (Ultra fine mode)	1 - 99	50
D EXPOSURE3	FAX exposure level 3 send image density (Ultra fine mode)	1 - 99	50
E EXPOSURE4	FAX exposure level 4 send image density (Ultra fine mode)	1 - 99	50
F EXPOSURE5	FAX exposure level 5 send image density (Ultra fine mode)	1 - 99	50
G AUTO H_TONE	FAX auto exposure mode send image density (Half-tone/Ultra fine mode)	1 - 99	50
H EXPOSURE1 H_TONE	FAX exposure level 1 send image density (Half-tone/Ultra fine mode)	1 - 99	50
I EXPOSURE2 H_TONE	FAX exposure level 2 send image density (Half-tone/Ultra fine mode)	1 - 99	50
J EXPOSURE3 H_TONE	FAX exposure level 3 send image density (Half-tone/Ultra fine mode)	1 - 99	50
K EXPOSURE4 H_TONE	FAX exposure level 4 send image density (Half-tone/Ultra fine mode)	1 - 99	50
L EXPOSURE5 H_TONE	FAX exposure level 5 send image density (Half-tone/Ultra fine mode)	1 - 99	50
M EXECUTE MODE	AUTO	1	1 (AUTO)
	EXP1	2	
	EXP2	3	
	EXP3	4	
	EXP4	5	
	EXP5	6	
	AUTO H_TONE	7	
	EXP1 H_TONE	8	
	EXP2 H_TONE	9	
	EXP3 H_TONE	10	
	EXP4 H_TONE	11	
	EXP5 H_TONE	12	

- 3) Press [EXECUTE] button.
The adjustment pattern is printed.
- 4) Check the print density of the adjustment pattern.
If the print density of the adjustment pattern is unsatisfactory, perform the following procedure.
- 5) Enter the adjustment value with 10-key, and press [OK] button.
When the adjustment value is increased, the image density is increased. When the adjustment value is decreased, the image density is decreased.
Repeat the procedures 3 thru 5 until a satisfactory result is obtained.
To select the exposure mode actually used in the FAX send mode, select item M and enter the set value corresponding to the exposure mode with 10-key and press [EXECUTE] button.
Enter the adjustment value with 10-key, and press [EXECUTE] button.

12-F Image density and gradation adjustment in the IFAX send mode (600dpi mode)

- 1) Enter the Sim. 46-45 mode.
- 2) Select a mode to be adjusted with the scroll button.

Display/Item	Content	Setting range	Default
A AUTO	IFAX 600dpi mode/ Auto exposure mode send image density	1 - 99	50
B EXPOSURE1	IFAX 600dpi mode/Exposure level 1 send image density	1 - 99	50
C EXPOSURE2	IFAX 600dpi mode/Exposure level 2 send image density	1 - 99	50
D EXPOSURE3	IFAX 600dpi mode/Exposure level 3 send image density	1 - 99	50
E EXPOSURE4	IFAX 600dpi mode/Exposure level 4 send image density	1 - 99	50
F EXPOSURE5	IFAX 600dpi mode/Exposure level 5 send image density	1 - 99	50
G AUTO H_TONE	IFAX 600dpi half-tone mode/ Auto exposure mode send image density	1 - 99	50
H EXPOSURE1 H_TONE	IFAX 600dpi half-tone mode/ Exposure level 1 send image density	1 - 99	50
I EXPOSURE2 H_TONE	IFAX 600dpi half-tone mode/ Exposure level 2 send image density	1 - 99	50
J EXPOSURE3 H_TONE	IFAX 600dpi half-tone mode/ Exposure level 3 send image density	1 - 99	50
K EXPOSURE4 H_TONE	IFAX 600dpi half-tone mode/ Exposure level 4 send image density	1 - 99	50
L EXPOSURE5 H_TONE	IFAX 600dpi half-tone mode/ Exposure level 5 send image density	1 - 99	50
M EXECUTE MODE	AUTO	1	1 (AUTO)
	EXP1	2	
	EXP2	3	
	EXP3	4	
	EXP4	5	
	EXP5	6	
	AUTO H_TONE	7	
	EXP1 H_TONE	8	
	EXP2 H_TONE	9	
	EXP3 H_TONE	10	
	EXP4 H_TONE	11	
	EXP5 H_TONE	12	

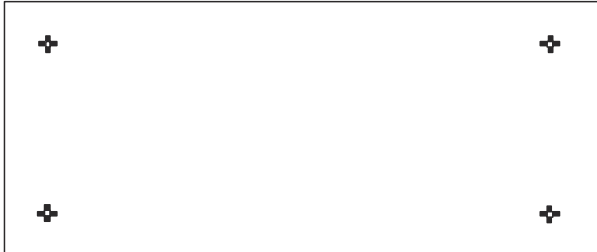
- 3) Press [EXECUTE] button.
The adjustment pattern is printed.
- 4) Check the print density of the adjustment pattern.
If the print density of the adjustment pattern is unsatisfactory, perform the following procedure.
- 5) Enter the adjustment value with 10-key, and press [OK] button.
When the adjustment value is increased, the image density is increased. When the adjustment value is decreased, the image density is decreased.
Repeat the procedures 3 thru 5 until a satisfactory result is obtained.
To select the exposure mode actually used in the FAX send mode, select item M and enter the set value corresponding to the exposure mode with 10-key and press [EXECUTE] button.

ADJ 13 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).

[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.

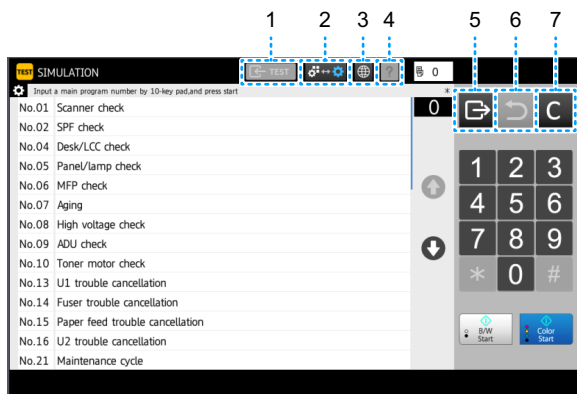
- 1) Various adjustments
- 2) Setting of the specifications and functions
- 3) Canceling troubles
- 4) Operation check
- 5) Counters check, setting clear
- 6) Machine operating conditions (histories) data check, clear
- 7) Various (adjustments, setting, operation, counters, etc) data transport.

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

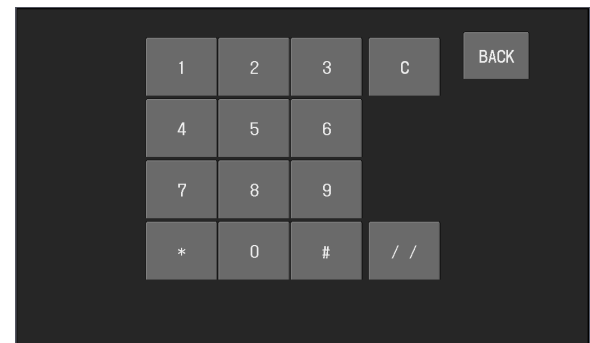
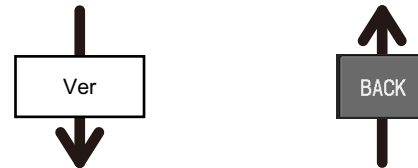
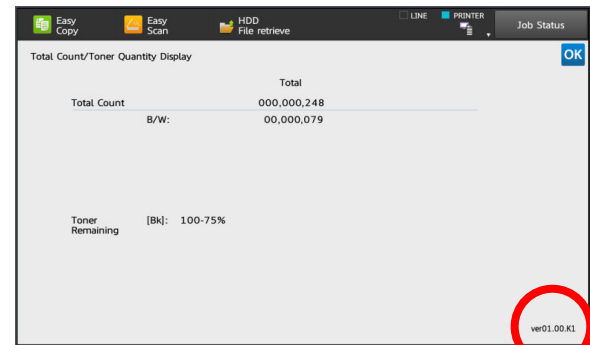


No.	Name	Function
1	TEST key	Change test mode
2	Mode setting key	Change Easy mode, Classic mode
3	Language setting key	Change language in simulation mode
4	INFO key	Display operation of current display
5	EXIT key	Exit from simulation mode
6	BACK key	Back to the previous display
7	Clear key	Clear input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

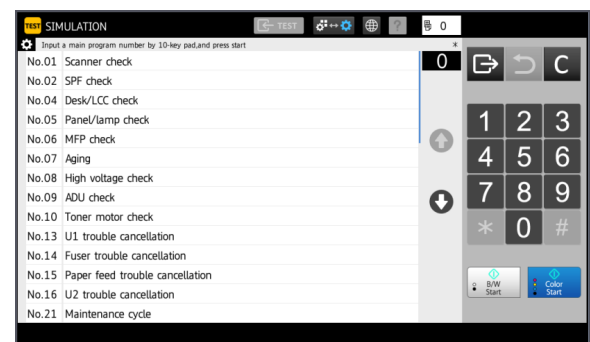
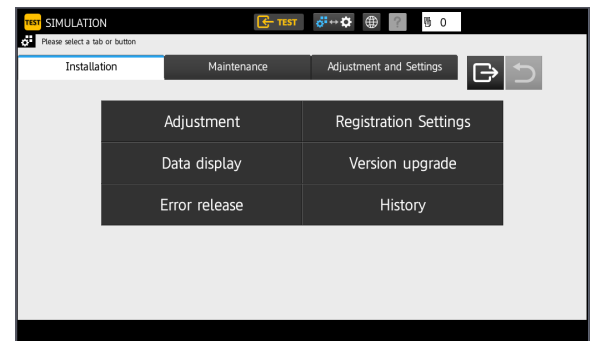
3. Starting the simulation

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	46-74	Copy/printer gradation auto adjustment
			50-10	Manual image position adjustment
			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	26-2	Size setup
			26-3	Auditor setup
			26-33	Special function setting
			26-50	Function setting
			26-65	Finisher alarm mode setup (staple limit)
			26-78	ROPE password setting
		2 Counter mode	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
			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
3	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
		4 Version upgrade	49-1	Firmware update
			49-7	Preinstall data update
5	Error release		13	U1 trouble cancellation
			14	Trouble cancellation (other)
			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
			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)
			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
1	Adjustment	2 Image Quality Automatic Adjustment	46-74	Copy/printer gradation auto adjustment
		3 Image Quality Adjustment	61-14	Laser power setting collective input
			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		46-9	Exposure adjustment (SFP)
			63-2	Shading execution
			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		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

The first menu		The second menu	SIM number	SIM Title
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			
1-2	Check the sensors in the scanner (reading) section and the related circuit			
1-5	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			
2-2	Check the operation of the sensors in the auto document feeder section and the control circuit			
2-3	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			
3-3	Check the operation of the loads in the finisher and the control circuit			
3-10	Adjust the finisher			4
4-2	Check the operation of the sensors in the desk/large capacity tray (LCC) and the control circuit			
4-3	Check the operation of the loads in the desk/large capacity tray (LCC) and the control circuit			
4-5	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			
5-2	Check the operation of the heater lamp and the control circuit			
5-3	Check the operation of the scanner lamp and the control circuit			
5-4	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			
6-2	Check the operation of the each fan motor and the control circuit			
6-90	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			
7-6	Set the operating intermittent aging cycle			
7-8	Check the warm up time			
7-12	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			
8-2	Check and adjust the operation of the main charger voltage in each print mode and the control circuit			
8-6	Check and adjust the operation of the transport voltage and the control circuit			
9-2	Check the operation of the sensors in the paper reverse section (duplex section) and the control circuit			
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			
10-4	Toner cartridge motor count sensor check			
13	Cancel U1 trouble	5	6	

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
14	Cancel H3, H4, H5 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
21-2	Check the total number of misfeed and trouble			
21-3	Check misfeed positions and misfeed count of each position		1-2	
21-4	Check the trouble history			
21-5	Check the firmware version of each unit	3-2	1-3	9-2
21-6	Output setting/adjustment data, firmware version and counter list	3-3	1-4	9-3
21-8	Check the number of operation (counter value) of the finisher, SPF and scan (reading) unit		1-1	
21-9	Check the number of use (print counter) of each paper feed section	3-1	1-1	9-1
21-10	Check the system configuration	3-2	1-3	9-2
21-11	Check FAX counter			
21-12	Check SPF misfeed positions and number of misfeed at each position		1-2	
21-13	Check the operation time of the process section (Drum unit, DV unit, toner cartridge) and fusing unit	3-1	1-1	9-1
21-14	Check the use status of the toner cartridge			
21-18	Check user data clear history			
21-19	Check counter value of scan, image send mode			
21-40	Check trouble code information			
21-41	Check JAM code information			
21-42	Check JAM, trouble data			
21-43	Check JAM history data			
21-90	Output system setting list			
23-2	Output JAM, trouble history data	3-3	1-4	9-3
23-80	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			
23-81	Export paper feed time list			
24-1	Clear JAM counter and trouble counter		3	
24-2	Clear paper feed counter of each paper feed section		3	
24-3	Clear SPF, scan (reading) and finisher counter		3	
24-4	Clear maintenance counter and print counter of the transport unit and the fusing unit		3	
24-5	Clear developer counter			
24-35	Clear used toner cartridge counter			
25-1	Check the operation of the developing section			
25-2	Set toner density initial level when replacing developer		2-2 2-5	2
25-4	Check toner supply control data			
25-5	Check toner density correction data			
25-10	Set developer/drum serial no			
26-2	Size setup	2-1		
26-3	Set the specification of the auditor	2-1		
26-6	Set the destination			
26-7	Set the machine ID			
26-10	Set the trial mode of the network scanner			
26-18	Set the toner save mode	2-4		
26-30	Set the operation mode corresponding to CE control			

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
26-32	Set the fusing cleaning operation			
26-33	Special function setting			
26-35	Set SIM22-4 trouble history when a same trouble occurred repeatedly as one trouble or several time			
26-38	Set print operation when the maintenance life is reached			
26-41	Set auto magnification ratio select function in the center binding mode			
26-49	Set the print speed in postcard mode			
26-50	Set the function	2-1		
26-52	Set count mode of blank paper	2-2		
26-65	Set finisher alarm mode	2-1		
26-66	Set simulation password			
26-69	Set toner near end operating condition	2-4		
26-73	Adjust image enlargement and A3 wide copy			
26-74	Set OSA trial mode			
26-78	Set remote operation panel password	2-1		
26-79	Set security function			
26-85	Set simulation function			
27-2	Set FSS sender's registration number and host server number	2-5		
27-4	Set FSS initial mode and toner order timing	2-5		
27-5	Set machine tag No			
27-6	Set manual service call			
27-7	Set FSS function and alert	2-5		
27-9	Set FSS paper transport time recording and alert	2-5		
27-10	Clear trouble prediction history			
27-11	Check serial communication retry number and scanner gain adjustment retry number history			
27-12	Check high density and halftone process control error history			
27-13	Check history of paper transport time between sensors			
27-14	Set FSS connection test mode	2-5		
27-15	Check FSS connection status	2-5		
27-16	Set FSS alert function	2-5		
30-1	Check the operation of the sensors in other than the paper feed section and the control circuit			
30-2	Check the operation of the sensors in the paper feed section and the control circuit			
43-1	Set the fusing temperature in each mode			
43-2	Set the fusing operation and preheat mode			
43-20	Set the fusing temperature in each mode (environment correction under low temperature and low humidity of Sim43-2)			
43-21	Set the fusing temperature in each mode (environment correction under high temperature and high humidity of Sim43-2)			
43-24	Set the fusing operation			
43-35	Check fusing unit pressure state			
44-1	Set each correction operation function in the image forming section			
44-2	Set the sensitivity of the image density sensor		2-2 2-3	2
44-6	Execute the high density process control forcibly	1-5	2-3	
44-9	Check the high density process control operation data			
44-12	Check the high density process control and the image density sensor operation data			
44-14	Check the output level of the temperature and humidity sensor			

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
44-15	Set the OPC drum idle rotation			
44-17	Execute refresh operation of the developer and transfer roller			
44-21	Set the halftone process control target			5
44-22	Check the toner patch density level in the halftone process control operation			
44-24	Check the correction target and the correction level in the halftone process control operation			
44-25	Set the calculating conditions of the correction value for the halftone process control			
44-26	Execute the halftone process control forcibly	1-5	2-3	
44-27	Clear the correction data of the halftone process control			
44-28	Set the process control execution condition			
44-29	Set the operating condition of the halftone process control			
44-37	Set the developer bias correction level in the continuous printing operation			
44-43	Check the identification information of the developing unit			
44-62	Set the process control execution condition			
46-2	Adjust the copy density in the copy mode			
46-4	Adjust the color scan density in the image send mode			
46-5	Adjust the monochrome scan density in the image send mode			
46-8	Adjust the color balance RGB in the image send mode			
46-9	Adjust the scan image density (SPF)			3
46-10	Adjust the copy gray balance and gamma (for each copy mode)			
46-16	Adjust the copy gray balance and gamma (for all mode)	1-3		5
46-19	Set the scanning operating condition of the document density in the auto mode			
46-23	Set the density correction of copy high density area (for high density tone gap)			
46-24	Adjust copy gray balance (auto adjustment)			5
46-32	Adjust the document background density reproducibility in the auto mode			
46-37	Adjust the reproducibility capability of gray image creation			
46-39	Adjust the sharpness of send image			
46-40	Adjust the FAX send image density (all modes)			
46-41	Adjust the FAX send image density (normal)			
46-42	Adjust the FAX send image density (fine)			
46-43	Adjust the FAX send image density (super fine)			
46-44	Adjust the FAX send image density (ultra fine)			
46-45	Adjust the FAX send image density (600dpi)			
46-46	Adjust the FAX send image density (RGB RIP)			
46-47	Set the compression ratio of copy and scan images (JPEG)			
46-48	Set the copy output resolution in the copy mode			
46-51	Adjust the gamma of heavy paper mode and image process mode in the copy mode			

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
46-52	Set gamma default value of heavy paper mode and image process mode in the copy mode			1-3
46-54	Adjust the engine halftone auto density (dither)			1-3
46-55	Adjust the dropout color in the image send mode			
46-58	Set pseudo resolution in the copy mode			
46-60	Set the sharpness in auto mode			
46-61	Set the area separation recognition level			
46-62	Set the operating condition of the auto color selection, the area separation, the background image process and the auto exposure mode			
46-63	Adjust the density in the copy low density area			
46-66	Adjust the reproduction capability of watermark in the copy/printer mode			
46-68	Adjust the auto resolution judgement			
46-74	Adjust copy gray balance (auto) / printer gray balance (auto)	1-1 1-5	2-2 2-3	1-2 1-3 2
46-90	Set the process operation of high compression PDF image			
46-91	Adjust the reproduction capability of black text			
48-1	Adjust the scan image magnification ratio (main scanning direction and sub scanning direction)			1-1
48-5	Adjust the scan image magnification ratio (sub scanning direction)			1-1
48-6	Adjust the rotation speed of each motor			
49-1	Update the firmware	4	5	
49-7	Update the preinstalled firmware	4	5	
50-1	Adjust the copy image position and the image loss			1-1
50-5	Adjust the printer image position and the image loss			1-1
50-6	Adjust SPF image position and the image loss			1-1
50-10	Adjust the image position in the each paper feed tray	1-2	2-1	1-1
50-12	Adjust the scan image off center position			1-1
50-27	Adjust the scan image loss in the FAX and image send mode			
51-1	Set the transfer voltage timing			
51-2	Adjust the contact pressure on paper by the main unit and the SPF resist roller			
53-8	Adjust the document lead edge and the scan position			3
53-9	Set the dirt detection and scan position			
53-10	Execute SPF dirt detection			
55-1	Set the specification of the engine operation			
55-2	Set the specification of the scanner operation			
55-3	Set the specification of the controller operation			
55-10	Used to set the special stamp text for Taiwan			
56-1	Transport data between EEPROM and STORAGE			
56-2	Backup the data in the EEPROM and STORAGE to the USB memory			
56-3	Backup the document filing data to the USB memory			
56-4	Backup the job log data to the USB memory			

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
56-5	Backup the SIM22-6 data in the text format to the USB memory			
56-6	Backup the SIM23-2 data in the text format to the USB memory			
56-7	Backup the syslog data to the USB memory			
56-15	Restore the data to MFP EEPROM			
56-99	Backup all log data to the USB memory	3-4	1-5	9-4
60-1	Check read/write memory operation			
61-1	Check the LSU polygon motor rotation and laser detection			
61-3	Set the laser power			
61-14	Set the laser power correction			1-3
62-1	Format the storage			
62-3	Check read/write the STORAGE (all areas)			
62-4	Check the format of the STORAGE (Logical)			
62-7	Print the STORAGE self diagnostics error log			
62-9	STORAGE data clear			
62-12	Set auto format in STORAGE error			
62-14	Check/Delete the database file in the STORAGE			
62-21	Display the storage information in the STORAGE			
63-1	Check shading correction data			
63-2	Execute shading correction	1-5		3
63-3	Adjust scanner (CCD) color balance and gamma correction	1-5	2-3	3
63-4	Check the scanner test chart patch density			
63-5	Reset the scanner (CCD) color balance and gamma correction		2-3	3
63-11	Set gray balance target in the copy mode			5
64-2	Test print			8
64-4	Printer test print			
64-5	Printer test print (PCL)	1-4		
64-6	Printer test print (PS)			
65-1	Adjust the touch panel detection coordinate			7
65-2	Check the touch panel detection coordinate			
65-5	Check the operation panel key input			
66-1	Set the specification of image send operation	2-3		
66-2	Set country code			
66-3	Check FAX PWB memory			
66-4	Check signal output level (max)			
66-5	Check signal output level (soft SW)			
66-6	Used to print the confidential registration check table			
66-7	Used to output all image data saved in the image memory			
66-8	Used to send the selected sound message to the line and the speaker (max)			
66-9	Used to send the selected sound message to the line and the speaker (soft SW)			
66-10	Used to clear the FAX and image send image data			
66-11	Used to send the selected signal at 300bps to the line and the speaker (max)			
66-12	Used to send the selected signal at 300bps to the line and the speaker (soft SW)			
66-13	Used to register dial number for Sim66-14/15/16 dial test			
66-14	Used to excute the dial pulse (10pps) send test and to adjust the make time			
66-15	Used to excute the dial pulse (20pps) send test and to adjust the make time			

Sim No.	Function	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
66-16	Used to execute the DTMF signal send test and to adjust the send level			
66-17	Used to send the DTMF signal to the line and the speaker (max)			
66-18	Used to send the DTMF signal to the line and the speaker (soft SW)			
66-21	Used to print the selected iyems (system error, protocol monitor)			
66-29	Used to initialize the telephone book data			
66-30	Used to display the TEL/LIU status change, the display is highlighted by status change			
66-31	Used to set ON/OFF the port for output to TEL/LIU			
66-32	Used to check the fixed data received from the line and to display the result			
66-33	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			
66-36	Used to check send and receive data from the MODEM controller to the MFP controller or the data line or the command line individually			
66-39	Used to check and change the destination setting saved in EEPROM of the FAX			
66-42	Used to rewrite the program to power control installed in the FAX			
66-43	Used to write the adjustment value into the power control installed in the FAX			
66-61	Set the specification of image send operation			
66-62	Backup FAX received data to the USB memory			
67-17	Reset printer memory			
67-24	Adjust printer gray balance (auto)			6
67-25	Adjust printer gray balance (manual)	1-4		6
67-26	Set gray balance target in the printer mode			6
67-31	Clear printer calibration data			
67-33	Adjust printer screen gamma			
67-34	Set the density correction of printer high density area			
67-36	Adjust the density in the printer low density area			
67-46	Adjust printer image edge			
67-52	Set gamma default value of the printer screen			1-3
67-54	Adjust printer gray balance			1-3

5. Details of simulation

1

1-1	
Purpose	Operation test/check
Function (Purpose)	Scanner check.
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).

DSPF

Item/Display	Operation mode	Default value
OC SCAN	300DPI	300DPI (351mm/s)
	400DPI	400DPI (351mm/s)
	600DPI	600DPI (234.0mm/s)

RSPF

Item/Display	Operation mode	Default value
OC SCAN	300DPI	300DPI (186mm/s)
	400DPI	400DPI (186mm/s)
	600DPI	600DPI (124.0mm/s)

1-2	
Purpose	Operation test/check
Function (Purpose)	Scanner sensor check
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)	Scanner check.
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.

DSPF

Item/Display	Operation mode	Default value
OC SCAN	300DPI	300DPI (351mm/s)
	400DPI	400DPI (351mm/s)
	600DPI	600DPI (234.0mm/s)

RSPF

Item/Display	Operation mode	Default value
OC SCAN	300DPI	300DPI (186mm/s)
	400DPI	400DPI (186mm/s)
	600DPI	600DPI (124.0mm/s)

2

2-1	
Purpose	Operation test/check
Function (Purpose)	SPF aging.
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(468.0mm/s)
	400DPI	400DPI(351.0mm/s)
	600DPI	600DPI(234.0mm/s)
SPF SCAN (DOUBLE)	300DPI	300DPI(368.0mm/s)
	400DPI	400DPI(276.0mm/s)
	600DPI	600DPI(184.0mm/s)

RSPF

Item/Display	Operation mode	Default value
SPF SCAN (SINGLE)	300DPI	300DPI(248.0mm/s)
	400DPI	400DPI(186.0mm/s)
	600DPI	600DPI(124.0mm/s)
SPF SCAN (DOUBLE)	300DPI	300DPI(248.0mm/s)
	400DPI	400DPI(186.0mm/s)
	600DPI	600DPI(124.0mm/s)

2-2

Purpose	Operation test/check
Function (Purpose)	SPF sensor check.
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	Cover open/close sensor
SOC	DSPF UNIT open/close sensor
SPED	Document tray empty sensor
SPOD	Document exit sensor
SPPD1	Document pass sensor 1
SPPD2	Document pass sensor 2
SPPD3	Document pass sensor 3
SPPD4	Document pass sensor 4
SSET	SPF installation detection

RSPF

Display	Content
SCOV	RSPF cover open/close sensor
SOC	RSPF UNIT open/close sensor
SPED	Document tray empty sensor
SPPD1	Document pass sensor 1
SPPD2	Document pass sensor 2
SSET	SPF installation detection

2-3	
Purpose	Operation test/check
Function (Purpose)	SPF output check.
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
SPFM	DSPF transport motor
SPUM_F	DSPF paper feed motor (normal rotation)
SPUM_R	DSPF paper feed motor (reverse rotation)
SRRC	Registration roller clutch

RSPF

Display	Content
SPRS	Paper exit roller solenoid
SPUC	Paper feed clutch
SPFM_F	SPF paper feed motor (normal rotation)
SPFM_R	SPF paper feed motor (reverse rotation)

3

3-2	
Purpose	Operation test/check
Function (Purpose)	Finisher sensor check.
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-FN32 N)

Display	Content
FAPHPS-F	Paper alignment plate home position detector F
FAPHPS-R	Paper alignment plate home position detector R
FDRPS	Delivery roller position detector
FDTLLS	Delivery tray lower limit detector
FDTULS	Delivery tray upper limit detector
FPLD	Paper level detector
FPPD1	Paper pass detector
FPRD-C	Paper rear edge detector C
FPRD-F	Paper rear edge detector F
FPRD-R	Paper rear edge detector R
FSED	Staple empty detector
FSHPS	Staple home position sensor
FSLD	Staple lead detector
FSSW	Safety switch
FSTPD	Staple tray paper detector

3-3	
Purpose	Operation test/check
Function (Purpose)	Finisher load check.
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-FN32 N)

Display	Content
FARLS	Rear edge take-up roller solenoid
FBCF	Control PWB cooling fan
FDRLM	Delivery roller lift motor
FPAM-F	Paper alignment motor F
FPAM-R	Paper alignment motor R
FPDM	Paper delivery motor
FPGS	Paper pass gate solenoid
FPS	Paddle solenoid
FPTM	Paper transport motor
FSCF	Stapler cooling fan
FSM	Staple motor
FTLM	Tray lift motor

3-10

Purpose	Adjustment
Function (Purpose)	Finisher adjustment
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-FN32)

Item/Display	Content	Setting range	Default value
A ALIGNMENT	Alignment position	20 - 60	50
B EJECTING ROLLER	Alignment position center	20 - 80	50

* This is displayed only when MX-FN32 is connected.

4

4-2	
Purpose	Operation test/check
Function (Purpose)	Paper feed option sensor check
Section	Desk

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
D1PED	Tray Paper empty detect sensor
D1PPD	Paper pass sensor
D1PQD	Tray Paper quantity detect sensor
D1PRED1	Tray detect & paper size sensor
D1PRED2	Tray detect & paper size sensor
D1PRED3	Tray detect & paper size sensor
D1ULD	Tray Lift Upper limit detect sensor
D2MDC	Tray installation detection connector
D2PED	Tray Paper empty detect sensor
D2PPD	Paper pass sensor
D2PQD	Tray Paper quantity detect sensor
D2PRED1	Tray detect & paper size sensor
D2PRED2	Tray detect & paper size sensor
D2PRED3	Tray detect & paper size sensor

Display	Content
D2ULD	Tray Lift Upper limit detect sensor
D3MDC	Tray installation detection connector
D3PED	Tray Paper empty detect sensor
D3PPD	Paper pass sensor
D3PQD	Tray Paper quantity detect sensor
D3PRED1	Tray detect & paper size sensor
D3PRED2	Tray detect & paper size sensor
D3PRED3	Tray detect & paper size sensor
D3ULD	Tray Lift Upper limit detect sensor
DSW_D1	Desk door open/close sensor
DSW_D2	Desk door open/close sensor
DSW_D3	Desk door open/close sensor

4-3	
Purpose	Operation test/check
Function (Purpose)	Paper feed option load check
Section	Desk

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	Desk tray lift-up motor
D1PFC	Desk paper feed clutch
D1PFM	Desk paper feed motor
D1TRC	Desk paper transport clutch
D2LM	Desk tray lift-up motor
D2PFC	Desk paper feed clutch
D2PFM	Desk paper feed motor
D2TRC	Desk paper transport clutch
D3LM	Desk tray lift-up motor
D3PFC	Desk paper feed clutch
D3PFM	Desk paper feed motor
D3TRC	Desk paper transport clutch

4-5	
Purpose	Operation test/check
Function (Purpose)	Paper feed option synchronizing signal check.
Section	Desk

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	Display	Content
DTRC	D1 OFF/ON	D1 TRC operation check
	D2 OFF/ON	D2 TRC operation check
	D3 OFF/ON	D3 TRC operation check

5

5-1	
Purpose	Operation test/check
Function (Purpose)	Display check
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)	Heater lamp load setup
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)	Copy lamp check.
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)	Discharge lamp check
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
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6

6-1	
Purpose	Operation test/check
Function (Purpose)	Feed output check.
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
C1PUC	Paper feed clutch (Paper feed tray 1)
MM	Main motor
MPFC	Manual paper feed clutch (Manual paper feed tray)
POFC	Paper exit clutch (normal rotation)
PORC	Paper exit clutch (reverse rotation)
RRC	Paper stop (resist) clutch

6-2	
Purpose	Operation test/check
Function (Purpose)	Fan load setup.
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
FUFM	Fusing cooling Fan (Exhaust)
POFM	Paper exit cooling Fan (Exhaust)
POFM2	Paper cooling Fan (Aspirated)
PSFM	Power supply cooling Fan
VFM	Ventilation Fan (Aspirated)

6-90	
Purpose	Setting
Function (Purpose)	Load move for shipment
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)	Aging test setting.
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 here-after 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)	Interval aging cycle time setup
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 here-after unless the power is turned off or the setting is changed.

7-8	
Purpose	Operation display
Function (Purpose)	Warm up time display setting.
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)	Originals setting
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)	DV setting and output
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)	0~650	475
LOW	A	LOW SPEED DVB_K	Developing bias voltage (low speed)	0~650	475

8-2	
Purpose	Operation test/check/adjustment
Function (Purpose)	MHV/grid setting and output.
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	
					35/37 ppm machine	45/47 ppm machine
MIDDLE	A	MIDDLE SPEED MHV	Main charger grid voltage (middle speed)	500-2000	1320	1320
LOW	A	LOW SPEED MHV	Main charger grid voltage (low speed)	500-2000	1320	1320

8-6	
Purpose	Operation test/check/adjustment
Function (Purpose)	THV setting and output.
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		Paper Surface	Setting range		35/37 ppm machine		45/47 ppm machine	
					Speed	Value	Default value	Actual output value	Default value	Actual output value
A	TC PLAIN BW SPX	TC bias value	Plain paper 1 (60-89g/m2)	Front	Middle	0 - 255	93	18 µA	98	20 µA
B	TC PLAIN BW DPX			Back	Middle	0 - 255	80	13 µA	85	15 µA
C	TC PLAIN2 BW SPX		Plain paper 2 (90-105g/m2)	Front	Middle	0 - 255	93	18 µA	98	20 µA
D	TC PLAIN2 BW DPX			Back	Middle	0 - 255	80	13 µA	85	15 µA
E	TC HEAVY1 BW SPX		Heavy paper 1 (106-176g/m2)	Front	Low	0 - 255	72	10 µA	72	10 µA
F	TC HEAVY1 BW DPX			Back	Low	0 - 255	72	10 µA	72	10 µA
G	TC HEAVY2 BW SPX		Heavy paper 2 (177-220g/m2)	Front	Low	0 - 255	72	10 µA	72	10 µA
H	TC HEAVY2 BW DPX			Back	Low	0 - 255	72	10 µA	72	10 µA
I	TC OHP BW		OHP	Front	Low	0 - 255	72	10 µA	72	10 µA
J	TC ENVELOPE BW		Envelope	Front	Low	0 - 255	72	10 µA	72	10 µA
K	TC THIN BW		Thin paper	Front	Middle	0 - 255	72	10 µA	72	10 µA
L	TC GLOSSY PAPER BW		Gloss paper	Front	Low	0 - 255	72	10 µA	72	10 µA
M	TC LABEL BW		Label paper	Front	Low	0 - 255	72	10 µA	72	10 µA
N	TC FRONT EDGE LOW SPX	TC front edge bias value	low speed	Front	Low	0 - 255	72	10 µA	72	10 µA
O	TC FRONT EDGE LOW DPX		low speed	Back	Low	0 - 255	72	10 µA	72	10 µA
P	TC FRONT EDGE MIDDLE SPX		middle speed	Front	Middle	0 - 255	93	18 µA	98	20 µA
Q	TC FRONT EDGE MIDDLE DPX		middle speed	Back	Middle	0 - 255	80	13 µA	85	15 µA
R	TC ADSORPTION LOW	TC adsorption bias value	low speed(+)	-	Low	0 - 255	80	13 µA	72	10 µA
S	TC ADSORPTION MIDDLE		middle speed(+)	-	Middle	0 - 255	80	13 µA	85	15 µA
T	TC BACKEND LOW SPX	TC rear edge bias value	low speed	Front	Low	0 - 255	72	10 µA	72	10 µA
U	TC BACKEND LOW DPX		low speed	Back	Low	0 - 255	72	10 µA	72	10 µA
V	TC BACKEND MIDDLE SPX		middle speed	Front	Middle	0 - 255	64	7 µA	72	10 µA
W	TC BACKEND MIDDLE DPX		middle speed	Back	Middle	0 - 255	59	5 µA	72	10 µA
X	TC INTERVAL LOW	Interval bias value	low speed(+)	-	Low	0 - 255	80	13µA	72	10 µA
Y	TC INTERVAL MIDDLE		middle speed(+)	-	Middle	0 - 255	80	13 µA	85	15 µA
Z	TC COUNTER LOW	TC counter bias value	low speed(-)	-	Low	0 - 255	182	-800 µA	182	-800 µA
AA	TC COUNTER MIDDLE		middle speed(-)	-	Middle	0 - 255	182	-800 µA	182	-800 µA
AB	TC CLEANING MINUS LOW	Cleaning negative bias value	low speed(-)	-	Low	0 - 255	182	-800 µA	182	-800 µA
AC	TC CLEANING MINUS MIDDLE		middle speed(-)	-	Middle	0 - 255	182	-800 µA	182	-800 µA
AD	TC CLEANING PLUS LOW	Cleaning positive bias value	low speed(+)	-	Low	0 - 255	59	5 µA	59	5 µA
AE	TC CLEANING PLUS MIDDLE		middle speed(+)	-	Middle	0 - 255	59	5 µA	59	5 µA
AF	DHV LOW SPX	Separation bias value	low speed	Front	Low	0 - 255	111	-1400V	111	-1400V
AG	DHV LOW DPX		low speed	Back	Low	0 - 255	111	-1400V	111	-1400V
AH	DHV MIDDLE SPX		middle speed	Front	Middle	0 - 255	85	-1000V	85	-1000V
AI	DHV MIDDLE DPX		middle speed	Back	Middle	0 - 255	85	-1000V	85	-1000V

* Heavy paper 1: 106-176g/m² 28 lbs bond-65 lbs Cover
Heavy paper 2: 177-220g/m² 65lbs Cover-80 lbs Cover

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

10

10-1	
Purpose	Operation test/check
Function (Purpose)	Toner motor activation
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.

TM_COUNT	Toner motor drive detect sensor
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10-4	
Purpose	Operation test/check
Function (Purpose)	Toner cartridge motor count sensor check
Section	Process (Developing)

Operation/Procedure

- 1) 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 cartridge.

TM_COUNT	Toner motor rotation detection sensor output confirmation
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13

13--	
Purpose	Cancel (Trouble etc.)
Function (Purpose)	U1 trouble cancellation.
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)	Trouble cancellation (other)
Section	

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)	U2 trouble cancellation.
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)	Maintenance cycle setup.
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	150

22

22-1	
Purpose	Adjustment/Setting/Operation data output/Check
Function (Purpose)	Counter display
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)
Document filing	DOC FIL (BW)	Black and white document filing print counter	

Item	Display	Content	
Other	OTHER (BW)	Black and white other counter	Self print quantity

22-2

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	JAM/trouble counter display
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)	JAM history data display.
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)	Trouble code data display
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)	ROM version data display
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
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

Display	Content
E-MANUAL	Users manual data
OCR-DIC	OCR dictionary data
SCU	SCU
DSPF	DSPF
PCU	PCU
DESK Desk unit program DESK2 DESK3	Desk unit
FINISHER /FINISHER (INNER)	Finisher / Inner finisher
FAX	FAX
FONT UNICODE	UniCode font data

22-6

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Data print mode.
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)	Org./staple counter display.
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
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
SPF PICK UP	SPF pick up counter

22-9

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Paper feed counter display.
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)

Display	Content
TRAY3	Paper feed counter (Paper feed tray 3)
TRAY4	Paper feed counter (Paper feed tray 4)
MFT	Manual 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
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

22-10	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Machine system display.
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-B356W	Main unit
	MX-B376W	
	MX-B456W	
	MX-B476W	
	MX-B356WH	
	MX-B376WH	
	MX-B456WH	
	MX-B476WH	
SPF	STANDARD	Duplex single pass feeder
DESK	MX-CS14	600-sheet paper feed unit
FINISHER	MX-FN32	Inner finisher
FAX1	STANDARD	Facsimile expansion kit
PS	STANDARD	PS expansion kit
SECURITY	MX-FR63U	Data security kit
ICU_PWB (REUS)	*****MB	ICU REUS capacity
ICU_PWB (SOC)	*****MB	ICU SOC capacity
STORAGE	*****GB	HDD/SSD
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	STANDARD	Application communication module
EAM	STANDARD	External account module
OFFICE DRT	STANDARD	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)	FAX counter display
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)	SPF JAM history data display
Section	SPF

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)	Process cartridge display
Section	Process

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 ROLLER	Fusing roller
PRESSURE ROLLER	Pressure roller
TC ROLLER	Transfer roller
DEVE CTRG(K)	Developer cartridge
DRUM UNIT(K)	Drum unit
TONER CTRG(K)	Toner cartridge

22-14	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Toner counter display
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)	Data clear history display
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)	Network scanner counter display
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)	Trouble code information
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)	JAM code information
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)	JAM/trouble data display
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:SS)	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 history data 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
OF	Offset	Paper exit: Offset

Item	Content	Description
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
B2		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)

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
US8	User type 8
US9	User type 9
USA	User type 10
USB	User type 11
HV2	Heavy paper 2
PL2	Plain paper 2 (not used)
HV3	Heavy paper 3
HV4	Heavy paper 4
GLS	Glossy paper
EMB	Embossed paper PL1 Plain paper

Display content detail: Job mode (JOB)

Display	Content
SHD	Shading.
PCL	Process control

Display	Content
SIM	Test mode (Sim)
ICP	Interruption copy
CP	Copy
FXS	FAX send scan
AXS	AXIS
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)	List print
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

Category	Item	Content
Image quality adjustment	IMAGE QUALITY ADJUSTMENT LIST	Image quality adjustment list
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)	JAM/trouble data print mode
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)	Data print mode (paper feed)
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
INF1(ILLEGAL)	Illegal detection information
INF2 (SENSOR)	Sensor information

23-81	
Purpose	Operation test/check
Function (Purpose)	Data take mode(paper feed)
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)	JAM/trouble counter data clear
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)	Paper feed counter clear
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)
ADU	ADU paper feed counter

24-3	
Purpose	Data clear
Function (Purpose)	Org./output counter data clear
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
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
SFP PICK UP	SPF pick up counter

.* Displayed only DSPF installation.

24-4	
Purpose	Data clear
Function (Purpose)	Maintenance counter clear
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 ROLLER	Fusing roller (counter)
		Fusing roller (use days)
		Fusing roller (accumulated rotation)
	PRESSURE ROLLER	Pressure roller (counter)
		Pressure roller (use days)
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)

24-5	
Purpose	Data clear
Function (Purpose)	Developer counter data clear
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.

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)	Toner end counter clear
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)	Toner sensor output monitor
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)
TCS P-P K	Toner sensor output amplitude value

LOW	Process speed: Low speed
MIDDLE	Process speed: Medium speed

25-2	
Purpose	Setting
Function (Purpose)	Automatic developer adjustment
Section	Image process (Photo conductor/Developing/Transfer/Cleaning)

Operation/Procedure

- 1) Open the front cover and enter Sim. 25 - 02. Install the developer unit and toner cartridge.
- 2) Close the front cover and press EXECUTE.

The developing motor rotates for 70 seconds, 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

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 mode	TCS ADJ LOW K	0-255	128
Toner density control adjustment value in the middle speed mode	TCS ADJ MID K	0-255	128
Toner density control adjustment standard value in the low speed mode	TPC REF LOW K	0-65535	40000
Toner density control adjustment standard value in the middle speed mode	TPC REF MID K	0-65535	40000
Toner density control adjustment amplitude value in the low speed mode	TCS P-P REF LOW K	0-255	0
Toner density control adjustment amplitude value in the middle speed mode	TCS P-P REF MID K	0-255	0

Display during execution of the simulation

Item/Display	Content
TCS_K	Toner sensor output value (K)
TPC REF K	Sensor count value
TCS P-P K	Sensor output amplitude value

Error content

Display	Error name	Error content
EE-EL	EL abnormality	Auto developer adjustment reference value is less than TPC_AIR + over toner threshold.
EE-EU	EU abnormality	Auto developer adjustment reference value exceeds TPC_AIR + under toner threshold.
EE-EC	EC abnormality	The sensor output amplitude level is less than 1

25-4

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Toner control data display
Section	Process

Operation/Procedure

The operation data of the toner supply quantity are displayed.

25-5

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Toner fall detect control display
Section	Process

Operation/Procedure

The toner density correction data are displayed.

25-10

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Developer/drum serial no. setting
Section	Process

Operation/Procedure

26

26-2

Purpose	Setting
Function (Purpose)	Size setup
Section	Paper feed

Operation/Procedure

Select a paper size and a weight system to be changed.

Item	Setting value	Content
G/LBS Set	0	Gram
	1	LBS

26-3

Purpose	Setting
Function (Purpose)	Auditor setup
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_VENDOR2	Duculyser mode in which signals for duculyser connected to the PCU	
	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	

Item/Display		Content	Default value
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_OUT
	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.	
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 2	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	<p>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.</p> <p>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.</p> <p>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.</p>

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.
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26-6

Purpose	Setting
Function (Purpose)	Destination setup
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)	Machine ID setup
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	-	-	-	-	-	-	-	-	-

26-10	
Purpose	Setting
Function (Purpose)	Network scanner trial mode setup
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)	Toner save mode setup
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:YES :NO)	0 Copy toner save setting is displayed.	0
	1 Copy toner save setting is not displayed.	
D PRINTER TS DISPLAY(0:YES 1:NO)	0 Printer toner save setting is displayed.	0
	1 Printer toner save setting is not displayed.	

26-30	
Purpose	Setting
Function (Purpose)	CE mark control setting
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.	1 (CE not supported)
JAPAN	1 (CE not supported)	AB	0 (CE supported)
TAIWAN	1 (CE not supported)		

26-32	
Purpose	Setting
Function (Purpose)	Function setting for special function
Section	Fusing

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 CLEANING PRINT SET	User fusing cleaning function is Enable.	0 YES	0
	User fusing cleaning function is Disable.	1 NO	

26-33	
Purpose	Setting
Function (Purpose)	Set the special function
Section	

Operation/Procedure

- 1) Tap setting button.
Set value is saved.

Item	Function	Default
Function 1	Application Portal	OFF
Function 2	Extended LAN	OFF

26-35	
Purpose	Setting
Function (Purpose)	Trouble memory mode setup
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)	Engine life over setting
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)	Pamphlet mode AMS setting
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	0 (Disable)
JAPAN	0 (Disable)	CHINA	0 (Disable)
TAIWAN	0 (Disable)	KOREA	0 (Disable)
EUROPE	1 (Enable)	BRAZIL	0 (Disable)

26-49	
Purpose	Setting
Function (Purpose)	Copy speed mode setup
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)	Function setting
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	Refer to *1
	0 BW reverse copy Disable	
B	FINISHER FUNCTION	0 *2
	0 Finisher special paper The number of paper exit is limited.	
C	FEED TRAY COLOR	0
	1 Paper feed tray color display ON during paper feed	
D	WIRELESS SET	0
	0 Disables wireless LAN setting.	
E	POWER SHUT-OFF SET	Refer to *1
	1 Enables wireless LAN setting.	
F	USB DEVICE	0
	0 Automatic power shut off is displayed.	
	1 Automatic power shut off is not displayed.	
	0 USB device setting is disabled	
	1 USB device is enabled	

(*1)

<Default value of each destination>

Destination	Item A	Item E
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.	

26-52	
Purpose	Setting
Function (Purpose)	Blank paper count mode setup
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)	Finisher alarm mode setup
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)	Simulation password setting
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)	Toner near end setting
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.	
D	TONER END	1	Operation setup 1	2
		2	Operation setup 2	
		3	Operation setup 3	

Item/Display		Content		Default value
E	TONER END COUNT	1	Print number setting when toner end detect 0	3
		2	Print number setting when toner end detect 10	
		3	Print number setting when toner end detect 20	
		4	Print number setting when toner end detect 30	
		5	Print number setting when toner end detect 40	
F	TONER E-MAIL ALERT	0	Low status send of E-mail alert (When the toner preparation message is displayed) (in 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)	Deleting shadow 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)	OSA trial mode setting
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 OSA trial mode is canceled.

26-78	
Purpose	Setting
Function (Purpose)	ROPE password setting
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)	Security setting
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 PASSWO RD DISP	Simulation start password input display ON	YES 1 0
		Simulation start password input display OFF	NO 0

26-85	
Purpose	Setting
Function (Purpose)	Simulation function setting
Section	

Operation/Procedure

- 1) Enter the set value with 10-key.
- 2) Tap [OK] key.

Item/Display	Content	Setting range	Default value
A	SIM MODE PASS 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)	FSS function setup
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)	FSS function setup
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	3	
		NEAR_END		Near end		1		
		5%		5%		2		
		10%		10%		3		
		15%		15%		4		
		20%		20%		5		
		25%		25%		6		
		30%		30%		7		
		35%		35%		8		
		40%		40%		9		
		45%		45%		10		
		50%		50%		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	1	
	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)	Tag# setting
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)	Manual service call setup
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)	FSS function setup
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)	FSS function 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.

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)	50(%)
B	GAIN ADJUSTMENT RETRY	Threshold value of the gain adjustment retry number	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.)	10 (TIMES)
D	JAM ALERT PERIOD	Continuous JAM alert interval value	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)	Trouble precognition history clear
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)	Trouble precognition result
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	

[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	Scanner gain adjustment retry history
DSPF2	99/99/99 99:99:99	8 digits	
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	Scanner gain adjustment retry history
SCAN GAIN ADJ4	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ5	99/99/99 99:99:99	8 digits	

Display Item			Content
Item name	Occurrence date (Display)	Retry number	
DSPF GAIN ADJ1	99/99/99 99:99:99	8 digits	DSPF gain adjustment retry history display * This is only for DSPF supported machines.
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

27-12	
Purpose	Others
Function (Purpose)	Trouble precognition result
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)	Trouble precognition result
Section	

Operation/Procedure

Change the display with scroll key.

Item/Display	Content
FEED TIME1	History of paper transport time between SPF sensors 1
FEED TIME2	History of paper transport time between SPF sensors 2
FEED TIME3	History of paper transport time between SPF sensors 3
FEED TIME4	History of paper transport time between SPF sensors 4
FEED TIME5	History of paper transport time between SPF sensors 5
FEED TIME6	History of paper transport time between SPF sensors 6
FEED TIME7	History of paper transport time between SPF sensors 7
FEED TIME8	History of paper transport time between SPF sensors 8
FEED TIME9	History of paper transport time between SPF sensors 9
FEED TIME10	History of paper transport time between SPF sensors 10

27-14	
Purpose	Setting
Function (Purpose)	FSS test mode setup
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)	FSS connect 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)	FSS alert setting
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
			Alert send Disable	
B	TONER ORDER ALERT (0:YES 1:NO)	Toner order alert send Enable setting	Alert send Enable	0
			Alert send Disable	
C	TONER CTRG ALERT (0:YES 1:NO)	Toner cartridge replacement alert send Enable setting	Alert send Enable	0
			Alert send Disable	
D	JAM ALERT (0:YES 1:NO)	Continuous JAM alert send Enable setting	Alert send Enable	0
			Alert send Disable	
E	TROUBLE ALERT (0:YES 1:NO)	Trouble alert send Enable setting	Alert send Enable	0
			Alert send Disable	

30-1	
Purpose	Operation test/check
Function (Purpose)	Main unit sensor check
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	Right transport unit (right door) open/close switch
POD1	Paper exit sensor 1
PPD2	Paper transport sensor 2
TFD	Paper exit tray full sensor

30-2	
Purpose	Operation test/check
Function (Purpose)	Tray sensor check
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
C1PED	1st cassette paper empty detect
C1SS1	Paper size detection switch 1
C1SS2	Paper size detection switch 2
C1SS3	Paper size detection switch 3
MPED	Paper empty sensor

43-1	
Purpose	Setting
Function (Purpose)	Fuser temp setup
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	
PLAIN PAPER 2	Used to change the fusing temperature setting of plain paper 2	+20	0
		-20	
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
HEAVY PAPER GR	Used to change the fusing temperature setting of heavy paper series	+15	0
		+20	
		-20	
		-15	
		-10	
		-5	
		0	
		+5	
THIN PAPER GR	Used to change the fusing temperature setting of thin paper series	+10	0
		+15	
		+20	
		-20	
		-15	
		-10	
		-5	
		0	
RECYCLED PAPER GR	Used to change the fusing temperature setting of recycled paper series	+5	0
		+10	
		+15	
		+20	
		-20	
		-15	
		-10	
		-5	
GLOSSY PAPER GR	Used to change the fusing temperature setting of gloss paper series	0	0
		+5	
		+10	
		+15	
		+20	
		-20	
		-15	
		-10	

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	
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	
		+5	
		+7	
		+10	
SPECIAL PAPER ADJ LL	Special paper LL environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
WUP&RDY GR ADJ HH	WUP/Ready HH environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	

Display	Content	Setting range	Default
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	

43-2

Purpose	Setting
Function (Purpose)	Fuser motion & preheat setup
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

List of Default values and set values for each destination

Item	Default value (35/37 ppm)			
	SW_A		SW_B	
	Group B	Group C	Group B	Group C
A	165	165	100	100
B	5	5	5	5
C	10	10	30	30
D	165	165	100	100
E	10	10	30	30
F	0	0	0	0
G	0	0	0	0
H	60	60	60	60
I	5	5	5	5
J	150	155	150	155
K	150	155	150	155
L	185	185	190	190

Item	Default value (45/47ppm)			
	SW_A		SW_B	
	Group B	Group C	Group B	Group C
A	175	175	100	100
B	5	5	5	5
C	10	10	30	30
D	175	175	100	100
E	10	10	30	30
F	0	0	0	0
G	0	0	0	0
H	60	60	60	60
I	5	5	5	5
J	160	165	160	165
K	160	165	160	165
L	190	195	200	200

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)	Fuser motion & preheat adj (LL)
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	40
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	40
E	HI_WU_E ND_TIME_ LL	Correction value for warm-up completion time in warm-up at alpha degree C or above under LL environment	1 - 99	50
F	LO_WARM UP_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_WARM UP_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
H	HI_WARM UP_BORD ER_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_TI ME 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

43-21	
Purpose	Adjustment/Setup
Function (Purpose)	Fuser motion & preheat adj (HH)
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
H HI_WARMUP_BORDER_H H	Threshold value alpha to which AN - AP is applied	1 - 99	50
I JOBEND_FU MON_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

43-24	
Purpose	Adjustment/Setup
Function (Purpose)	Fuser motion setup2
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

List of Default values and set values for each destination

Item	Default value (35/37 ppm)		Default value (45/47ppm)	
	Group B	Group C	Group B	Group C
A	10	10	10	10
B	10	10	10	10
C	10	10	10	10
D	2	3	2	3

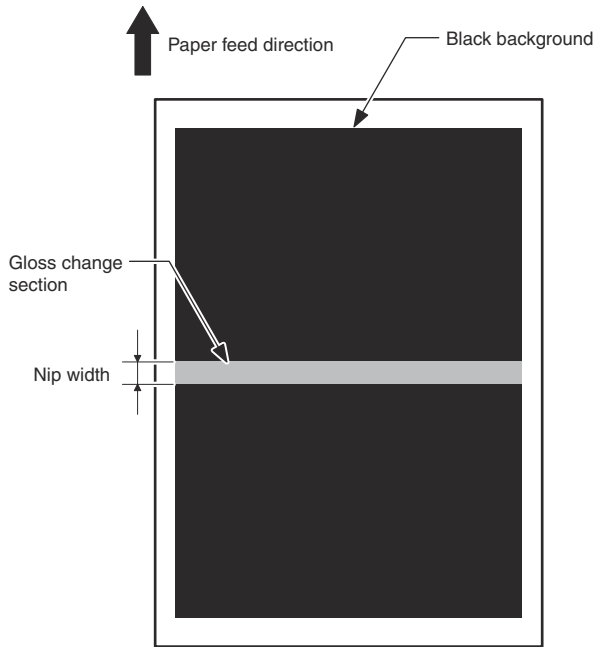
43-35	
Purpose	Adjustment and setting
Function (Purpose)	Fuser nip check
Section	Fusing

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 6mm - 7.5mm.

* 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	2
	CS1		2
	CS2		3
	CS3		4
	CS4		5



44

44-1

Purpose	Setting
Function (Purpose)	Mode setting
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.)

Important

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

Item/Display	Content	Setting range	Default value
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 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
TC	Enable/Disable setting of transfer output correction		Allow

44-2

Purpose	Adjustment/Setup
Function (Purpose)	Process control gain adjustment
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)	Process control initial density setup
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	30
F	BIAS PATCH INTERVAL	Patch bias output interval	60
G	K PAT TARGET ID	Patch density standard value	59
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
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)	High density/engine halftone process control compulsory execution
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)	Process control data display
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)	Process control patch/target data display
Section	Image process (Photo conductor/Developing)

Operation/Procedure

Select a display mode with [TARGET] [PATCH] keys.

44-14	
Purpose	Operation data display
Function (Purpose)	Temperature and humidity sensor data display monitor
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_UM_D	Fusing upper main thermistor
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)

44-15	
Purpose	Setting
Function (Purpose)	Drum control setting
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

44-21	
Purpose	Adjustment/Setup
Function (Purpose)	Halftone process control standard value register setup
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)	Halftone correct result display
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)	Halftone process control result display
Section	Process

Operation/Procedure

- 1) Select the display category with [NEXT] key.
- 2) Select [K] key.

44-25	
Purpose	Setting
Function (Purpose)	Halftone process control initial value display
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.



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)	Halftone density correct execution
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)	Halftone process control adjustment data clear
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)	Process control timing adjustment
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.)



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	
B	SW ON		When supplying the power (when canceling power shut-off)	Process control Disable	3
				BK process control Enable	
				Pixel count judgment	
C	TIME		After passing the specified time from leaving READY continuously (Time can be changed by INTERVAL TIME)	Process control Disable	3
				BK process control Enable	
				Pixel count judgment	
D	HUM_LIMIT		HUM judgment is made when turning ON the power and after passing INTERVAL TIME.	Process control Disable	2
				BK process control Enable	
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	2
				BK process control Enable	
F	REV1	YES	When the accumulated traveling distance of K OPC drum unit reaches the specified level after turning ON the power.	Enable	0
		NO		Disable	
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	
H	REFRESH MODE	YES	Select of YES/NO of the manual process control key with key operation	Key operation display	1
		NO		Key operation NO display	

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 warming up.	0: Disable of the specified days judgment	1
			1 - 999: 1 - 999 days passing	
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.	0
			Print ratio judgment inhibit (The process control for the target of print ratio is not performed.)	1
			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.	2
K	LO-COV	Setting of the execution judgment of the process control in continuous printing of low print ratio images	Enable	1
			Disable	
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	1
			Disable	

Item/Display	Content	Setting range	Default value
M	JOB STOP	JOB interruption process control	Enable 0 Disable 1
N	AVERAGE-PAGE	Setting of the number of pages of item	10 pages 1 50 pages 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 1 990 pages 99
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	REV1_RATIO	Magnification ratio setting (%) of the REV1 OPC drum traveling distance of "REV1"	1 - 255 20
V	LOW RATIO	Process control in low mode execution interval	1 - 999 15
W	HT_DIF	HT process control execution judgment developing bias variation value	1 - 255 60
X	HT TYPE	Halftone process control in middle mode	Enable 0 Disable 1
Y	TC CLEAN TIME	TC cleaning execution time	5 - 999 100

44-29	
Purpose	Setting
Function (Purpose)	Halftone setting
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: No execution 1: HV only 2: HV -> HT
B	PRINTER	During print job	
C	FAX	During FAX print job	
D	SELF PRINT	During self print	

Item/Display	Content	Setting range	Default value
E	CPY TO PRT TABLE	0: CALCULATED 1: DEFAULT 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 TARGET RETRY	Halftone process control standard value registration retry	0 - 255 3
H	HT RETRY SET	Halftone process control retry setting	0: Enable 1: Disable 0

HV: High density process control

HT: Halftone process control

44-37	
Purpose	Adjustment/Setup
Function (Purpose)	Image density adjustment setting
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 HV_ADJ	Multi-grid bias correction enable/disable setting	Disable 0 Enable 1
B	MUL_DV_ADJ	Multi-fusing bias correction enable/disable setting	Disable 0 Enable 1

44-43	
Purpose	Data display
Function (Purpose)	Developer unit AD monitor
Section	Developing system

Operation/Procedure

The identification number and the identification signal level of the developing unit are displayed.

44-62	
Purpose	Setup/Adjustment
Function (Purpose)	Process control setting collective input
Section	Process

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)	Density decreases (high density process control target value decreases)
	ID DOWN(-1)	
	ID UP(+1)	Density increases (high density process control target value increases)
	ID UP(+2)	
	NORMAL	Standard density
	CUSTOM	Customized density
PROCON MODE	HIGH QUALITY2	Execution frequency of the process control is highest
	HIGH QUALITY1	Execution frequency of the process control is high
	PRINT PERFORMANCE1	Execution frequency of the process control is low
	PRINT PERFORMANCE2	Execution frequency of the process control is low
	NORMAL	Process control is executed in the standard frequency
	CUSTOM	Customized execution frequency

(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)	Exposure adjustment (Copy)
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	1 - 99	50
HIGH				1 - 99	50
LOW	B	AUTO2	Auto 2	1 - 99	50
HIGH				1 - 99	50

Mode	Item/Display		Content	Setting range	Default value
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)	Exposure adjustment
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)	Exposure adjustment
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)	Scanner color balance adjustment
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)	Exposure adjustment
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 (Low 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	47
	B	SCAN SIDEA: LOW	DSPF scanner mode exposure adjustment (Low density side)	1 - 99	47
	C	FAX SIDEA: LOW	DSPF FAX mode exposure adjustment (Low density side)	1 - 99	47
	D	COPY SIDEA: HIGH	DSPF copy mode exposure adjustment (High density side)	1 - 99	52
	E	SCAN SIDEA: HIGH	DSPF scanner mode exposure adjustment (Low density side)	1 - 99	52
	F	FAX SIDEA: HIGH	DSPF FAX mode exposure adjustment (high density)	1 - 99	52
DSPF	A	COPY SIDEB: LOW	DSPF copy mode exposure adjustment (Low density side)	1 - 99	47
	B	SCAN SIDEB: LOW	DSPF scanner mode exposure adjustment (Low density side)	1 - 99	47
	C	FAX SIDEB : LOW	DSPF FAX mode exposure adjustment (Low density side)	1 - 99	47
	D	COPY SIDEB: HIGH	DSPF copy mode exposure adjustment (High density side)	1 - 99	50
	E	SCAN SIDEB: HIGH	DSPF scanner mode exposure adjustment (High density side)	1 - 99	50
	F	FAX SIDEB : HIGH	DSPF FAX mode exposure adjustment (high density)	1 - 99	50
	G	BALANCE SIDEB: R	DSPF color balance R	1 - 99	50
	H	BALANCE SIDEB: G	DSPF color balance G	1 - 99	50
	I	BALANCE SIDEB: B	DSPF color balance B	1 - 99	50

46-10

Purpose	Adjustment
Function (Purpose)	Exposure adjustment
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)	Monochrome copy gradation manual adjustment
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
E POINT5	Point 5	1 - 999	500

Item/Display	Density level (Point)	Setting range	Default value
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)	Monochrome exposure mode setup
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)	Copy maximum density adjustment mode
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	0~1	1
		Engine highest density correction mode: Disable	1		
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

Item/Display		Content	Setting range	Default value
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 gradation 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)	Limit of AE reaction setting
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

Item / Display		Content	Setting range	Default value
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)	Monochrome image create adjustment
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	121
B	G-Ratio Default	Gray making setting (G)	0 - 1000	767
C	R-Ratio Fluorescence	Gray making setting (R) Fluorescent pen	0 - 1000	100
D	G-Ratio Fluorescence	Gray making setting (G) Fluorescent pen	0 - 1000	450
E	R-Ratio Default DSPF	Gray making setting (R) DSPF	0 - 1000	139
F	G-Ratio Default DSPF	Gray making setting (G) DSPF	0 - 1000	703
G	R-Ratio Fluorescence DSPF	Gray making setting (R) Fluorescent pen DSPF	0 - 1000	50
H	G-Ratio Fluorescence DSPF	Gray making setting (G) Fluorescent pen DSPF	0 - 1000	400
I	R-Ratio RIP	Print gray making setting (R)	0 - 1000	299
J	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 RIP - 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)	Image send sharpness adjustment
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
B	200 x 200 [DPI] OFF	200 x 200 [DPI] halftone OFF	0 - 2
C	200 x 200 [DPI] ON	200 x 200 [DPI] halftone ON	0 - 2
D	200 x 400 [DPI] OFF	200 x 400 [DPI] halftone OFF	0 - 2
E	200 x 400 [DPI] ON	200 x 400 [DPI] halftone ON	0 - 2
F	400 x 400 [DPI] OFF	400 x 400 [DPI] halftone OFF	0 - 2
G	400 x 400 [DPI] ON	400 x 400 [DPI] halftone ON	0 - 2
H	600 x 600 [DPI] OFF	600 x 600 [DPI] halftone OFF	0 - 2
I	600 x 600 [DPI] ON	600 x 600 [DPI] halftone ON	0 - 2

46-40	
Purpose	Adjustment/Setup
Function (Purpose)	Exposure adjustment FAX:all
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)	Exposure adjustment FAX: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
B	EXPOSURE1	Exposure 1	1 - 99
C	EXPOSURE2	Exposure 2	1 - 99
D	EXPOSURE3	Exposure 3	1 - 99
E	EXPOSURE4	Exposure 4	1 - 99
F	EXPOSURE5	Exposure 5	1 - 99
G	EXECUTE MODE	Print mode	1
	AUTO	Auto	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
B	EXPOSURE1	Fine/Exposure 1	1 - 99
C	EXPOSURE2	Fine/Exposure 2	1 - 99
D	EXPOSURE3	Fine/Exposure 3	1 - 99
E	EXPOSURE4	Fine/Exposure 4	1 - 99
F	EXPOSURE5	Fine/Exposure 5	1 - 99
G	AUTO H_TONE	Fine/Automatic/ Halftone	1 - 99
H	EXPOSURE1 H_TONE	Fine/Exposure 1/ Halftone	1 - 99
I	EXPOSURE2 H_TONE	Fine/Exposure 2/ Halftone	1 - 99
J	EXPOSURE3 H_TONE	Fine/Exposure 3/ Halftone	1 - 99
K	EXPOSURE4 H_TONE	Fine/Exposure 4/ Halftone	1 - 99
L	EXPOSURE5 H_TONE	Fine/Exposure 5/ Halftone	1 - 99
M	EXECUTE MODE	Print mode	1
	AUTO	Fine/Auto	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)	Exposure adjustment FAX: 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)	Exposure adjustment FAX: 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)	Exposure adjustment FAX: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)	Exposure adjustment FAX: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)	Copy/scan compress rate adjustment
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)	Function setting for copy output
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		

46-51	
Purpose	Adjustment/Setup
Function (Purpose)	Copy gradation manual adjustment
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
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)	Copy gradation data clear
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 600 LOW	Monochrome dither 600dpi Low
	WOVEN1	Watermark 1
	WOVEN2	Watermark 2
	WOVEN3	Watermark 3
	WOVEN4	Watermark 4

46-54	
Purpose	Adjustment
Function (Purpose)	Copy gradation auto adjustment
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") 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 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)	Dropout color adjustment
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)	RET function setting
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	0
			ON	1	
B	TEXT	Text	OFF	0	1
			ON	1	
C	TEXT PRT	Text print	OFF	0	0
			ON	1	
D	PRINTED PHOTO	Printed Photo	OFF	0	0
			ON	1	
E	TEXT PHOTO	Text photograph	OFF	0	0
			ON	1	
F	PHOTO	Photograph	OFF	0	0
			ON	1	
G	MAP	Map	OFF	0	1
			ON	1	
H	LIGHT	Light document	OFF	0	0
			ON	1	
I	CPY TO CPY/AUTO	Auto (copy document)	OFF	0	0
			ON	1	
J	CPY TO CPY/TEXT	Text (copy document)	OFF	0	1
			ON	1	
K	CPY TO CPY/TXT PRT	Text print (copy document)	OFF	0	0
			ON	1	
L	CPY TO CPY/PHOTO	Printed Photo (copy document)	OFF	0	0
			ON	1	

46-60	
Purpose	Adjustment/Setup
Function (Purpose)	Color auto mode filter adjustment
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	RGB FILTER LEVEL	SOFT	RGB sharpness (filter) adjustment for Copy/Push/Fax.	1	2
		CENTER		2	
		HIGH		3	
B	CPY PUSH AUTO FILTER LEVEL	SOFT	Sharpness (filter) adjustment for the automatic push scan mode (Text, Printed Photo / Printed Photo images)	1	2
		CENTER		2	
		HIGH		3	
C	B/W COPY	OFF	Soft filter applying setting in monochrome copy mode	0	1
		ON		1	
D	COLOR PUSH : RGB	OFF	Soft filter applying setting to image in push scan color mode	0	1
		ON		1	
E	B/W PUSH	OFF	Soft filter applying setting to image in push scan monochrome mode	0	1
		ON		1	
F	B/W PRINT	OFF	Setting of ON/OFF of soft filter application to monochrome print images	0	0
		ON		1	

46-61	
Purpose	Adjustment/Setup
Function (Purpose)	Area separation level adjustment
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.

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

Item/Display		Content	Setting range	Default value
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
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

46-62

Purpose	Adjustment/Setup
Function (Purpose)	MVIEW judgement level adjustment
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
R	BLANK_JUDGE_LV_C	Blank judgment level adjustment (chroma)	0 - 10	0

Item/Display		Content	Setting range	Default value
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

46-63

Purpose	Adjustment/Setup
Function (Purpose)	Background remove adjustment
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)	Hidden pattern adjustment
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		20	
	B	LINE SPACE 2	Line space in the watermark print box (37P - 48P)		0 - 200		20	
	C	LINE SPACE 3	Line space in the watermark print box (49P - 64P)		0 - 200		20	
	D	LINE SPACE 4	Line space in the watermark print box (65P - 80P)		0 - 200		20	
	E	BLANK H/B 1	Upper margin/Lower margin in the watermark print box (24P - 36P)		0 - 200		10	
	F	BLANK H/B 2	Upper margin/Lower margin in the watermark print box (37P - 48P)		0 - 200		10	
	G	BLANK H/B 3	Upper margin/Lower margin in the watermark print box (49P - 64P)		0 - 200		10	
	H	BLANK H/B 4	Upper margin/Lower margin in the watermark print box (65P - 80P)		0 - 200		10	
	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)	Auto resolution setting
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.

[AUTO RESOLUTION]

	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

[SKEW DETECTION]

	Item/Display	Content	Setting range	Default value
A	MAX DEGREE	Maximum skew detection	20 - 4500	300
B	MIN DEGREE	Minimum skew detection	20 - 4500	20
C	VOID AREA	Void area skew detection	0 - 100	10

46-74	
Purpose	Adjustment
Function (Purpose)	Copy/printer gradation 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)	Compact PDF settings
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.

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 - 1	0

46-91	
Purpose	Adjustment
Function (Purpose)	Emphasize black letter adjustment
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.

Item	Display		Content	Description	Default value
A	SEGMENT PARAM	COMMON	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
		SPECIAL			
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

Item	Display		Content	Description	Default value
D	BG: JPEG QUALITY LV [GRY: COMPACT]		JPEG recompression level adjustment [Gray: High compression mode]	0: Low 1: Middle 2: High	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.

48

48-1	
Purpose	Adjustment
Function (Purpose)	Ratio adjustment
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

Item/Display	Content	Setting range	Default value
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
G	COPY CORRECTION (SUB)	Copy magnification ratio correction (Sub scan)	1-7 4

[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
F	COPY CORRECTION (SUB)	Copy magnification ratio correction (Sub scan)	1-7 4

48-5

Purpose	Adjustment
Function (Purpose)	Motor speed adjustment
Section	Scanner 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 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 (middle speed)	1 - 99 50
C	MR(LO)	Scanner motor (low speed)	1 - 99 50
D	SPF(HI)	Document feed motor (high speed)	1 - 99 50
E	SPF(MID)	Document feed motor (middle speed)	1 - 99 50
F	SPF(LO)	Document feed motor (low speed)	1 - 99 50

48-6	
Purpose	Adjustment
Function (Purpose)	Velocity adjustment
Section	

Operation/Procedure

- 1) Select an adjustment target mode with [MID] [LOW A] 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	DM	Drum motor correction value	1 - 99	50
HEAVY1,2	LOW A	A	DM			43
MONO	MID	B	MM	Main motor correction value	1-99	48
HEAVY1,2	LOW A	B	MM			49

49

49-1	
Purpose	
Function (Purpose)	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 of 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
DESK2	Desk unit program	DESK2
DESK3	Desk unit program	DESK3
FINISHER(INNER)	Inner finisher program	INFIN

49-7	
Purpose	
Function (Purpose)	Preinstall 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

50

50-1	
Purpose	Adjustment
Function (Purpose)	Copy edge adjustment
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.)

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 setting value	LEAD	Lead edge image loss area setting	0 - 99	30
C		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	41
F		FRONT/REAR	FRONT/REAR void area adjustment	1 - 99	23
G	Off-center adjustment	OFFSET_OC	OC document off-center adjustment	20 - 80	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
O		DENB-ADU	ADU correction value	1 - 99	50
P		DENB-HV	Heavy paper correction value	1 - 99	50

- A. (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.
- B. (LEAD) The lead edge image loss amount is adjusted. (0.1mm/step)
- * When the value is increased, the image loss is increased.
- C. (SIDE) The side image loss amount is adjusted.
- * When the value is increased, the image loss is increased. (0.1mm/step)
- D. (DEN-A) The paper lead edge void amount is adjusted. (0.1mm/step)
- * When the value is increased, the void is increased.
- E. (DEN-B) The paper rear edge void amount is adjusted. (0.1mm/step)
- * When the value is increased, the void is increased.
- F. (FRONT/REAR) The void amount on the right and left edges of paper is adjusted. (0.1mm/step)

50-5	
Purpose	Adjustment
Function (Purpose)	Print edge adjustment
Section	

Operation/Procedure

- 1) Select a target adjustment item 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 distance 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-ADU	ADU rear edge void area adjustment correction value	1 - 99	50
J DENB-HV	Heavy paper correction value	1 - 99	50
K MULTI COUNT	Number of print	1 - 999	1

Item/Display			Content		Setting range	Default value
L	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	
M	DUPLX	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)	SPF edge adjustment
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	30
D	FRONT_REAR(SIDE1)		Front surface side image loss amount setting	0 - 99	20
E	TRAIL_EDGE (SIDE1)		Front surface rear edge image loss amount setting	0 - 99	30
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2)	Back surface lead edge image loss amount setting	0 - 99	30
G		FRONT_REAR (SIDE2)	Back surface side image loss amount setting	0 - 99	20
H		TRAIL_EDGE (SIDE2)	Back surface rear edge image loss amount setting	0 - 99	30
I	OFFSET_SPF1		RSPF front surface document off-center adjustment	20 - 80	50
J	OFFSET_SPF2		RSPF back surface document off-center adjustment	20 - 80	50
K	SCAN_SPEED_SPF1		RSPF document front surface magnification ratio (Sub scan)	1 - 99	50

Item/Display		Content	Setting range	Default value
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	30
D	FRONT_REAR(SIDE1)	Front surface side image loss amount setting	0 - 99	20
E	TRAIL_EDGE (SIDE1)	Front surface rear edge image loss amount setting	0 - 99	30
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2) Back surface lead edge image loss amount setting	0 - 99	30
G		FRONT_REAR (SIDE2) Back surface side image loss amount setting	0 - 99	20
H		TRAIL_EDGE (SIDE2) Back surface rear edge image loss amount setting	0 - 99	30
I	OFFSET_SPF1	DSPF front surface document off-center adjustment	20 - 80	50
J	OFFSET_SPF2	DSPF back surface document off-center adjustment	20 - 80	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)	Manual image position adjustment
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	105	
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	46	
D	MAIN-MFT		Print off center adjustment value	Manual paper feed	1 - 99	33	
E	MAIN-CS1			Tray 1	1 - 99	50	
F	MAIN-CS2			Tray 2	1 - 99	50	
G	MAIN-CS3			Tray 3	1 - 99	50	
H	MAIN-CS4			Tray 4	1 - 99	50	
I	MAIN-ADU			ADU	1 - 99	48	
J	SUB-MFT		Registration motor ON timing adjustment	Manual paper feed	1 - 99	50	
K	SUB-CS1			Tray 1	1 - 99	50	
L	SUB-CS2			Tray 2	1 - 99	50	
M	SUB-CS3			Tray 3	1 - 99	50	
N	SUB-CS4			Tray 4	1 - 99	50	
O	SUB-ADU			ADU	1 - 99	42	
P	SUB-HV-A		Shifting amount value	Heavy1,2	1 - 99	50	
Q	SUB-HV-B			Heavy3,4	1 - 99	50	
R	SUB-GLOSSY			Grossy	1 - 99	50	
S	SUB-OHP			OHP	1 - 99	50	
T	SUB-ENV			Envelop	1 - 99	50	
U	MULTI COUNT		Number of print		1-999	1	
V	PAPER	MFT	Tray selec- tion	Manual paper feed	1-5	1	2
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
W	DUPL X	YES	Duplex print selection	YES	0-1	0	1
		NO		NO		1	
X	ALT FEED	NORM AL	Other tray selection	Normal	0-1	0	0
		ALL OTHE R		All trays except "PAPER"		1	

50-12	
Purpose	Adjustment
Function (Purpose)	Original center offset setup
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	20-80	50
B	SPF (SIDE1)	SPF front surface image off-center adjustment	20-80	50
C	SPF (SIDE2)	SPF back surface image off-center adjustment	20-80	50

50-27	
Purpose	Adjustment
Function (Purpose)	Scanner/FAX send all edge adjustment value
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_SID E1)	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_SID E2)	Back surface rear edge image loss amount setting	0 - 100	0 (0mm)

51

51-1

Purpose	Adjustment/Setup
Function (Purpose)	Transcription timing setup
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	35
B	TC OFF TIMING	Transfer voltage OFF timing setting	40
C	FRONT EDGE ON TIMING	Front edge bias ON timing setting	35
D	BACKEND OFF TIMING	Rear edge bias OFF timing setting	50
E	DHV ON TIMING	Separation output ON timing setting	50
F	DHV OFF TIMING	Separation output OFF timing setting	50

51-2

Purpose	Adjustment/Setup
Function (Purpose)	Register roller adjustment
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
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

Mode	Display/Item		Content	Default value
ENGINE	A	TRAY1 PLAIN PAPER (S)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Small size)	60
	B	TRAY1 PLAIN PAPER (L)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Large size)	60
	C	TRAY2 PLAIN PAPER (S)	Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Small size)	50
	D	TRAY2 PLAIN PAPER (L)	Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Large size)	50
	E	TRAY2 HEAVY A PAPER(S)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Small size)	50
	F	TRAY2 HEAVY A PAPER(L)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Large size)	50
	G	TRAY2 HEAVY B PAPER(S)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Small size)	50
	H	TRAY2 HEAVY B PAPER(L)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Large size)	50
	I	MANUAL PLAIN PAPER (S)	Manual feed tray/deflection adjustment value (Plain paper/Small size)	30
	J	MANUAL PLAIN PAPER (L)	Manual feed tray/deflection adjustment value (Plain paper/Large size)	30
	K	MANUAL HEAVY A PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper A/Small size)	30
	L	MANUAL HEAVY A PAPER(L)	Manual feed tray/deflection adjustment value (Heavy paper A/Large size)	30
	M	MANUAL HEAVY B PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper B/Small size)	30
	N	MANUAL HEAVY B PAPER (L)	Manual feed tray/deflection adjustment value (Heavy paper B/Large size)	30
	O	MANUAL OHP	Manual feed tray/deflection adjustment value (OHP)	30
	P	MANUAL ENV	Manual feed tray/deflection adjustment value (Envelop)	30
	Q	MANUAL LABEL	Manual feed tray/deflection adjustment value (Label)	30
	R	ADU PLAIN PAPER (S)	ADU/deflection adjustment value (Plain paper/Small size)	30
	S	ADU PLAIN PAPER (L)	ADU/deflection adjustment value (Plain paper/Large size)	30
	T	ADU HEAVY A PAPER (S)	ADU/deflection adjustment value (Heavy paper A/Small size)	30
	U	ADU HEAVY A PAPER (L)	ADU/deflection adjustment value (Heavy paper A/Large size)	30
ENGINE	V	ADU HEAVY B PAPER (S)	ADU/deflection adjustment value (Heavy paper B/Small size)	30

Mode	Display/Item		Content	Default value
ENGINE	W	ADU HEAVY B PAPER (L)	ADU/deflection adjustment value (Heavy paper B/Large size)	30
	X	DESK (S)	DESK/deflection adjustment value (Plain paper/Small size)	50
	Y	DESK HEAVY A PAPER(S)	DESK/deflection adjustment value (Heavy paper A/Small size)	50
	Z	DESK HEAVY B PAPER(S)	DESK/deflection adjustment value (Heavy paper B/Small size)	50
	AA	DESK (L)	DESK/deflection adjustment value (Plain paper/Large size)	50
	AB	DESK HEAVY A PAPER (L)	DESK/deflection adjustment value (Heavy paper A/Large size)	50
	AC	DESK HEAVY B PAPER (L)	DESK/deflection adjustment value (Heavy paper B/Large size)	50

[DSPF]

Mode	Display/Item		Content	Default value
REGI1	A	NORMAL_PLAIN_HIGH	DSPF front surface document deflection amount adjustment value (Normal/Plain paper/HIGH)	70
	B	NORMAL_PLAIN_LOW	DSPF front surface document deflection amount adjustment value (Normal/Plain paper/LOW)	70
	C	NORMAL_THIN_HIGH	DSPF front surface document deflection amount adjustment value (Normal/Thin paper/HIGH)	70
	D	NORMAL_THIN_LOW	DSPF front surface document deflection amount adjustment value (Normal/Thin paper/LOW)	70
ENGINE	A	TRAY1 PLAIN PAPER (S)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Small size)	60
	B	TRAY1 PLAIN PAPER (L)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Large size)	60
	G	TRAY2 PLAIN PAPER (S)	Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Small size)	50
	H	TRAY2 PLAIN PAPER (L)	Main unit cassette 2 (Lower stage)/deflection adjustment value (Plain paper/Large size)	50
	I	TRAY2 HEAVY A PAPER(S)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Small size)	50
	J	TRAY2 HEAVY A PAPER(L)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper A/Large size)	50
	K	TRAY2 HEAVY B PAPER(S)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Small size)	50
	L	TRAY2 HEAVY B PAPER(L)	Main unit cassette 2 (Upper stage)/deflection adjustment value (Heavy paper B/Large size)	50
	M	MANUAL PLAIN PAPER (S)	Manual feed tray/deflection adjustment value (Plain paper/Small size)	30

Mode	Display/Item	Content	Default value
ENGINE	N MANUAL PLAIN PAPER (L)	Manual feed tray/deflection adjustment value (Plain paper/Large size)	30
	O MANUAL HEAVY A PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper A/Small size)	30
	P MANUAL HEAVY A PAPER(L)	Manual feed tray/deflection adjustment value (Heavy paper A/Large size)	30
	Q MANUAL HEAVY B PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper B/Small size)	30
	R MANUAL HEAVY B PAPER (L)	Manual feed tray/deflection adjustment value (Heavy paper B/Large size)	30
	S MANUAL OHP	Manual feed tray/deflection adjustment value (OHP)	30
	T MANUAL ENV	Manual feed tray/deflection adjustment value (Envelop)	30
	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)	30
	Y ADU HEAVY A PAPER (L)	ADU/deflection adjustment value (Heavy paper A/Large size)	30
	Z ADU HEAVY B PAPER (S)	ADU/deflection adjustment value (Heavy paper B/Small size)	30
	AA ADU HEAVY B PAPER (L)	ADU/deflection adjustment value (Heavy paper B/Large size)	30
	AB DESK (S)	DESK/deflection adjustment value (Plain paper/Small size)	50
	AC DESK HEAVY A PAPER(S)	DESK/deflection adjustment value (Heavy paper A/Small size)	50
	AD DESK HEAVY B PAPER(S)	DESK/deflection adjustment value (Heavy paper B/Small size)	50
	AE DESK (L)	DESK/deflection adjustment value (Plain paper/Large size)	50
	AF DESK HEAVY A PAPER (L)	DESK/deflection adjustment value (Heavy paper A/Large size)	50
	AG DESK HEAVY B PAPER (L)	DESK/deflection adjustment value (Heavy paper B/Large size)	50

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

53-8

Purpose	Adjustment
Function (Purpose)	SPF scanning position adjustment
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	50	50

* 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)	SPF dirt detection setting
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_POSITION_START	SPF front surface optimum scan position detection setting (When starting)	OFF ON	0 1

Item/Display			Content		Setting range	Default value
B	SIDEA_SCAN_POSIT	OFF	SPF front surface optimum scan position detection setting (After a job)	OFF	0	1
		ON		ON	1	
C	SIDEA_SCAN_POSIT_ON_LV	WEAK	SPF front surface optimum scan position detection level setting	Low	0	1
		MIDDLE		Medium	1	
		STRONG		High	2	
D	OC_DIRT_LV	WEAK	OC dirt level setting	Low	0	1
		MIDDLE		Medium	1	
		STRONG		High	2	
E	SIDEA_DIRT_ALARM_LVL	WEAK	SPF front surface dirt alarm level setting	Low	0	1
		MIDDLE		Medium	1	
		STRONG		High	2	
F	SIDEA_DIRT_SHADING_SET	OFF	SPF front surface streak delete shading setting	OFF	0	1
		ON		ON	1	

[DSPF]

Item/Display			Content		Setting range	Default value
A	SIDEA_SCAN_POSIT_ON_SET_START	OFF	SPF front surface optimum scan position detection setting (When starting)	OFF	0	0
		ON		ON	1	
B	SIDEA_SCAN_POSIT_ON_SE_T_JOB	OFF	SPF front surface optimum scan position detection setting (After a job)	OFF	0	1
		ON		ON	1	
C	SIDEA_SCAN_POSIT_ON_LV	WEAK	SPF front surface optimum scan position detection level setting	Low	0	1
		MIDDLE		Medium	1	
		STRONG		High	2	
D	OC_DIRT_LV	WEAK	OC dirt level setting	Low	0	1
		MIDDLE		Medium	1	
		STRONG		High	2	
E	SIDEA_DIRT_ALARM_LVL	WEAK	SPF front surface dirt alarm level setting	Low	0	1
		MIDDLE		Medium	1	
		STRONG		High	2	
F	SIDEA_DIRT_ALARM_LVL	WEAK	SPF back surface dirt alarm level setting	Low	0	1
		MIDDLE		Medium	1	
		STRONG		High	2	
G	SIDEA_DIRT_SHADING_SET	OFF	SPF front surface streak delete shading setting	OFF	0	1
		ON		ON	1	
H	SIDEA_DIRT_SHADING_SET	OFF	SPF back surface streak delete shading setting	OFF	0	1
		ON		ON	1	

Item/Display		Content		Setting range	Default value
I	SIDEB_EXT_SHADING_SET	SPF back side expansion shading setting	Default	0	0
			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)	Engine software SW setting
Section	

Operation/Procedure

55-2	
Purpose	(Do not use this function unless specially required.)
Function (Purpose)	Scanner software SW setting
Section	
Operation/Procedure	

55-3	
Purpose	(Do not use this function unless specially required.)
Function (Purpose)	MFP software SW setting
Section	
Operation/Procedure	

55-10	
Purpose	Adjustment/Setting
Function (Purpose)	Text for stamp setting
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	TYPE	PATTERN 1	Print com-posing method	Edging type	1
		PATTERN 2		OR process type	
		PATTERN 3		No-delete-compo-sition type	
H	DENSITY	Stamp density setting		1 - 9	3
I	SPECIAL WATER-MARK	Stamp setting	Disable	0	0
			Enable	1	

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

Print	3	5	6	7	8	9
Input value	51	53	54	55	56	57

56	
56-1	
Purpose	Backup
Function (Purpose)	Copy data
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)	Export/import filing data
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)	Export/import document filing data
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)	Export job log data
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)	Export data print
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)	Export JAM/trouble data print
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)	Export syslog data
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)	Import EEPROM data
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.

56-99	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Export all log data
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)	SDRAM read/write test
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)	LSU test
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 test NG: PG	Polygon mirror rotation abnormality
LSU test NG: K	Laser abnormality (K)

61-3	
Purpose	Adjustment/Setup
Function (Purpose)	Laser power auto setup
Section	

Operation/Procedure

- 1) Select a target mode for adjustment with [COPY600], [PR600/ FAX], 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.

Mode	Item / Display	Content	Default	
			35 ppm machine	45 ppm machine
COPY 600	A	LASER POWER MIDDLE(BW)	118	156
	B	LASER POWER LOW(BW)	118	
	C	LASER DUTY MIDDLE(BW)	0	
	D	LASER DUTY LOW(BW)	0	
	E	LASER POWER K1	100	
	F	LASER POWER K2	100	
PR600 /FAX	A	LASER POWER MIDDLE(BW)	118	156
	B	LASER POWER LOW(BW)	118	
	C	LASER DUTY MIDDLE(BW)	0	
	D	LASER DUTY LOW(BW)	0	

61-14

Purpose	Adjustment
Function (Purpose)	Laser power setting collective input
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)	Format the storage
Section	

Operation/Procedure

- 1) Select target item. Select target item.
 - 2) Tap [EXECUTE] key.
 - 3) Tap [YES] key.
- Used to execute the HDD format.

When the operation is completed, [EXECUTE] key returns to the normal display.

Item	Contents
ALL AREA	Storage format
EXCEPT SYSTEM AREA	Storage format (Except system area)
PREINSTALL DATA	Storage format (Preinstalled data area)

62-3

Purpose	Operation test/check
Function (Purpose)	HDD read/write check(all)
Section	

Operation/Procedure

- 1) Select target item.
 - 2) Tap [EXECUTE] key.
 - 3) Tap [YES] key.
- Read/write operations are performed.

Item	Contents
ALL AREA	Storage format
EXCEPT SYSTEM AREA	Storage format (Except system area)
PREINSTALL DATA	Storage format (Preinstalled data area)

62-4

Purpose	Operation test/check
Function (Purpose)	Check the format of the STORAGE (Logical)
Section	

Operation/Procedure

- 1) Select target item.
- 2) Tap [EXECUTE] key.
- 3) Tap [YES] key.

Item	Contents
FORMAT	Format of specified partition
CHECK	Specified partition check

62-7

Purpose	Operation test/check
Function (Purpose)	Print the STORAGE self diagnostics error log
Section	

Operation/Procedure

- 1) Tap [EXECUTE] key.

When the operation is completed, [EXECUTE] key returns to the normal display.

62-9

Purpose	Data clear
Function (Purpose)	Clear the data in the STORAGE
Section	

Operation/Procedure

- 1) Select target item.
- 2) Tap [EXECUTE] key.
- 3) Tap [YES] key.

62-12	
Purpose	Setting
Function (Purpose)	Auto format setting
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)

62-14	
Purpose	Data clear
Function (Purpose)	Check/Delete the database file in the STORAGE
Section	HDD
Operation/Procedure	
1) Select target item	
2) Tap [EXECUTE] key.	
3) Tap [YES] key.	
Item	Contents
ALL CLEAR	All data base file clear
PART CLEAR	Partial data base file clear
CHECK	All data base file check

62-21	
Purpose	Operation test/check
Function (Purpose)	Display the storage information in the STORAGE
Section	HDD
Operation/Procedure	
Storage information is displayed.	

63

63-1	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Shading data display
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)	

Display item	Description	Remarks
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)
		1 END is not 0: asserted. (Black shading)
		1 END is not 1: asserted. (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
DSPF	ANALOG GAIN 1 - 6	Analog gain adjustment value 1 - 6
	DIGITAL GAIN 1 - 6	Digital gain adjustment value 1 - 6
	SMP AVE R 1 - 6	Reference plate sampling average value R1 - 6
	SMP AVE G 1 - 6	Reference plate sampling average value G1 - 6
	SMP AVE B 1 - 6	Reference plate sampling average value B1 - 6
	TARGET VALUE 1 - 6	Target value 1 - 6

Display item	Description	Remarks
DSPF	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)
		1 END is not 0: asserted. (Black shading)
		1 END is not 1: asserted. (Light quantity correction)
		1 END is not 2: asserted.
		1 Register check 3: error (White booting/Before gain)
		1 Register check 4: error (Before light quantity correction)
	DSPF BACK WHITE LEVEL 1ST 1	First scan DSPF back surface white reference level R
	DSPF BACK WHITE LEVEL 1ST 2	First scan DSPF back surface white reference level G
	DSPF BACK WHITE LEVEL 1ST 3	First scan DSPF back surface white reference level B
	DSPF BACK WHITE LEVEL 2ND 1	Second scan DSPF back surface white reference level R
	DSPF BACK WHITE LEVEL 2ND 2	Second scan DSPF back surface white reference level G
	DSPF BACK WHITE LEVEL 2ND 3	Second scan DSPF back surface white reference level B

63-2	
Purpose	Adjustment
Function (Purpose)	Shading execution
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)	Scanner color balance 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)	Patch data display of scanner color balance
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)	Standard scanner gamma setup
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)	Copy gradation auto adjustment target select
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)	Self print (B/W) : service
Section	

Operation/Procedure

- Set the print conditions.
Select an item to be print condition with scroll keys.
Set the print conditions with 10-key.
- 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)	Print pattern specification (* For details, refer to the description below.)		1 - 68 (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	1-8 (Pattern 17-19: 2-8 except above: 1-8)	1	8
		TEXT/PRINTED PHOTO	No process (through) 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	1 - 5	1	2
		CS1	Manual paper feed Tray 1		2	
		CS2	Tray 2		3	
		CS3	Tray 3		4	
		CS4	Tray 4		5	
H	DUPLEX	YES	Duplex print selection	0 - 1	0	1
		NO	No		1	
I	PAPER TYPE	PLAIN1	Paper type	1 - 7	1	1
		PLAIN2	Standard paper 1 Standard paper 2		2	
		HEAVY	Heavy paper		3	
		OHP	OHP		4	
		ENVELOPE	Envelope		5	
		HEAVY2	Heavy paper 2		6	
		GLOSSY	Glossy paper		7	

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)		—
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	

64-4	
Purpose	Operation test/check
Function (Purpose)	Printer 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	
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	
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	

Print pattern of Item A

Pattern No.	Content
1	256 gradations pattern (B/W)
2	Halftone pattern (B/W)
3	Background dot print

64-5	
Purpose	Operation test/check
Function (Purpose)	Printer 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.
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	
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	
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	
I	TONER SAVE MODE		Do not set toner save mode		0	0
			Set toner save mode		1	

<Print pattern of item A>

Pattern No.	Content
1	PCL print (B/W)
2	Service chart (B/W)

64-6

Purpose	Operation test/check
Function (Purpose)	Printer self print (PS)
Section	

Operation/Procedure

- Set the print conditions.
Select an item to be print condition with scroll keys.
Set the print conditions with 10-key.
- Tap [EXECUTE] key.
The test print (self print) is performed.

Item/Display			Content		Setting range	Default value
A	PRINT PATTERN		Print pattern specification		1	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	
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	
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	
I	TONER SAVE MODE		Do not set toner save mode		0	0
			Set toner save mode		1	

<Print pattern of item A>

Pattern No.	Content
1	PS print (B/W)

65

65-1

Purpose	Adjustment
Function (Purpose)	Touch panel adjustment
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.



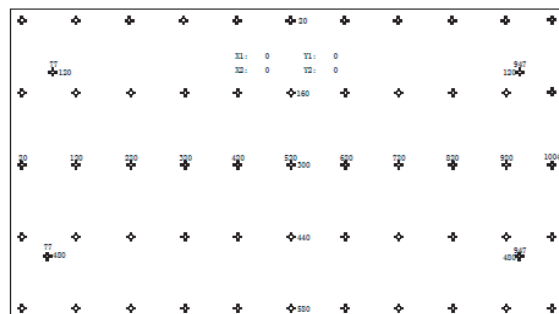
65-2

Purpose	Operation check/test
Function (Purpose)	Touch panel test
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)	Operation panel key check
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)	Image send software SW setting
Section	FAX

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)	Image send software SW clear
Section	FAX

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)	FAX PWB memory check
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)	Signal output check(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
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66-5	
Purpose	Operation test/Check
Function (Purpose)	Signal output check(softwareSW)
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)	Pass code print out
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)	Image memory print out
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)	Message output check(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.RINGER (External telephone call)	

66-9	
Purpose	Operation test/Check
Function (Purpose)	Message output check(softwareSW)
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)	Image memory clear
Section	FAX

Operation/Procedure

- 1) Tap [EXECUTE] button.
- 2) Tap [YES] button.

66-11	
Purpose	Operation test/Check
Function (Purpose)	300bps signal output(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)	300bps signal output(softwareSW)
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)	Dial test number setting
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)	Dial test(10PPS)
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)	Dial test(20PPS)
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)	Dial test(DTMF)
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)	DTMF signal output(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)	DTMF signal output(softwareSW)
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)	FAX information print out
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
-----------------	---------------------

66-29	
Purpose	Clear
Function (Purpose)	Image send address data clear
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)	TEL/LIU sensor check
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)	TEL/LIU setting
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)	Receive data check
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)	Signal detect check
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-33, the item selection screen is displayed.

- The signal to be checked can be selected from the two options: "FNET" and "BT/CNG/CED/DTMF."
- 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)	MFP-MDMC I/F check
Section	FAX

Operation/Procedure

- When the machine enters Simulation 66-36, the item selection screen is displayed.
- 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)	FAX destination setup
Section	FAX

Operation/Procedure

- When the machine enters the simulation, the currently set destination button is highlighted. (In the default state, JAPAN is set as the destination.)
- 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)	Power control program reload
Section	FAX

Operation/Procedure

- Tap [EXECUTE] button.[EXECUTE] button is highlighted and YES] and [NO] buttons become active.
- Tap [YES] button.
The power control program is rewritten.
- 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)	Power control adjustment value writing
Section	FAX

Operation/Procedure

- 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.
- 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.
- 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)	Image send softwareSW setting 2
Section	FAX

Operation/Procedure

- Enter the [SW NO] with 10-key.
- Tap [DATA] button.
The soft SW data entered in procedure 1) is displayed.
- 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.

66-62

Purpose	Backup
Function (Purpose)	USB memory preservation of image data
Section	FAX

Operation/Procedure

- Insert the USB flash drive into the main unit.
- Select data to be imported.
- 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

67-17

Purpose	Reset
Function (Purpose)	Printer controller memory clear
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 gradation 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 gradation 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

Item/Display		Setting range	Default value
Q	POINT17	1 - 999	500

67-26

Purpose	Adjustment/Setup
Function (Purpose)	Printer gradation auto adjustment target select
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)	Printer gradation data clear
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)	Printer gradation manual adjustment
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
SCREEN11	600 dpi 1bit graphics
SCREEN12	600 dpi 4bit graphics
SCREEN19	600 dpi 4bit SHIGH
SCREEN21	600 dpi 4bit super low
SCREEN23	600 dpi 4bit extrahigh

67-34

Purpose	Adjustment/Setup
Function (Purpose)	Printer maximum density adjustment mode
Section	Printer

Operation/Procedure

- 1) Enter the set value with 10-key.

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.

Important

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)	Printer highlight adjustment
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)	Printer image enhancement adjustment
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

67-52

Purpose	Adjustment/Setup
Function (Purpose)	Printer gradation data clear
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
4BIT HIGH	600 dpi graphics
4BIT SHIGH	600 dpi 4bit SHIGH

67-54

Purpose	Adjustment
Function (Purpose)	Printer gradation auto 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, and the 600dpi 1bit mode.

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

- 1) Tap [EXECUTE] key. (A4 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

- 6) Tap [EXECUTE] key. (A4 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.

Note

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

6. FAX software switch

A. List

Note

SW No.	Bit No.	Item	SW selection and function	System settings
1	1-8	Country code	Control is performed according to the set country code. The destination setting that is set in SIM66-2 as the image send function is reflected. The country code setting cannot be directly made from this SW.	

Lines

SW No.	Bit No.	Item		SW selection and function	System settings
2	1-4	Calling	Make time (10PPS) setting	Setting of make time when dialling at 10PPS. Make time can be set from 29 to 44ms in 1ms increments by binary inputting N over the range of 0 to 15 (N + 29ms).	Adjustment value
	5-8	Calling	Break time setting (10PPS)	Setting of break time when dialling at 10PPS. Break time can be set from 56 to 71ms by in 1ms increments binary inputting N over the range of 0 to 15 (N + 56ms).	Adjustment value
3	1-4	Calling	Minimum pause time (10PPS) setting	Setting of minimum pause time when dialling at 10PPS. Minimum pause time can be set from 800 to 950ms in 10ms increments by binary inputting N over the range of 0 to 15 (N x 10ms + 800ms).	Adjustment value
	5-8	Calling	Minimum pause time (20PPS) setting	Setting of minimum pause time when dialling at 20PPS. Minimum pause time can be set from 450 to 600ms in 10ms increments by binary inputting N over the range of 0 to 15 (N x 10ms + 450ms). Functions only in China and Thailand.	Adjustment value
4	1-4	Calling	Make time (20PPS) setting	Setting of make time when dialing at 20PPS. Make time can be set from 9 to 24ms by binary inputting N over the range of 0 to 15 (N + 9ms). Functions only in China and Thailand.	Adjustment value
	5-8	Calling	Break time setting (20PPS)	Setting of break time when dialing at 20PPS. Break time can be set from 26 to 41ms by binary inputting N over the range of 0 to 15 (N + 26ms). Functions only in China and Thailand.	Adjustment value
5	1-4	Calling	Setting of DTMF send level (high group)	This sets the send level of high area and low area DTMF signals in units of 1dB. Setting can be made over the range of 0dB to 15dB in 1dB increments by binary inputting.	Adjustment value
	5-8		Not used		
6	1-4	Calling	Setting of DTMF send level (low group) High group - Low group: level difference	This sets the difference between the DTMF signal high area level and low area level in units of 0.5dB. Setting can be made over the range of -2.0dB to 5.5dB in 0.5dB increments by binary inputting. High group - Low group "0 0 0 0": -2.0dB "1 0 0 0": 2.0dB "0 0 0 1": -1.5dB "1 0 0 1": 2.5dB "0 0 1 0": -1.0dB "1 0 1 0": 3.0dB "0 0 1 1": -0.5dB "1 0 1 1": 3.5dB "0 1 0 0": 0.0dB "1 1 0 0": 4.0dB "0 1 0 1": 0.5dB "1 1 0 1": 4.5dB "0 1 1 0": 1.0dB "1 1 1 0": 5.0dB "0 1 1 1": 1.5dB "1 1 1 1": 5.5dB	Adjustment value
	5-8		Not used		
7	1-8	Calling	Setting of DTMF minimum pause time	This sets the minimum pause time between DTMF signals when sending DTMF signals. Minimum pause time can be set by binary inputting N over the range of 0 to 255 (1ms x N). Setting can be made over the range of 50ms to 255ms in 1ms increments by binary inputting. When SW15-3,4 are set to other than "MODEM fixed," the set value less than 54ms is considered as 54ms. The initial value is reverted to if a value outside of the setting range is set.	Adjustment value

SW No.	Bit No.	Item		SW selection and function	System settings
8	1-5	Calling	DTMF signal send time	This sets the time that DTMF signals are sent when sending DTMF signals. Send time can be set over the range of 70 to 310ms in 10ms increments by binary inputting N from 0 to 31 (110ms x N). The initial value is reverted to if a value outside of the setting range is set.	Adjustment value
	6, 7	Calling	Dial call waiting time	This sets the waiting time from the end of line connection to the start of dial call at times of automatic dial calling. "00": 3.5 seconds "01": 4 seconds "10": 5 seconds "11": 6 seconds This only functions when dial tone detection is OFF.	Adjustment value
	8	Calling	Line current detection at times of dial calling	Setting to determine whether or not to call dial following detection of line current during line connection at times of automatic dial calling. "1": No "0": Yes In cases where the setting is "Yes" but no line current can be detected, dial is not called but the busy re-call procedure is followed.	Setting
9	1	Calling	Manual calibration setting when sending	Setting to execute the manual calibration or not when sending. In case of an abnormal current waveform, the auto calibration fails and the DTFM signal is deformed. This setting provides the countermeasure against that problem. "0": Execute "1": Not execute	Setting
	2	Call arrival	Manual calibration setting when a signal arrives	Setting to execute the manual calibration or not when a signal arrives. In case of an abnormal current waveform, the auto calibration fails and the transmission is affected. This setting provides the countermeasure against that problem. "0": Execute "1": Not execute	Setting
	3-5		Not used		
	6	Calling	No. 2 dial tone detection	Setting of ON/OFF of No.2 dial tone detection function. "0": OFF (No. 2 dial tone detection is not performed.) "1": ON (No. 2 dial tone detection is performed.)	Setting
	7	Calling	Dial tone detection	When the setting is "Yes," the dial is sent following confirmation of detection of the dial tone when the line is captured; and when the setting is "No," dial is sent without a dial tone because no confirmation of dial tone detection is carried out after line capture. "0": No "1": Yes	Setting
	8	Calling	Dial tone ON detection time (during continuous detection)	This sets the waiting time from the end of line connection to the start of dial call at times of automatic dial calling. "0": 1.5 seconds "1": 1 seconds	Adjustment value
10	1-4	Calling	Lower limit of dial tone ON/OFF detection time (during intermittent detection)	This sets the lower limit time for detection of dial tone ON/OFF time. Setting can be made over the range of 40ms to 490ms in 30ms increments by binary inputting. (N x 30ms) + 40ms This is only valid during intermittent DT detection.	Adjustment value
	5-8	Calling	Upper limit of dial tone ON/OFF detection time (during intermittent detection)	This sets the upper limit time for detection of dial tone ON/OFF time. Setting can be made over the range of 400ms to 1900ms in 100ms increments by binary inputting. (N x 100ms) + 400ms This is only valid during intermittent DT detection.	Adjustment value
11	1-4	Calling	External line connection number setting 1 <First digit>	When No. 2 dial tone is detected, this area is compared with the external in connection number. If they match, the units waits for No. 2 dial tone. Up to two external line connection numbers (max. 4 digits) can be registered as options. The first digit of the external line connection number 1 is set. The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / - (pause) (c) / Not used for this digit and after (d) / Any is OK (f) When set to [e], it is considered as setting to [0].	Setting
	5-8	Calling	External line connection number setting 1 <Second digit>	The second digit of the external line connection number 1 is set. The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / - (pause) (c) / Not used for this digit and after (d) / Any is OK (f) When set to [e], it is considered as setting to [0].	Setting

SW No.	Bit No.	Item		SW selection and function	System settings
12	1-4	Calling	External line connection number setting 1 <Third digit>	The third digit of the external line connection number 1 is set. The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f) When set to [e], it is considered as setting to [0].	Setting
	5-8	Calling	External line connection number setting 1 <Fourth digit>	The fourth digit of the external line connection number 1 is set. The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f) When set to [e], it is considered as setting to [0].	Setting
13	1-4	Calling	External line connection number setting 2 <First digit>	The first digit of the external line connection number 2 is set. The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f) When set to [e], it is considered as setting to [0].	Setting
	5-8	Calling	External line connection number setting 2 <Second digit>	The second digit of the external line connection number 2 is set. The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f) When set to [e], it is considered as setting to [0].	Setting
14	1-4	Calling	External line connection number setting 2 <Third digit>	The third digit of the external line connection number 2 is set. The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f) When set to [e], it is considered as setting to [0].	Setting
	5-8	Calling	External line connection number setting 2 <Fourth digit>	The fourth digit of the external line connection number 2 is set. The numbers and codes which can be registered are as follows. 0 - 9 / * (a) / # (b) / – (pause) (c) / Not used for this digit and after (d) / Any is OK (f) When set to [e], it is considered as setting to [0].	Setting
15	1, 2	Calling	DT/BT detection level	This sets the minimum detection level for determining that dial tone and busy tone have been detected. Signal levels not larger than this setting are ignored. "00": -43dB "01": -35dB "10": -33dB "11": -30dB DT, BT common	Adjustment value
	3, 4	Calling	DT/BT detection frequency range setting	This sets the detection frequency range when detecting dial tone and busy tone. Change the setting if dial tone and busy tone are erroneously detected. "00": MODEM fixed (about 308Hz - 517Hz) "01": 420Hz - 680Hz "10": 360Hz - 440Hz "11": 245Hz - 650Hz For CTR21: 245Hz - 650Hz	Adjustment value
	5	Calling	Busy tone detection	Setting to determine whether or not to detect the busy tone signal during automatic dial calling and when the external telephone simulated call sound is ringing. "0": Detect "1": Do not detect	Setting
	6	Calling	Busy tone OFF non-detection time	This sets the non-detection time on the busy tone OFF section. Change the setting in cases where noise, etc. on the busy tone ON section adversely affects the ON section. "0": 100ms "1": 300ms * Make shorter than the "busy tone OFF detection time."	Adjustment value
	7, 8	Calling	Lower limit of busy tone ON detection time	This sets the lower limit time of the ON section when detecting frequency of the busy tone signal. If busy tone signals are not detected in excess of this time, do not count as 1 pulse. "00": 250ms "01": 140ms "10": 450ms "11": 350ms	Adjustment value

SW No.	Bit No.	Item		SW selection and function	System settings
16	1, 2	Calling	Upper limit of busy tone ON detection time	This sets the upper limit time of the ON section when detecting frequency of the busy tone signal. If busy tone signal is detected in excess of this time, do not count as 1 pulse. "00": 750ms "01": 650ms "10": 1000ms "11": 2850ms	Adjustment value
	3, 4	Calling	Lower limit of busy tone OFF detection time	This sets the lower limit time of the OFF section when detecting frequency of the busy tone signal. If busy tone OFF signals are not detected in excess of this time, do not count as 1 pulse. "00": 250ms "01": 140ms "10": 450ms "11": 350ms	Adjustment value
	5, 6	Calling	Upper limit of busy tone OFF detection time	This sets the upper limit time of the OFF section when detecting frequency of the busy tone signal. If busy tone signal is detected in excess of this time, do not count as 1 pulse. "00": 750ms "01": 650ms "10": 1000ms "11": 2850ms	Adjustment value
	7, 8		Not used		
17	1-4	Call arrival	Call signal OFF non-detection time	This sets the time for ignoring OFF signals and regarding ON time to be continuous following ON detection of the call signal (CI). This is intended to treat the PBX call signal "ring-ring" as a single call signal. Setting can be made over the range of 0ms to 1500ms in 100ms increments by binary inputting.	Adjustment value
	5-8	Call arrival	Lower limit of call signal ON time	This sets the minimum ON time for detecting call signal (CI) pulses (number of pulses). 1 pulse is counted if the CI signal remains ON for the set ON time or longer. Setting can be made over the range of 150ms to 300ms in 10ms increments by binary inputting.	Adjustment value
18	1-4	Call arrival	Upper limit of call signal ON time	This sets the maximum ON time for detecting call signal (CI) pulses (number of pulses). Disregard and do not count as 1 pulse if the CI signal remains ON for the set ON time or longer. Setting can be made over the range of 3000ms to 4500ms in 100ms increments by binary inputting.	Adjustment value
	5-8	Call arrival	Lower limit of call signal OFF time	This sets the minimum OFF time for detecting call signal (CI) pulses (number of pulses). 1 pulse is counted if the CI signal remains OFF for the set OFF time or longer. Setting can be made over the range of 100ms to 1500ms in 100ms increments by binary inputting. Setting range When 0 is set, initial value 700ms operation takes place.	Adjustment value
19	1, 2	Call arrival	Upper limit of call signal OFF time	This sets the maximum waiting time from detection of the call signal (CI) pulse (number of pulses) to detection of the next CI signal pulse. Accordingly, if the next CI signal pulse is not detected within this time, the number of calls up to now is cleared. "00": 6.5 seconds "01": 10 seconds "10": 15 seconds "11": 20 seconds	Adjustment value
	3	Call arrival	CI clear judgment	Setting of the judgment of CI signal 1 cycle. "1": Cleared only when the max. cycle is exceeded. (The min. cycle is 0.) "0": Cleared when outside the range of 1 cycle. (The min. and the max. cycles are set with other soft switches.)	
	4, 5	Call arrival	Filter time when the CI signal is detected.	The detection sampling time of the CI signal is set in the CI signal detection setting. "00": 10ms "01": 5ms "10": 15ms "11": 20ms	
	6-8		Not used		
20 - 23	1-8		Not used		

Communications

SW No.	Bit No.	Item		SW selection and function	System settings
24	1-8	Communication	Signal sending level	Set the level adjustment for sending signals from the modem. Setting can be made over the range of 0 to 26 in 1dBm increments by binary inputting. Since the maximum level differs according to country, if a value above the maximum level is set, the maximum value for the present country code will be adopted. (For North America and China, there is no limitation on the max. send level.) When set to a value greater than the upper limit, it is considered as setting to the upper limit. When set to a value smaller than the lower limit, it is considered as setting to the lower limit. If, however, it is set to 27 to 255, it is considered as setting to 26.	Adjustment value
25	1-3	Transmission	Setting of call time (T0 timer setting) in automatic transmission	Setting to determine how many seconds to call when the other party doesn't respond at times of automatic transmission. Setting can be made over the range of 30 to 60 (China: 30 to 45, Russia: 30 to 35) seconds in 15 (Russia: 5) second increments by binary inputting N ((15 (Russia: 5) seconds x N) + 30 seconds). The initial value is reverted to if a value outside of the setting range is set.	Timer
	4-7	Communication	T1 timer setting	Setting to determine how many seconds the line is connected when the other party's machine doesn't respond to FAX communication. Setting can be made over the range of 30 to 105 seconds in 5-second increments by binary inputting ((5 seconds x N) + 30 seconds). T1 timer is the timer used from the point where the other party's machine recognizes (CED or DCS) as FAX following line connection. 35±5 seconds according to the ITU-T standard.	Timer
	8	Communication	Si3056 SiDAA Reg.31 FILT	Setting to determine whether the signal of the following signal frequency band or less should be reduced or not. This setting is available when there is the noise on the signal frequency band of 300Hz or less. If there is the noise on the signal frequency band of 300Hz or less, the phenomenon that cannot receive FAX signal from the other side of the machine at all will happen. "0": Reduce the signal of 5Hz or less "1": Reduce the signal of 200Hz or less	
26	1, 2	Communication	T2 timer setting	The time until a command is received is set. "00": 6 seconds "01": 7 seconds "10": 8 seconds "11": 9 seconds This is the timer for receiving a command such as the DIS signal. 6±1 seconds in the ITU-T standards.	
	3, 4	Communication	T4 timer setting Timer during automatic operation (+1.5 seconds at times of manual operation)	This sets the timer for up until reception of the response. +1.5 seconds at times of manual operation "00": 3 seconds "01": 4 seconds "10": 5 seconds "11": 6 seconds This is the timer for up until reception of the response to the DCS signal, etc. 3 seconds ±15% under the ITU-T standard.	Timer
	5	Reception	EOL detection timer	Setting to determine how many seconds to set the detection timer for EOL (EndOfLine) during Phase-C reception in G3. "0": Setting to 13 seconds "1": Setting to 25 seconds When error occurs in EOL detection, treat as non-detection of EOL.	Timer
	6	Communication	Sharp machine mode	Setting is made whether Sharp's unique procedures (relay, confidential) are allowed or not by not sending NSF/NSS/NSC and not confirming that the machine is a Sharp machine or not. "0": Check "1": Not check	
	7, 8	Communication	Modem lightning protection measures	Function that corresponds to IEC lightning surge requirements as prescribed in the European CE standard. In cases where the machine cannot shift from CFR or MCF to high-speed signals (image signals) due to lightning interference, this extends the MPS waiting time. "00": 0 second "01": 20 seconds "10": 30 seconds "11": 40 seconds	Setting

SW No.	Bit No.	Item		SW selection and function	System settings
27	1, 2	Reception	CED signal sending time	This sets the time over which the CED signal is sent. "00": 3 seconds "01": 4 seconds "10": 5 seconds "11": No	Communication/ Adjustment value
	3	Reception	CED/ANSam detection time	This sets the time up until determination of the signal when detecting CED/ANSam signals. "0": 500ms "1": 1000ms	Adjustment value
	4	Reception	V.34 mode function (on call arrival)	Setting to determine whether or not to make the V.34 mode valid as machine capacity when receiving (on call arrival). "0": V.34 valid "1": V.34 invalid	Setting
	5	Transmission	V.34 mode function (including polling when calling)	Setting to determine whether or not to make the V.34 mode valid as machine capacity when transmitting (calling and polling). "0": V.34 valid "1": V.34 invalid	Setting
	6	Transmission	V.34 mode function at times of manual communication	Setting to determine whether or not to make the V.34 mode valid at times of manual communication (transmitting and receiving). "0": V.34 valid "1": V.34 invalid However, in cases where the V.34 mode function (including polling when calling) is set at 1: V.34 invalid, the V.34 mode will be rendered invalid even if this SW is set to 0: valid.	Communication/ Setting
	7	Transmission	3429 symbol rate transmission enable during V.34 transmission.	Setting to determine whether or not to enable 3429Hz as the symbol rate for V.34. When this is at "disable," 3429Hz is not selected. However, only valid during transmission. "0": disable "1": enable	Setting
	8	Transmission	Symbol rate 3200 high carrier transmission enable during V.34 transmission	When 3200Hz is selected as the V.34 symbol rate, there are Low/High carriers, but this setting determines whether or not both can be used. When this is at "disable," 3200 High is not selected. However, only valid during transmission. When both Low/High are at "disable," SymbolRate=3200Hz is not selected. "0": disable "1": enable	Setting
28	1	Transmission	Symbol rate 3200 low carrier transmission enable during V.34 transmission	When 3200Hz is selected as the V.34 symbol rate, there are Low/High carriers, but this setting determines whether or not both can be used. When this is at "disable," 3200 Low is not selected. However, only valid during transmission. "0": disable "1": enable	Setting
	2	Transmission	Symbol rate 3000 high carrier transmission enable during V.34 transmission	When 3000Hz is selected as the V.34 symbol rate, there are Low/High carriers, but this setting determines whether or not both can be used. When this is at "disable," 3000 High is not selected. However, only valid during transmission. When both Low/High are at "disable," SymbolRate=3000Hz is not selected. "0": disable "1": enable	Setting
	3	Transmission	Symbol rate 3000 low carrier transmission enable during V.34 transmission	When 3000Hz is selected as the V.34 symbol rate, there are Low/High carriers, but this setting determines whether or not both can be used. When this is at "disable," 3000 Low is not selected. However, only valid during transmission. "0": disable "1": enable	Setting
	4	Transmission	Symbol rate 3429 enable during V.34 transmission	Setting whether use of 3429Hz is enabled or not as the symbol rate in V.34 transmission. When this is set to [Disable], 3429Hz cannot be selected. "0": disable "1": enable	
	5	Transmission	Symbol rate 2800 enable during V.34 transmission	Setting to determine whether or not to enable 2800Hz as the symbol rate for V.34. When this is at "disable," 2800Hz is not selected. "0": disable "1": enable	Setting
	6	Transmission	Symbol rate 2743 enable during V.34 transmission	Setting to determine whether or not to enable 2743Hz as the symbol rate for V.34. When this is at "disable," 2743Hz is not selected. "0": disable "1": enable	Setting

SW No.	Bit No.	Item		SW selection and function	System settings
28	7, 8	Communication	Coding capacity during transmission and reception (V.34 communication) (reflected in DIS/DCS/DTC)	This sets the coding capacity that is communicated to the other party's machine in V.34 communication. "00": JBIG/MMR/MR/MH "01": MMR/MR/MH "10": MR/MH "11": MH	Communication/ Setting
29	1, 2	Communication	Coding capacity during transmission and reception (other than V.34 communication) (reflected in DIS/DCS/DTC)	This sets the coding capacity that is communicated to the other party's machine in communication other than V.34. "00": JBIG/MMR/MR/MH "01": MMR/MR/MH "10": MR/MH "11": MH	Communication/ Setting
	3-6	Transmission	Modem transmission speed (Other than V.34) (DCS)	This sets the initial speed (upper limit) in transmission of other than V.34. Reflect in DCS. When the default setting is made, V.17 14400bps is notified to the other party's machine. Communication does not always happen at this speed. "0000": V.27ter □ 2400bps □ "1000": V.17 □ 14400bps "0001": V.29 □ 9600bps □ "1001": V.17 □ 9600bps "0010": V.27ter □ 4800bps □ "1010": V.17 □ 12000bps "0011": V.29 □ 7200bps □ "1011": V.17 □ 7200bps "0100": V.33 □ 14400bps □ "1100": V.17 □ 14400bps "0101": V.17 □ 14400bps □ "1101": V.17 □ 14400bps "0110": V.33 □ 12000bps □ "1110": V.17 □ 14400bps "0111": V.17 □ 14400bps □ "1111": V.17 □ 14400bps	Speed/ Adjustment value
	7, 8	Reception	Fixing of modem speed during reception (Other than V.34) (DIS)	This sets the initial speed (upper limit) in transmission of other than V.34. When the default setting is made, V.17 14400bps is notified to the other party's machine. Communication does not always happen at this speed. "00": Not fixed "01": V.29-9600bps "10": V.27ter-4800bps "11": V.17-14400bps	Speed/ Setting
30	1-4	Reception	V.34 Symbol Rate Mask (when receiving)	This sets the symbol rate when receiving in the V.34 mode. "0000": 2400 "0001": 2400 "0010": 2800/2400 "0011": 3000/2800/2400 "0100": 3200/3000/2800/2400 "0101": 3429/3200/3000/2800/2400 When set at a value other than those shown above, the initial value of "0101" is activated.	Communication/ Setting
	5	Transmission	Echo countermeasure (setting of hold time between DIS reception and sending of signal) when transmitting.	Setting to determine how many seconds the interval is from receiving DIS to sending the DCS signal. This is only valid for communications of other than V.34. "0": 500msec "1": 800msec	Communication/ Setting
	6	Reception	Echo countermeasure (CED tone sending interval) when receiving	Setting to determine how many seconds the interval is from sending CED or ANSam to sending the DIS FSK signal. "0": 75msec "1": 500msec	Communication/ Setting
	7	Transmission	Confirmation of DIS reception when sending	Setting to determine how to confirm DIS reception when transmitting. "0": Once regardless NSF reception "1": Twice Valid apart from V.34	Communication/ Setting
	8	Reception	Enable/Disable of 33 bit or later of DIS (Reflected only to DIS)	Setting whether DIS is limited to 32 bit or not when receiving FAX. When limited, JBIG reception, F code reception, and UFN reception cannot be made. However, sending is enabled as well as polling. "0": Enable (33 bit or later enabled) "1": Disable (33 bit or later disabled)	

SW No.	Bit No.	Item		SW selection and function	System settings
31	1	Reception	CSI sending	Setting to determine whether or not to send the CSI signal. The CSI signal contains the transmission source number. "0": Yes (send the CSI signal) "1": No (do not send the CSI signal)	Setting
	2	Transmission	Echo suppressor tone setting No. 1	Setting to determine whether or not to have the echo suppressor tone in the high-speed modulation mode. "0": With V33 "1": Without V33	Setting
	3	Transmission	Echo suppressor tone setting No. 2	Setting to determine whether or not to have the echo suppressor tone in the high-speed modulation mode. "0": With V17 "1": Without V17	Communication/ Setting
	4	Transmission	Echo suppressor tone setting No. 3	Setting to determine whether or not to have the echo suppressor tone in the high-speed modulation mode. "0": With V29 "1": Without V29	Setting
	5	Transmission	Echo suppressor tone setting No. 4	Setting to determine whether or not to have the echo suppressor tone in the high-speed modulation mode. "0": With V27 "1": Without V27	Communication/ Setting
	6, 7	Reception	Image capacity when receiving (Reflect in DIS, Do not reflect in DTC.)	This sets the reception resolution capacity when FAX calls arrive (when sending DIS). Reflect in DIS, Do not reflect in DTC. "00": Very fine "01": Fine "10": When small "11": Ordinary lettering	Setting
	8	Reception	CFR / FTT return setting when CD signal does not turn off when TCF signal is received	"0": Do not return CRF/FTT (Default) "1": Return CFR/FTT At TCF reception, set whether or not the CFR or FTT signal is returned from the own machine when the CD signal is not turned off during SW 32-5 "timeout time setting after TCF signal reception start".	Setting
32	1, 2	Reception	Designation of reception size (indicating the width of reception capacity)	This sets this machine's receivable document width that is notified to the other party's machine when receiving. "00": By loaded cassette "01": A4 width "10": B4 (A4, B4) width "11": A3 (A4, B4, A3) width When using the loaded cassette, width is as follows depending on the maximum cassette size. A5/5.5x8.5R size: A4 width B5 size: B4 width A4/8.5x11 size: A3 width 8.5x13/8.5x14: A3 width B4 size: B4 width 11x17: B4/A3 width (changeover by means of the FAX soft SW) A3 size: A3 width A3 width is adopted in cases where a tray capable of receiving and printing facsimiles is not set and cases where all cassettes are open.	Setting
	3	Transmission	Training	Setting whether the training in high speed sending is set to long or short in V.17. "0": Short "1": Long	
	4	Reception	Reception gain changeover when receiving	Setting to determine the FTT determination method when confirming TCF reception. "0": Judge the EQM value to determine if the received data is 0 "1": Only judge from the EQM value. Accordingly, TCF confirmation becomes loose	Communication/ Setting
	5	Reception	Time out time setting after starting TCF signal reception	The time for time out is set after starting TCF signal reception. "0": 4 seconds "1": 2 seconds	Setting
	6	Communication	Time between DCS-TCF	Setting to determine how many seconds in the interval between DCS transmission and sending of the TCF signal. "0": 75msec "1": 150msec 75±20ms in the ITU-T standard.	Adjustment value
	7, 8	Communication	300bps preamble send time	The preamble send time is set in the FSK signal sending. "00": 0.5 seconds "01": 1 second "10": 1.5 seconds "11": 2 seconds	

SW No.	Bit No.	Item		SW selection and function	System settings
33	1, 2	Transmission	Phase-C head dummy data send time	Setting of the time to send the dummy data until sending the head data when sending in Phase-C. "00": 0.3 seconds "01": 0.4 seconds "10": 0.5 seconds "11": 0.2 seconds When the dummy data send time is increased, the remote machine which receives data can easily detect high speed signals.	
	3	Communication	Error handling when transmission and receiving RTN	Setting to determine whether or not to recognize communication errors when receiving RTN signals (only in the V.17 mode). "0": Recognize errors during RTN reception "1": Do not recognize error during RTN reception	Setting
	4, 5	Reception	SED ON level when receiving	Setting of an indication of the receivable level when receiving FAX signals. When noises are picked up and PPR occurs frequently, set to "-43dBm" or greater. (For example, "-38dBm.") "00": -48dBm "01": -38dBm "10": -33dBm "11": -43dBm	
	6, 7	Transmission	Transmission cable amplitude equalizer	When sending FAX signals, apply different gain from the frequency to the data signals between the modem and line. Setting to determine how high to make the 4000Hz gain compared to 0Hz. "00": 0dB "01": 4dB "10": 8dB "11": 12dB Indispensable in Australia	Communication/ Adjustment value
	8		Not used		
34	1, 2	Reception	Receive cable amplitude equalizer	When FAX signals are received, a gain different from the frequency is applied to the data signals between the MODEM and the line. Setting of how much greater the gain of 4000Hz is set when compared with 0Hz. "00": 0dB "01": 4dB "10": 8dB "11": 12dB	
	3-8		Not used		
35	1-8		Not used		

Functions

SW No.	Bit No.	Item		SW selection and function	System settings
36	1, 2		Not used		
	3	Print	Print setting when there is no communication record table data	Setting to determine whether the record table is printed or not in the list printing from the system when there is no record data (history) which have not printed in printing of the communication record table. The list printing from the system setting is as follows: • Print output by selecting from the data list print • Time specification print from the FAX setting or print at memory full "0": Do not print → "No print data" is displayed and printing of a list is disabled. "1": Print → A list is printed though there is no new history. This setting is used to check that there is no new history.	
	4	Print	Report output (when cancelled)	Setting to determine whether or not to output the communication results sheet in cases where document transmission is cancelled while in progress. "0": Do not output "1": Output	
	5	Print	Report output (when refusing reception) <FAX only>	Setting to determine whether or not to output the communication results sheet when reception is refused in FAX reception. However, other than not printing is set by means of the report output (when receiving) setting. "0": Do not output "1": Output Internet FAX is set by means of SW63-2. Irrespective of "Always print" and "Error," the results sheet is not printed.	
	6	Print	Printing of transmitted document contents at times of F code communication <FAX only>	Setting to determine whether or not to print part of the transmitted document on the communication results sheet at times of F code communication. However, only when the "Document contents printing at times of transmission" setting is valid. "0": Do not print "1": Print The "Document contents printing (results sheet) at times of transmission" setting takes priority.	

SW No.	Bit No.	Item		SW selection and function	System settings
36	7	Print	Document content print when sending (PC-Fax (Internet Fax) report table)	Setting to print images or not on the report table when sending PC-Fax (Internet Fax). "0": Not print "1": Print When the system setting is set so that images are added in the communication report table, if the destination is a PC-Fax (Internet Fax), the document contents are printed by this setting.	
	8	Print	Set the number of characters for sender printing	"0": 20 characters (Default) "1": 40 half-pitch characters / 20 full-pitch characters	
37	1, 2	Function	Protocol monitor	Setting to determine whether or not the protocol monitor (recognized by the FAX) for 1 communication is printed. "00": No (do not print) "01": No (do not print) "10": Print (always) "11": Only at times of error (print) When a new communication occurs before the protocol monitor is printed, delete the old protocol data (overwrite).	
	3	Function	Determination of sub-scan length (determination setting when selecting the page)	Setting to determine whether to give priority to width or length when selecting the optimum sheet when printing received data. "0": Priority to data length "1": Priority to data width	
	4	Print	Paper selection when reception printing (LTR/A4)	Used to set whether LTR is confirmed first of all in selection of paper for reception printing or paper that provides smaller reduction rate of A4 and LTR is selected. "0": Priority on LTR/A4 reduction rate "1": Priority on LTR	
	5		Not used		
	6	Function	Valid/Invalid setting of FAX A4, 8.5 x 11 threshold	When printing received FAX data with A4 and 8.5 x 11 paper in the tray, this setting determines whether to make threshold values in paper selection valid or invalid. If made valid, it becomes easier to select letters. "0": Valid "1": Invalid When printing received Internet FAX data, conduct setting using the separate SW (Valid/Invalid setting of Internet FAX A4, 8.5 x 11 threshold).	
	7	Reception	Setting of the reception width of 11x17 sheet	This sets the receivable document width in cases where "11 x 17 sheet" is selected as the FAX printing paper. "0": A3 width (A3, B4, A4) "1": B4 width (B4, A4)	
	8	Communication	Data line parity check (Between ICU - FAXBOX)	The parity on the data line between the ICU and the FAXBOX is checked. (Supporting the E7-06 problem) "0": Parity is checked. "1": Parity is not checked.	
38	1-4	Function	Magnification setting in automatic reduction	Setting to determine the page length for reduced printing of documents received when automatic reduced printing is set at permitted. Percentage threshold that can be reduced (excluding reduction between fixed page sizes) Setting can be made over the range of 85% to 100% in 1% increments by binary inputting ($N \times 1\% + 85\%$). The initial value of 90% is reverted to if a value outside of the setting range is set.	
	5	Print	Rotated printing	Setting to determine whether or not to rotate and output received data when this is possible at times of receiving and printing FAX and Internet FAX data. "0": Permitted (rotate and print) "1": Prohibited (do not rotate and print)	
	6	Print	Designation of rotation direction when printing on both sides and the rear side.	Setting to determine whether to adopt vertical binding or horizontal binding when printing on both sides. When horizontal binding is selected, the header position on both sides (front and rear) is printed in the same direction. When vertical binding is selected, since the image rotates by 180 degrees, the header position is reversed. "0": Horizontal binding "1": Vertical binding	
	7	Function	Setting of received document output when receiving	Setting to determine whether to output data received in FAX, Internet FAX communications en masse or to output 1 page at a time as it is received. "0": Save and output en masse following completion of reception "1": Output 1 page at a time	
	8	Print	Selection of error page output when error occurs during FAX reception.	Setting to determine whether to output the error page or to not output it and discard it in cases where communication errors occur during FAX reception. "0": Output the error page "1": Do not output the error page However, in cases where errors occur during F code relay-instructed reception or F code confidential reception, the error page is not outputted irrespective of this SW setting.	

SW No.	Bit No.	Item		SW selection and function	System settings
39	1	Transmission	Selection of re-send page at times of error	Select the page to be re-sent when errors occur during transmissions that do not contain F code. "0": Error page and onwards (re-send from the pages that have not been transmitted to the other party's machine). "1": All pages (re-send from the first page including pages that have been transmitted to the other party's machine). When transmitting in F code, all pages are re-transmitted irrespective of this setting.	
	2	Print	Selection of date and transmission source print language <Format>	Setting to determine the format of the date and transmission source attached when transmitting FAX. "0": Date format "1": North American format	
	3	Print	Relay data output	Setting to determine whether or not to output documents received from the relay command station when F code relay broadcast instructions are received. "0": Output "1": Do not output	
	4	Transmission	F code relay broadcast FAX sender addition setting	Setting to determine whether the machine's sender is added or not when relay broadcast send is performed to the FAX remote machines which are registered in the machine (relay broadcast instruction receiving station) after receiving the F code relay broadcast instruction is received from a remote machine. This is in order to cope with the FAX circular specifications. "0": Added "1": Not added	
	5	Communication	F code communication error handling	Setting to determine whether or not to re-send at times of F code communication. "0": Re-send "1": Do not re-send However, do not re-call in cases where the "Re-call permission at times of communication error" setting is at "0: Prohibited." Do not re-send when the other party's machine does not have F code functions.	
	6	Transmission	F code password transmission setting when the other party's machine has no password capacity	Setting to determine the communication procedure in cases where the other party's machine has no F code password capacity when conducting F code communication. "0": Disconnect with DCN "1": Send with password	
	7	Function	Receive data-Memory remaining threshold setting	When the remaining memory capacity is 64 KB or less or 128 KB or less, printing of received data is started even during fax reception. "0": 128KB "1": 64KB	
	8	Function	External telephone setting when no sound is set	Setting to determine whether or not to use external telephone when no sound is set. When the no sound priority setting is made, reception operation is soundless but communications cannot be sent to and from an external telephone. When the external telephone priority setting is made, communications can be sent to and from an external telephone, but reception operation sounds once. "0": External telephone priority "1": No sound priority	
40	1	Transmission	Fax transmission setting for external phone	A setting to use an external telephone like a handset to send a fax. "0": Enable "1": Disable	
	2	Reception	Setting to refuse reception at times of manual reception (FAX)	Setting to determine whether or not to validate refusal of reception of designated numbers. However, only at times of manual reception. "0": Receipt of designated number is not refused (invalid) "1": Receipt of designated number is refused (valid) However, at times of automatic reception, perform using a separate SW (Setting to refuse reception at times of automatic reception). Only valid in cases where the "Specified number reception Enable/Disable setting (FAX)" is refused.	
	3	Reception	TSI judgment setting (no signal or all space) when refusing reception from designated numbers	Setting to determine whether to refuse or permit reception when there are no TSI signals from the other party's machine or signals are all spaced in cases where the refusal of designated number reception set by system setting is valid. "0": Reception will be permitted. "1": Reception will be refused. Only valid in cases where the "Specified number reception Enable/Disable setting (FAX)" is refused.	
	4	Reception	TSI judgment setting (No numbers and no space can be used.) when refusing reception from designated numbers	Setting to determine whether to refuse or permit reception when TSI signals from the other party's machine are no numbers and no space can be used reception set by system setting is valid. "0": Reception will be permitted. "1": Reception will be refused. Only valid in cases where the "Specified number reception Enable/Disable setting (FAX)" is refused.	

SW No.	Bit No.	Item		SW selection and function	System settings
40	5	Communication	PIN code correspondence	Setting to determine whether or not to limit FAX dial number display to 16 digits. When this is set to "1: Correspond," FAX number display based on the resend key and the other party's number on the job status completion screen are displayed from the start to the 16th digit. When this SW is set as valid, it is also reflected in report contents. "0": Do not correspond "1": Correspond FAX address display limit (displayed up to the 16th digit from the front)	
	6-8		Not used		
41	1		Not used		
	2	Function	Reversion from the energy saving state (excluding preheat) when the external telephone is off-hook	Setting to determine whether or not to revert from energy saving with the external telephone off the hook in the energy saving state (excluding preheat). "0": Do not revert "1": Revert	
	3		Not used		
	4	Function	Scope of line sound monitor	Setting to determine the scope of monitoring when the line monitor function is used When "Until NSF signal send/receive" is set, monitoring is conducted until the DCS or NSF signal is received. When "All" is set, everything is monitored until the line is disconnected. "0": Until NSF signal send/receive "1": All Setting of line monitor sound ON/OFF is done by a separate SW. * For security reasons, do not leave the line sound monitor range changed to "1": All.	
	5	Call arrival	V150V24 detection setting	Setting of detection when non-ringing setting is received. "0": 24V detection "1": 150V detection	
	6		Not used		
	7		Hook detection setting for external phone	"0": SiDAA (Default) "1": EXHS-(Photo coupler) or HS1/HS2 (Current sensor)	
	8		Not used		
42 - 89	1-8		Not used		

Others

SW No.	Bit No.	Item		SW selection and function	System settings
90	1	Internet FAX	Addition of Content-X-CIAJWNETFAX field (in internet FAX send)	Setting to determine whether or not "CONTENT-X-CIAJWNETFAX" is added to the mail field in Internet FAX send. By adding this field, printing of the mail text on the Internet FAX receiving side can be inhibited (however, this function is only valid when the Internet FAX receiving side supports this field). "0": Do not add field "1": Add IGNORE	
	2	Internet FAX	Resolution type of internet FAX	This sets the type of reading resolution when sending Internet FAX. "0": inch type "1": mm type	
	3	Scanner	Setting of E-Mail sending (Return address)	Setting to determine whether the return address is added or not when the mail content is modified in returning Scan to E-Mail. "0": Return address is not added. "1": Return address is added.	
	4	Scanner	Setting of E-Mail sending (Header)	Setting to determine whether the device name, the model name, and the installing place are added to the header or not when the mail content is modified in returning Scan to E-Mail. "0": The header is not added. "1": The header is added.	
	5	Internet FAX	Setting of internet FAX sending (Return address)	Setting to determine whether the return address is added or not when the mail content is modified in returning internet FAX. "0": Return address is not added. "1": Return address is added.	
	6	Internet FAX	Setting of internet FAX sending (Header)	Setting to determine whether the device name, the model name, and the installing place are added to the header or not when the internet FAX mail content is modified. "0": The header is not added. "1": The header is added.	
	7	Internet FAX	Selection of the Internet FAX date and transmission source print language <format>	Setting to determine the format of the date and transmission source attached when transmitting Internet FAX. "0": Date format "1": North American format	
	8	Scanner	File name replacement setting (ScanToXXX) (Line break prohibit)	Setting to determine whether the codes registered in the US-ASCII are replaced with " _ " or not for the file name in ScanToXXX and the file name used as a link destination of a hyper link mail. "0": Not replaced "1": Replaced (Replaced with " _ ")	

SW No.	Bit No.	Item		SW selection and function	System settings
91	1	Scanner	Setting of attaching "\ (back slash)" to a common folder name or a file name in ScanToSMB.	Setting to determine whether "\ (back slash)" is attached to the head of a file name or not. "0": Not attached (When this setting is selected, the file name is as "common folder name\file name.") "1": Attached (When this setting is selected, the file name is as "common folder name\file name.")	
	2	Scanner	Secondary storage background process inhibit in scanner send (other than USB)	Setting to determine whether the secondary storage process in ScanToXXX is performed in the background or in the foreground with "Processing" displayed on the operation panel. "0": Enable (Background process) "1": Inhibit (Foreground process)	
	3	Scanner	Secondary storage background process when the send data upper limit setting is valid	Setting to determine whether the secondary storage process in ScanToXXX (except for ScanToUSB) when the send data upper limit setting is valid is performed in the background or in the foreground with "Processing" displayed on the operation panel. "0": Disable (Foreground process) "1": Enable (Background process) When the soft SW62-2 "Secondary storage background process inhibit in scanner send (other than USB)" is set to "1: Inhibit," the process is made in the foreground regardless of this setting.	
	4, 5	Internet FAX	Setting of size selection in the internet FAX reception (AB series)	The paper sizes which can be selected in the paper selection of the internet FAX reception are set. Since, in the paper selection for the internet FAX reception, only one paper size can be selected according to the received data width and the number of lines, a user who does not use B5 paper (does not load B5 paper in the cassette) cannot print until B5 paper is loaded. To avoid this inconvenience, the use can use this setting for the paper size prepared in the cassette. "00": Selection from B5/A4/B4/A3 "01": Selection from A4/B4/A3 "10": Selection from A4/A3 "11": Selection from A5/B5/A4/B4/A3	
	6	Internet FAX	Valid/Invalid setting of Internet FAX A4, 8.5 x 11 threshold	When printing received Internet FAX data with A4 and 8.5 x 11 paper in the tray, this setting determines whether to make threshold values in paper selection valid or invalid. "0": Valid "1": Invalid Setting of FAX received data is performed by means of a separate SW.	
	7	Internet FAX	Setting of Enable/Disable of the threshold value of the internet FAX Mexican legal, foolscap	Setting to change the print paper judgment. When Mexican legal is received, if the automatic reduction is made, it may be printed in foolscap because of the small threshold value. When Enable, Mexican legal can be selected easily. "0": Enable "1": Disable Setting of FAX received data is performed by means of a separate SW.	
	8	Internet FAX	Setting of Enable/Disable of the threshold value of the internet FAX Mexican legal, legal	Setting to change the print paper judgment. When Legal is received, if the automatic reduction is made, it may be printed in Mexican legal because of the small threshold value. When Enable, Legal can be selected easily. "0": Enable "1": Disable Setting of FAX received data is performed by means of a separate SW.	

SW No.	Bit No.	Item		SW selection and function	System settings
92	1	Internet FAX	Setting of text printing when receiving mails without attached files	Setting to determine whether or not to print mail texts when incoming mails do not have attached files. "0": Do not print mail letters "1": Print the main text of mails (Communication results error)	
	2	Internet FAX	Report output (when reception is refused) <Internet FAX only>	Setting to determine whether or not to output the communication results sheet when reception is refused in Internet FAX reception. However, other than not printing is set by means of the report output (when receiving Internet FAX) setting. "0": Do not output "1": Output FAX is set at "Report output (when reception is refused) <FAX only>." Irrespective of "Always print" and "Error," the results sheet is not printed.	
	3	Scanner	Display setting at times of NW trouble	Setting to determine whether or not to display on the operation panel when network trouble occurs while the NIC card is loaded. "0": Display trouble "1": Do not display trouble (do not display "CE-00" and "CE-01")	
	4	Internet FAX	Nighttime FAX mode setting <when Internet FAX product key is disabled>	Setting to determine whether or not to enter the minimum power consumption mode when the panel power SW is turned OFF. Enable only when the internet FAX product key is disable. "0": Enter the nighttime FAX mode "1": Do not enter the nighttime FAX mode This soft SW is disable (does not function) when the external calculation mode is enable. (SW92-6: Pseudo-nighttime mode setting <External calculation mode> functions.)	
	5	Internet FAX	Pseudo nighttime mode setting <when I-FAX product key is Enable>	Setting to determine whether or not to enter the minimum power consumption mode when the panel power SW is turned OFF. Enable only when the internet FAX product key is disable. "0": Enter the pseudo nighttime FAX mode "1": Do not enter the pseudo nighttime FAX mode This soft SW is disable (does not function) when the external calculation mode is enable. (SW92-6: Pseudo-nighttime mode setting <External calculation mode> functions.)	
	6	OSA	Pseudo-nighttime mode setting <External calculation mode>	Setting to determine whether the minimum low power consumption mode is set when the panel power switched is turned OFF in the OSA external calculation mode. "0": Enter the pseudo-nighttime FAX mode (do not enter the nighttime mode) "1": Do not enter the pseudo-nighttime FAX mode (enter the nighttime mode) Enable only when the external calculation mode is ON. In the external calculation mode, the following soft switches are disable (do not function). SW92-4: Nighttime FAX mode setting <When the internet FAX product key is disable> SW92-5: Pseudo-nighttime FAX mode setting <When the internet FAX product key is enable>	
	7	Function	Nighttime FAX mode setting <60W nighttime mode>	Setting to determine whether the FAX BOX power is not shut down when the panel power switch is turned OFF (In normal cases, it is notified in the F net, dial-in setting.) "0": Do not enter the pseudo-nighttime FAX mode (60W is not notified) "1": Enter the pseudo-nighttime FAX mode (60W is notified) Related soft SW: SW92-4: Nighttime FAX mode setting <when Internet FAX reception is disabled> SW92-5: Pseudo-nighttime mode setting <when Internet FAX reception is enabled> SW92-6: Pseudo-nighttime mode setting <External calculation mode> This soft SW is enable regardless of the external calculation mode.	
	8		Not used		

• **Nighttime FAX mode:**

<Power status>
Resident power ON
Sub power OFF
Main power OFF
<Power SW status>
Main power SW: ON
Panel power SW: OFF
<Function>
When CI (calling) signal is detected from the FAX line, power can be supplied to the machine and the FAX BOX.

• **Pseudo-nighttime mode:**

<Power status>
Resident power ON
Sub power ON
Main power ON
<Power SW status>
Main power SW: ON
Panel power SW: OFF or ON
Or
Power save mode (the power save key is pressed or in the auto power shut off state)
(Either case will provide the conditions for the pseudo-nighttime mode.)

• **Nighttime FAX mode:**

• **Pseudo-nighttime mode:**

<Function>

The power is supplied to the machine (including SCU/PCU) and the FAX BOX or the HDD, and the panel light is turned OFF.

Under this condition, the following operations except for FAX scanning can be performed:

- FAX/NWS send, FAX receive/internet FAX receive, printer data receive, network access, etc.

SW No.	Bit No.	Item		SW selection and function	System settings
93	1	Function	Background process when specifying the time	Setting to determine whether the secondary storage process in ScanToXXX (except for ScanToUSB) by specifying the time is performed in the background or in the foreground with "Processing" displayed on the operation panel. When the soft SW62-2 "Secondary storage background process inhibit in scanner send (other than USB)" is set to "1: Inhibit," the process is made in the foreground regardless of this setting. "0": Background process "1": Foreground process	
	2	Function	Received data printing hold screen display setting	Setting to determine whether the print hold screen is displayed or not after entering the product key of the document service kit. This setting can be changed only in the simulation mode. "0": Enable (Displayed) "1": Disable (Not displayed)	
	3	Function	Decode error process in printing the FAX/ Internet FAX reception data	Setting of the process when a decode error occurs in printing the FAX/Internet FAX reception data. "0": Judged as E7-06 trouble. When a decode error is detected, it is judged as E7-06 trouble and printing is not completed. The image data of the decode error page are not deleted. • When the power is turned OFF/ON, the received data can be printed again. (In case of E7-06 error, however, manual transfer cannot be performed.) "1": Not judged as E7-06 trouble. The area after the line of decode error is printed as white data. It is not processed as a trouble.	
	4	Function	Hold release setting when receiving memory full	When Print Hold or Receive Preview is enabled, Setting whether to cancel hold and print when FAX / I-FAX reception data is full. "0": Release hold "1": Do not release hold	
	5	-	FFL address book renewal time stamp check setting	Setting is made to select YES/NO of checking the synchronization of time stamps between the address book renewal time in the printer driver and that in the MFP in the function flow light (FFL) function. "0": Check is made. "1": Check is not made. * Since synchronization of renewal time stamps of the address books is made as a condition for the FFL function in order to prevent erroneous sending, this setting must be carefully made especially when changing. *2	
	6	Internet FAX	Setting of the 1W energy-save mode entering time when the POP3 confirmation function is enable.	Setting whether the machine enters the 1W energy-saving mode/1W nighttime mode according to the frequency confirmation time in the POP3 server frequency confirmation when the I-FAX function is ON. "0": 3 minutes "1": No limit In case of "0" above, if the POP3 server frequency confirmation time is within 3 minutes, the machine does not enter the 1W mode but enters the pseudo energy-saving mode. In case of "1", the machine enters the pseudo energy-saving mode regardless of the POP3 server frequency confirmation time. In addition, since the default of the POP3 server frequency confirmation time is 5 minutes, the machine enters the 1W mode under the normal conditions. In order to keep the machine in the pseudo energy-saving mode, perform either of the following two methods: • Change the POP3 server frequency confirmation timing to 3 minutes or less. • Change this SSW to "1." *2	
94	7, 8		Not used		
	1-8		Not used		

SW No.	Bit No.	Item		SW selection and function	System settings
95	1	Internet FAX	Size selection for internet FAX reception	Setting is made to select "Paper individual setting" or "Paper combination setting" in I-FAX reception. 1: 1: Paper individual setting (Follows SW95-2 - 6.) 0: 0: Paper combination setting (Follows SW91-4 - 5.) (Default) * This soft SW is added according to requests from the market for combination of paper selection which is not available with SW91-4 and 5. Example: Print in B4 only	
	2-6	Internet FAX	Size selection for internet FAX reception (Paper individual setting)	Setting is made to select whether each paper size is included as an option of the paper selection in the individual selection of paper when receiving I-FAX. "Selected" → The paper size is included as an option of paper selection. "Not selected" → The paper size is not included as an option of paper selection. * This setting is valid when SW95-1 "Size selection for internet FAX reception" is set to "1: Paper individual setting". When, however, all of SW95-2 - 6 are set to "1: Not selected", SW95-1 functions as "0."	
	7	Function	White paper skip confirmation Process after message time out	If the white paper skip function is set, when [START] button is pressed, the message is displayed confirming the document quantity actually scanned and that to be sent. This setting is made to select the job 60 sec after the above state. "1": The send job is performed. "0": The job is cancelled. (Default) *2	
	8	Function	Process after time out of the document quantity count confirmation	If the document quantity count function is ON, when scanning is completed with the document feed unit, the message of the scanned document quantity is displayed. This setting is made to select the job 60 sec after the above state. "1": The send job is performed. "0" The job is canceled. (Default) *2	
96	1		Sequence setting of Time and Date added to the file name (Scanner/I-FAX)	Setting to determine the sequence of Year/Month/Day/Time if "Date & Time" is selected in File Naming setting when creating the file name of the scanned original with ScanToE-Mail/FTP/Desktop/SMB/USB/I-Fax. "0": Year/Month/Day/Time Fixed("YYYYMMDD_HHMMSS") (Default) "1": According to the format setting of Date & Time in System Settings e.g.: "YYYYMMDD_HHMMSS" (when 24-Hour is selected) "MMDDYYYY_HHMMSSPM" (when 12-Hour is selected)	
	2		Sequence setting of Time and Date added to the file name (InboundRouting)	Setting to determine the sequence of Year/Month/Day/Time if "Date & Time" is selected in File Naming setting when creating the file name of the original with InboundRouting. "0": Year/Month/Day/Time Fixed("YYYYMMDD_HHMMSS") (Default) "1": According to the format setting of Date & Time in System Settings e.g.: "YYYYMMDD_HHMMSS" (when 24-Hour is selected) "MMDDYYYY_HHMMSSPM" (when 12-Hour is selected)	
	3		Sequence setting of Time and Date added to the file name (Auto filling of received data)	Setting to determine the sequence of Year/Month/Day/Time if "Date & Time" is selected in File Naming setting when creating the file name of the original with Auto filling of received data. "0": Year/Month/Day/Time Fixed("YYYYMMDD_HHMMSS") (Default) "1": According to the format setting of Date & Time in System Settings e.g.: "YYYYMMDD_HHMMSS" (when 24-Hour is selected) "MMDDYYYY_HHMMSSPM" (when 12-Hour is selected)	
	4-8		Not used		
97 - 98	1-8		Not used		

System settings (Line/Other)

SW No.	Bit No.	Item		SW selection and function	System settings
99	1, 2	Calling	Tone/Pulse initial setting (Dial call signal setting)	This is set according to dial type. "00": 10PPS (pulse) "01": 20PPS "10": TONE "11": TONE Other than China/Thailand: If "20pps" is set, adopt the initial TONE.	FAX initial setting/ Setting
	3-6	Calling	Pause time setting (between dials)	This sets the time per pause inputted during dialling. The pause time can be set from 1 to 15 seconds in 1-second increments by binary inputting N over the range of 0 to 15 (1 second x N). If a value outside the setting range (or "0000") is set, the initial value of 2 seconds is reverted to.	FAX initial setting/ Adjustment value
	7, 8	Calling	PBX setting	Setting to determine whether or not to send out ID or Flash before dialing. Functions only in Germany and France. In other countries, this setting is fixed to "OFF". "00": OFF "01": Flash "10": ID "11": Not used (OFF) The setting other than the above would be granted as the default.	FAX initial setting

SW No.	Bit No.	Item		SW selection and function	System settings
100	1-4	Calling	ID (number) setting <Input the 1st digit when dial inputting and dialing>	Conduct ID No. setting when the PBX function is valid. Valid when ID is set using SW99-7, 8. The initial value of 0 is reverted to if a value outside of the setting range (10 - 15) is set.	FAX initial setting
	5-8	Calling	ID (number) setting 2 <Input the 2nd digit when dial inputting and dialing>	Conduct ID No. setting when the PBX function is valid. Valid when ID is set using SW99-7, 8. When 10 - 12, 14, 15 are designated, do not use numbers with those digits. "." when 13 is set.	FAX initial setting
101	1-4	Calling	ID (number) setting 3 <Input the 3rd digit when dial inputting and dialing>	Conduct ID No. setting when the PBX function is valid. Valid when ID is set using SW99-7, 8. When 10 - 12, 14, 15 are designated, do not use numbers with those digits. "." when 13 is set.	FAX initial setting
	5-8	Call arrival	Distinctive ring (DRD setting)	Setting to determine whether or not to execute FAX arrival call by the distinctive ring. Even if a call signal other than the set pattern is detected, there will be no automatic arrival call. "0000": OFF "0001": STANDARD "1000": Pattern 1 "0100": Pattern 2 "1100": Pattern 3 "0010": Pattern 4 "1010": Pattern 5 "0110": ON (Australia) "1110": ON (New Zealand) "1001": ON (Hong Kong) When contents other than the above are set, the initial value is reverted to.	FAX initial setting/ Setting
102	1		Not used		
	2-5	Call arrival	Setting of the number of automatic reception calls	Set the number of call sounds until the start of receiving (holding of the line) when automatic reception is set. This can be set from 0 to 15 (Europe/Indonesia/Thailand: 0 to 9, Australia/New Zealand: 2 to 4) times by binary inputting. If 0 is set, the call sound will not be sounded. (However, this does not include the nighttime FAX mode.)	FAX reception setting/ Setting
	6	Call arrival	Setting for changing over to automatic reception during manual reception	Setting to determine whether or not to initiate automatic reception after the ringer sounds a certain number of times when manual reception is set. "0": Prohibited (do not changeover) "1": Permitted (changeover)	FAX reception setting/ Setting
	7, 8		Not used		
103	1-5	Call arrival	Setting of the number of calls for changing over from manual to automatic reception	Set the number of calls before changing over to automatic reception when in the manual reception mode. Functions only in France. This functions when the "Setting for changing over to automatic reception during manual reception" (SW71-6) is valid. Setting can be made over the range of 1 to 9 times in 1 time increments by binary inputting. The initial value is reverted to if a value outside of the setting range is set.	FAX reception setting/ Setting
	6	Communication	ECM (valid except during V.34: reflected in the V.21 DIS/DCS/ DTC)	Setting to determine whether or not to execute the error re-send mode. However, this is only valid when communication is other than V.34. "0": Yes. Set with ECM function. "1": No. Set with no ECM function. ECM is on during communication in the V.34 mode.	FAX initial setting
	7	Function	Change from the image send screen to the copy screen	Setting to determine whether or not to automatically change from the image send screen to the copy screen. When changing over, if no keys are operated for 20 seconds after pushing the final key in the image send mode, the copy mode will be automatically switched to. If there is no changeover, the machine will remain in the image send mode and not switch to the copy mode. "0": Do not change over "1": Change over	Operation setting
	8	Function	Image quality setting when saving (FAX)	Setting to determine whether or not to make filed image quality valid (initial setting for image quality selection when transmitting filed document files by FAX) "0": Do not apply "1": Apply	Operation setting

SW No.	Bit No.	Item		SW selection and function	System settings
104	1-4	Function	Image quality priority selection (standard image quality setting)	Setting to determine the initial setting for image quality selection when reading documents on the FAX. "0000": Ordinary lettering "0001": Small lettering "0010": Fine "0011": Very fine "0101": Small lettering, medium tone "0110": Fine, medium tone "0111": Very fine, medium tone "Ordinary lettering" (initial value) is reverted to if a value outside of the setting range is set.	Operation setting
	5	Function	Received data printing hold (FAX/Internet FAX)	Setting to determine whether or not to store data received by FAX/Internet FAX in the memory without outputting it. "0": Do not hold "1": Hold	Operation setting
	6	Function	Saving the setting contents for a certain period after completion of scanning	Setting to determine whether the set values of the destination and various functions are saved without returning to the default values or not when reservation is completed on the image send screen. "0": The set values are not saved. "1": The set values are saved.	Operation setting
	7		Reception Indicator Setting	Setting to determine whether or not the FAX reception lamp should be turned ON regardless of Energy Save mode (Power switch of controller is ON) or the normal mode if FAX/I-FAX received data is in the memory (not output) or FAX/I-FAX received data is output to the right delivery tray. Fax reception lamp is not ON in 1W (Nighttime FAX mode) as before. "0": Reception lamp Disable "1": Reception lamp Enable	
	8	Function	Default finish stamp setting	Setting to determine whether the finish stamp is used or not after completion of document scan when the document feed unit is used. "0": NO (The finish stamp is not used.) "1": YES (The finish stamp is used.)	Operation setting
105	1-4	Function	Speaker volume when on-hook (Speaker volume during DTMF sending)	This sets speaker volume for when the on-hook button is pushed. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0," it is considered as setting to the default.	FAX initial setting
	5-8	Function	Call sound volume	Irrespective of whether there is a handset, this sets the volume of the call sound that is sounded when a signal arrives. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0," there is no sound (OFF).	FAX initial setting
106	1-4	Function	Line monitor volume setting	Set the speaker volume during line monitoring. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0," there is no sound (OFF).	FAX initial setting
	5-8	Function	Volume of the transmission completion sound (Volume of the successful transmission sound)	Set the volume of the completion sound outputted from the speaker upon completion of FAX transmission. When sending is succeeded, a sound is generated by this setting. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0," there is no sound (OFF).	FAX initial setting
107	1-4	Function	Volume of the communication error completion sound (Volume of the transmission and reception error sound)	This sets the volume of the completion sound outputted from the speaker upon completion of FAX communication error. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0," there is no sound (OFF).	FAX initial setting
	5-8	Function	Volume of the reception completion sound (Volume of the reception completion sound)	This sets the volume of the completion sound outputted from the speaker upon completion of FAX reception. When receiving is succeeded, a sound is generated by this setting. The sound volume is set with a value. The greater the value is, the greater the sound volume is. Setting range is 1 (small) to 15 (large) by binary input. When it is set to "0," there is no sound (OFF).	FAX initial setting

SW No.	Bit No.	Item		SW selection and function	System settings
108	1, 2	Function	Tone of the successful transmission sound	This sets the tone sounded when transmission is successful. "00": Pattern 1 (550Hz) "01": Pattern 2 (750Hz) "10": Pattern 3 (1000Hz) "11": Pattern 4 (1700Hz)	FAX initial setting
	3, 4	Function	Tone of the transmission and reception error sound	This sets the tone sounded when there is a transmission and reception error. "00": Pattern 1 (550Hz) "01": Pattern 2 (750Hz) "10": Pattern 3 (1000Hz) "11": Pattern 4 (1700Hz)	FAX initial setting
	5, 6	Function	Tone of the reception sound	This sets the tone sounded upon completion of reception. "00": Pattern 1 (550Hz) "01": Pattern 2 (750Hz) "10": Pattern 3 (1000Hz) "11": Pattern 4 (1700Hz)	FAX initial setting
	7	Function	Auto startup mode	In the case where FAX or Internet FAX is received during nighttime mode or simulated mode, if this setting is ON, the received document will be outputted when the machine becomes able to output. When OFF, the machine will receive the data by proxy without outputting the document, but it will output the received document when the panel power SW is ON. "0": Setting (setting for automatically starting up the main unit and outputting) "1": Release (setting for storing in the memory without starting up the main unit)	FAX initial setting
	8	Function	Digital line net setting	When this is set to "1: ON", "-15dBm" is set regardless of the soft switch setting in the signal send level on the FAXBOX side.	FAX initial setting
109	1-3	Function	Setting of the successful transmission sound time	This sets the time the tone is sounded when transmission is successful. "101": 1.0 seconds "110": 1.5 seconds "000": 2.0 seconds "001": 2.5 seconds "010": 3.0 seconds "011": 3.5 seconds "100": 4.0 seconds The initial value is reverted to if a value outside of the setting range is set.	FAX initial setting
	4-6	Function	Setting of the reception sound time	This sets the time the tone is sounded upon completion of reception. "101": 1.0 seconds "110": 1.5 seconds "000": 2.0 seconds "001": 2.5 seconds "010": 3.0 seconds "011": 3.5 seconds "100": 4.0 seconds The initial value is reverted to if a value outside of the setting range is set.	FAX initial setting
	7	Function	Setting of the time of the transmission/reception error sound	Transmission error sound sounding interval "0": Every 0.3 seconds "1": Every 0.7 seconds Sounding time and paper feeding time are the same.	FAX initial setting
	8		Not used		
110	1, 2	Print	Communication results sheet print settings (for ordinary transmission) <FAX only>	This sets outputting of the communication results sheet following transmission (excluding successive broadcast, successive polling and relay broadcast transmission). "00": Do not print "01": Always print "10": At times of transmission failure The initial value is reverted to if a value outside of the setting range is set.	FAX initial setting
	3, 4	Print	Setting of the communication results sheet printing (at times of broadcast transmission)	This sets outputting of the communication results sheet at times of successive broadcast, successive polling and relay broadcast transmission. "00": Do not print "01": Always print "10": Failed transmission address The initial value is reverted to if a value outside of the setting range is set.	FAX initial setting
	5, 6	Print	Communication results sheet print setting (when receiving) <FAX only>	This sets outputting of the communication results sheet for when communications are received (excluding confidential communications). "00": Do not print "01": Always print "10": At times of error The initial value is reverted to if a value outside of the setting range is set.	FAX initial setting
	7	Print	Report output (when receiving confidential communications) <FAX only>	Setting to determine whether or not to output the communication results sheet (receiving) when confidential communications are received. "0": Print "1": Do not print This only functions when the communication results sheet print setting (receiving) is set to be outputted.	FAX initial setting
	8		Not used		

SW No.	Bit No.	Item		SW selection and function	System settings
111	1, 2	Print	Print document contents when transmitting (results sheet) <FAX only>	Setting to determine whether or not to print part of the transmitted document on the communication results sheet (transmission) when FAX transmission error occurs. "00": Do not print "01": Always print "10": At times of error The initial value is reverted to if a value outside of the setting range is set. This functions when the communication results sheet print setting (ordinary transmission) (broadcast transmission) is set to be outputted.	FAX initial setting
	3	Print	Automatic printing of the record sheet when memory is full.	Setting to determine whether or not to automatically output the communication record sheet when transmitted and received data on the FAX/Internet FAX communication record sheet reach 200 entries. "0": No (do not output) "1": Yes (automatically output) If the data are not outputted, then new data are written over the previous data starting from the oldest of the 200 entries. Trigger printing of 200 entries.	FAX initial setting
	4-8	Print	Printing of the communication record sheet at a designated time (hours)	Set the hours part of the designated time (hours and minutes) for outputting the communication record sheet. Setting can be made over the range of 0 to 23 (hours) in 1-hour increments by binary inputting. The initial value of 0 hour is reverted to if a value outside of the setting range is set.	FAX initial setting
112	1-6	Print	Printing of the communication record sheet at a designated time (minutes)	Set the minutes part of the designated time (hours and minutes) for outputting the communication record sheet. Setting can be made over the range of 0 to 59 (minutes) in 1-minute increments by binary inputting. The initial value of 0 minute is reverted to if a value outside of the setting range is set.	FAX initial setting
	7	Print	Printing of the communication record sheet at a designated time	Setting to determine whether or not to output the communication record sheet at a designated time. "1": Output the communication record sheet at a designated time "0": Do not output the communication record sheet at a designated time. Even if designated time printing is set, do not output when the designated time coincides with the nighttime FAX mode.	FAX initial setting
	8		Not used		
113	1-8	Reception	Remote changeover number setting	Set by binary inputting the number for receiving remote changeover from external telephones. However, the remote changeover number is "XX*" with * fixed. Adopt * when "A" is inputted. Adopt # when "B" is inputted. For bits 1-4, fix the upper digit of the remote changeover number. (0-F) For bits 5-8, fix the second lowest digit of the remote changeover number. (0-F) When C-F are set, the initial value is reverted to.	FAX initial setting
114	1, 2		Not used		
	3	Call arrival	FAX destination check function	Function to check the FAX destination in order not to send a FAX to an erroneous destination caused by operation mistake, etc. "0": Disable "1": Enable	FAX initial setting
	4-7		Not used		
	8	Communication	External telephone connection	Setting to determine whether or not to use an external telephone. If "Yes" is not set using this switch, an external telephone cannot be used. "0": No (invalid) "1": Yes (valid) The user cannot set without an external telephone.	FAX initial setting
115	1-7		Not used		
	8	Transmission	Sender's name adding function	Setting is made whether the sender's number in the sender print is changed to the receiver's name or not. When it is set to the receiver's name, if the address is set by the one-touch key, the key name of the address is printed in the sender print section. If it is not by the one-touch key (including automatic reversing with interface), print is not made (blank). "0": Sender's number (Default) "1": Receiver's name * This function is valid only in the special ROM (made in August, 2009). The format of the added receiver's name is ">>Receiver's name (one-touch key name)."	FAX initial setting

SW No.	Bit No.	Item		SW selection and function	System settings
116	1	Transmission	Automatic reduced transmission	In cases where the transmitted document size (width) is larger than the FAX paper size (width) of the other party's machine, this setting determines whether to reduce the transmitted document or to cut off both edges. "0": Transmit in reduced size "1": Do not transmit in reduced size	FAX transmission setting
	2	Transmission	Rotated transmission selection (A4 → A4R)	Rotated transmission or not depending on orientation of the document. When transmitting A4 document, this setting determines whether to transmit as A3 width (A4) or to rotate the read image and transmit as A4 width (A4R). "0": Rotate "1": Do not rotate	FAX transmission setting
	3	Transmission	Rotated transmission selection (B5R → B5)	Rotated transmission or not depending on orientation of the document. When transmitting B5R document, this setting determines whether to transmit as A4 width (B5R) or to rotate the read image and transmit as B4 width (B5). "0": Rotate "1": Do not rotate	FAX transmission setting
	4	Transmission	Rotated transmission selection (A5R → A5)	Rotated transmission or not depending on orientation of the document. When transmitting A5R document, this setting determines whether to transmit as A4 width (A5R) or to rotate the read image and transmit as A4 width (A5). "0": Rotate "1": Do not rotate	FAX transmission setting
	5	Transmission	Rotated transmission selection (8.5 x 11 → 8.5 x 11R)	Rotated transmission or not depending on orientation of the document. When transmitting 8.5 x 11 (LTR) document, this setting determines whether to transmit as A3 width (8.5 x 11) or to rotate the read image and transmit as A4 width (8.5 x 11R). "0": Rotate "1": Do not rotate	FAX transmission setting
	6	Transmission	Rotated transmission selection (16K → 16KR)	Rotated transmission or not depending on orientation of the document (16K ⇄ A4). When transmitting 16K document, this setting determines whether to transmit as A3 width (16K) or to rotate the read image and transmit as A4 width (16KR). "0": Rotate "1": Do not rotate	FAX transmission setting
	7	Transmission	Rotated transmission selection (5.5 x 8.5R → 5.5 x 8.5)	Rotated transmission or not depending on orientation of the document (INVOICE ⇄ A5). When transmitting 5.5 x 8.5R (INVOICE-R) document, this setting determines whether to transmit as A4 width (5.5 x 8.5R) or to rotate the read image and transmit as A4 width (5.5 x 8.5). "0": Rotate "1": Do not rotate	FAX transmission setting
	8	Transmission	Page number printing	Setting to determine whether or not to apply the page number (page number/ total pages in cases of memory transmission) in the area for printing date and source. "0": Apply "1": Do not apply	FAX transmission setting
117	1	Transmission	Designation of date and source printing position	Set the position for applying the date and transmission source on the top of the document when transmitting it. "0": Outside of document (outside of send data) "1": Inside of document (inside of send data)	FAX transmission setting
	2	Transmission	Quick online/Memory transmission changeover (quick online transmission)	Setting to determine whether to put transmission into the quick online transmission mode or the memory transmission mode. "0": Quick online transmission "1": Memory transmission	FAX transmission setting
	3	Transmission	Designation of date and source printing	Set whether or not to apply the date and transmission source on the top of the document when transmitting it. "0": Apply "1": Not apply Not functionable in North America (always applied).	FAX transmission setting
	4	Transmission	Re-call permitted when busy	Set to re-call when the other party of a transmission is busy or does not call in. "0": Prohibited "1": Permitted	FAX transmission setting
	5-8	Transmission	Number of re-calls when busy	Set the number of re-calls to be made when the other party of a transmission is busy or does not call in. This can be set from 1 to 14 (Taiwan: 1 to 15, Australia/New Zealand/ Singapore: 1 to 9, U.K./France/Germany/Sweden/Russia/South Africa: 1 to 10, Indonesia: 1 to 5, China: 1 to 3) times by binary inputting. Number of recalls: Setting x once The initial value is reverted to if a value outside of the setting range is set.	FAX transmission setting

SW No.	Bit No.	Item		SW selection and function	System settings
118	1-4	Transmission	Interval between re-calls when busy	Set the interval until the next re-call when the line is busy during transmission. This can be set from 1 to 15 (Taiwan/Indonesia: 4 to 15) minutes in 1-minute increments by binary inputting. Re-call interval: Set value x 1 minute The initial value is reverted to if a value outside of the setting range is set.	FAX transmission setting
	5-8	Transmission	Number of re-calls at times of communication error	Set the number of re-calls to be made when a communication error occurs during transmission. This can be set from 1 (Taiwan: 1 to 15, U.K./France/Germany/Sweden/Indonesia/Middle East/Russia/South Africa: 1 to 5, China: 1 to 3, Malaysia/India: 1 to 9) times by binary inputting. Number of recalls: Setting x once The initial value is reverted to if a value outside of the setting range is set.	FAX transmission setting
119	1-4	Transmission	Re-call interval at times of communication error	Set the interval until the next re-call when communication error occurs. This can be set from 1 to 15 (Taiwan, Indonesia: 4 to 15) minutes in 1-minute increments by binary inputting. Number of recalls: Setting x once The initial value is reverted to if a value outside of the setting range is set.	FAX transmission setting/ Adjustment value
	5	Transmission	Re-call permitted at times of communication error	Set whether or not to re-call when a communication error occurs during transmission. "0": Prohibited "1": Permitted	FAX transmission setting
	6, 7	Reception	Reception mode setting	Setting to determine whether to put the reception mode into automatic or manual. (Do not set manual reception when the handset or external telephone are not connected. However, setting is possible and reception can be performed by means of the on-hook key). In the manual reception mode, when the nighttime FAX mode is ON, the machine is activated but no calls arrive. Even if the external telephone setting is not made, answerphone connection can be set from the soft SW. "00": Automatic reception "01": Manual reception "10": Answerphone connection The initial value is reverted to if a value outside of the setting range is set. Setting can be made even without the external telephone and handset.	Reception/ forwarding setting
	8		Not used		
120	1, 2	Reception	Specified number reception Enable/Disable setting (FAX)	Setting to determine Enable/Disable of the specified number reception (FAX). However, only valid during automatic reception. "00": All Disable "01": Reception Enable "10": Reception Disable "11": All Disable However, implement using a separate SW (Setting to refuse reception at times of manual reception (FAX)) when receiving manually.	FAX reception setting
	3	Function	Automatic reduced printing to fixed sizes	If a size in excess of the valid printing area is received, this setting determines whether or not to automatically reduce size. If size is not reduced, the excessive area is discarded without being printed. "0": Reduce "1": Do not reduce (discard) The reduction factor is set using the separate SW (Magnification setting in automatic reduction).	FAX reception setting
	4	Function	Setting to reduce and discard when printing A3-11 x 17 (reduced printing setting when receiving A3)	Setting to determine whether to reduce to 11 x 17 inch size sheet or to print without reducing in cases of receiving A3 wide document when 11 x 17 inch size sheet is set. "0": Reduce "1": Do not reduce (discard) When not reducing, the area that cannot be printed is scrapped. When set to "Reduce," the overall data are reduced to 94%.	FAX reception setting
	5	Function	Reduced print setting when receiving letters.	Setting to determine whether to reduce to A4 size sheet or to print without reducing in cases of receiving 8.5 x 11 (LTR) when A4 size sheet is set. "0": Reduce "1": Do not reduce (discard) When not reducing, the area that cannot be printed is scrapped. When set to "Reduce," the overall data are reduced to 94%.	FAX reception setting
	6	Print	Double-faced printing of received data (double-faced reception setting)	Setting to determine whether received data are printed on both sides. "0": Double-faced printing prohibited "1": Double-faced printing permitted	FAX reception setting
	7, 8	Print	Setting of received data print conditions	Setting for selecting the optimum sheet when printing data received by FAX. "00": Equal magnification/Reduction permitted "01": Equal magnification (division/reduction prohibited) "10": Equal magnification/Division permitted The initial value is reverted to if a value outside of the setting range is set. Setting for selecting the optimum sheet when printing data received.	FAX reception setting

SW No.	Bit No.	Item		SW selection and function	System settings
121	1, 2		Not used		
	3	Print	Staple setting	Set to determine whether or not to staple when outputting received FAX data. "0": No "1": Yes	Device setting
	4, 5	Print	Staple position	With the finisher attached, set the staple position for when conducting stable output of FAX printed data. "00": Rear 1 point "01": Front 1 point "10": Center 2 points "11": Staple free staple When "Bottom one position" is set, "parallel" and "Slant" are selected with SW90-6.	Device setting
	6		Not used		
	7, 8	Print	Selection of delivered sheet size	Sheet size setting when conducting stable output of FAX/Internet FAX printed data with the finisher attached. "00": A4 or A3 (8.5 x 11 or 11 x 17) "01": B5R (8.5x11R or 8.5x14) "10": A4 (8.5 x 11) "11": A4R (8.5 x 11R)	FAX reception setting
122	1	Transmission	Polling protection	Set to determine whether or not to execute protection when the other party requests polling. "0": Protect "1": Do not protect When the protection setting is selected and a request for polling is received from the other party's machine, bulletin board transmission is conducted if the source number of the other party coincides with the number permitted for polling. When the setting not to protect is selected, bulletin board transmission is executed regardless of the source number of the other party.	Polling protection setting
	2-8		Not used		
123 - 127	1-8		Not used		
128	1-3		Not used		
	4	Internet FAX	Setting of the internet FAX mail content (Footer)	Setting to determine whether the mail footer registered from the web is added to the content or not in sending the internet FAX. "0": The footer is not added. "1": The footer is added.	Internet FAX initial setting
	5	Internet FAX	Internet FAX coding system priority selection (Coding system for manual input) (Coding system for one-touch registration)	The standard compression system for sending operation of internet FAX can be set. "0": MH (G3) "1": MMR (G4) * The compression system for address registration is fixed to "MH (G3)" and is not linked with this item. This item is linked with the system setting, the FAX, the image send setting, the internet FAX setting, and "the standard compression system setting" of the internet FAX initial setting.	Internet FAX initial setting
	6	Internet FAX	Processing at times of mail reception (when the Content-X-CIAJWNETFAX field is not yet received)	Setting to determine whether or not to print the mail text in cases where there is no "CONTENT-X-CIAJWNETFAX" in the mail field when mail is received by Internet FAX. "0": Do not print mail letters "1": Print the main text of mails Exclude confirmed sent mails	Internet FAX reception setting
	7	Internet FAX	Setting of reduced printing when receiving A3 by Internet FAX	Setting to determine whether or not to print reduced to 11 x 17 inch sheet size when receiving A3 width documents when 11 x 17 inch size sheet is set in Internet FAX reception. "0": Reduce "1": Do not reduce (discard) When not reducing, the area that cannot be printed is scrapped. Reduce the overall document to 94% when conducting reduced printing.	Internet FAX reception setting
	8	Internet FAX	Setting of reduced printing when receiving letters by Internet FAX	Setting to determine whether or not to print reduced to A4 size sheet when receiving 8.5 x 11 (letter) size documents when A4 size sheet is set in Internet FAX reception. "0": Reduce "1": Do not reduce (discard) Reduce the overall document to 94% when conducting reduced printing.	Internet FAX reception setting

SW No.	Bit No.	Item		SW selection and function	System settings
129	1	Scanner	Setting of the mail content in E-Mail sending (Footer)	Setting to determine whether the mail footer registered from the web is added to the content or not in sending the Scan to E-Mail. "0": The footer is not added. "1": The footer is added.	E-mail setting
	2	Scanner	Setting of transmitted data upper limit value (FTP/desktop/shared folder)	When transmitting to FTP, desktop or a shared folder, this setting determines whether or not to stop transmission of data as over the upper limit if the image data size of 1 job is found to be in excess of the value set for the "transmitted data upper limit (FTP/desktop/shared folder)." "0": OFF "1": ON	Scanner setting
	3, 4	Scanner	Transmitted data upper limit (FTP/desktop/shared folder)	This sets the upper limit for image data size in 1 job in cases where the transmitted data upper limit (FTP/desktop/shared folder) is set at "ON." "00": 50Mbyte "01": 150Mbyte "10": 300Mbyte The initial value is reverted to if a value outside of the setting range is set.	Scanner setting
	5		Not used		
	6	Function	Prohibition of forwarded table registration	Setting to determine whether to make the "Prohibition of forwarded table registration" function that can be registered from the Web valid or invalid. "0": Permitted "1": Prohibited *3	(WEB) Management setting
	7	Function	Prohibition of forwarded table correction	Setting to determine whether to make the "Prohibition of forwarded table correction" function that can be registered from the Web valid or invalid. "0": Permitted "1": Prohibited *3	(WEB) Management setting
	8	Function	Prohibition of forwarding permission revision	Setting to determine whether to make the "Prohibition of forwarding permission revision" function that can be registered from the Web valid or invalid. "0": Permitted "1": Prohibited *3	(WEB) Management setting
130	1-5		Not used		
	6		Maintaining of the history of Image Sending Activity Report	On the printing contents in Image Sending Activity Report, the history is originally never printed again once it is printed out. However, the latest 50 histories including the one that has been printed once will be printed when this feature is enabled. "0": Original operation (History which has been printed once will never be printed.) "1": Latest 50 histories including the one that has been printed once will be printed.	
	7, 8		Not used		
131 - 138	1-8		Not used		
139	1-8		Not used		
140 - 150	1-8		Not used		

B. Fax software switch initial value list

Destination	Destination name	Destination	Destination name	Destination	Destination name
A	North America	N	New Zealand	a	Russia
B	Australia	O	China	b	South Africa
C	U.K.	P	Singapore	c	Spain
D	France	Q	Indonesia	d	Portuguese
E	Germany	R	Thailand	e	Luxemburg
F	Sweden	S	Malaysia	f	Belgium
G	Finland	T	India	g	Czech
H	Norway	U	Philippine	h	Hungary
I	Denmark	V	Hong Kong	i	Greece
J	Netherlands	W	Taiwan	j	Poland
K	Italy	X	Other 1 (Middle East)	k	Brazil
L	Switzerland	Y	Other 2 (Slovakia)	l	Korea
M	Austria	Z	Other 3	m	Vietnam

SW No.	Bit No.	Destination																																										
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	a	b	c	d	e	f	g	h	i	j	k	l	m				
1	1	1	0	1	0	0	1	0	1	0	0	0	1	0	0	0	1	0	1	0	0	1	0	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	1		
	2	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0	1	0	1	0	1	1	1	1	1	1	1	0	0	0	0	1	0	0	1	0	0	1	0		
	3	1	0	1	1	0	1	1	0	1	0	1	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	1	1	1	1	0	1	0	1	0	1	0	0	0	1	1		
	4	1	0	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	1	0	1		
	5	0	1	0	1	0	0	1	0	0	1	1	0	1	1	0	1	0	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	1
	6	1	0	1	1	1	1	1	1	0	0	0	0	1	0	1	1	1	1	1	0	1	1	0	0	0	1	1	1	0	0	1	0	0	0	1	1	0	1	0	1	0	1	
	7	0	0	0	0	0	0	0	1	0	1	0	1	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	0	1	0	1	1	0	1	1	0	0	
	8	1	1	0	1	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	1	1	0	1	0	1	0	1	0	0	
2	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	
	2	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	
	3	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	0	
	4	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	1	0	0	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	0	
	5	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	
	6	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1		
	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1		
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1		
3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
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	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1		
	3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1		
	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0		
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8																																											

[illegible]

[illegible]

[illegible]

SW No.	Bit No.	Destination																																									
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	a	b	c	d	e	f	g	h	i	j	k	l	m			
31	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
32	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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33	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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35	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	1	1	1	1	1	1	1	1	1	1	1	1</																														

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[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.

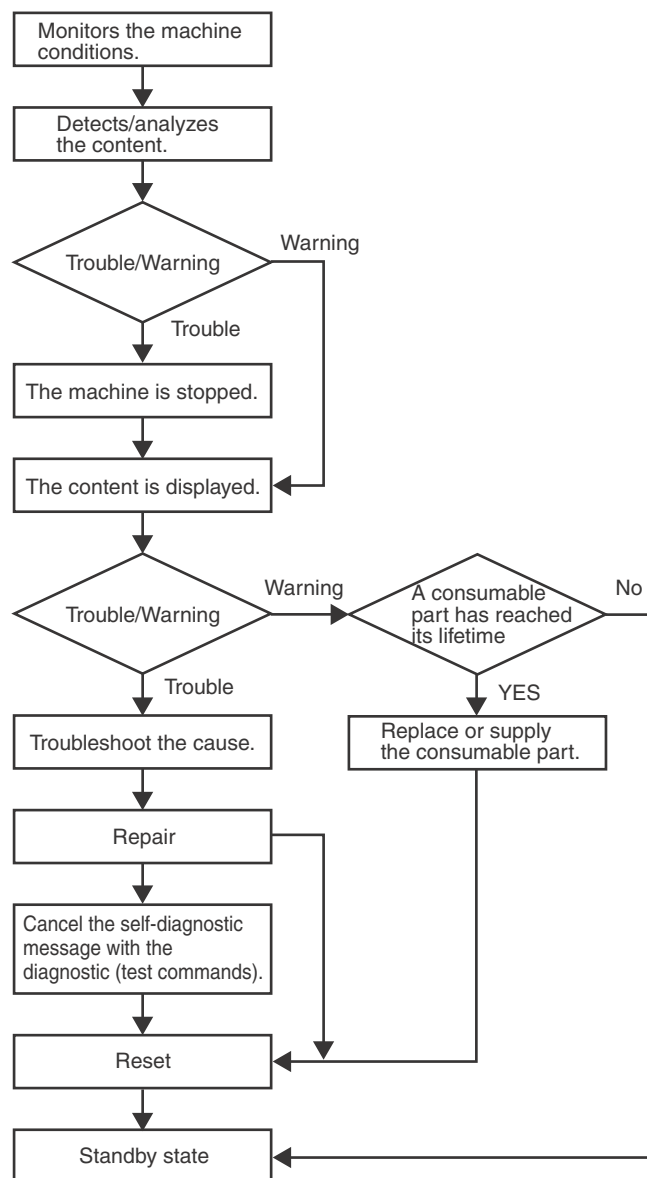
A warning message is displayed when a consumable part life is nearly expired or is expired.

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	MFP	E7 (C0,C1)	x	x	x	x	x	x	x	x
	• Firmware abnormality		E7(C2,C3)	x	x	x	x	x	x	x	x
FAX board trouble	• FAX board breakdown		F6 (00, 01, 02, 04, 21, 30, 97, 98)	○	○	○	○	○	○	△1	△1
HDD trouble	• eMMC breakdown		E7 (A8)	x	x	x	x	x	x	x	x
	• HDD breakdown		E7 (03)	x	x	x	x	x	x	x	x
	• HDD-ASIC breakdown		E7 (04)	x	x	x	x	x	x	x	x
Operation communication trouble	• OPU communication trouble		U9 (01)	x	x	x	x	○	○	x	○
Scanner communication trouble	• SCU communication trouble		A0 (02) E7 (80)	x	x	x	x	○	○	x	○
Engine communication trouble	• PCU communication trouble		A0 (01) E7 (90)	x	x	x	x	x	x	x	x
Backup battery voltage fall trouble_save	• Backup battery voltage fall		U1 (01)	x *20	x *20	x *20	x *20	x *20	x *20	x *20	x *20
Operation disable trouble 2_save	• Memory error (included not installed the expansion RAM)		U2 (00, 11, 41, 42)	x *20	x *20	x *20	x *20	x *20	x *20	x *20	x *20
	• Serial number data error		U2 (30)	x *20	x *20	x *20	x *20	x *20	x *20	x *20	x *20
	• HDD registration data check sum error		U2 (50)	x *20	x *20	x *20	x *20	x *20	x *20	x *20	x *20
Operation disable trouble 2	• External serial I/F communication error (RIC)		U7 (50,51)	x	x	x	x	x	x	x	x
	• Memory error (included not installed the expansion RAM)		U2 (40)	x	x	x	x	x	x	x	x
	• Connection trouble (ICU detection)		A0 (06, 10, 15, 17, 18, 19, 20) E7 (60, 61)	x	x	x	x	x	x	x	x
Operation disable trouble 3	• Image memory trouble, decode error		E7 (01, 49, 91, 92, 93, 94)	x	x	x	x	x	x	x	x
Operation disable trouble 4	• Personal counter not-installed trouble		PC	x	x	x	x	x	x	x	x
Power controller trouble	• Power controller trouble		L8 (20)	x	x	x	x	x	x	x	x
Special function trouble	• Special function error		U2 (60, 70,74)	○ *16	○ *16	○ *16	○ *16	○ *16	○ *16	○ *16	○ *16
Laser trouble	• Laser breakdown	PCU	E7 (20, 21, 28, 29) L6 (10)	x	x	x	x	x	x *10	x	x
Engine trouble 1	• Connection trouble (PCU detection)		A0 (21) E7 (50, 55) F1 (50)	x	x	x	x	x	x	x	x
Engine trouble 2_save	• PCU troubles (motor, fusing, etc.)		H3 (00, 02) H4 (00, 02, 30) H5 (01) U2 (90, 91)	x *20	x *20	x *20	x *20	x *20	x *10 *20	x *20	x *20

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	F2 (22, 40, 64, 70, 74) H2 (00, 02, 03, 06) H7 (10, 12) L4 (01, 14, 17, 31, 32, 35, 39, 43) L8 (01, 02)	x	x	x	x	x	x *10	x	x
Paper feed tray 2 trouble_save	• Paper feed tray 2 breakdown		U6 (01)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray 3 trouble_save	• Paper feed tray 3 breakdown		U6 (02)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray 4 trouble_save	• Paper feed tray 4 breakdown		U6 (03)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray other troubles	• Paper feed tray other breakdown		U6 (00, 11, 12, 13, 30, 40, 50, 55, 56, 57, 58)	△11	○	○	○	△11	△11 *10	○	△11
Staple trouble	• Staple breakdown		F1(10)	△4	△4	△4	△4	△4	△4 *10	△4	△4
Finisher trouble	• After-process breakdown		F1 (00, 03, 15, 19, 20, 21, 29, 37, 55)	△4	△4	△4	△4	△4	△4 *10	△4	△4
Other troubles	• Other troubles		EE (EC, EL, EU)	○	○	○	○	○	○	○	○
PCU error	• PCU error		U6(70)	○	○	○	○	○	○	○	○
Process control trouble	• Process control breakdown (PCU detection)		F2 (39, 58, 78)	○ *12	○	○	○	○	○	○	○
Operation disable trouble	• Connection trouble (SCU detection)	SCU	A0 (22)	x	x	x	x	x	x	x	x
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)	x	x	x	x	○	○	x	○
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)	x *20	x *20	x *20	x *20	○ *20	○ *20	x *20	○ *20
Scanner trouble 2	• Scanner section breakdown (mirror motor, lens, copy lamp)		L1 (00) L3 (00)	x	x	x	x	○	○	x	○
CCD trouble	• CCD breakdown (shading, etc.)		E7 (10, 11, 14)	x	x	x	x	○	○	x	○
SPF/DF trouble	• RSPF/DF breakdown		U5 (00)	△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) (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.

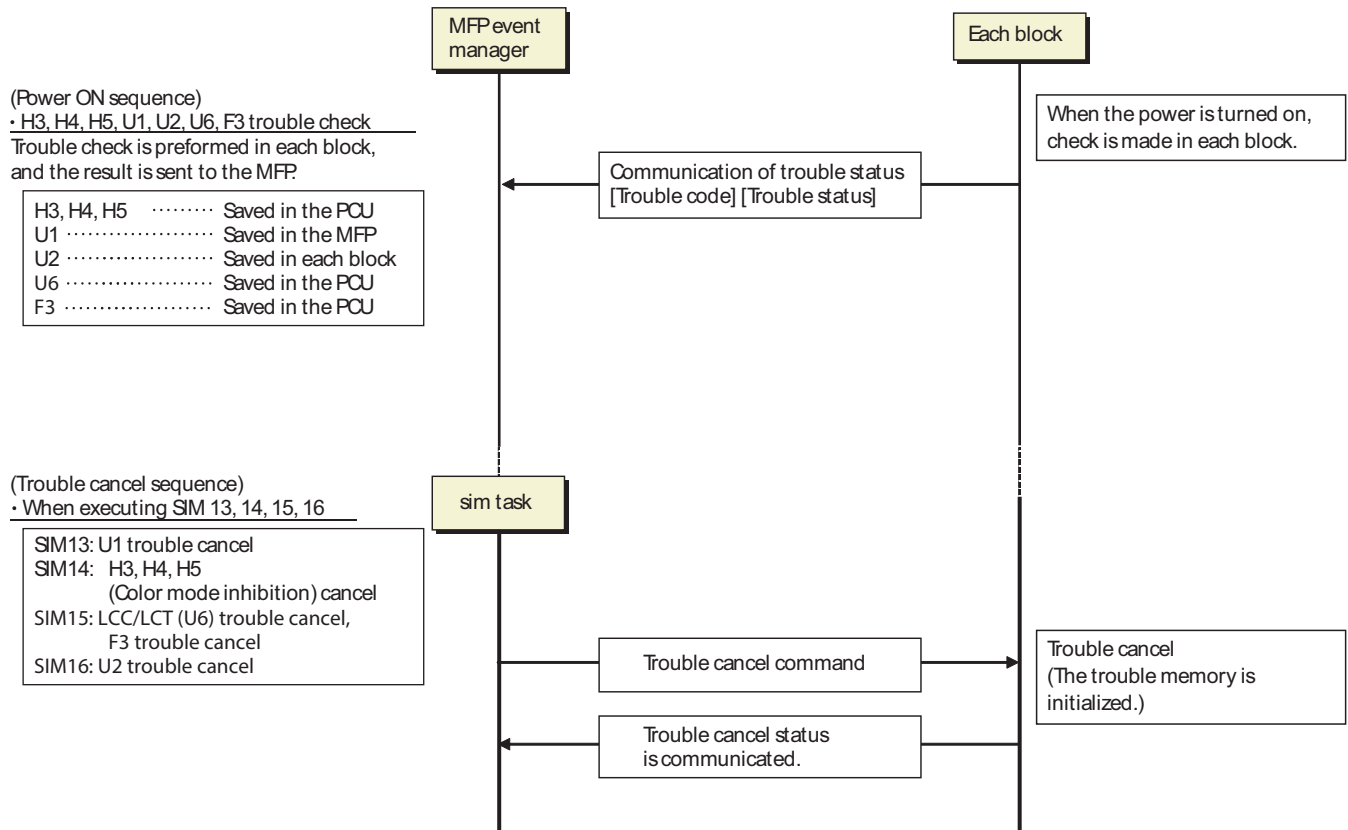
*12: A trouble message is displayed. (Example: Ready to copy. F2 trouble)

△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)
↓	U2	11 MFPC PWB EEPROM counter check sum error
		00 MFP EEPROM read/write error
	U1	01 Battery trouble
	E7	60 Combination error between PWB and firmware (MFPC PWB detection)
Last (High priority)		

F. Trouble code list

Trouble code		Trouble description	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
A0	01	PCU ROM error	MFP			○		
	02	SCN ROM error	MFP			○		
	06	FAX ROM error	MFP			○		
	10	MFP ROM 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	Conflict firmware and EEPROM data version (MFP)	MFP			○		
	21	Conflict firmware and EEPROM data version (PCU)	PCU			○		
	22	Conflict firmware and EEPROM data version (SCU)	SCU			○		
E6	10	Shading error (Black level) (SPF)	SCU			○		
	11	Shading error (White level) (SPF)	SCU			○		
	14	CCD ASIC error (SPF)	SCU			○		
E7	01	Image data error	MFP			○		
	03	HDD error	MFP			○		
	04	HDD-ASIC error	MFP			○		
	10	Shading error (Black level)	SCU			○		
	11	Shading error (White level)	SCU			○		
	14	CCD-ASIC error	SCU			○		
	20	LSU BD detection error	PCU			○		
	21	LSU LD deterioration trouble	PCU			○		
	28	Connection error between PCU and LSU	PCU			○		
	29	LSU ASIC frequency error	PCU			○		
	49	Water Mark data error	MFP			○		
	50	PCU PWB and firmware inconsistent error	PCU			○		
	55	PCU PWB sum check error	PCU			○		
	60	Mismatched Board or Firmware with MFP	MFP			○		
	61	Mismatched MFP and PCU	MFP			○		
	80	Communication error between MFP and SCU	MFP			○		
	90	Communication error between MFP and PCU	MFP			○		
	91	Decode error (FAX received image data)	MFP			○		
	92	Decode error (Copy image data)	MFP			○		
	93	Decode error (except Copy and Fax)	MFP			○		
	94	Decode error (Filing image data)	MFP			○		
	A8	mSATA eMMC error	MFP			○		
	C0	TPM PWB data access error	MFP			○		
	C1	Security check error	MFP			○		
	C2	Firmware checksum error	MFP			○		
	C3	Firmware error	MFP			○		
EE	EC	Automatic toner density adjustment error(Sampling abnormal)	PCU			○		
	EL	Automatic toner density adjustment error(Over toner)	PCU			○		
	EU	Automatic toner density adjustment error(Under toner)	PCU			○		
F1	00	Finisher - PCU PWB communication error	PCU		○			
	03	Finisher paper delivery roller lift operation trouble(FSWM)	PCU		○			
	10	Finisher staple motor trouble (STPMOV_M)	PCU		○			
	15	Finisher paper exit tray operation trouble (TRYLFT_M)	PCU		○			
	19	Finisher paper alignment operation trouble F	PCU		○			
	20	Finisher paper alignment operation trouble R	PCU		○			
	21	Finisher fan trouble	PCU		○			
	29	Finisher Board Cooling Fan trouble	PCU		○			
	37	Finisher data backup RAM error	PCU		○			
	50	Combination error Finisher and Main body	PCU		○			
	55	Finisher unit ROM error	PCU		○			
F2	22	Discharge lamp trouble	PCU					○
	39	Temperature and humidity sensor trouble (temperature)	PCU					○
	40	Toner concentration sensor trouble	PCU					○
	58	Temperature and humidity sensor trouble (humidity)	PCU					○
	64	Black toner supply trouble	PCU					○
	70	Mismatched black toner cartridge	PCU					○
	74	Black CRUM error	PCU					○
	78	Image density sensor error	PCU					○

Trouble code		Trouble description	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
F6	00	Communication error(MFP - FAX)	MFP				○	
	01	FAX EEPROM error	FAX				○	
	02	FAX PWB power supply trouble	FAX				○	
	04	FAX modem error	FAX				○	
	21	Combination error(LIU - FAX soft SW setting)	FAX				○	
	30	FAX power controller error	FAX				○	
	97	Combination error(FAX PWB - Main body)	MFP				○	
	98	Combination error(FAX - Main body destination)	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	○				
	06	Thermistor open trouble (TH_US2)	PCU	○				
H3	00	Fuser high temperature trouble (TH_UM)	PCU	○				
	02	Fuser high temperature trouble (TH_US)	PCU	○				
H4	00	Fuser low temperature trouble (TH_UM)	PCU	○				
	02	Fuser low temperature trouble (TH_US)	PCU	○				
	30	Fuser different input trouble (TH_UM)	PCU	○				
H5	01	5 times continuous POD1 not-reach 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	SCU	○				
L3	00	Scanner return trouble	SCU	○				
L4	01	Main motor lock trouble	PCU			○		
	14	Toner cartridge motor lock trouble	PCU			○		
	17	Drum motor lock trouble	PCU			○		
	31	Paper delivery cooling fan trouble	PCU			○		
	32	Power supply unit fan trouble	PCU			○		
	35	Fuser cooling fan trouble	PCU			○		
	39	Machine cooling fan trouble	PCU			○		
	43	Paper cooling fan trouble	PCU			○		
L6	10	Polygon motor trouble	PCU			○		
L8	01	Full wave signal detection error	PCU			○		
	02	Abnormal full wave signal error	PCU			○		
	20	Communication error of MFP/Mother board	MFP			○		
PC	—	Personal counter not detected	MFP			○		
U1	01	Battery trouble	MFP			○		
U2	00	MFP EEPROM read/write error	MFP			○		
	05	Account data error(HDD - MFP SRAM)	MFP			○		
	11	MFP EEPROM counter check sum error	MFP			○		
	30	MFP and PCU manufacturing No. data inconsistency	MFP			○		
	40	mSATA eMMC system storage data area error	MFP			○		
	41	HDD storage data area error	MFP			○		
	42	Machine adjustment data error	MFP			○		
	50	HDD user authentication data check sum error	MFP			○		
	60	Water Mark check error	MFP			○		
	70	OCR dictionary check error	MFP			○		
	74	Recovery data error	MFP			○		
	80	SCU EEPROM read write error	SCU			○		
	81	SCU EEPROM check sum error	SCU			○		
	90	PCU EEPROM read write error	PCU			○		
	91	PCU EEPROM check sum error	PCU			○		
U5	00	Communication error between SPF and SCN-cnt PWB	SCU			○		
U6	00	PCU PWB - Paper feed desk (paper feed tray 3, 4) communication error	PCU		○			
	01	Desk paper feed tray 1 lift trouble	PCU		○			
	02	Desk paper feed tray 2 lift trouble	PCU		○			
	03	Desk paper feed tray 3 lift trouble	PCU		○			
	11	Desk paper feed tray 1 transport trouble	PCU		○			
	12	Desk paper feed tray 2 transport trouble	PCU		○			
	13	Desk paper feed tray 3 transport trouble	PCU		○			
	30	Desk communication error between paper feed tray 1 and tray 2	PCU		○			
	40	Desk communication error between paper feed tray 2 and tray 3	PCU		○			
	50	Desk - Main unit combination trouble	PCU		○			
	55	Desk firmware inconsistent error	PCU		○			
	56	Desk paper feed tray 1 firmware error	PCU		○			
	57	Desk paper feed tray 2 firmware error	PCU		○			
	58	Desk paper feed tray 3 firmware error	PCU		○			
	70	Firmware version mismatch error between desks	PCU		○			
U7	50	Communication error of Vendor machine / MFP	MFP			○		
	51	Vendor machine error	MFP			○		
U9	01	Touch panel trouble	MFP			○		

Trouble code		Trouble description	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
UC	02	SCAN ASIC IPD error	SCU			○		
	12	SCAN ASIC IPD error(DSPF detection)	SCU			○		
	20	SCAN ASIC DOCC error	SCU			○		
	30	SCAN ASIC DOCC error(DSPF detection)	SCU			○		

G. Details of trouble codes and countermeasures

A0-01 PCU ROM error

Trouble detection	MFP
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-cnt PWB trouble
Check & Remedy	SIM49-1 to execute the firmware version up Replace SCN-cnt 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. MFPC PWB trouble
Check & Remedy	SIM49-1 to execute the firmware version up Replace MFPC PWB

A0-10 MFP ROM 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 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 Check installation state of EEPROM

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	Confirm eMMC connection Check and replace the following parts separately (If not improving, replace parts will be returned to original parts once each time) Replace MFPC PWB Replace eMMC and MFPC PWB

A0-20 Conflict firmware and EEPROM data version(MFP)

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 Conflict firmware and EEPROM data version(PCU)

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 Conflict firmware and EEPROM data version(SCU)

Trouble detection	SCU
Cause	Inconsistency between SCN firmware version and EEPROM data version
Check & Remedy	SIM49-1 to execute the firmware version up

E6-10 Shading error(Black level) (SPF)

Trouble detection	SCU
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 error(White level) (SPF)

Trouble detection	SCU
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	SCU
Cause	DSPF PWB trouble
Check & Remedy	Replace DSPF PWB

E7-01 Image data error

Trouble detection	MFP
Cause	Image data transfer error in MFPC PWB MFPC PWB trouble
Check & Remedy	Check connection state of MFPC PWB connector, harness Replace MFPC PWB

E7-03 HDD error

Trouble detection	MFP
Cause	MFPC PWB and HDD connector, harness connection trouble HDD trouble MFPC PWB trouble
Check & Remedy	Check connection state of MFPC PWB and HDD connector, harness SIM62-2, 62-3 to execute Replace HDD Replace MFPC PWB

E7-04 HDD-ASIC error

Trouble detection	MFP
Cause	HDD-ASIC trouble
Check & Remedy	Replace MFPC PWB

E7-10 Shading error(Black level)

Trouble detection	SCU
Cause	CCD unit connector, harness connection trouble CCD unit trouble SCN-cnt PWB trouble
Check & Remedy	Check connection state of CCD unit connector, harness Replace CCD unit Replace SCN-cnt PWB

E7-11 Shading error(White level)

Trouble detection	SCU
Cause	CCD unit connector, harness connection trouble Dirt on mirror, lens and white reference plate Copy lamp lighting trouble CCD unit trouble SCN-cnt PWB trouble
Check & Remedy	Check connection state of CCD unit connector, harness Check connection state of Copy lamp unit connector, harness Clean mirror, lens and white reference plate Replace CCD unit Replace SCN-cnt PWB

E7-14 CCD-ASIC error

Trouble detection	SCU
Cause	SCN-cnt PWB trouble
Check & Remedy	Replace SCN-cnt PWB

E7-20 LSU BD detection error

Trouble detection	PCU
Cause	Reduced laser power, lighting error, laser diode trouble LSU connector, harness connection trouble LSU unit trouble LSU-cnt PWB trouble
Check & Remedy	SIM61-1 to execute Check connection state of LSU connector, harness Replace LSU-cnt 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 unit trouble LSUcnt PWB trouble
Check & Remedy	SIM61-1 to execute Check connection state of LSU connector, harness Replace LSUcnt PWB Replace LSU unit

E7-28 Connection error between PCU and LSU

Trouble detection	PCU
Cause	Communication error between LSU ASIC and PCU PWB Connector, harness connection trouble PCU PWB trouble LSUcnt PWB trouble
Check & Remedy	Check connection of the connector and the harness between the PCU PWB and the LSUcnt PWB Replace PCU PWB Replace LSUcnt PWB

E7-29 LSU-ASIC frequency error

Trouble detection	PCU
Cause	Oscillation abnormality of the external oscillator used in the LSU ASIC. LSU ASIC abnormality on the LSUcnt PWB. Frequency abnormality of picture transfer clock of MFPC PWB. MFPC PWB trouble
Check & Remedy	Replace LSUcnt PWB Replace MFPC PWB Check connection of the connector and the harness between the MFPC PWB and the LSUcnt PWB.

E7-49 Water Mark data error

Trouble detection	MFP
Cause	Watermark data error HDD trouble ※If watermark data is not installed, U2-60 is displayed at startup
Check & Remedy	SIM62-02/SIM62-03 to execute SIM49-5 to execute Replace HDD

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 EEPROM sum check error

Trouble detection	PCU
Cause	Machine incompatible PWB and firmware PCU PWB trouble
Check & Remedy	Check firmware version Replace PCU PWB

E7-60 Mismatched Board or Firmware with MFP

Trouble detection	MFP
Cause	Machine incompatible PWB and firmware MFPC PWB trouble
Check & Remedy	Check firmware version Replace MFPC PWB

E7-61 Mismatched MFP and PCU

Trouble detection	MFP
Cause	Combination error of MFPC PWB and PCU PWB MFPC PWB trouble
Check & Remedy	Check combination of MFPC PWB and PCU PWB Replace MFPC PWB

E7-80 Communication error between MFP and SCU

Trouble detection	MFP
Cause	MFPC PWB connector, harness connection trouble MFPC PWB trouble
Check & Remedy	Check connection state of MFPC PWB connector, harness Replace MFPC PWB

E7-90 Communication error between MFP and PCU

Trouble detection	MFP
Cause	MFPC PWB, PCU PWB connector, harness connection trouble MFPC PWB trouble PCU PWB trouble
Check & Remedy	Check connection state of SCN MFP PWB, PCU PWB connector, harness Replace SCN MFP PWB Replace PCU PWB

E7-91 Decode error (FAX received image data)

Trouble detection	MFP
Cause	Image compression data corruption HDD trouble mSATA eMMC trouble MFPC PWB trouble FAX PWB trouble
Check & Remedy	SIM60-1 to execute Replace HDD Replace mSATA eMMC Replace MFPC PWB Replace FAX PWB

E7-92 Decode error (Copy image data)

Trouble detection	MFP
Cause	Image compression data corruption MFPC PWB trouble
Check & Remedy	SIM60-1 to execute Replace HDD Replace MFPC PWB

E7-93 Decode error (except Copy and Fax)

Trouble detection	MFP
Cause	Image compression data corruption HDD trouble MFPC PWB trouble
Check & Remedy	SIM60-1 to execute Replace HDD Replace MFPC PWB

E7-94 Decode error (Filing image data)

Trouble detection	MFP
Cause	Image compression data corruption HDD trouble MFPC PWB trouble
Check & Remedy	SIM60-1 to execute Replace HDD Replace MFPC PWB

E7-A8 mSATA eMMC error

Trouble detection	MFP
Cause	mSATA eMMC contact trouble mSATA eMMC trouble MFPC PWB trouble
Check & Remedy	Check contact state of mSATA eMMC Replace mSATA eMMC Replace MFPC PWB

E7-C0 TPM PWB data 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



TPM PWB (MX-FR63U (DATA SECURITY KIT))

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

E7-C2 Firmware check sum error

Trouble detection	MFP
Cause	Program corruption due to storage error. Program error
Check & Remedy	Power OFF/ON to cancel

E7-C3 Firmware error

Trouble detection	MFP
Cause	Program corruption due to storage error. Program error.
Check & Remedy	> When " This system can boot up in CN mode, Please turn the dip-switch ON " is displayed Execute firmware update in CN update function. > When " This system cannot boot up in any mode " is displayed Replace eMMC PWB.

EE-EC Automatic toner density adjustment error (Sampling abnormal)

Trouble detection	PCU
Cause	Sensor (TCS) trouble Charging voltage / developing voltage problem trouble Developing unit trouble PCU PWB trouble
Check & Remedy	Replace developing unit Replace PCU PWB

EE-EL Automatic toner density adjustment error (Over toner)

Trouble detection	PCU
Cause	Sensor (TCS) trouble Charging voltage / developing voltage problem trouble Developing unit trouble PCU PWB trouble
Check & Remedy	Replace developing unit Replace PCU PWB

EE-EU Automatic toner density adjustment error (Under toner)

Trouble detection	PCU
Cause	Sensor (TCS) trouble Charging voltage / developing voltage problem trouble Developing unit trouble PCU PWB trouble

Check & Remedy	Replace developing unit Replace PCU PWB
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F1-00 Finisher - PCU PWB communication error

Trouble detection	PCU
Cause	Connector, harness connection trouble Finisher control PWB trouble PCU PWB trouble
Check & Remedy	Power OFF/ON to cancel Check connection state of connector, harness Replace finisher control PWB Replace PCU PWB

F1-03 Finisher paper delivery roller lift operation trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Delivery roller position detector (FDRPS) trouble Delivery roller motor (FDRLM) trouble Finisher control PWB trouble
Check & Remedy	SIM3-3 to execute Check connection state of connector, harness Replace Delivery roller position detector (FDRPS) Replace Delivery roller motor (FDRLM) Replace finisher control PWB

F1-10 Finisher staple motor trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Finisher staple home position sensor (FSHPS) trouble Staple motor (FSM) trouble Finisher control PWB trouble
Check & Remedy	SIM3-3 to execute Check connection state of connector, harness Replace Finisher staple home position sensor (FSHPS) Replace staple motor (FSM) Replace finisher control PWB

F1-15 Finisher paper exit tray lift operation trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Finisher tray lift motor (FTLM) trouble Finisher control PWB trouble
Check & Remedy	SIM3-3 to execute Check connection state of connector, harness Replace Finisher tray lift motor (FTLM) Replace finisher control PWB

F1-19 Finisher paper alignment operation trouble F

Trouble detection	PCU
Cause	Connector, harness connection trouble Paper alignment F HP Sensor (FAPHPS-F) trouble Paper alignment motor F (FPAM-F) trouble Finisher control PWB trouble
Check & Remedy	SIM3-3 to execute Check connection state of connector, harness Replace Paper alignment F HP Sensor (FAPHPS-F) Replace Paper alignment motor F (FPAM-F) Replace finisher control PWB

F1-20 Finisher paper alignment operation trouble R

Trouble detection	PCU
Cause	Connector, harness connection trouble Paper alignment R HP sensor (FAPHPS-R) trouble Paper alignment motor R (FPAM-R) trouble Finisher control PWB trouble
Check & Remedy	SIM3-3 to execute Check connection state of connector, harness Replace Paper alignment R HP sensor (FAPHPS-R) Replace Paper alignment motor R (FPAM-R) Replace finisher control PWB

F1-21 Finisher Stapler cooling fan trouble

Trouble detection	PCU
Cause	Finisher Stapler cooling fan (FSCF) trouble Finisher control PWB trouble Harness and connector connection trouble
Check & Remedy	SIM3-3 to check the operation of the fan motor Check connection between the finisher control PWB and the fan Replace the finisher Stapler cooling fan (FSCF) Replace the finisher control PWB

F1-29 Finisher Board Cooling Fan trouble

Trouble detection	PCU
Cause	Finisher board cooling fan lock Finisher control PWB trouble Connection trouble of the connector and the harness
Check & Remedy	SIM3-3 to check the operation of the control board cooling fan (FBCF) Replace the finisher board cooling fan Replace the finisher control PWB Connection trouble of the connector and the harness

F1-37 Finisher data backup RAM error

Trouble detection	PCU
Cause	Finisher control PWB trouble Malfunction due to noises
Check & Remedy	Replace the finisher control PWB

F1-50 Combination error Finisher and Main body

Trouble detection	PCU
Cause	Improper combination between main machine and finisher Finisher control PWB trouble
Check & Remedy	Install finisher which is proper for main machine Replace finisher control PWB

F1-55 Finisher unit ROM error

Trouble detection	PCU
Cause	Finisher firmware inconsistency
Check & Remedy	SIM49-1 to execute

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 and humidity sensor trouble (temperature)

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 concentration sensor trouble

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 PCU PWB

F2-58 Temperature and humidity sensor trouble (humidity)

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 Black toner supply trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble DV unit trouble Toner cartridge trouble Toner transport pipe section trouble Toner sensor (TCS) trouble Toner 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 Toner motor (TNM) Replace PCU PWB

F2-70 Mismatched black toner cartridge

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 Black CRUM error

Trouble detection	PCU
Cause	Connector, harness connection trouble Toner cartridge trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace toner cartridge Replace PCU PWB

F2-78 Image density sensor error

Trouble detection	PCU
Cause	Connector, harness connection trouble Process control sensor (PCS) dirt or trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Clean sensor (PCS) or replace Replace PCU PWB

F6-00 Communication error (MFP-FAX)

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 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 PWB power supply trouble

Trouble detection	FAX
Cause	Connector, harness connection trouble DC PWB trouble MFPC PWB trouble FAX PWB trouble
Check & Remedy	Check connection state of connector, harness Replace DC PWB Replace MFPC PWB Replace FAX PWB

F6-04 FAX modem error

Trouble detection	FAX
Cause	FAX modem chip operation trouble
Check & Remedy	Replace FAX PWB

F6-21 Combination error (LIU-FAX soft SW setting)

Trouble detection	FAX
Cause	Improper destination of LIU PWB LIU PWB trouble
Check & Remedy	Check proper destination of LIU PWB Replace LIU PWB

F6-30 FAX power controller access 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

F6-97 Combination error (FAX PWB-Main body)

Trouble detection	MFP
Cause	Improper FAX PWB FAX PWB trouble
Check & Remedy	Replace FAX PWB

F6-98 Combination error(FAX-Main body destination)

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 Fuser high temperature trouble (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 Fuser high temperature trouble (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 Fuser low temperature trouble (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 Fuser low temperature trouble (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 Fuser differential input trouble (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 reach jam

Trouble detection	PCU
Cause	Fusing jam was not cancel 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	SCU
Cause	Connector, harness connection trouble Scanner unit trouble Scanner HP sensor (MHPS) trouble SCAN Motor (MIM) trouble SCN-cnt 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-cnt PWB

L3-00 Scanner return trouble

Trouble detection	SCU
Cause	Connector, harness connection trouble Scanner unit trouble Sensor (MHPS) trouble Motor (MIM) trouble SCN-cnt 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-cnt PWB

L4-01 Main motor lock trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Main motor trouble (MM) PCU PWB trouble
Check & Remedy	SIM6-1 to execute Check connection state of connector, harness Replace motor (MM) Replace PCU PWB

L4-14 Toner cartridge motor lock trouble

Trouble detection	PCU
Cause	Toner motor (TM) trouble Toner motor rotation detection sensor (TM_COUNT) trouble Connector, harness connection trouble PCU PWB trouble
Check & Remedy	SIM10-1 to execute SIM10-4 to execute Check connection state of connector, harness Replace motor (TNM) Replace toner motor drive detect sensor Replace PCU PWB Replace detect sensor

L4-17 Drum motor lock trouble

Trouble detection	PCU
Cause	Drum motor (DM) trouble Connector, harness connection trouble PCU PWB trouble
Check & Remedy	SIM25-1 to execute Check connection state of connector, harness Replace motor (DM) Replace PCU PWB

L4-31 Paper delivery cooling fan trouble

Trouble detection	PCU
Cause	Paper delivery cooling fan motor trouble (POFM) Connector, harness connection trouble PCU PWB trouble
Check & Remedy	SIM6-2 to execute Check connection state of connector, harness Replace fan (POFM) Replace PCU PWB

L4-32 Power supply unit fan trouble

Trouble detection	PCU
Cause	Power supply cooling fan motor (PSFM) trouble Connector, harness connection trouble PCU PWB trouble
Check & Remedy	SIM6-2 to execute Check connection state of connector, harness Replace fan (PSFM) Replace PCU PWB

L4-35 Fusing cooling fan trouble

Trouble detection	PCU
Cause	Fusing cooling fan motor (FUFM) trouble Connector, harness connection trouble PCU PWB trouble
Check & Remedy	SIM6-2 to execute Check connection state of connector, harness Replace fan (FUFM) Replace PCU PWB

L4-39 Machine cooling fan trouble

Trouble detection	PCU
Cause	Ventilation fan motor (VFM) trouble Connector, harness connection trouble PCU PWB trouble
Check & Remedy	SIM6-2 to execute Check connection state of connector, harness Replace motor (VFM) Replace PCU PWB

L4-43 Paper cooling fan trouble

Trouble detection	PCU
Cause	Paper cooling fan motor (POFM2) trouble Connector, harness connection trouble PCU PWB trouble
Check & Remedy	SIM6-2 to execute Check connection state of connector, harness Replace motor (POFM2) 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 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 Abnormal 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

L8-20 Communication error of MFP/Mother board

Trouble detection	MFP
Cause	MFPC PWB trouble SCN-cnt PWB trouble
Check & Remedy	Check main body ground Replace MFPC PWB Replace SCN-cnt PWB

PC-- Personal counter not detected

Trouble detection	MFP
Cause	The personal counter is not detected. SCU PWB trouble.
Check & Remedy	Check connection of the connectors and the harness. Replace the SCU 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 MFPC PWB

U2-05 Account data error(HDD-MFP SRAM)

Trouble detection	MFP
Cause	Authentication table error If frequent occurrence of this error is found, the following devices may possibly be damaged HDD/mSATA eMMC trouble MFPC PWB trouble
Check & Remedy	Replace HDD/mSATA eMMC Replace MFPC 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 MFPC PWB SIM16 to cancel

U2-30 MFP and PCU manufacturing No. data inconsistency

Trouble detection	MFP
Cause	When replacing MFPC PWB or PCU PWB, EEPROM which was mounted on PWB before replacement is not mounted on new PWB Replace MFPC PWB Replace PCU PWB
Check & Remedy	Check EEPROM is properly set Replace MFPC PWB Replace PCU PWB

U2-40 mSATA eMMC system storage data area error

Trouble detection	MFP
Cause	mSATA eMMC system storage data area error
Check & Remedy	Power OFF/ON and backup data is written into mSATA eMMC and machine is automatically booted Leave trouble occurrence in trouble history

U2-41 HDD storage data area error

Trouble detection	MFP
Cause	File error occurs saved data area, disabling backup of saved file of machine adjustment value in HDD
Check & Remedy	Power OFF/ON to cancel Replace HDD 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 mSATA eMMC and system saved data in HDD error
Check & Remedy	Perform backup of mSATA eMMC and HDD Replace HDD SIM62 to execute HDD format. SIM16 to cancel. Adjust machine again and set adjustment values

U2-50 HDD user authentication data check sum error

Trouble detection	MFP
Cause	HDD trouble MFPC PWB trouble Strong external noises
Check & Remedy	Check data related to check sum error (address book, image send system registration data) and register again SIM16 to cancel. Replace HDD Replace MFPC PWB

U2-60 Water Mark check error

Trouble detection	MFP
Cause	Watermark data trouble MFPC PWB trouble
Check & Remedy	SIM49-5 to execute Replace MFPC PWB

U2-70 OCR dictionary check error

Trouble detection	MFP
Cause	OCR dictionary data trouble
Check & Remedy	SIM49-6 to execute

U2-74 Recovery data error

Trouble detection	MFP
Cause	Data corruption due to storage error Data abnormality
Check & Remedy	SIM49-6 to execute

U2-80 SCU EEPROM read write error

Trouble detection	SCU
Cause	EEPROM socket contact trouble EEPROM trouble SCN-cnt PWB trouble
Check & Remedy	Check contact of EEPROM socket Replace EEPROM Replace SCN-cnt PWB SIM16 to cancel

U2-81 SCU EEPROM check sum error

Trouble detection	SCU
Cause	EEPROM socket contact trouble EEPROM trouble SCN-cnt PWB trouble
Check & Remedy	Check contact of EEPROM socket Replace EEPROM Replace SCN-cnt 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 Communication error between SPF and SCN-cnt PWB

Trouble detection	SCU
Cause	Malfunction due to noises Connector, harness connection trouble SCN-cnt PWB trouble DSPF PWB trouble
Check & Remedy	Power OFF/ON to cancel Check connection state of connector, harness Replace SCN-cnt PWB Replace DSPF PWB

U6-00 PCU PWB - Paper feed desk (paper feed tray3, 4) 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 1 lift trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (D1ULD) trouble Tray1 lift up motor (D1LM) trouble. Desk tray1 control PWB trouble Lift unit trouble PCU PWB trouble
Check & Remedy	SIM4-2 to execute Check connection state of connector, harness Replace sensor (D1ULD) Replace desk tray1 control PWB Replace lift unit Replace PCU PWB

U6-02 Desk paper feed tray 2 lift trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (D2ULD) trouble Tray 2 lift up motor (D2LM) trouble. Desk tray2 control PWB trouble Lift unit trouble PCU PWB trouble
Check & Remedy	SIM4-2 to execute Check connection state of connector, harness Replace sensor (D2ULD) Replace desk tray2 control PWB Replace lift unit Replace PCU PWB

U6-03 Desk paper feed tray 3 lift trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (D3ULD) trouble Tray3 lift up motor (D3LM) trouble. Desk tray3 control PWB trouble Lift unit trouble PCU PWB trouble
Check & Remedy	SIM4-2 to execute Check connection state of connector, harness Replace sensor (D3ULD) Replace desk tray3 control PWB Replace lift unit Replace PCU PWB

U6-11 Desk paper feed tray 1 transport trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Desk1 paper feed motor (D1PFM) trouble Desk tray1 control PWB trouble PCU PWB trouble
Check & Remedy	SIM4-3 to execute Check connection state of connector, harness Replace motor (D1PFM) Replace desk tray1 control PWB Replace PCU PWB

U6-12 Desk paper feed tray 2 transport trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Desk2 paper feed motor (D2PFM) trouble Desk tray2 control PWB trouble PCU PWB trouble
Check & Remedy	SIM4-3 to execute Check connection state of connector, harness Replace motor (D2PFM) Replace desk tray2 control PWB Replace PCU PWB

U6-13 Desk paper feed tray 3 transport trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Desk3 paper feed motor (D3PFM) trouble Desk tray3 control PWB trouble PCU PWB trouble
Check & Remedy	SIM4-3 to execute Check connection state of connector, harness Replace motor (D3PFM) Replace desk tray3 control PWB Replace PCU PWB

U6-30 Desk communication error between paper feed tray 1 and tray 2

Trouble detection	PCU
Cause	Desk paper feed tray 1 and 2 connector, harness connection trouble Desk tray1 control PWB trouble Desk tray2 control PWB trouble Malfunction due to noise
Check & Remedy	Power OFF/ON to cancel Check connection state of connector, harness Replace desk tray1 control PWB Replace desk tray2 control PWB

U6-40 Desk communication error between paper feed tray 2 and tray 3

Trouble detection	PCU
Cause	Desk paper feed tray 2 and 3 connector, harness connection trouble Desk tray2 control PWB trouble Desk tray3 control PWB trouble Malfunction due to noise
Check & Remedy	Power OFF/ON to cancel Check connection state of connector, harness Replace desk tray2 control PWB Replace desk tray3 control PWB

U6-50 Desk - Main unit 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

U6-55 Desk firmware inconsistent error

Trouble detection	PCU
Cause	Firmware version is inconsistency
Check & Remedy	SIM49-1 to execute

U6-56 Desk paper feed tray 1 firmware error

Trouble detection	PCU
Cause	Firmware version is inconsistency
Check & Remedy	SIM49-1 to execute

U6-57 Desk paper feed tray 2 firmware error

Trouble detection	PCU
Cause	Firmware version is inconsistency
Check & Remedy	SIM49-1 to execute

U6-58 Desk paper feed tray 3 firmware error

Trouble detection	PCU
Cause	Firmware version is inconsistency
Check & Remedy	SIM49-1 to execute

U6-70 Desk firmware version mismatch error

Trouble detection	PCU
Cause	Firmware version is inconsistency
Check & Remedy	SIM49-1 to execute

U7-50 Communication error of Vendor machine / MFP

Trouble detection	MFP
Cause	Strong external noises Improper setting of vendor machine specifications Vendor machine trouble Connector, harness connection trouble MFPC PWB trouble
Check & Remedy	Power OFF/ON to cancel Change specification of vendor machine Check connection state of connector, harness Replace MFPC PWB

U7-51 Vendor machine error

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 MFPC PWB trouble
Check & Remedy	Check connection state of connector, harness Replace touch panel Replace MFPC PWB

UC-02 SCAN ASIC IPD error

Trouble detection	SCU
Cause	SCN-cnt PWB trouble
Check & Remedy	Replace SCN-cnt PWB

UC-12 SCAN ASIC IPD error (DSPF detection)

Trouble detection	SCU
Cause	DSPF PWB trouble
Check & Remedy	Replace DSPF PWB

UC-20 SCAN ASIC DOCC error

Trouble detection	SCU
Cause	SCN-cnt PWB trouble
Check & Remedy	Replace SCN-cnt PWB

UC-30 SCAN ASIC DOCC error (DSPF detection)

Trouble detection	SCU
Cause	DSPF PWB trouble
Check & Remedy	Replace DSPF PWB

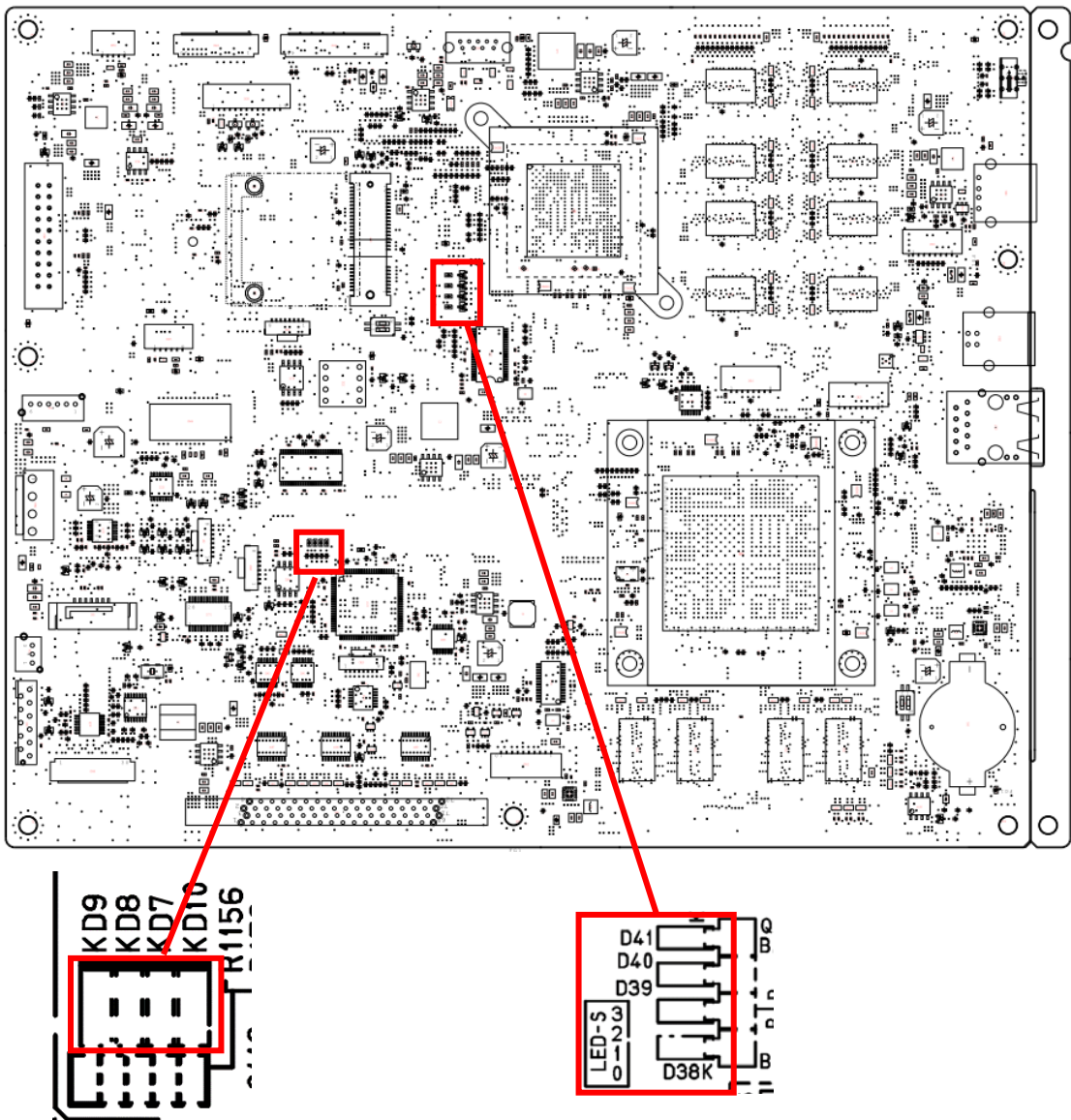
H. LED status and errors of MFPC PWB

Check LED status of MFPC PWB to presume error content and its cause when machine cannot booted.
Process content and LED display.

Lighting up status of LED (D7,D8,D9,D10) and LED (D38,D39,D40, D41).

LED status	Condition	Countermeasure at error
All eight LED lighting	Normal	-
Other status (blinking or lighting)	Error	Replace MFPC PWB for LED (D7,D8,D9,D10) Replace eMMC PWB for LED (D38,D39,D40,D41) → If the same condition remained, replace MFPC PWB

MFPC PWB



2. JAM and troubleshooting

A. JAM code list

(1) Main machine and options

JAM code	JAM content
D1PPD_N03	D1PPD not-reached JAM (Tray 3 paper feed)
D1PPD_N04	D1PPD not-reached JAM (Tray 4 paper feed)
D1PPD_S02	D1PPD remaining JAM (Tray 2 paper feed)
D1PPD_S03	D1PPD remaining JAM (Tray 3 paper feed)
D1PPD_S04	D1PPD remaining JAM (Tray 4 paper feed)
D2PPD_N04	D2PPD not-reached JAM (Tray 4 paper feed)
D2PPD_S03	D2PPD remaining JAM (Tray 3 paper feed)
D2PPD_S04	D2PPD remaining JAM (Tray 4 paper feed)
D3PPD_S04	D3PPD remaining JAM (Tray 4 paper feed)
DESK_ERR	Desk communication error detection
DOP	Door open JAM
DRUM	Drum JAM
FIN_ERR	Finisher communication error detection
FPPD1_N	Finisher inlet port not-reached JAM
FPPD1_S	Finisher inlet port remaining JAM
FPRD_N	Finisher compiler not-reached JAM
FPRD_S	Finisher compiler remaining JAM
FSTPD_N	Finisher paper exit not-reached JAM
FSTPD_S	Finisher paper exit remaining JAM
FSTPL	Staple JAM
FUSER	Fuser JAM
ICU_REQ	ICU factor stop JAM
MFT	PPD2 not-reached JAM (Manual paper feed)
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)
MTR_ILG	Motor driver trouble JAM
NO_MATCH	Parameter error
P_ON	Jam detection at power ON
P_SHORT	Short size JAM
POD1_N	POD1 not-reached JAM
POD1_NA	POD1 not-reached JAM (In the case of a jam at second surface)
POD1_S	POD1 remaining JAM
POD1_SA	POD1 remaining JAM (In case of a jam at second surface)
PPD2_N2	PPD2 not-reached JAM (Tray 2 paper feed)
PPD2_N3	PPD2 not-reached JAM (Tray 3 paper feed)
PPD2_N4	PPD2 not-reached JAM (Tray 4 paper feed)
PPD2_NA	PPD2 not-reached JAM (ADU refeed paper)
PPD2_S1	PPD2 remaining JAM (Tray 1 paper feed)
PPD2_S2	PPD2 remaining JAM (Tray 2 paper feed)
PPD2_S3	PPD2 remaining JAM (Tray 3 paper feed)
PPD2_S4	PPD2 remaining JAM (Tray 4 paper feed)
PPD2_SA	PPD2 remaining JAM (ADU refeed paper)
PPD2_SM	PPD2 remaining JAM (Manual paper feed)
PRI_JAM	Time out for image ready
SDFS_S	Double feed JAM
SIZE_ILG	Size illegal JAM
SMTR_ILG	SPF motor driver trouble JAM
SPOD_N	SPOD not-reached JAM
SPOD_S	SPOD remaining JAM
SPPD1_N	SPPD1 not-reached JAM
SPPD1_NR	SPPD1 reverse not-reached JAM
SPPD1_S	SPPD1 remaining JAM
SPPD1_SR	SPPD1 reverse 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_S	SPPD2 remaining JAM
SPPD3_N	SPPD3 not-reached JAM
SPPD3_S	SPPD3 remaining JAM
SPPD4_N	SPPD4 not-reached JAM
SPPD4_S	SPPD4 remaining JAM
SPSD_SCN	Exposure start notification timer end

JAM code	JAM content
STOP_JAM	Stop request JAM
TRAY1	PPD2 not-reached JAM (Tray 1 paper feed)
TRAY1_1ST	Tray 1 paper feed JAM (check paper loading state)
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	D1PPD 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	D2PPD not-reached JAM (Tray 3 paper feed)
TRAY3_1ST	Tray 3 paper feed JAM (check paper loading state)
TRAY3_LE	Tray 3 paper feed JAM (paper feed roller needs to be replaced)
TRAY3_RT	Tray 3 paper feed JAM (check paper state)
TRAY4	D3PPD not-reached JAM (Tray 4 paper feed)
TRAY4_1ST	Tray 4 paper feed JAM (check paper loading state)
TRAY4_LE	Tray 4 paper feed JAM (paper feed roller needs to be replaced)
TRAY4_RT	Tray 4 paper feed JAM (check paper state)

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

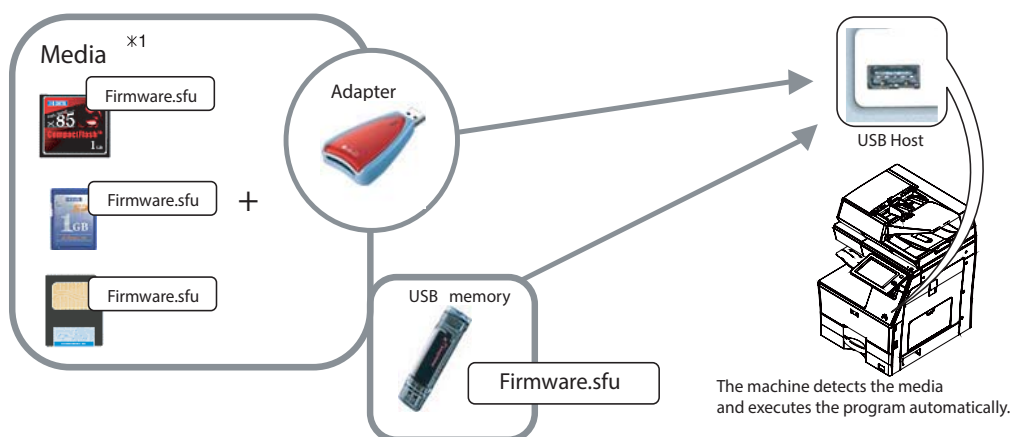
The firmware type can be displayed by SIM22-5.

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:

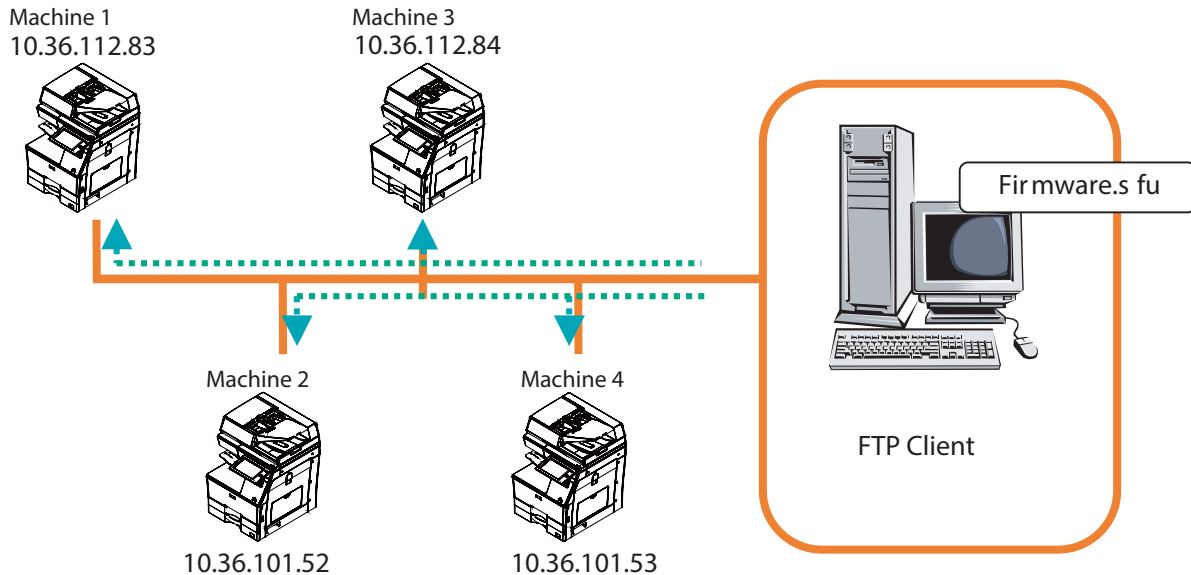
- Store the firmware data (xxx .sfu) to the media or USB memory beforehand.
- The media used for the update must have an enough capacity for storing the firmware data.
- The USB memory equipped with the security (secure) function cannot be used.

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 on 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

Web browser (service technician's Web page) is used to update the firmware.

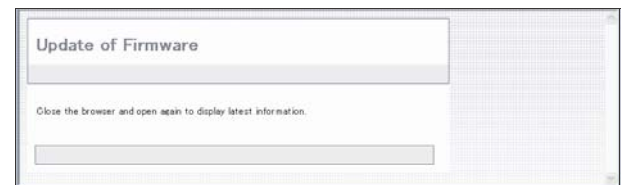
- 1) Start the Web browser on a PC and enter the specified URL (http://xxx.xxx.xxx.xxx/service_login.html) and enter the servicing page menu. Default password : "service". A special firmware upgrade page appears.
- 2) Click the "Update of Firmware" key in the Web page. Click the [Browse] key and select 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 MFPc 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 MFPc 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

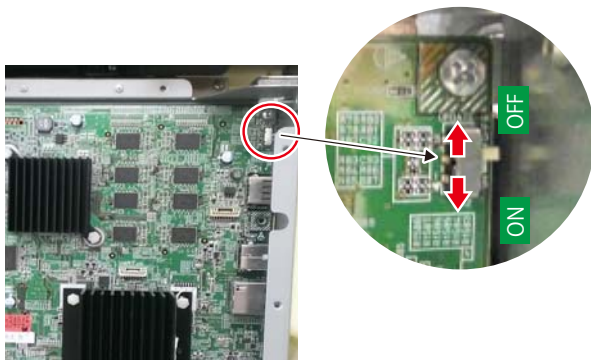
This function is used in the following cases:

- 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

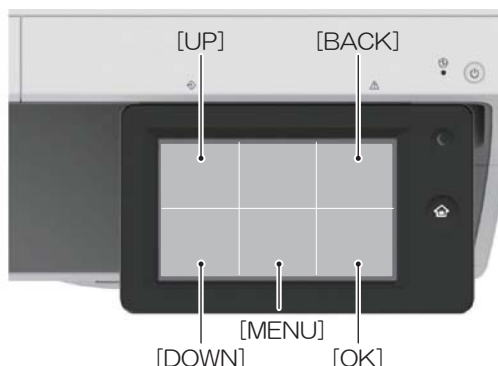
To enter the CN update mode, turn ON the UPDATE DIP-SW on the MFPC PWB and boot the machine.

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 MFPC 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 MFPC PWB of the machine.
- 2) USB memory with the firmware file (SFU) saved in it.

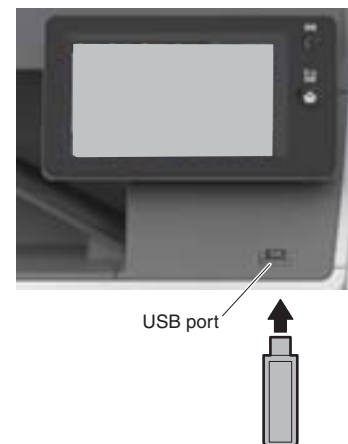
Note

Save the firmware file in the main directory or in a one-level lower directory.

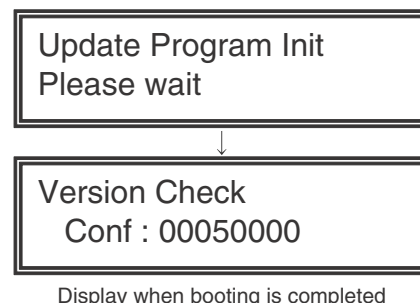
a-2. Procedures

- 1) Turn OFF the power, and remove the cabinet and the MFP cover.
- 2) Turn ON the DIP SW of the MFPC PWB UP DATE. (Tilt it to the PWB side.)
- 3) Install the USB memory into the USB port.

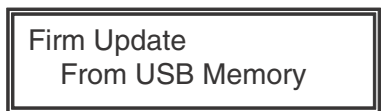
USB memory installing position



- 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

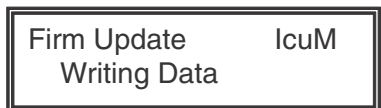
- 8) Select the firmware file (SFU).
Select the target firmware file (SFU) with [UP] key and [DOWN] key.
When [OK] key is pressed with a directory name (the head: "> D") displayed, the menu goes to the one-stage lower directory.
When [BACK] key is pressed in the lower-stage directory, the menu returns 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

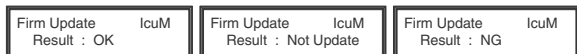
- 10) After completion of reading, the firmware update process is continued.



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 MFPc 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 MFPc 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	No relation	Transfer roller print counter	When 100K is reached	Enable

* 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	No relation	Fusing roller print counter	When 100K is reached	Enable
Maintenance required: FK2		Pressure roller print counter		

* After execution of the maintenance, execute SIM24-4 to clear the print counter, the accumulated rotation counter and the use day counter of FUSING ROLLER, PRESSURE ROLLER.

D. Drum unit

Display content	Display condition			Print JOB Enable/ Disable
	Sim26-38-A set value	Counter name	Counter value	
Maintenance required: DK	No relation	OPC drum print counter OPC drum accumulated rotation counter	When 100K is reached or When 600K rotation is reached	Enable

* 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.

E. Developer

Display content	Display condition			Print JOB Enable/ Disable
	Sim26-38-A set value	Counter name	Counter value	
Maintenance required: VK	No relation	Developer print counter DV unit accumulated rotation counter	When 100K is reached or When 600K rotation is reached	Enable

* After replacing developer, execute SIM25-2 to automatically clear counters.

F. Toner

Status	Display content	Display condition			Print JOB Enable/ Disable
		Sim26-38-A set value	Counter name	Counter value	
Close to Near end (Near naer end)	Toner Low. (Do not replace cartridge until requested.)	No relation	Toner motor rotation time	Specified time of rotations	Enable
Near end	Change the toner cartridge.		Toner supply amount is decreasing	Toner remaining sensor output variation	
Toner end (End)	Change the toner cartridge.		The toner remaining counter from near end reaches the specified value	Specified toner remaining counter	Disable

3. Maintenance list

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

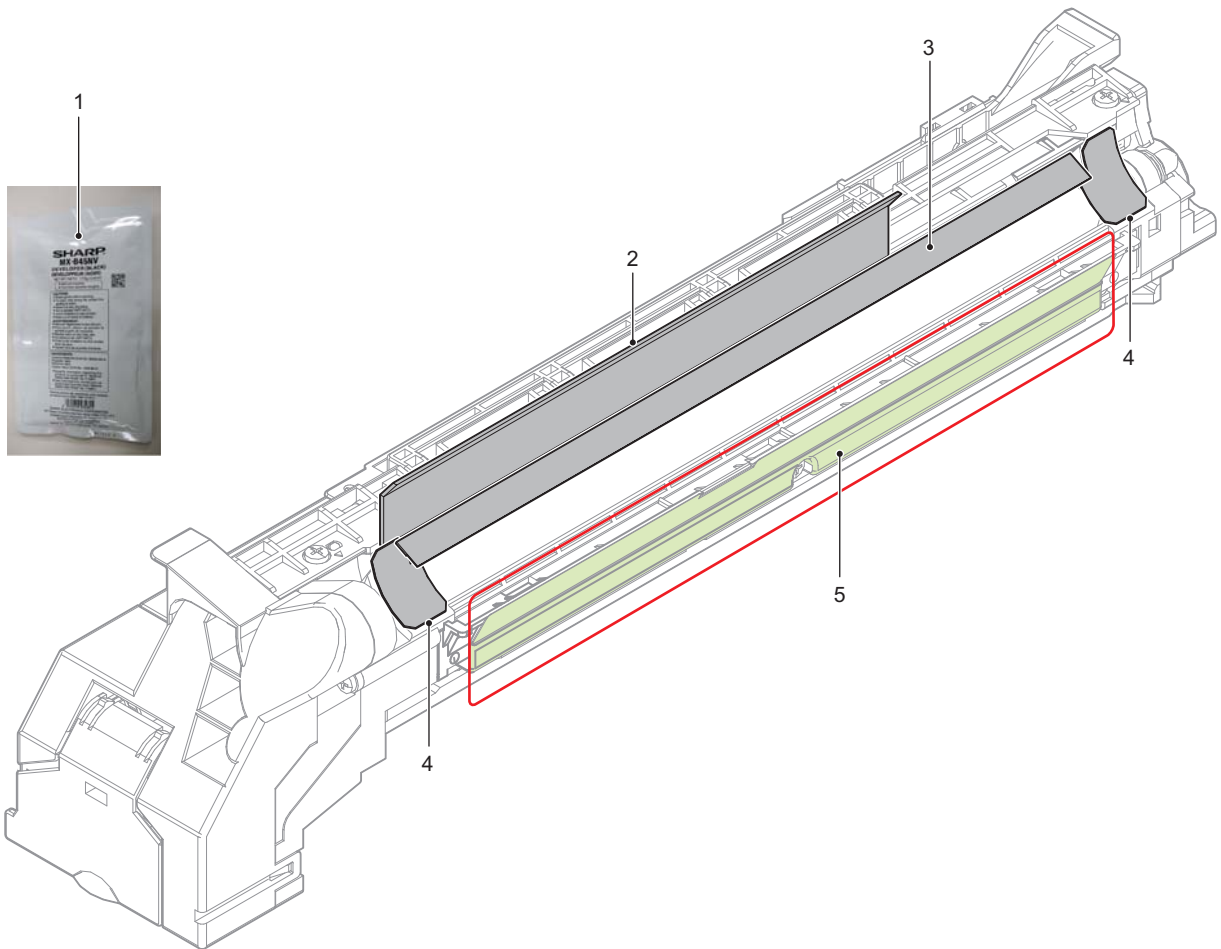
Section	No.	Part name	When calling	100k	200k	300k	Remarks
Developing section	1	Developer	—	▲	▲	▲	Replace when the specified rotation number is reached
	2	DV filter	—	▲	▲	▲	Replace the DV filter at the same time as replacing the developer.
	3	DV blade	x	x	x	x	Replace as needed
	4	Side seat	x	x	x	x	Replace as needed
	5	DV paper guide	○	○	○	○	
Transfer section	1	Transfer unit	x	▲	▲	▲	Replace at (100K) or 2 years of use
Fusing section	1	Fusing unit	x	▲	▲	▲	Replace at (100K) or 2 years of use
Drum	1	Drum unit	—	▲	▲	▲	Replace when the specified rotation number is reached
Main unit filter section	1	Inspiration filter	x	○	○	○	
Paper feed section	1	Paper pick up roller	○	○	○	○	Replacement reference: Replace referring to the paper feed counter value at each tray Paper feed tray: When 100K is reached or 1 years of use. Manual paper feed tray: When 100K is reached or 1 year of use.
	2	Paper feed roller	○	○	○	○	
	3	Separation roller	○	○	○	○	
	4	Torque limiter	x	—	—	—	
Transport section/Paper reverse section/Paper exit section	1	PS roller (Idle)	x	○	○	○	
	2	rollers	x	○	○	○	
	3	Transfer paper guides	○	○	○	○	
	4	Discharge brush	x	x	x	x	
	5	Gears	x	—	—	—	Apply grease to the specified position as needed
	6	Belts	x	—	—	—	
	7	Sensors	x	—	—	—	Blow air to clean reflection type sensor section
	8	Process control sensor	x	○	○	○	Clean with air blow when replacing drum cartridge, developer
Drive section	1	Gears (grease)	x	—	—	—	Apply grease to the specified position as needed
	2	Shafts earth section (conductor grease)	x	—	—	—	Apply grease to the specified position as needed
Scanner section	1	Scanner lamp	x	x	x	x	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)
	2	Mirror, lens (Inside the carriage)	x	x	x	x	Clean as needed after copy image check
	3	Table glass, SPF glass	○	○	○	○	
	4	Shaft, rail (grease)	x	x	x	x	Apply grease (UKOG-0307FCZZ) to the specified position when checking
	5	Drive belt	x	x	x	x	Clean as needed after copy image check
	6	Drive gear, pulley	x	—	—	—	Apply grease (UKOG-0299FCZZ) to the specified position as needed
RSPF	1	Paper feed section/ Transfer section	Paper feed roller	○	○	○	Replacement reference: Replace referring to the paper feed counter value
	2		Paper pickup roller	○	○	○	
	3		Separation sheet	x	x	x	
	4		Transfer rollers	x	○	○	
	5		Torque limiter (for pickup)	x	x	x	
	6		Sensors	x	—	—	
	7		Scan plate	○	○	○	
	8	Paper exit section	Paper exit roller	x	○	○	
	9		Discharge brush	x	x	x	
	10	Other	OC mat	○	○	○	
	11	Drive section	Gears	x	—	—	

Section	No.	Part name	When calling	100k	200k	300k	Remarks
DSPF	1	Paper feed section/	Paper feed roller	○	○	○	Replacement reference: Replace referring to the paper feed counter value
	2	Transfer section	Paper pickup roller	○	○	○	
	3		Separation roller	○	○	○	
	4		Transfer rollers	x	○	○	
	5		Torque limiter SPF (for separation)	x	x	x	
	6		Torque limiter (for pickup)	x	x	x	
	7		sensors	x	—	—	
	8		No.1 scanning plate	○	○	○	
	9		No.2 scanning section, scanning glass	○	○	○	
	10		No.2 scanning section, white reference glass	○	○	○	
	11		CIS unit	x	x	x	
	12		Discharge brush	x	x	x	
	13	Paper exit section	Paper exit roller	x	○	○	
	14		Discharge brush	x	x	x	
	15	Other	OC mat	○	○	○	
	16	Drive section	Gears	x	—	—	Apply grease (UKOG-0299FCZZ) to the specified position as needed
	17		belts	x	—	—	Clean as needed

A. Developing section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

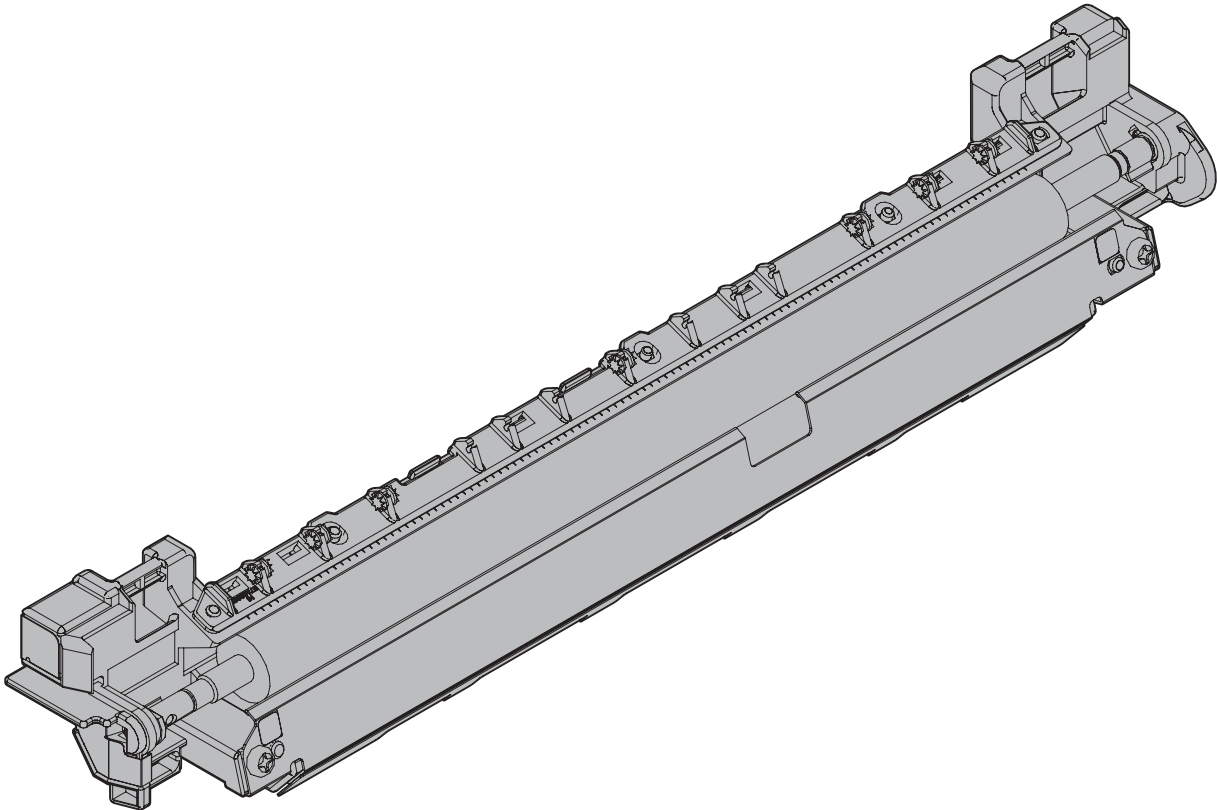
No.	Part name	When calling	100k	200k	300k	Remarks
1	Developer	—	▲	▲	▲	Replace when the specified rotation number is reached
2	DV filter	—	▲	▲	▲	Replace the DV filter at the same time as replacing the developer.
3	DV blade	x	x	x	x	Replace as needed
4	Side seat	x	x	x	x	Replace as needed
5	DV paper guide	○	○	○	○	



B. Transfer section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

No.	Part name	When calling	100k	200k	300k	Remarks
1	Transfer unit	x	▲	▲	▲	Replace at (100K) or 2 years of use



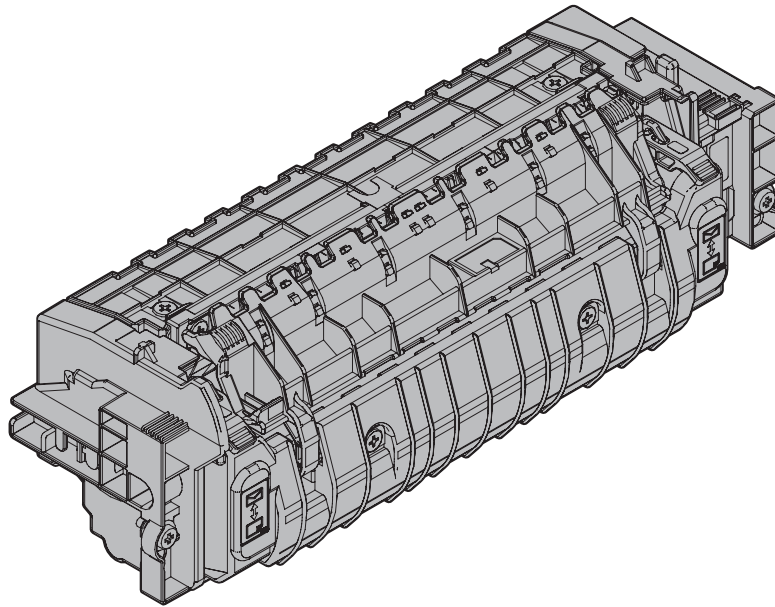
C. Fusing section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	When calling	100k	200k	300k	Remarks
1	Fusing unit	x	▲	▲	▲	Replace at (100K) or 2 years of use

Important

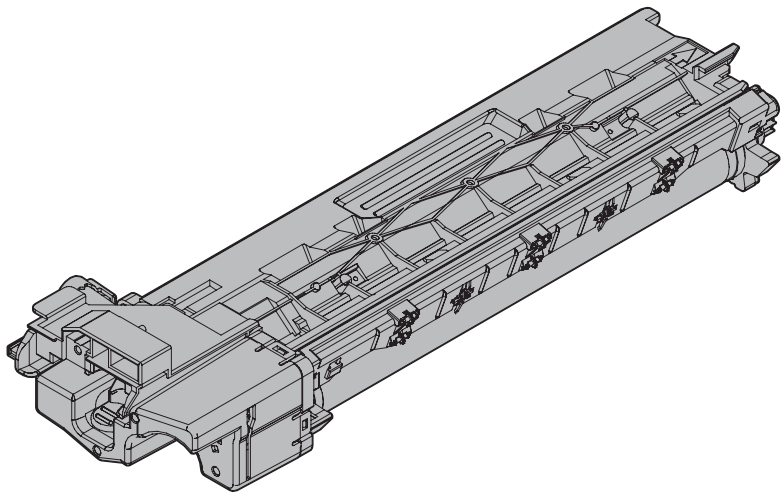
When handling the fusing unit, put an earth band to your arm, and connect it to the machine.



D. Drum section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △ : Adjust ☆: Lubricate

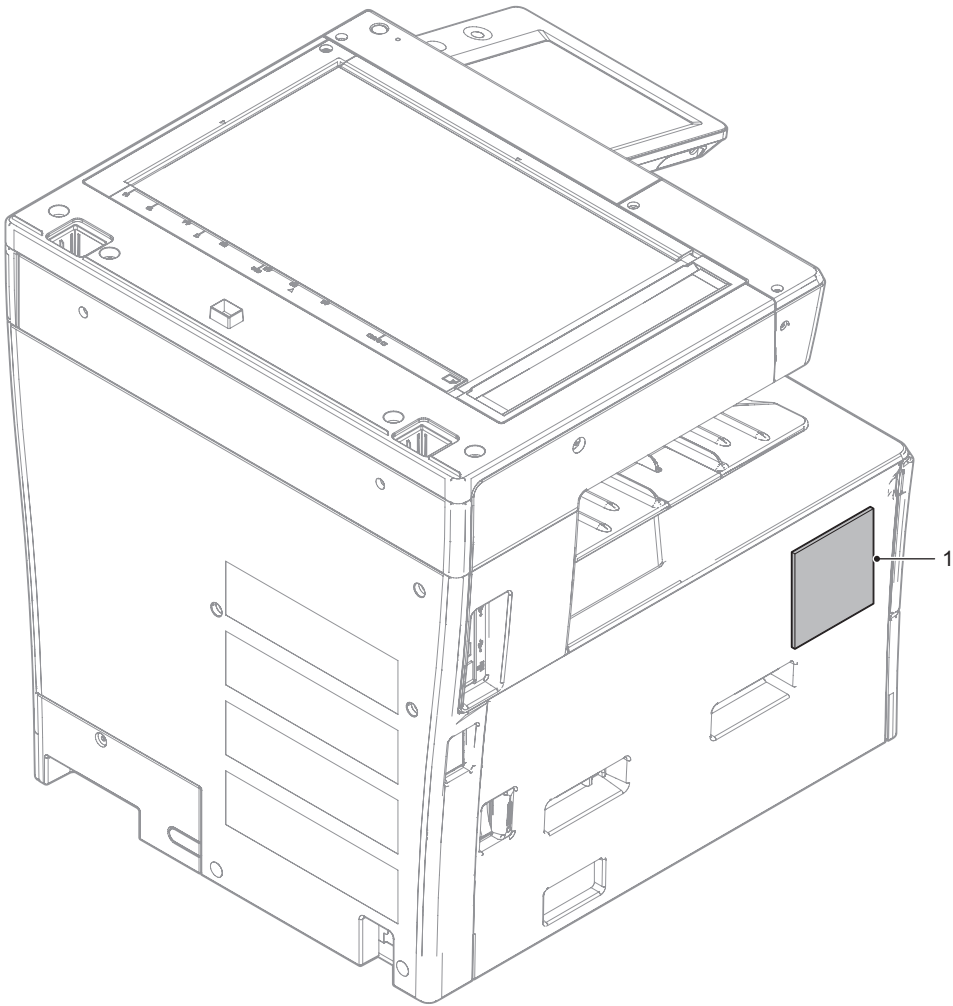
No.	Part name	When calling	100k	200k	300k	Remarks
1	Drum unit	x	▲	▲	▲	Replace when the specified rotation number is reached



E. Main unit filter section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

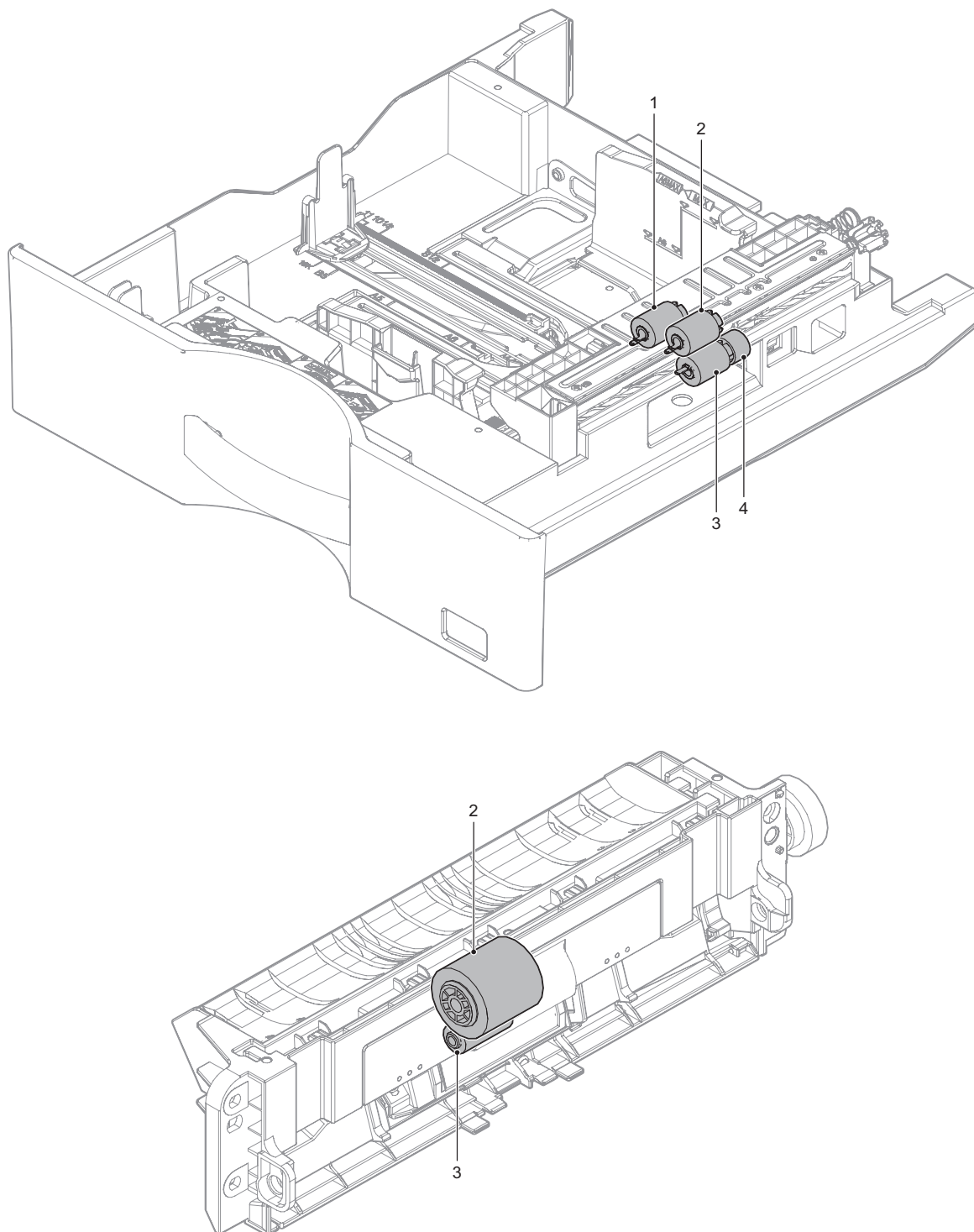
No.	Part name	When calling	100k	200k	300k	Remarks
1	Inspiration filter	x	○	○	○	



F. Paper feed section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

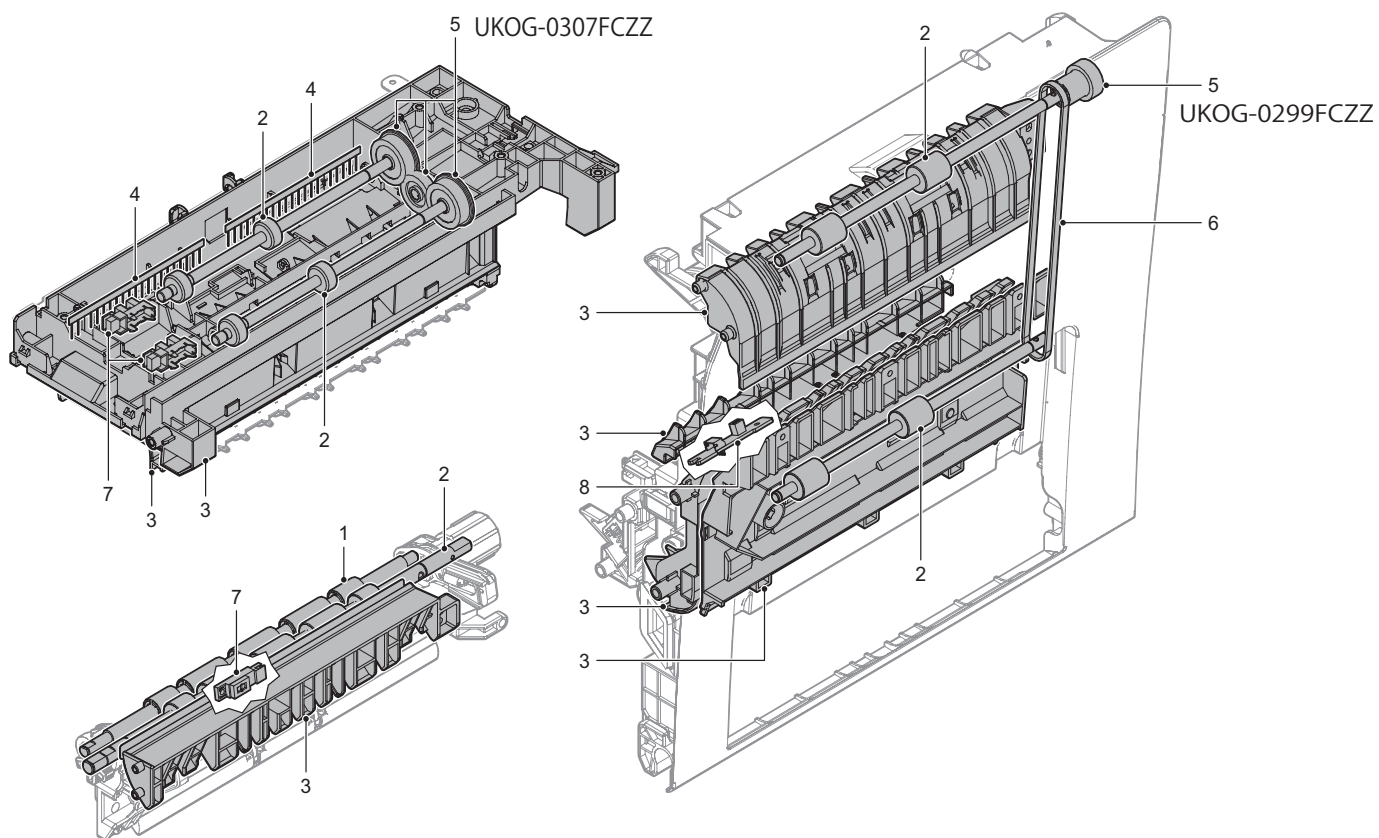
No.	Part name	When calling	100k	200k	300k	Remarks
1	Paper pick up roller	○	○	○	○	Replacement reference: Replace referring to the paper feed counter value at each tray Paper feed tray: When 100K is reached or 1 years of use. Manual paper feed tray: When 100K is reached or 1 year of use.
2	Paper feed roller	○	○	○	○	
3	Separation roller	○	○	○	○	
4	Torque limiter	x	—	—	—	



G. Transport section/Paper reverse section/Paper exit section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

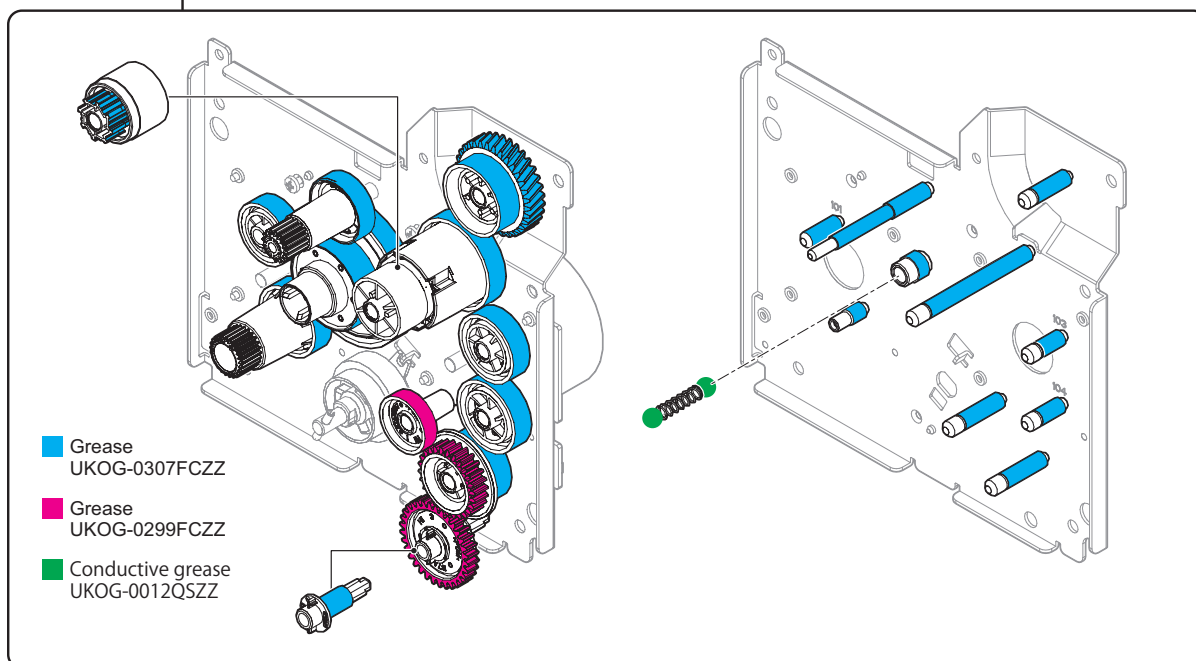
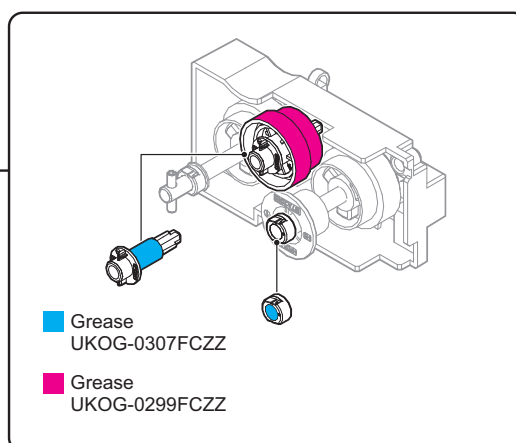
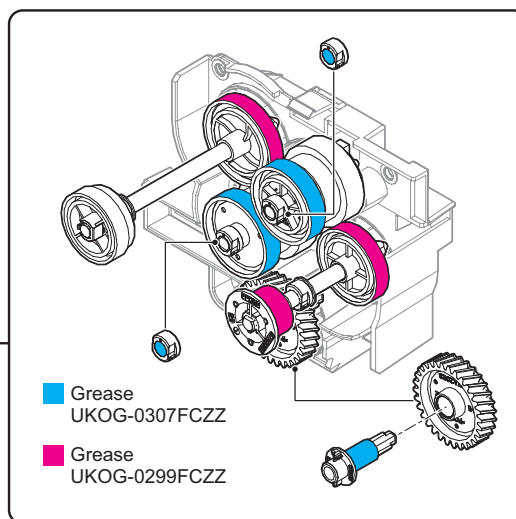
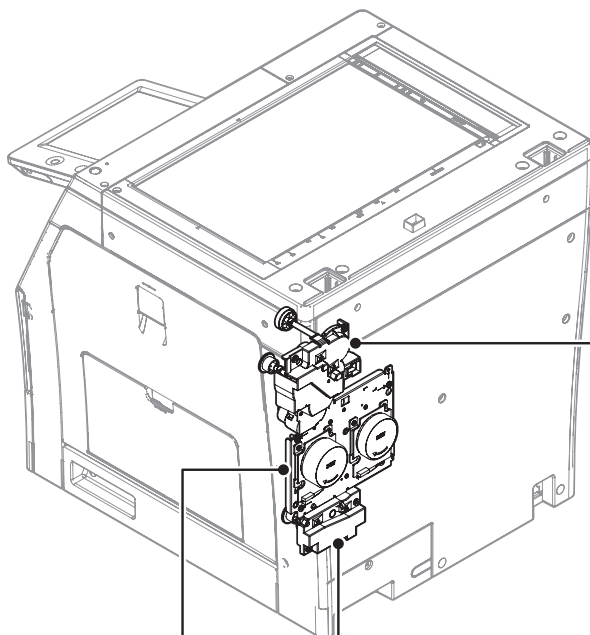
No.	Part name	When calling	100k	200k	300k	Remarks
1	PS roller (Idle)	x	○	○	○	
2	rollers	x	○	○	○	
3	Transfer paper guides	○	○	○	○	
4	Discharge brush	x	x	x	x	
5	Gears	x	—	—	—	Apply grease to the specified position as needed
6	Belts	x	—	—	—	
7	Sensors	x	—	—	—	Blow air to clean reflection type sensor section
8	Process control sensor	x	○	○	○	Clean with air blow when replacing drum cartridge, developer



H. Drive section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

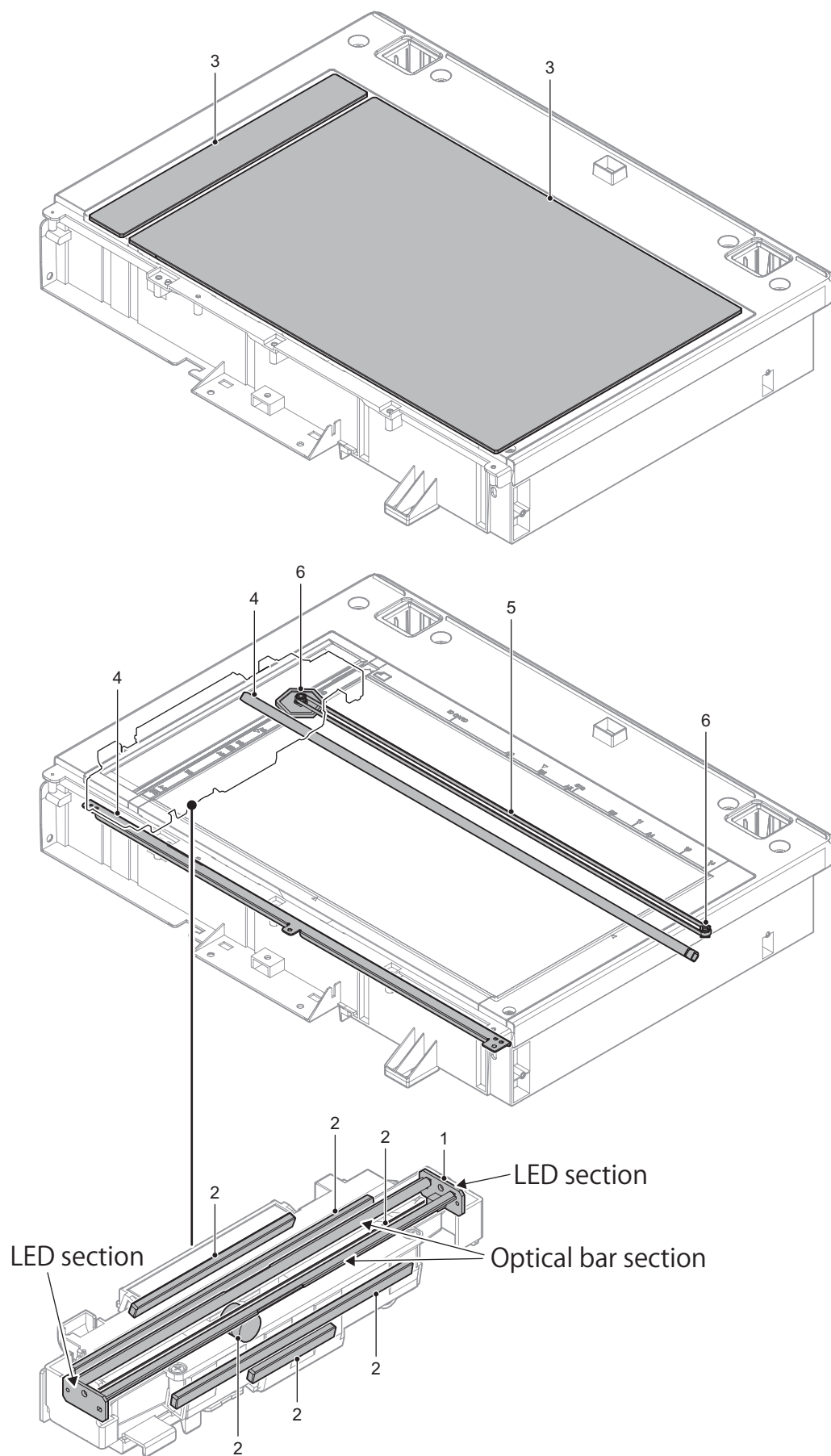
No.	Part name	When calling	100k	200k	300k	Remarks
1	Gears (grease)	x	—	—	—	Apply grease to the specified position as needed
2	Shafts earth section (conductor grease)	x	—	—	—	Apply grease to the specified position as needed

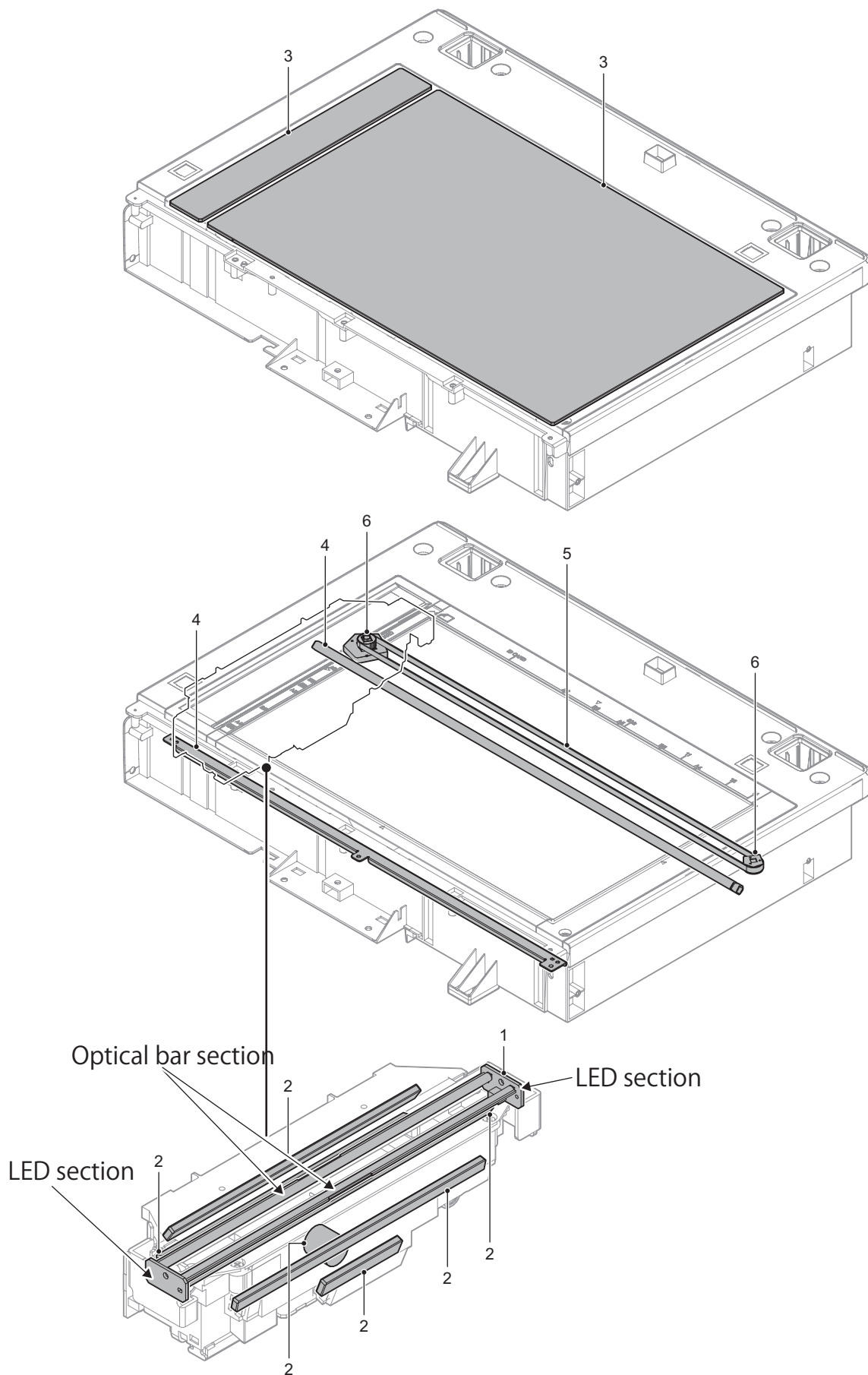


I. Scanner section

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	When calling	100k	200k	300k	Remarks
1	Scanner lamp	x	x	x	x	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)
2	Mirror, lens (Inside the carriage)	x	x	x	x	Clean as needed after copy image check
3	Table glass, SPF glass	○	○	○	○	
4	Shaft, rail (grease)	x	x	x	x	Apply grease (UKOG-0307FCZZ) to the specified position when checking
5	Drive belt	x	x	x	x	Clean as needed after copy image check
6	Drive gear, pulley	x	—	—	—	Apply grease (UKOG-0299FCZZ) to the specified position as needed

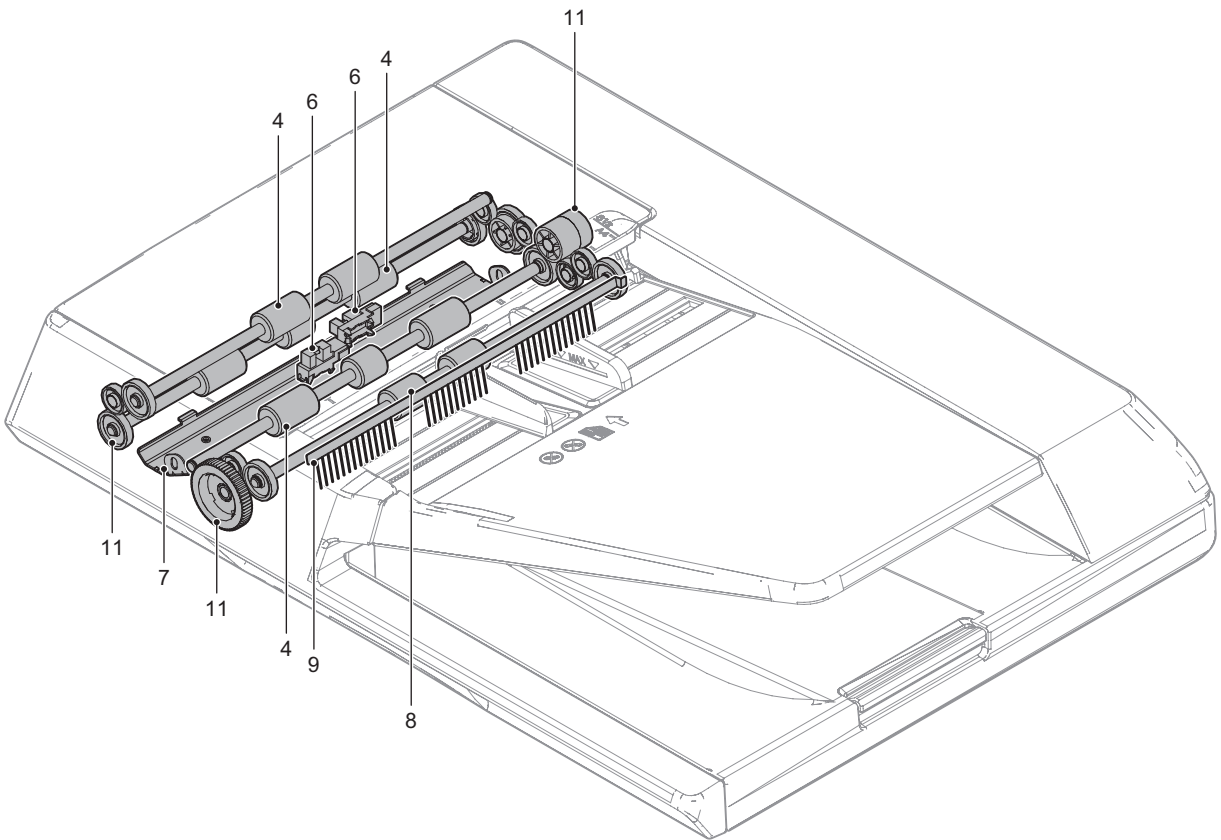
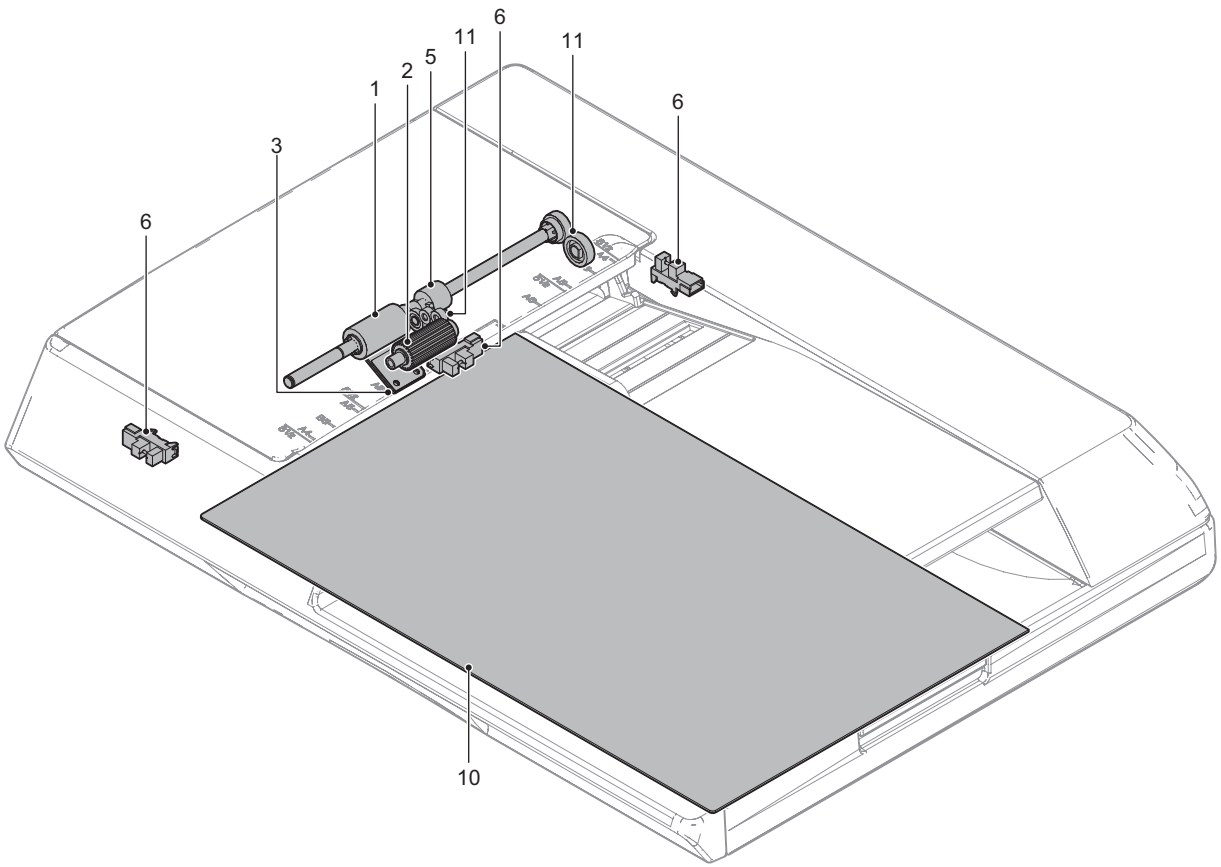




J. RSPF

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

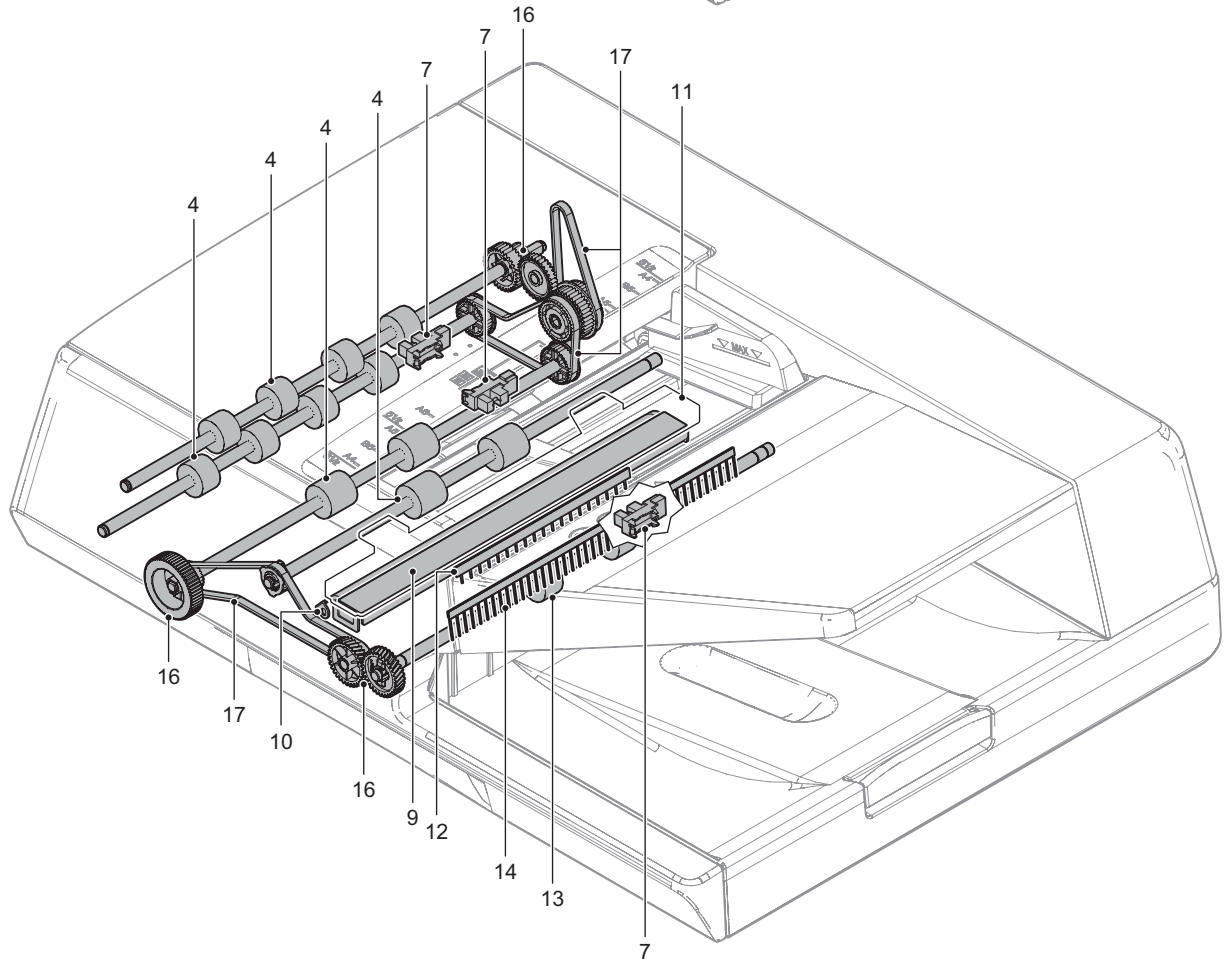
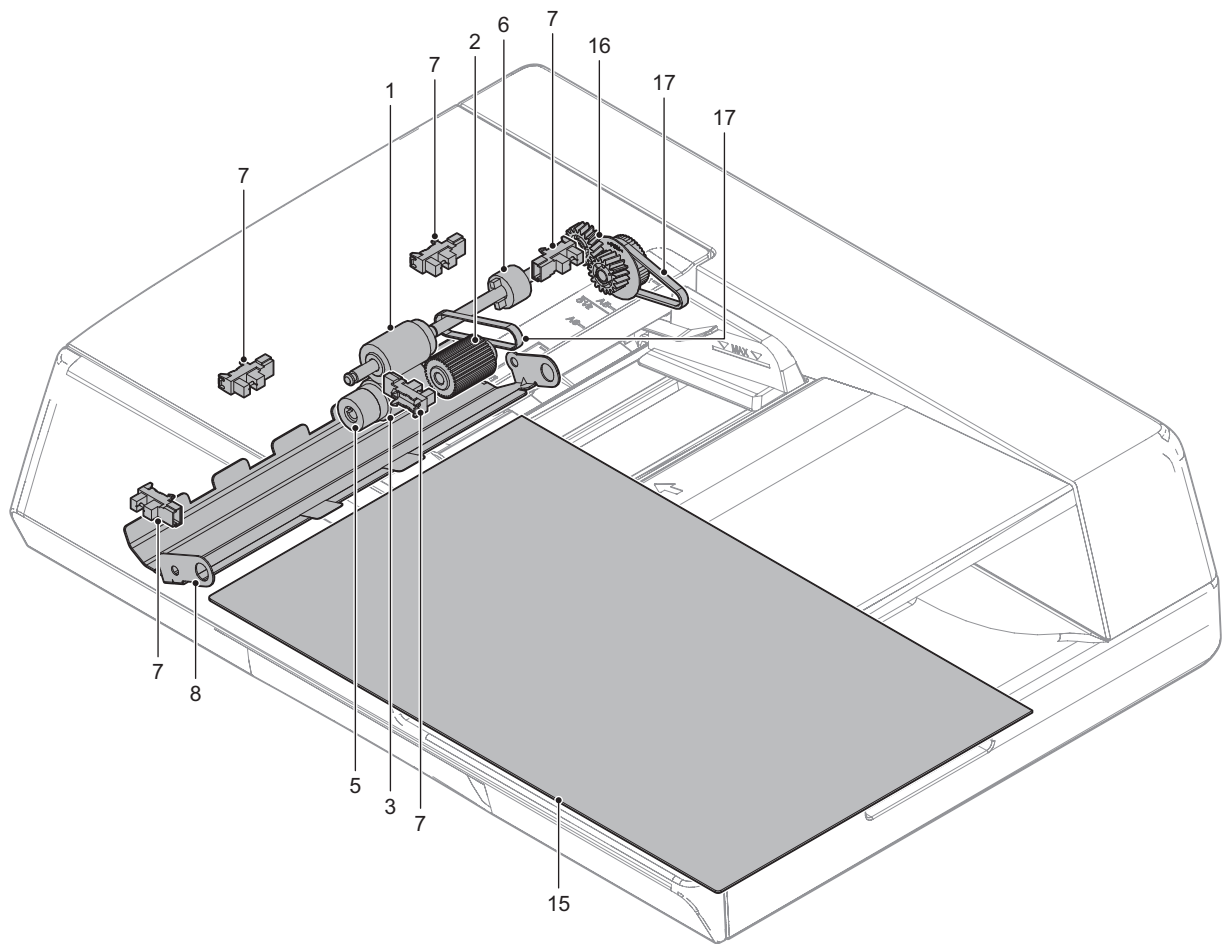
No.	Part name		When calling	100k	200k	300k	Remarks
1	Paper feed section/ Transfer section	Paper feed roller	○	○	○	○	Replacement reference: Replace referring to the paper feed counter value
2		Paper pickup roller	○	○	○	○	
3		Separation sheet	x	x	x	x	
4		Transfer rollers	x	○	○	○	
5		Torque limiter (for pickup)	x	x	x	x	
6		Sensors	x	—	—	—	
7		Scan plate	○	○	○	○	
8	Paper exit section	Paper exit roller	x	○	○	○	
9		Discharge brush	x	x	x	x	
10	Other	OC mat	○	○	○	○	
11	Drive section	Gears	x	—	—	—	



K. DSPF

x: Check (Clean, replace, or adjust according to necessity) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.		Part name	When calling	100k	200k	300k	Remarks
1	Paper feed section/ Transfer section	Paper feed roller	○	○	○	○	Replacement reference: Replace referring to the paper feed counter value
2		Paper pickup roller	○	○	○	○	
3		Separation roller	○	○	○	○	
4		Transfer rollers	x	○	○	○	
5		Torque limiter SPF (for separation)	x	x	x	x	
6		Torque limiter (for pickup)	x	x	x	x	
7		sensors	x	—	—	—	
8		No.1 scanning plate	○	○	○	○	
9		No.2 scanning section, scanning glass	○	○	○	○	
10		No.2 scanning section, white reference glass	○	○	○	○	
11		CIS unit	x	x	x	x	
12		Discharge brush	x	x	x	x	
13	Paper exit section	Paper exit roller	x	○	○	○	
14		Discharge brush	x	x	x	x	
15	Other	OC mat	○	○	○	○	
16	Drive section	Gears	x	—	—	—	Apply grease (UKOG-0299FCZZ) to the specified position as needed
17		belts	x	—	—	—	Clean as needed

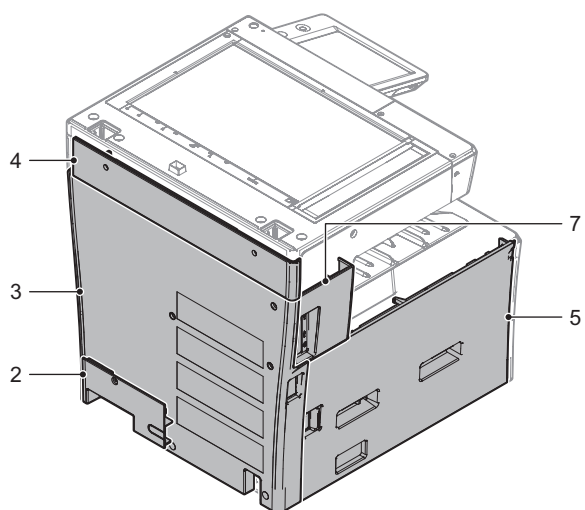
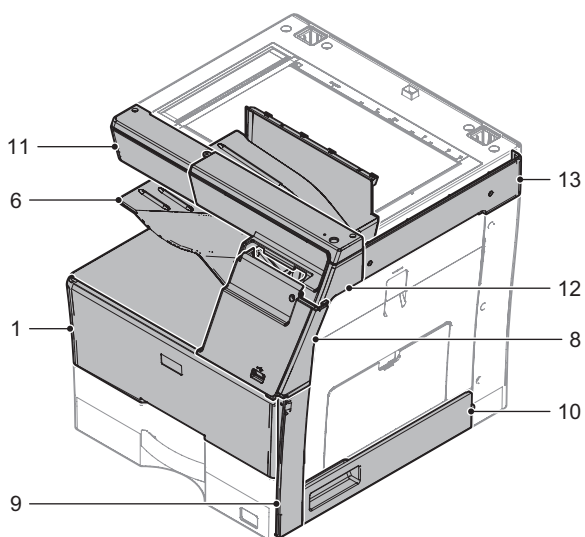


[10] DISASSEMBLY AND ASSEMBLY

1. Disassembly of Units

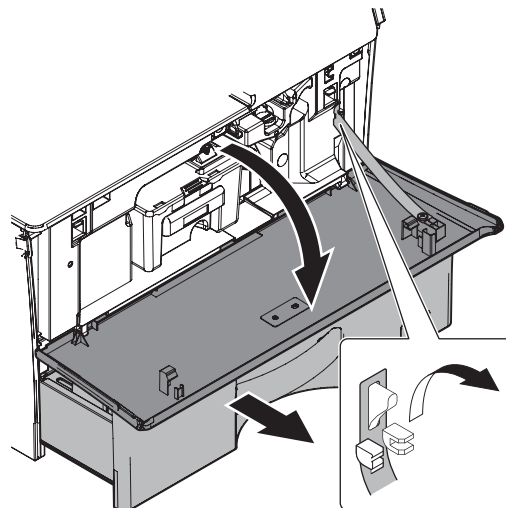
A. External view

No.	Name
1	Front cabinet
2	Rear handle cabinet
3	Rear cabinet
4	Rear cabinet upper
5	Left cabinet
6	Paper exit tray cabinet
7	Left upper cabinet rear
8	Front cabinet right upper
9	Front cabinet right
10	Right cabinet lower
11	Upper cabinet front left
12	Upper cabinet front right
13	Upper cabinet right

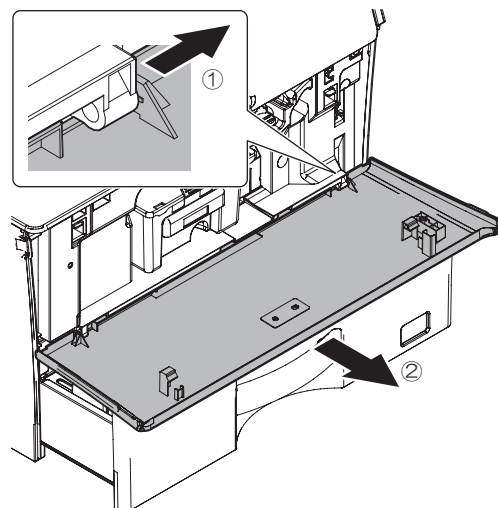


(1) Front cabinet

- 1) Open the front cabinet and the 500 cassette. Then, remove the band from the guide.

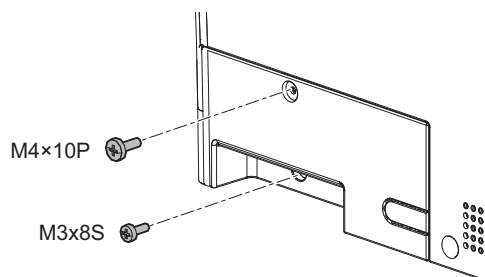


- 2) Remove the front cabinet.

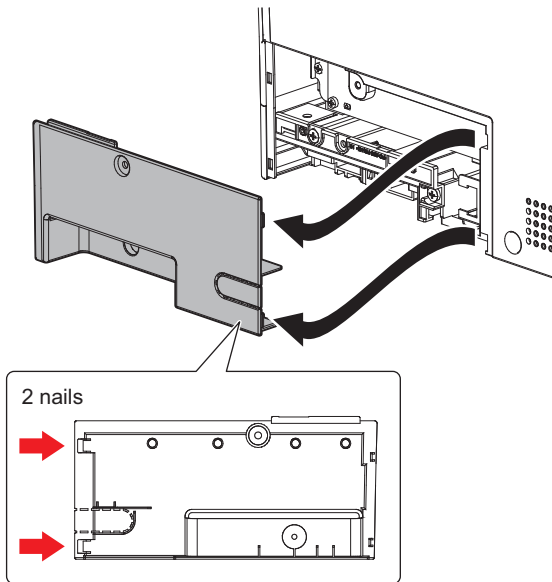


(2) Rear handle cabinet

- 1) Remove the screw.

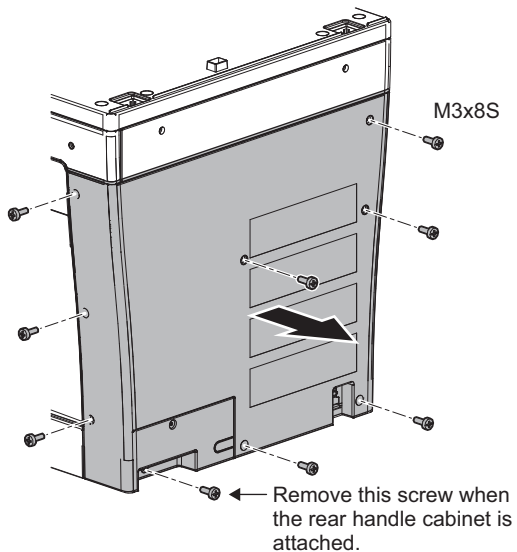


- 2) Remove the rear handle cabinet.



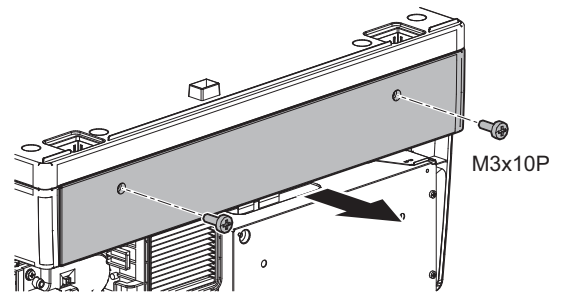
(3) Rear cabinet

- 1) Remove the screw.
- 2) Remove the rear cabinet.



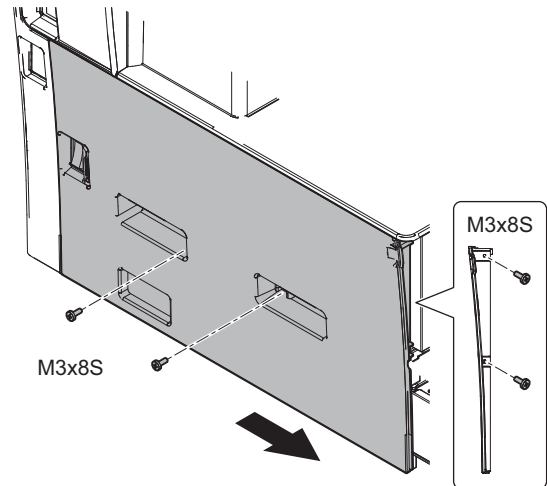
(4) Rear cabinet upper

- 1) Remove the rear cabinet.
- 2) Remove the screw.
- 3) Remove the rear cabinet upper.

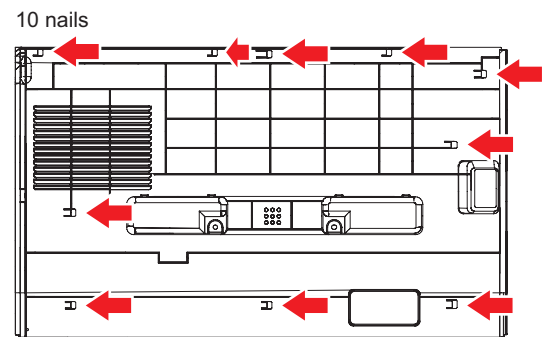


(5) Left cabinet

- 1) Remove the front cabinet.
- 2) Remove the screw.
- 3) Remove the left cabinet.

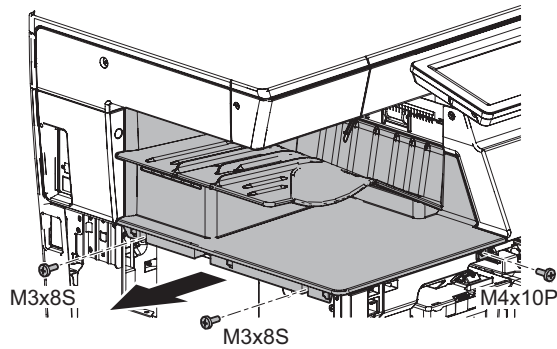


NOTE: Make sure to insert the nails firmly when attaching.

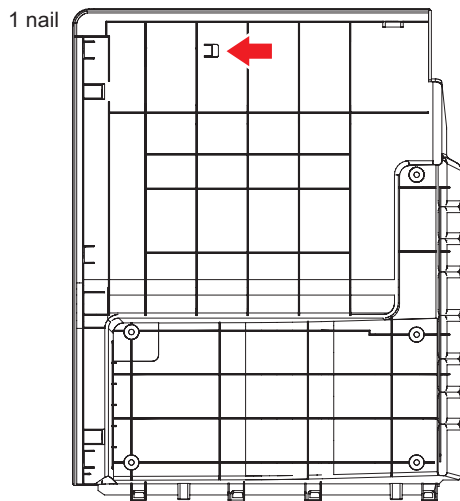


(6) Paper exit tray cabinet

- 1) Open the front cabinet.
- 2) Remove the left cabinet.
- 3) Remove the screw.
- 4) Remove the paper exit tray cabinet.



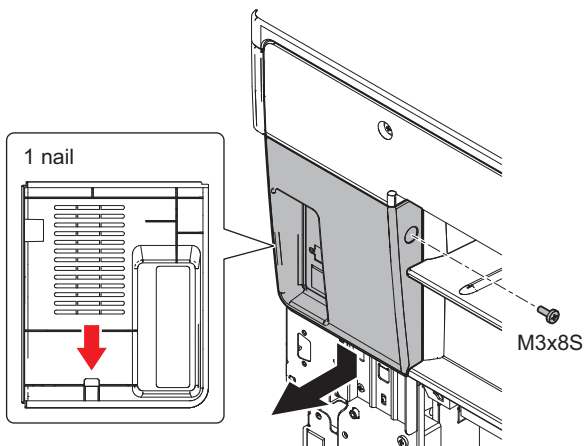
NOTE: Make sure to insert the nails firmly when attaching.



(7) Left upper cabinet rear

- 1) Remove the rear cabinet and the left cabinet.
- 2) Remove the screw.
- 3) Remove the left upper cabinet rear.

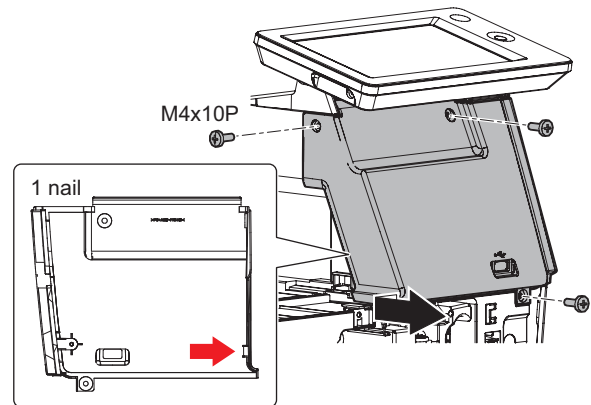
NOTE: Make sure to insert the nails firmly when attaching.



(8) Front cabinet right upper

- 1) Remove the paper exit tray cabinet.
- 2) Open the front cabinet.
- 3) Open the right door.
- 4) Remove the screw.
- 5) Remove the front cabinet right upper.

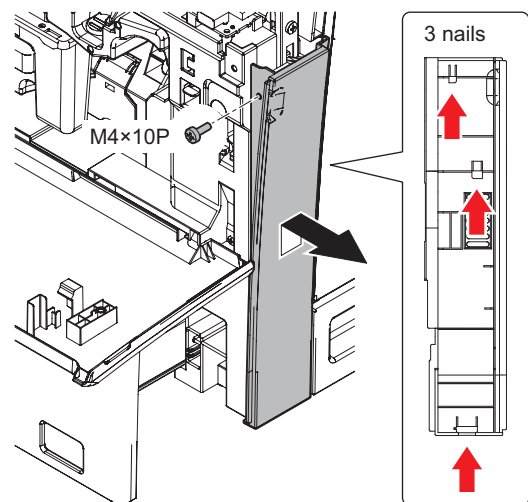
NOTE: Make sure to insert the nails firmly when attaching.



(9) Front cabinet right

- 1) Remove the front cabinet right upper.
- 2) Open the cassette.
- 3) Remove the screw.
- 4) Remove the front cabinet right.

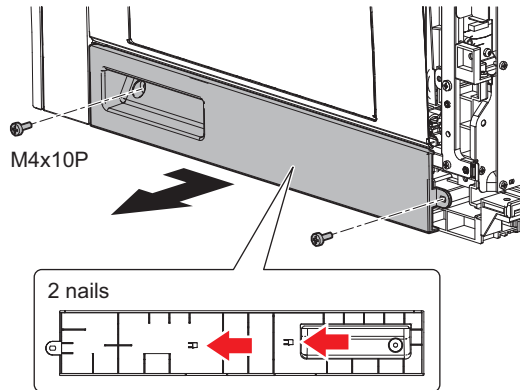
NOTE: Make sure to insert the nails firmly when attaching.



(10) Right cabinet lower

- 1) Remove the rear cabinet.
- 2) Remove the screw.
- 3) Remove the right cabinet lower.

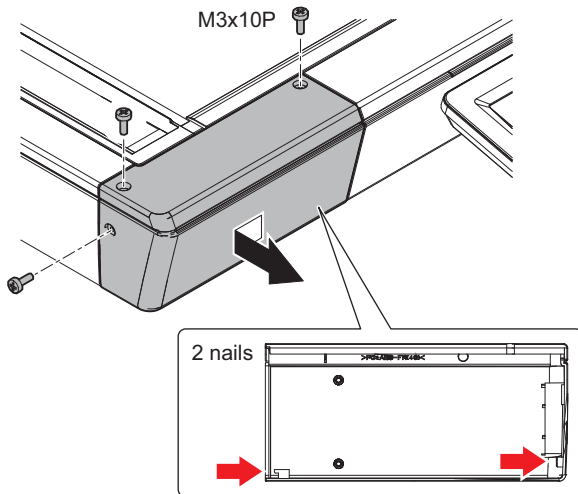
NOTE: Make sure to insert the nails firmly when attaching.



(11) Upper cabinet front left

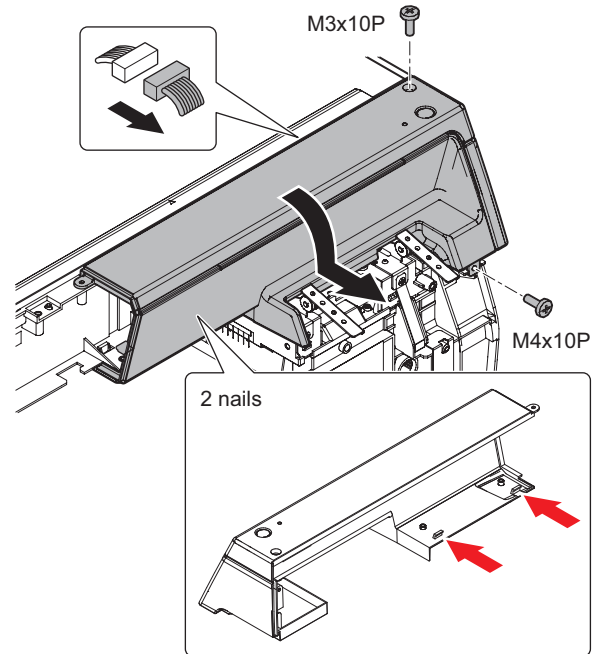
- 1) Remove the screw.
- 2) Remove the upper cabinet front left.

NOTE: Make sure to insert the nails firmly when attaching.



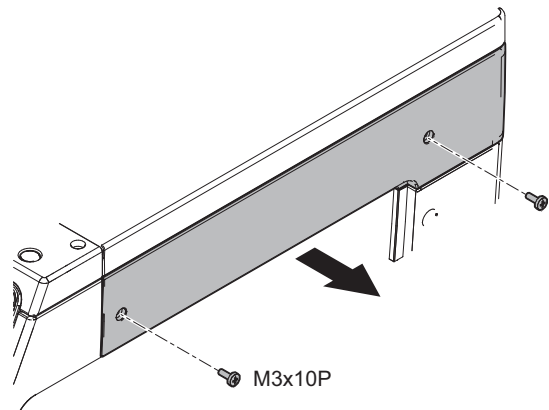
(12) Upper cabinet front right

- 1) Remove the front cabinet right upper.
- 2) Remove the upper cabinet front left.
- 3) Remove the operation panel.
- 4) Remove the hinge cover.
- 5) Remove the operation base plate.
- 6) Remove the screw.
- 7) Remove the upper cabinet front right.
- 8) Disconnect the connector.



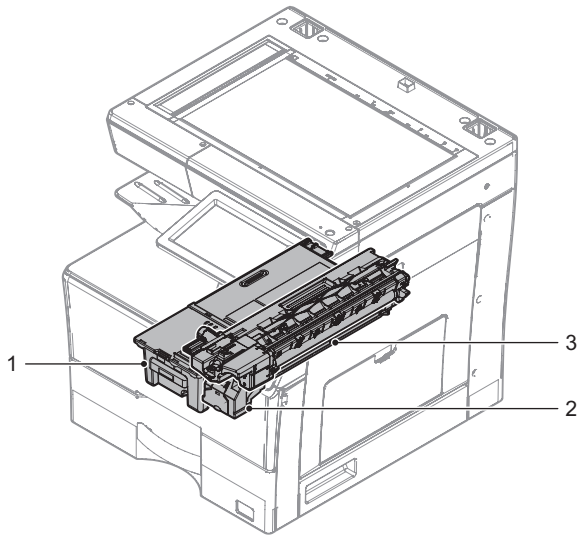
(13) Upper cabinet right

- 1) Open the right door.
- 2) Remove the screw.
- 3) Remove the upper cabinet right.



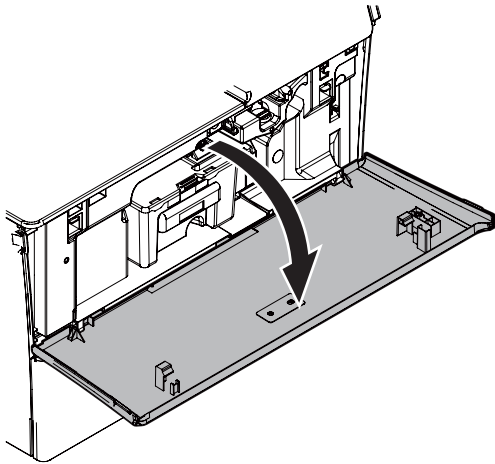
B. Developing/Drum unit section

No.	Name
1	Toner cartridge
2	Developing unit
3	Drum unit
4	Transfer unit

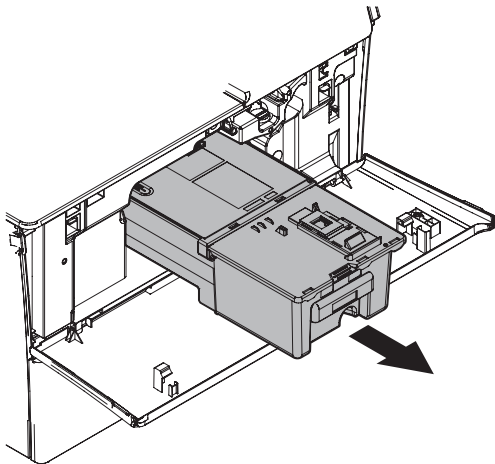


(1) Toner cartridge

- 1) Open the front cabinet.

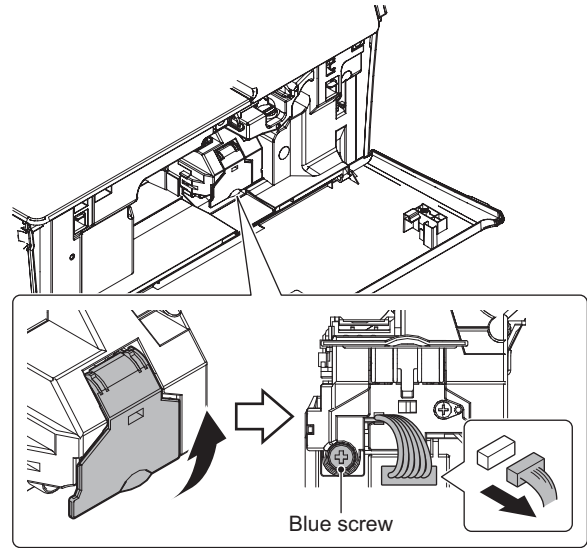


- 2) Remove the toner cartridge.

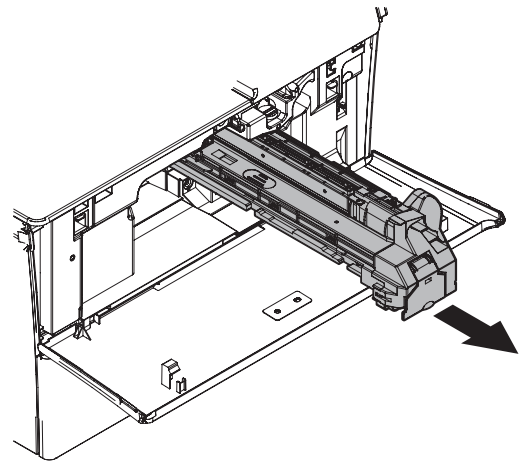


(2) Developing unit

- 1) Remove the toner cartridge.
- 2) Open the cover.
- 3) Loosen the blue screw.
- 4) Disconnect the connector.



- 5) Pull out the developing unit horizontally and slowly.



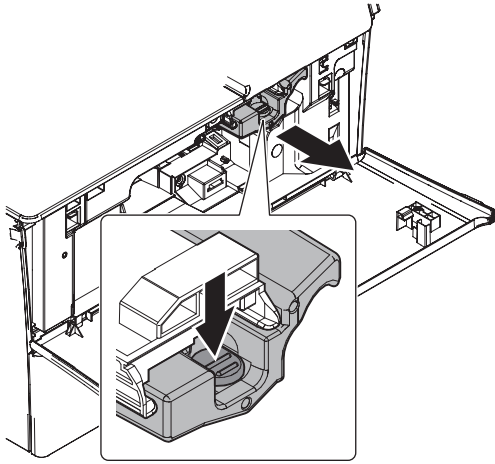
Important

Note the following points when installing the developing unit.

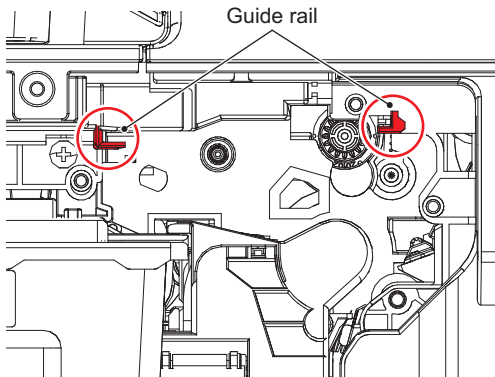
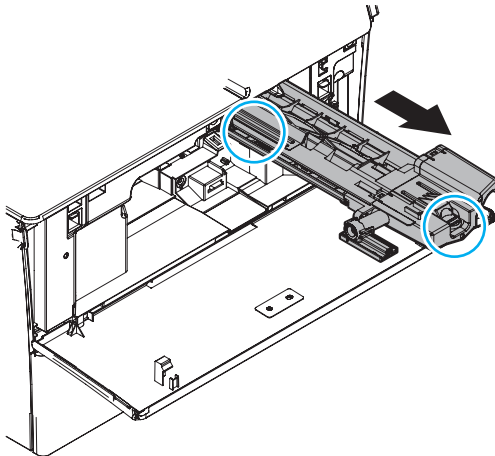
- 1) Hold the unit horizontally and slowly insert it.
- 2) Insert it completely.
- 3) Insert so that impact is not applied when inserting the unit.
- 4) Be careful not to touch the MG roller, the DV blade and the side seat F/R

(3) Drum unit

- 1) Open the front cabinet.
- 2) Remove the developing unit.
- 3) Push the lock lever to release the lock. Then, pull out the drum unit.



- 4) Remove the drum unit by holding both blue framed areas.



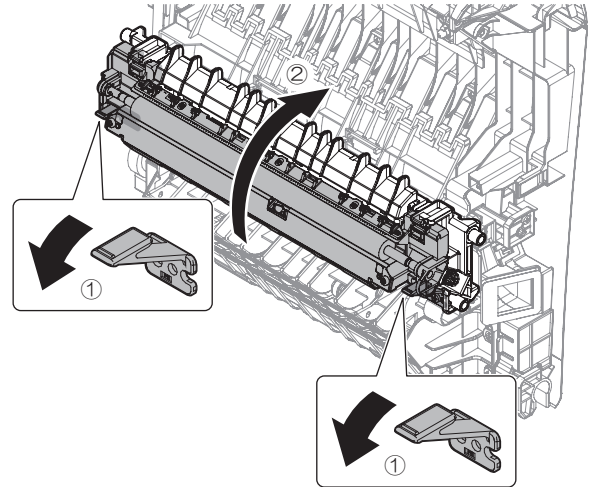
Important

When pulling out and inserting the Drum unit, be careful not to touch the OPC drum, separator pawl, charging roller and cleaning roller.

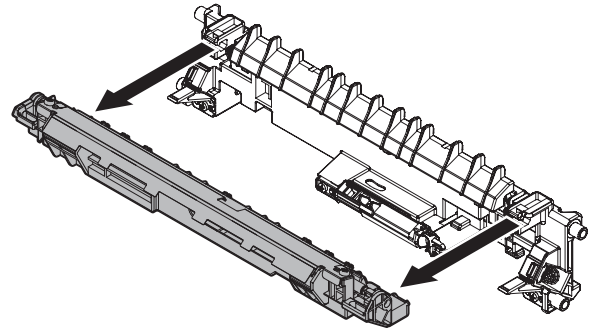
Check that unit lock is surely locked after inserting the Drum unit.

(4) Transfer unit

- 1) Open the right door.
- 2) Remove the nail and rotate the transfer unit.

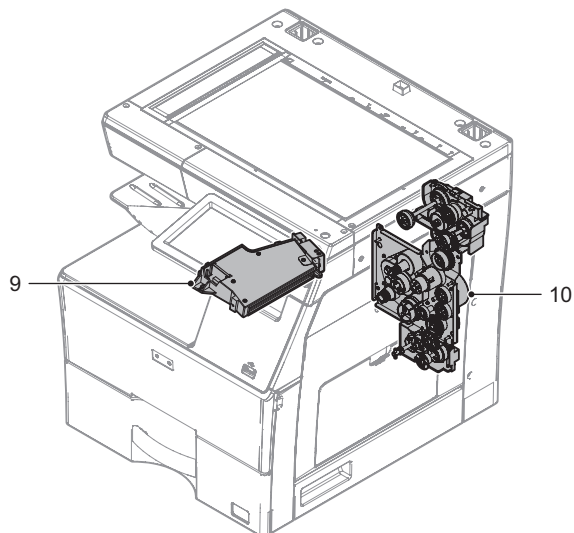
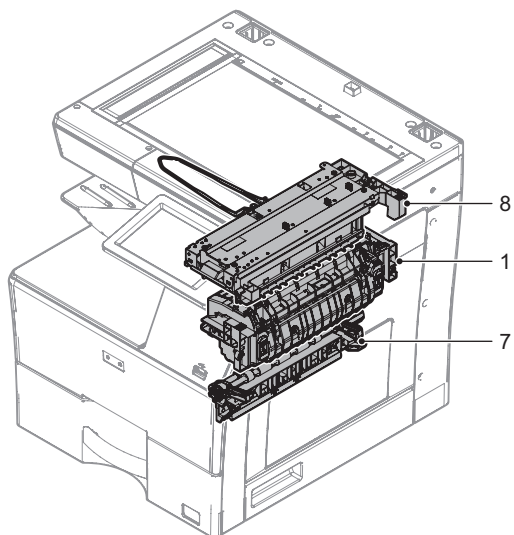
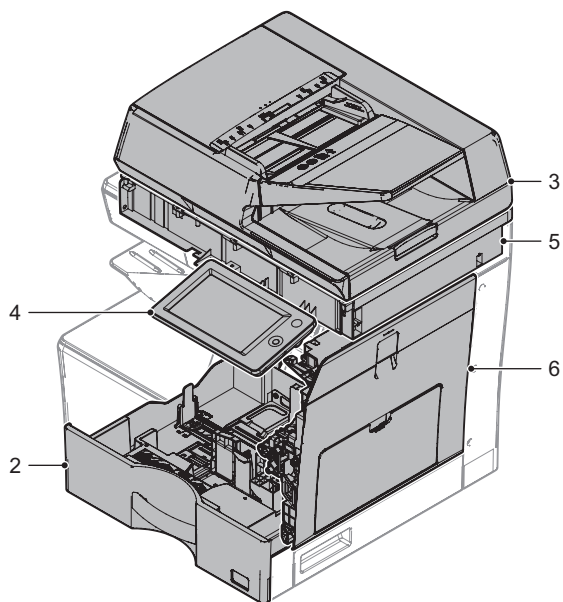


- 3) Remove the transfer unit.



C. Each unit section

No.	Name
1	Fusing unit
2	500 cassette
3	Auto document feeder section (RSPF and DSPF)
4	Operation panel
5	Scanner unit
6	Right door unit
7	PS unit
8	Exit paper unit
9	LSU unit
10	Main drive unit

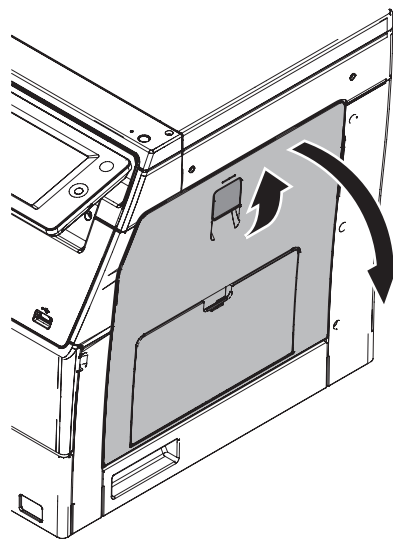


(1) Fusing unit

Important

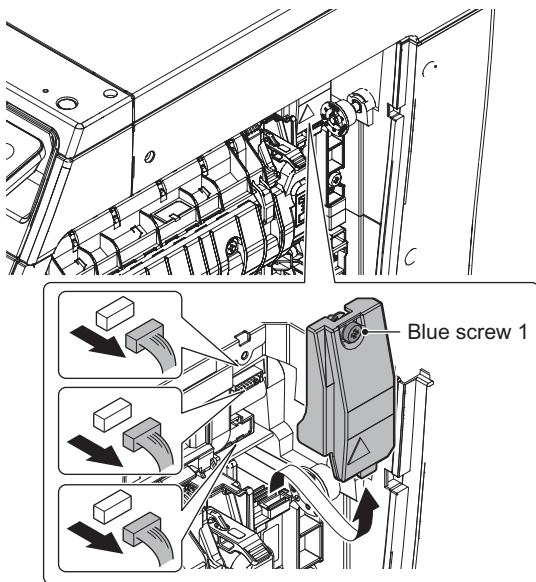
When handling the fusing unit, put an earth band to your arm, and connect it to the machine.

- 1) Open the right door.

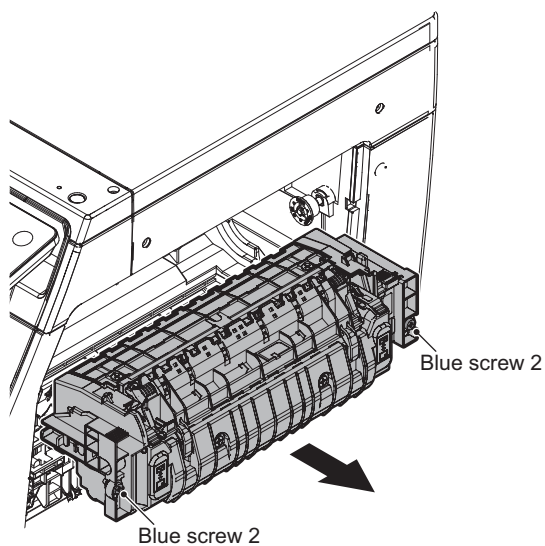


- 2) Loosen the blue screw 1.
- 3) Remove the cover.

- 4) Disconnect the connector.

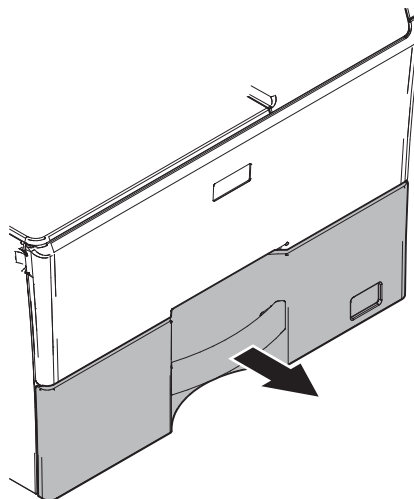


- 5) Loosen the blue screw 2.
- 6) Remove the fusing unit.



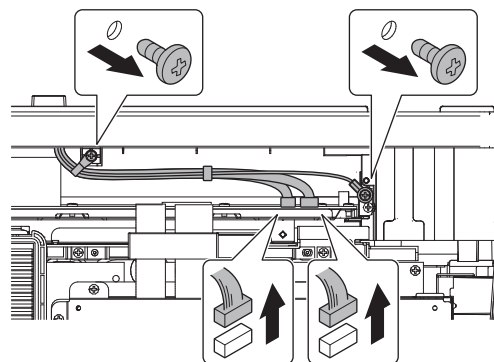
(2) 500 cassette

- 1) Pull out the 500 cassette.

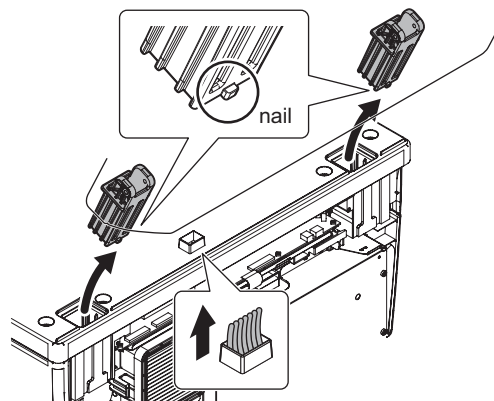


(3) Auto document feeder section (RSPF and DSPF)

- 1) Remove the rear cabinet.
- 2) Remove the rear cabinet upper.
- 3) Remove the screw and disconnect the connector.

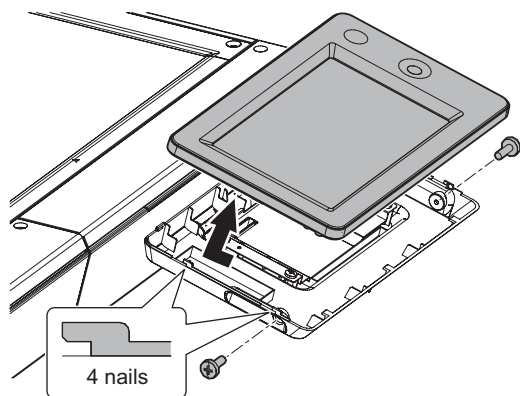


- 4) Pull out the harness from the square hole.
- 5) Remove the RSPF/DSPF.

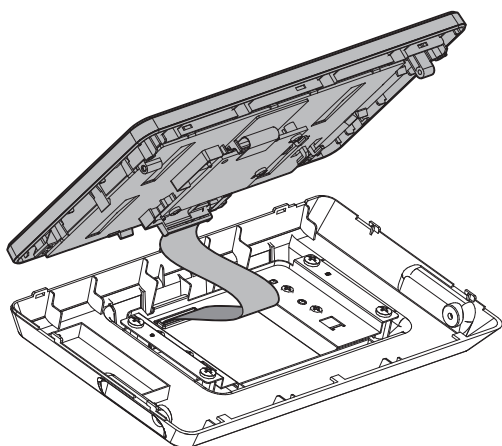


(4) Operation panel

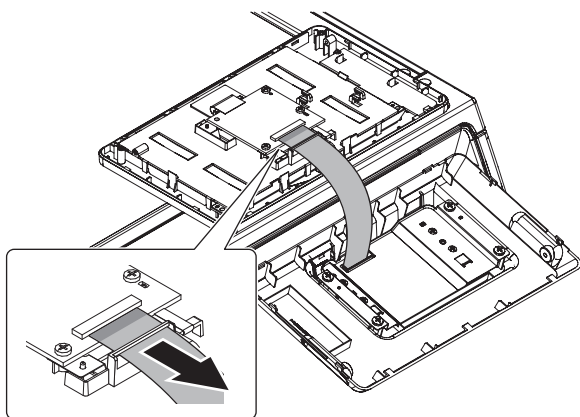
- 1) Remove the operation panel and place it on the table glass.



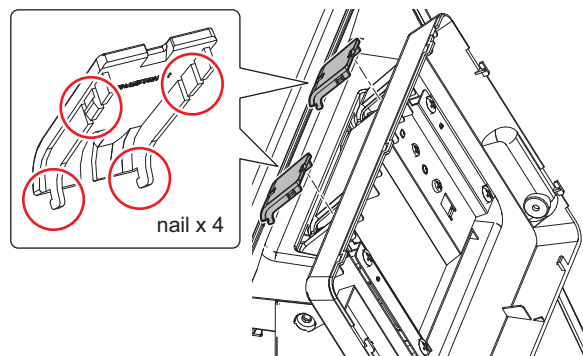
NOTE: When attaching the operation panel, fold the FFC as shown in the figure below.



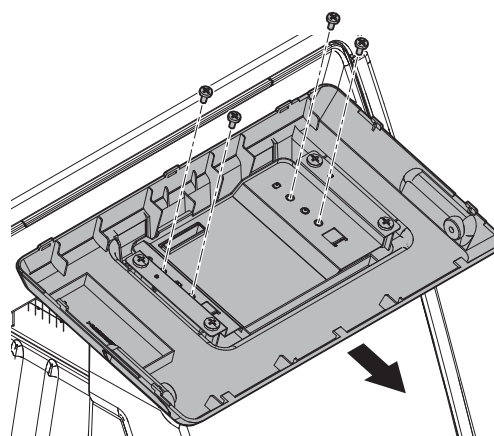
- 2) Unlock the FFC and disconnect the FFC.



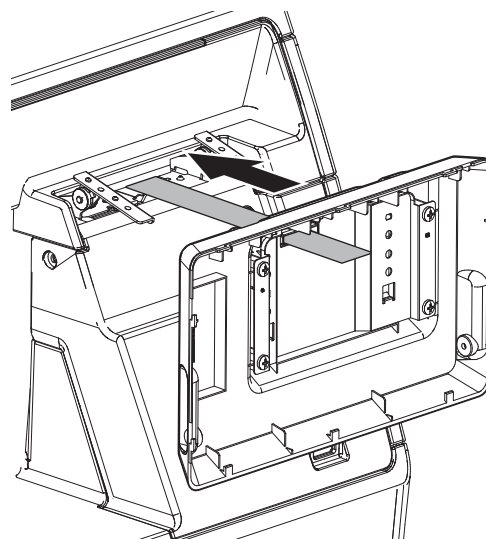
- 3) Lower the operation base plate.
- 4) Remove the hinge cover.



- 5) Raise the operation base plate.
- 6) Remove the operation base plate.

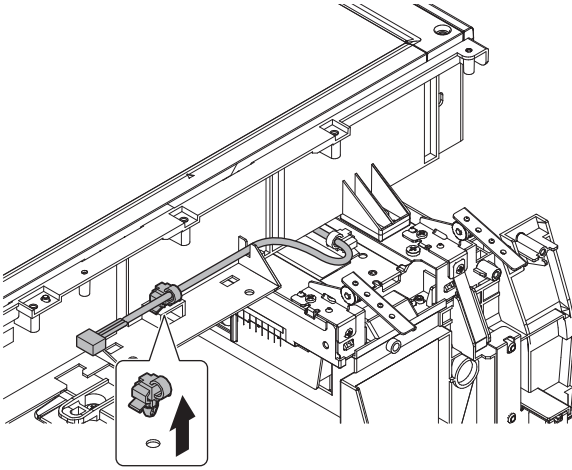


- 7) Pass the FFC through the hole.

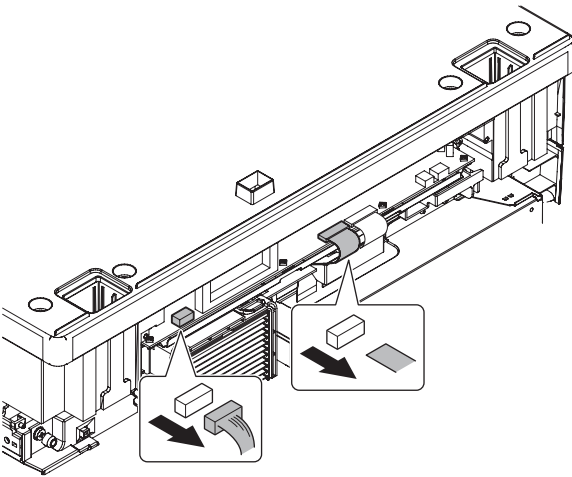


(5) Scanner unit

- 1) Remove the RSPF/DSPF.
- 2) Remove the operation panel.
- 3) Remove the upper cabinet front right.
- 4) Remove the upper cabinet right.
- 5) Remove the left upper cabinet rear.
- 6) Remove the reuse band.



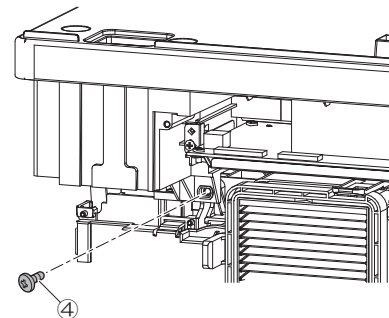
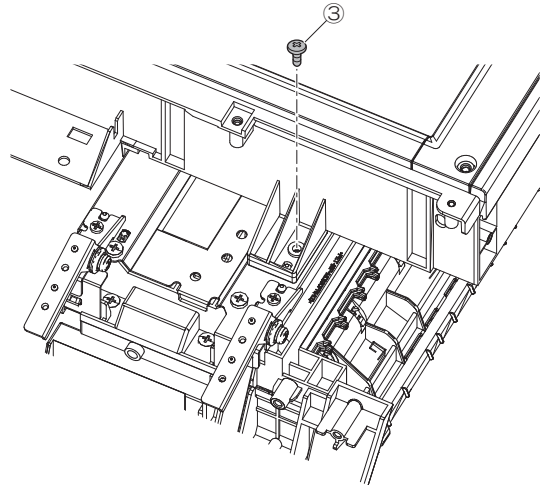
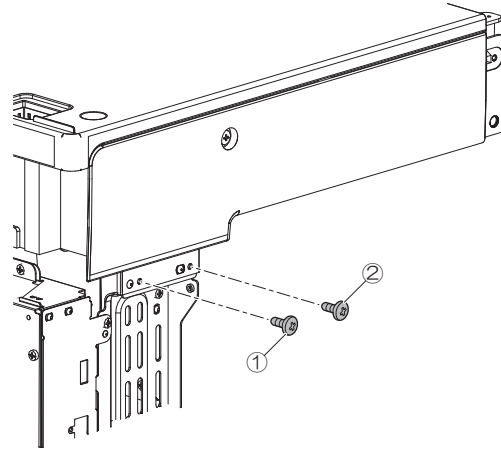
- 7) Disconnect the connector.
- 8) Disconnect the FFC.

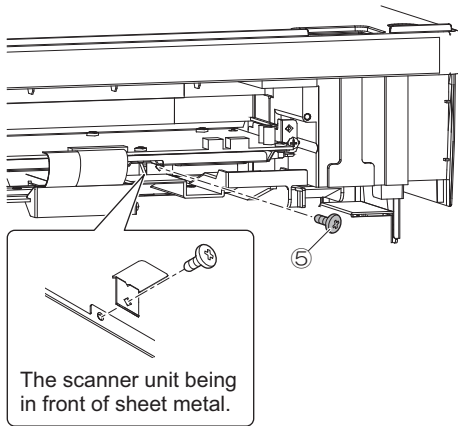


- 9) Remove the screw.

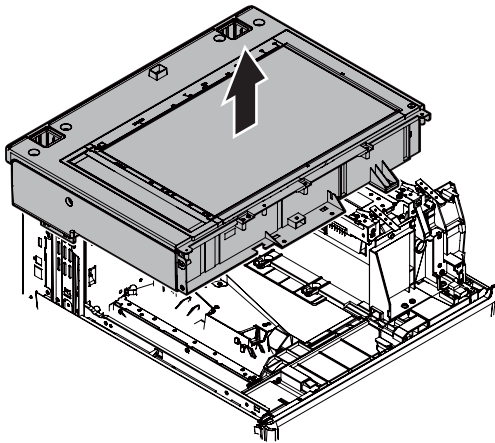
Important

When attaching the scanner unit, tighten the screw in the order of (1) - (5).





10) Remove the scanner unit.

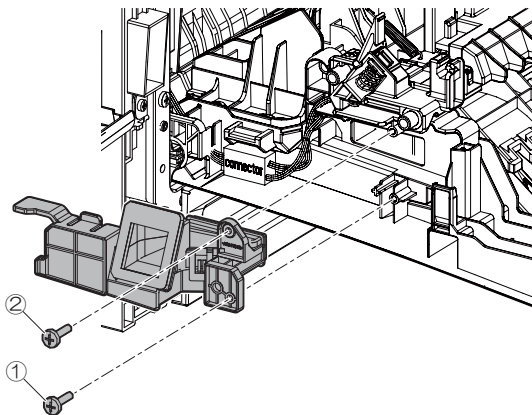


(6) Right door unit

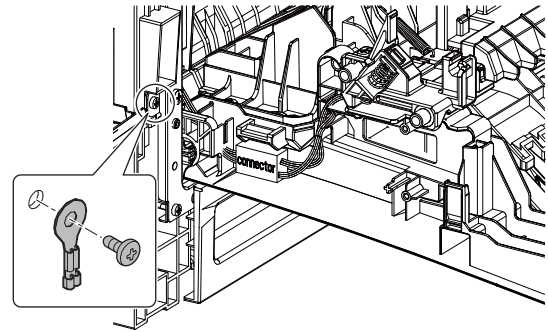
- 1) Remove the front cabinet right.
- 2) Open the right door.
- 3) Remove the screw and the ADU duct.

Important

When attaching the ADU duct, tighten the screw in the order of (1) - (2).

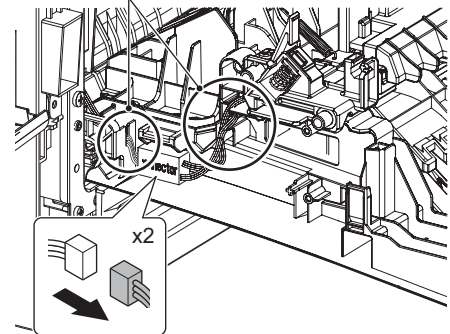


4) Remove the screw and the ground wire.

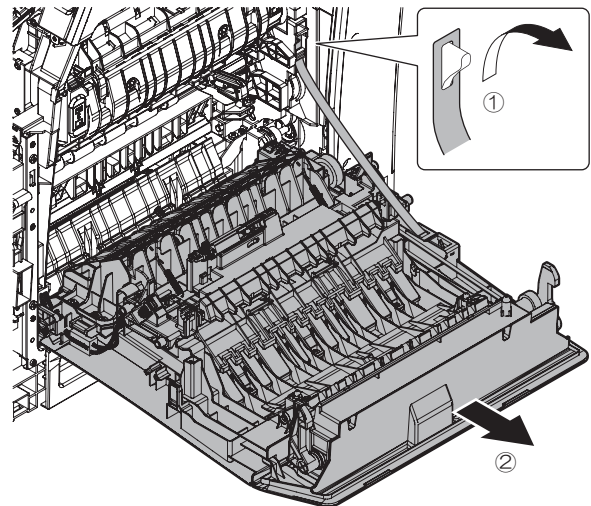


5) Disconnect the connectors.

Remove the harness from the groove.

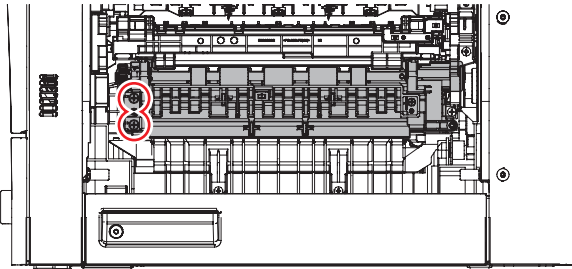


6) Remove the right door unit.



(7) PS unit

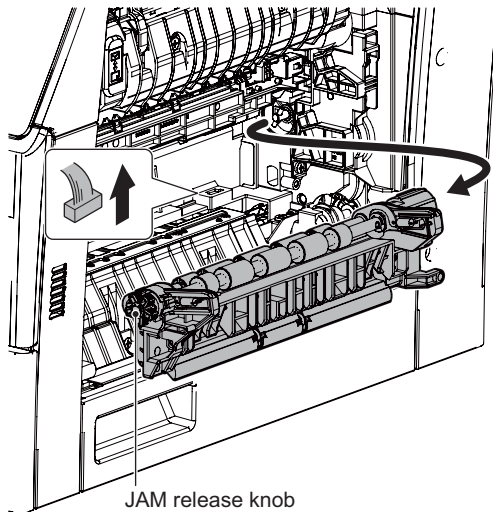
- 1) Open the right door unit.
- 2) Remove the screw.



- 3) Pull out the PS unit and disconnect the connector. Then, remove the PS unit.

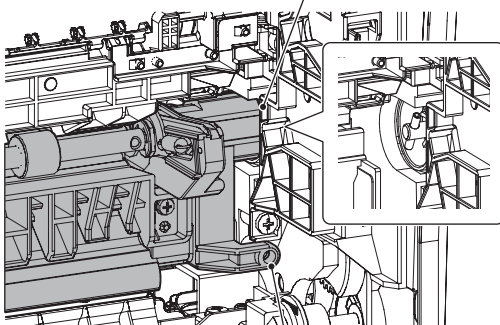


After assembling, check that the roller turns smoothly by turning JAM release knob.



When assembling

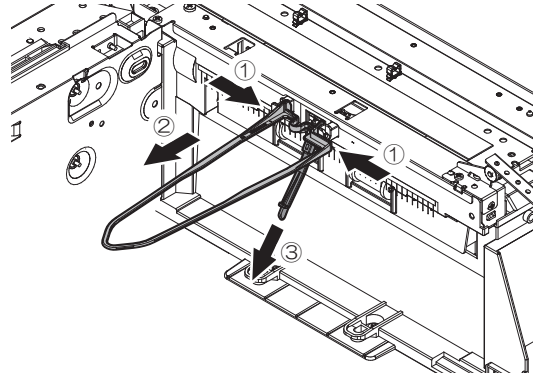
Put the coupling



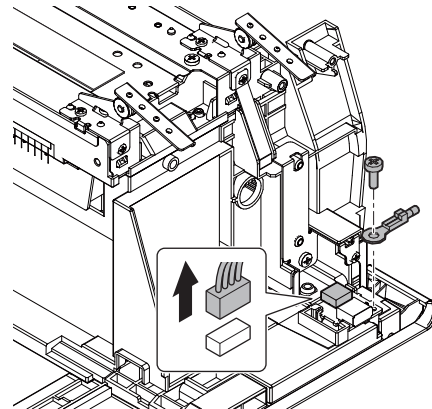
Put in the boss

(8) Exit paper unit

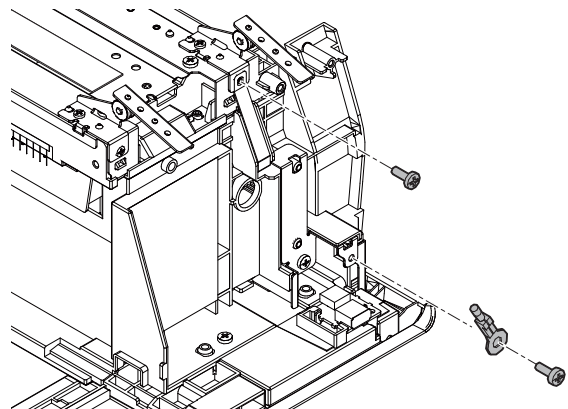
- 1) Remove the scanner unit.
- 2) Remove the paper fixing arm and the empty lever.



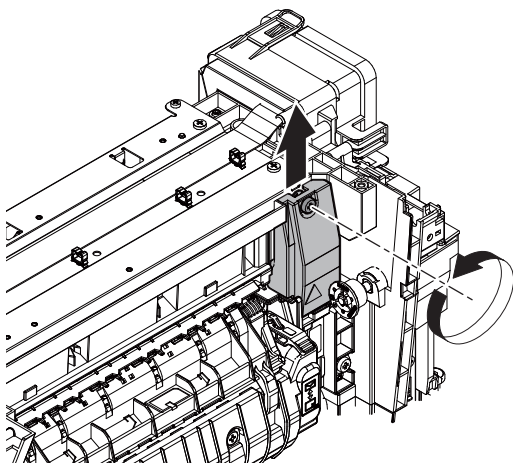
- 3) Disconnect the connector and remove the screw and the ground wire.



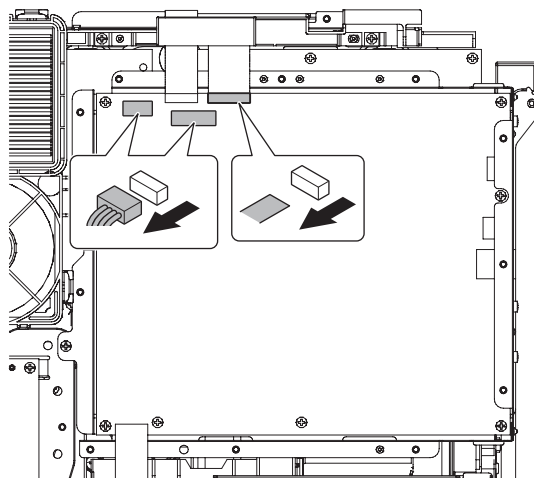
- 4) Remove the screw and the ground wire.



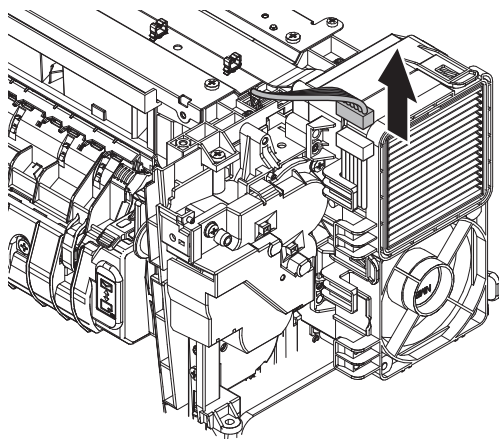
5) Loosen the screw and remove the cover.



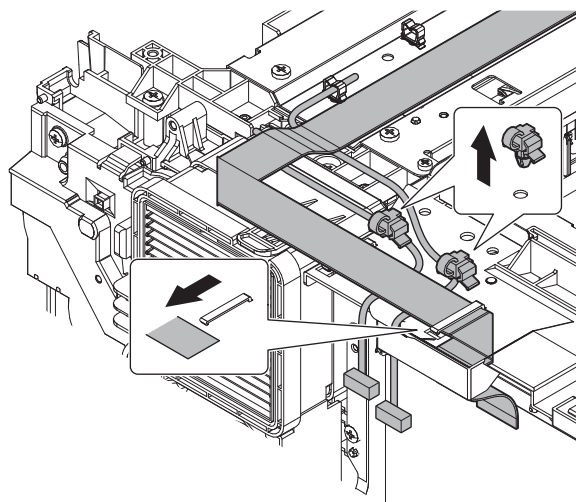
8) Disconnect the connector and the FFC.



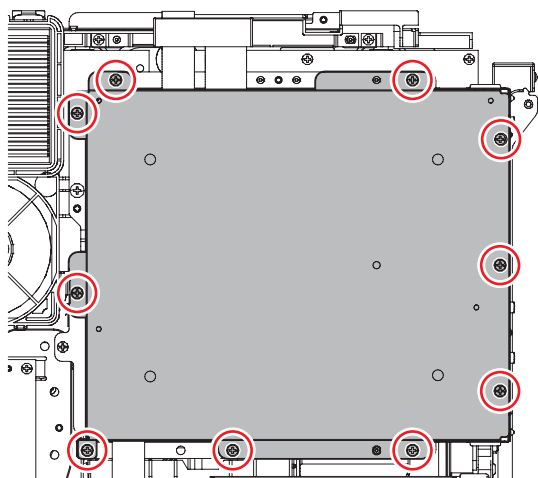
6) Disconnect the connector.



9) Remove the reuse bands and the FFC.



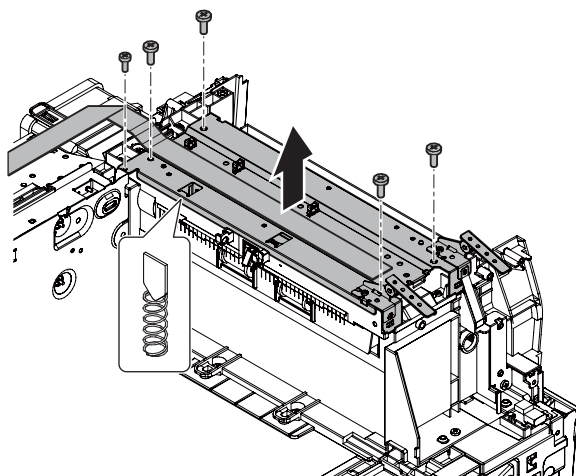
7) Remove the screws and the MFPC shield plate.



10) Remove the screws and the stay.

Important

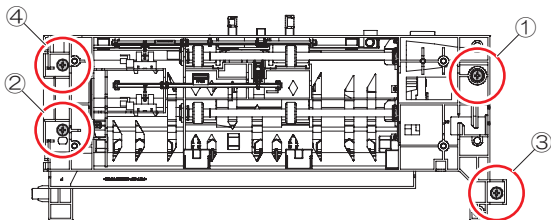
When attaching the exit paper unit, confirm orientation of the spring.



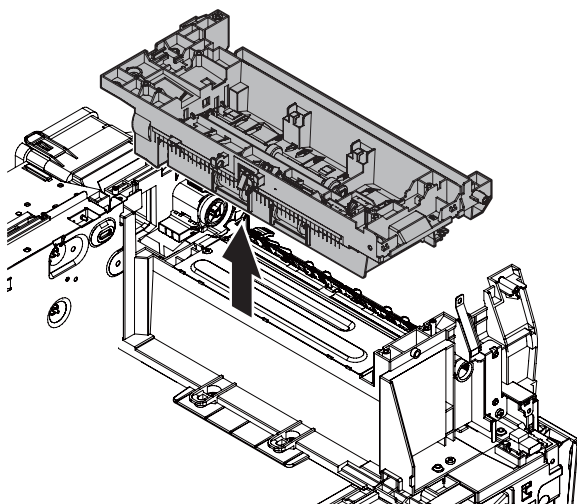
- 11) Remove the screws.

Important

When attaching the exit paper unit, tighten the screw in the order of (1) - (4).

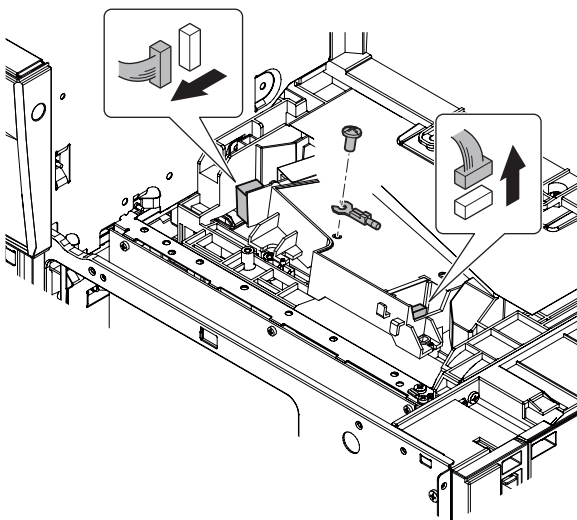


- 12) Remove the exit paper unit.



(9) LSU unit

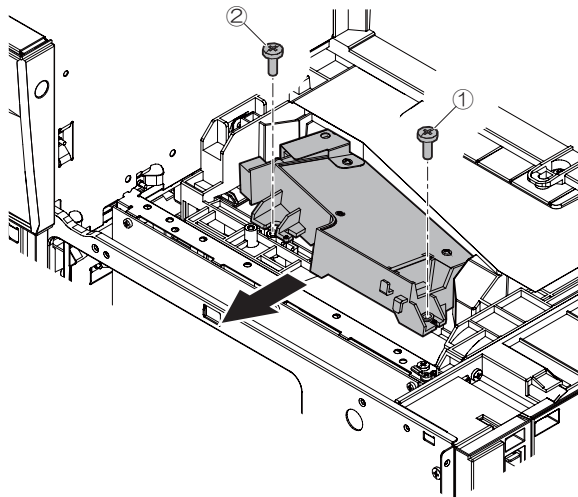
- 1) Remove the paper exit tray cabinet.
- 2) Disconnect the connector and remove the screw and the ground wire.



- 3) Remove the screw and the LSU unit.

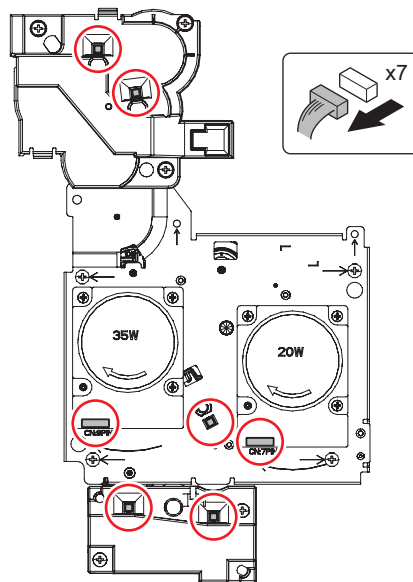
Important

When attaching the LSU unit, tighten the screw in the order of (1) - (2).

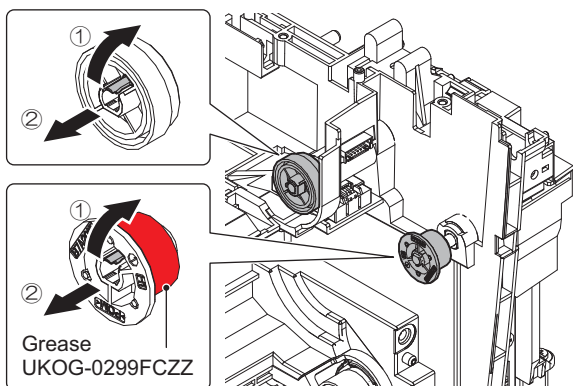


(10) Main drive unit

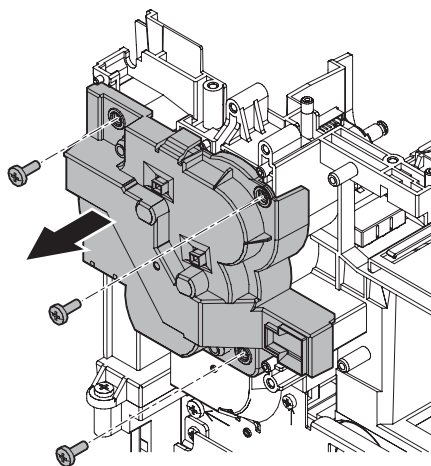
- 1) Remove the developing unit.
- 2) Remove the process unit.
- 3) Remove the fusing unit.
- 4) Remove the 550 cassette.
- 5) Remove the SPF.
- 6) Remove the operation panel.
- 7) Remove the scanner unit.
- 8) Remove the PS unit.
- 9) Remove the exit paper unit.
- 10) Remove the MFPC fix plate unit.
- 11) Remove the PCU fix plate unit.
- 12) Remove the rear exhaust duct.
- 13) Disconnect the connectors.



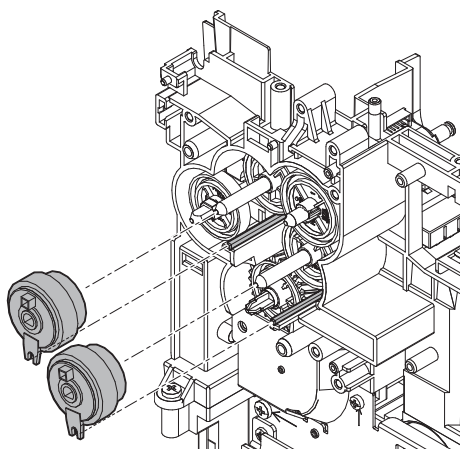
14) Remove the gears.



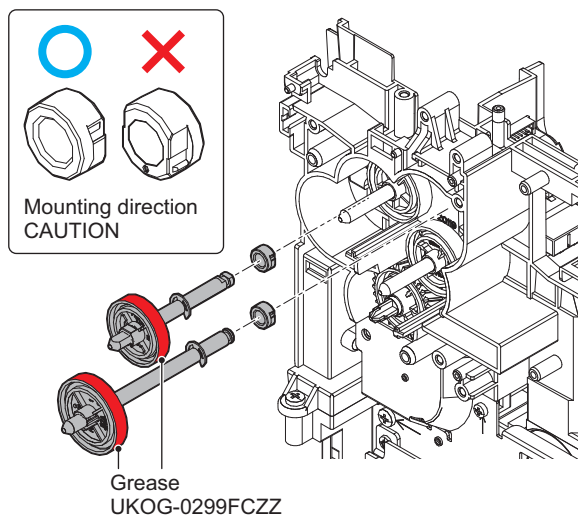
15) Remove the screws and the cover.



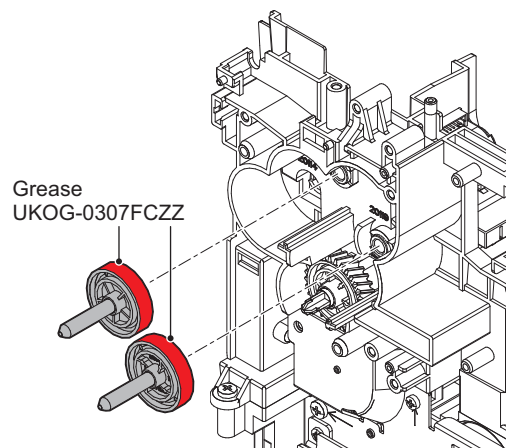
16) Remove the clutches.



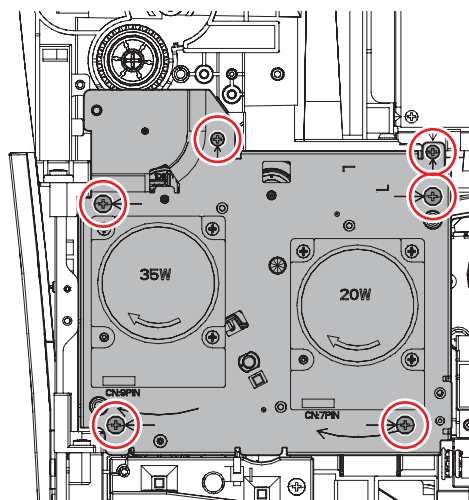
17) Remove the gear assemblies and the bearings.



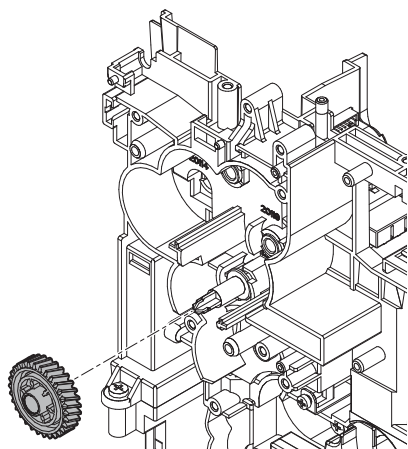
18) Remove the gear assemblies.



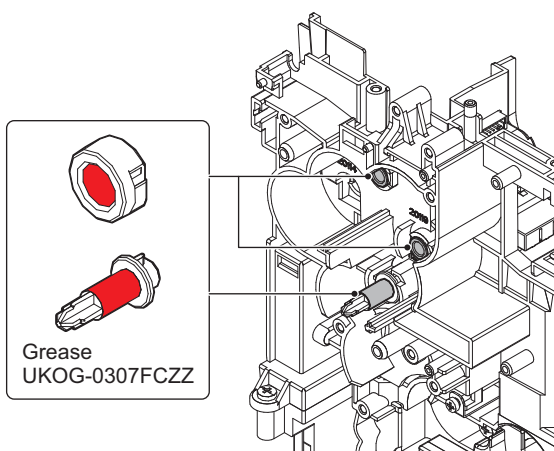
19) Remove the screws and the main drive unit.



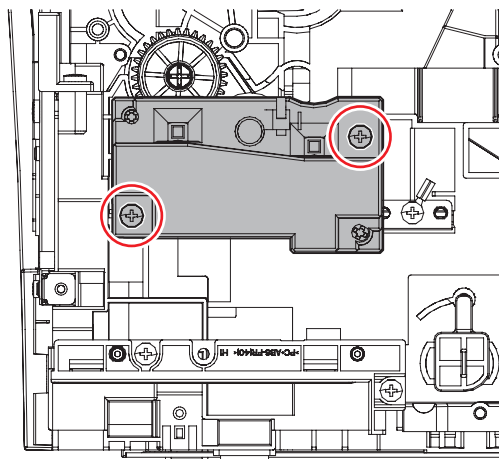
20) Remove the gear.



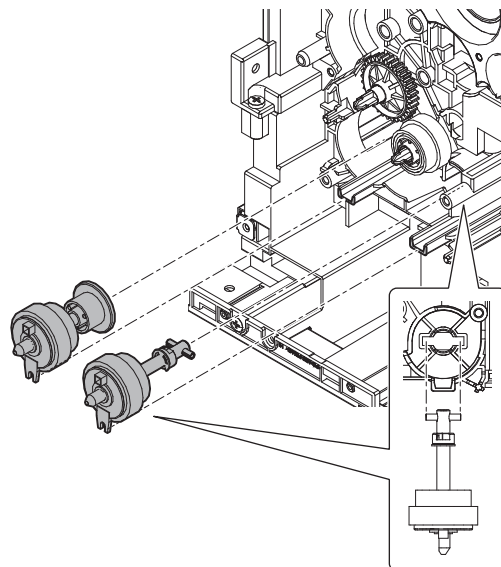
21) Apply grease to the specified position as needed.



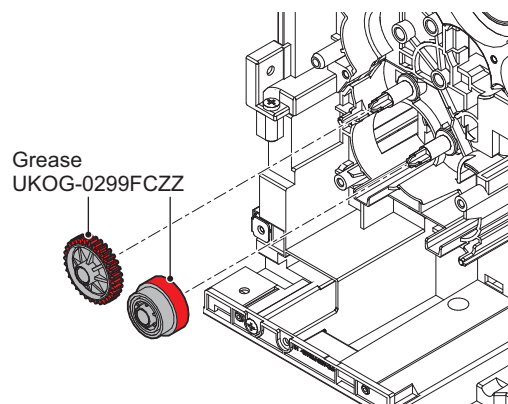
22) Remove the screws and the cover.



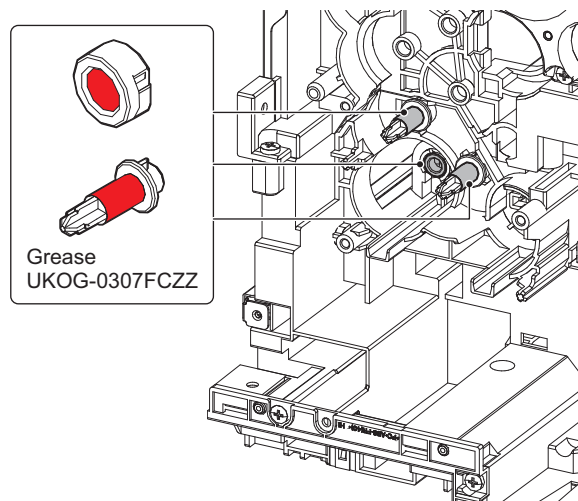
23) Remove the clutch assemblies.



24) Remove the gears.

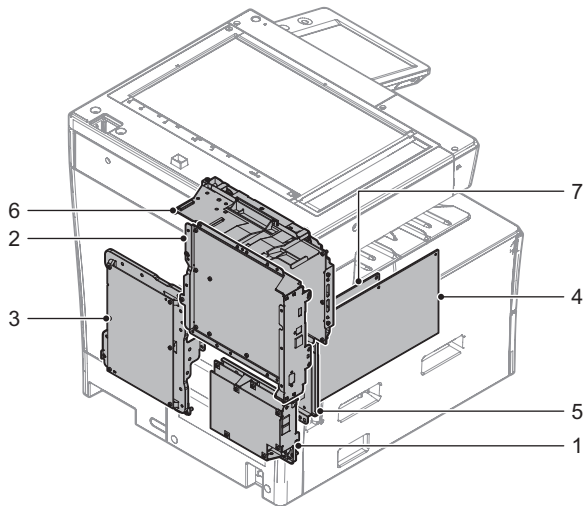


25) Apply grease to the specified position as needed.



D. PWB section

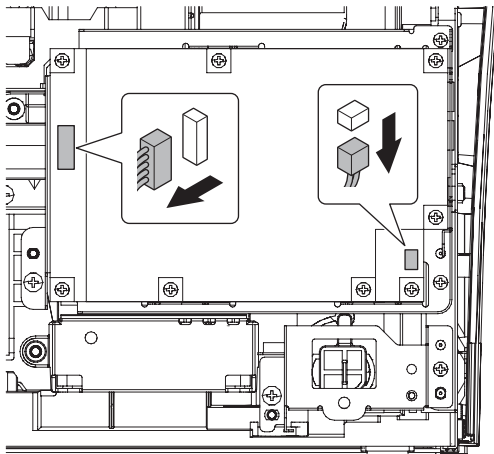
No.	Name
1	FAX fix plate unit (For except North America) FAX PWB (For North America)
2	MFPC fix plate unit
3	PCU fix plate unit
4	HV PWB
5	AC fix plate unit
6	DC fix plate unit
7	LSUcntPWB



(1) FAX fix plate unit

A: For except North America

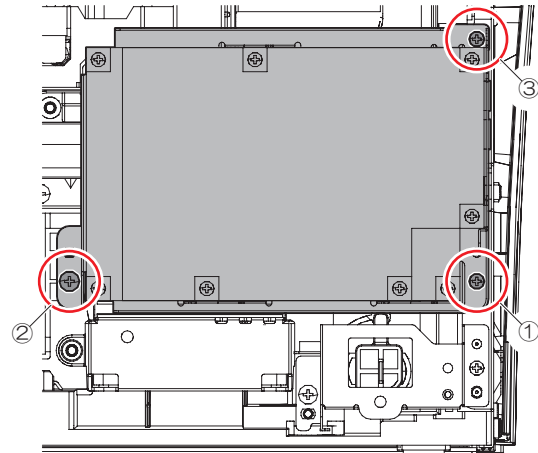
- 1) Remove the rear cabinet.
- 2) Disconnect the connectors.



- 3) Remove the screw and remove the FAX fix plate unit.

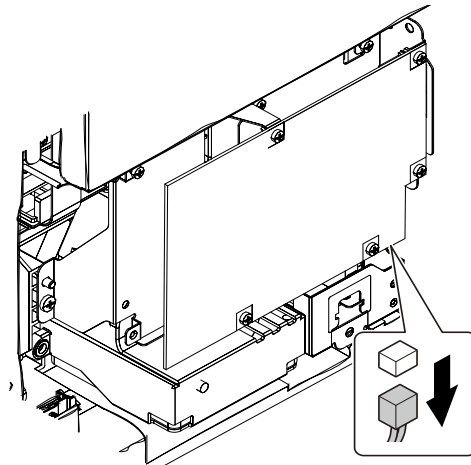
Important

When attaching the FAX fix plate unit, tighten the screw in the order of (1) - (3).

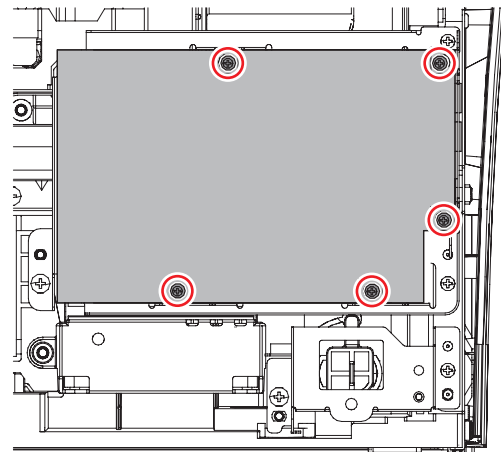


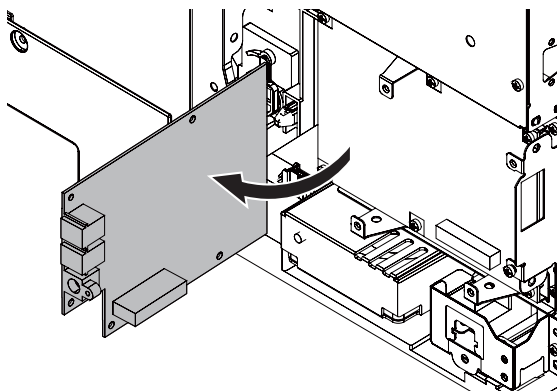
B: For North America

- 1) Remove the rear cabinet.
- 2) Disconnect the connectors.

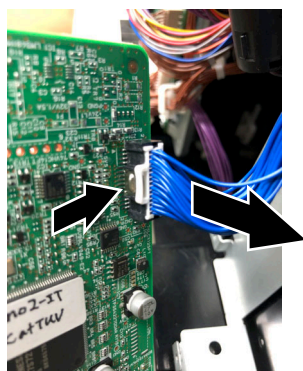


- 3) Remove the screw and remove the FAX PWB.





- 4) Unlock the connector and disconnect the harness.



(2) MFPC fix plate unit

3

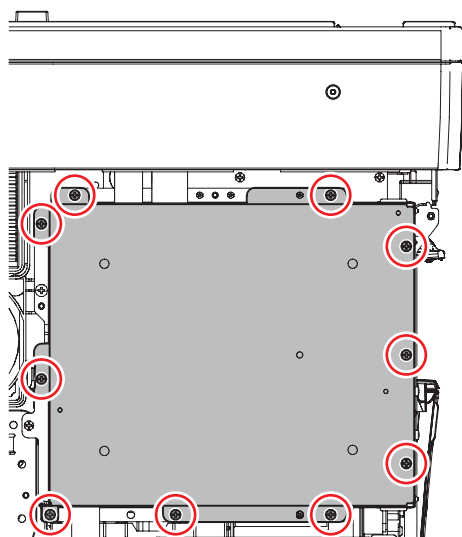
Note

When replacing MFPC PWB, use MFPC PWB dedicated to each model.

*MX-B356W/B376W/B456W/B476W

*MX-B56WH/B376WH/B456WH/B476WH

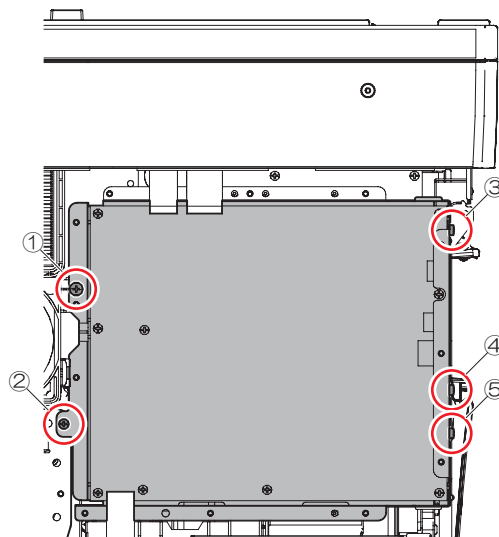
- 1) Remove the rear cabinet and the left upper cabinet rear.
- 2) Remove the screws and the MFPC shield plate.



- 3) Disconnect the connectors and the FFCs.
- 4) Remove the screws and the MFPC fix plate unit.

Important

When attaching the MFPC fix plate unit, tighten the screw in the order of (1) - (5).



(3) PCU fix plate unit

- 1) Remove the rear cabinet.
- 2) Remove the MFPC fix plate unit.
- 3) Disconnect the connectors, the harnesses and the reuse bands.
- 4) Remove the screws, the ground wire and the PCU fix plate unit.

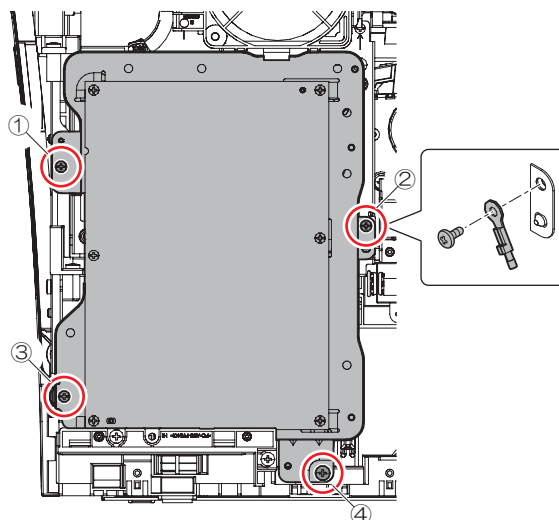
Important

When attaching the PCU fix plate unit, tighten the screw in the order of (1) - (4).

Important

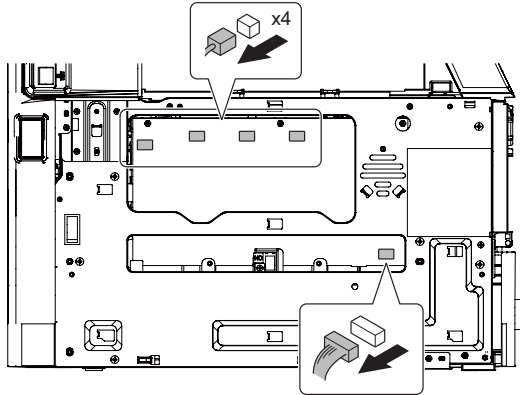
Perform the following operations after replacing the PCU PWB.

- Remove the fusing unit and turn ON the main power.
Then, leave the main unit for 20 seconds.
- Turn OFF the main power.
- Attach the fusing unit.

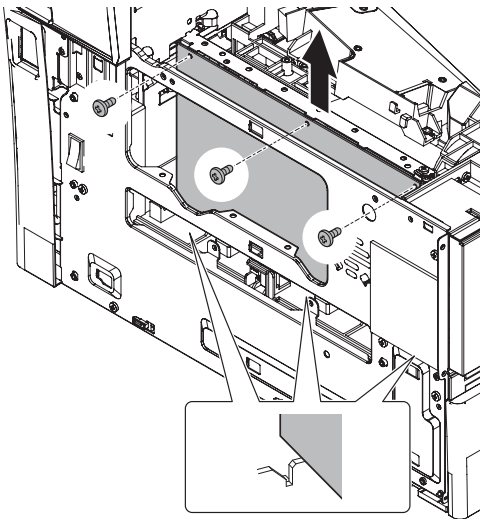


(4) HV PWB

- 1) Remove the paper exit tray cabinet.
- 2) Disconnect the connectors.

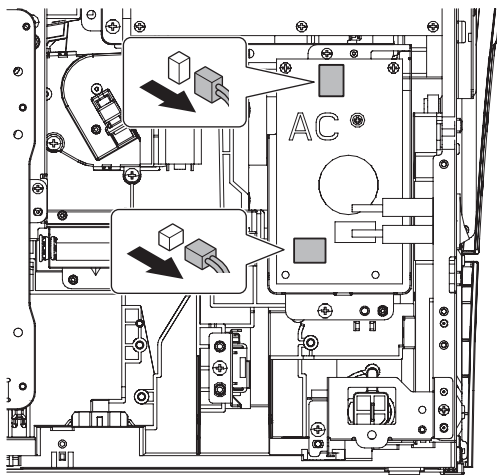


- 3) Remove the screws and the HV PWB.



(5) AC fix plate unit

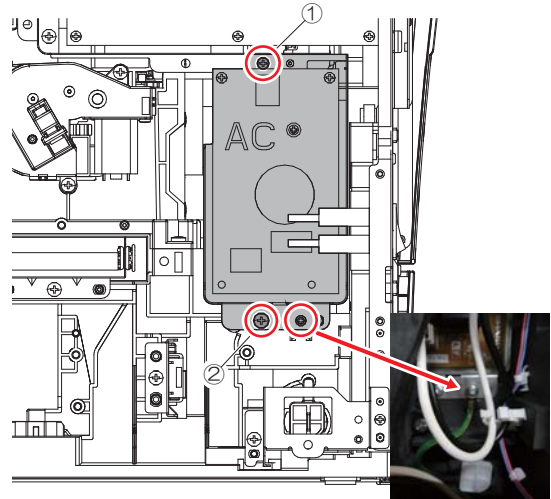
- 1) Remove the harness holder.
- 2) Disconnect the connectors.



- 3) Remove the screws and disconnect the earth harness and AC fix plate unit.

Important

When attaching the AC fix plate unit, tighten the screw in the order of (1) - (2).

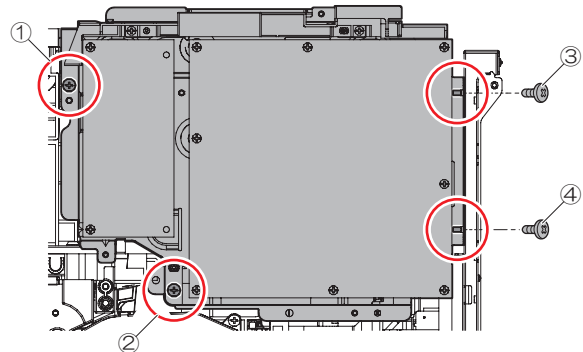


(6) DC fix plate unit

- 1) Remove the main drive unit.
- 2) Remove the AC fix plate unit.
- 3) Disconnect the connectors.
- 4) Remove the screws and the DC fix plate unit.

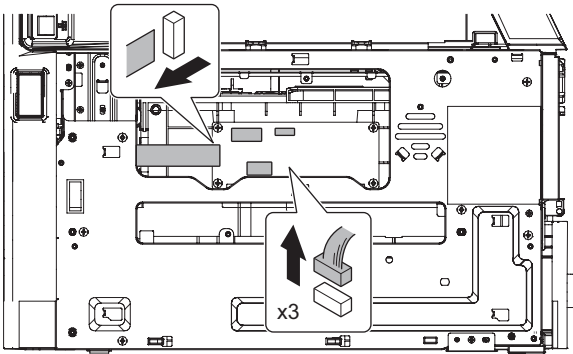
Important

When attaching the DC fix plate unit, tighten the screw in the order of (1) - (4).



(7) LSUcntPWB

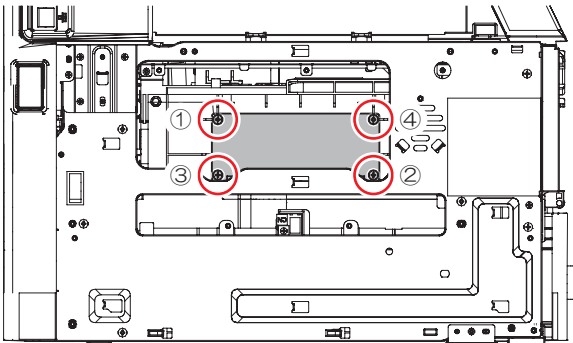
- 1) Remove the HV PWB.
- 2) Disconnect the connectors and the FFC.



- 3) Remove the screws and the LSUcntPWB.

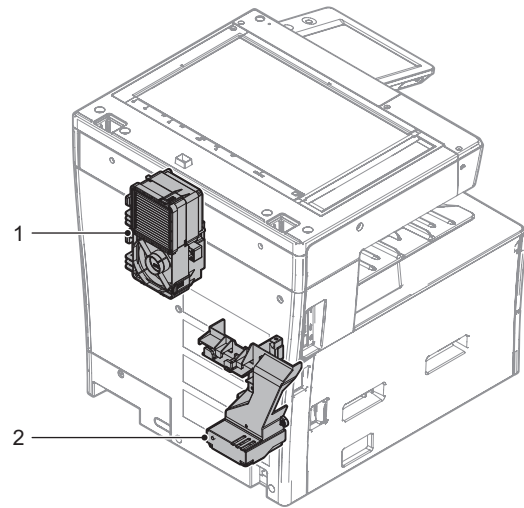
Important

When attaching the LSUcntPWB, tighten the screw in the order of (1) - (4).



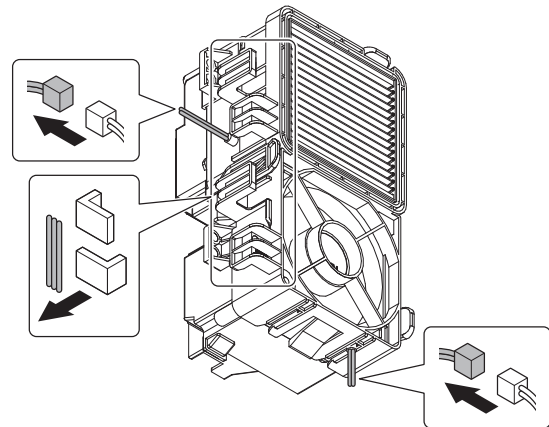
E. Other section

No.	Name
1	Rear exhaust duct
2	Harness holder



(1) Rear exhaust duct

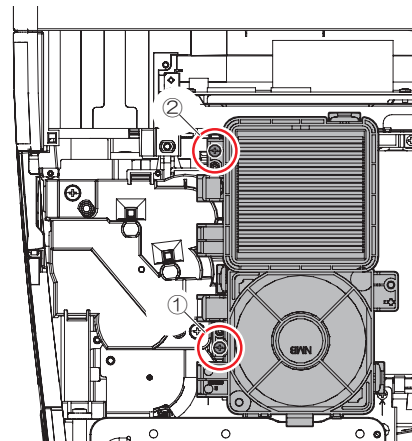
- 1) Remove the MFPC fix plate unit.
- 2) Disconnect the connectors and remove the harness from the rib.



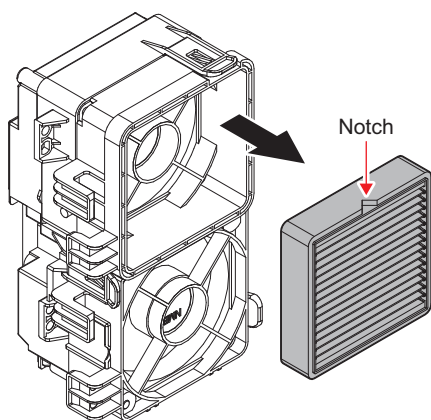
- 3) Remove the screw and the rear exhaust duct.

Important

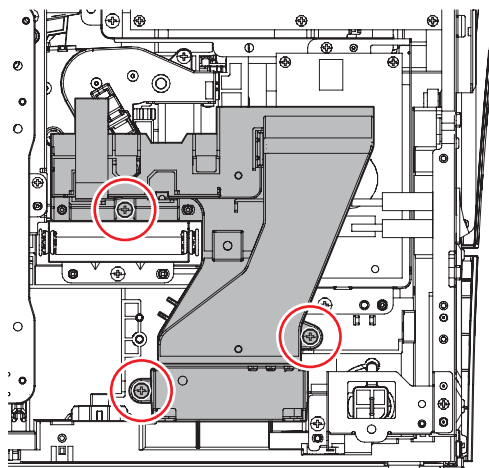
When attaching the rear exhaust duct, tighten the screw in the order of (1) - (2).



4) Remove the UFP filter.

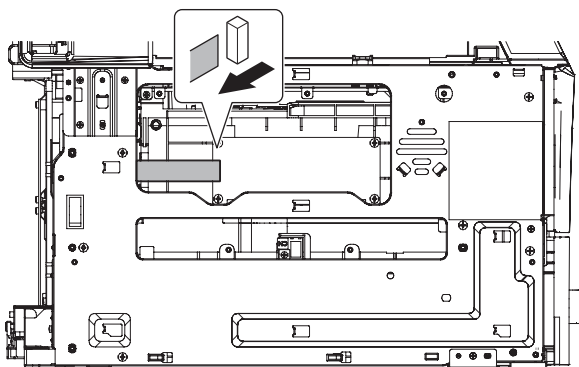


6) Remove the screws and the harness holder.

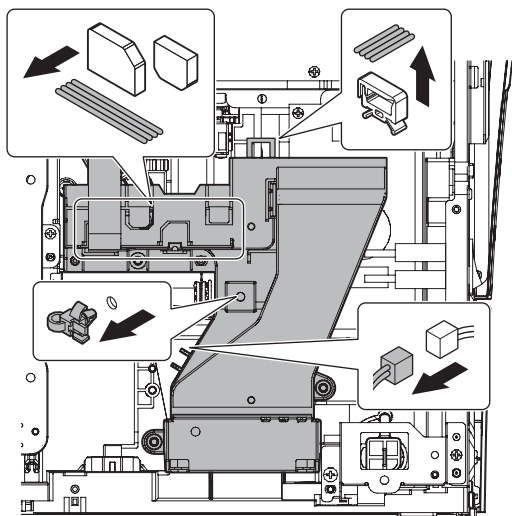


(2) Harness holder

- 1) Remove the FAX fix plate unit.
- 2) Remove the MFPC fix plate unit.
- 3) Remove the HV PWB.
- 4) Disconnect the FFC.



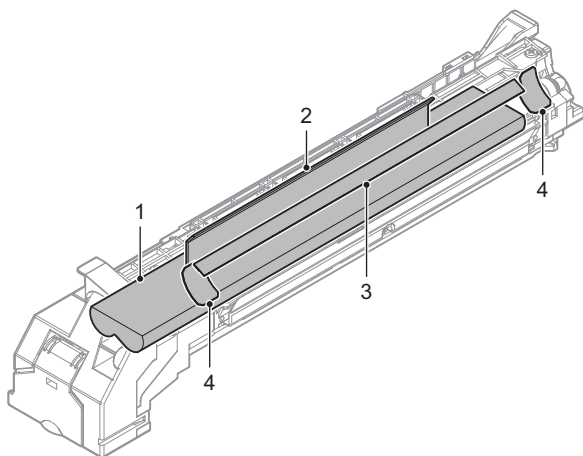
- 5) Disconnect the connector and remove the reuse band.
Remove the harnesses from the rib and the wire saddle.



2. Disassembly and assembly of each unit

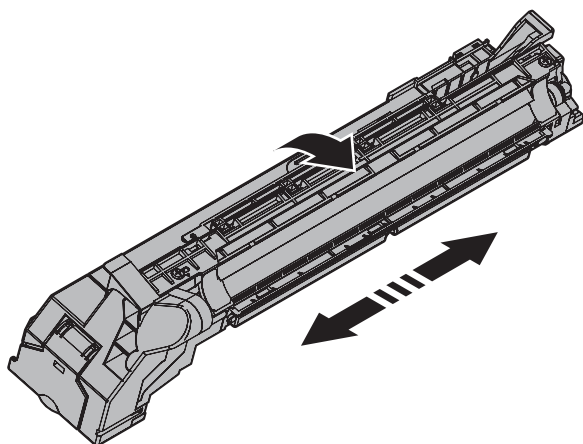
A. Developing unit

Part No.	Part name
1	Developer
2	DV filter
3	DV blade
4	Side seat F/R

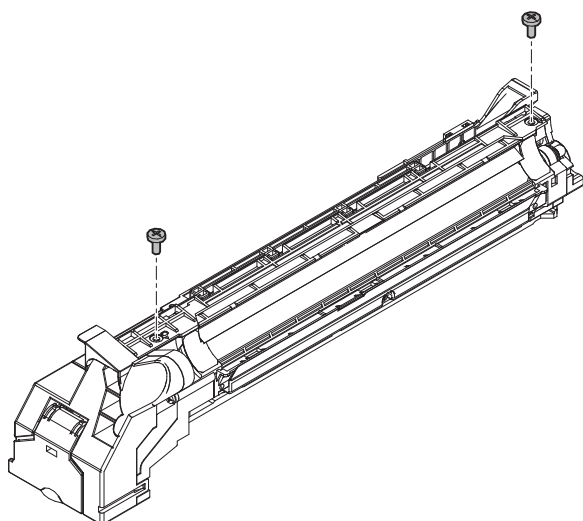


(1) Developer

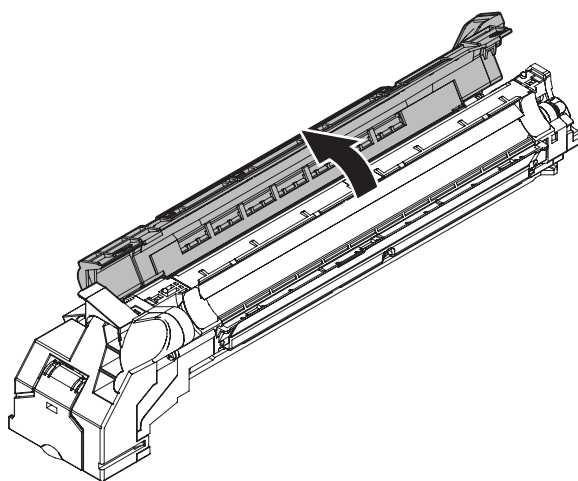
- 1) Tilt the developing unit slightly toward the direction of arrow and gently shake up a little.
*To prevent the developer spilling out of developing unit.



- 2) Remove the screw.

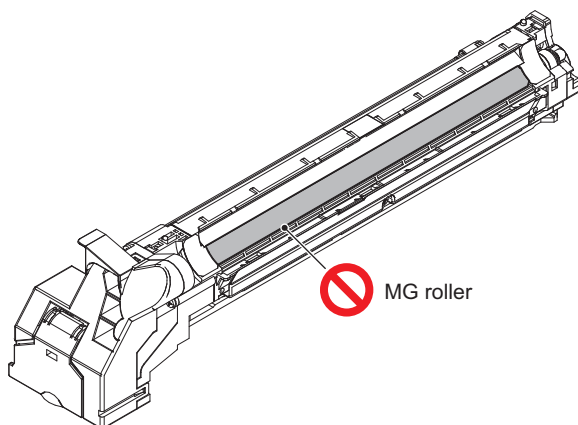


- 3) Remove the DV upper cover.

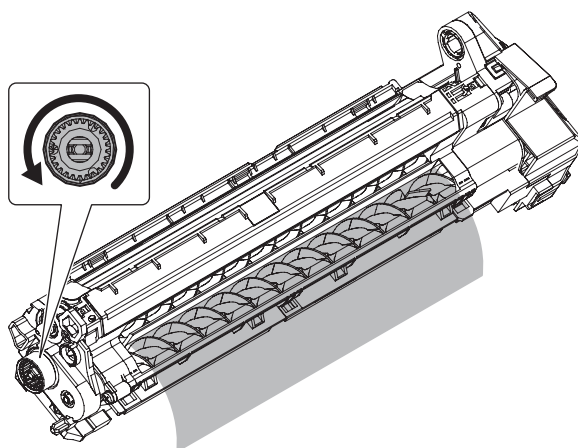


Important

Do not touch the MG roller.



- 4) While rotating the gear, dispose of developer.



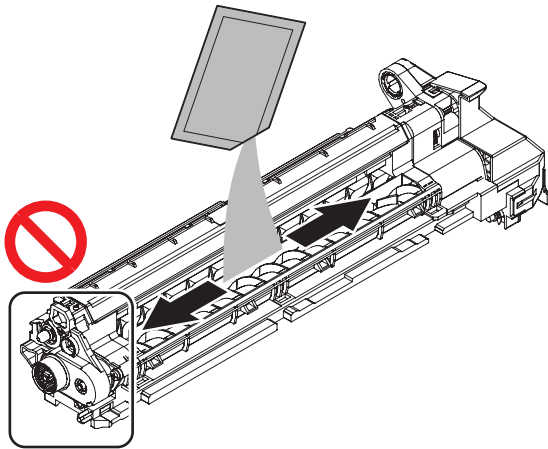
- 5) Loading developer to the developing unit.

Important

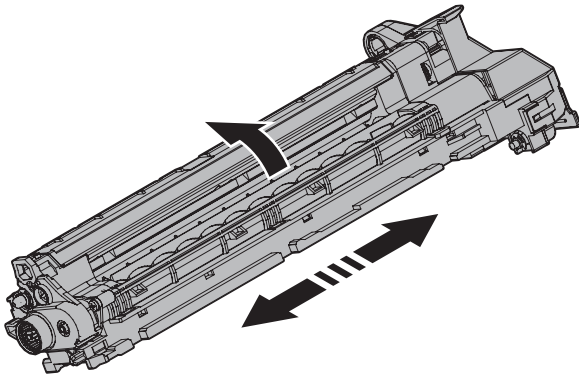
Be sure to shake the bag of developer thoroughly before pouring into the developing unit.

Important

When pouring the developer into the unit, use care not to get developer into the drive section.



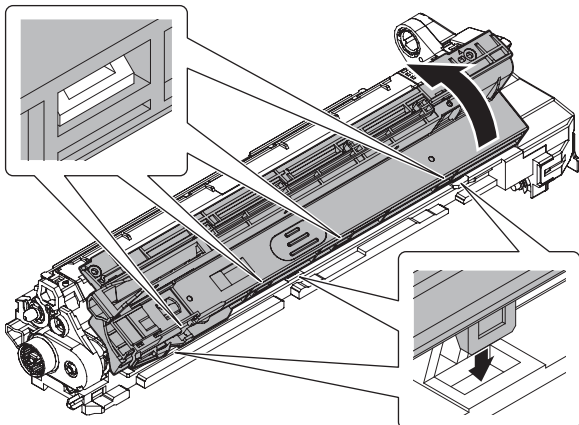
- 6) Slightly tilt the developing unit. Load developer on lower side of MG roller evenly on left and right.



Important

Do not tilt the developing unit after loading the developer.

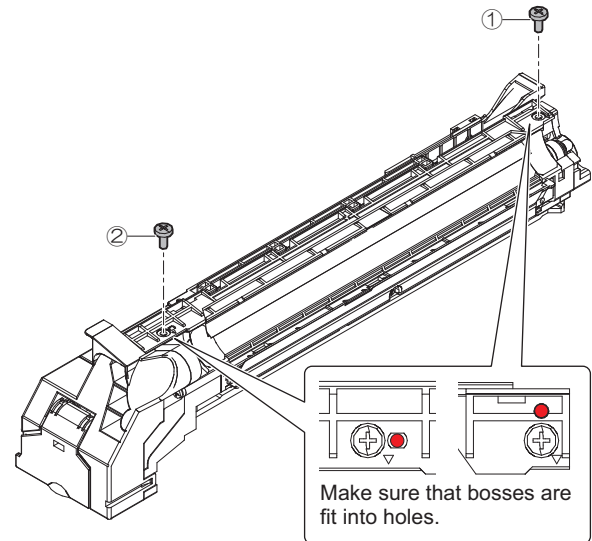
- 7) Rotate and insert the DV upper cover.



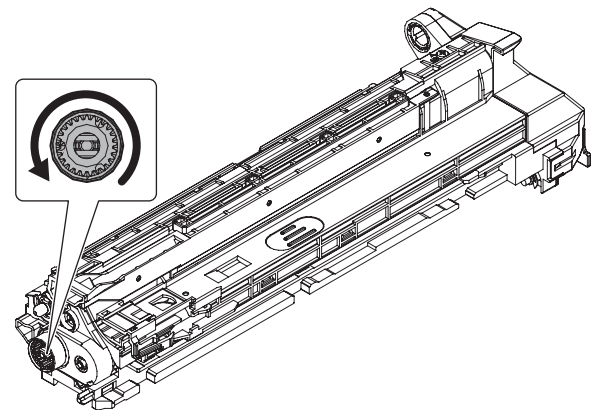
- 8) Check the mounting condition of the DV upper cover and tighten screws.

Important

When attaching the DV upper cover, tighten the screw in the order of (1) - (2).

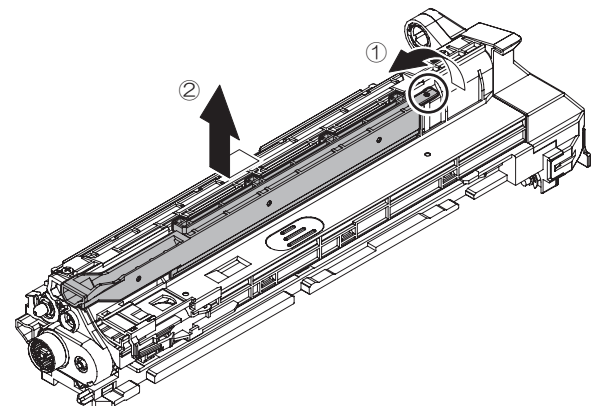


- 9) Turning the coupling around 5 laps.

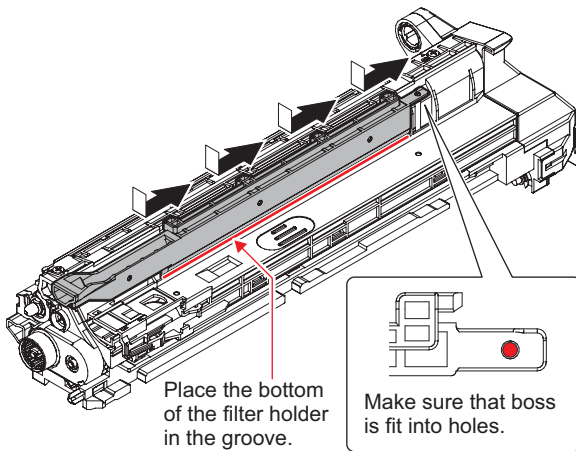


(2) DV filter

- 1) Remove the filter holder.



- 2) Attach the filter holder.



(3) DV blade

- 1) Remove the DV blade.

Important

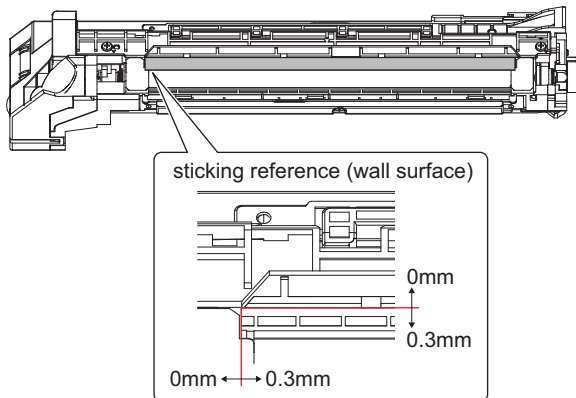
Be careful not to have bubbles and waviness under the DV blade when sticking the DV blade.

Important

Press firmly after sticking the DV blade.

Important

When replacing the DV blade, affix the DV blade based on the reference position.



(4) Side seat F/R

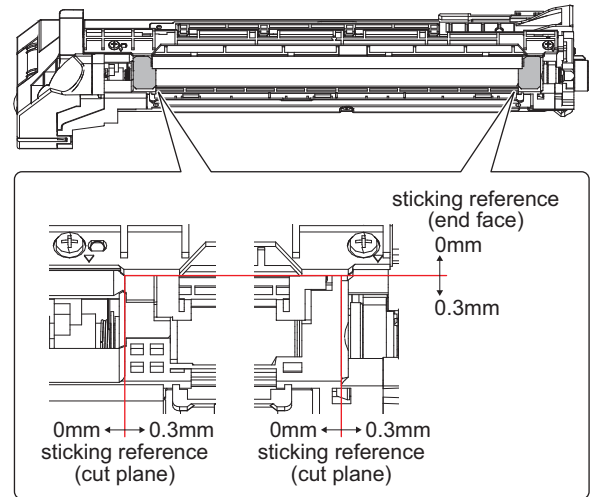
- 1) Remove the side seat F/R.

Important

Press firmly after sticking the side seat F/R.

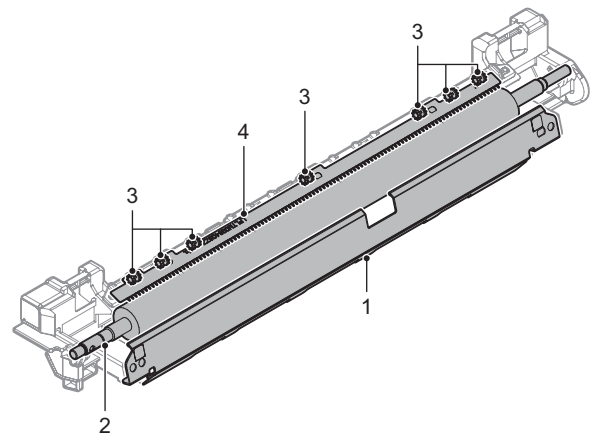
Important

When replacing the side seat F/R, affix the side seat F/R based on the reference position.



B. Transfer unit

Part No.	Part name
1	Before transfer paper guide
2	Transfer roller
3	Star ring
4	TC separate terminal



(1) Before transfer paper guide

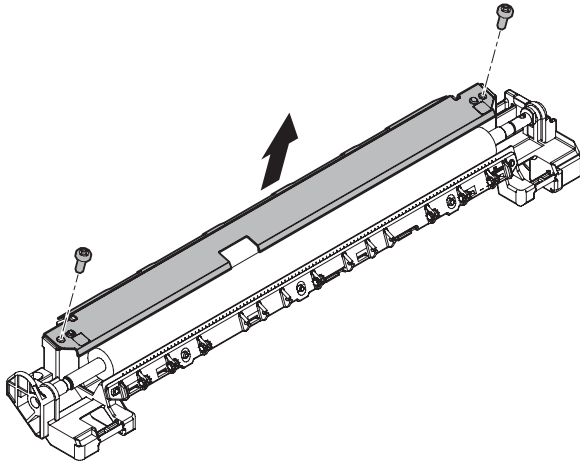
- 1) Remove the before transfer paper guide.

Important

Be careful not to touch the before transfer paper guide on the roller.

Important

When attaching the before transfer paper guide, use an antistatic air duster gun to clean the unit and remove dust.



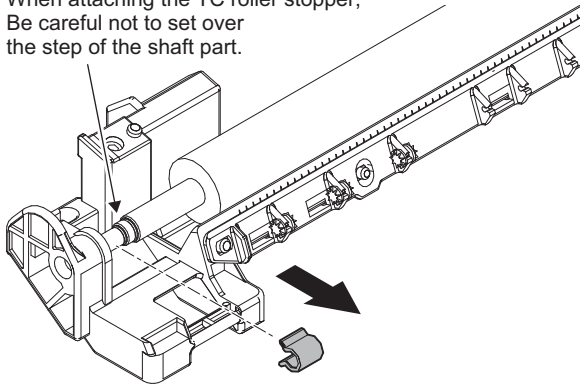
(2) Transfer roller

- 1) Remove the TC roller stopper.

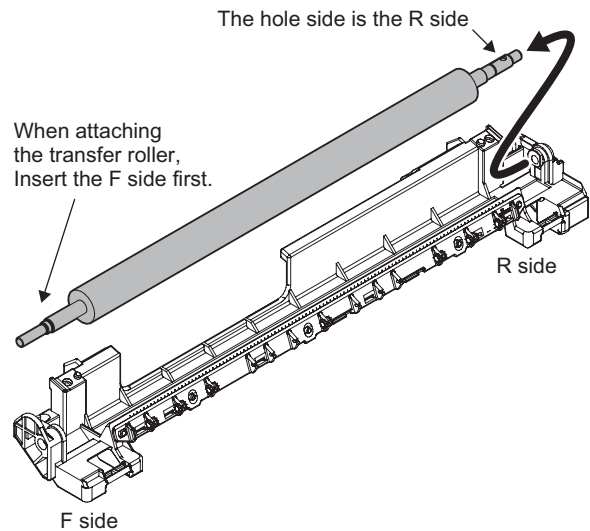
Important

Do not touch the roller part (Rubber part).

When attaching the TC roller stopper,
Be careful not to set over
the step of the shaft part.

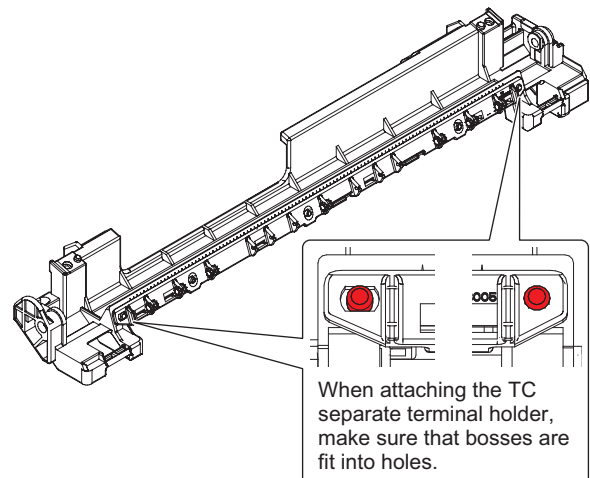
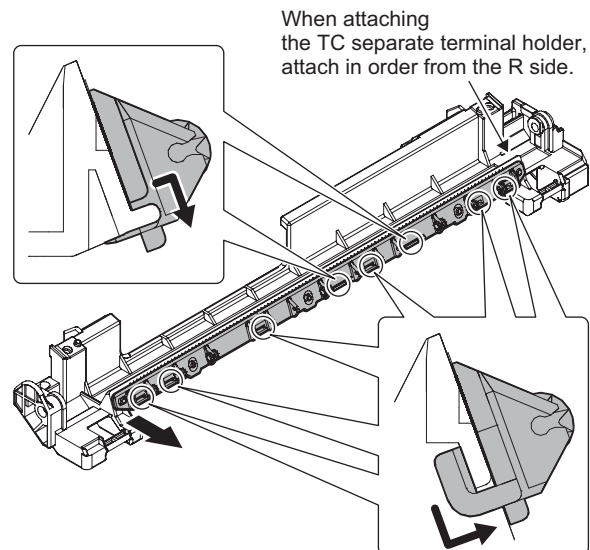


- 2) Remove the transfer roller.



(3) Star ring

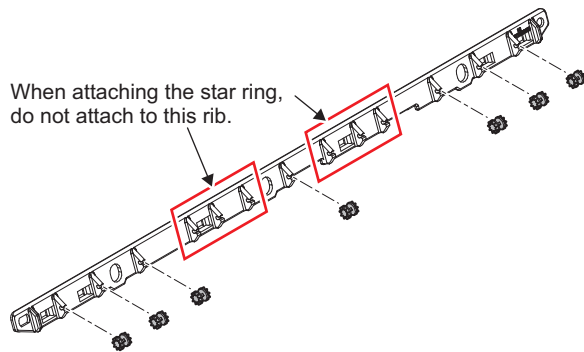
- 1) Remove the TC separate terminal holder.



- 2) Remove the star ring.

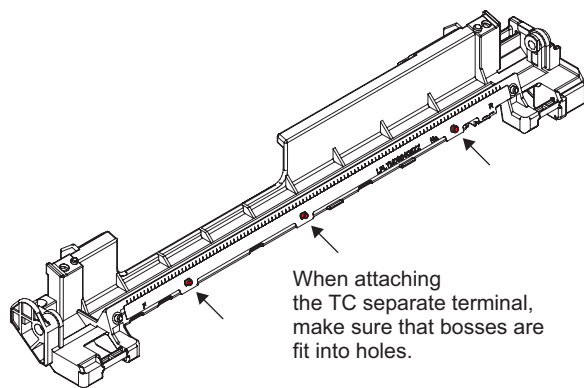
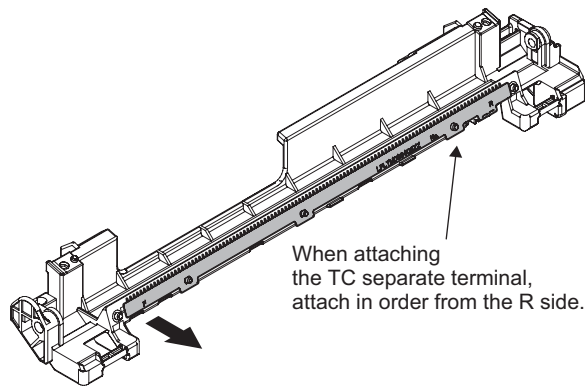
Important

When attaching the star ring, check that the star ring rotates smoothly.



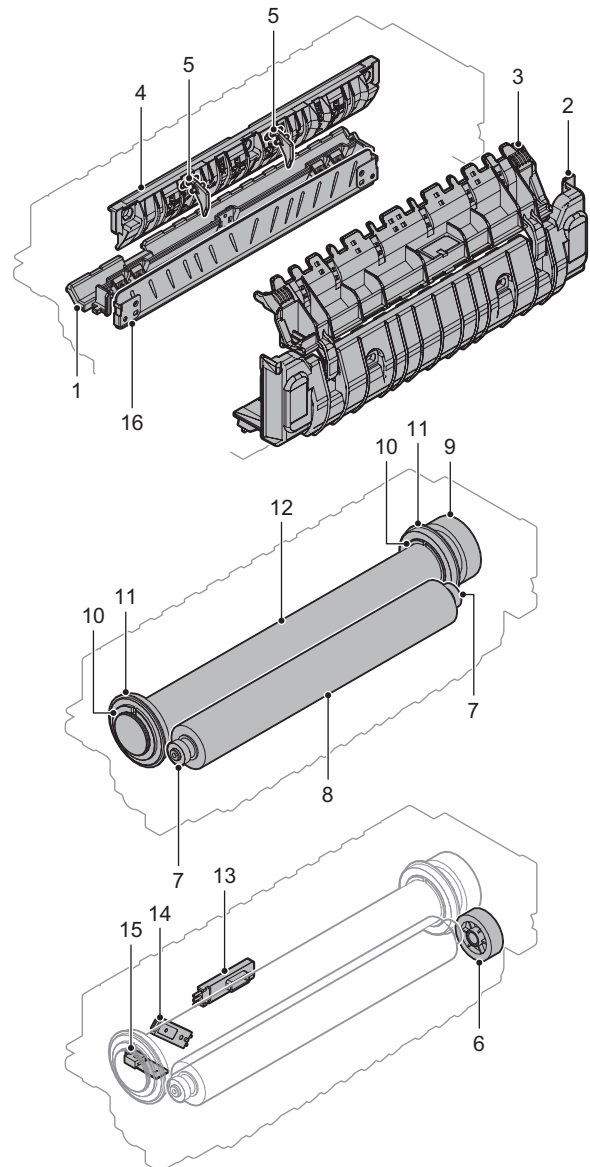
(4) TC separate terminal

- 1) Remove the TC separate terminal.



C. Fusing unit

Part No.	Part name
1	Fusing front upper paper guide
2	Fusing under paper guide
3	Fusing rear under paper guide
4	Fusing rear upper paper guide
5	Upper separating nail spring/Upper separating nail
6	Fusing connection gear
7	Pressure roller bearing
8	Pressure roller
9	Fusing gear
10	Insulation bush
11	Heat roller bearing
12	Fusing roller
13	Main thermistor
14	Sub thermistor
15	Sub 2 thermistor
16	Fusing enter paper guide

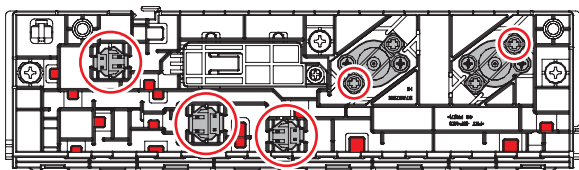


Important

When repairing or replacing the parts of the fusing unit, perform the procedure using an earth band.

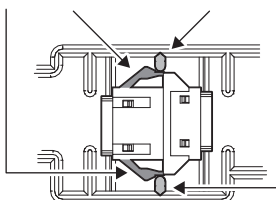
(1) Fusing front upper paper guide

- 1) Disconnect the connector and remove the round terminal.



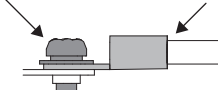
Connector installation

Push the connector into it. Into the 2 ribs on center.

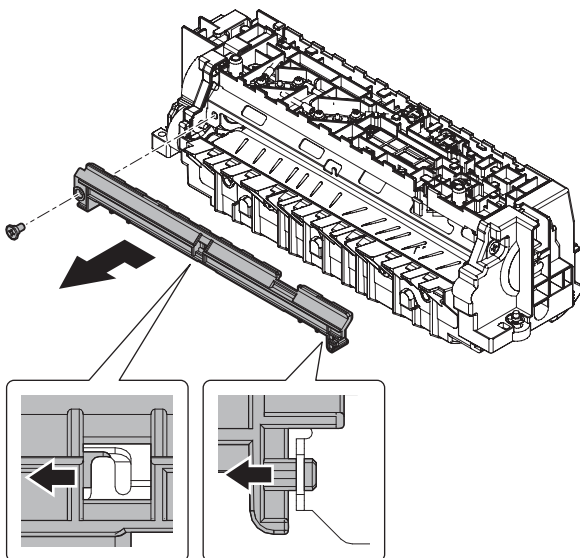


Round terminal installation

Visually check that screws are not loose. should be mounted with protrusion direction up.

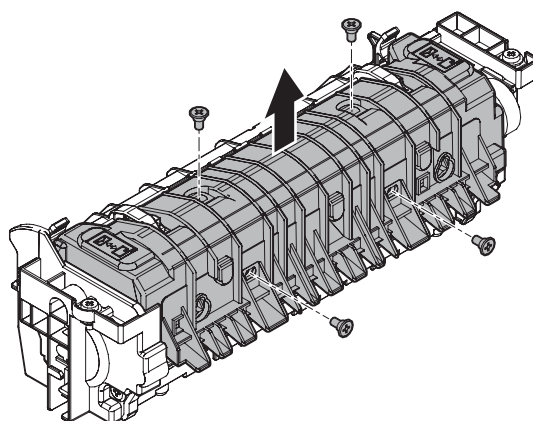


- 2) Remove the fusing front upper paper guide.



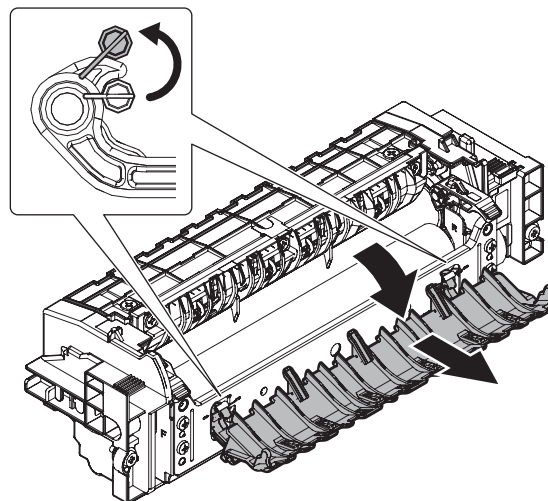
(2) Fusing under paper guide

- 1) Remove the fusing under paper guide.



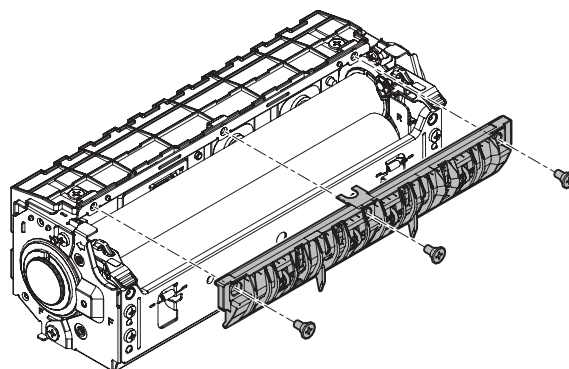
(3) Fusing rear under paper guide

- 1) Remove the fusing rear under paper guide.



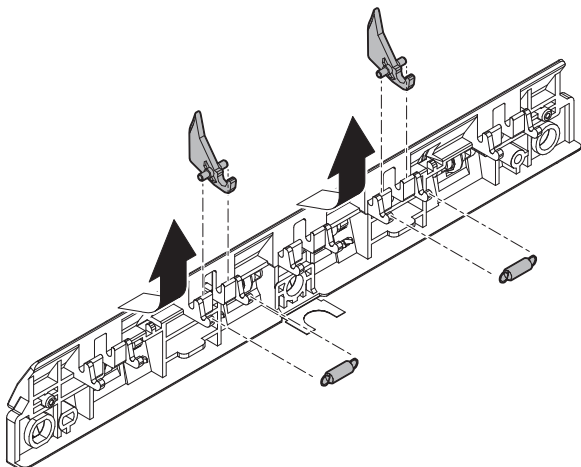
(4) Fusing rear upper paper guide

- 1) Remove the fusing rear upper paper guide.



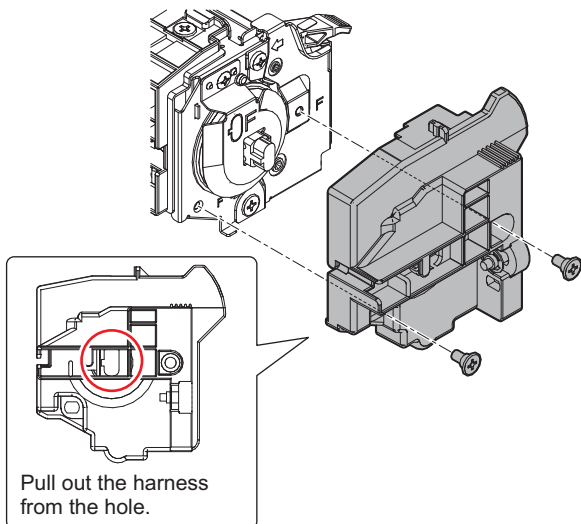
(5) Upper separating nail spring/Upper separating nail

- 1) Remove the upper separating nail spring.
- 2) Remove the upper separating nail.



(6) Fusing connection gear

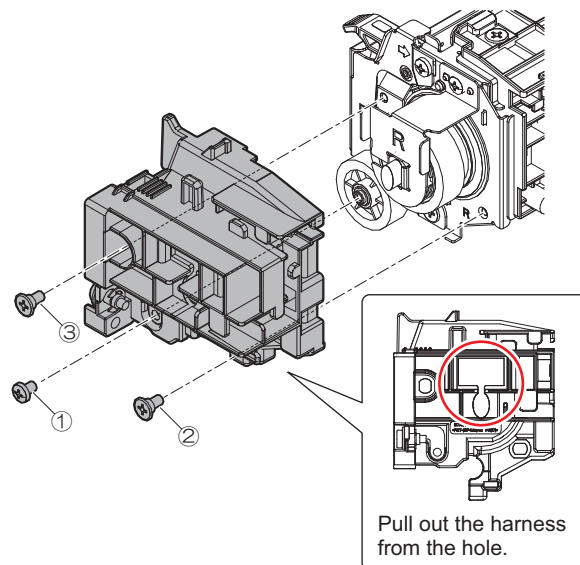
- 1) Remove the fusing F cover.



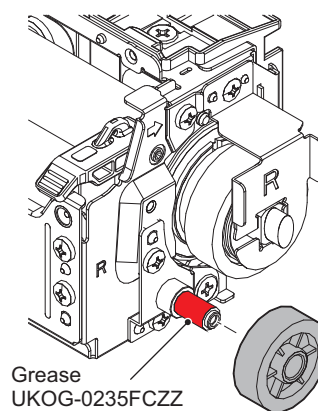
- 2) Remove the fusing R cover.

Important

When attaching the fusing R cover, tighten the screw in the order of (1) - (3).



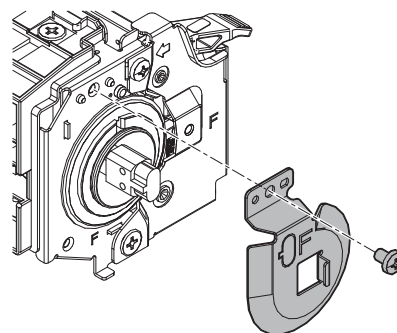
- 3) Remove the fusing connection gear.



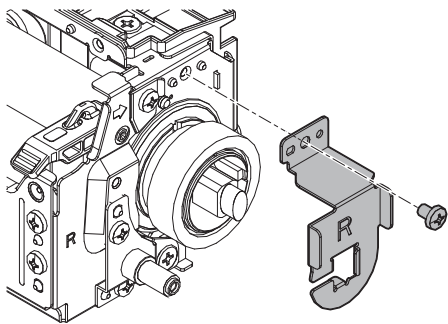
(7) Pressure roller bearing

(8) Pressure roller

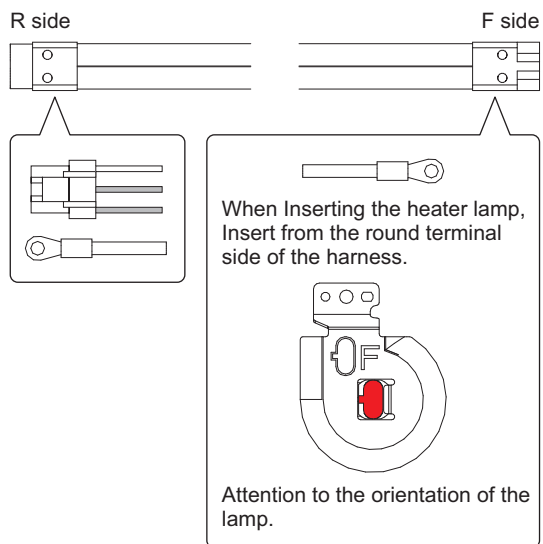
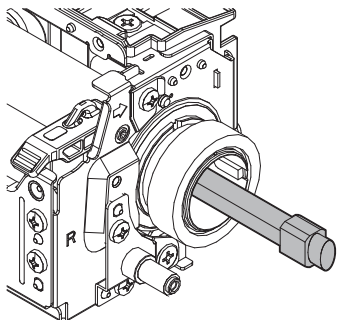
- 1) Remove the lamp holder F.



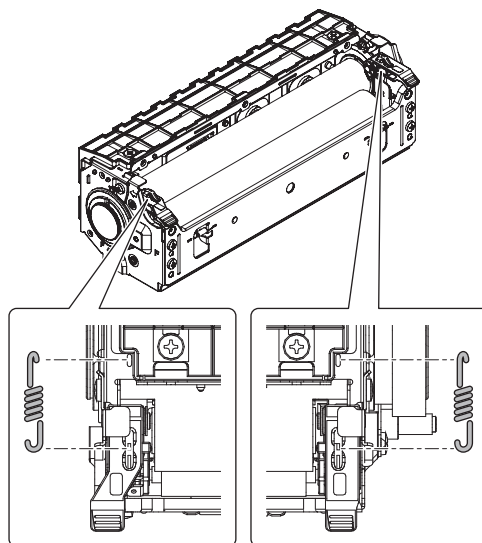
2) Remove the lamp holder R.



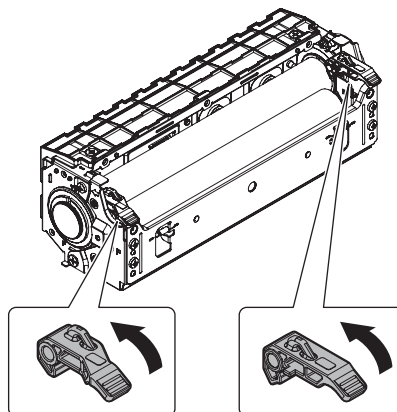
3) Remove the heater lamp.



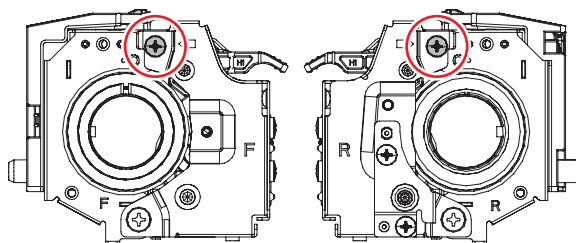
4) Remove the pressure release sub spring.



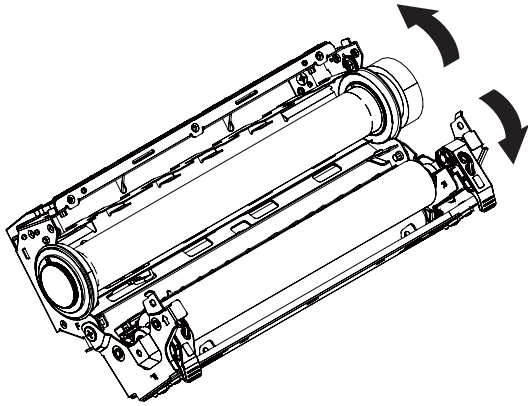
5) Pull up lever and release pressure.



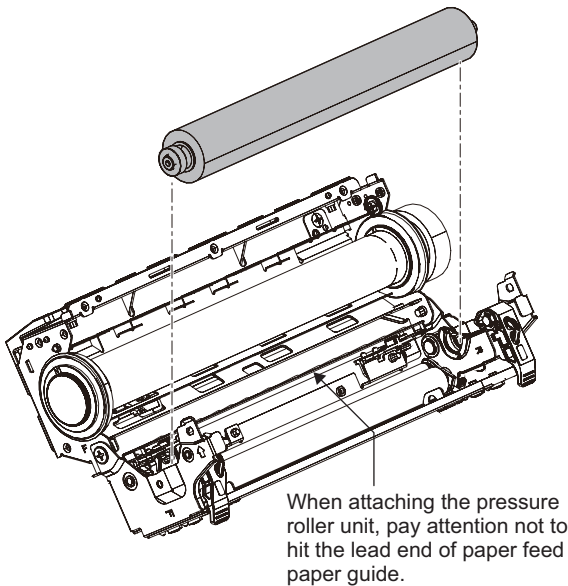
6) Remove the screw.



7) Open the fusing unit.

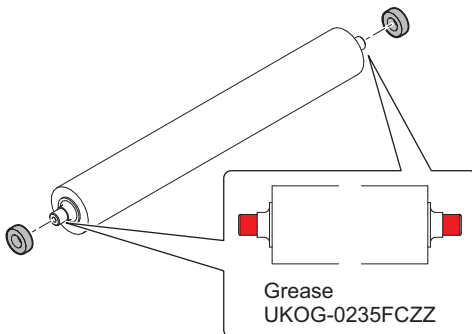


8) Remove the pressure roller unit.



When attaching the pressure roller unit, pay attention not to hit the lead end of paper feed paper guide.

9) Remove the pressure roller bearing.



(9) Fusing gear

(10) Insulation bush

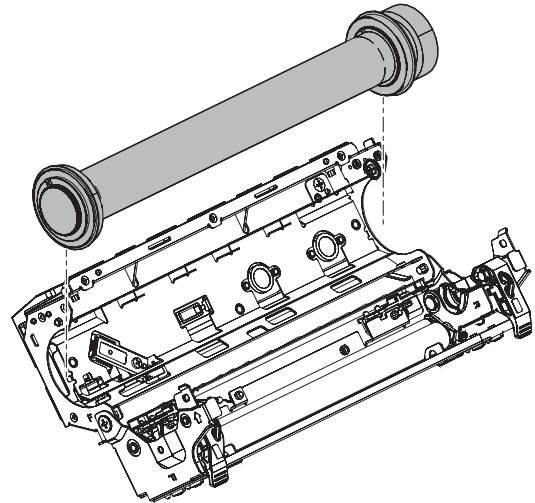
(11) Heat roller bearing

(12) Fusing roller

1) Remove the fusing roller unit.

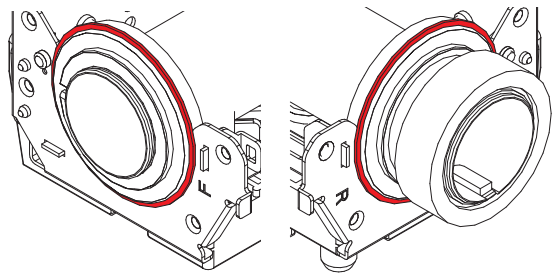
Important

Be careful not to scratch the fusing roller surface.



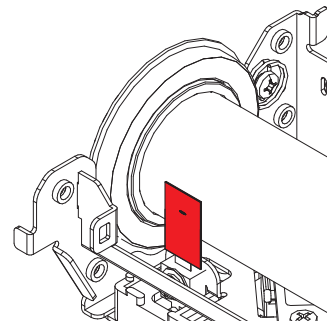
Important

When attaching the fusing roller unit, insert by checking the flange side of the bearing to be outside of sheet metal.

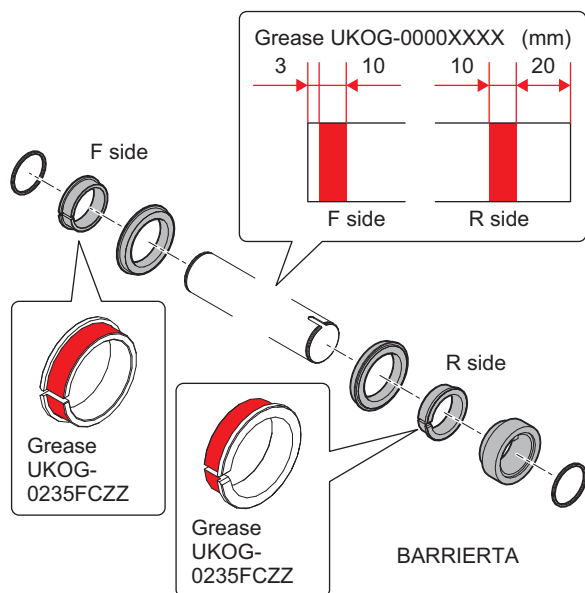


Important

When attaching the fusing roller unit, the sub 2 thermistor contacts the fusing roller.

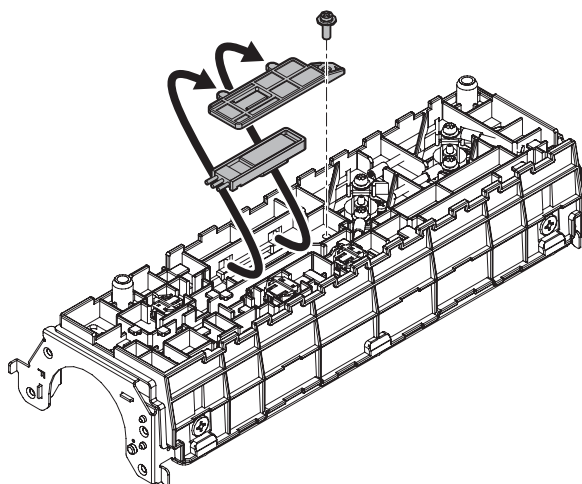


- 2) Remove the roller stopper, the fusing gear, insulation bush and the heat roller bearing.



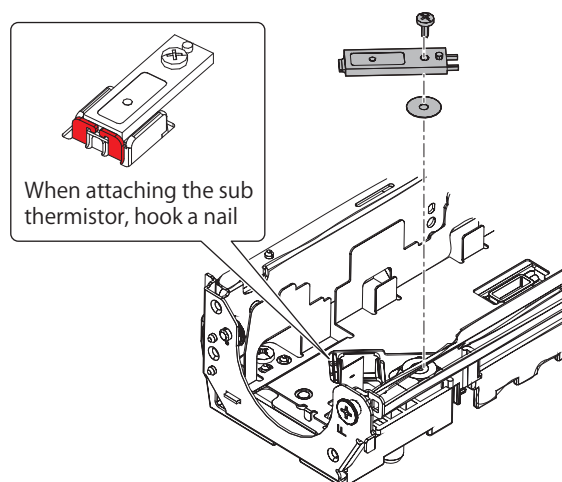
(13) Main thermistor

- 1) Remove the main thermistor.



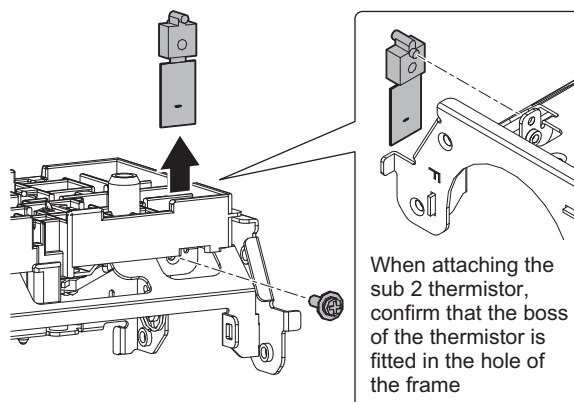
(14) Sub thermistor

- 1) Remove the sub thermistor.



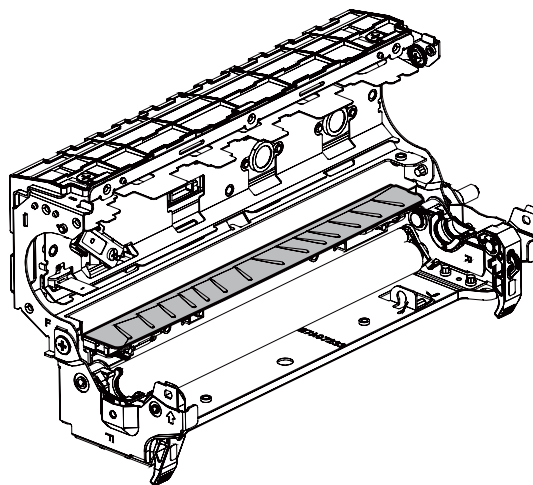
(15) Sub 2 thermistor

- 1) Remove the sub 2 thermistor.



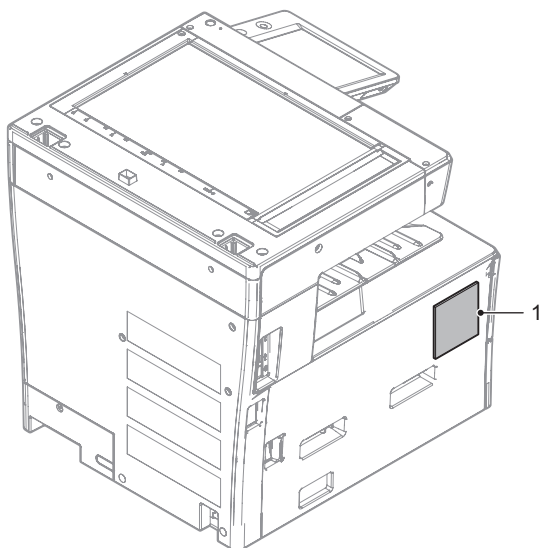
(16) Fusing enter paper guide

- 1) Clean the fusing enter paper guide.



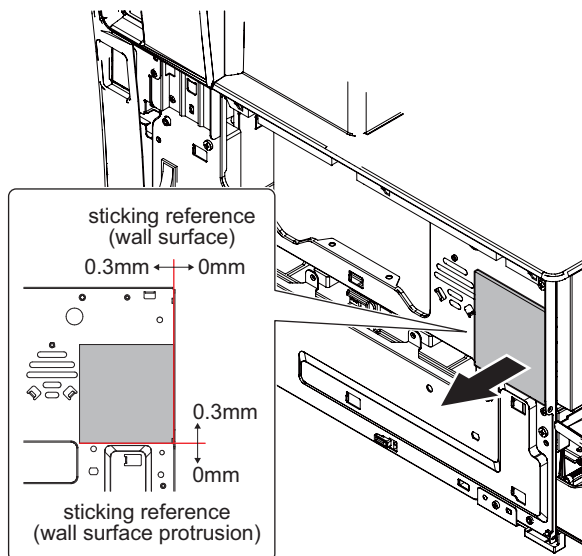
D. Main unit filter

Part No.	Part name
1	Intake filter



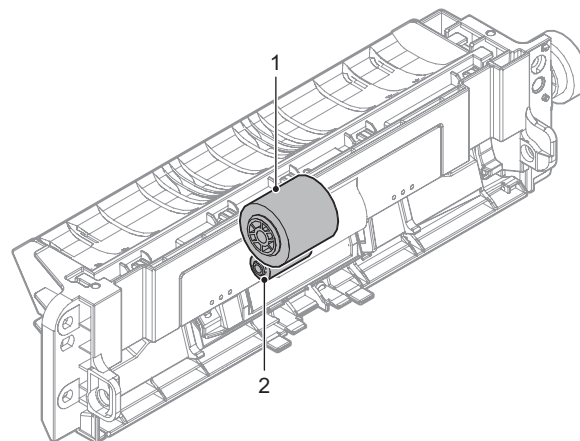
(1) Intake filter

- 1) Remove the left cabinet.
- 2) Remove the Intake filter.



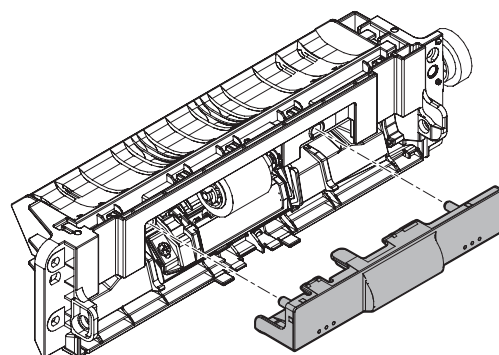
E. Manual paper feed unit

Part No.	Part name
1	Paper feed roller
2	Separate roller

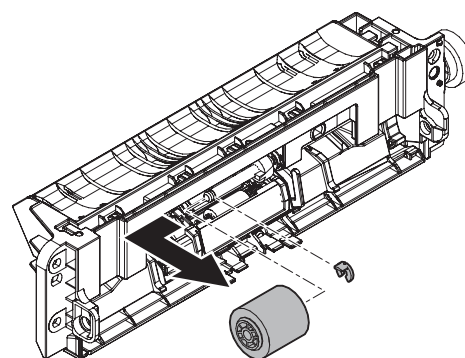


(1) Paper feed roller

- 1) Remove the maintenance cover.

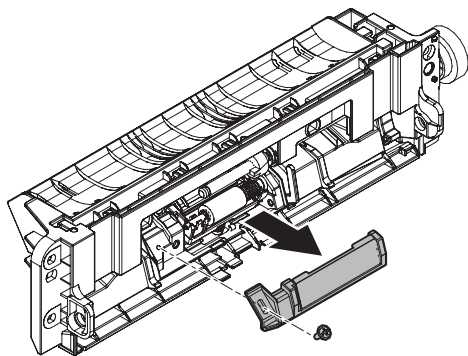


- 2) Remove the paper feed roller.

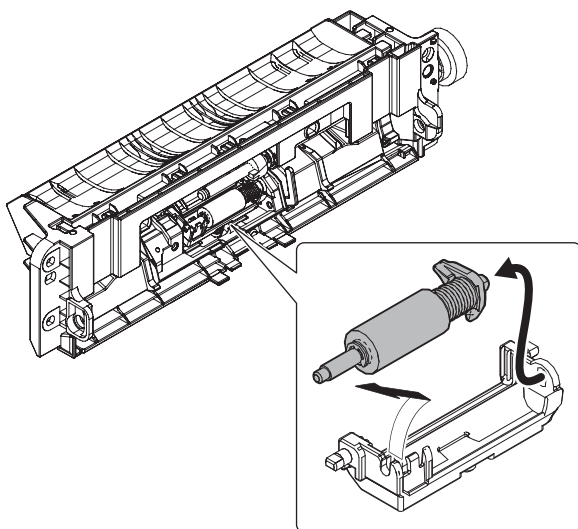


(2) Separate roller

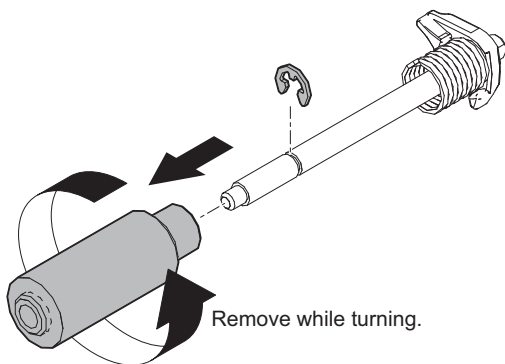
- 1) Remove the separation cover.



- 2) Remove the separate roller.

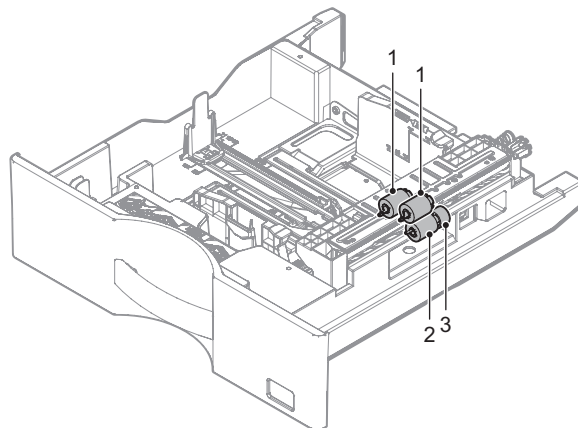


- 3) Remove the separate roller.



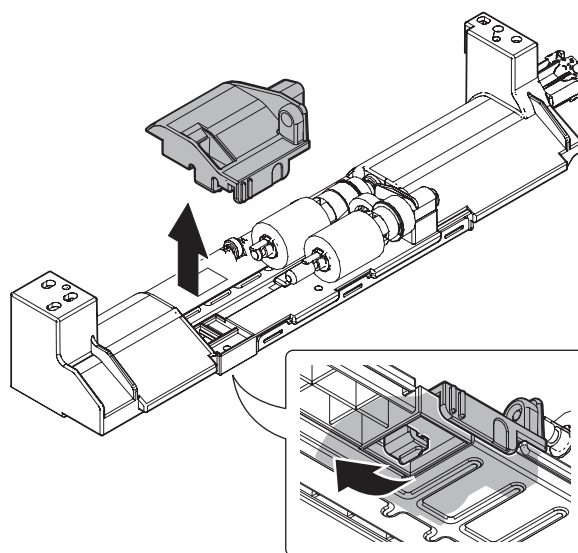
F. Tray paper feed unit

Part No.	Part name
1	Paper feed roller
2	Separation roller
3	Torque limiter

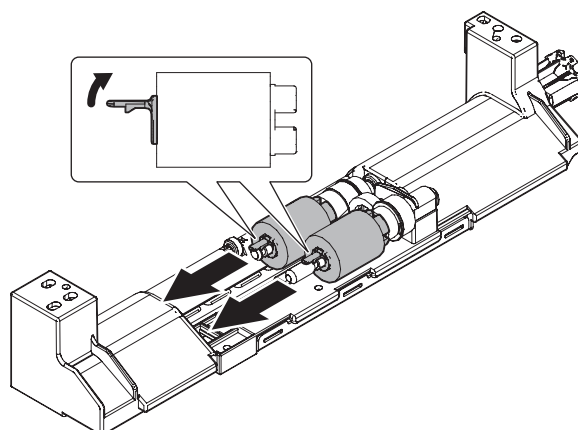


(1) Paper feed roller

- 1) Remove the paper guide.



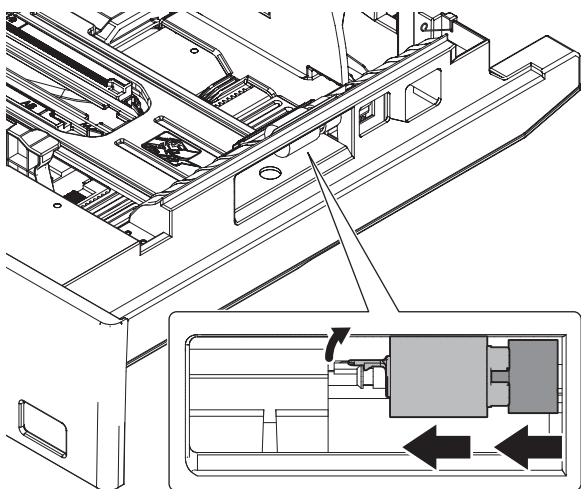
- 2) Remove the paper feed roller.



(2) Separation roller

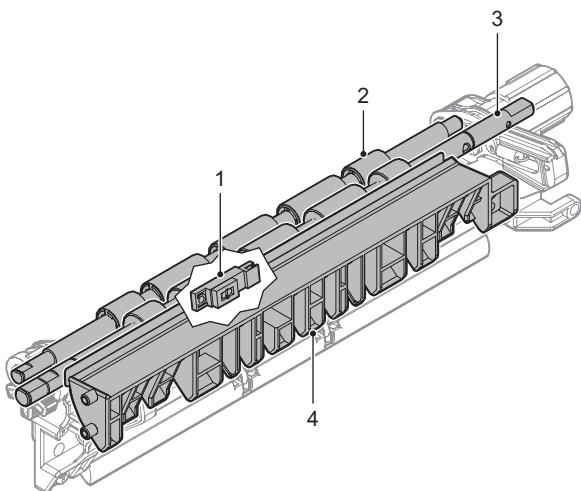
(3) Torque limiter

- 1) Remove the separation roller and the torque limiter.



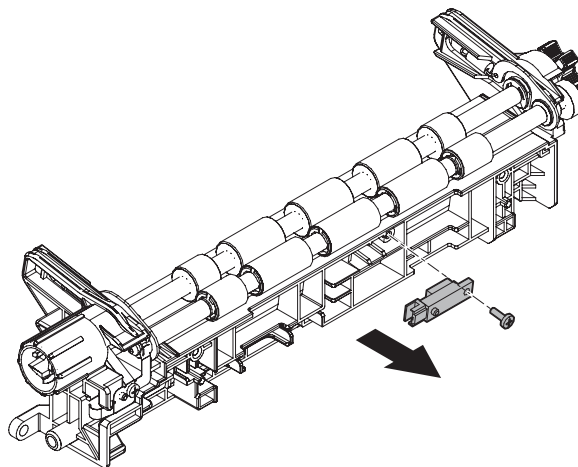
G. PS unit

Part No.	Part name
1	Sensor
2	PS roller (Idle)
3	PS roller
4	PS guide



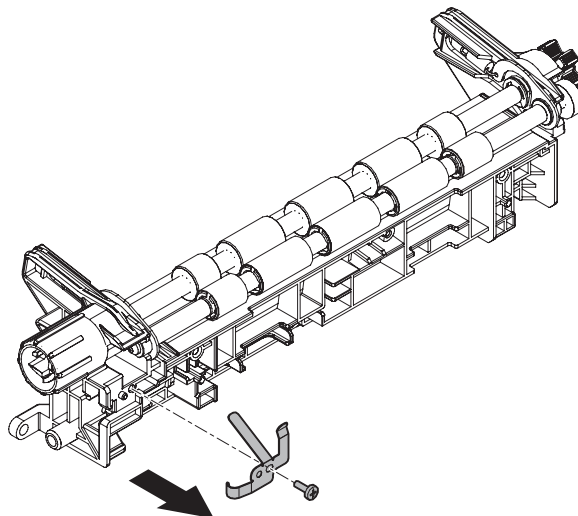
(1) Sensor

- 1) Remove the sensor.

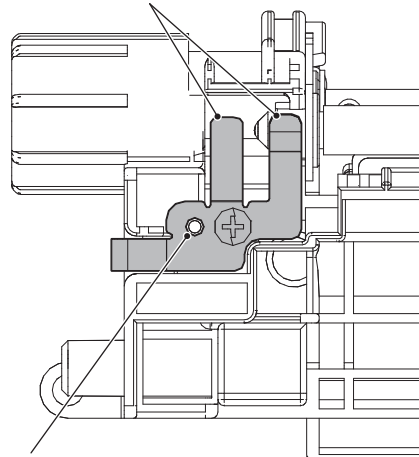


(2) PS roller (Idle)

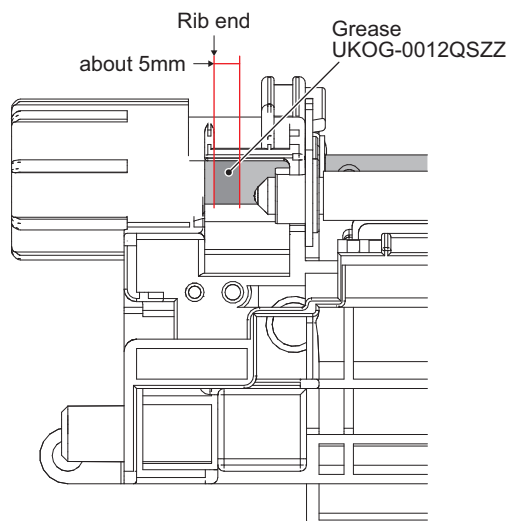
- 1) Remove the earth plate.



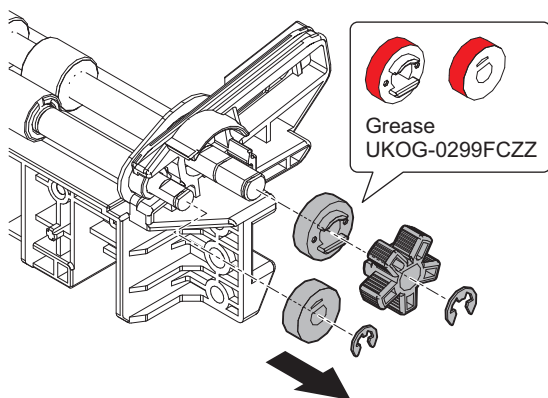
When attaching earth plate,
check that earth plate contacts to the shaft.



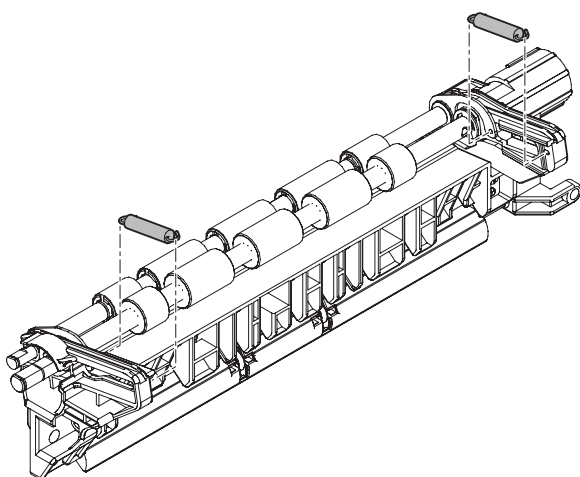
When attaching earth plate,
make sure that it is inserted in the positioning boss.



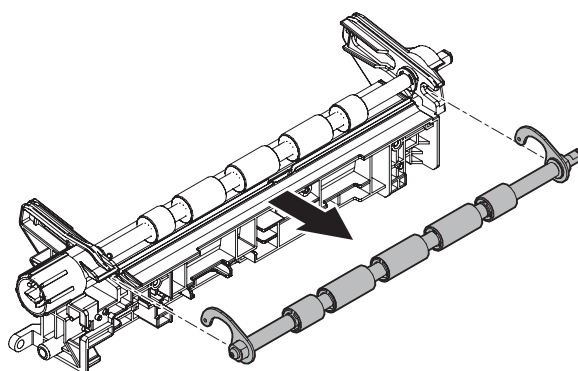
- 2) Remove the e-ring, the knob and the gear.



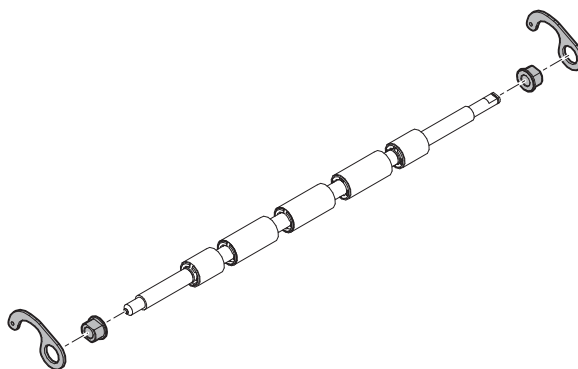
- 3) Remove the spring.



- 4) Remove the PS roller (Idle) assembly.

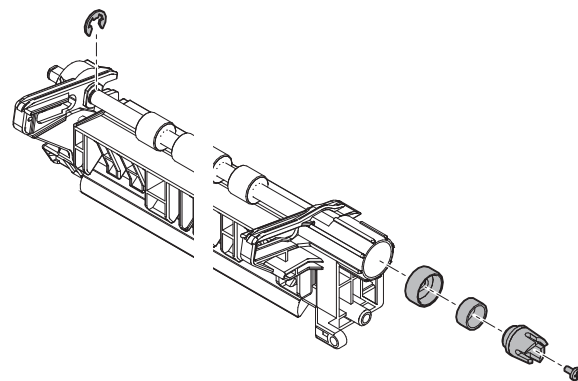


- 5) Remove the plate and the bearing.

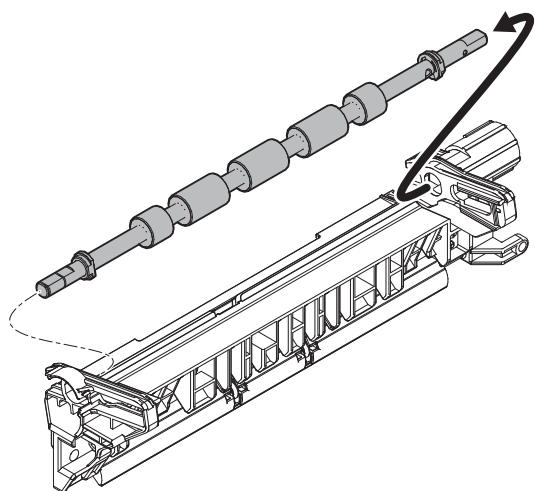


(3) PS roller

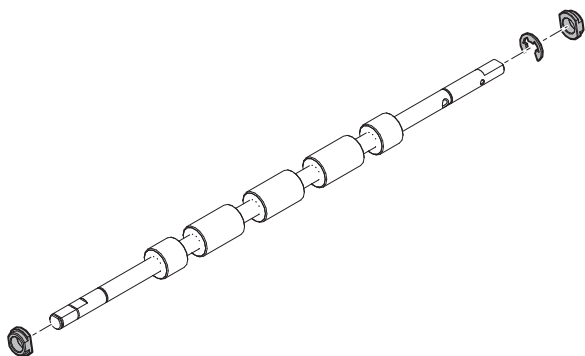
- 1) Remove the screw, the coupling, the spring, the holder and the e-ring.



2) Remove the PS roller assembly.

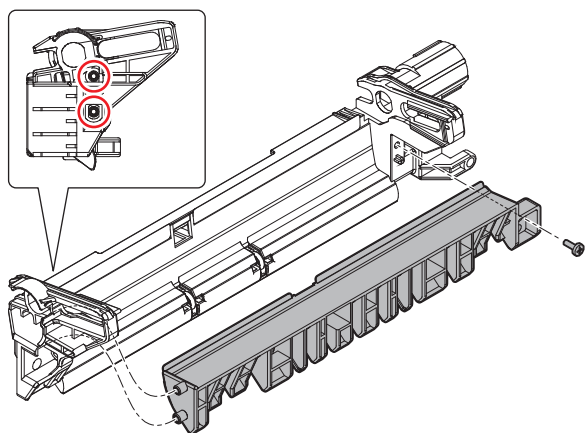


3) Remove the bearing and the e-ring.

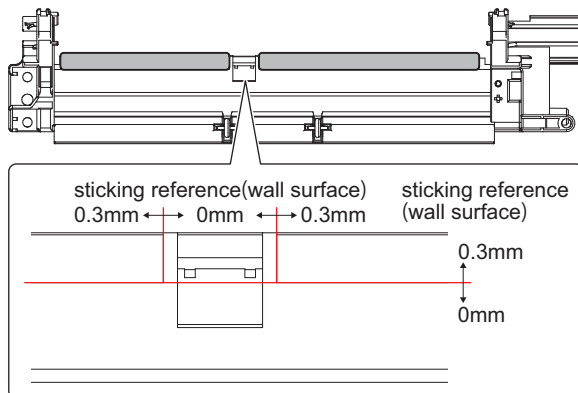
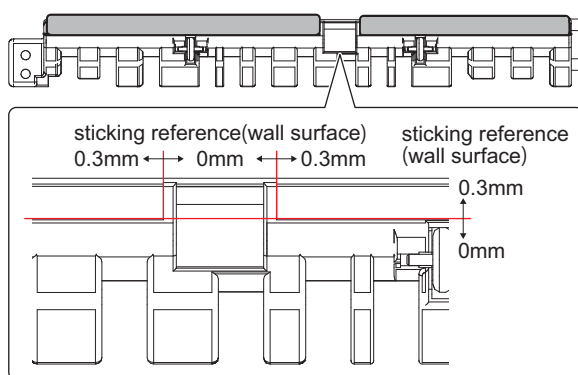


(4) PS guide

1) Remove the PS guide assembly.

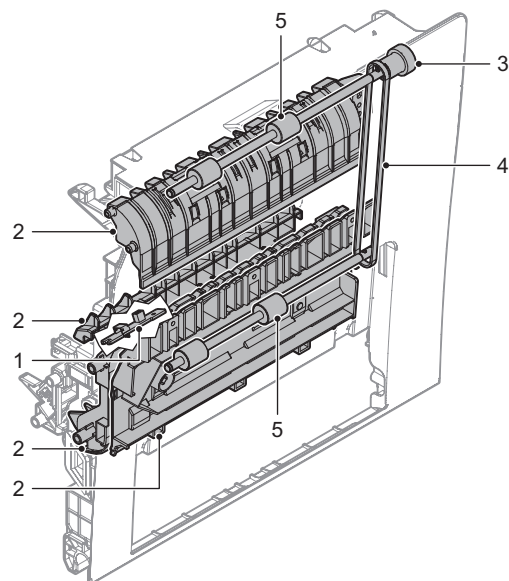


2) Remove the guide sheet.



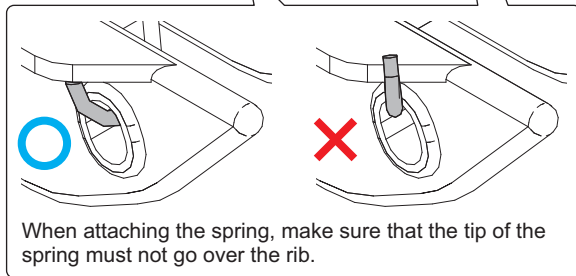
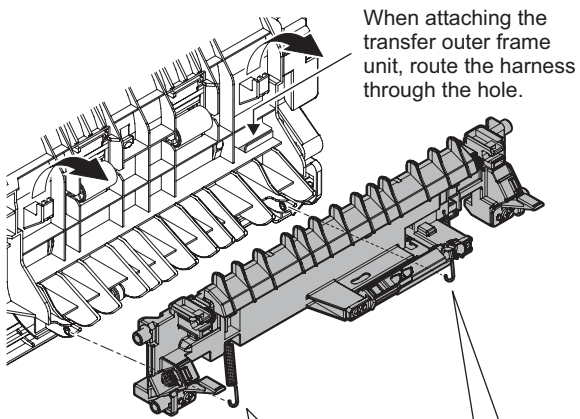
H. Right door unit

Part No.	Part name
1	Process control sensor
2	Paper guide
3	Gear
4	Belt
5	Roller

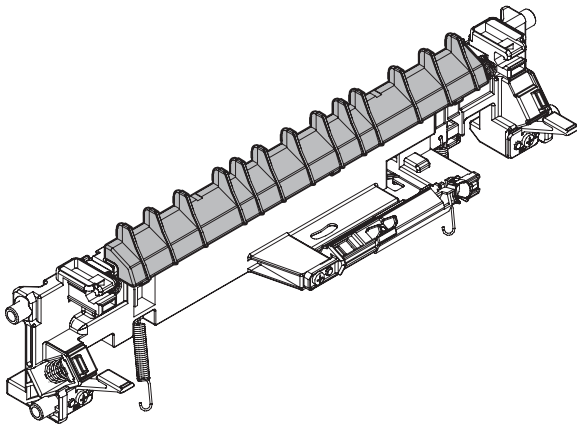


(1) Process control sensor

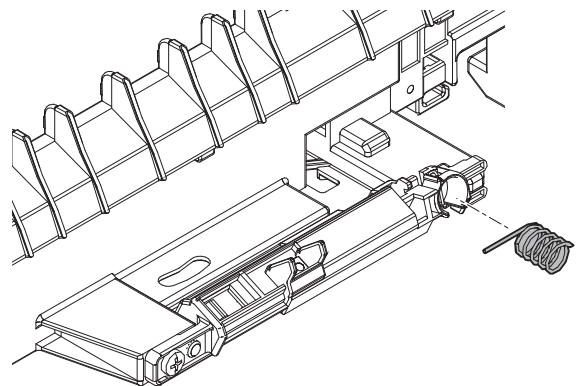
- 1) Remove the transfer outer frame unit.



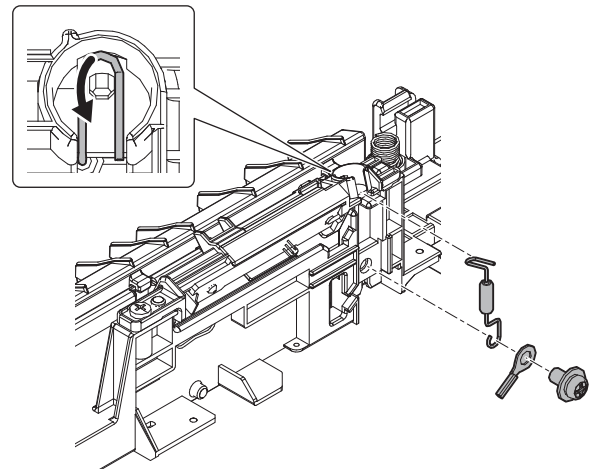
- 2) Use an antistatic air duster gun to clean the unit and remove dust.



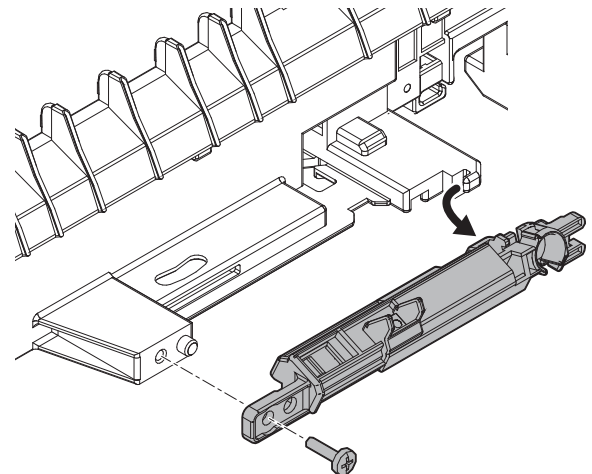
- 3) Remove the earth spring.



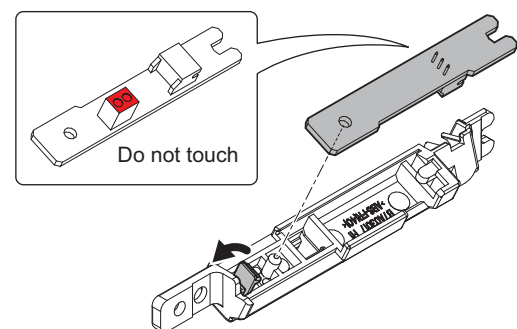
- 4) Remove the screw, the earth wire and the resistance.



- 5) Remove the holder.

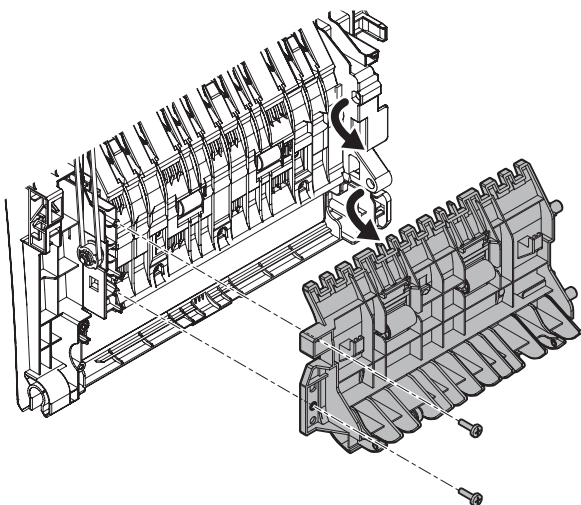


- 6) Remove the process sensor PWB.

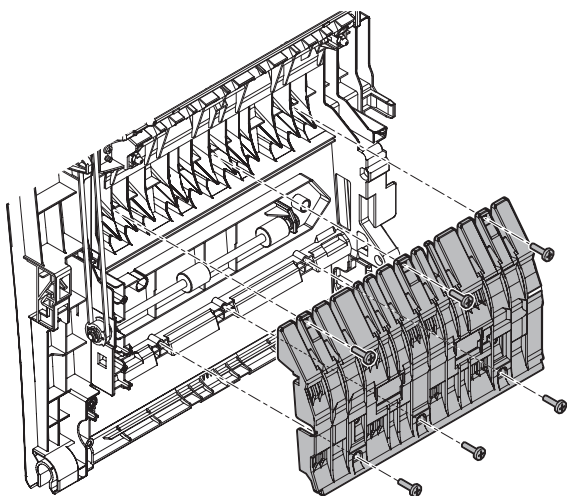


(2) Paper guide

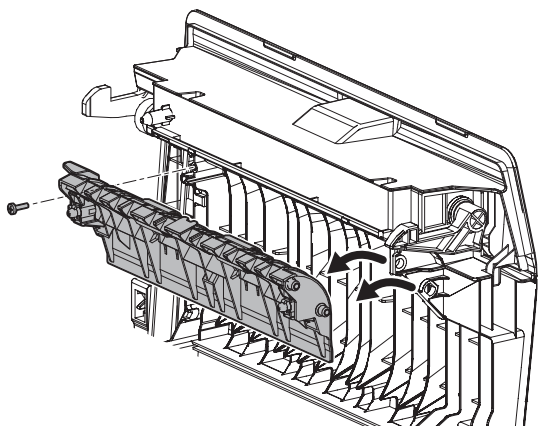
- 1) Remove the transport follower roller unit.



- 2) Remove the ADU duct paper guide.

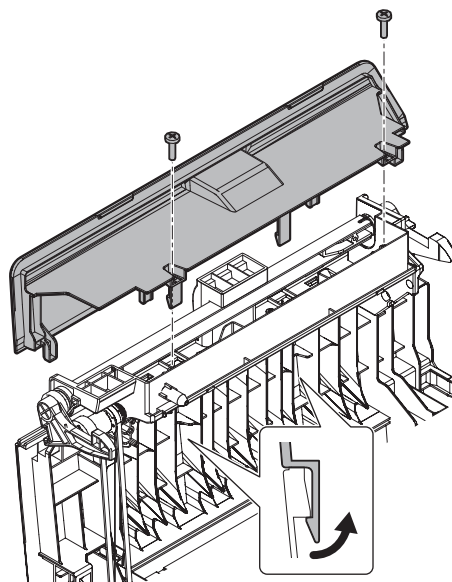


- 3) Remove the fusing paper guide push button holder unit.

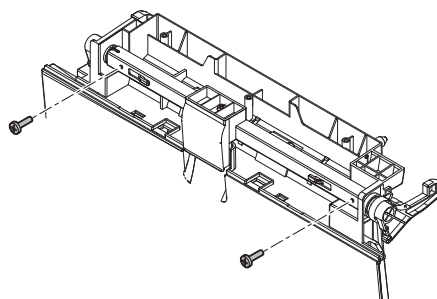


(3) Gear

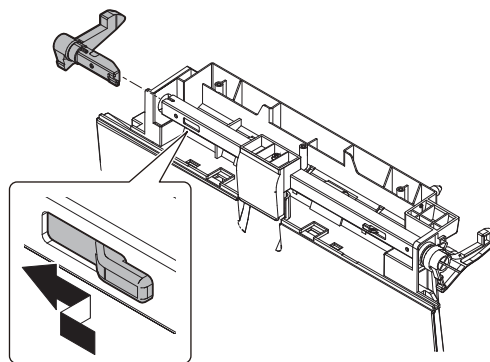
- 1) Remove the ADU upper cabinet.



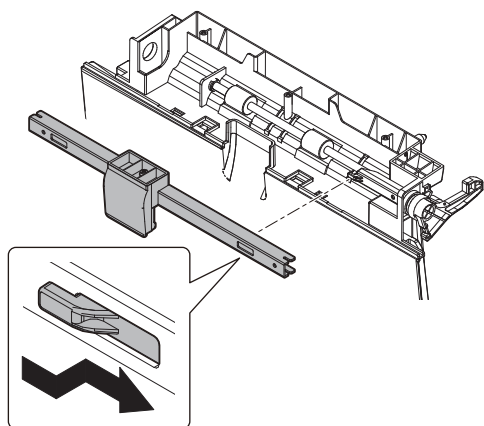
- 2) Remove the screw.



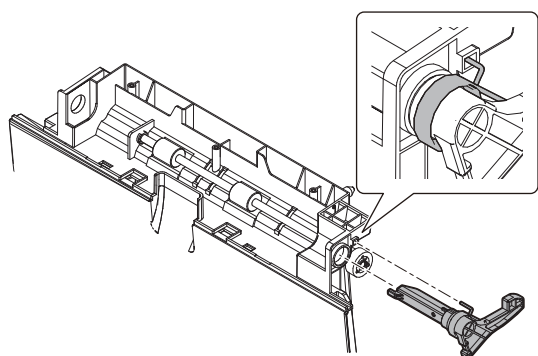
- 3) Remove the ADU lock pawl F.



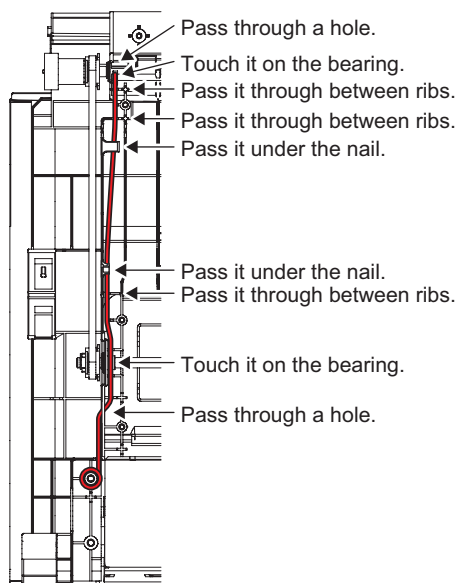
4) Remove the ADU lock plate assembly.



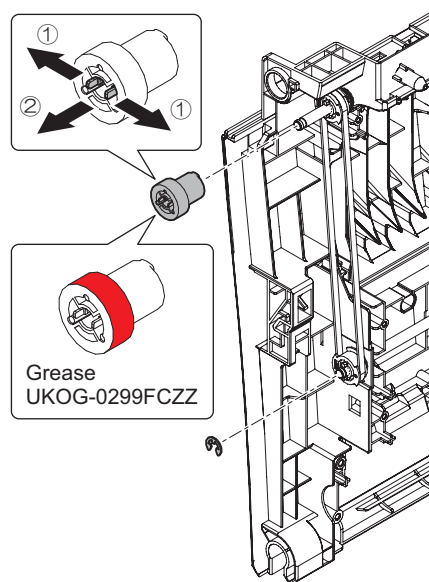
5) Remove the ADU lock pawl F and the ADU lock spring.



6) Remove the ADU earth spring.

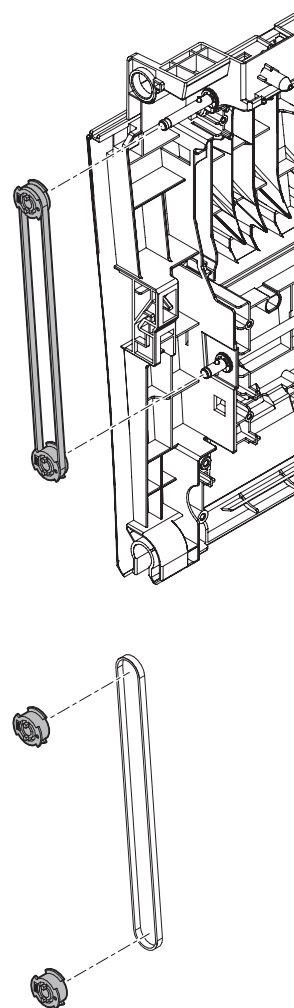


7) Remove the gear.



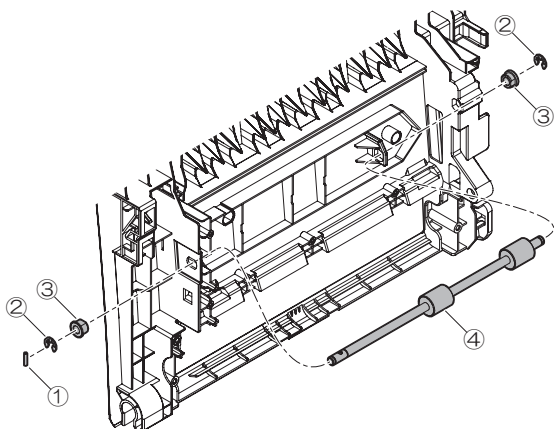
(4) Belt

1) Remove the pulley and the belt.

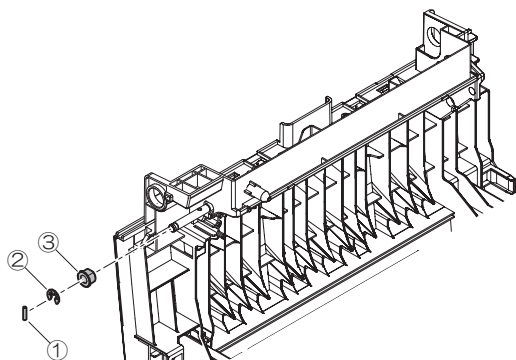


(5) Roller

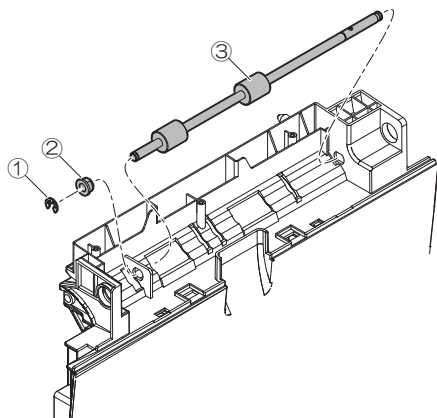
- 1) Remove the pin, the e-ring, the bearing and the roller.



- 2) Remove the pin, the e-ring and the bearing.

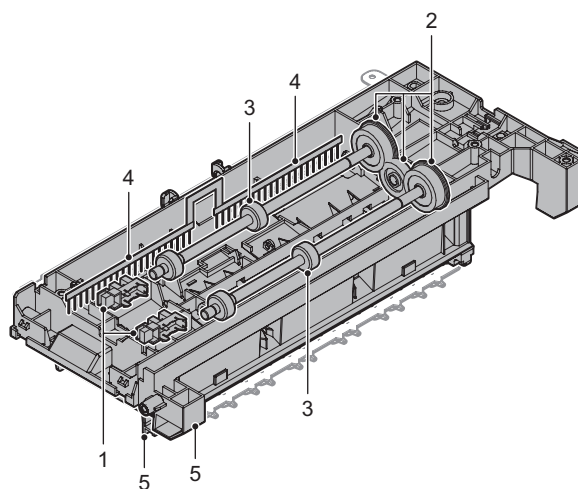


- 3) Remove the e-ring, the bearing and the roller.



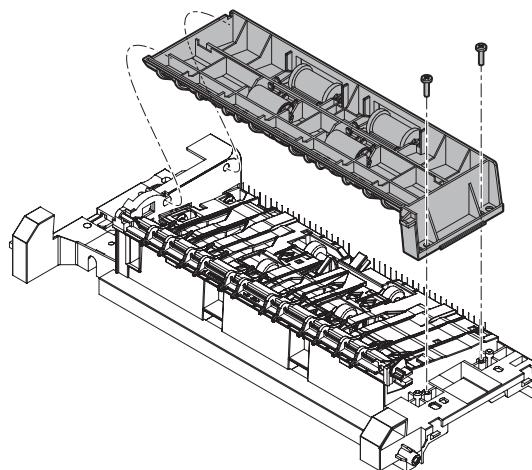
I. Paper exit unit

Part No.	Part name
1	Sensor
2	Gear
3	Roller
4	Discharge brush
5	Paper guide

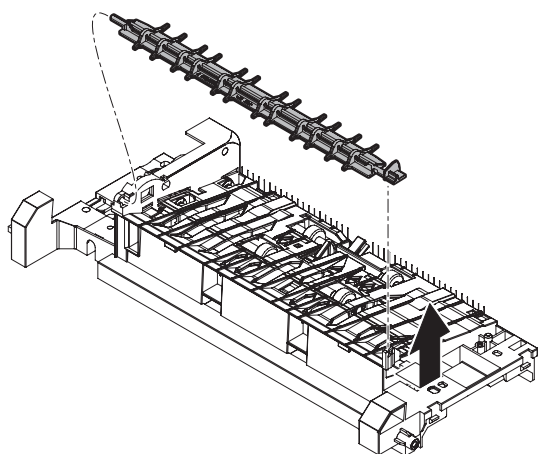


(1) Sensor

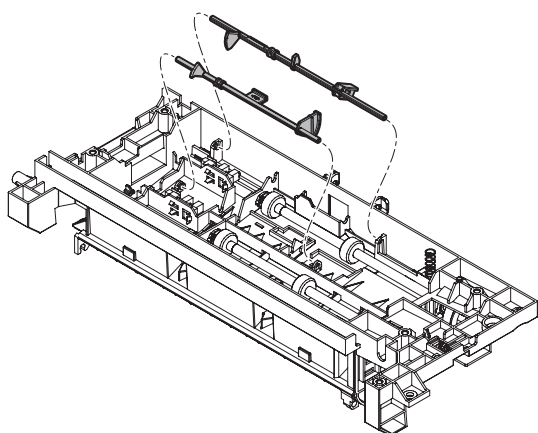
- 1) Remove the upper paper guide assembly.



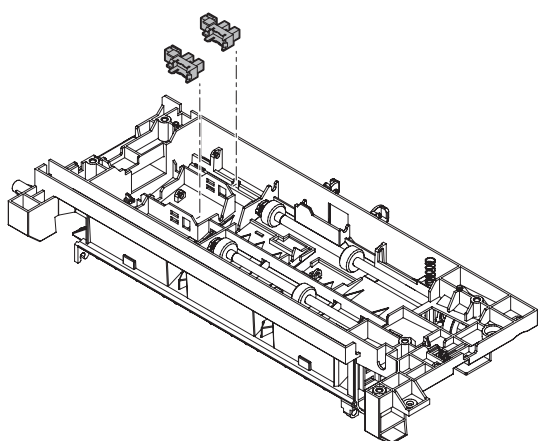
- 2) Remove the reverse gate.



- 3) Remove the actuator.

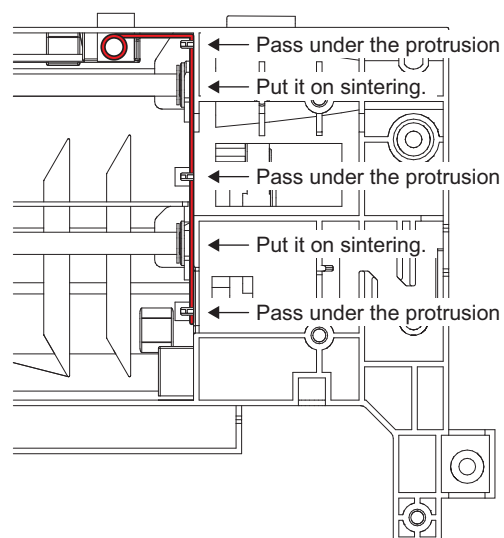
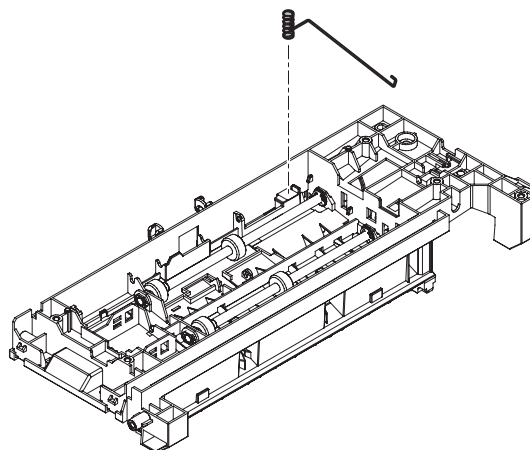


- 4) Remove the sensor.

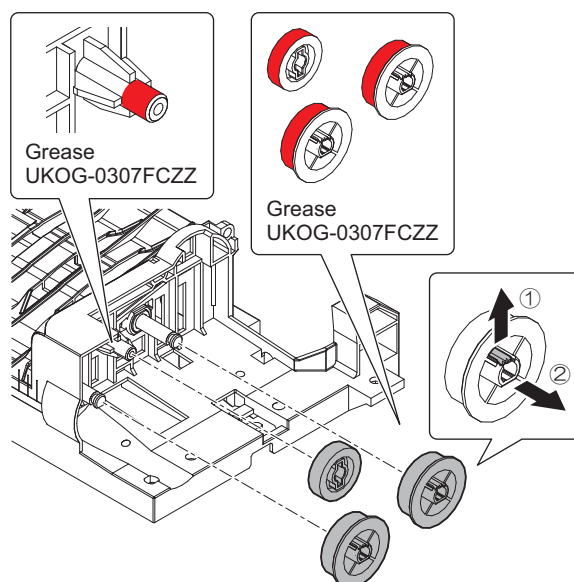


(2) Gear

- 1) Remove the earth spring.

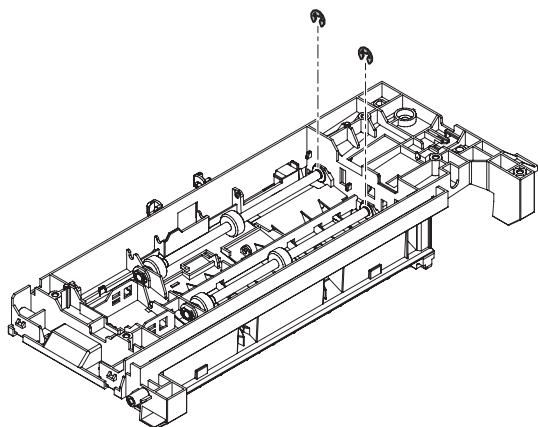


- 2) Remove the gear.

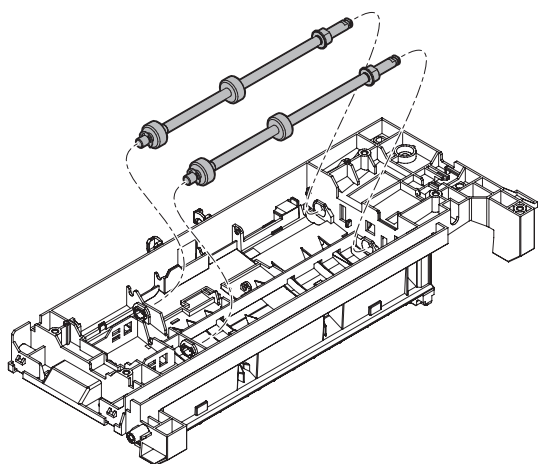


(3) Roller

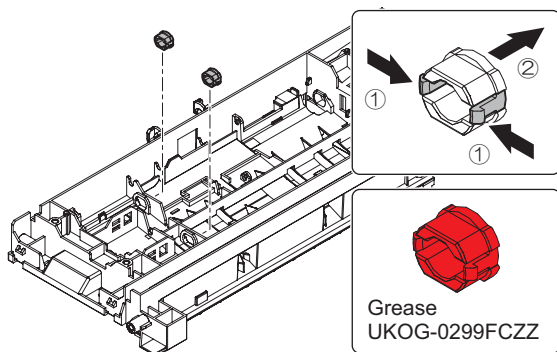
- 1) Remove the e-ring.



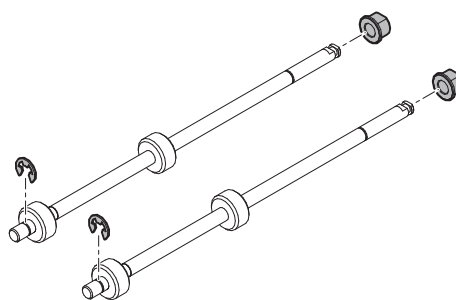
- 2) Remove the roller assembly.



- 3) Remove the gearing.

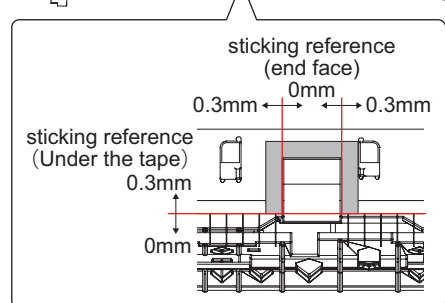
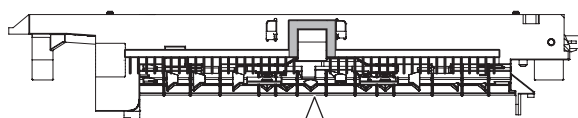
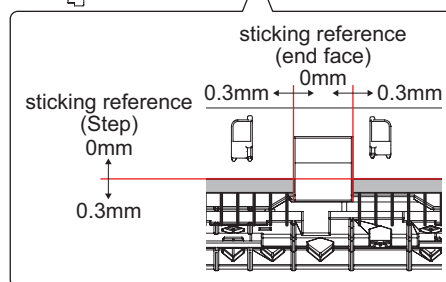
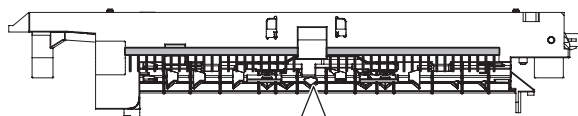
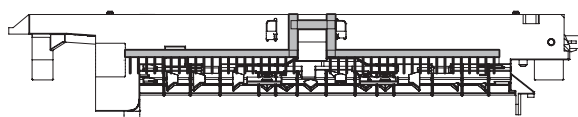


- 4) Remove the e-ring and the bearing.



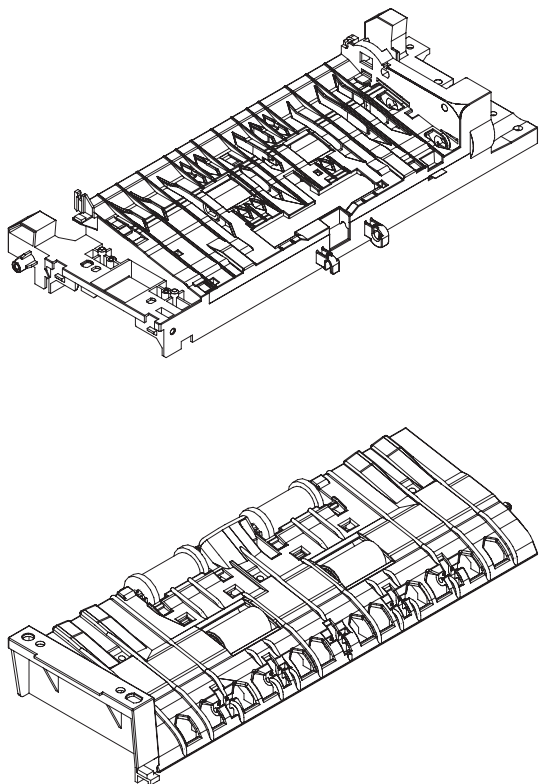
(4) Discharge brush

- 1) Remove the discharge brush.



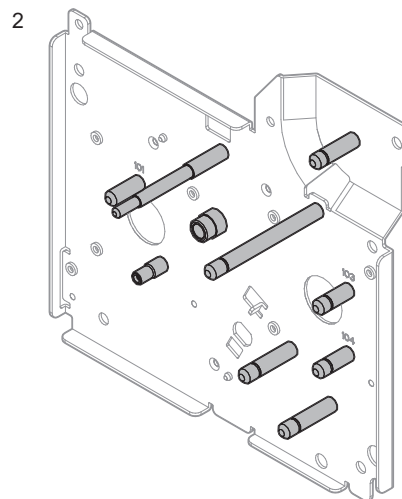
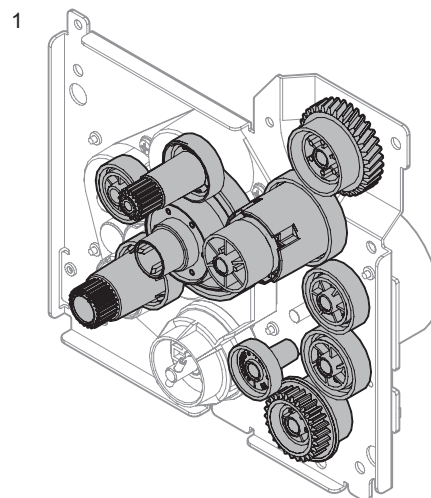
(5) Paper guide

- 1) Clean the paper guide.



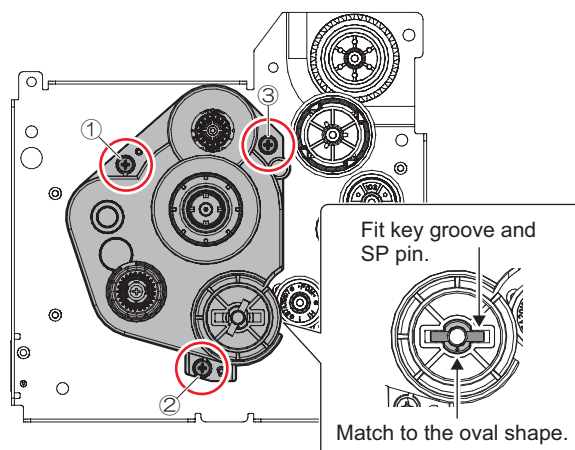
J. Main drive unit

Part No.	Part name
1	Gears
2	Shafts

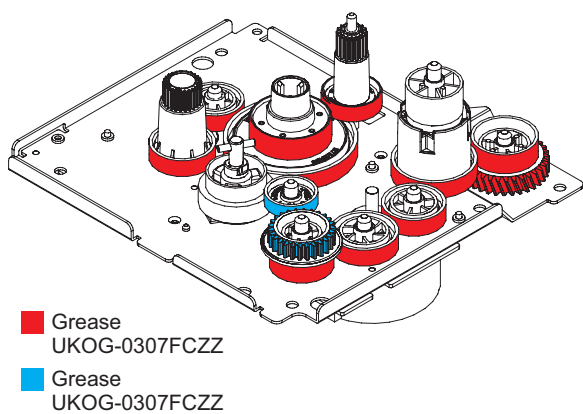


(1) Gears

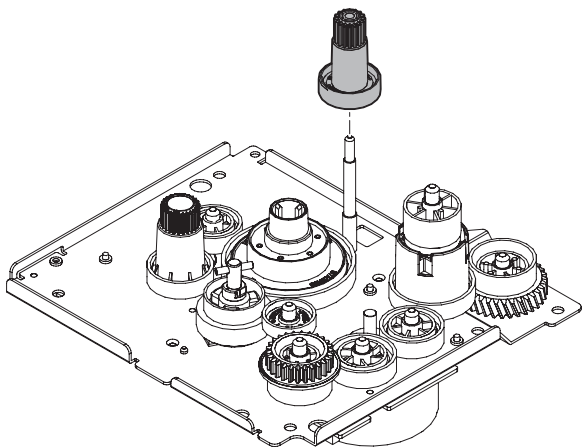
- 1) Remove the cover.



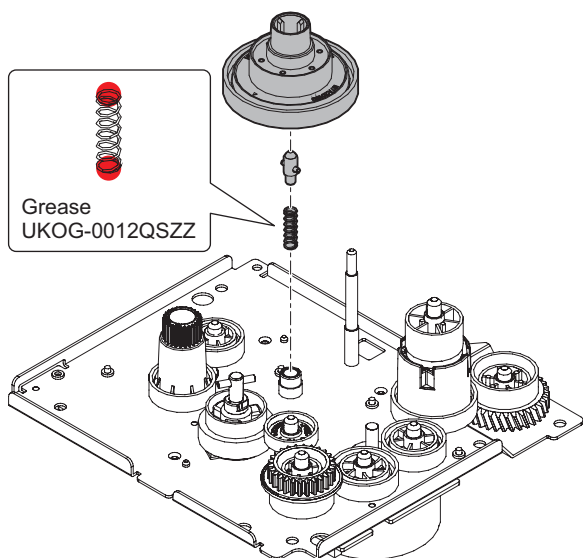
2) Apply grease to the specified position as needed.



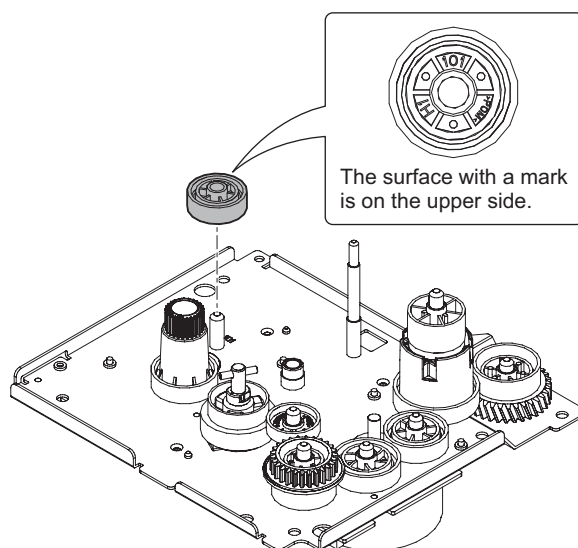
3) Remove the gear.



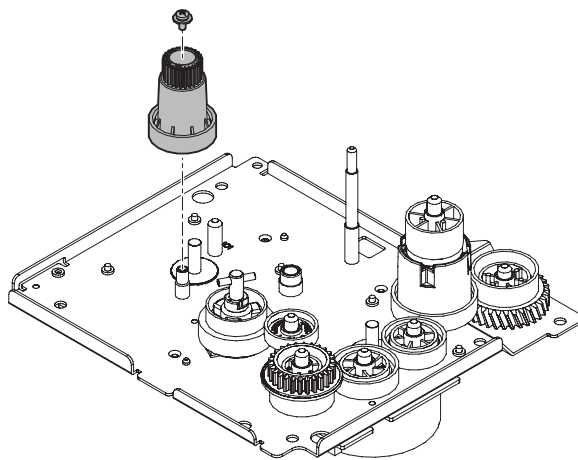
4) Remove the gear, the shaft and the spring.



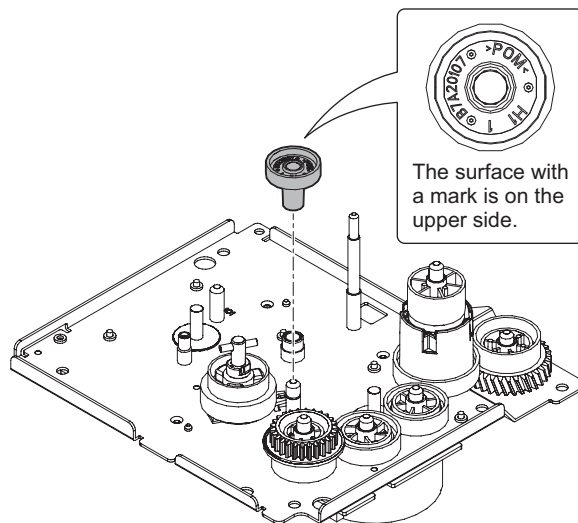
5) Remove the gear.



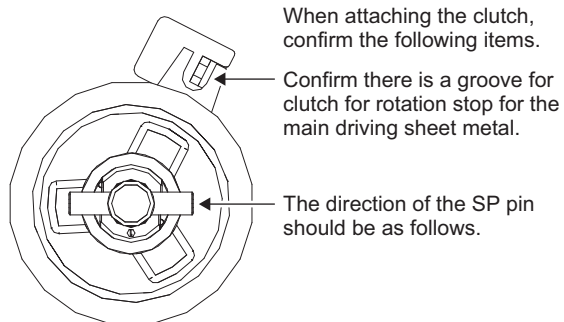
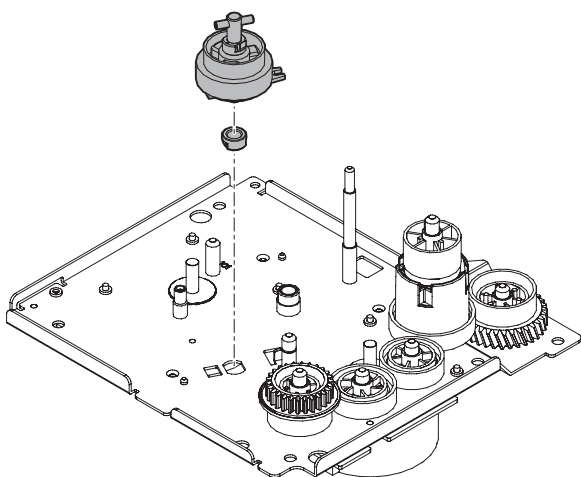
6) Remove the screw and the gear.



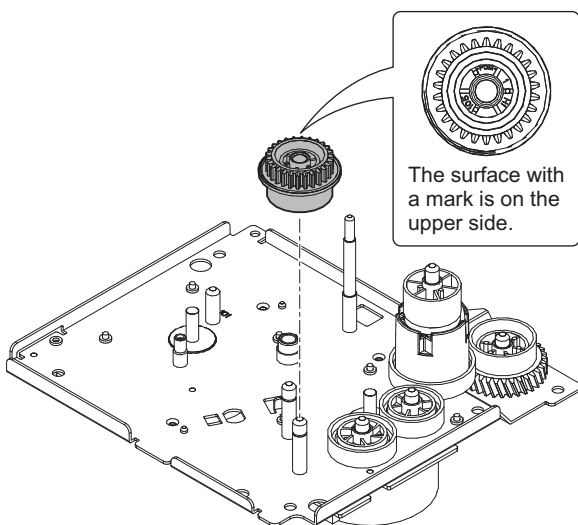
7) Remove the gear.



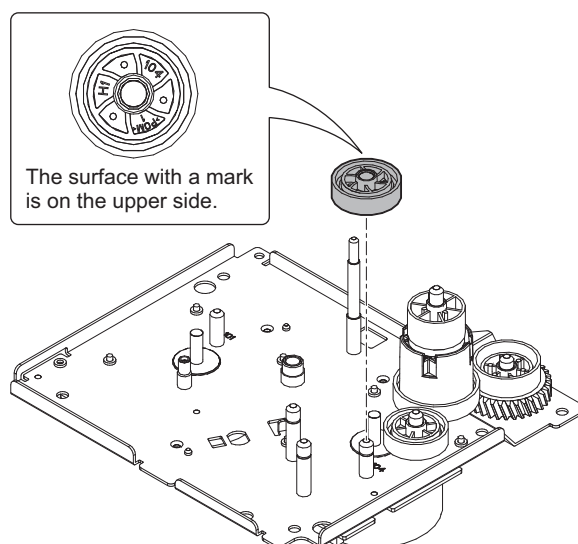
8) Remove the clutch and the bearing.



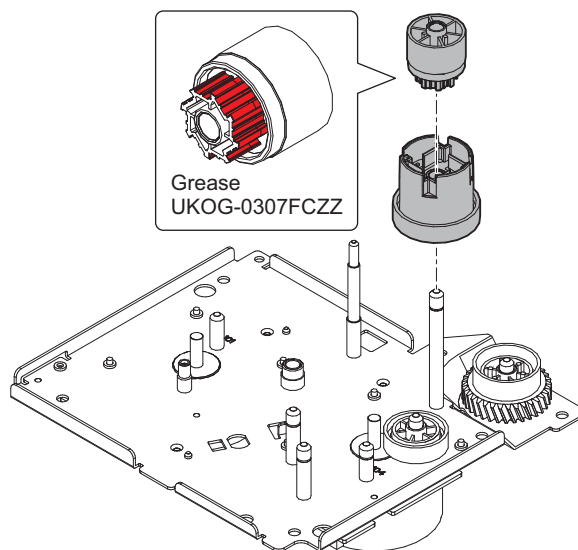
9) Remove the gear.



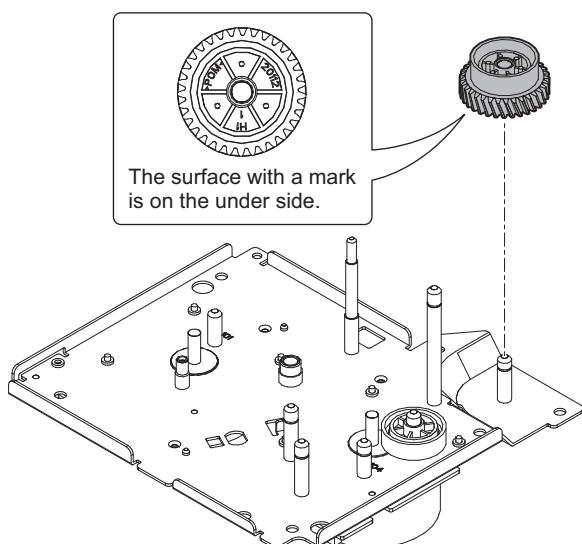
10) Remove the gear.



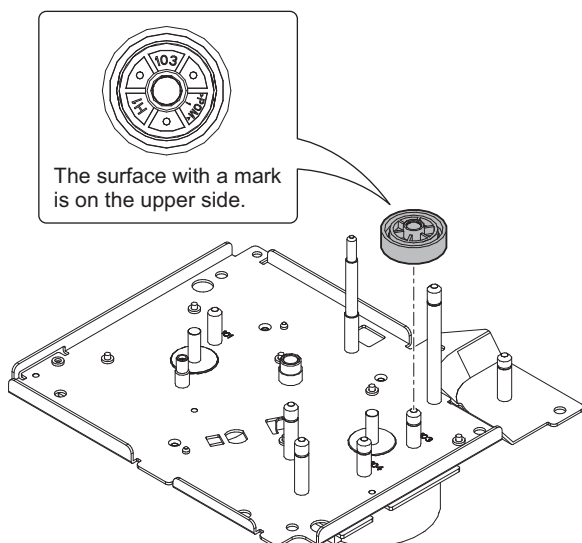
11) Remove the gear.
Apply grease to the specified position as needed.



12) Remove the gear.



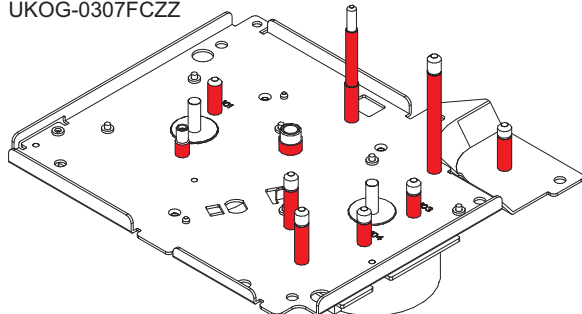
13) Remove the gear.



(2) Shafts

1) Apply grease to the specified position as needed.

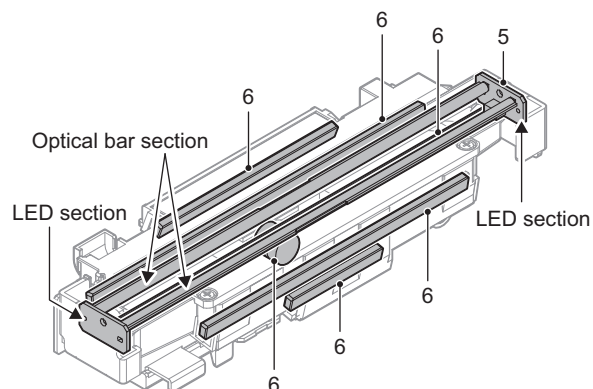
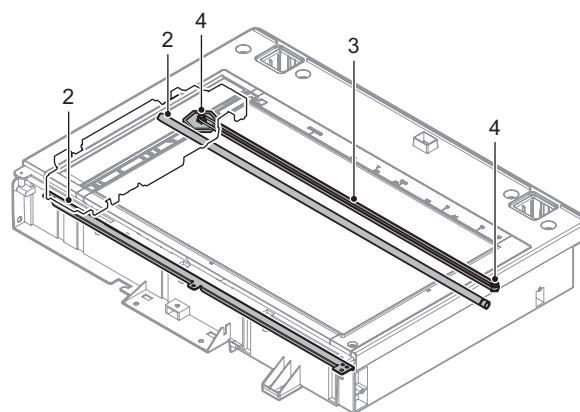
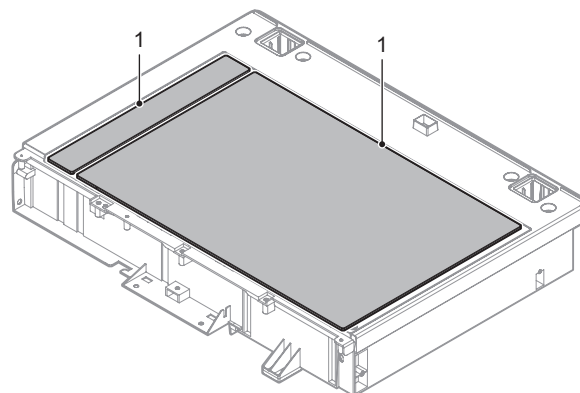
Grease
UKOG-0307FCZZ



K. Scanner unit (35/37 ppm machine)

Part No.	Part name
1	Table glass, SPF glass
2	Shaft, rail (grease)
3	Drive belt
4	Drive gear, pulley
5	Scanner lamp
6	Mirror, lens (Inside the carriage)

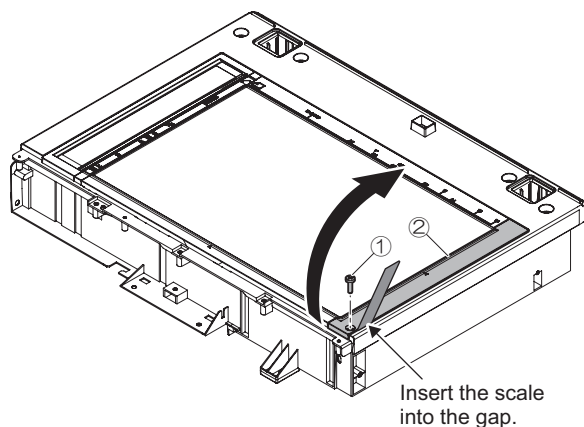
*Refer the Service Information (DCE-1239)



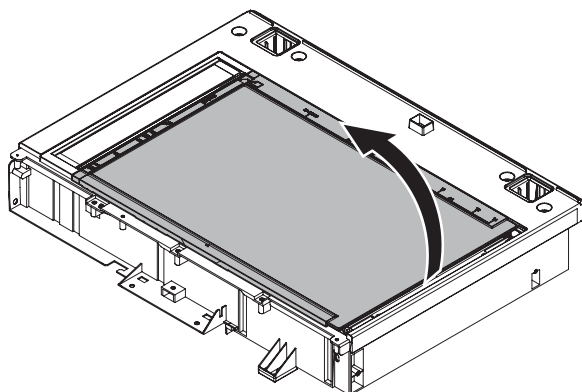
(1) Table glass, SPF glass

- 1) Remove the screw and the table glass holder.

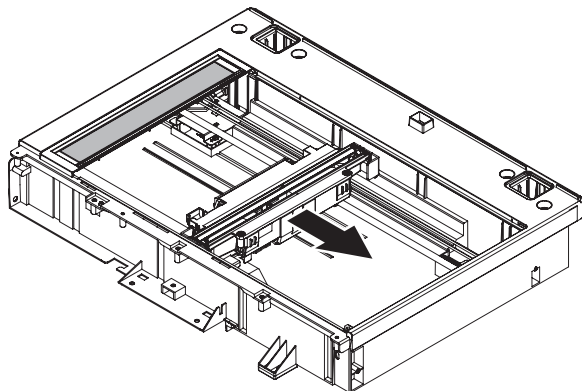
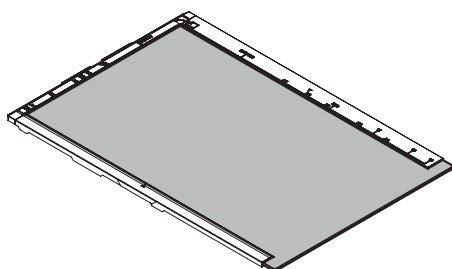
NOTE: When removing the table glass holder, pay attention to double sided tape. Reuse double sided tape.



- 2) Remove the table glass.



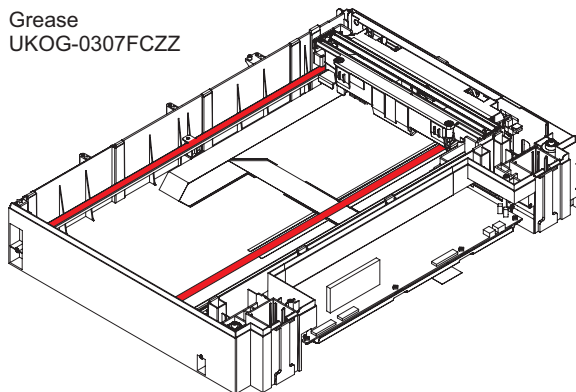
- 3) Clean the table glass and the SPF glass.



(2) Shaft, rail (grease)

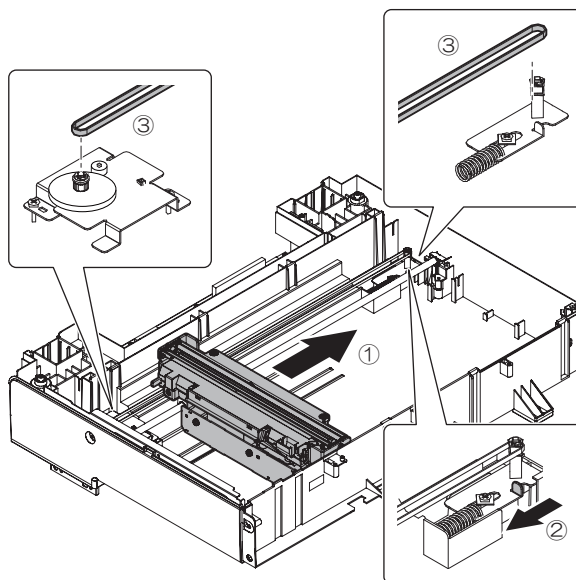
- 1) Apply grease to the specified position when checking.

Grease
UKOG-0307FCZZ



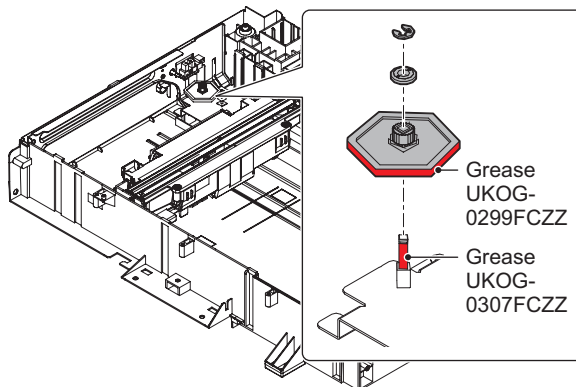
(3) Drive belt

- 1) Remove the drive belt.



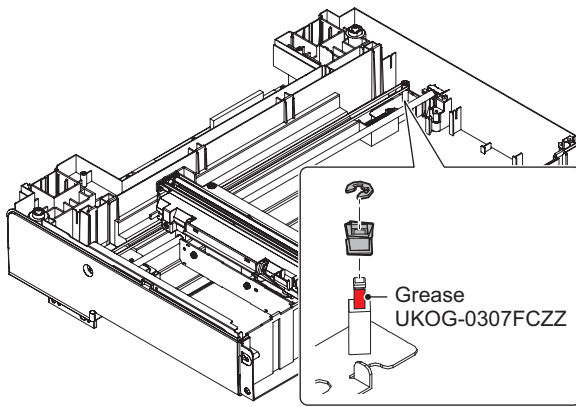
(4) Drive gear, pulley

- 1) Remove the drive gear.



3 : '21/Dec.

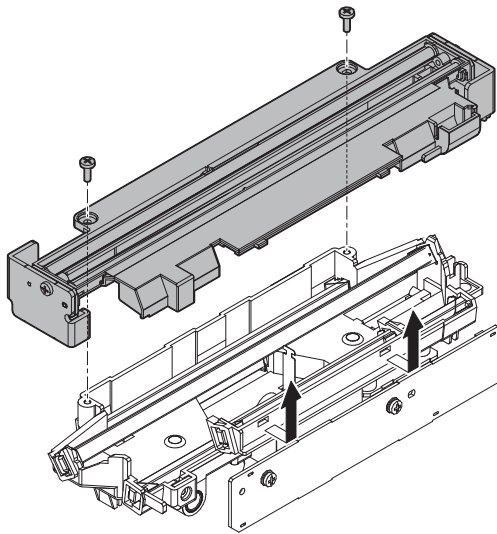
2) Remove the pulley.



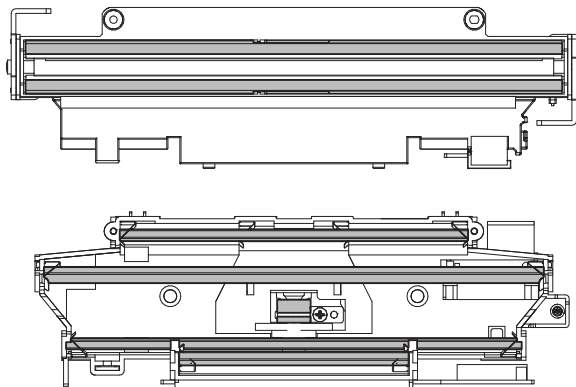
(5) Scanner lamp

(6) Mirror, lens (Inside the carriage)

1) Remove the LED PWB plate.



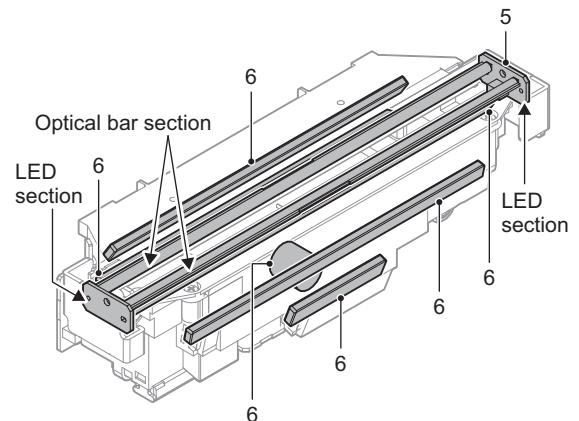
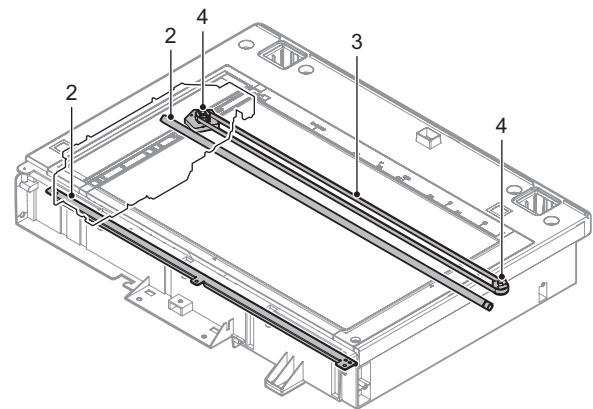
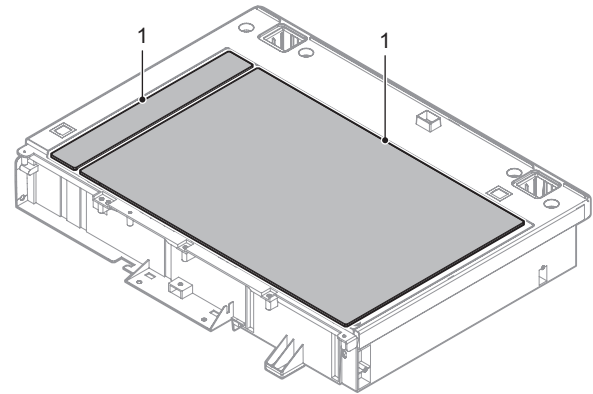
2) Clean the scanner lamp, the mirror and the lens.



L. Scanner unit (45/47 ppm machine)

Part No.	Part name
1	Table glass, SPF glass
2	Shaft, rail (grease)
3	Drive belt
4	Drive gear, pulley
5	Scanner lamp
6	Mirror, lens (Inside the carriage)

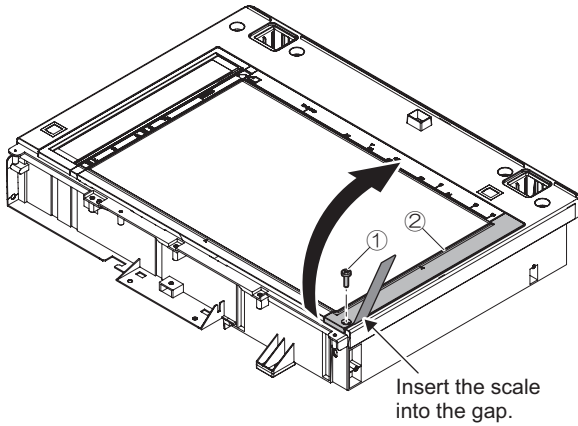
*Refer the Service Information (DCE-1239)



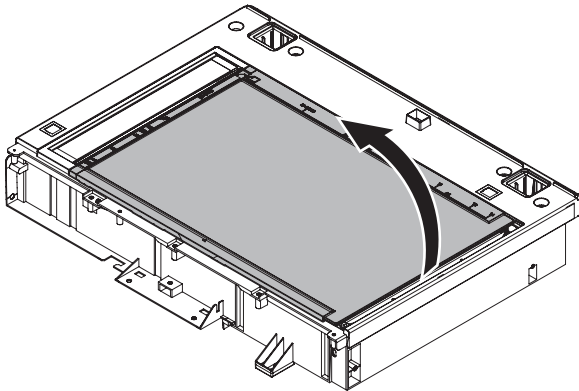
(1) Table glass, SPF glass

- 1) Remove the screw and the table glass holder.

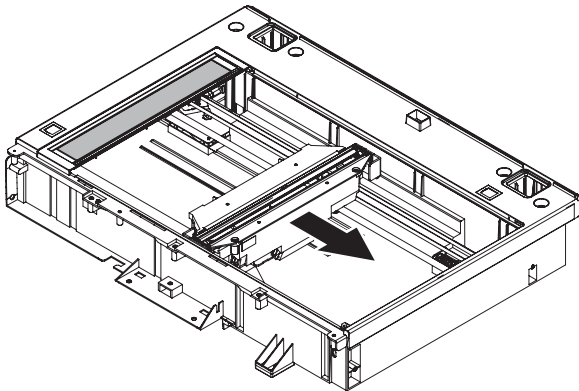
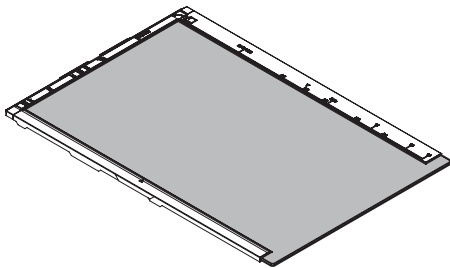
NOTE: When removing the table glass holder, pay attention to double sided tape. Reuse double sided tape.



- 2) Remove the table glass.



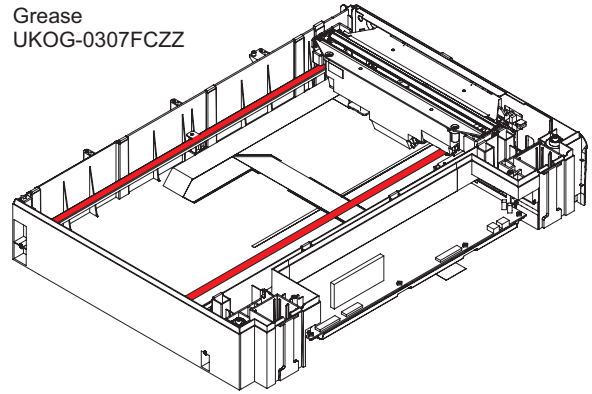
- 3) Clean the table glass and the SPF glass.



(2) Shaft, rail (grease)

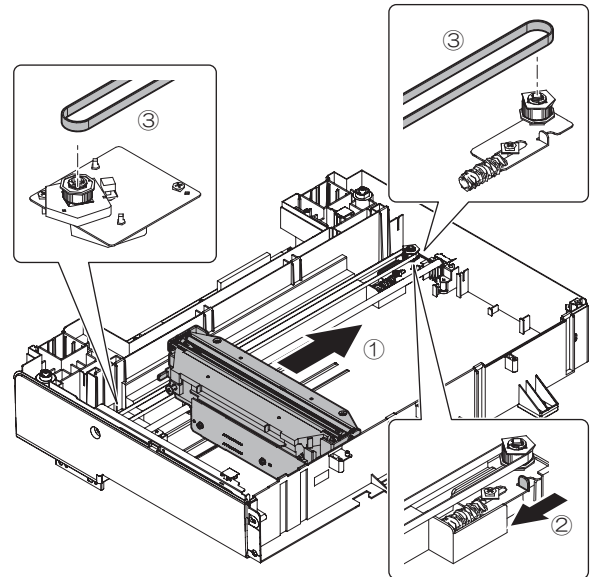
- 1) Apply grease to the specified position when checking.

Grease
UKOG-0307FCZZ



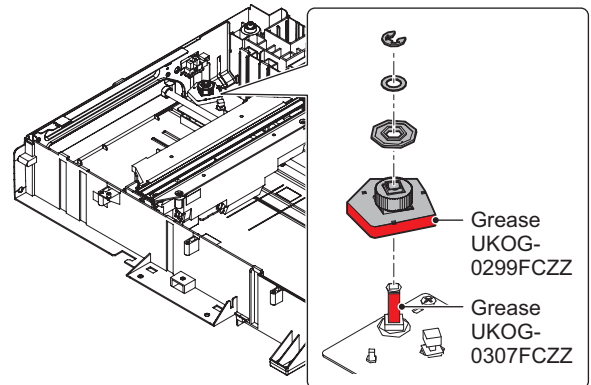
(3) Drive belt

- 1) Remove the drive belt.

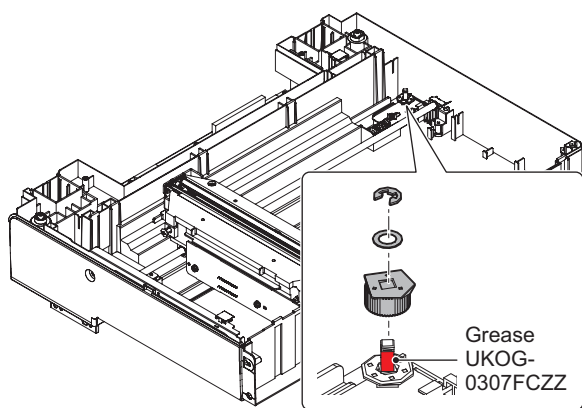


(4) Drive gear, pulley

- 1) Remove the drive gear.



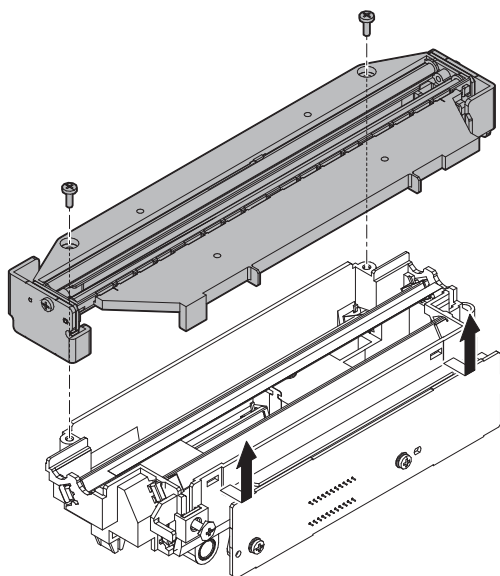
- 2) Remove the pulley.



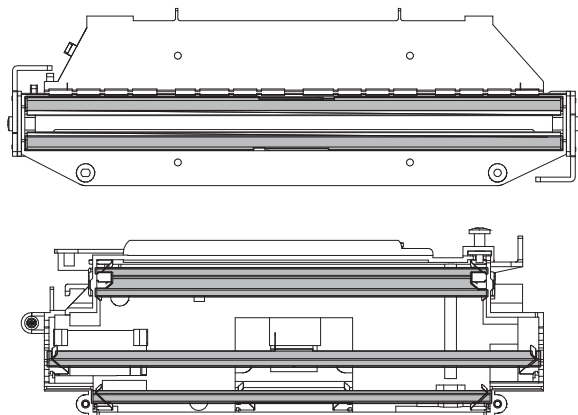
(5) Scanner lamp

(6) Mirror, lens (Inside the carriage)

- 1) Remove the LED PWB plate.

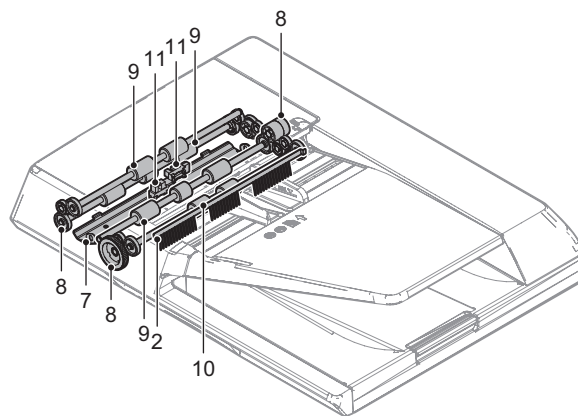
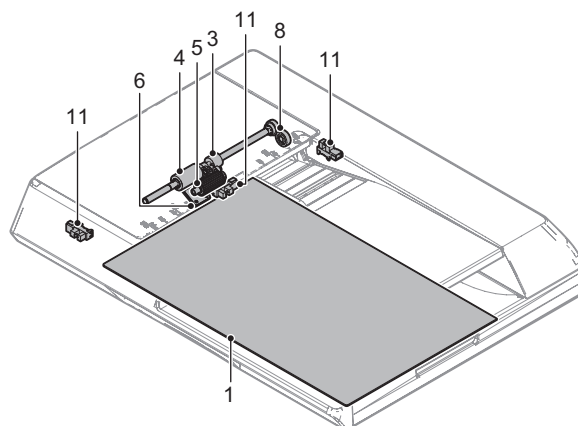


- 2) Clean the scanner lamp, the mirror and the lens.



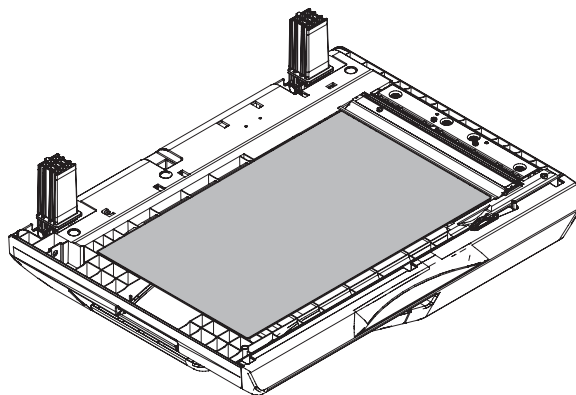
M. RSPF unit

Part No.	Part name
1	OC mat
2	Discharge brush
3	Torque limiter (for pickup)
4	Paper feed roller
5	Paper pickup roller
6	Separation sheet
7	Scan plate
8	Gears
9	Transfer rollers
10	Paper exit roller
11	Sensors



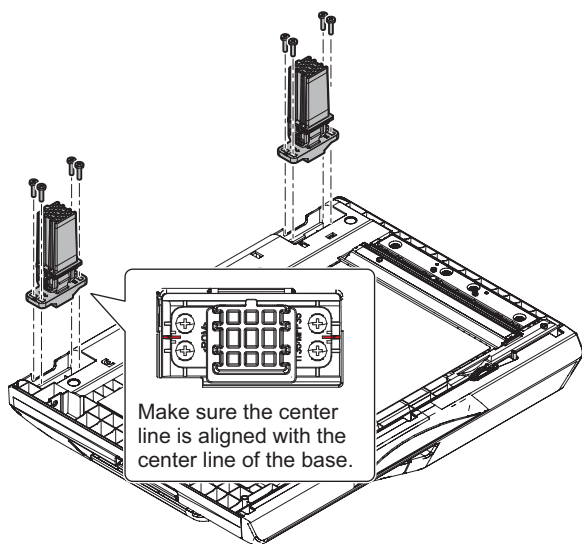
(1) OC mat

- 1) Clean the OC mat.

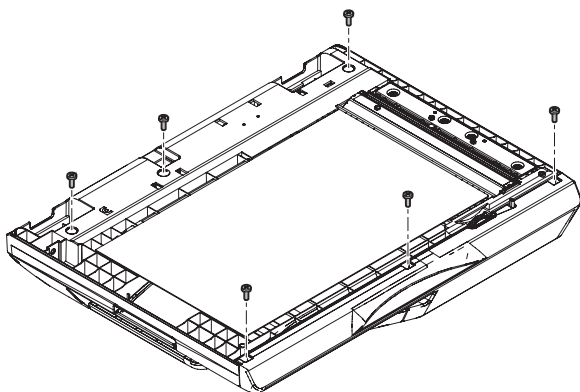


(2) Discharge brush

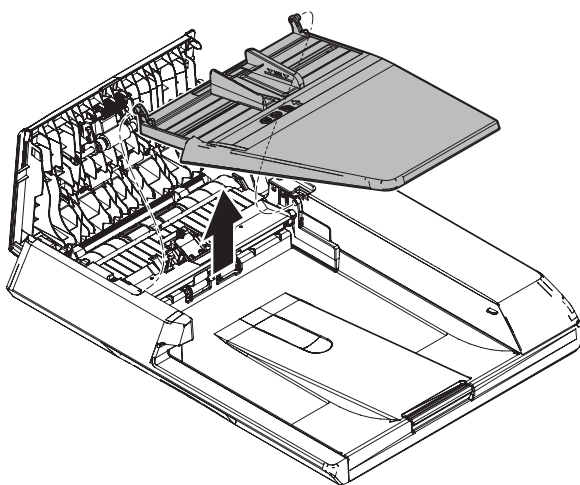
- 1) Remove the hinge.



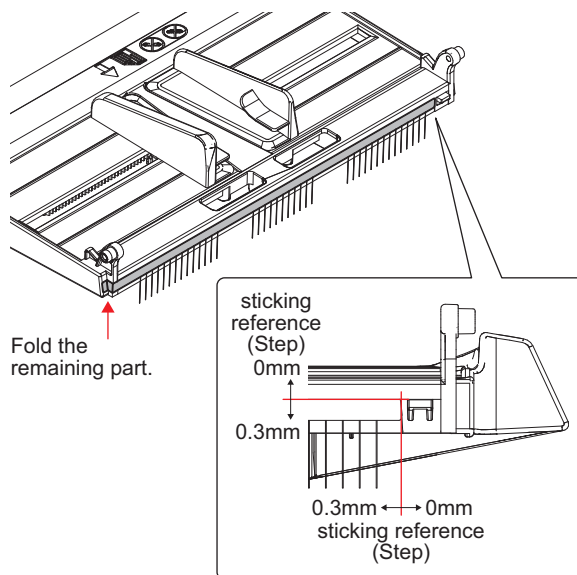
- 2) Remove the screw.



- 3) Open the upper cover and remove the document tray.

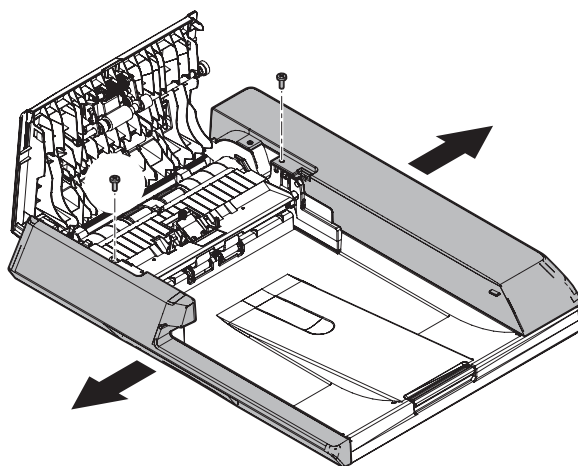


- 4) Remove the discharge brush.

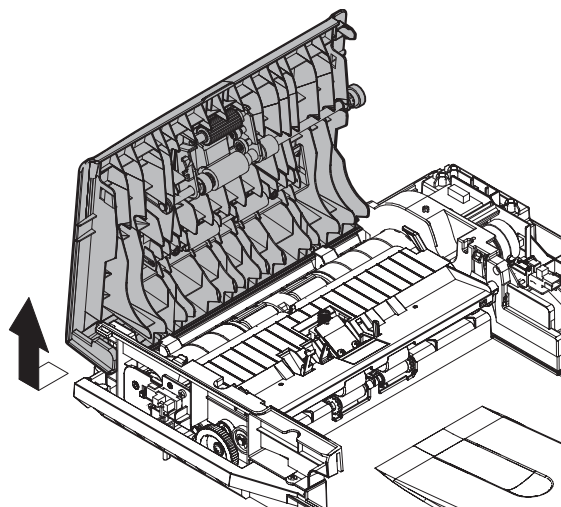


(3) Torque limiter (for pickup)

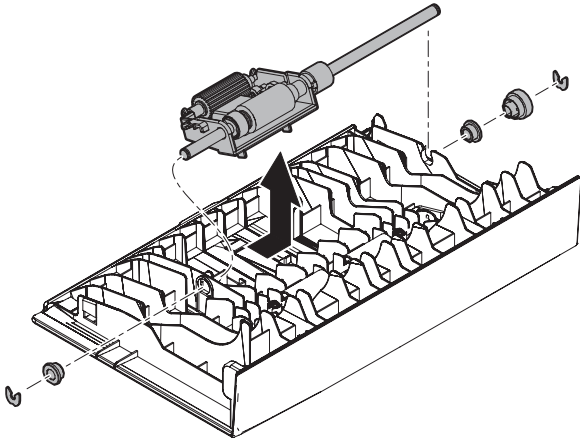
- 1) Remove the front cabinet and rear cabinet.



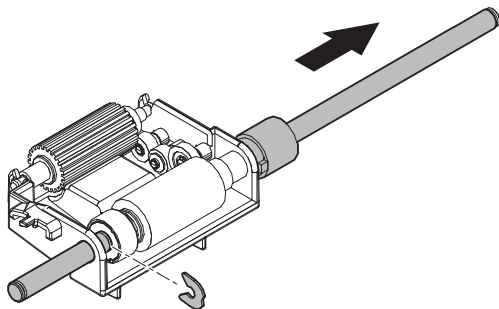
- 2) Remove the upper cover.



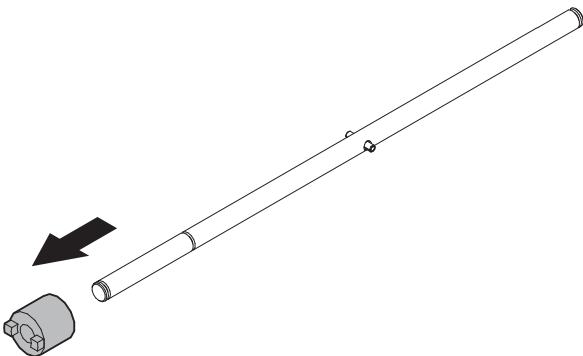
- 3) Remove the e-ring, the gear, the bearing and the pickup assembly.



- 4) Remove the e-ring and the shaft.

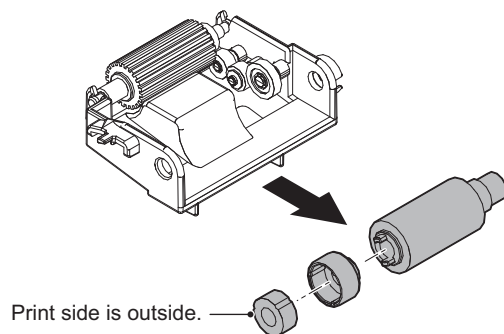


- 5) Remove the torque limiter (for pickup).



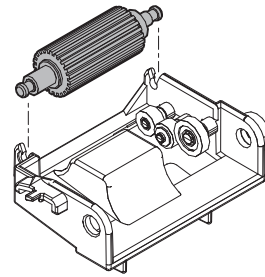
(4) Paper feed roller

- 1) Remove the flywheel and the paper feed roller.

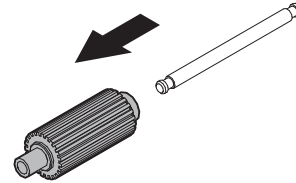


(5) Paper pickup roller

- 1) Remove the paper pickup roller assembly.

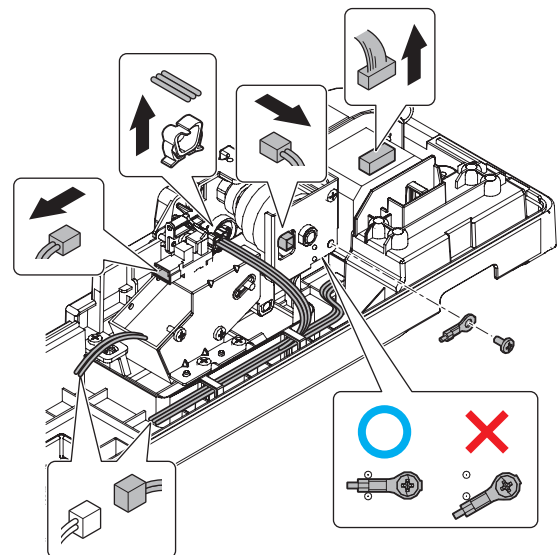


- 2) Remove the paper pickup roller.

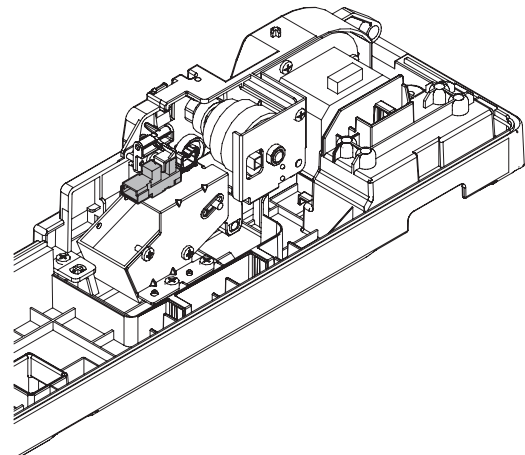


(6) Separation sheet

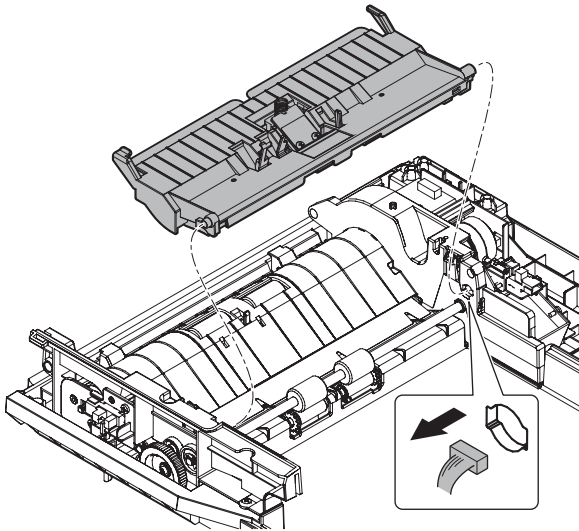
- 1) Disconnect connector and ground wire.



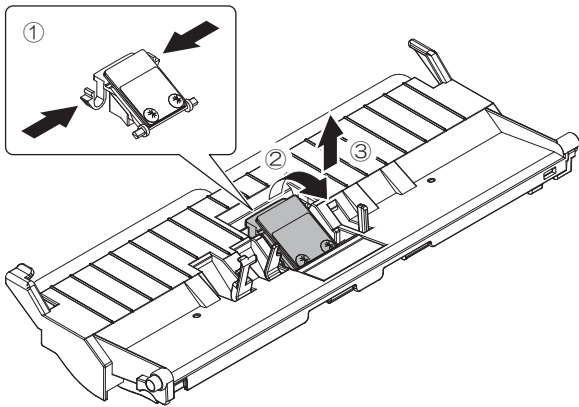
- 2) Check the sensor.



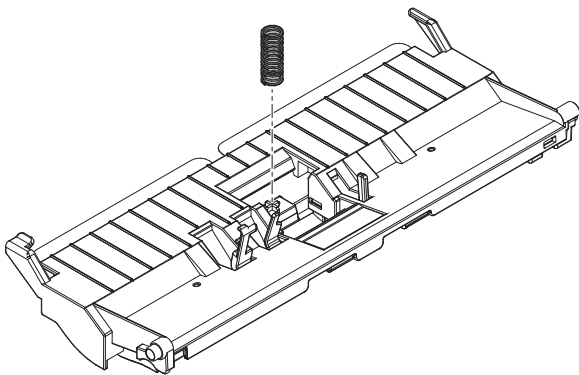
3) Remove the front module.



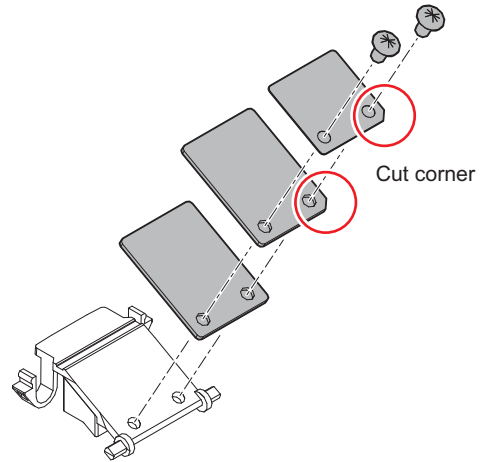
4) Remove the pad assembly.



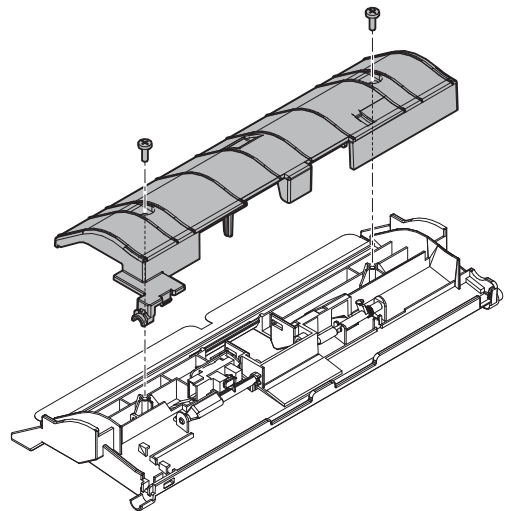
5) Remove the spring.



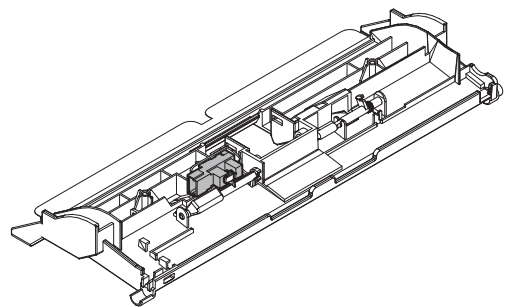
6) Remove the separation sheet.



7) Remove the front cover.

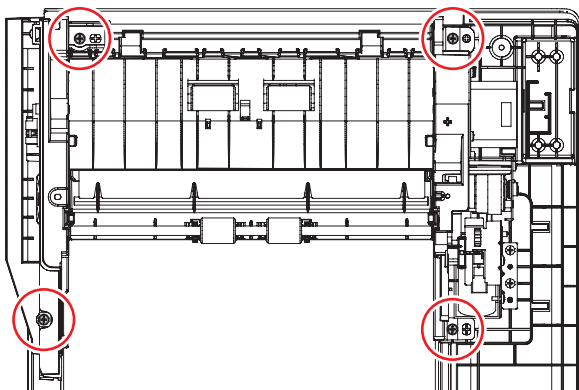


8) Check the sensor.

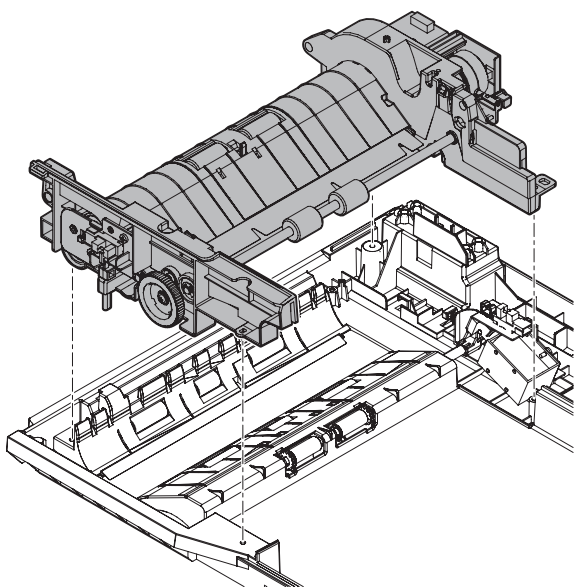


(7) Scan plate

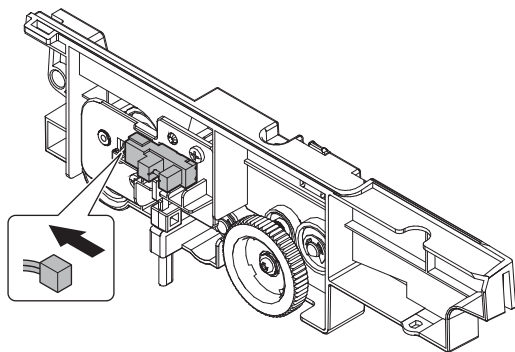
- 1) Remove the screw.



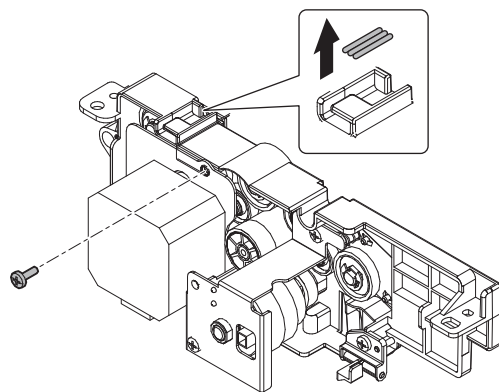
- 2) Remove the frame assembly.



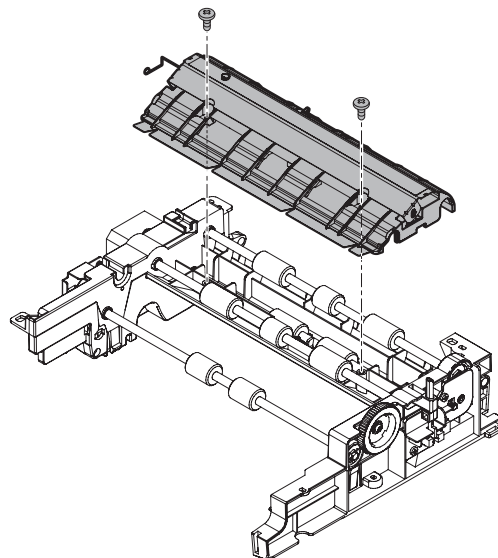
- 3) Disconnect the connector and check the sensor.



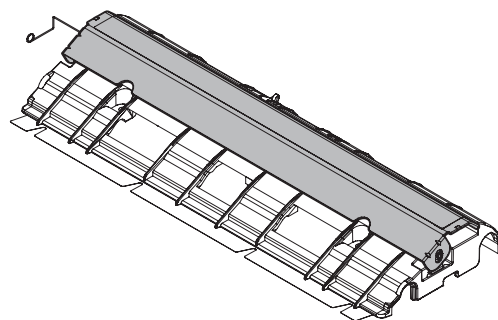
- 4) Remove the screw and remove the harness from the rib.



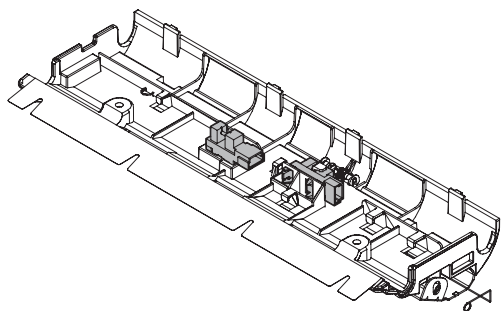
- 5) Remove the lower module.



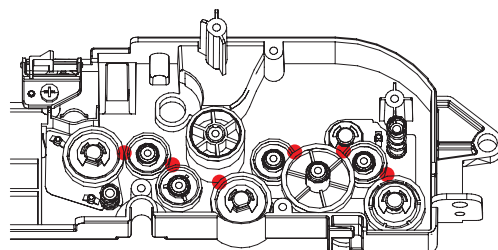
- 6) Clean the scan plate.



7) Check the sensor.



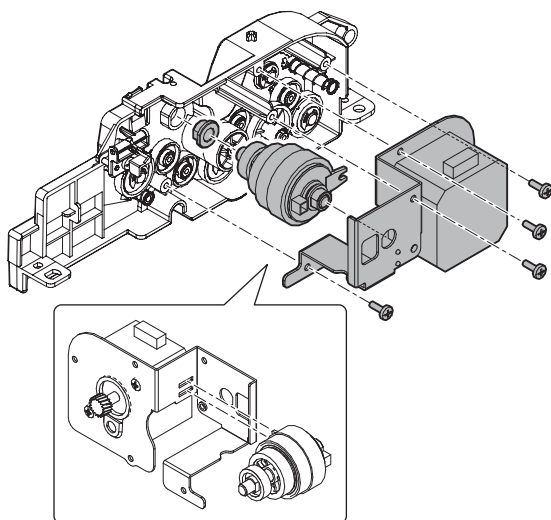
3) Apply grease to the specified position as needed.



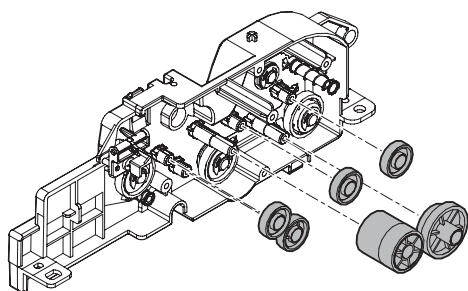
Grease
UKOG-0307FCZZ

(8) Gears

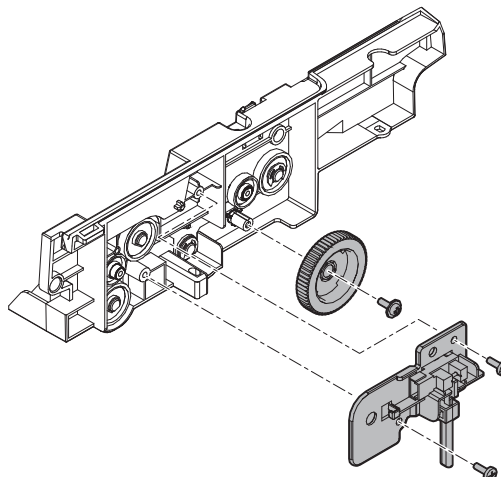
1) Remove the motor and clutch.



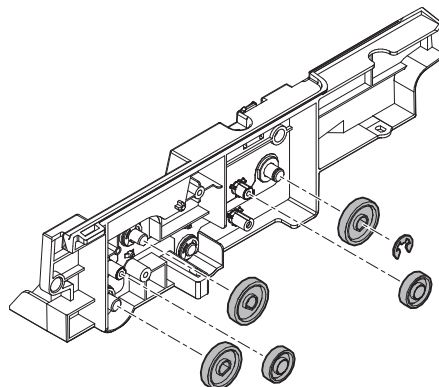
2) Remove the gear.



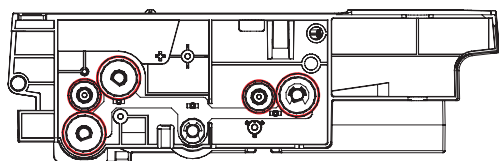
4) Remove the gear and the bracket.



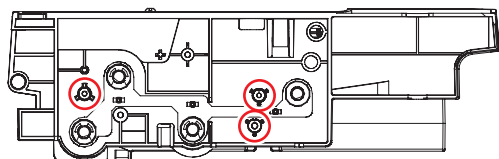
5) Remove the e-ring and the screw.



6) Apply grease to the specified position as needed.

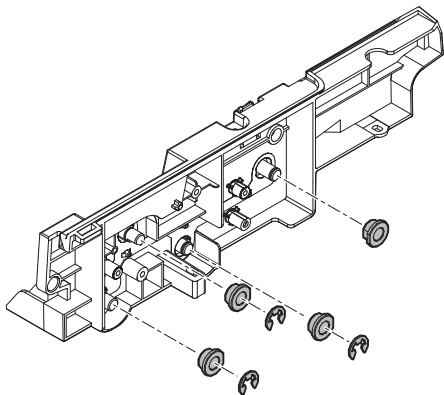


Grease
UKOG-0307FCZZ

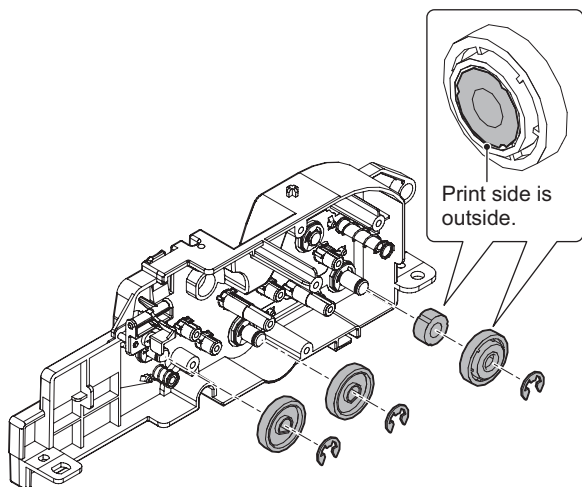


Grease
UKOG-0307FCZZ

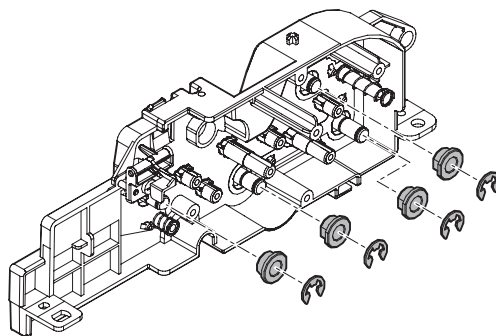
7) Remove the e-ring and bearing.



8) Remove the e-ring and the gear.



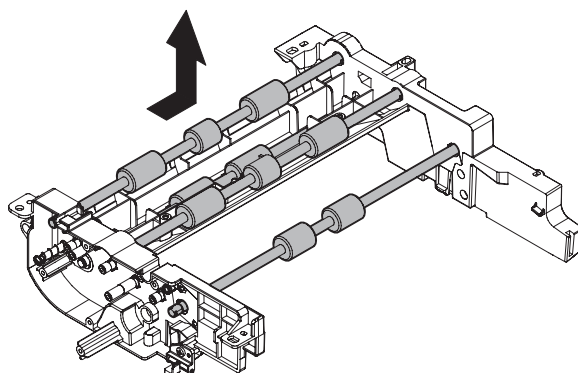
9) Remove the e-ring and bearing.



(9) Transfer rollers

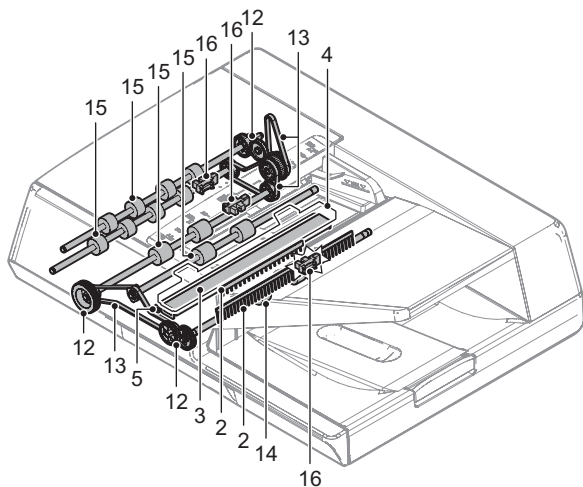
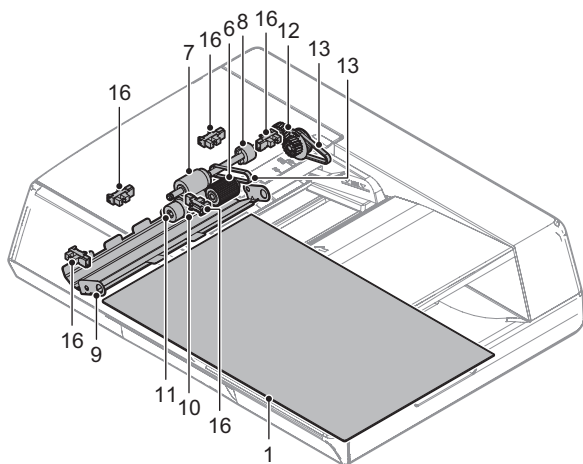
(10) Paper exit roller

1) Remove the transfer rollers and the paper exit roller.



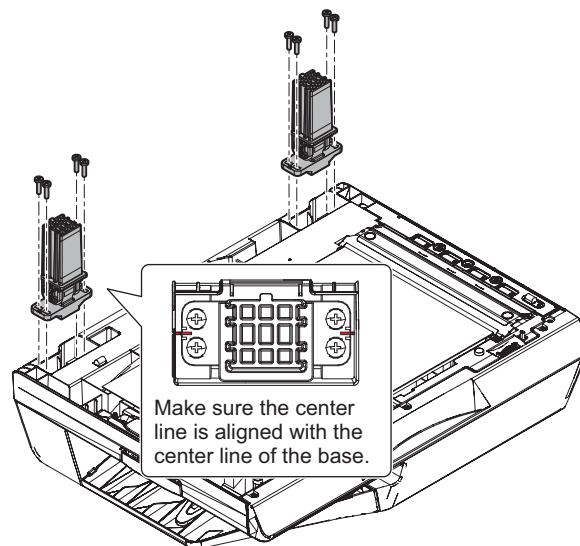
N. DSPF unit

Part No.	Part name
1	OC mat
2	Discharge brushes
3	No.2 scanning section, scanning glass
4	CIS unit
5	No.2 scanning section, white reference glass
6	Paper pickup roller
7	Paper feed roller
8	Torque limiter (for pickup)
9	No.1 scanning plate
10	Separation roller
11	Torque limiter SPF (for separation)
12	Gears
13	belts
14	Paper exit roller
15	Transfer rollers
16	sensors

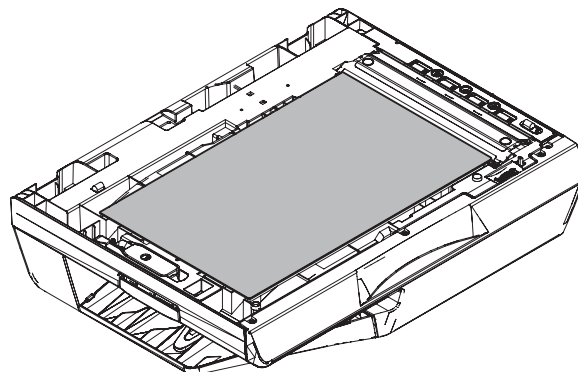


(1) OC mat

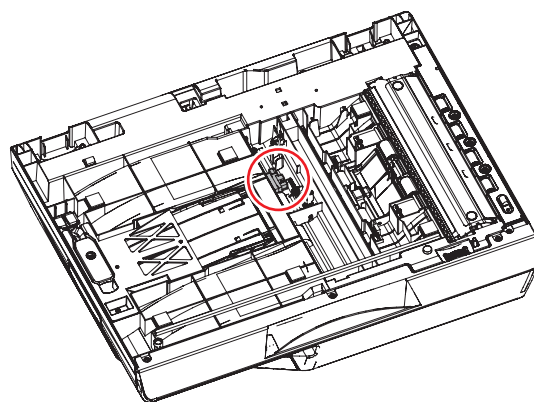
- 1) Remove the hinge assembly.



- 2) Clean the OC mat.

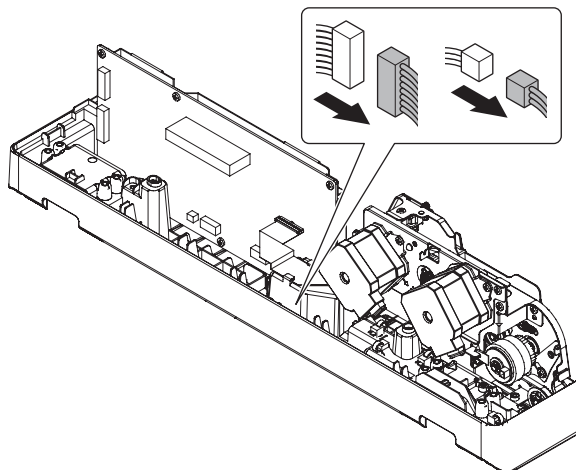
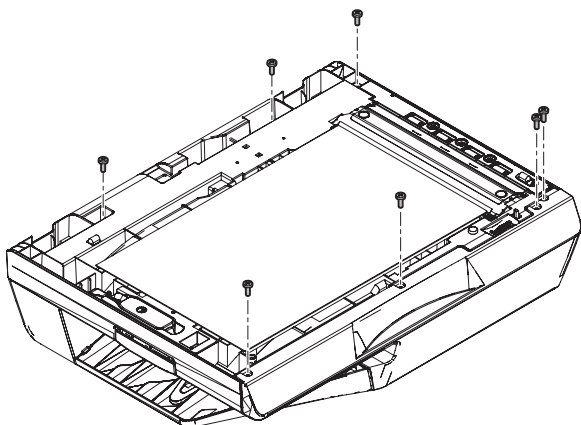


- 3) Remove the OC mat and check the sensor.

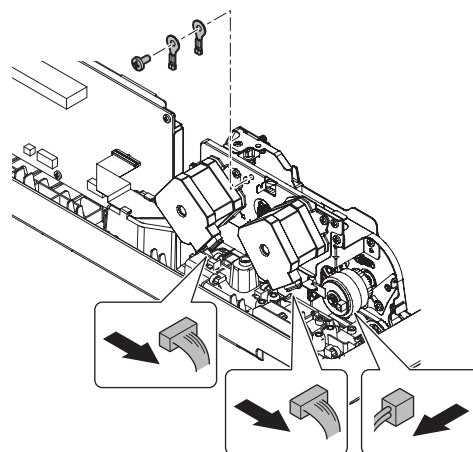
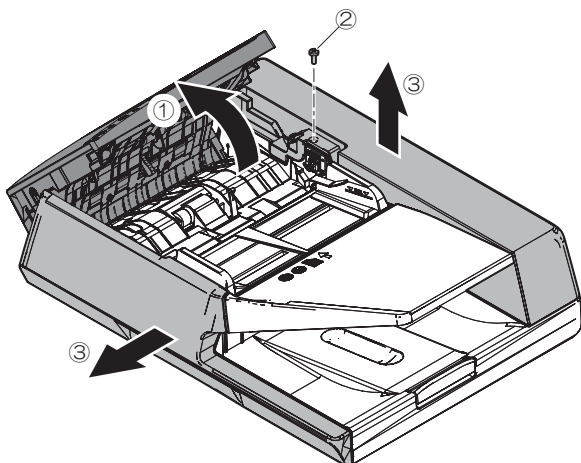


(2) Discharge brush

- 1) Remove the screws.

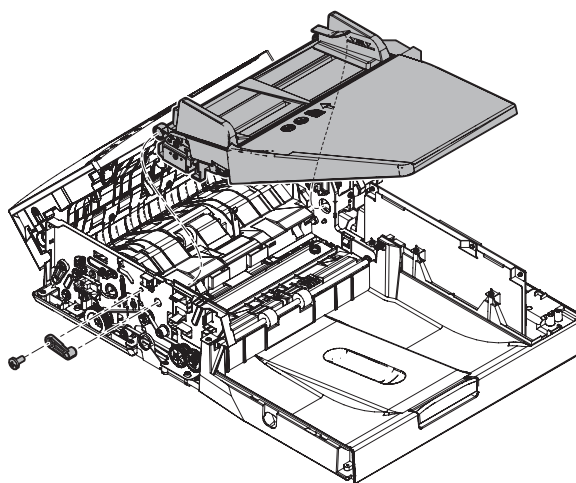
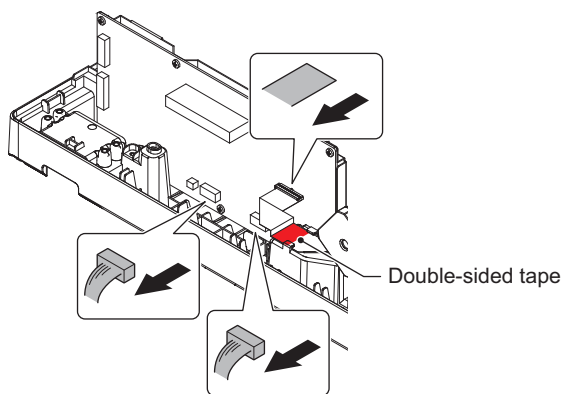


- 2) Open the top cover and remove the screw then, remove the right protection cabinet and the left protection cabinet.

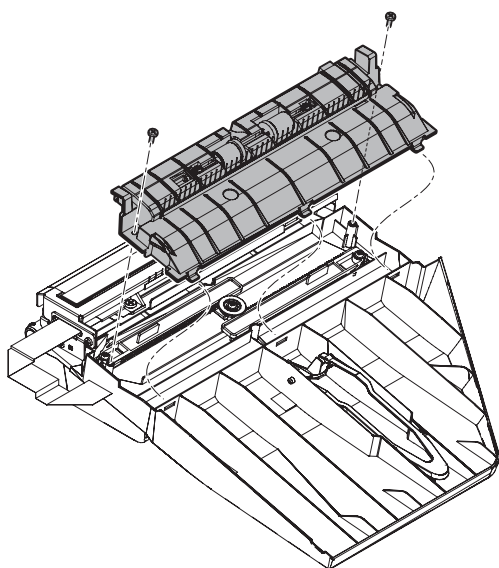


- 4) Remove the screw and the plastic hinge then, remove the input tray assembly.

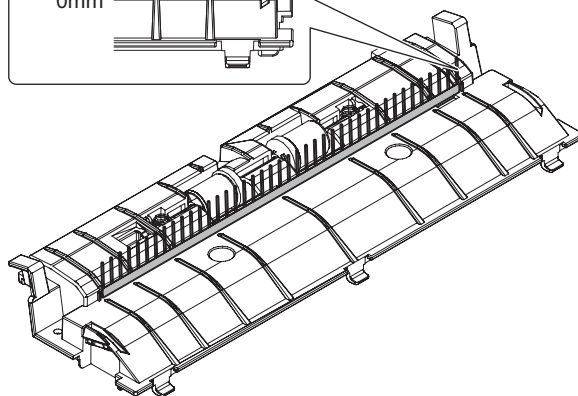
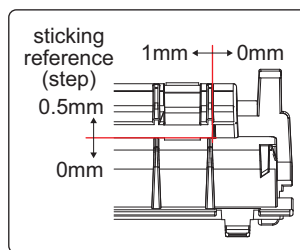
- 3) Disconnect the connector, the FFC and the ground wire.



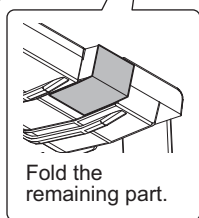
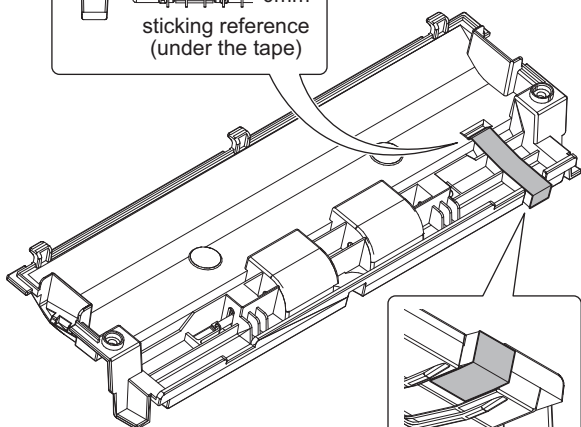
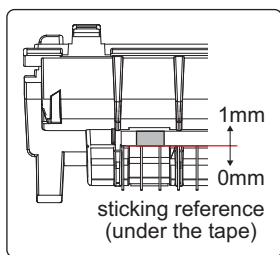
5) Remove the lower cover assembly.



7) Remove the discharge brush.



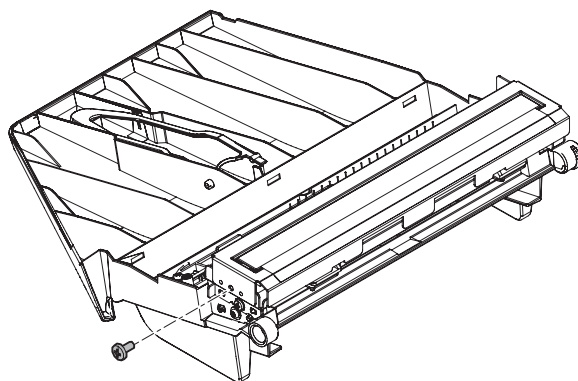
6) Remove the ground tape.



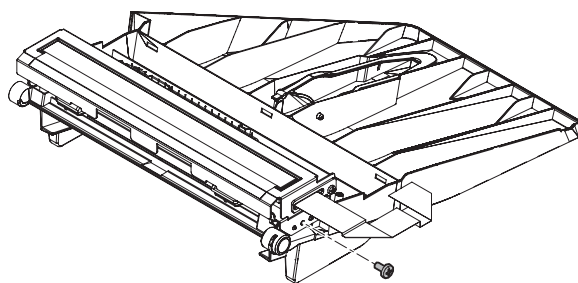
Fold the remaining part.

(3) No.2 scanning section, scanning glass

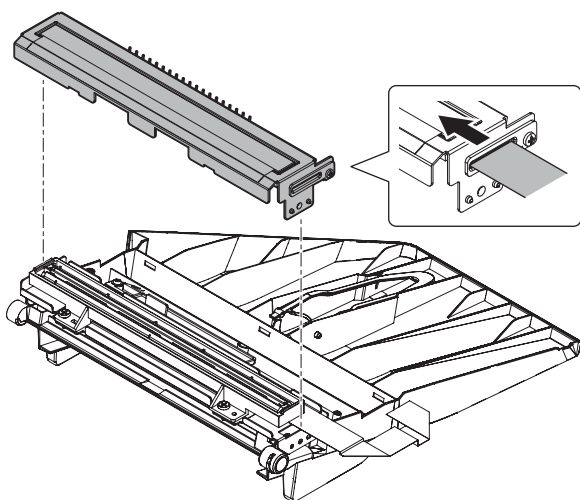
1) Remove the screw.



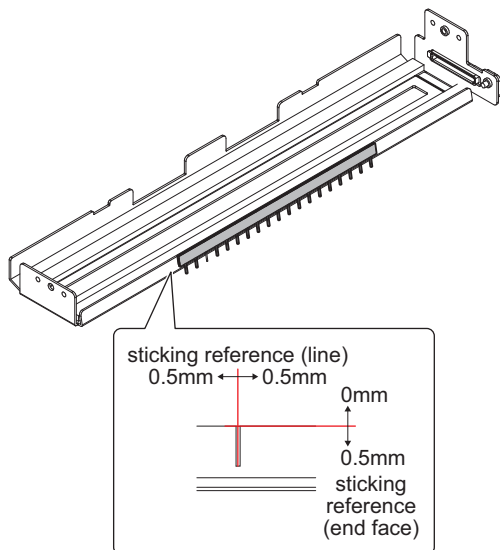
2) Remove the screw.



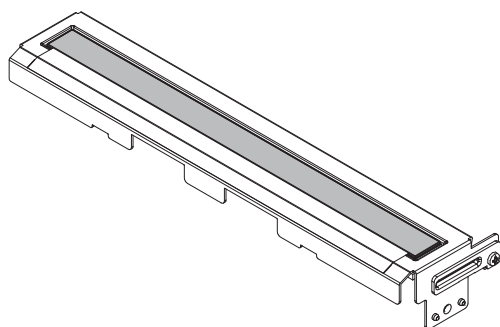
- 3) Remove the CIS paper guide.



- 4) Remove the discharge brush.

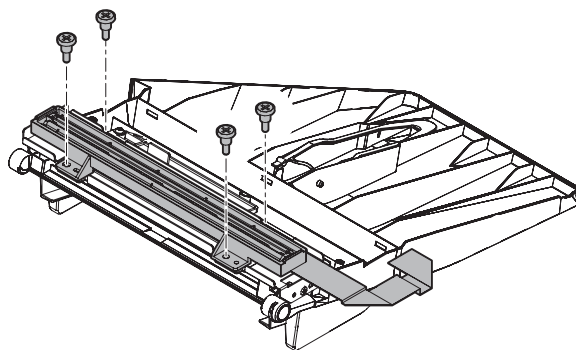


- 5) Clean the no.2 scanning section, scanning glass.

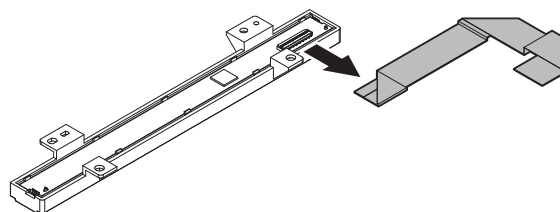


(4) CIS unit

- 1) Remove the CIS unit.

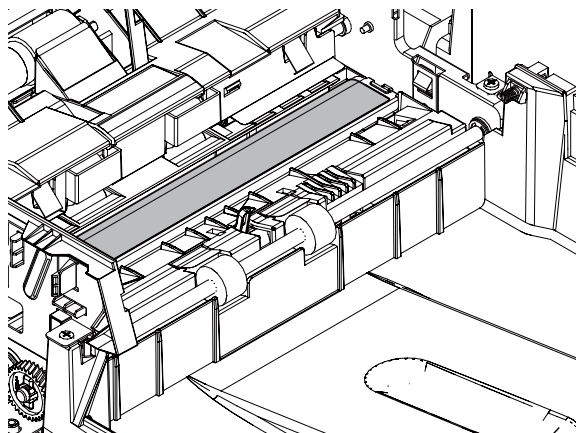


- 2) Remove the FFC.



(5) No.2 scanning section, white reference glass

- 1) Clean the no.2 scanning section, white reference glass.

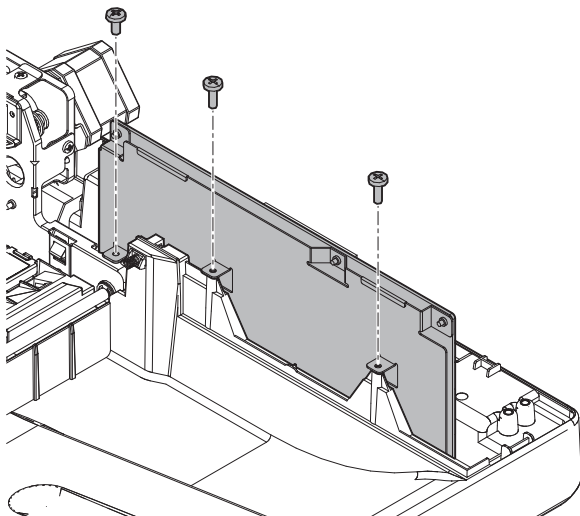


(6) Paper pickup roller

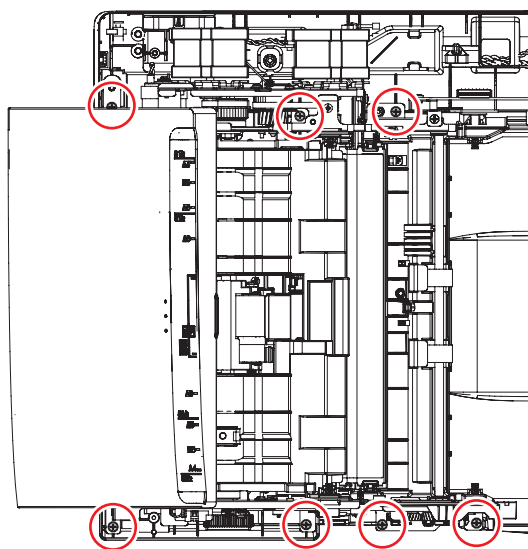
(7) Paper feed roller

(8) Torque limiter (for pickup)

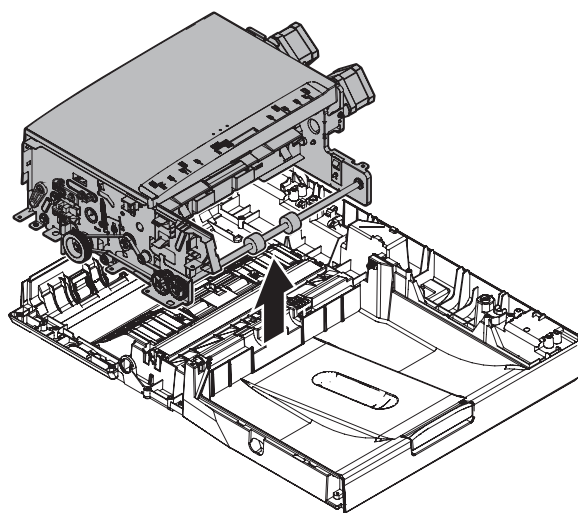
1) Remove the DSPF CNT PWB fix plate unit.



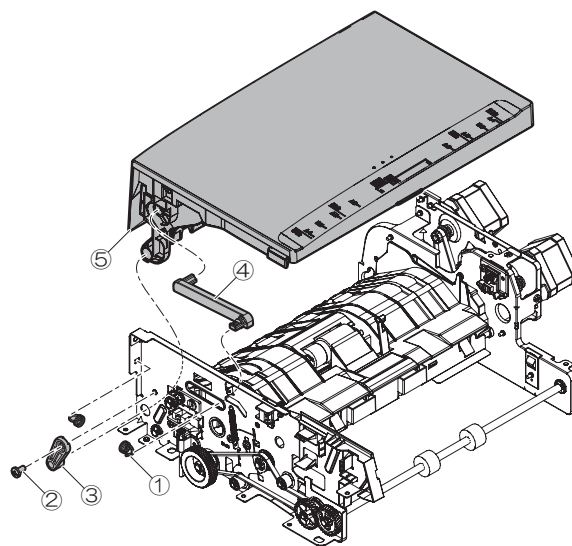
2) Remove the screws.



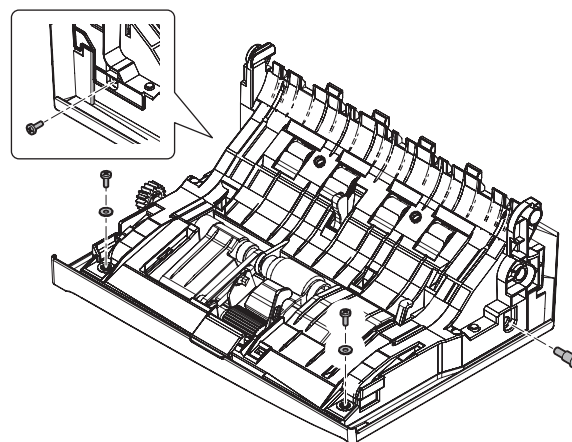
3) Remove the drive unit.



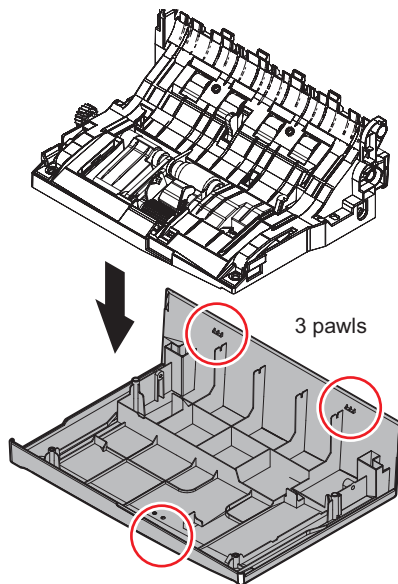
4) Remove the screw and the hinge then, remove the arm and the top cover assembly.



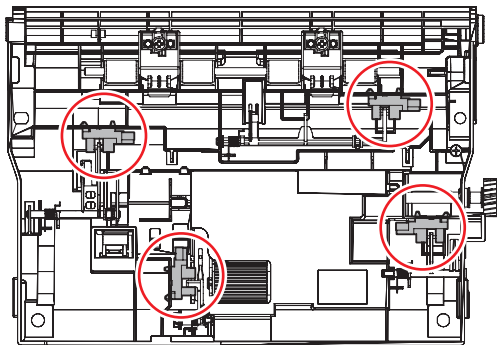
5) Remove the screws, the washers and the step screw.



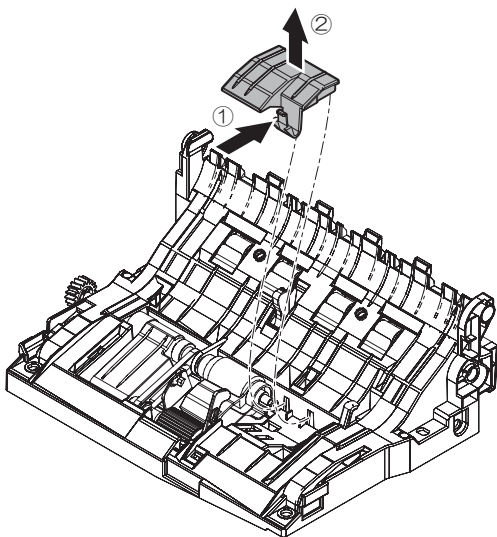
6) Remove the top cover.



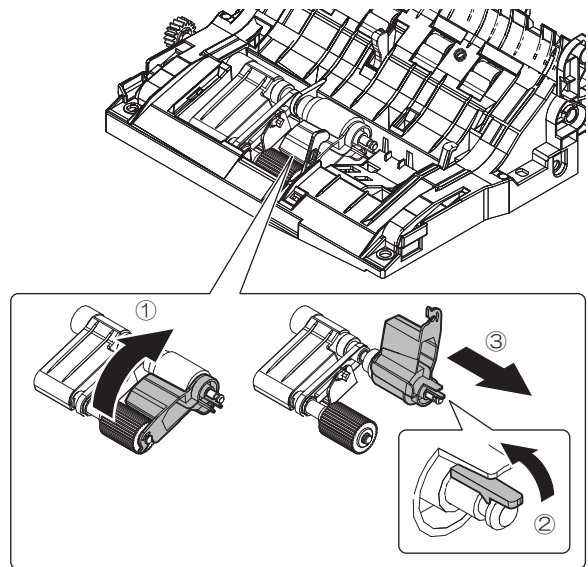
7) Check the sensors.



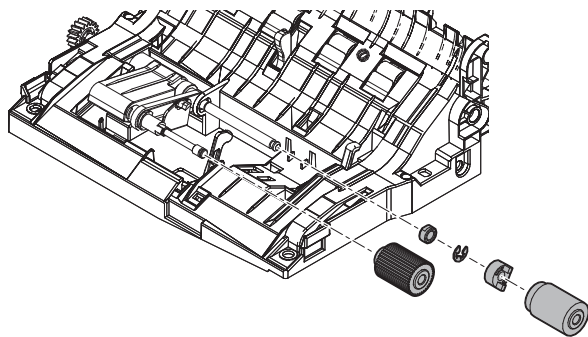
8) Remove the cover.



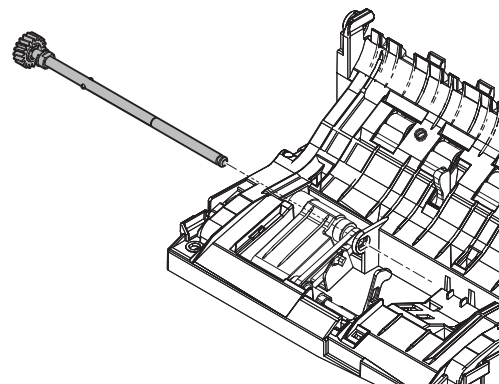
9) Remove the paper arm.



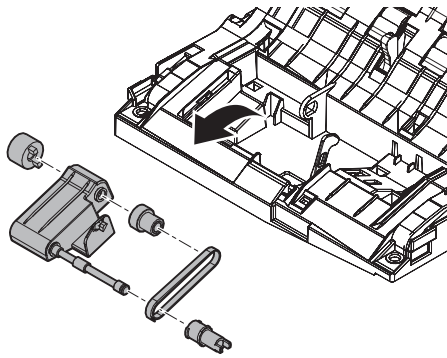
10) Remove the paper pickup roller, the paper feed roller, the 1 way coupling, the e-ring and the bearing.



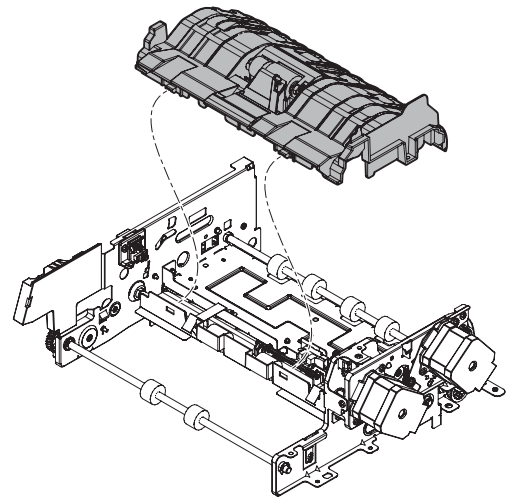
11) Remove the shaft assembly.



12) Remove the pulleys, the belt and the torque limiter (for pickup).

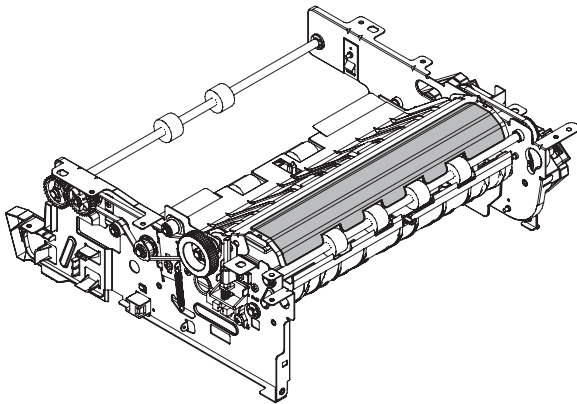


2) Remove the separation unit.

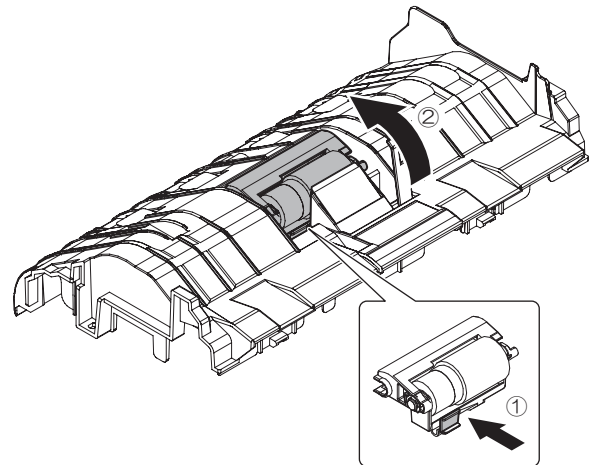


(9) No.1 scanning plate

1) Clean the no.1 scanning plate.



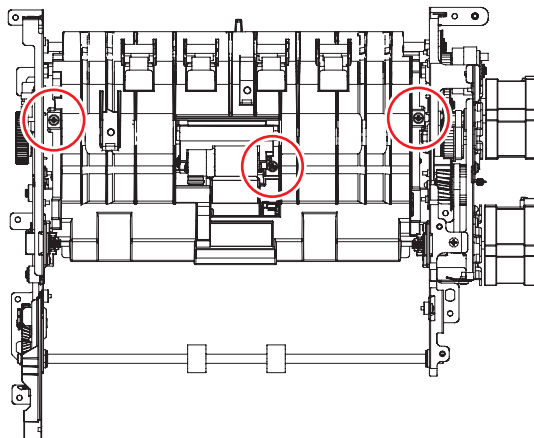
3) Rise the separator assembly.



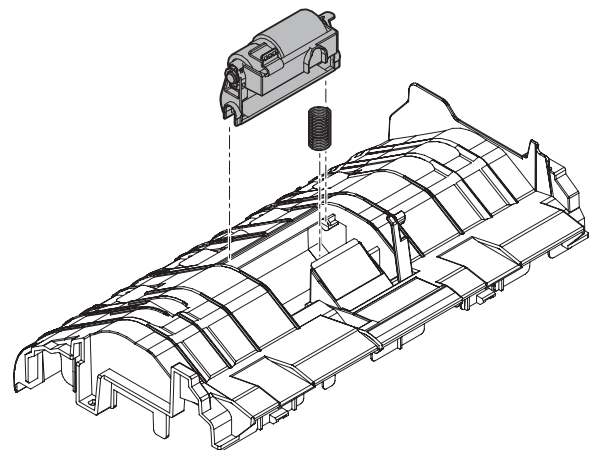
(10) Separation roller

(11) Torque limiter SPF (for separation)

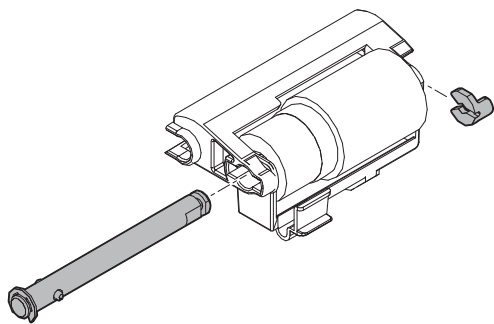
1) Remove the screws.



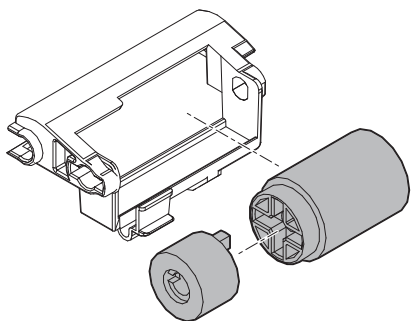
4) Remove the separator assembly and the spring.



- 5) Remove the e-ring and the shaft assembly.



- 6) Remove the separation roller and the torque limiter SPF (for separation).



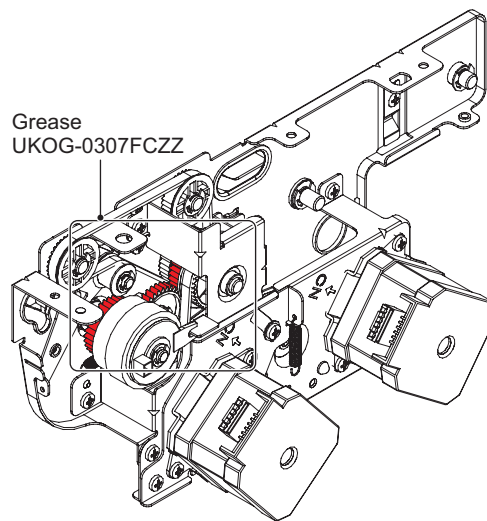
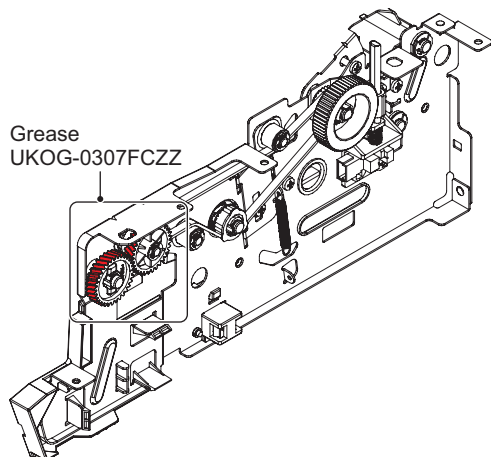
(12) Gears

(13) belts

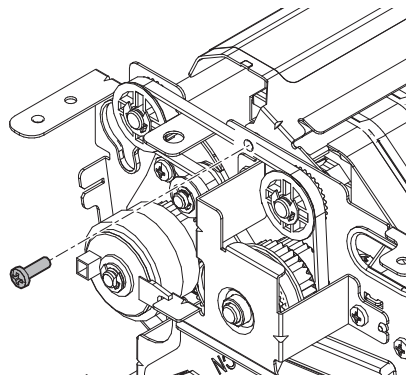
- 1) Apply grease to the specified position as needed.

Important

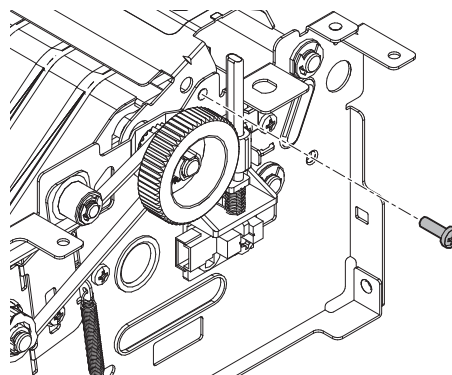
Be careful not to apply grease on the belt.



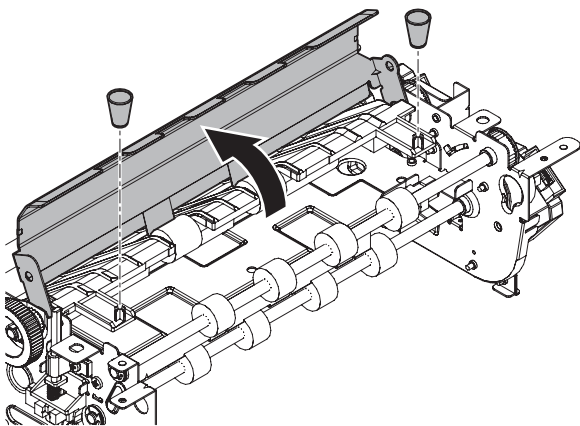
- 2) Remove the screw.



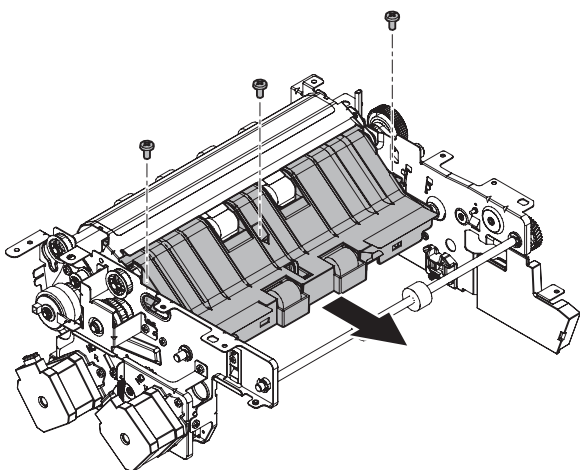
- 3) Remove the screw.



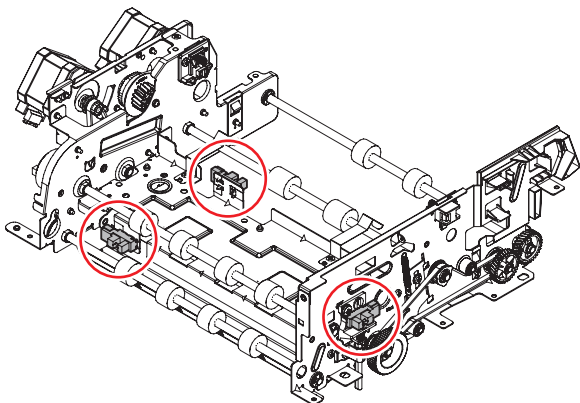
4) Open the no.1 scanning plate then, remove the springs.



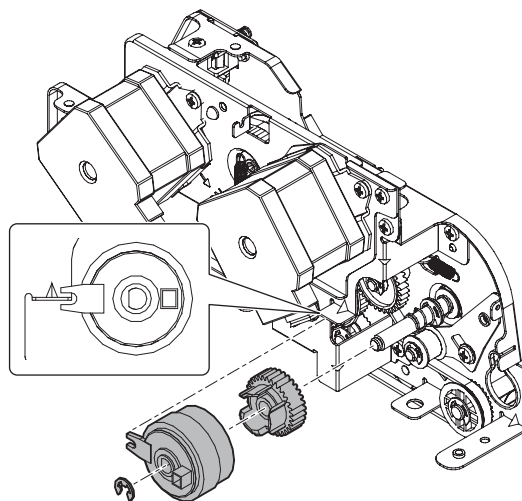
5) Remove the screws and remove the paper guide.



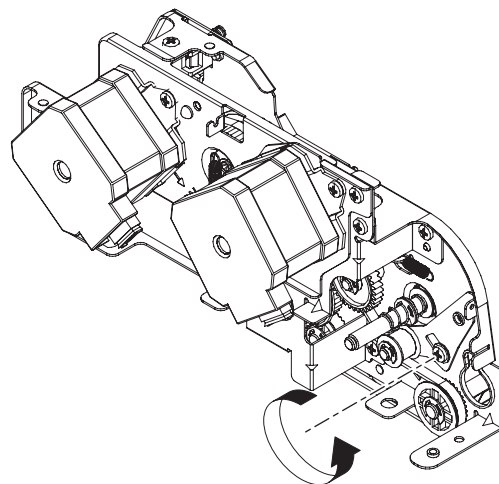
6) Check the sensors.



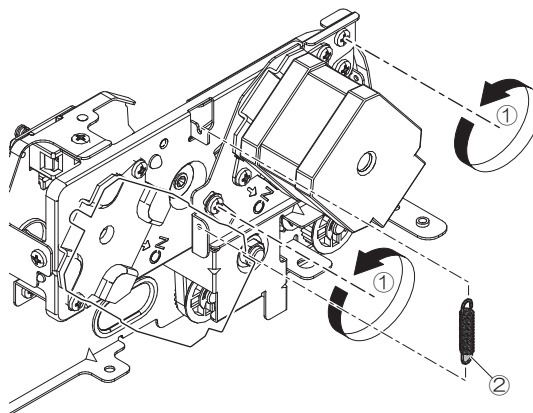
7) Remove the e-ring, the clutch and the gear.



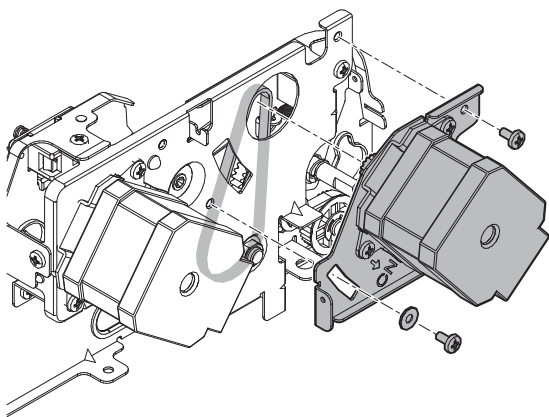
8) Loosen the screw.



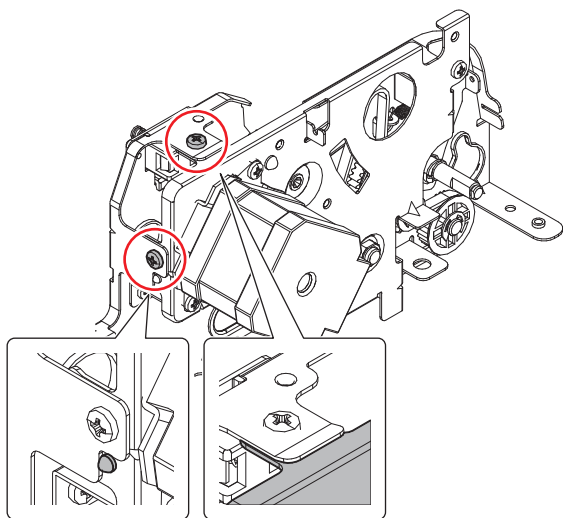
9) Loosen the screws then, remove the spring.



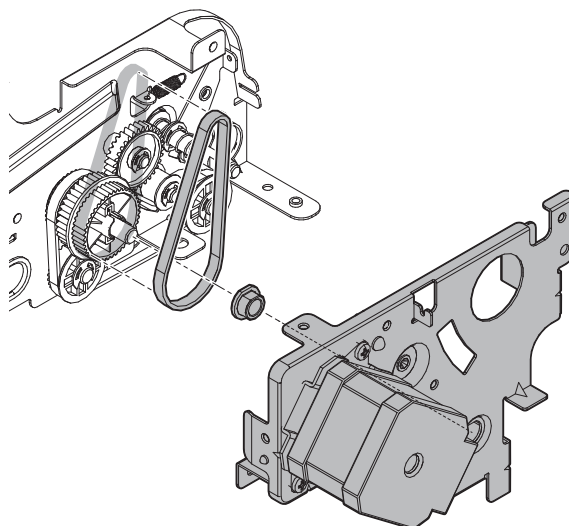
10) Remove the screws, the washer and the motor assembly.



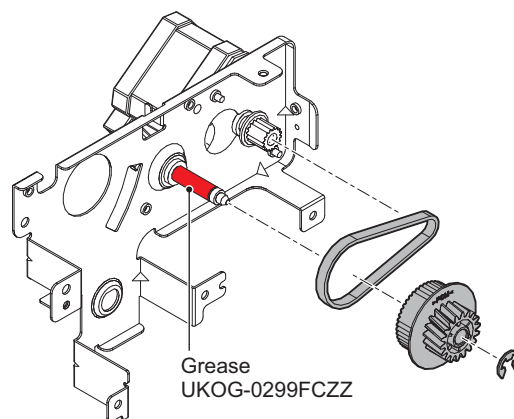
11) Remove the screws.



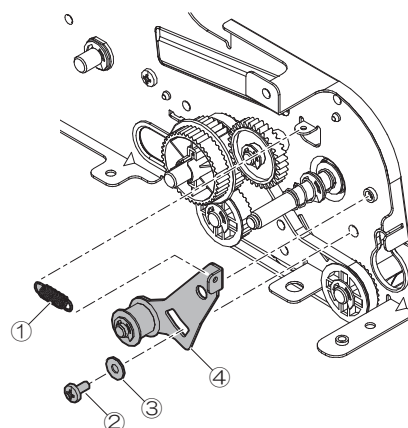
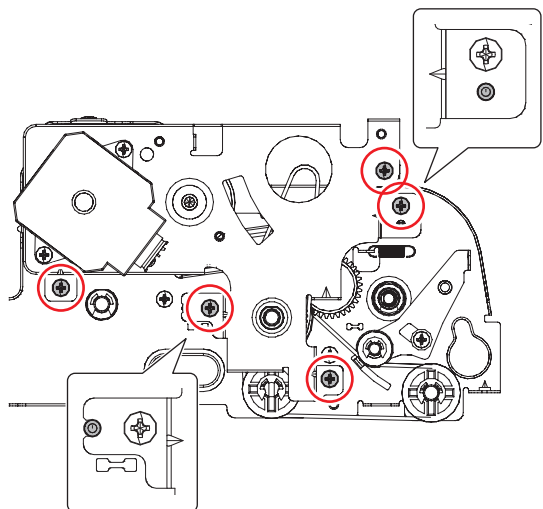
12) Remove the motor assembly, the bearing and the belt.



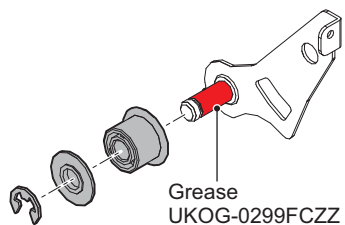
13) Remove the e-ring and the belt.



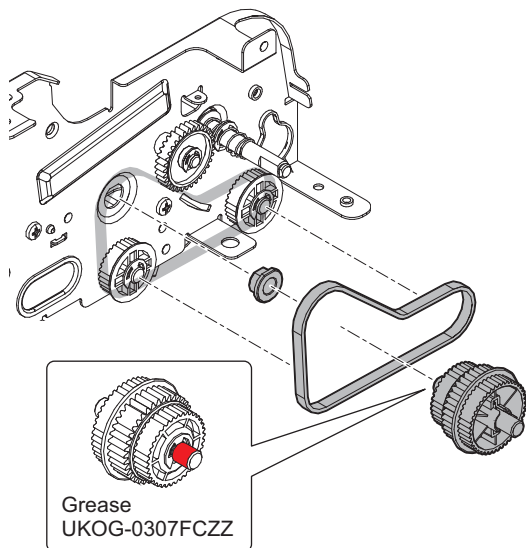
14) Remove the spring, the screw, the washer and the tension adjustment plate.



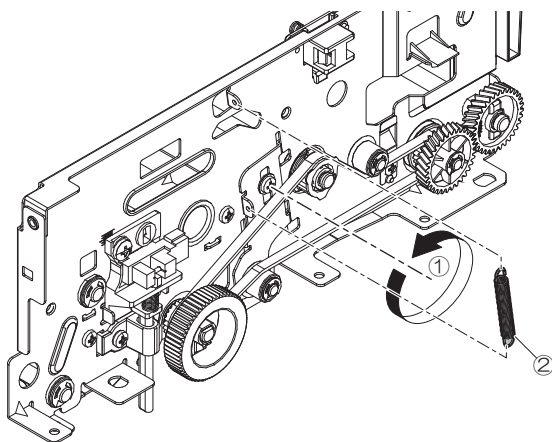
15) Remove the e-ring, the gasket and the pulley.



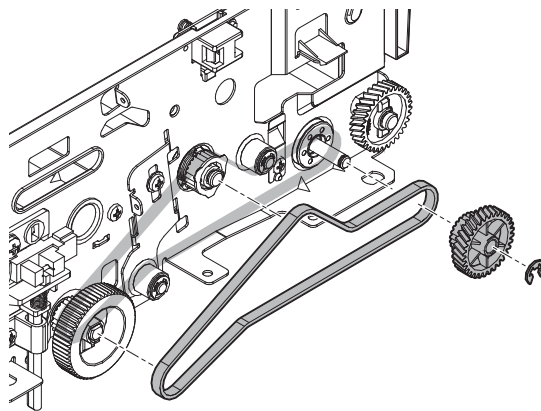
16) Remove the gear, the belt and the bearing.



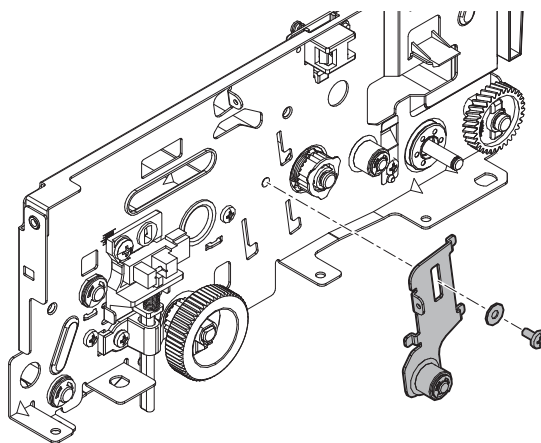
17) Remove the spring.



18) Remove the e-ring, the gear and the belt.

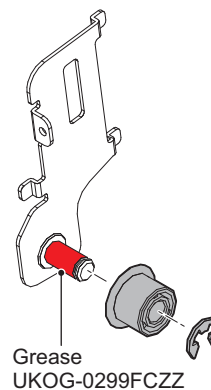


19) Remove the screw, the washer and the tension adjustment plate.

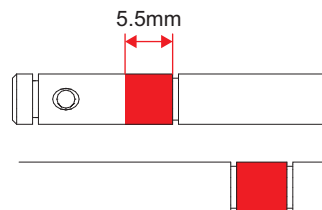
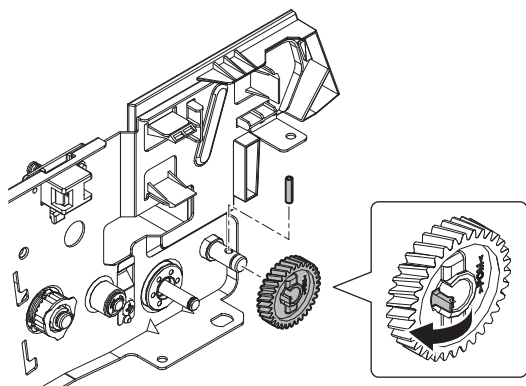


(14) Paper exit roller

1) Remove the e-ring and the pulley.



- 2) Remove the gear and the pin.

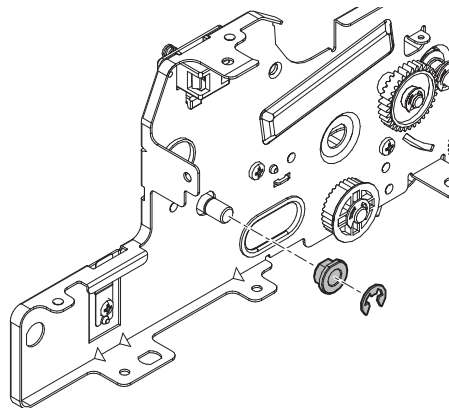
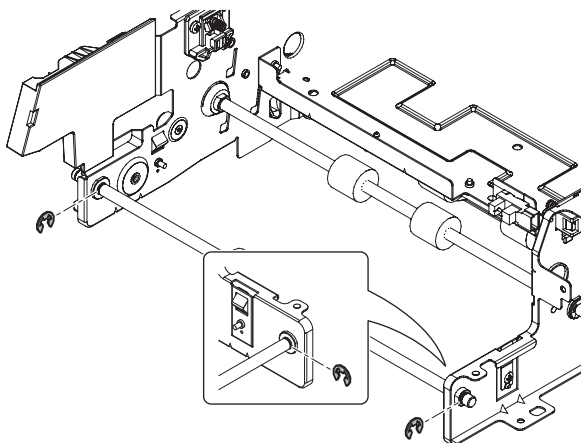


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(15) Transfer rollers

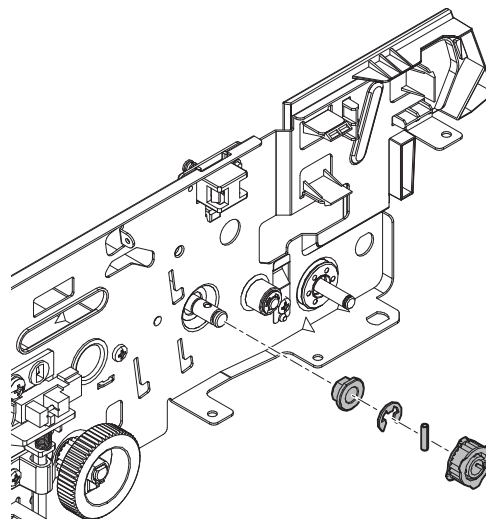
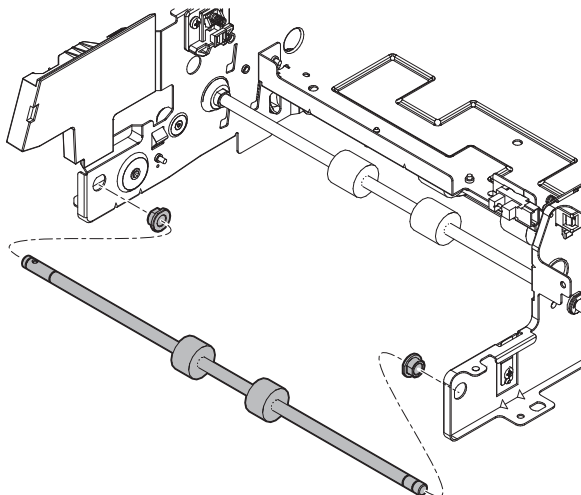
- 1) Remove the e-ring and the bearing.

- 3) Remove the e-rings.

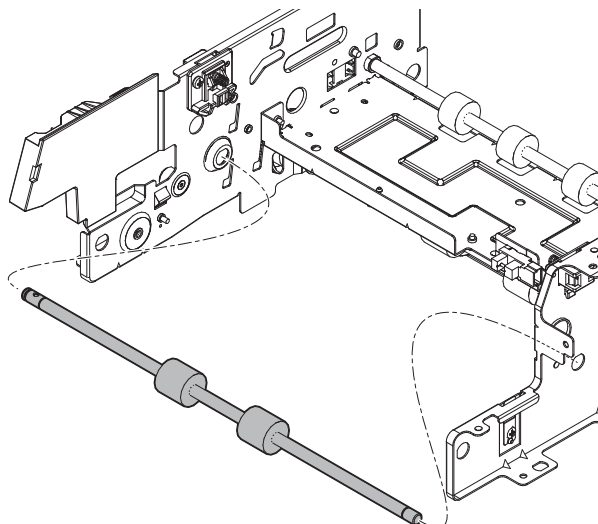


- 2) Remove the gear, the pin, the e-ring and the bearing.

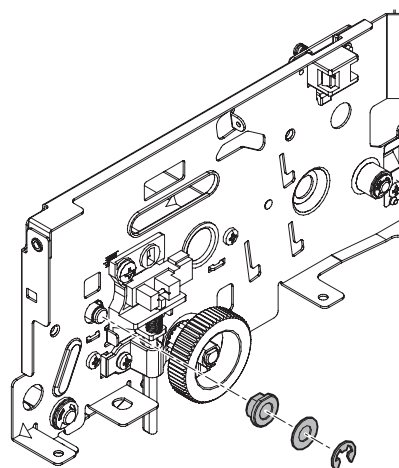
- 4) Remove the bearing and the paper exit roller.



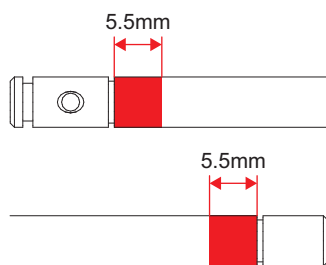
3) Remove the transfer roller.



5) Remove the e-ring, the washer and the bearing.

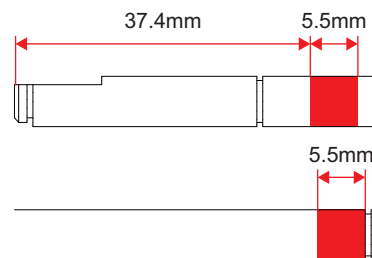
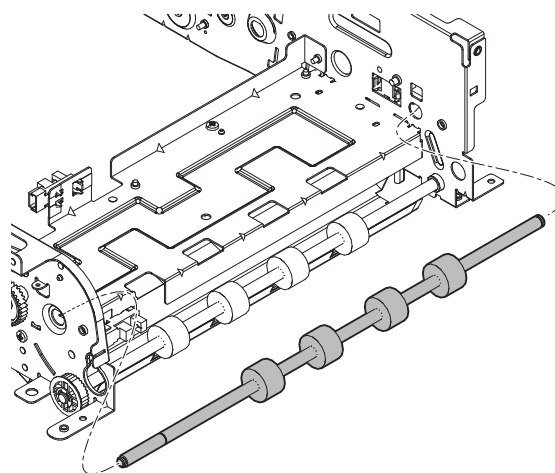
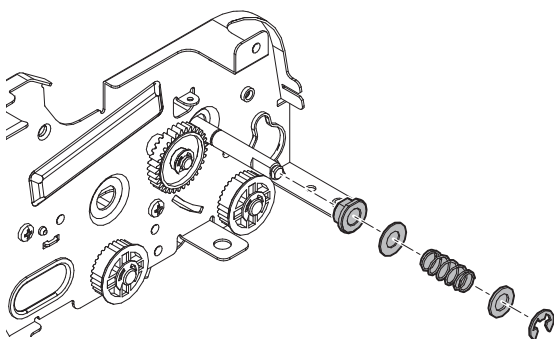


6) Remove the transfer roller.



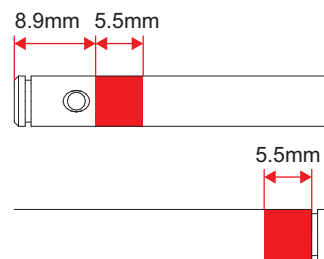
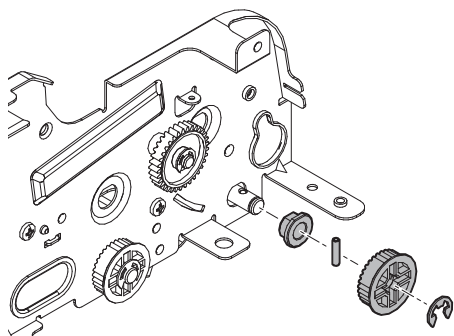
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4) Remove the e-ring, the washer, the spring, the washer and the bearing.



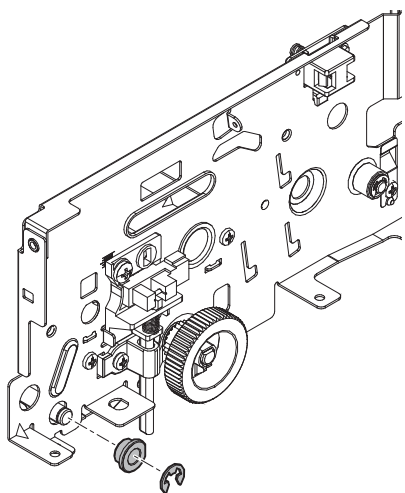
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7) Remove the e-ring, the gear, the pin and the bearing.

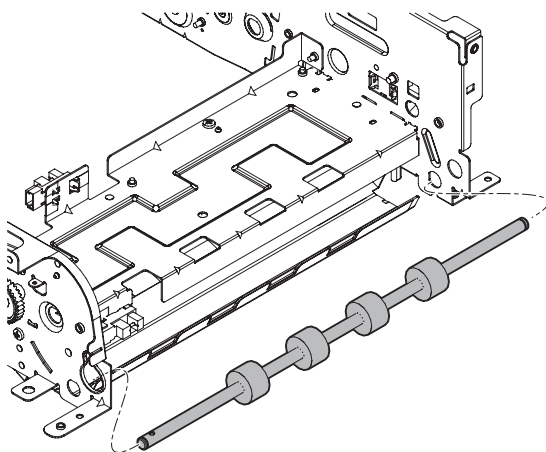


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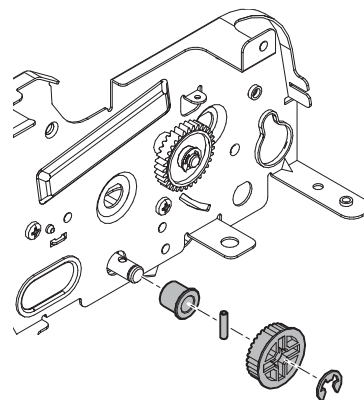
8) Remove the e-ring and the bearing.



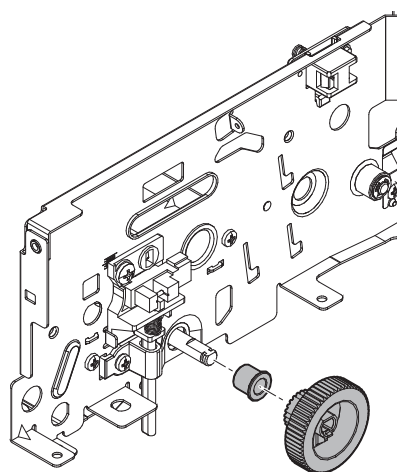
9) Remove the transfer roller.



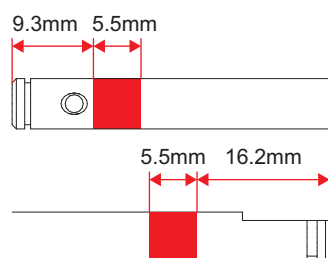
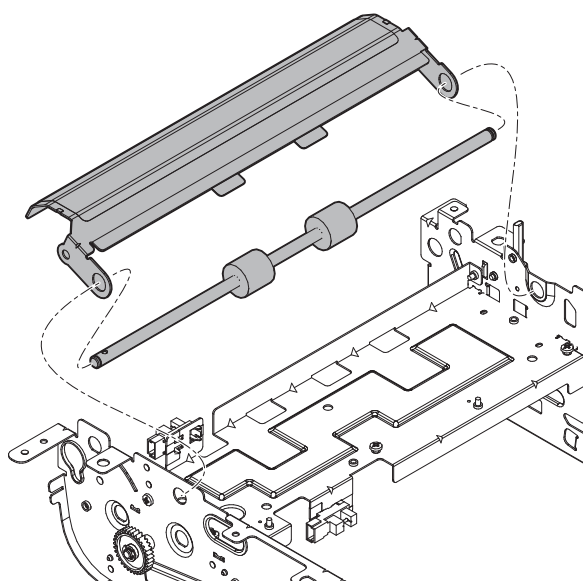
10) Remove the e-ring, the gear, the pin and the bearing.



11) Remove the gear and the bearing.

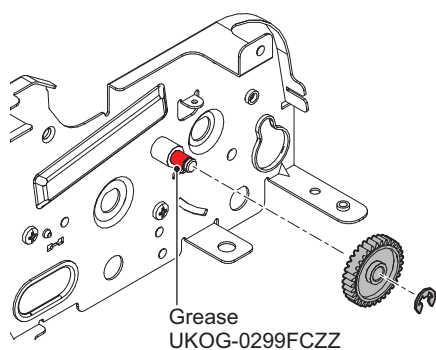


12) Remove the no.1 scanning plate and the transfer roller.



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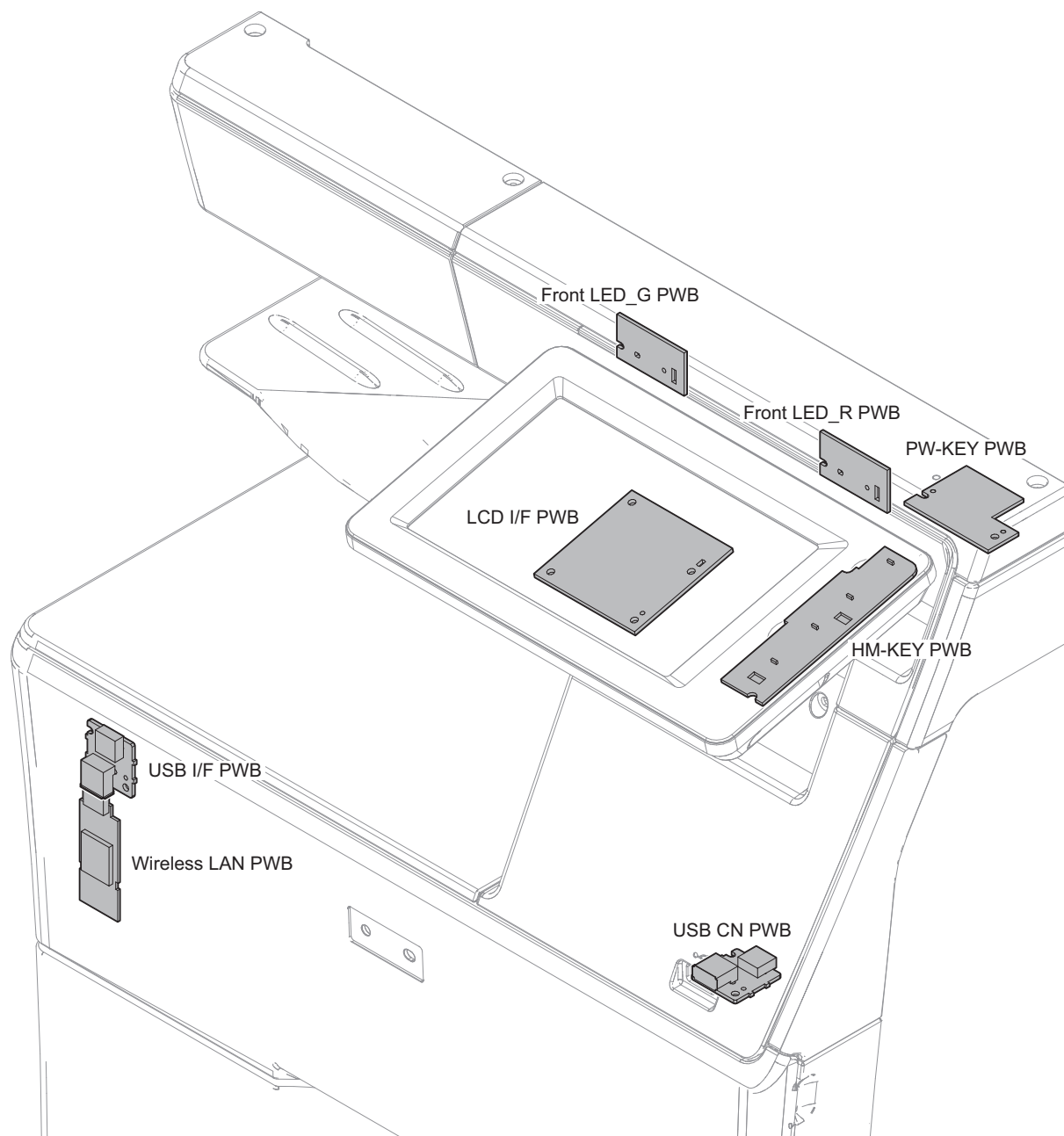
13) Remove the e-ring and the gear.



[11] OPERATIONAL DESCRIPTIONS

1. Operation panel section

A. Mechanism relation diagram



No.	Name	Function and Operation
1	Front LED_G PWB	This PWB displays operating status of main unit.
2	Front LED_R PWB	This PWB displays operating status of main unit.
3	HM-KEY PWB	This PWB outputs key operation signal.
4	LCD I/F PWB	Output the signal to LCD unit, Touch Panel
5	PW-KEY PWB	This PWB controls key operation signal.
6	USB CN PWB	This PWB connects Wireless LAN PWB and MFPC PWB.
7	USB I/F PWB	USB Interface
8	Wireless LAN PWB	This PWB makes a wireless network connection.

B. Operational descriptions

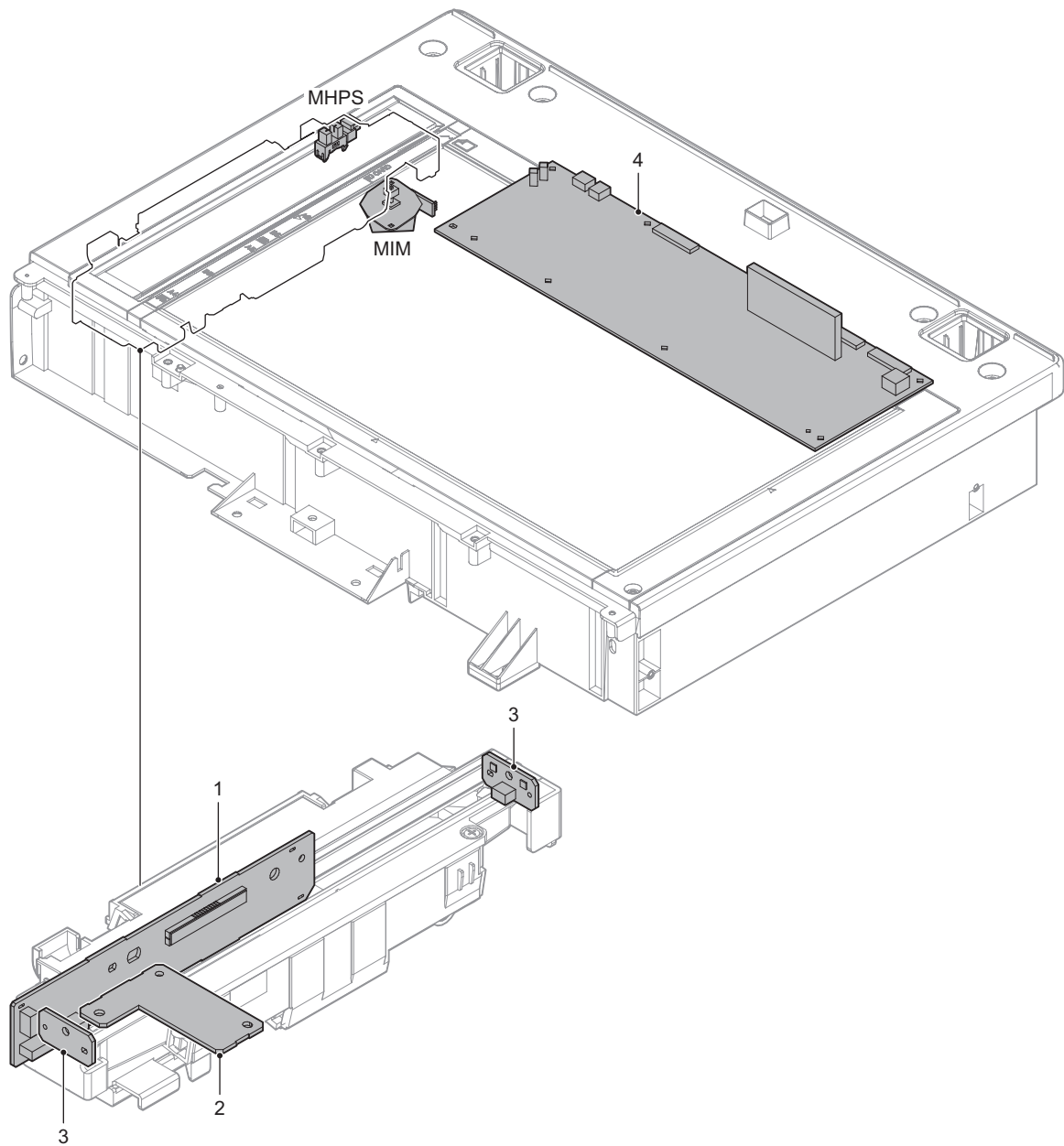
The operation panel unit is composed of the Touch panel, the LCD unit, the LCD IF PWB, and the HM-KEY PWB.

It displays the machine operation.

2. Scanner section

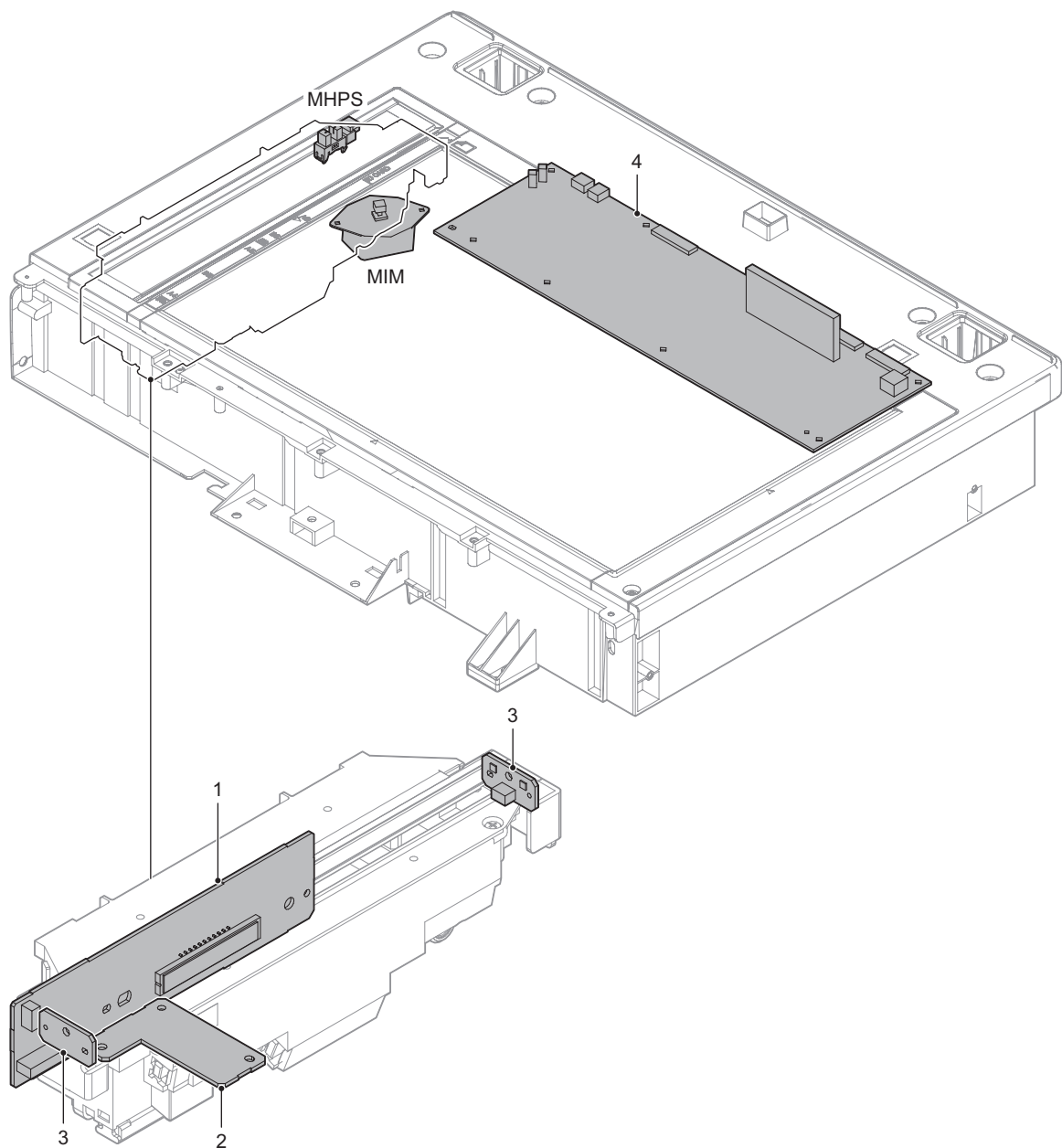
A. Mechanism relation diagram

35 ppm machine



Signal name	Name	Function and Operation
MHPS	Scanner home position sensor	Detects the scanner home position
MIM	SCAN Motor	Drives the scanner unit. (scan, return operations)

No.	Name	Function and Operation
1	CCD PWB	This PWB scans the document image and converts read signal from analog to digital.
2	LED DRIVER PWB	This PWB connects LED PWB and CCD PWB.
3	LED PWB	This PWB drives scanner lamp.
4	SCN-cnt PWB	This PWB controls image data.



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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 3line (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 SCNcnt 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) to the drive pulley/belt, and the carriage units driven.

The scanner motor (MIRM) is controlled with the signals sent from the MCU PWB.

b. Scanner lamp drive

The scanner lamp is driven by the scanner lamp drive voltage which is generated by the LED drive PWB with the control signals sent from the SCNcnt 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 3line (RGB) CCD elements to be converted into analog image signals.

The color components are extracted into R, G, B by the three kinds of CCD elements (R, G, B).

The red CCD extracts the red component of an image, the green CCD extracts the green component, the blue CCD extracts the blue component.

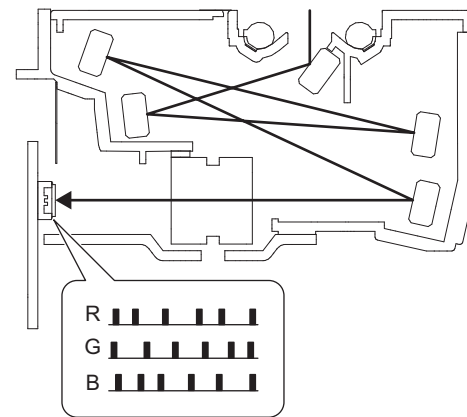
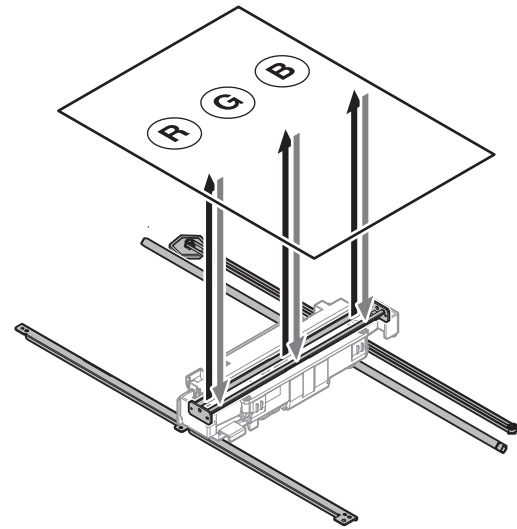
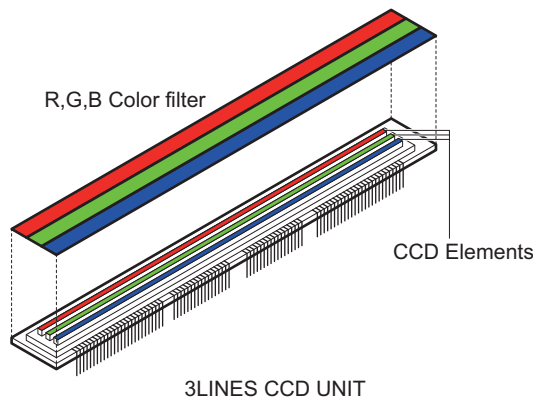
This operation is called color separation.

The CCD element is apparently seen as one unit, but it includes the three kinds of elements (R, G, B).

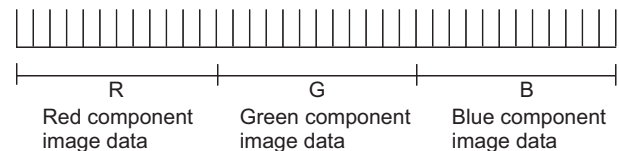
The CCD element scans the document in the main scanning direction. Scanning in the sub scanning direction is made by shifting the scanner unit with the scanner motor.

The document images are optically reduced by the lens and reflected to the CCD.

The scan resolution is 600 dpi.

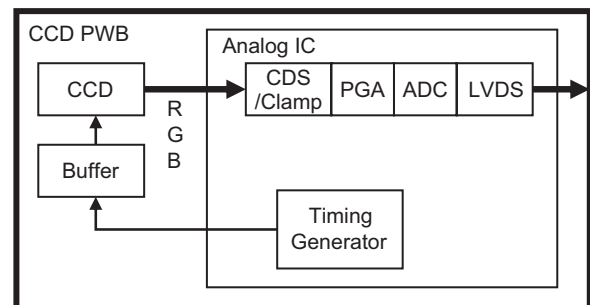


(Image data for 1 line)



d. Image signal A/D conversion

- 1) The image signal (analog) for each of R, G, and B is converted into 10bit digital signal by the A/D converter. Each color pixel has 10bit information.
- 2) The 10bit digital image signals of R, G, B from CCD PWB are converted into 8bit and sent to the SCN MFP PWB.



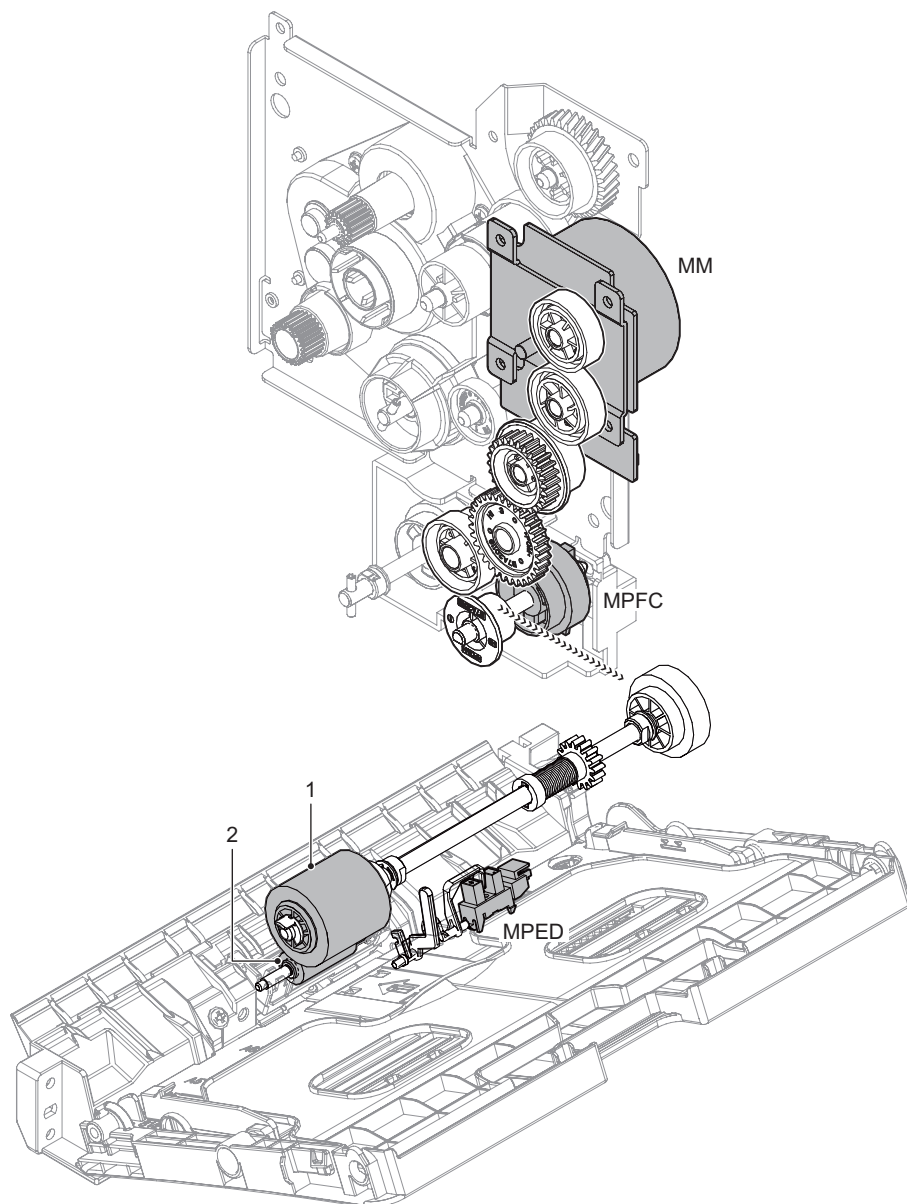
e. Zooming operation

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).

3. Manual paper feed section

A. Mechanism relation diagram



Signal name	Name	Function and operation
MM	Main Motor	Main drive.
MPED	Paper empty sensor	Detects presence of paper.
MPFC	Manual paper feed clutch	Controls ON/OFF of the paper feed roller in the manual paper feed section.

No.	Name	Function and operation
1	Paper feed roller	This roller sends a paper to registration roller.
2	Separation roller	This roller separates a paper to prevent double-feeding.

B. Operational descriptions

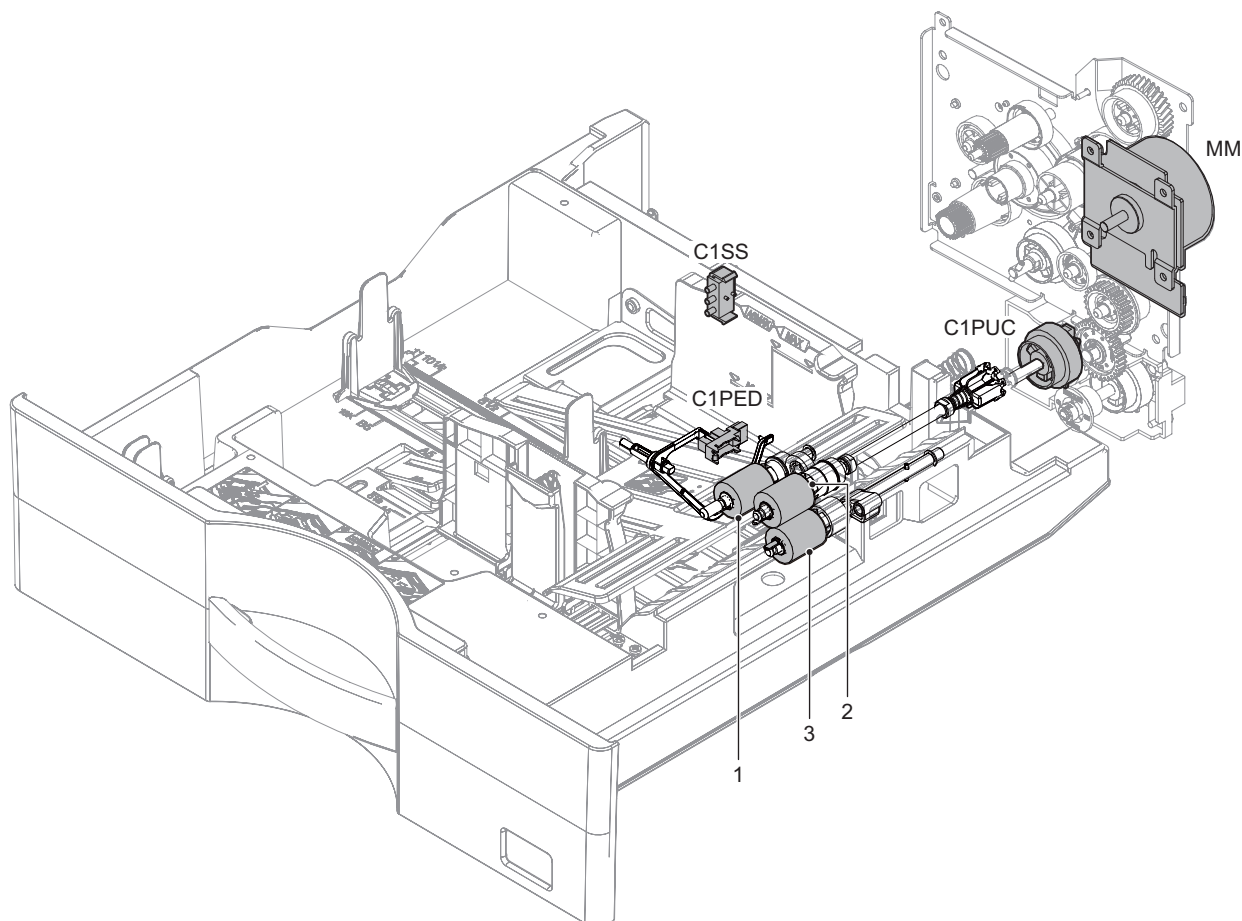
Only the top sheet of paper is fed from the paper stack on the manual bypass tray, the feed roller is pressed against the paper surface and sent to the transport section.

The feed roller transports paper to registration section. The separation roller stops paper to prevent double-feed. On / OFF control of the feed roller is carried out by the Manual Feed Clutch

This model does not have an automatic paper size detection function in Multi-purpose tray.

4. Paper feed tray section

A. Mechanism relation diagram



Signal name	Name	Function and operation
MM	Main Motor	Main drive
C1PUC	Paper feed clutch	Controls ON/OFF of the paper feed roller in the paper feed tray 1 section
C1PED	1st cassette paper empty detect	Detects paper empty
C1SS	Paper size detection switch	Detect the paper size in the tray

No.	Name	Function and operation
1	Paper pick up roller	This roller sends a paper to Paper feed roller.
2	Paper feed roller	This roller sends a paper to Resist roller.
3	Separation roller	This roller separates papers to prevent double-feeding.

B. Operational descriptions

(1) Paper lifting operation

This model feeds paper from the top of the paper stack in the feed tray. The paper lift plate lifts the paper stack to the paper pick up roller by way of a spring under the plate.

A constant pressure of the top sheet of paper to the paper pick up roller is maintained through use of this mechanism.

This model also incorporates a paper empty detection sensor but does not have a paper remaining detection mechanism.

(2) Paper size detection operation

This model have a function to detect the paper size in the cassette.

(3) Paper pick up operation

The main motor (MM) is turned ON, and then the paper feed clutch (CPUC1) is turned ON.

The power of main motor (MM) is transmitted through the paper feed clutch (CPUC1) to the paper pick up roller and the paper feed roller.

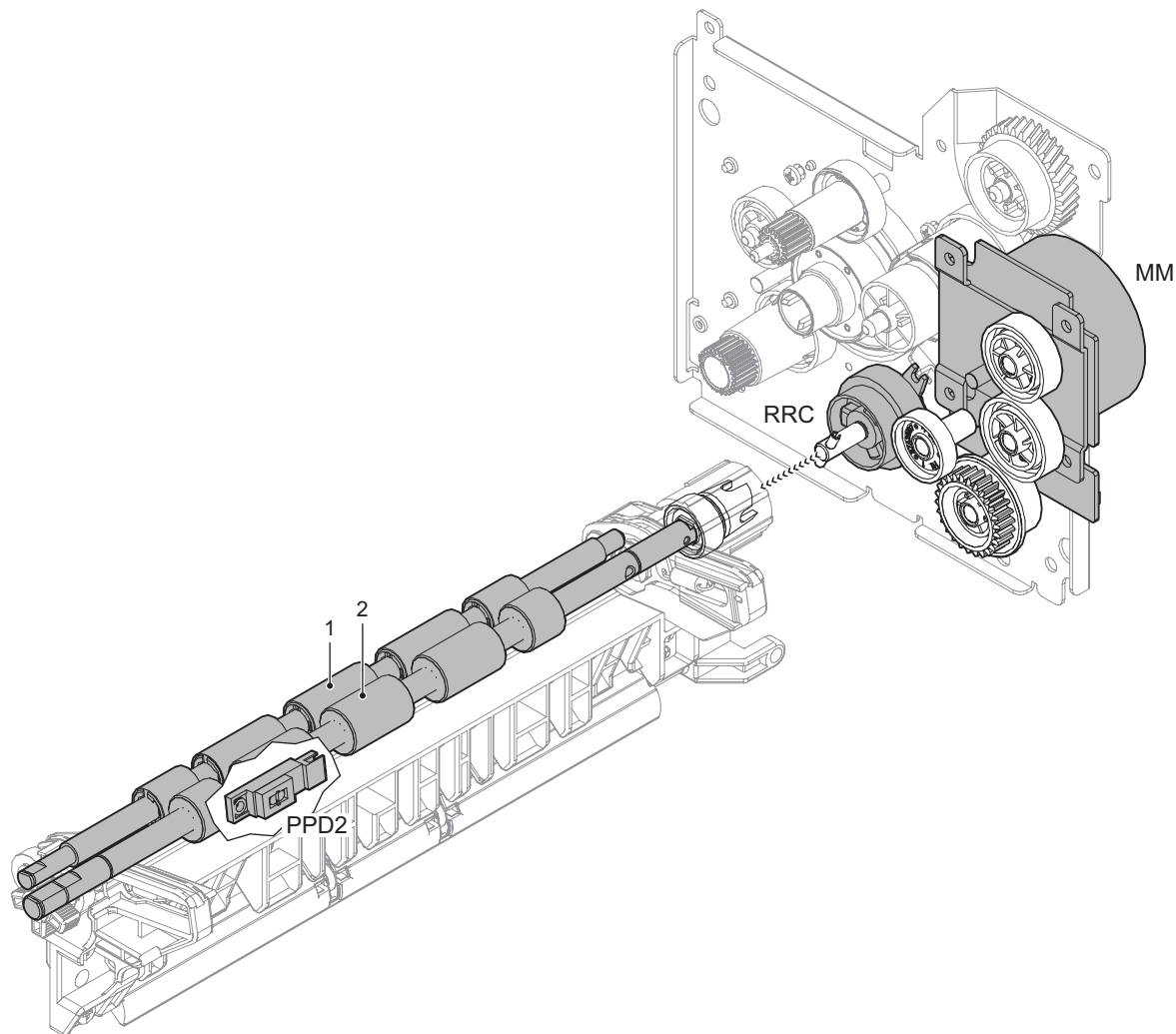
The paper feed roller feeds paper to the paper transport section.

At that time, the separation roller stops paper to prevent double-feed.

To prevent a double feeding, the separation roller apply counter force to the paper from bottom side.

5. Paper registration section

A. Mechanism relation diagram



Signal name	Name	Function and operation
RRC	Paper stop (resist) clutch	Controls ON/OFF of registration roller
PPD2	Paper transport sensor 2	Detects paper pass in the transport roller and registration roller

No.	Name	Function and operation
1	Registration roller (Idle)	This roller applies a pressure to a paper and the registration roller, and provides transport power of the registration roller to the paper.
2	Registration roller (Drive)	This roller sends a paper to the transport section, controlling the timing for transportation to adjust correlation between image and paper.

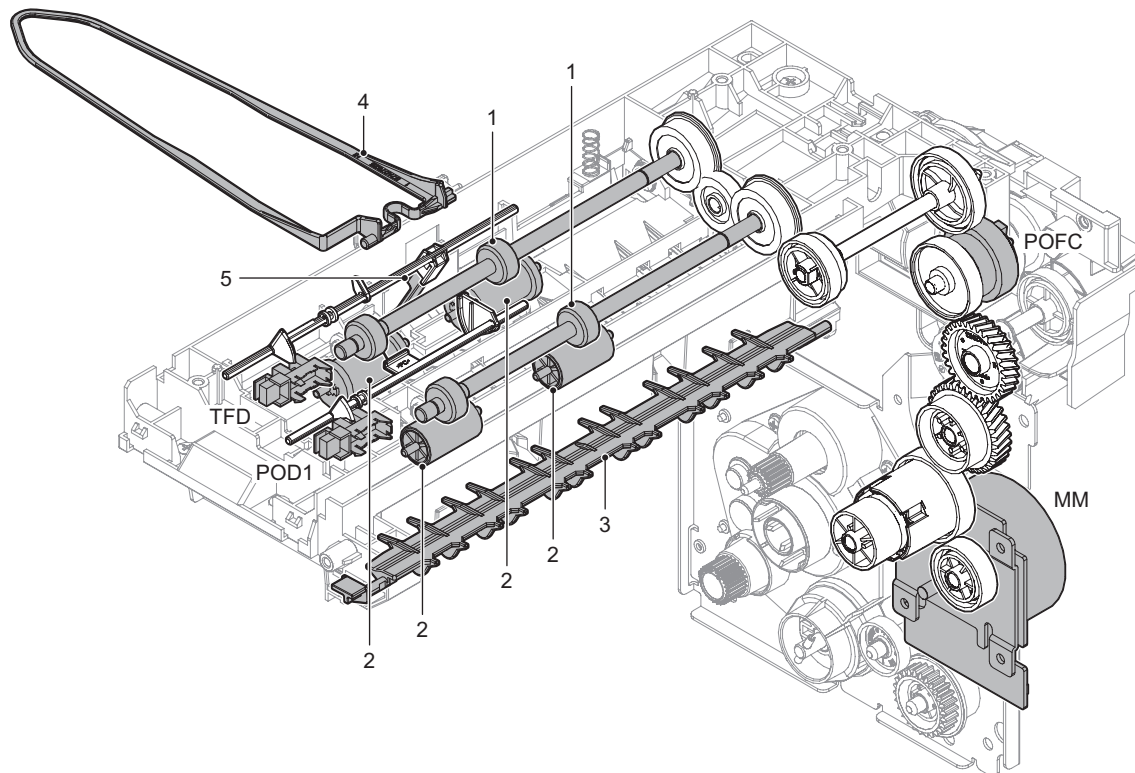
B. Operational descriptions

The resist roller set controls the synchronization of the Image on the OPC drum to the timing of the paper making its way to the transfer section.

Start stop movement is controlled by the PS Clutch (RRC).

6. Paper exit section

A. Mechanism relation diagram



No.	Name	Function and operation
1	Paper exit/transfer roller (drive)	Exit the paper onto the exit tray and perform switch back operations when in duplex mode.
2	Paper exit/transfer roller (idle)	This roller applies a pressure to a paper and the registration roller, and provides transport power of the registration roller to the paper.
3	ADU gate	Changing the transport direction of switched back paper
4	Paper holding arm	Suppress the jumping out of the discharged paper and load it on the tray.
5	Paper full actuator	Detect full of output paper

Signal name	Name	Function and operation
MM	Main motor	Main drive
POD1	Paper exit detector 1	Detects paper pass in the paper exit section. Detects a paper jam.
POFC	Paper exit clutch	Control ON / OFF of normal rotation of paper discharge roller
TFD	Paper exit tray full detector	Detects paper full in the paper exit tray.

B. Operational descriptions

The paper transported from the fusing section is sent from transport roller to paper exit roller, and then discharged to the exit tray.

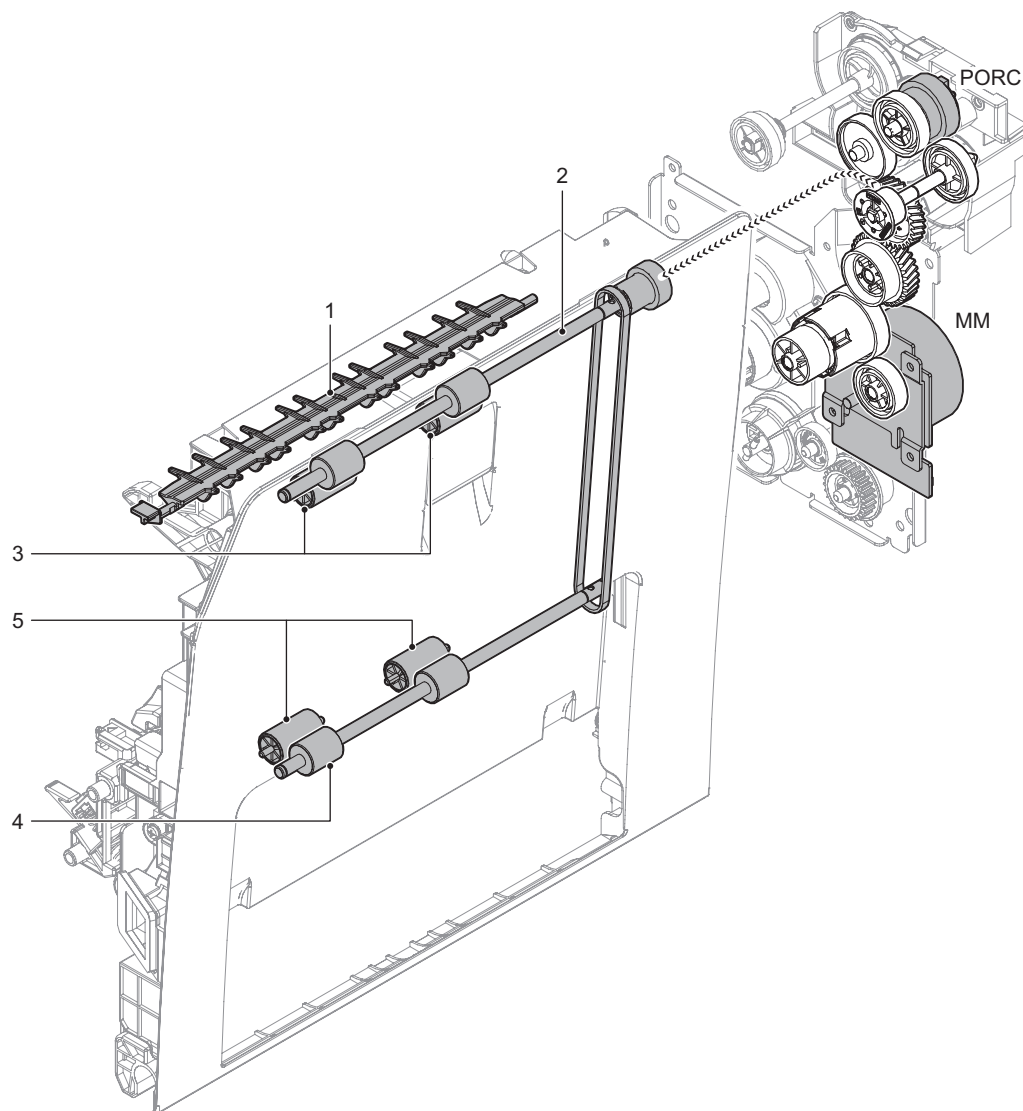
(1) Switchback operation

In the duplex print mode, from when the POD1 detects the lead edge of the paper transported from the fusing section, and after passing a certain time (depending on the paper size), the paper exit clutch POFC is turned off, the paper exit reverse clutch PORC is turned on, the paper exit roller rotates in the switchback direction.

Consequently, the paper is transported to the switchback section.

7. ADU section

A. Mechanism relation diagram



No.	Name	Function and operation
1	ADU gate guide	The paper which comes from fuser section passes the underside of ADU gate guide, and goes to the paper exit section. The switch back paper coming from the exit section is passed over the ADU Guide which drops by gravity.
2	Paper feed roller (Drive)	Drive Roller in ADU section that transports paper to the Lower transport rollers in the Duplex Section.
3	Paper feed roller (Idle)	Applies pressure to the back of the paper for drive to the Upper Duplex Transport Rollers
4	Paper feed roller (Drive)	Drive roller to transport paper to the Registration Rollers.
5	Paper feed roller (Idle)	Applies pressure to the back of the paper for drive to the Lower Duplex Transport Rollers

Signal name	Name	Function and operation
MM	Main motor	Main drive
PORC	Paper exit clutch	Control ON / OFF of reverse rotation of paper discharge roller

B. Operational descriptions

The switched back paper which comes from paper exit section is passed above

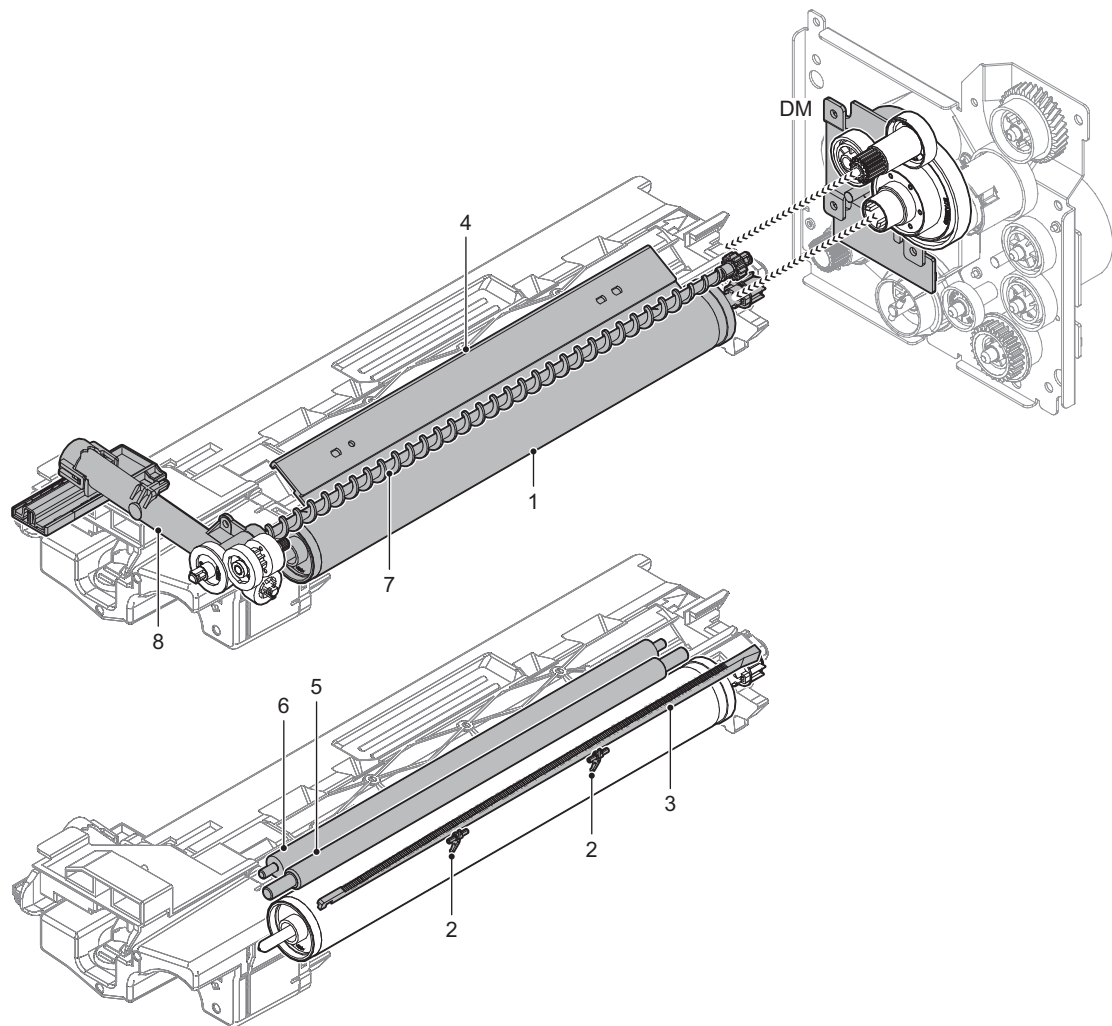
the paper guide, and goes to ADU section.

The ADU drive rollers which are driven by the Main motor transport the paper to the registration section.

section

8. OPC drum section

A. Mechanism relation diagram



No.	Name	Function and operation
1	OPC drum	Latent electrostatic images are formed.
2	Drum separation pawl	Separates paper from the OPC drum.
3	DCH lens	Discharges electric charges on the OPC drum.
4	Cleaning blade	Cleans remaining toner on the OPC drum.
5	MC roller	Applies a high voltage to charge the OPC drum.
6	Cleaning roller	Clean the MC roller with a cleaning roller.
7	Waste toner transport screw	Waste toner on the OPC drum is transported to the waste toner box.
8	Waste toner transport pipe	Transports toner from the cleaner section to the waste toner box in the toner cartridge front section.

Signal name	Name	Function and operation
DM	Drum motor	Drives the Drum unit and DV unit.

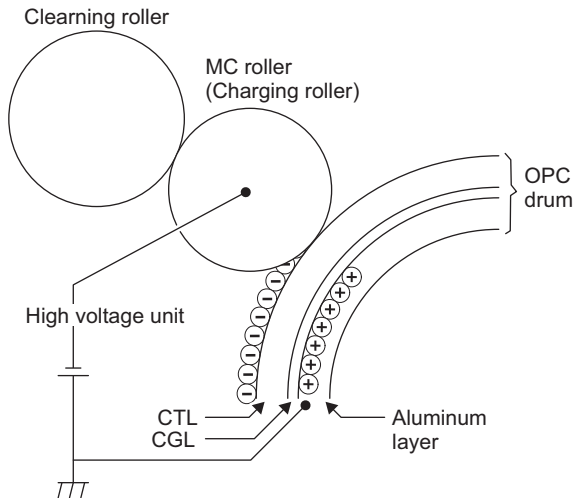
B. Operational descriptions

The OPC drum surface is negatively charged by the contact type charging roller.

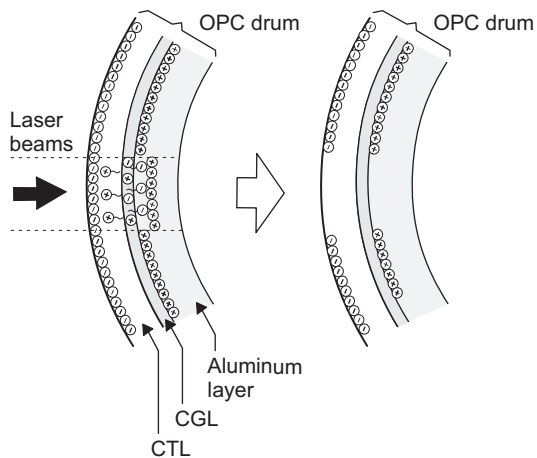
The laser beam images are radiated to the OPC drum surface by the laser (writing) unit to form latent electrostatic images.

- 1) The OPC drum surface is negatively charged by the contact type charging roller.

Clean the charging roller with a cleaning roller.



- 2) Laser lights are radiated to the OPC drum surface by the laser (writing) unit to form latent electrostatic images.

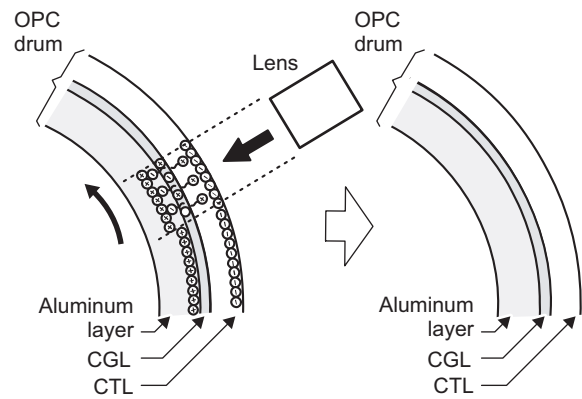


When laser lights are radiated to the OPC drum CGL, negative and positive charges are generated.

Positive charges generated on the CGL are attracted by the negative charges on the OPC drum surface. On the other hand, negative charges are attracted by the 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 lights are not radiated. As a result, latent electrostatic images are formed on the OPC drum surface.

- 3) The whole surface of the OPC drum is discharged.

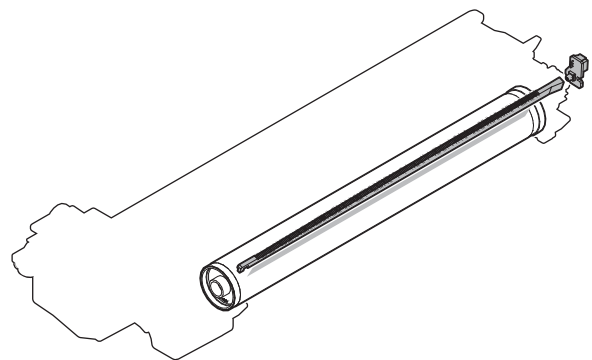


By radiating the discharge lamp light to the discharge lens, light is radiated through the lens to the OPC drum surface.

When the discharge lamp light is radiated to the OPC drum CGL, positive and negative charges are generated.

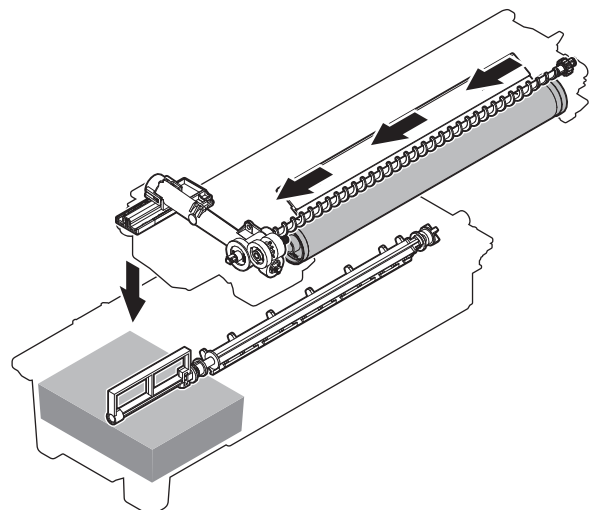
Positive charges generated in CGL are attracted to the negative charges on the OPC drum surface. On the other hand, negative charges are attracted to positive charges in the aluminum layer of the OPC drum.

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.



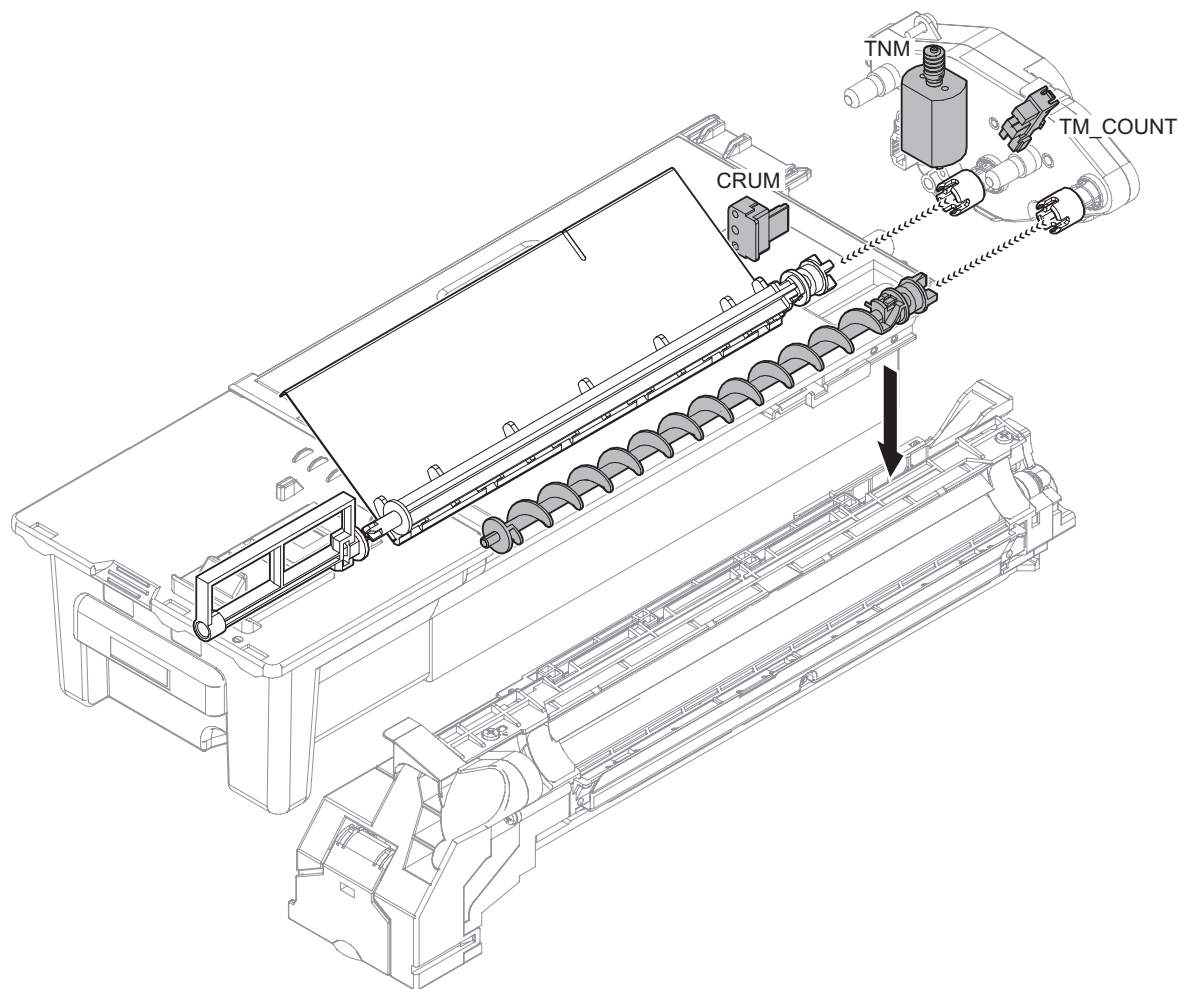
- 4) After transfer operation, remaining toner is removed by the cleaning blade.

Toner removed from the OPC drum surface is transported to the waste toner BOX integrated with toner cartridge by the waste toner transport screw.



9. Toner supply section

A. Mechanism relation diagram



Signal name	Name	Function and operation
TNM	Toner motor	Supplies toner from the hopper to the developing unit
TM_COUNT	Toner motor rotation detection sensor	Detects the rotation of the toner motor.
CRUM	CRUM	Saves various data of the toner cartridge.

B. Operational descriptions

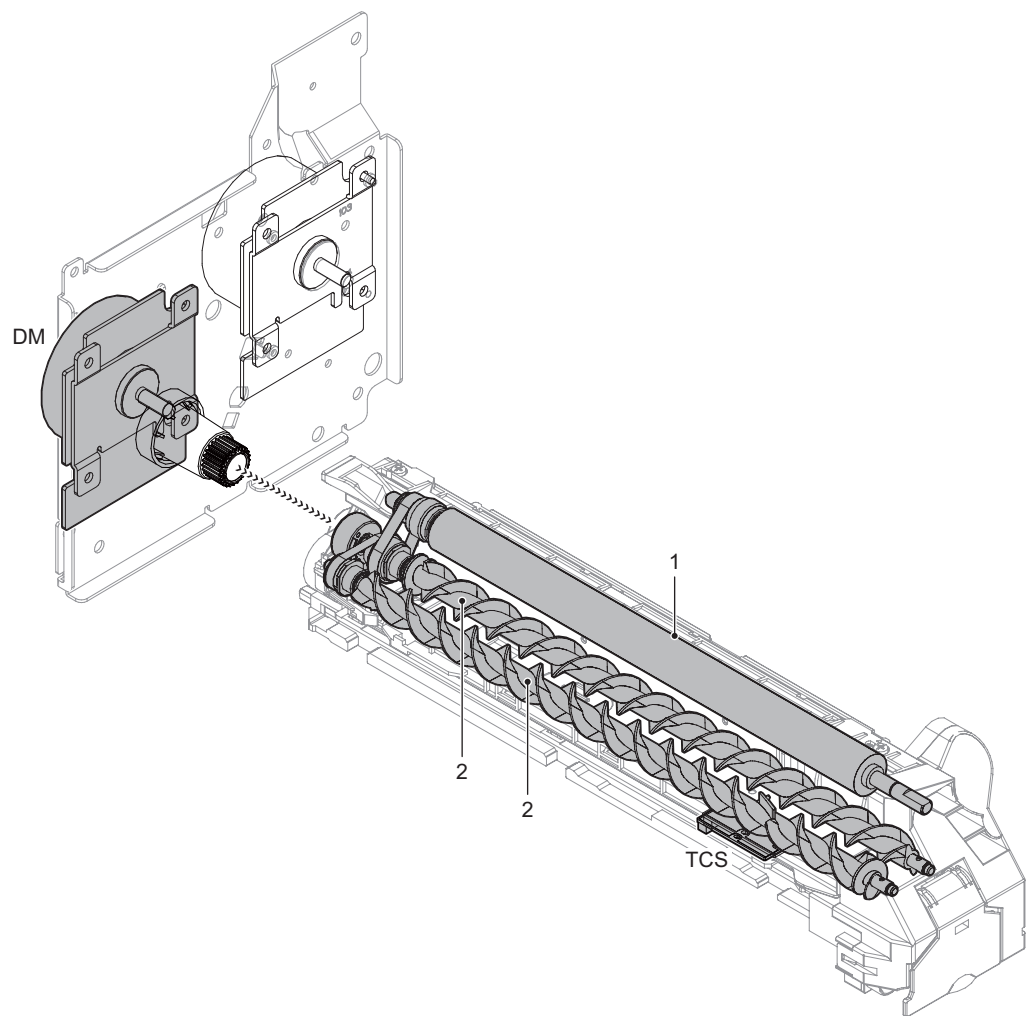
Based on the print pixel count and the process control information, Yes/No of toner supply is judged.

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 and the toner transfer pipe to the developing unit.

In addition, trouble detection of the toner replenishment operation is performed by looking at the output of the toner motor rotation detection sensor (TM_COUNT).

10. Developing section

A. Mechanism relation diagram



Signal name	Name	Function and operation
DM	Drum motor	Drives the Drum unit and DV unit.
TCS	Toner sensor	Detects the toner density in the developing unit.

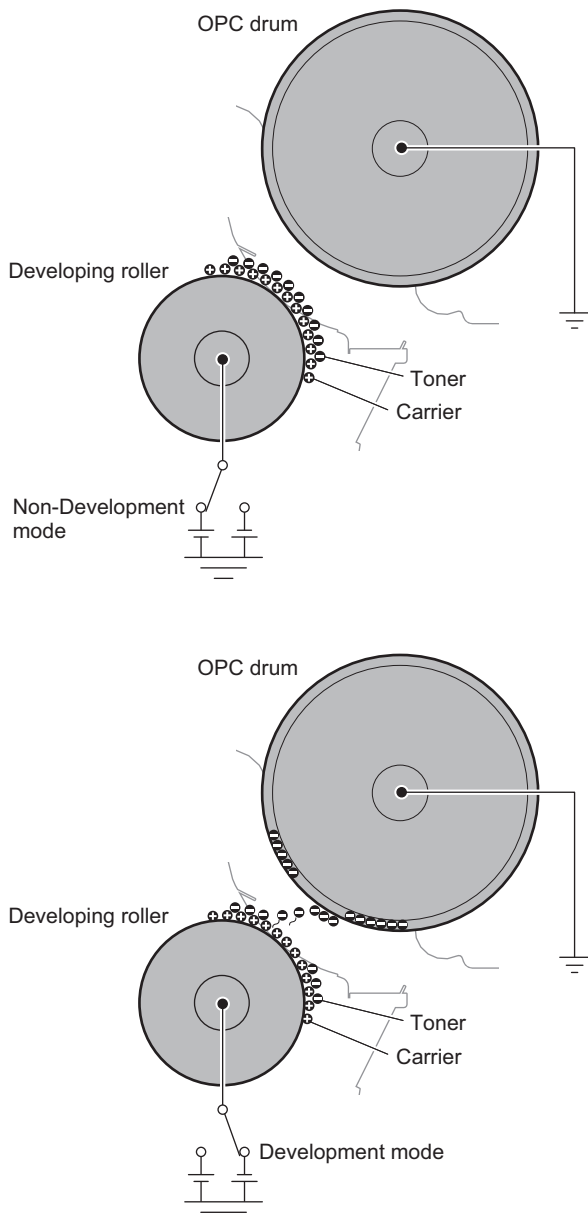
No.	Name	Function and operation
1	Developing roller	Forms electrostatic latent images on the OPC drum into visible images.
2	Stirring roller	Stirring roller Stirs toner and developer to charge toner negatively by friction.

B. Operational descriptions

Electrostatic latent images formed on the OPC drum surface by the laser (writing) unit (laser image beams) are converted into visible images by toner.

In this machine, the toner density is detected by the toner sensor, but the toner supply operation is not controlled only by the toner density detection result.

The toner density control is performed according to the process control data.



Toner and carrier in the developing unit are agitated and transported by the mixing roller.

By stirring, toner and carrier are negatively charged by mechanical friction.

The developing bias voltage (negatively charged) 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.

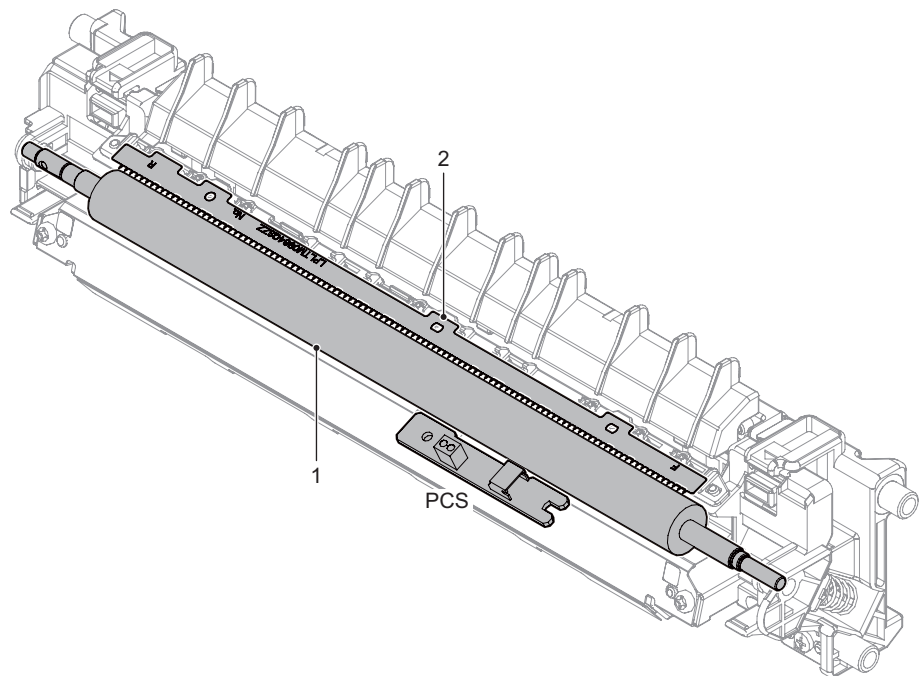
If the OPC drum is not exposed, the negative potential is higher than the developing bias voltage, and toner is not attracted.

Time and stopping the OPC drum rotation start, there is the area where the OPC is not negatively charged. A positive voltage is applied to it so that toner is not attracted.

The toner sensor detects the toner supply state from the toner cartridge.

11. Transfer section

A. Mechanism relation diagram



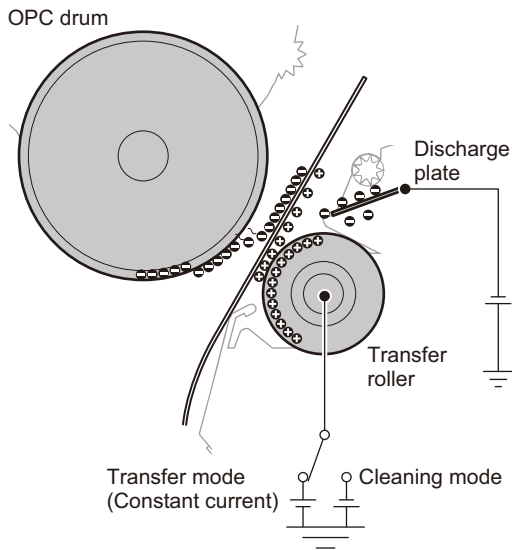
Signal name	Name	Function and Operation
PCS	Image density sensor	Detects the toner patch density on the OPC drum in process control.

No.	Name	Function and Operation
1	Transfer roller	Transfers toner images from the OPC drum surface to paper.
2	Discharge plate	Apply the negative voltage to the paper which the positive voltage is to and discharge the paper.

B. Operational descriptions

(1) Transfer operation

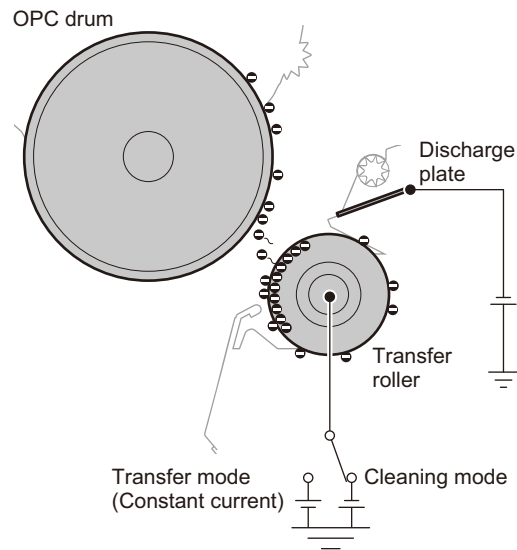
A positive high voltage is applied to the transfer roller to transfer the toner images from the OPC drum to paper.



(2) Cleaning operation

The unnecessary toner on the transfer roller is moved to the photo conductor by changing the polar character of the transfer roller to the negative high voltage type.

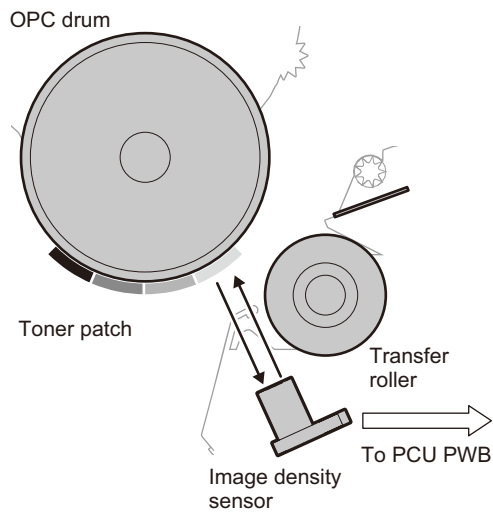
Then, the unnecessary toner is transported to the waste toner section by the cleaning blade of the photo conductor.



(3) Toner patch density detection in the process control

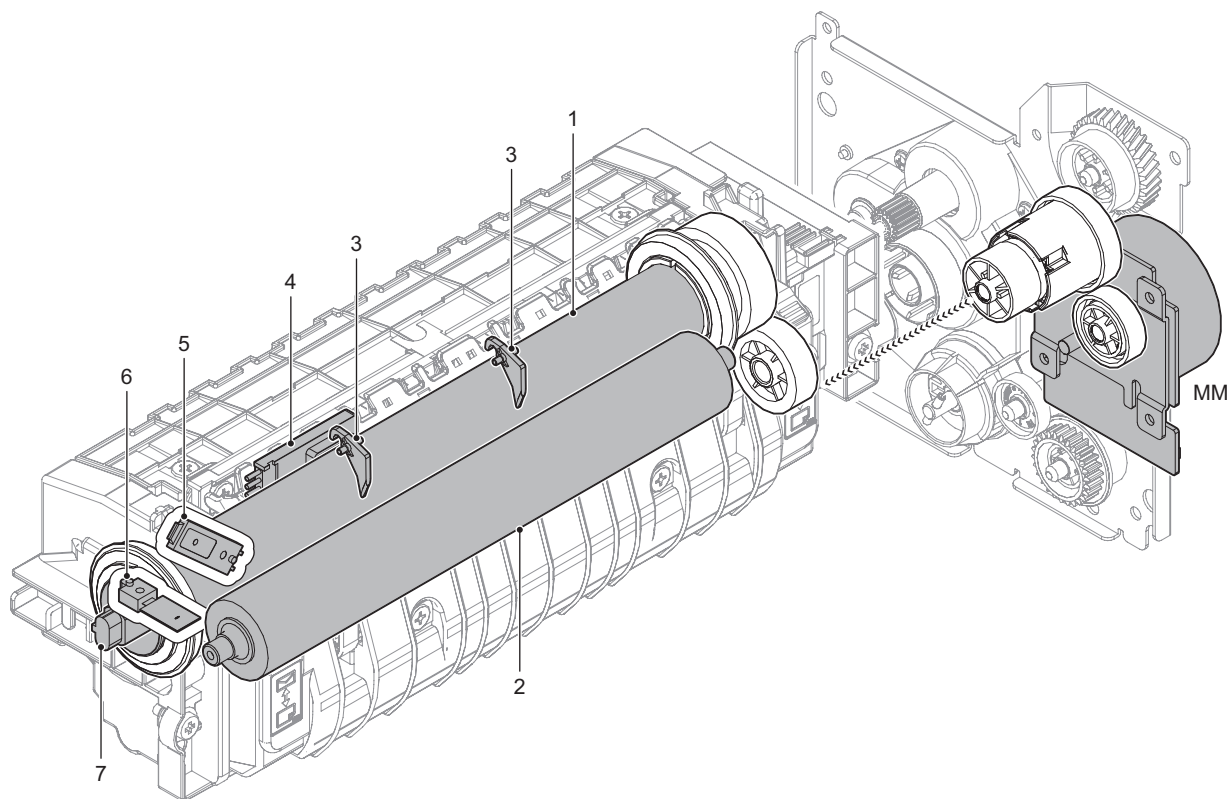
In the process control, the toner patch density on the OPC drum is detected with the image density sensor.

In addition, the sensitivity of the image density sensor is automatically performed by using reflection on the OPC drum surface.



12. Fusing section

A. Mechanism relation diagram



No.	Name	Function and Operation
1	Fusing roller	
2	Pressure roller	
3	Separation pawl	
4	Non-contact thermistor	
5	Fusing thermistor US (Upper Sub)	
6	Fusing thermistor US2 (Upper Sub2)	
7	Heater lamp	

Signal name	Name	Function and operation
MM	Main motor	Main drive

B. Operational descriptions

(1) Overview

This machine employs the 2 roller fusing system by the fusing roller (hard roller) and pressure roller (soft roller).

Due to sponge pressure roller (lower heat capacity) and higher lamp efficiency, Shortening the warm-up time, and improving energy-saving performance.

In this system, optimization of fixing control and peeling nail, Cleaning-less is realized by adopting a non-contact thermistor in the paper passing part.

(2) Heater lamp drive

The surface temperature of the heat roller detected by the thermistor is sent to the PCU. When the temperature is lower than the specified level, the heater lamp ON signal is sent from the PCU to the heater lamp drive circuit on the HL PWB.

The power triac in the heater lamp drive circuit is turned on, and the AC power is supplied to the heater lamp, lighting the lamp and heating the heat roller.

To prepare for an abnormally high temperature of the heat roller, the thermostat is provided for safety.

When the thermostat is opened, the power supply (AC line) to the heater lamp is cut off.

A heater lamp is arranged on the fixing roller.

Heater lamp (HL_UM / US) are two of the lamp has become an integral structure.

Heater lamp operation

Heater lamp	Operation
Heater lamp (HL_UM)	Heats fusing roller
Heater lamp (HL_US)	Heats fusing roller

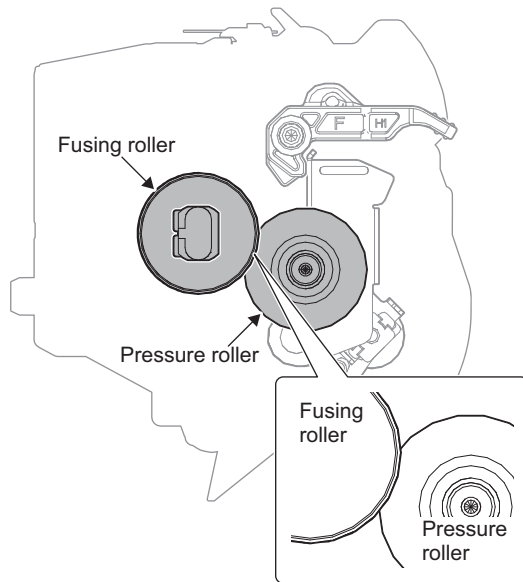
(3) Fusing operation

Toner on paper is heated and pressed to be fused by the heat roller.

The fusing heat roller (heating) is provided with three/two heater lamps, which heat the fusing roller to fuse toner onto paper.

The fusing roller and pressure roller which is provided with the sponge layer realize the following operations.

- 1) The nip quantity is increased to increase heat capacity for paper.
- 2) By pressing paper with the flexible roller, toner is fused without deformation.



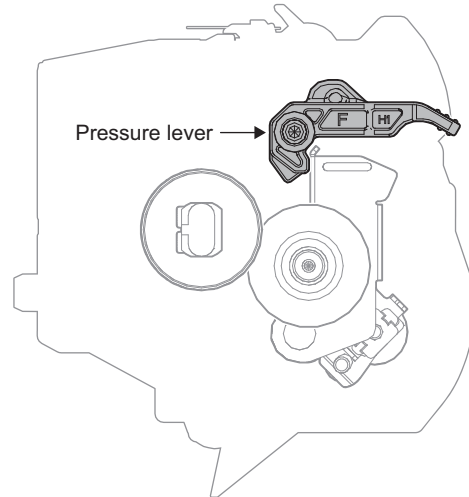
(4) Manual pressure release

Normally, the fixing roller and the pressure roller are in a pressurized state.

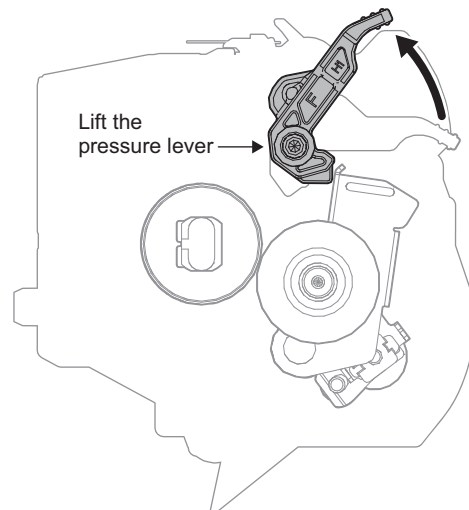
When the following conditions are satisfied, it is necessary to release the pressurization by pressing levers of F and R.

- Envelope mode

a. Pressure state

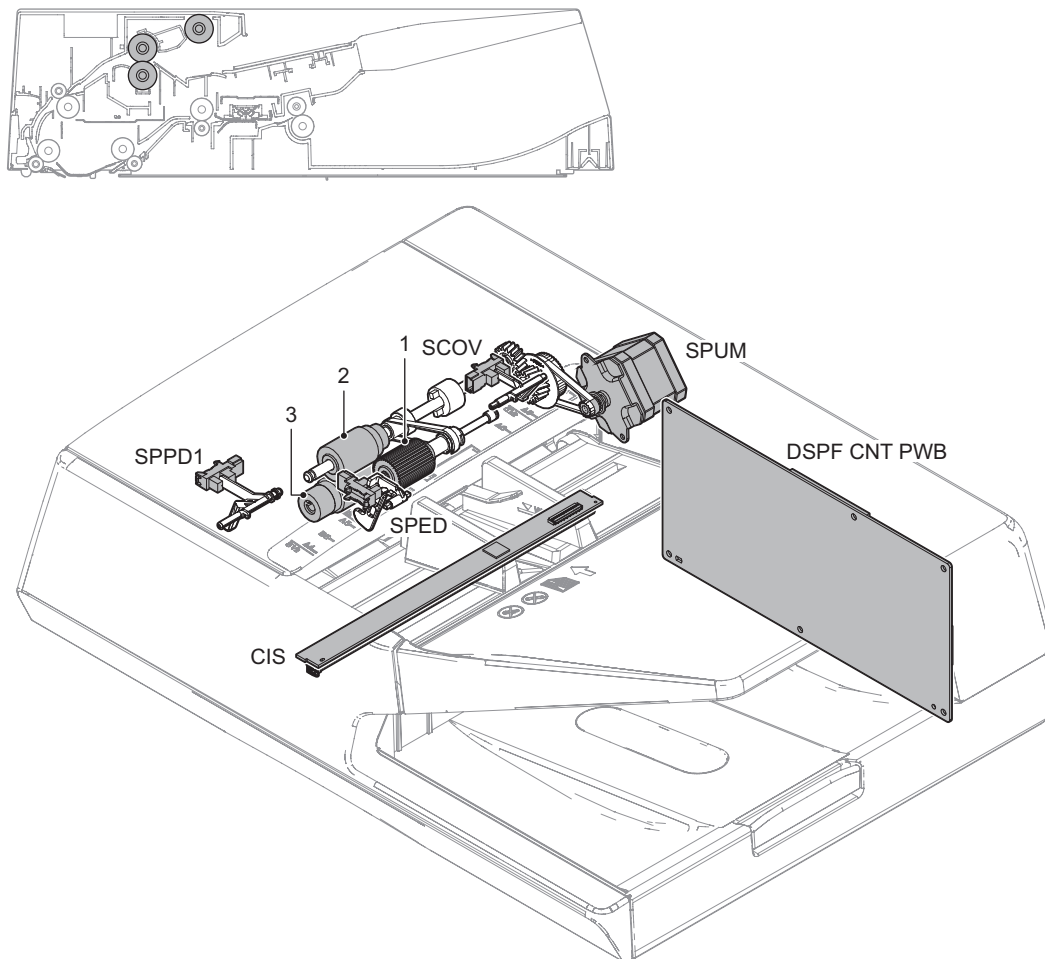


b. Pressure release state



13. DSPF section

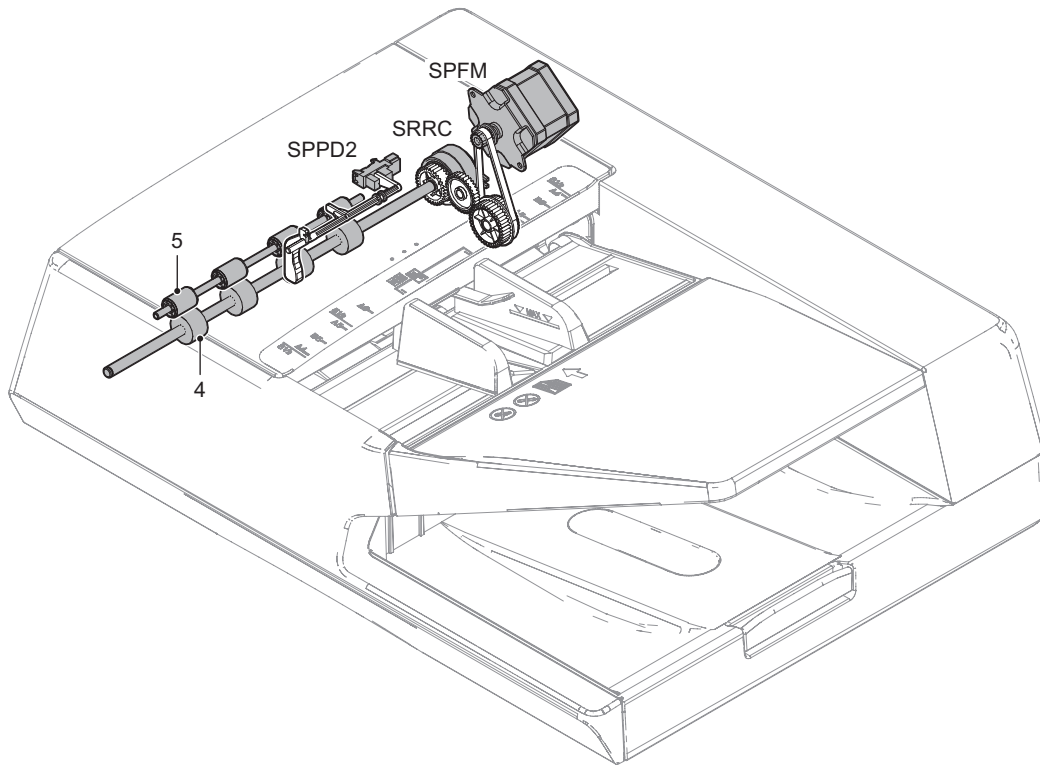
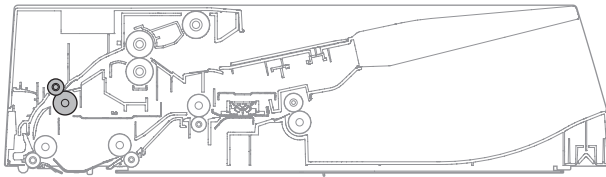
A. Mechanism relation diagram



Signal name	Name	Function and Operation
SCOV	Cover open/close sensor	Detects open/close of the DSPF cover
SPED	Document tray empty sensor	Detects document empty in the document feed tray
SPPD1	Document pass sensor 1	Detects pass of the document
SPUM	DSPF paper feed motor	Feeds a document

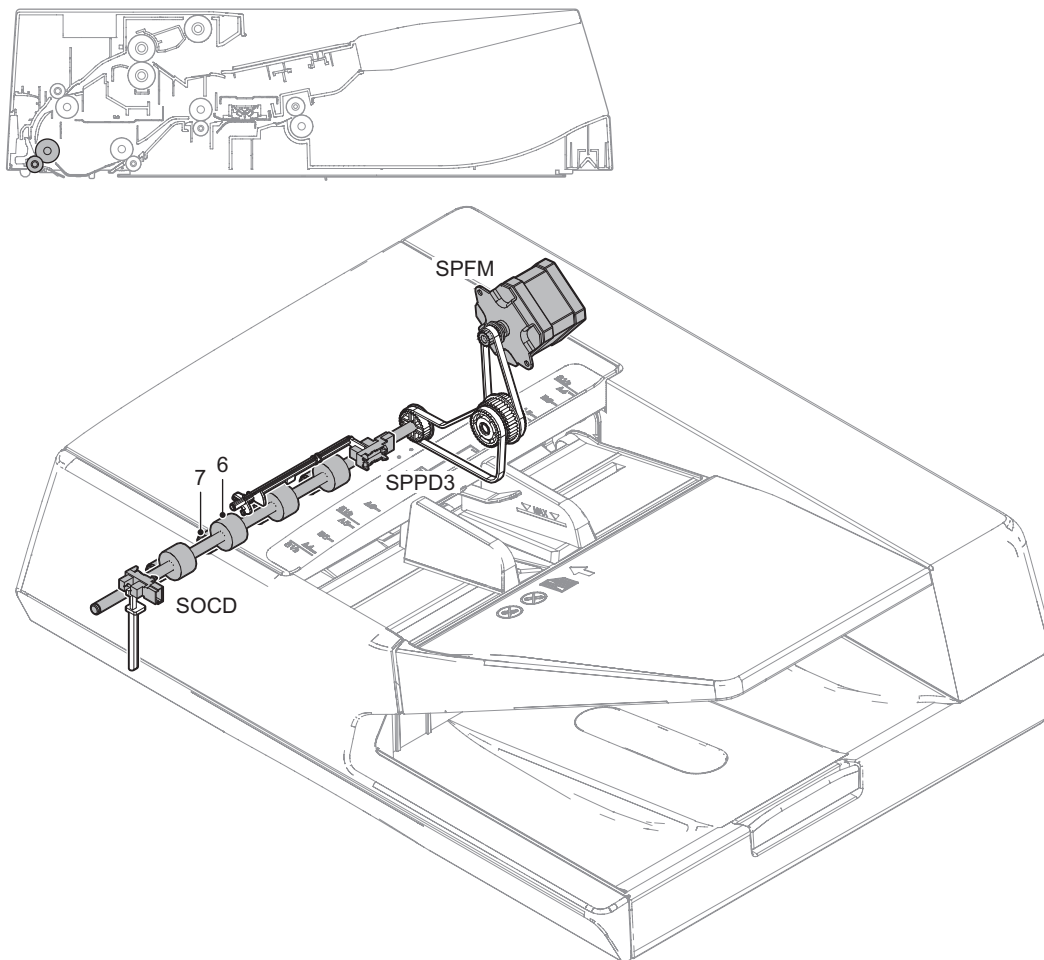
Name	Function and Operation
CIS	Scan the image of the original and perform A/D conversion of the read signal
DSPF CNT PWB	Perform the image processing of image data and control the whole DSPF

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.



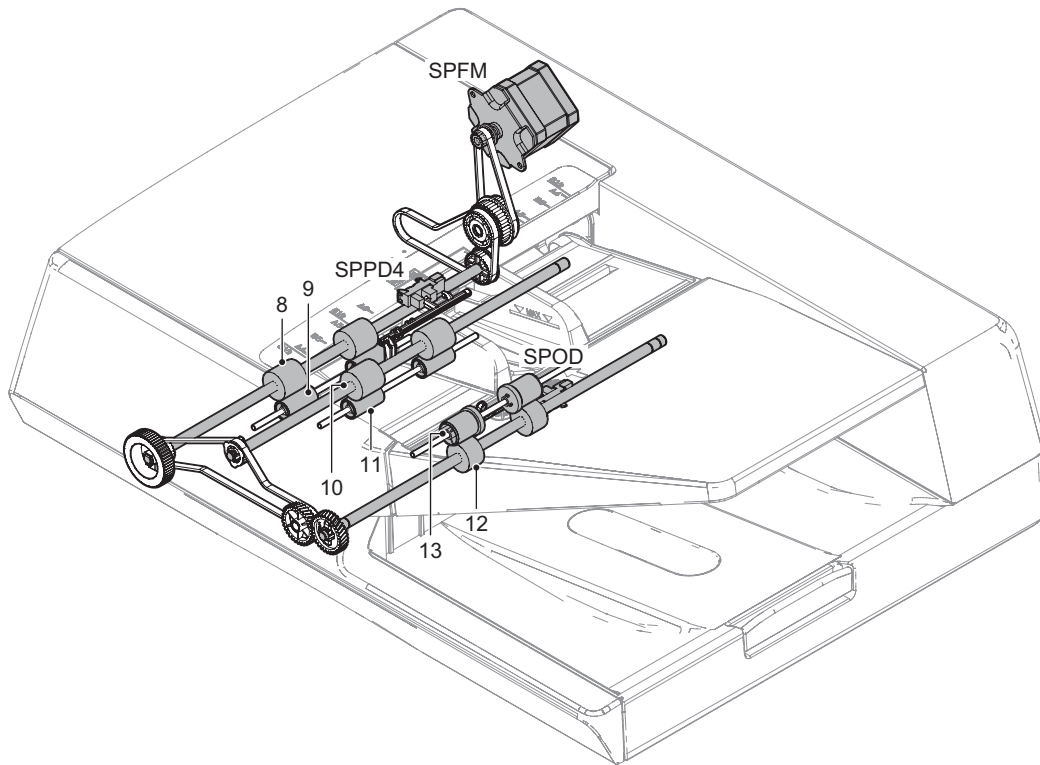
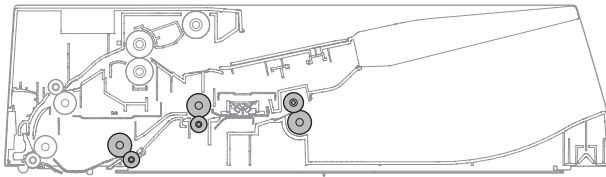
Signal name	Name	Function and Operation
SPFM	DSPF transport motor	Transports a document
SPPD2	Document pass sensor 2	Detects pass of the document
SRRC	Registration roller clutch	Controls ON/OFF of registration roller

No.	Name	Function and Operation
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.



Signal name	Name	Function and Operation
SOCD	DSPF UNIT open/close sensor	Detects open/close of the DSPF unit
SPFM	DSPF transport motor	Transports a document
SPPD3	Document pass sensor 3	Detects pass of the document

No.	Name	Function and Operation
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.



Signal name	Name	Function and Operation
SPOD	Document exit sensor	Detects document exit of the document
SPFM	DSPF transport motor	Transports a document
SPPD4	Document pass sensor 4	Detects pass of the document

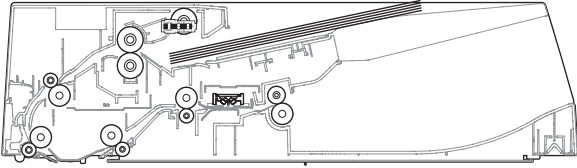
No.	Name	Function and Operation
8	Transport roller 2 (Drive)	Transports a document transported from the document scanning section to the transport roller 3.
9	Transport roller 2 (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller tot the document.
10	Transport roller 3 (Drive)	Transports a document transported from the transport roller 2 to the paper exit roller.
11	Transport roller 3 (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.
12	Paper exit roller (Drive)	Discharges a document.
13	Paper exit roller (Idle)	Apply a pressure to a document and the paper exit roller to provide the transport power of the paper exit roller to the document.

B. Operational descriptions

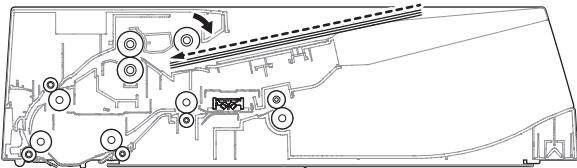
(1) Paper feed and transport operations

a. Single face scanning

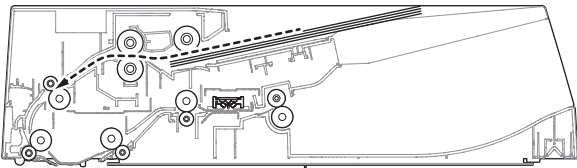
- 1) Document set (Document empty sensor ON)



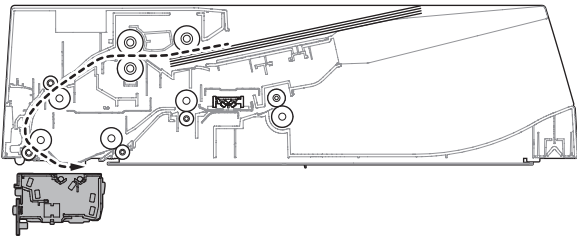
- 2) Paper feed start (1st sheet)
The pick-up roller descends. (The paper feed motor is booted.)
(The transport motor is booted simultaneously.)



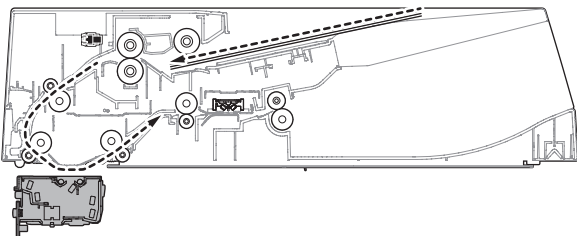
- 3) Resist operation (1st sheet)
(Resist clutch ON)
(When a certain time passes after turning ON the resist clutch, the paper feed motor is turned OFF.)



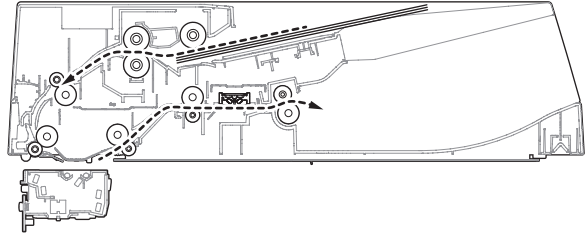
- 4) Scanning start (1st sheet)



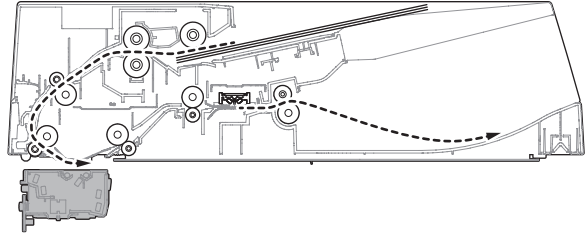
- 5) Paper feed start (2nd sheet)
 - When the SPPD 1 sensor responds to a document, "SPPD 1 off" and "OPM interval elapsed from the start of previous document feed", next paper feed start.
 - When the SPPD 1 sensor does not respond, when "SPPD 2 off" and "OPM interval has elapsed from the start of previous original feed", next paper feed start.



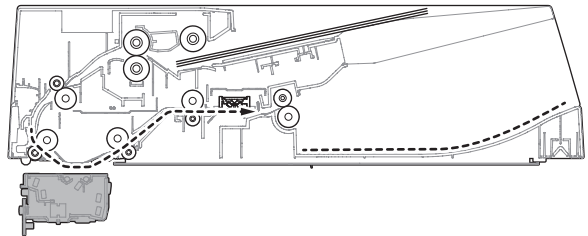
- 6) Scanning complete (1st sheet)/Resist operation (2nd sheet)
(When a certain time passes after turning ON the resist clutch, the paper feed motor is turned OFF.)



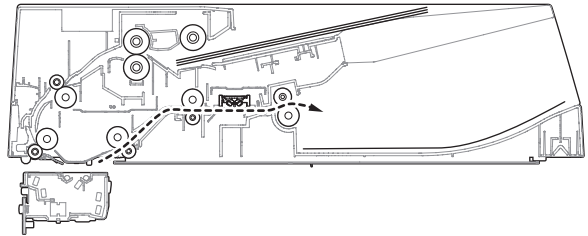
- 7) Scanning start (2nd sheet)



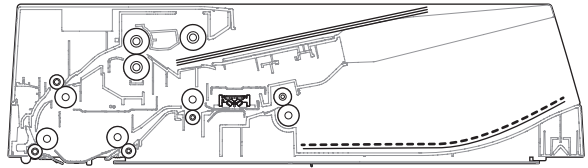
- 8) Paper exit complete (1st sheet)



- 9) Scanning complete (2nd sheet)

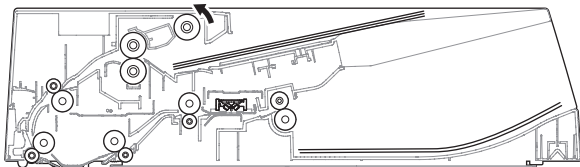


- 10) Paper exit complete (2nd sheet)



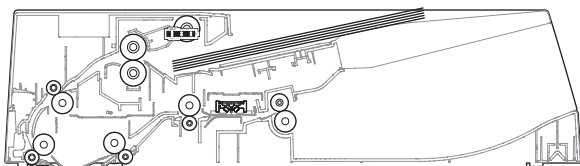
11) Pick-up roller lifting up

(After completion of a job, the paper feed motor is rotated reversely at a low speed for a certain time to lift the pickup roller.)

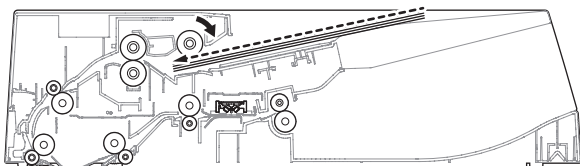


b. Duplex scanning

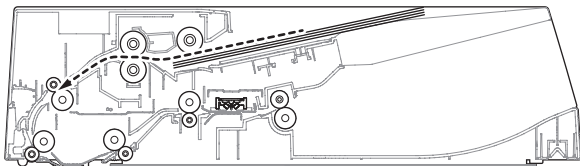
1) Document set (Document empty sensor ON)



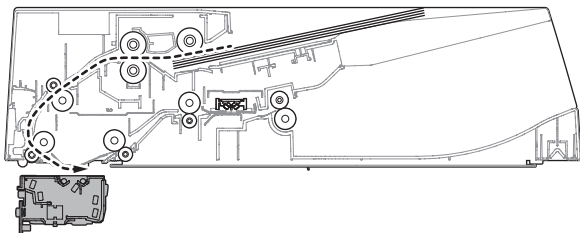
2) Paper feed start (1st sheet) Pick-up roller descending



3) Resist operation (1st sheet)

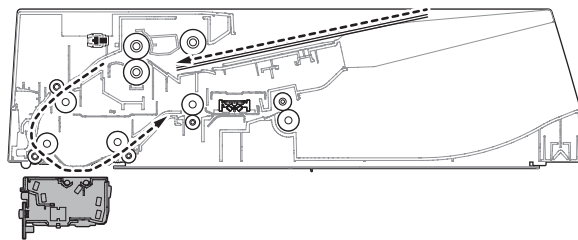


4) Scanning start (1st sheet, front surface)

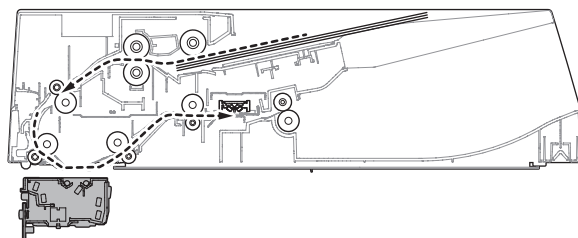


5) Paper feed start (2nd sheet)

- When the SPPD 1 sensor responds to a document, "SPPD 1 off" and "OPM interval elapsed from the start of previous document feed", next paper feed start.
- When the SPPD 1 sensor does not respond, when "SPPD 2 off" and "OPM interval has elapsed from the start of previous original feed", next paper feed start.

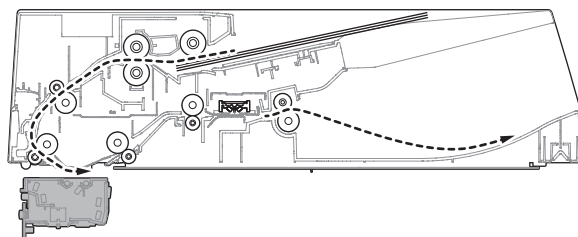


6) Scanning start (1st sheet, back surface)/Resist operation (2nd sheet)

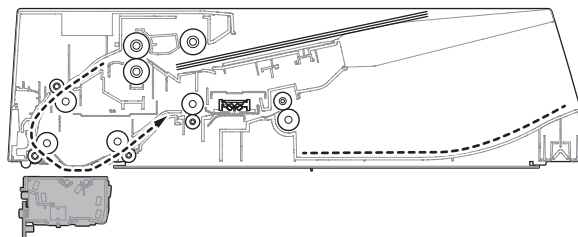


7) Scanning complete (1st sheet, back surface)/Scanning start (2nd sheet, front surface)

The next document will be transported / reading start without waiting for the reading completion of the previous original.

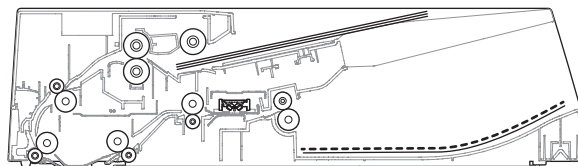


8) Paper exit complete (1st sheet)



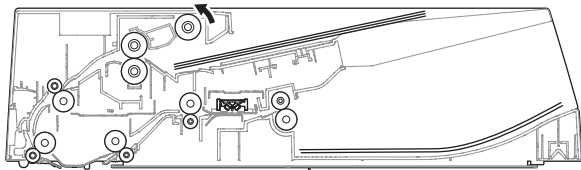
The same operations are performed hereinafter.

9) Paper exit complete (2nd sheet)



10) Pick-up roller lifting up

(After completion of a job, the paper feed motor is rotated reversely at a low speed for a certain time to lift the pickup roller.)

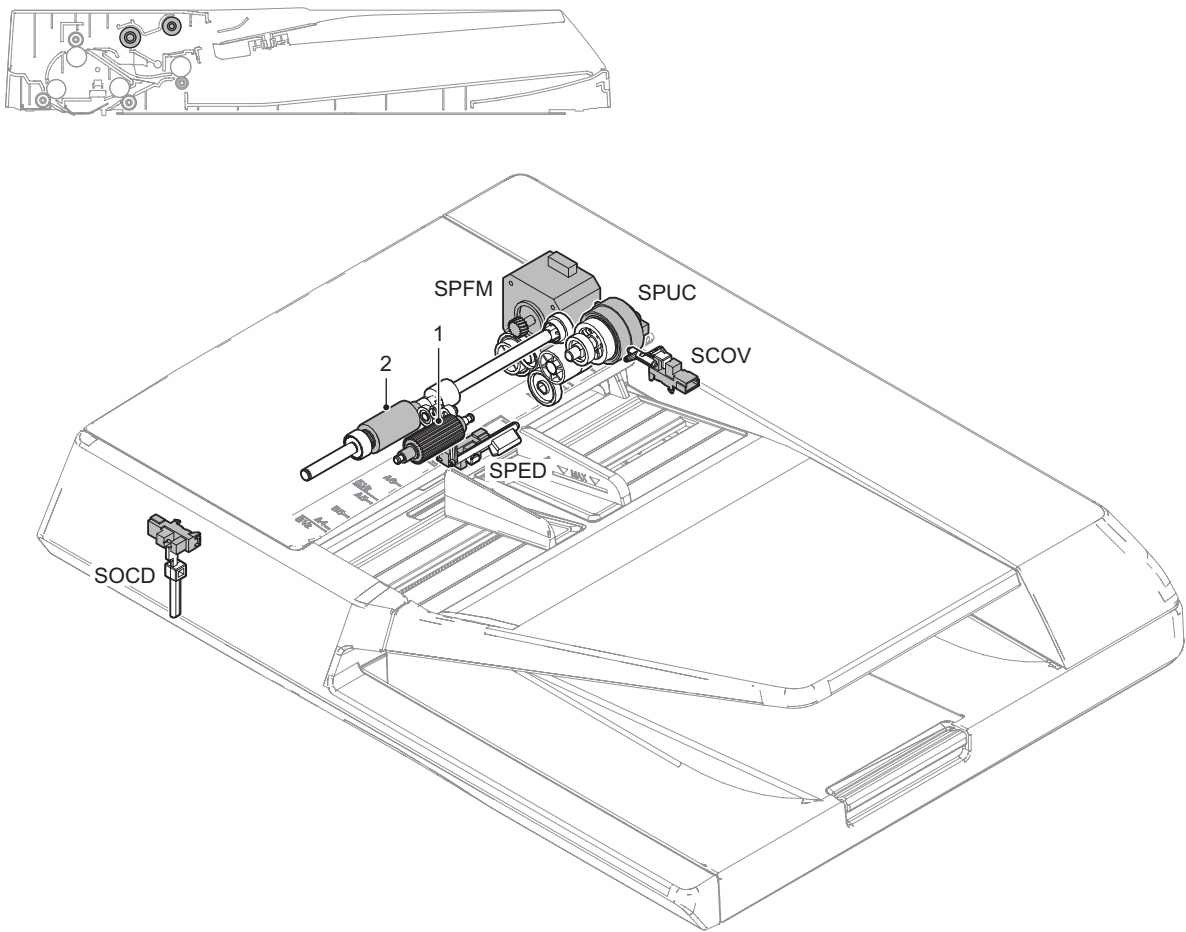


(2) The original scan

The CIS (Contact Image Sensor) unit is the contact type image scan sensor, and is assembled to the DSPF to scan document images. The LED light in the CIS unit is radiated to a document, and the reflected light is passed through the lens to the photoelectric conversion elements to form images. The CIS and the CCD assembled in the lens unit allow simultaneous scan of duplex surfaces of a document.

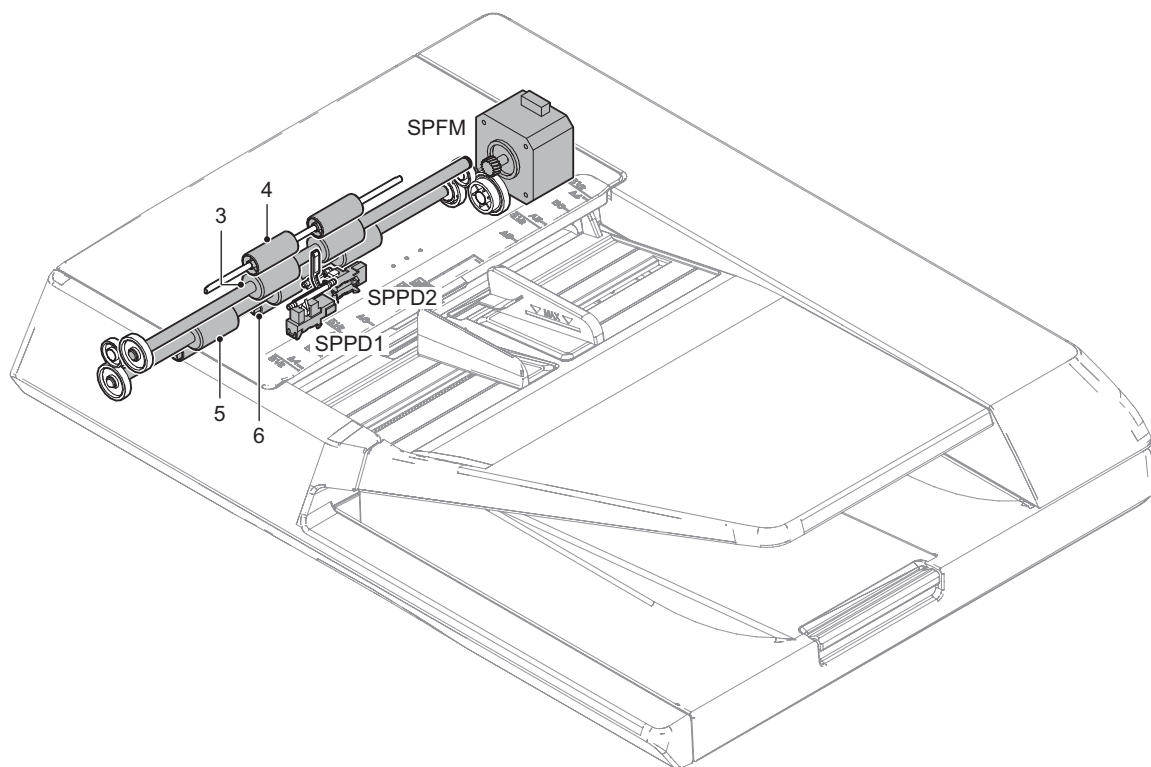
14. RSPF section

A. Mechanism relation diagram



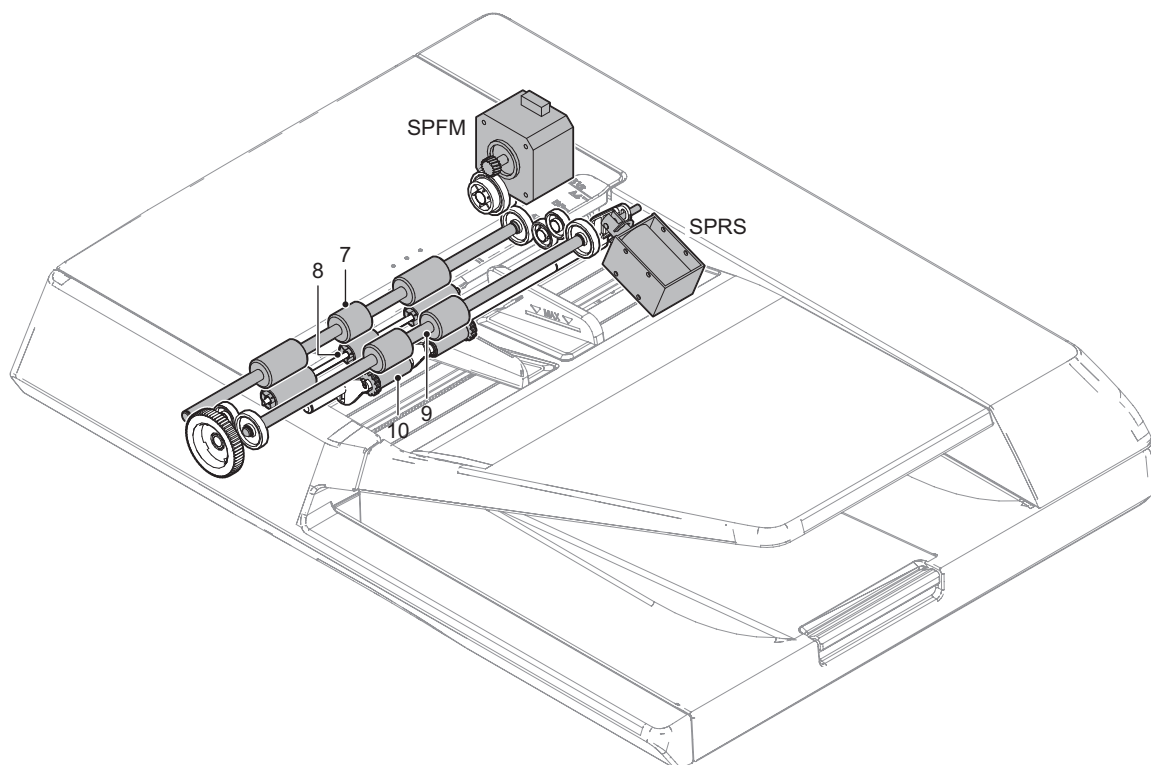
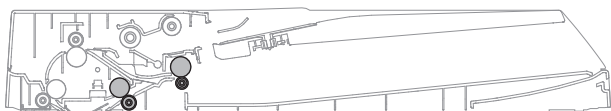
Signal name	Name	Function and Operation
SCOV	RSPF cover open/close sensor	Detects open/close of the RSPF cover
SOCD	RSPF UNIT open/close sensor	Detects open/close of the RSPF unit
SPED	Document tray empty sensor	Detects document empty in the RSPF paper feed tray
SPFM	RSPF transport motor	Transports a document
SPUC	Paper feed clutch	Controls ON/OFF of the pickup and separation roller

No.	Name	Function and Operation
1	Pickup roller	Feeds a document to the paper feed roller.
2	Separation roller	Separates a document to prevent double-feeding.



Signal name	Name	Function and Operation
SPFM	RSPF transport motor	Transports a document
SPPD1	Document pass sensor 1	Detects paper feed and the document length.
SPPD2	Document pass sensor 2	Detects paper pass

No.	Name	Function and Operation
3	Registration roller (Drive)	Transports a document to the Before reading roller. / Controls the transport timing of the document and adjusts the document scanning timing.
4	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.
5	Before reading roller (Drive)	Transports a document transported from the registration roller to the document scanning section.
6	Before reading roller (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.



Signal name	Name	Function and Operation
SPFM	RSPF transport motor	Transports a document
SPRS	Paper exit roller solenoid	Controls ON/OFF of the power of the paper exit roller

No.	Name	Function and Operation
7	After reading roller (Drive)	Transports a document transported from the document scanning section to the paper exit roller.
8	After reading roller (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.
9	Exit roller (Drive)	Discharges a document. Switchbacks the document and transports it to the registration roller when scanning the back surface.
10	Exit roller (Idle)	Apply a pressure to a document and the paper exit roller to provide the transport power of the paper exit roller to the document.

B. Operational descriptions

(1) Paper feed and transport operations

a. Paper feed operation

The transport motor is turned ON and the power of the transport motor is transmitted to the pickup roller by turning ON the paper feed clutch. The pickup roller descends to pickup the top document and feed it to the paper feed roller.

The paper feed roller feeds a document to the transport section.

At that time, the document is separated by the separation sheet to prevent double-feeding.

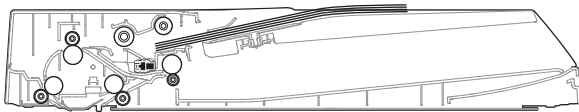
b. Single face scanning

The fed document is passed through the registration roller and transport roller 1 to the document scanning section, where images are scanned.

Then the document is passed through transport roller 2 to the paper exit roller.

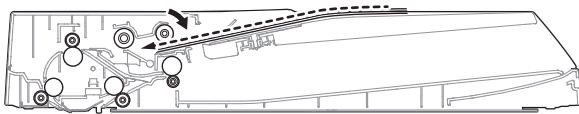
The rollers (the registration roller, transport rollers 1 and 2, the paper exit roller) in the transport section are driven by the transport motor.

- 1) Document set (Document empty sensor ON)

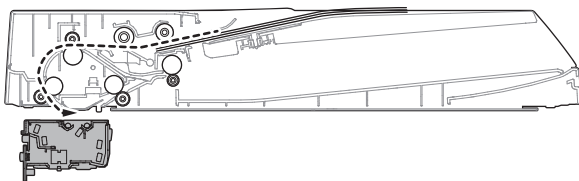


- 2) Paper feed start (1st sheet)

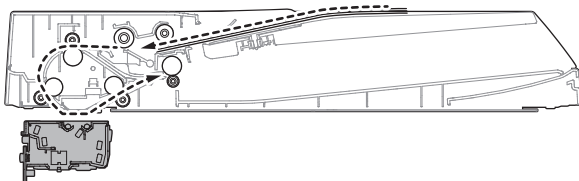
The pick-up roller descends. (The transport motor is booted. And the paper feed clutch is ON.)



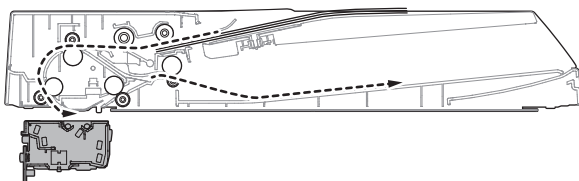
- 3) Scanning start (1st sheet)



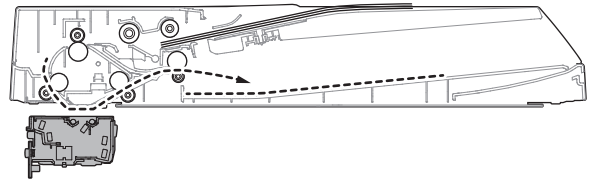
- 4) Paper feed start (2nd sheet)



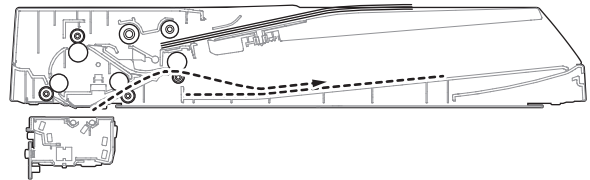
- 5) Scanning start (2nd sheet)



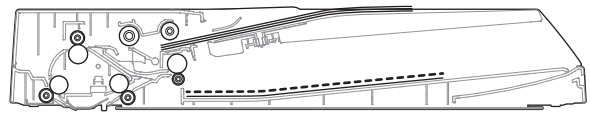
- 6) Paper exit complete (1st sheet)



- 7) Scanning complete (2nd sheet)

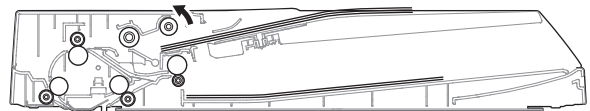


- 8) Paper exit complete (2nd sheet)



- 9) Pick-up roller lifting up

(After completion of a job, the paper feed clutch is ON, then, the paper exit 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 SPPD2 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 paper exit roller is reversed to switch-back 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.

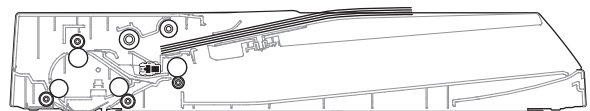
To reset the page order of the documents, the following operations are made which are triggered by the detection of the rear edge of the document.

That is, when the rear edge of the document passes the reverse gate, the transport motor is reversed.

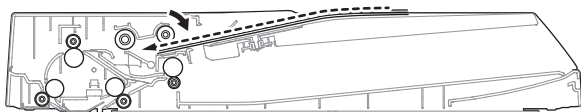
Due to the above operation, the paper exit roller is reversed to switch-back the document, returning it to the registration roller section and aligning (registration) the document.

Then the transport motor is rotated normally to transport the document to the paper exit section and discharge it.

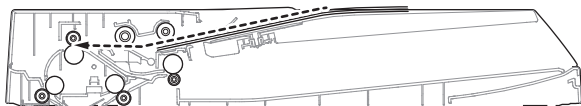
- 1) Document set (Document empty sensor ON)



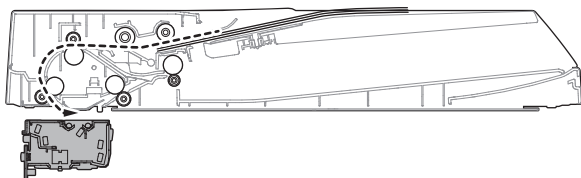
- 2) Paper feed start (1st sheet)
Pick-up roller descending



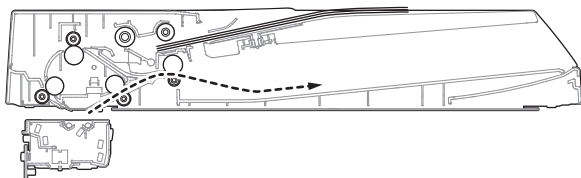
- 3) Registration operation (1st sheet, front surface)



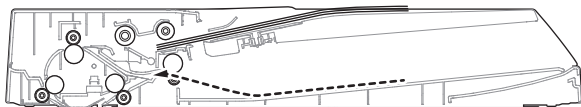
- 4) Scanning start (1st sheet, front surface)



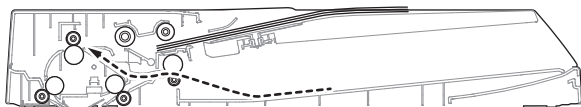
- 5) Scanning complete (1st sheet, front surface)



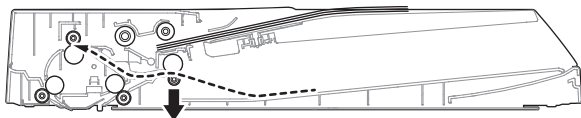
- 6) After passing through the inverse gate, reversing is started.



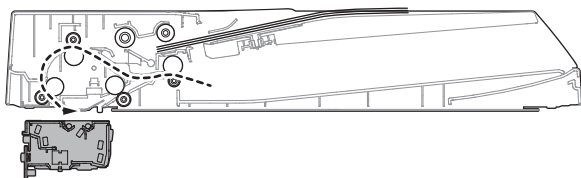
- 7) After reversing, registration operation is executed.



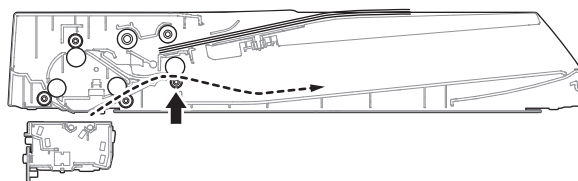
- 8) Motor start (forward rotation), the solenoid ON, the reverse follower roller pressure is released.



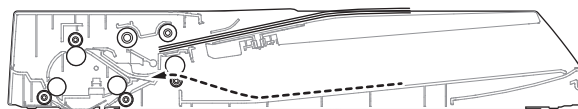
- 9) Scanning start (First sheet, back surface)



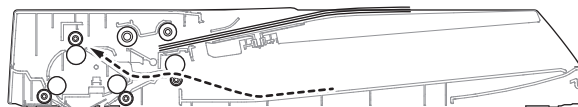
- 10) After completion of scanning, the solenoid OFF, the reverse follower roller is pressed.



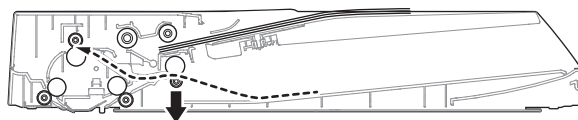
- 11) After passing through the inverse gate, reversing is started.



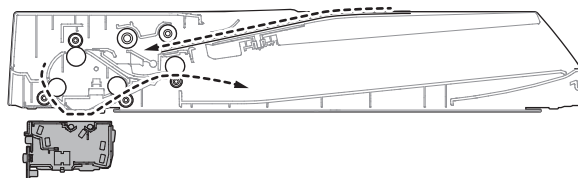
- 12) After reversing, registration operation is executed.



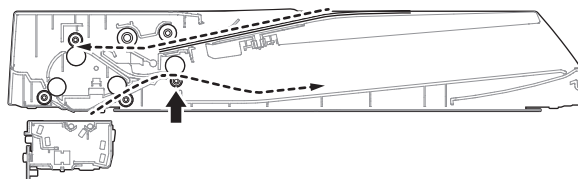
- 13) Motor start (forward rotation), the solenoid ON, the reverse follower roller pressure is released.



- 14) Scanning start (Second sheet)

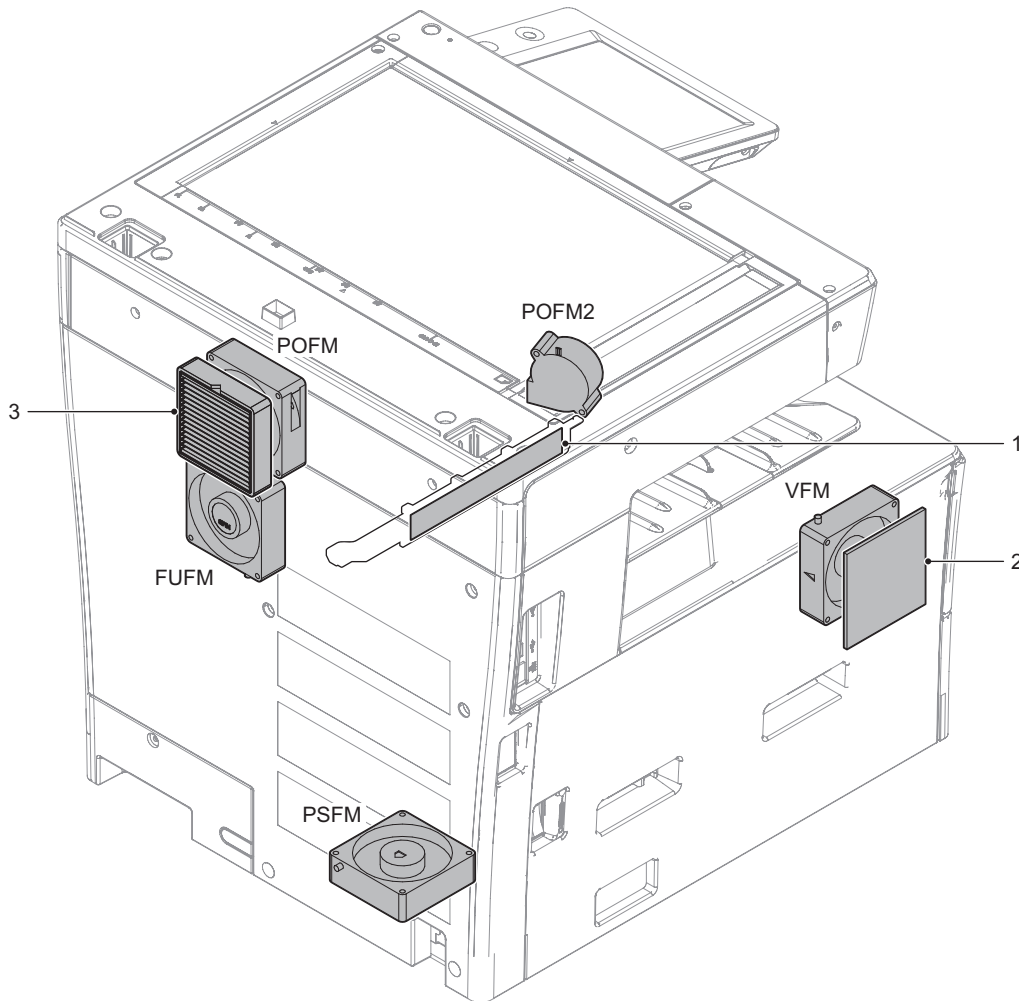


- 15) After passing the scanning section, the reverse follower roller is pressed.



15. Fan and Filter section

A. Mechanism relation diagram



Signal name	Name	Function and Operation
FUFM	Fusing cooling Fan	Cools the fusing section
POFM	Paper delivery cooling Fan	Cools the paper exit section
POFM2	Paper cooling Fan	Cools the paper
PSFM	Power supply cooling Fan	Cools the power unit
VFM	Ventilation Fan	Cools the inside of the machine

No.	Name	Function and Operation
1	DV filter	Prevents toner splash
2	Intake filter	Prevent the dust from entering inside the machine
3	UFP filter	Absorb UFP generated in the machine (For Europe and Japan only)

B. Operational descriptions

(1) Functions and operations of major parts

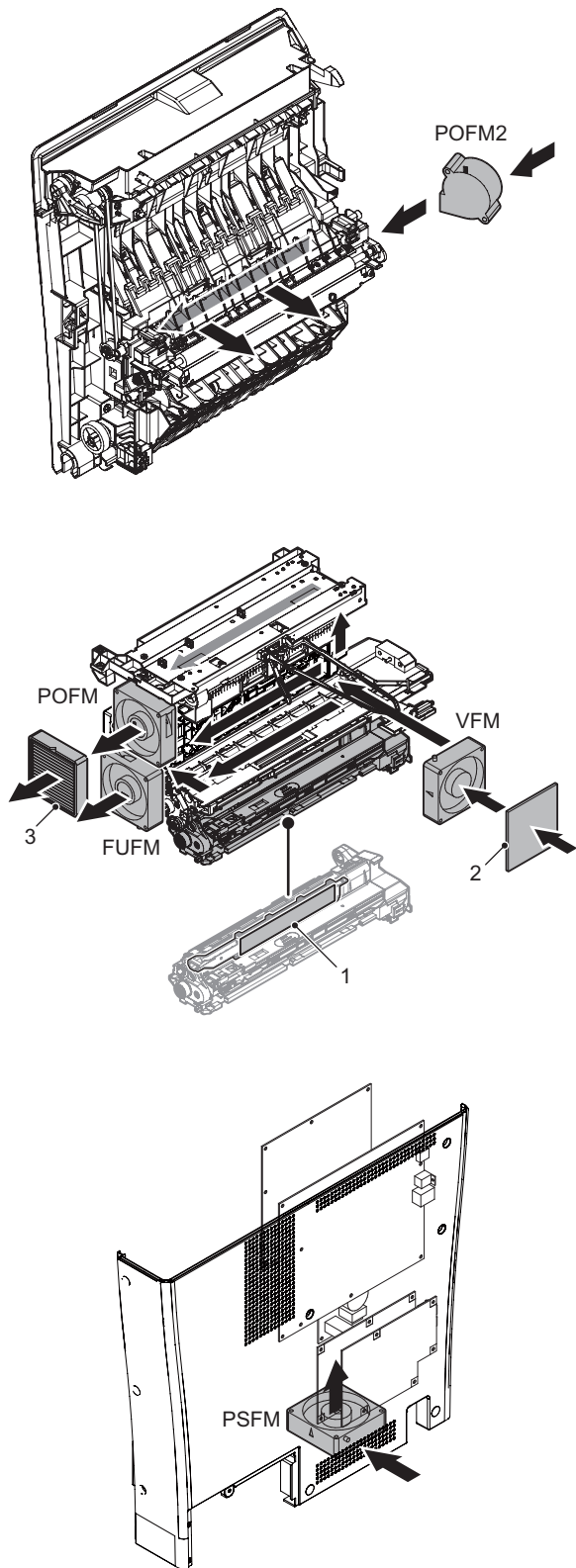
This machine is equipped with the following filter, the function of each filter is as shown in the table below.

In order to prevent the toner from scattering from the opening of the developing unit, an air pressure difference is generated between the inside and the outside of the developing unit by the air current of the fixing fan, but the DV filter generates a pressure difference Thereby preventing leakage of toner from the slit.

No.	Name	Function and Operation
1	DV filter	Prevents toner splash
2	Intake filter	Prevent the dust from entering inside the machine
3	UFP filter	Absorb UFP generated in the machine (For Europe and Japan only)

(2) Air flow chart

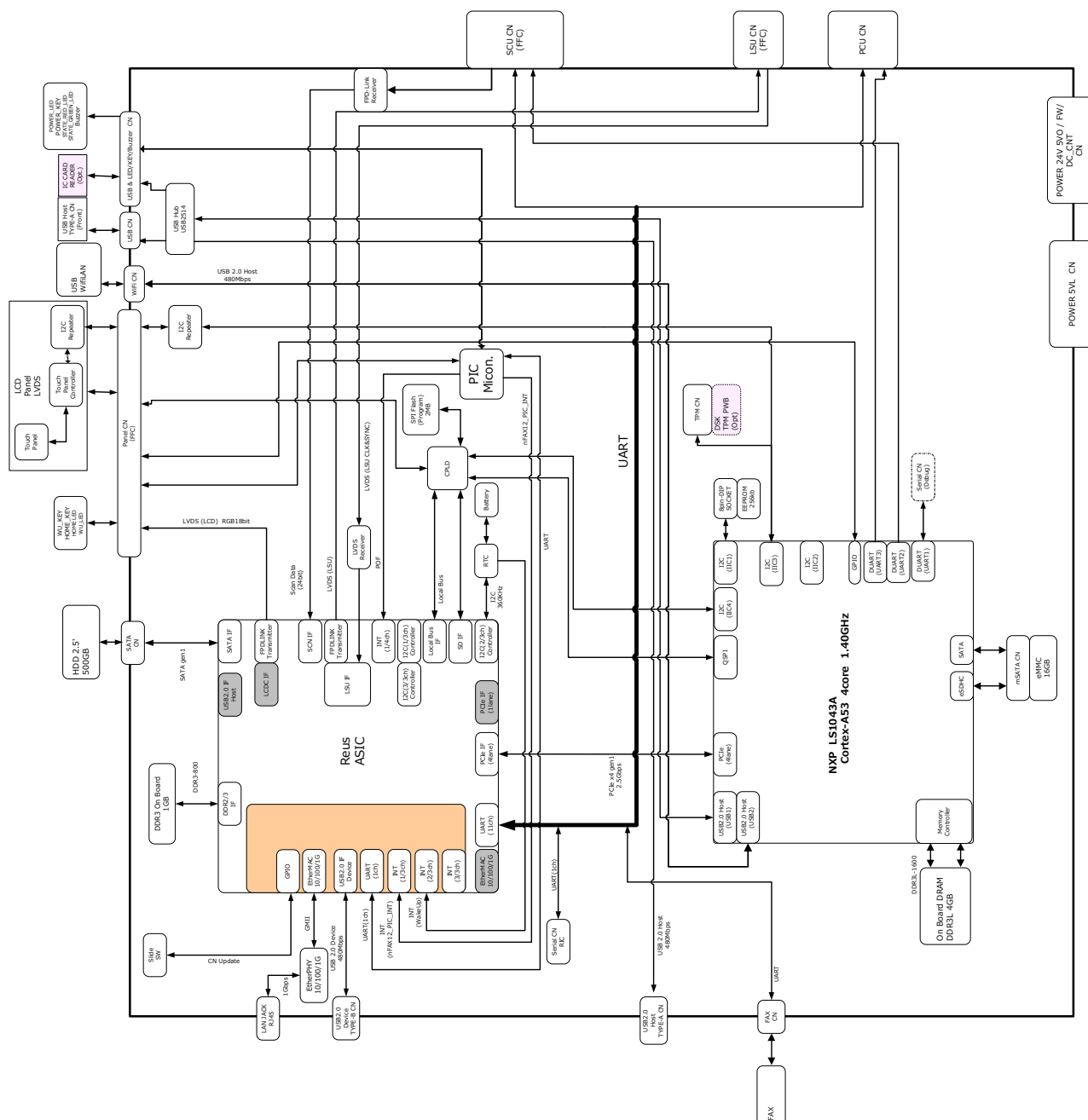
The air current is as shown below.



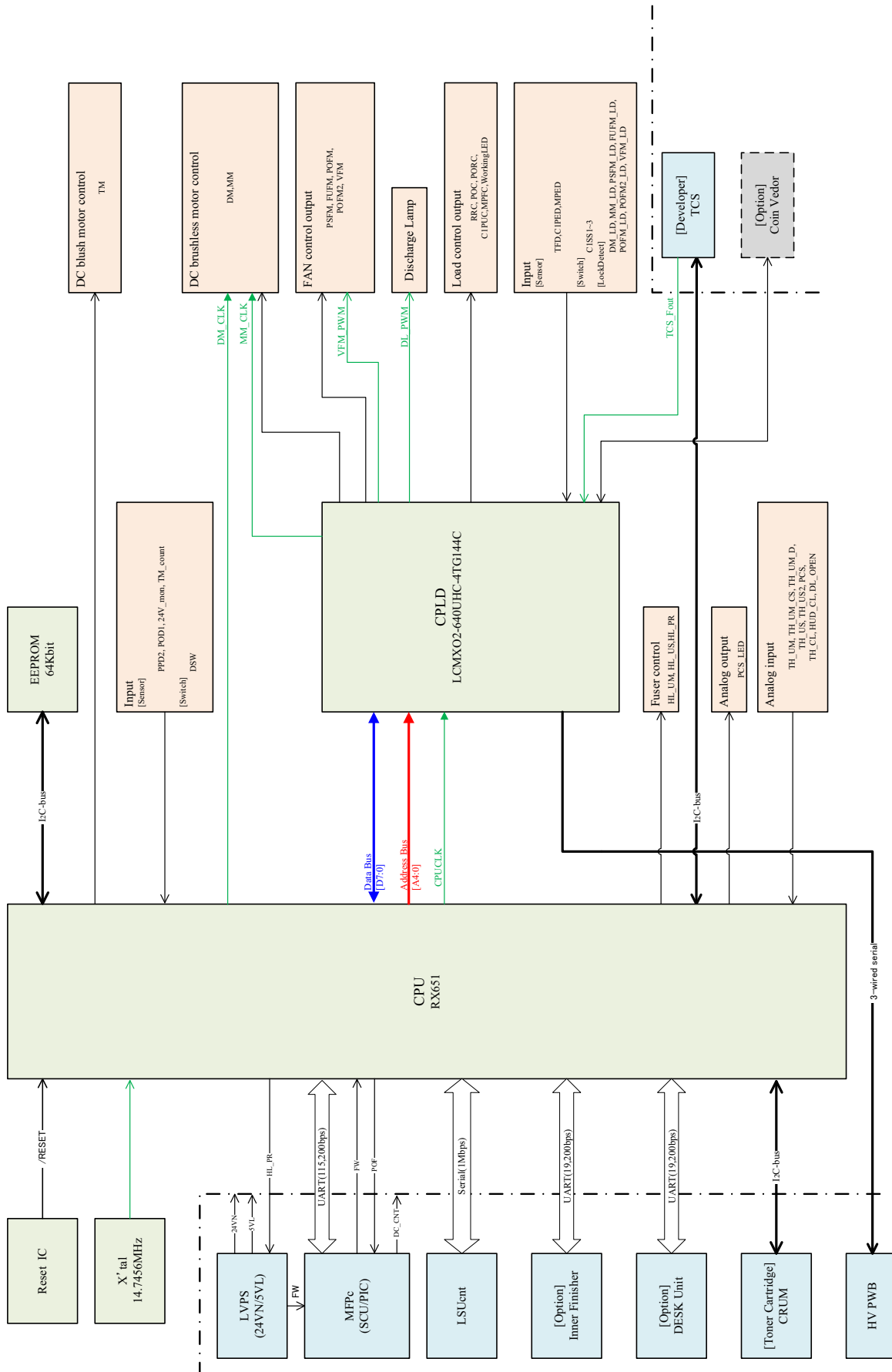
A. System block diagram



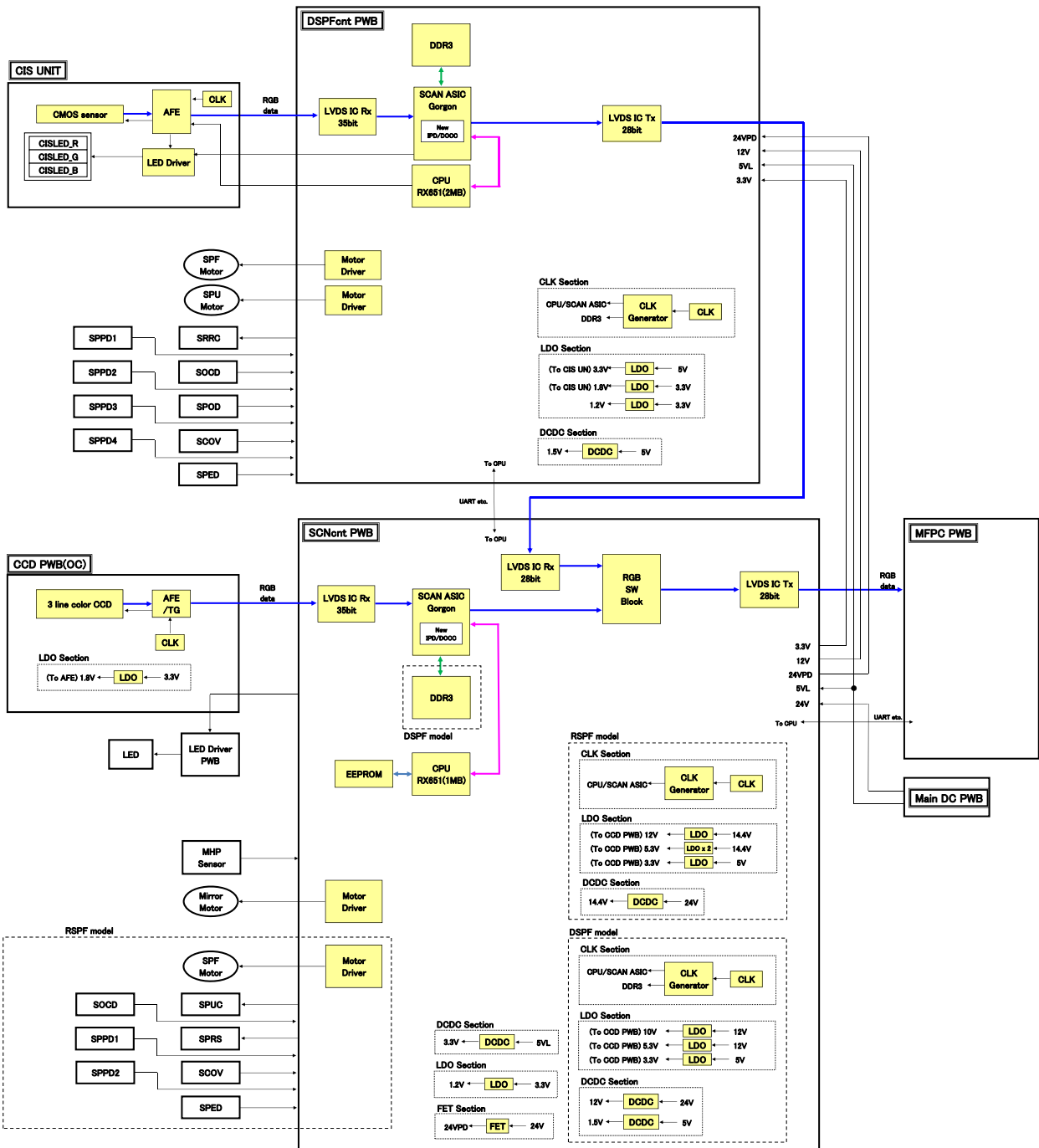
B. MFPC PWB



C. PCU PWB



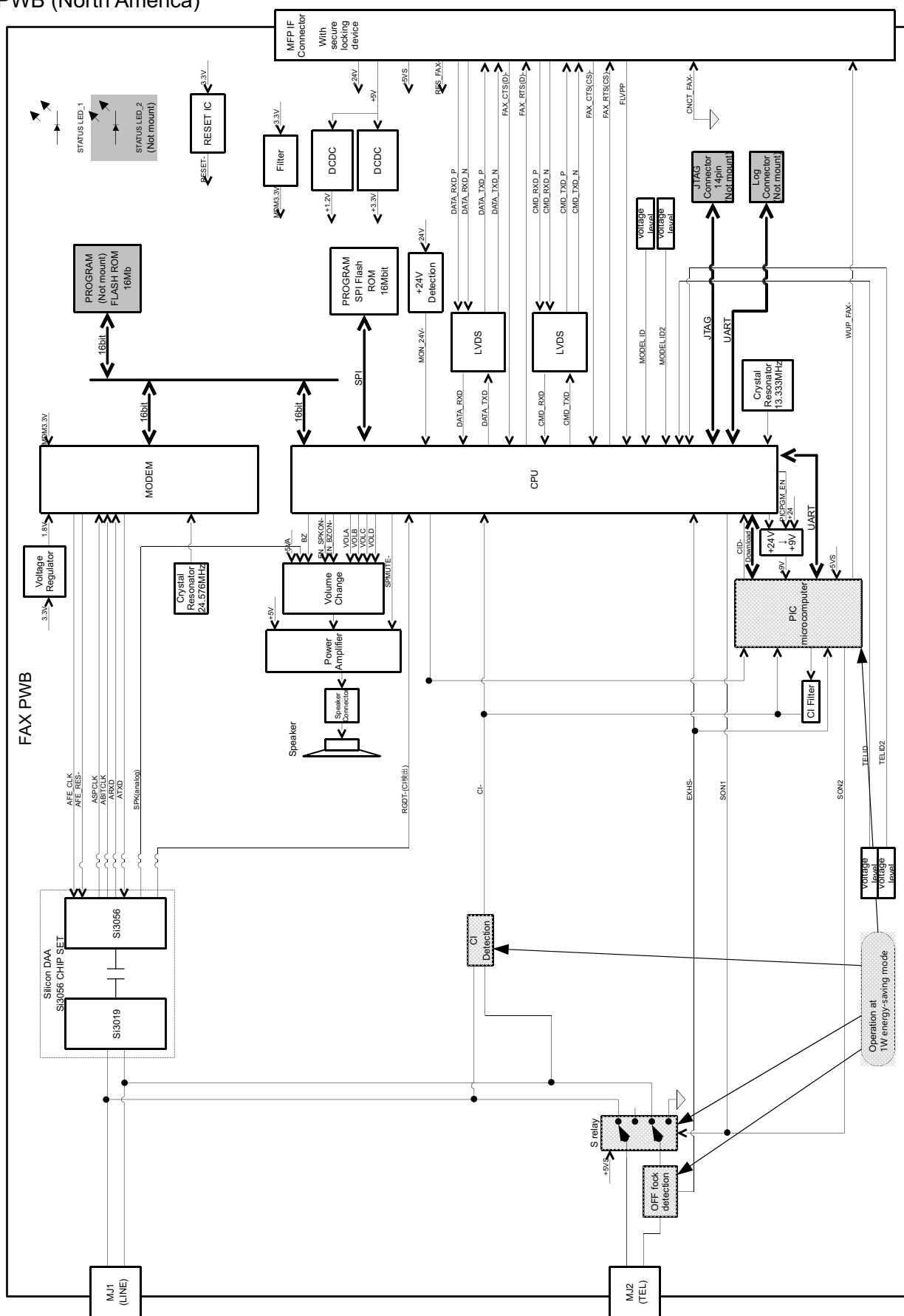
D. SCN-cnt PWB



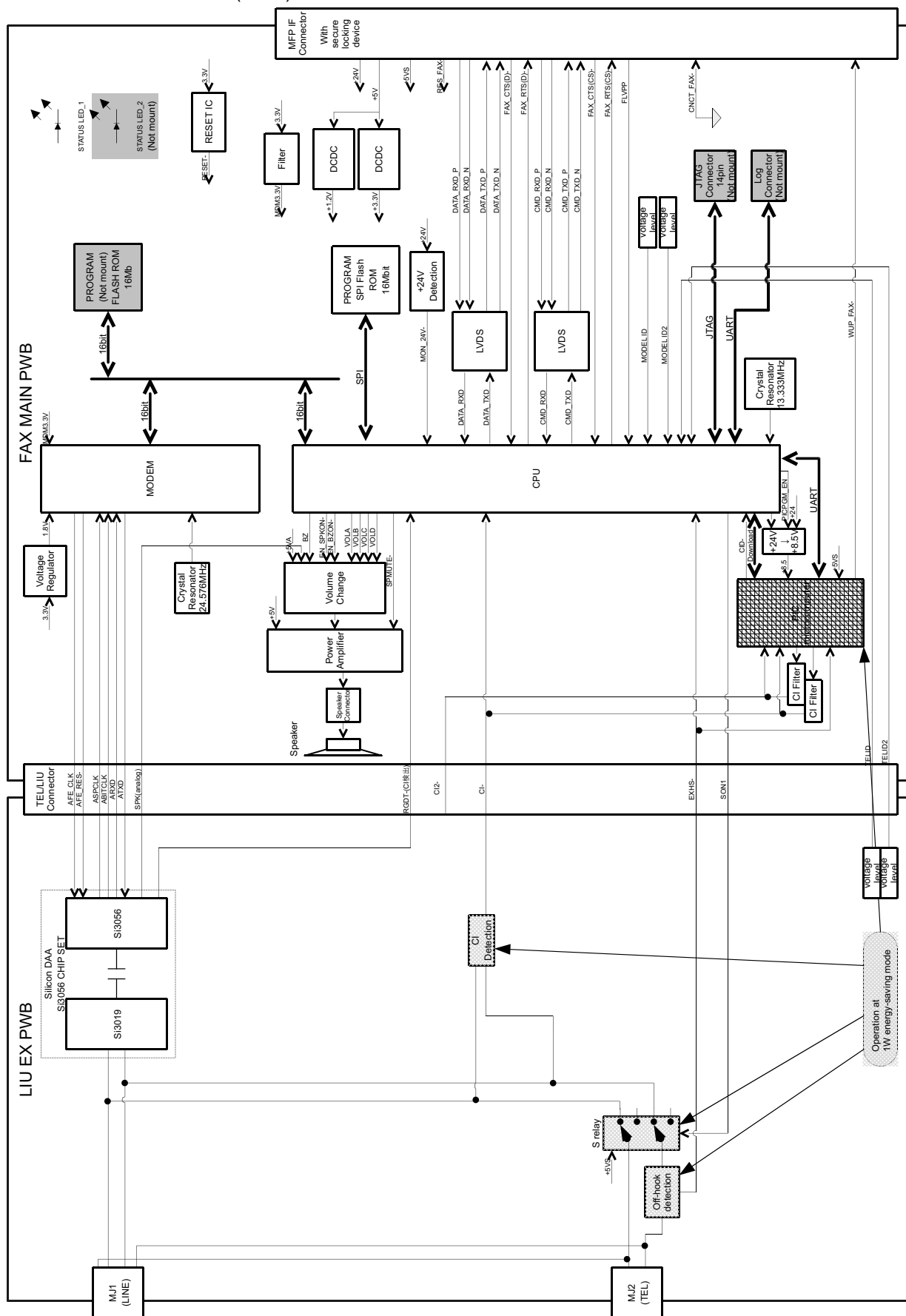
*Refer the Service Information (DCE-1239)

E. FAX MAIN PWB/ LIU PWB

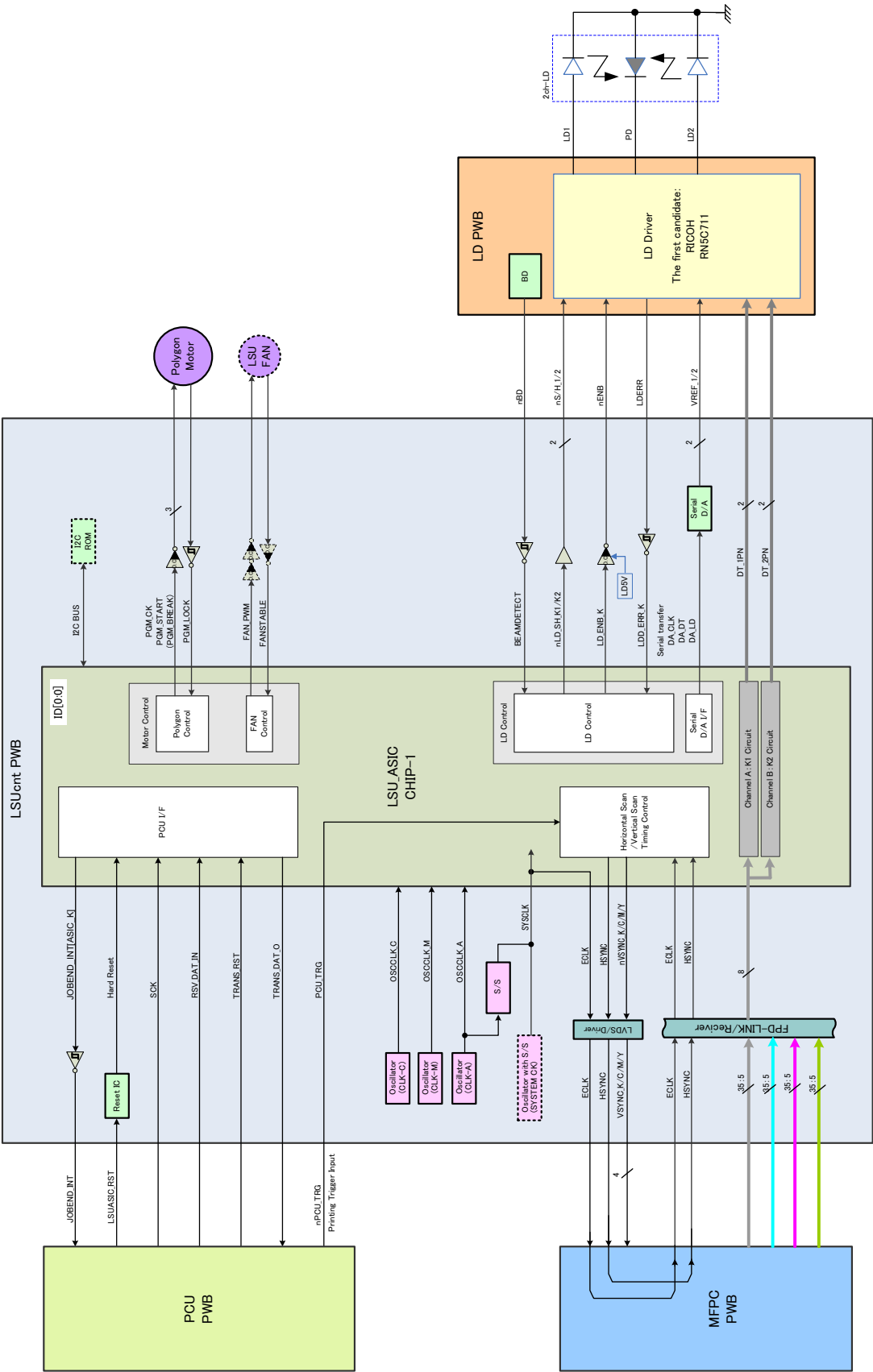
FAX PWB (North America)



FAX main PWB and LIU PWB (200V)

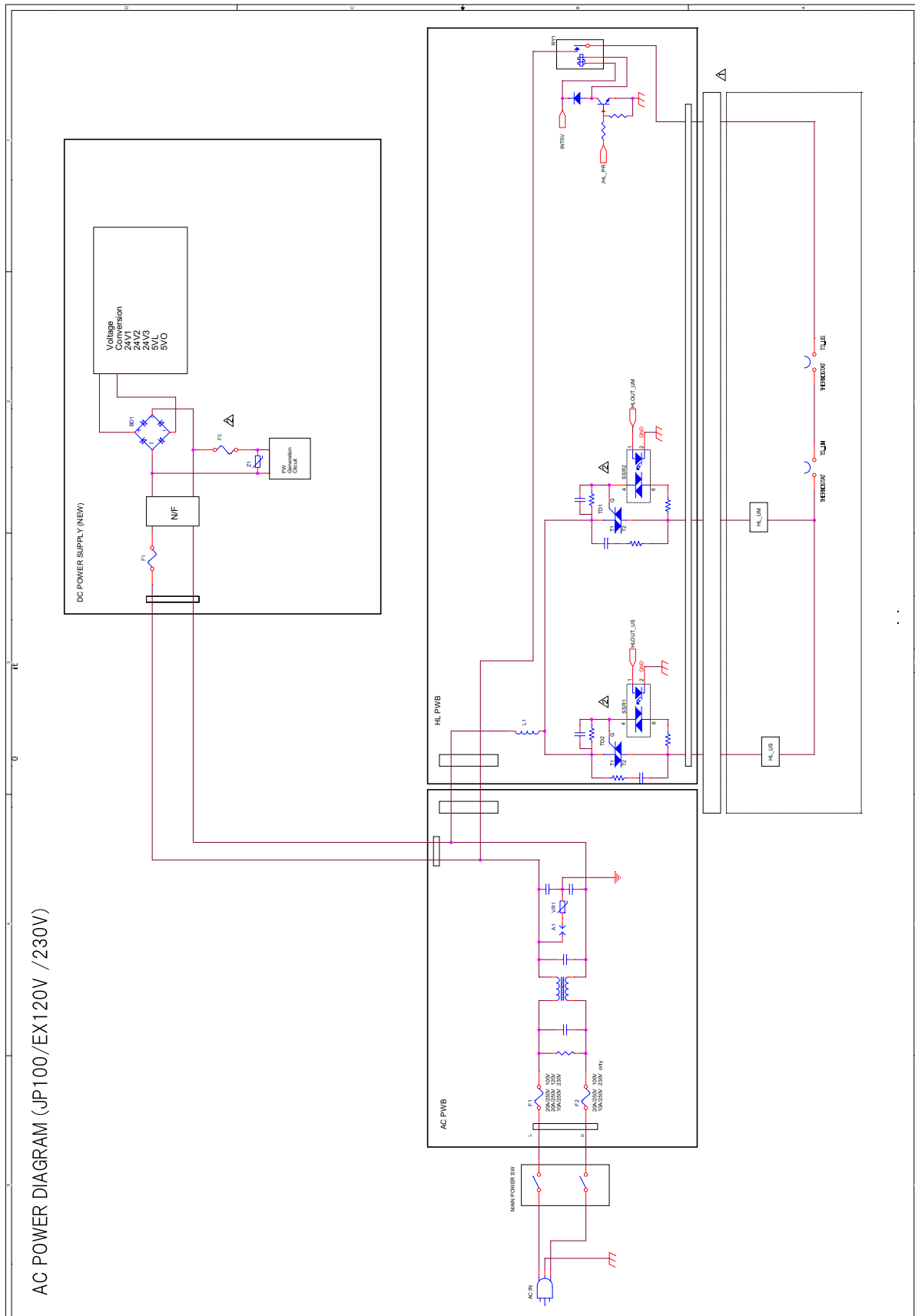


F. LSU PWB

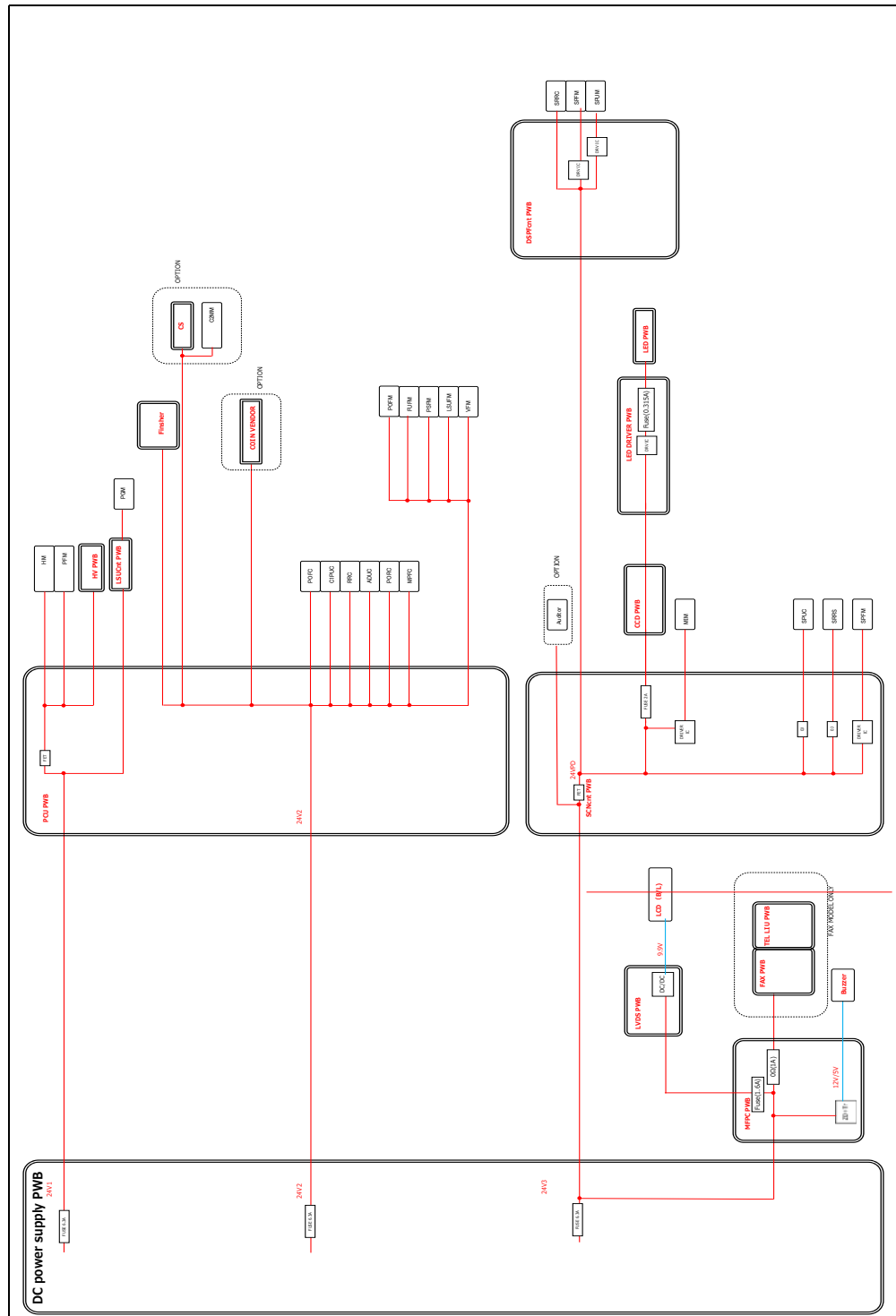


2. Power line diagram

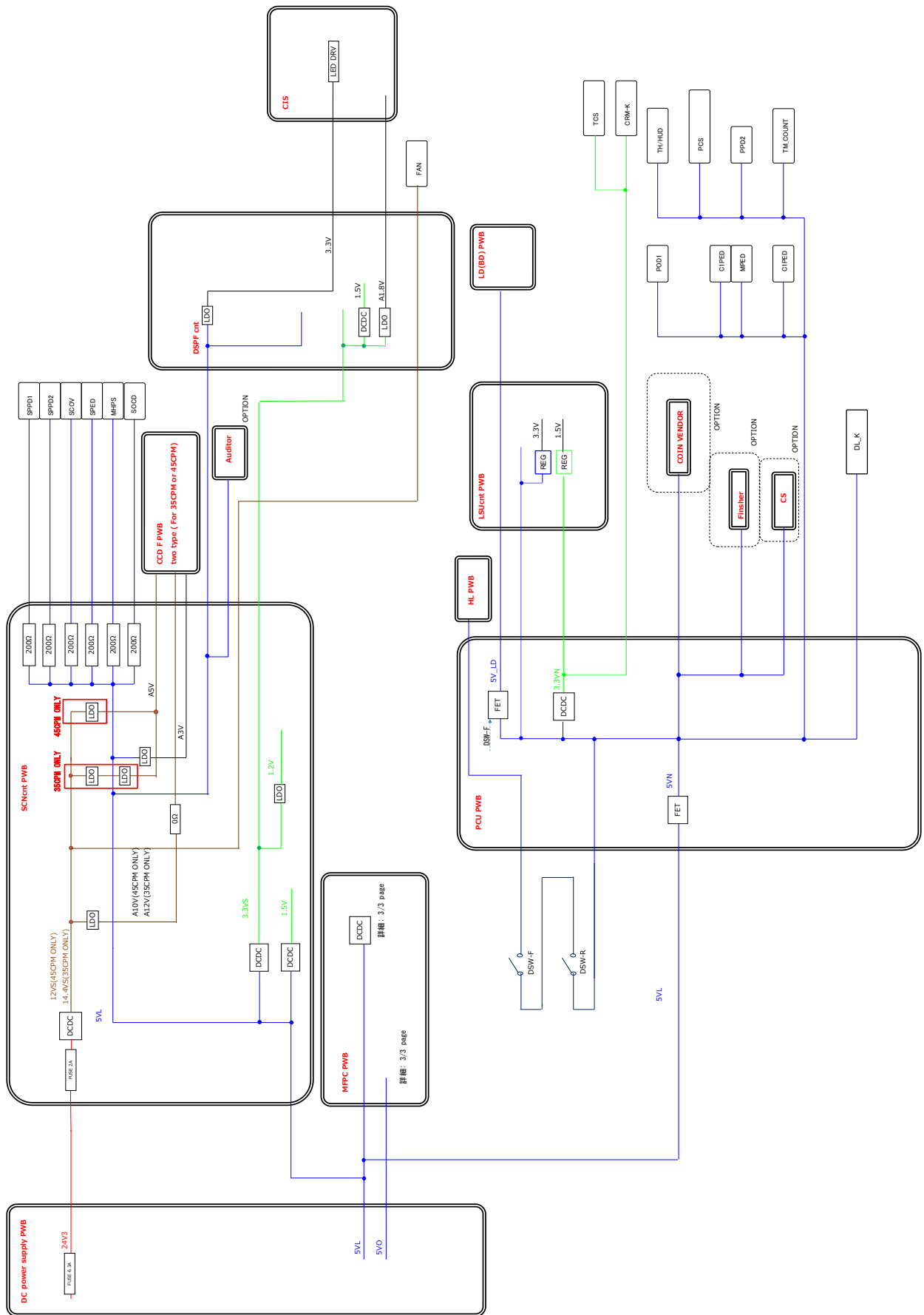
A. AC power line diagram



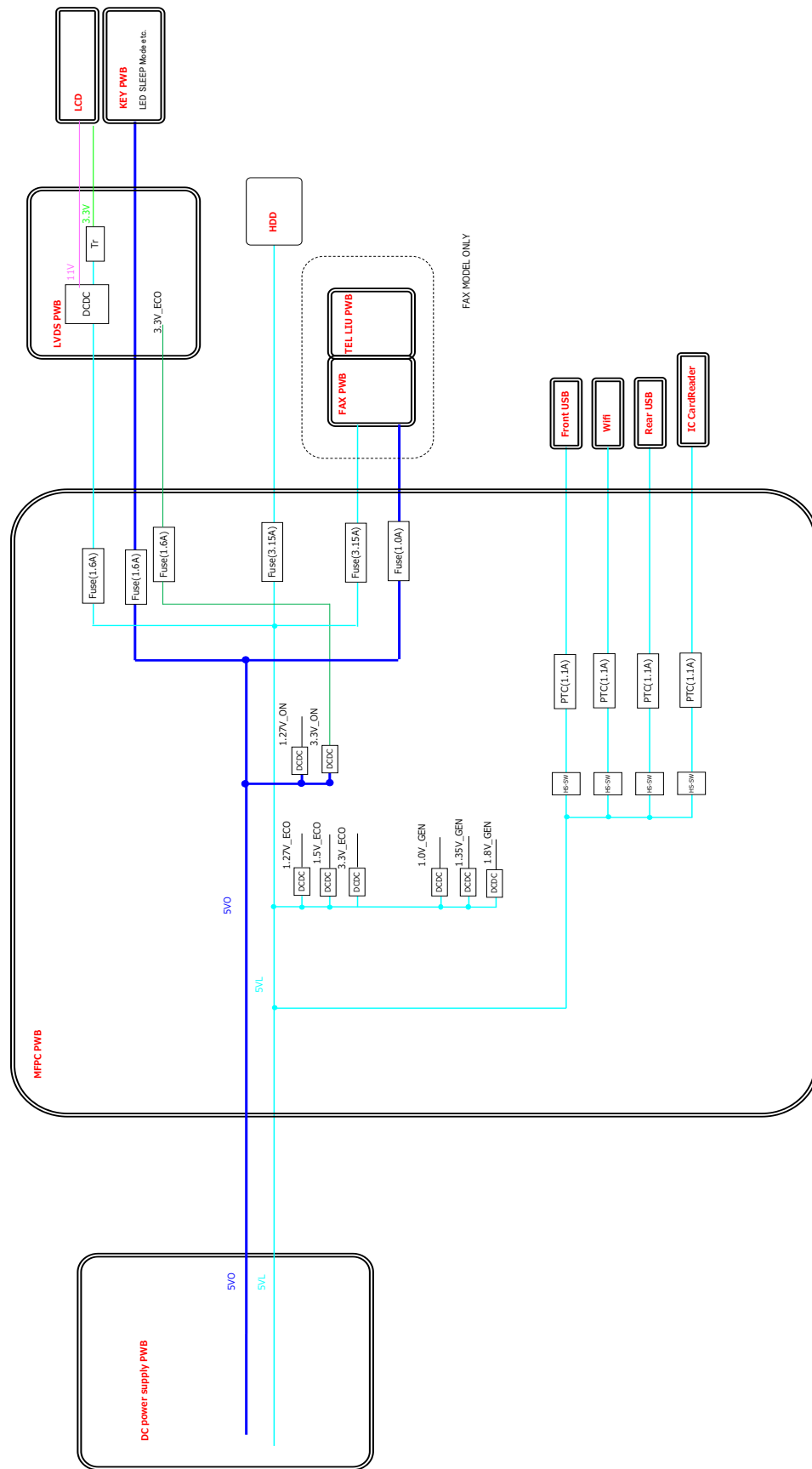
B. DC power line diagram



(12VL, 5VL, 3.3V)



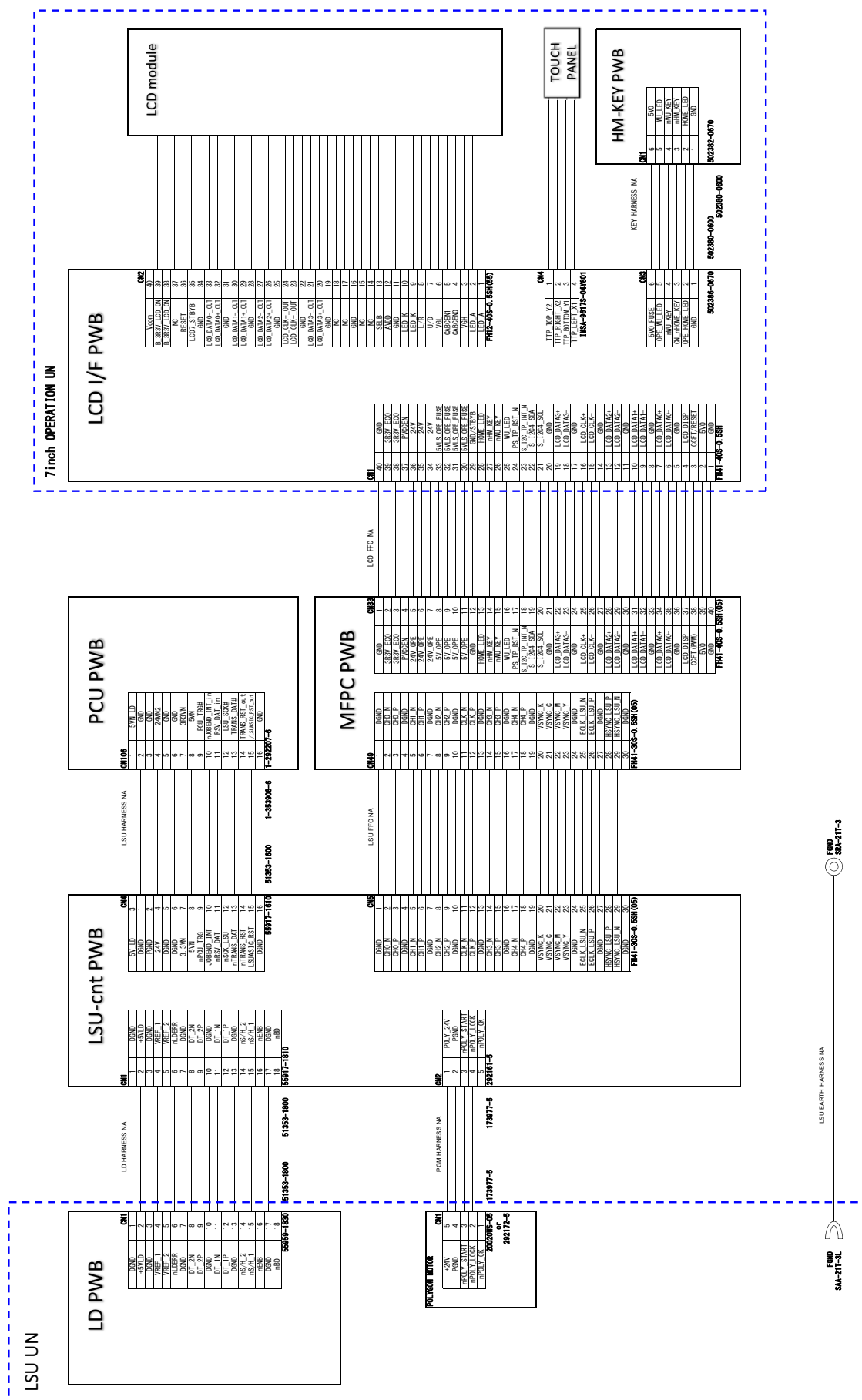
(5VO、5VL)



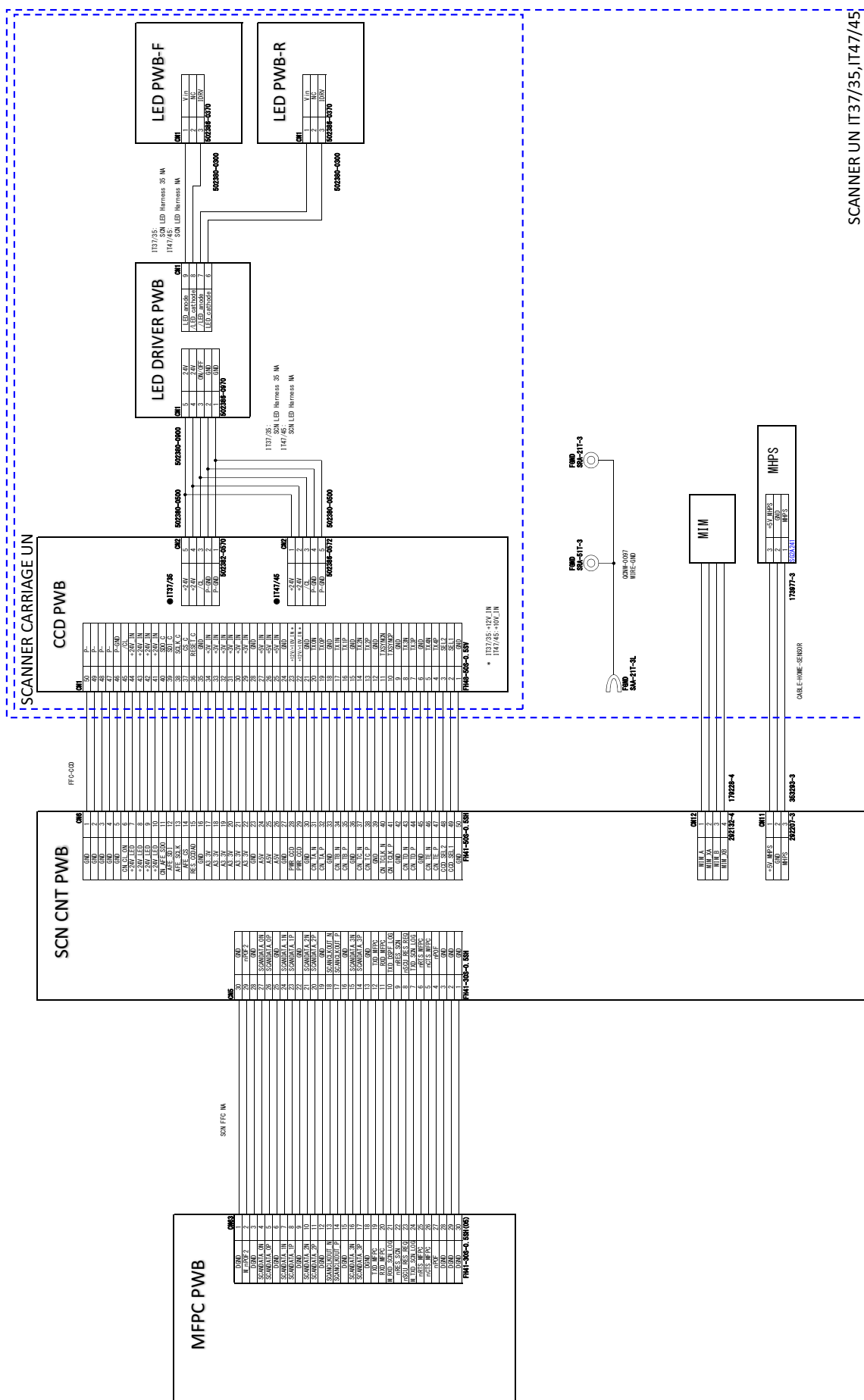
A. MFPC/FAX



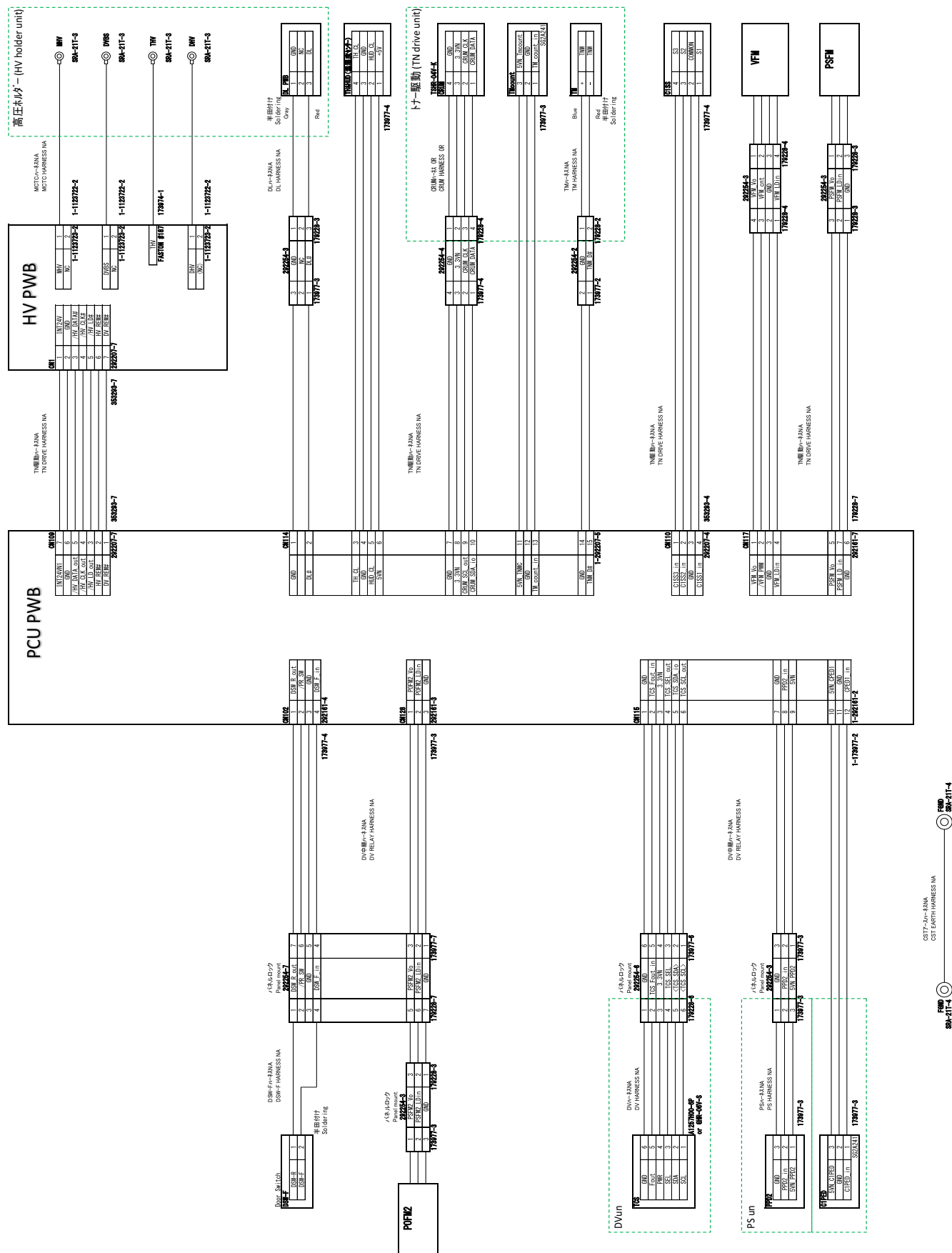
B. LSU/Operation panel



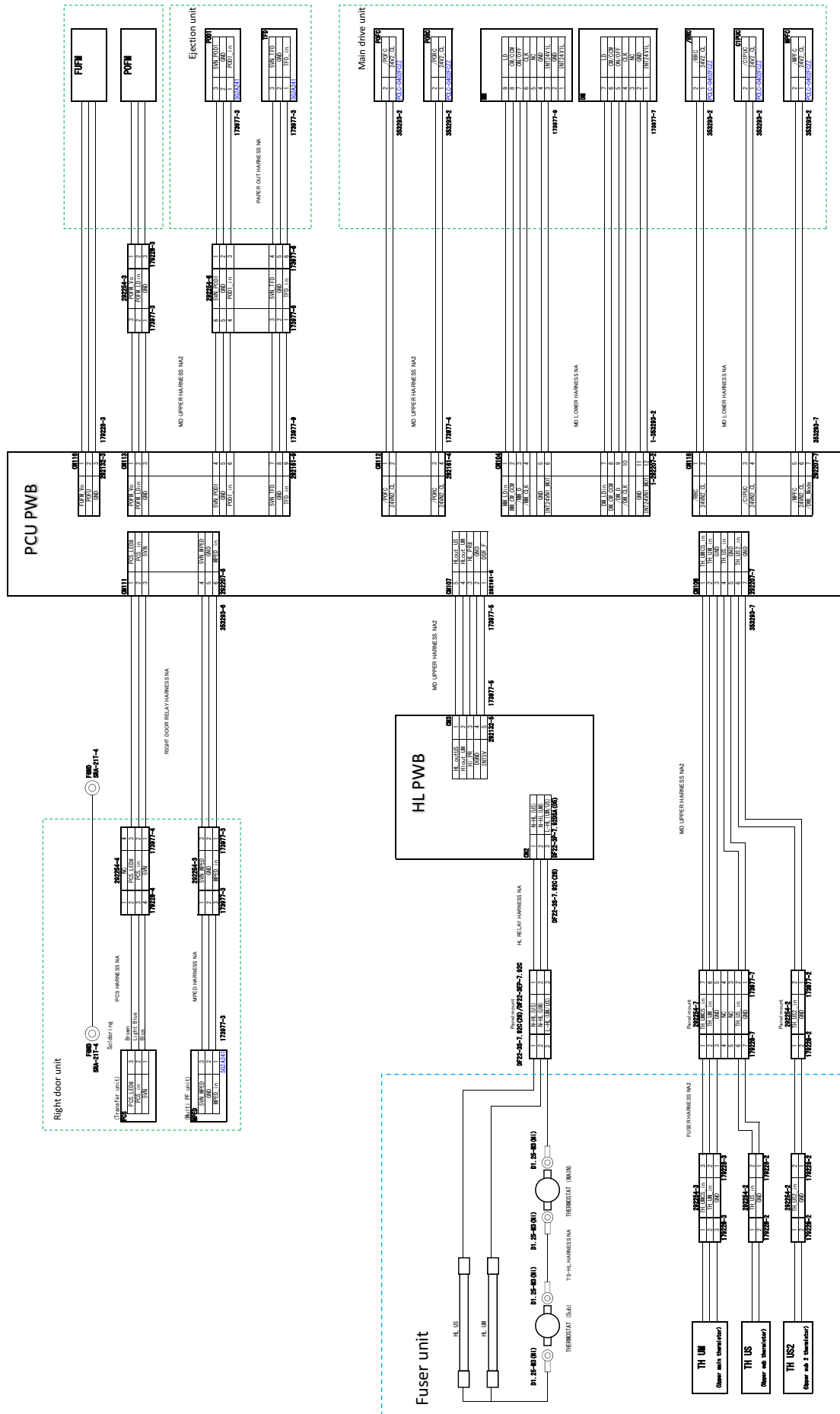
C. Scanner



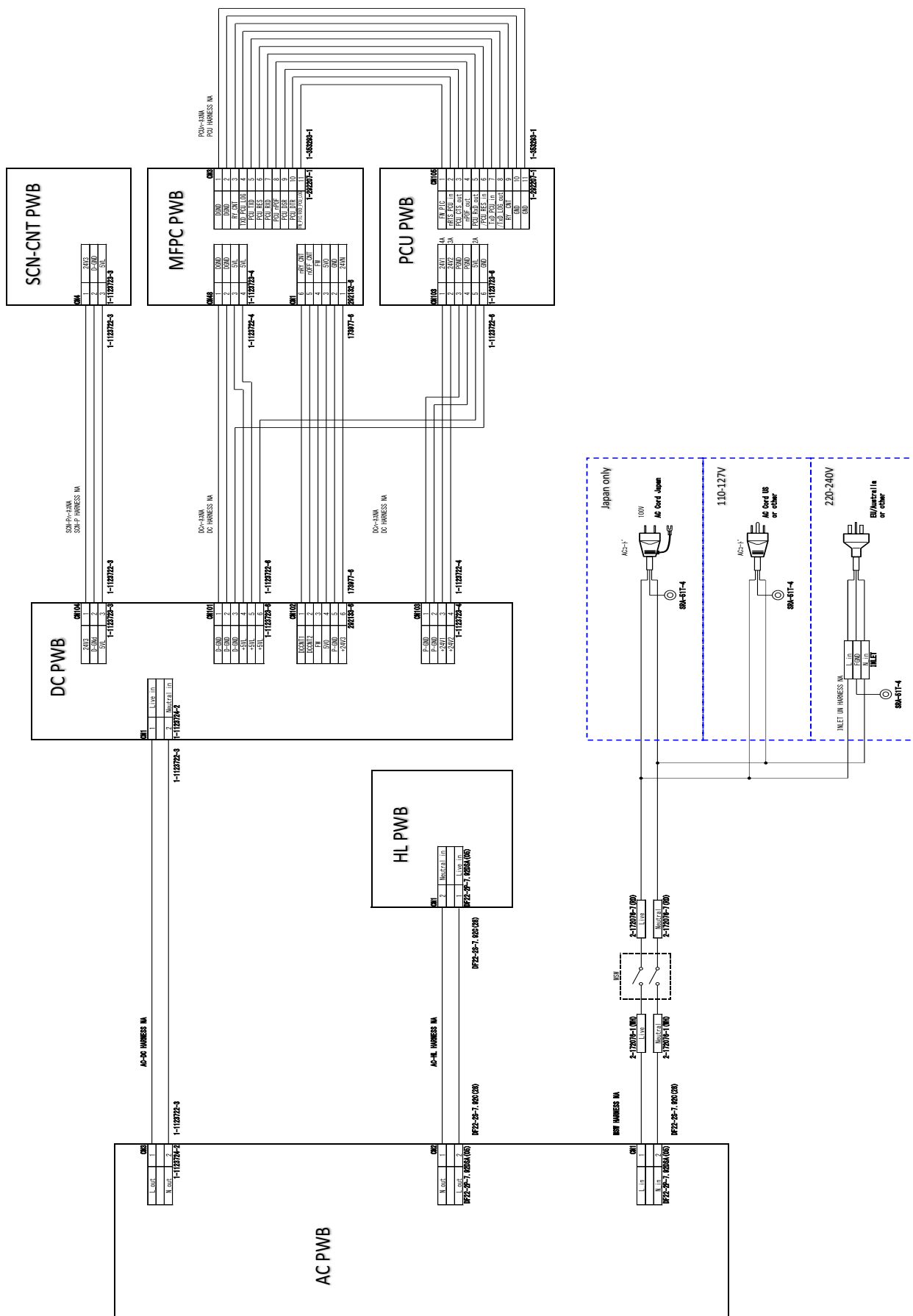
D. PS/DV/HV/Toner drive



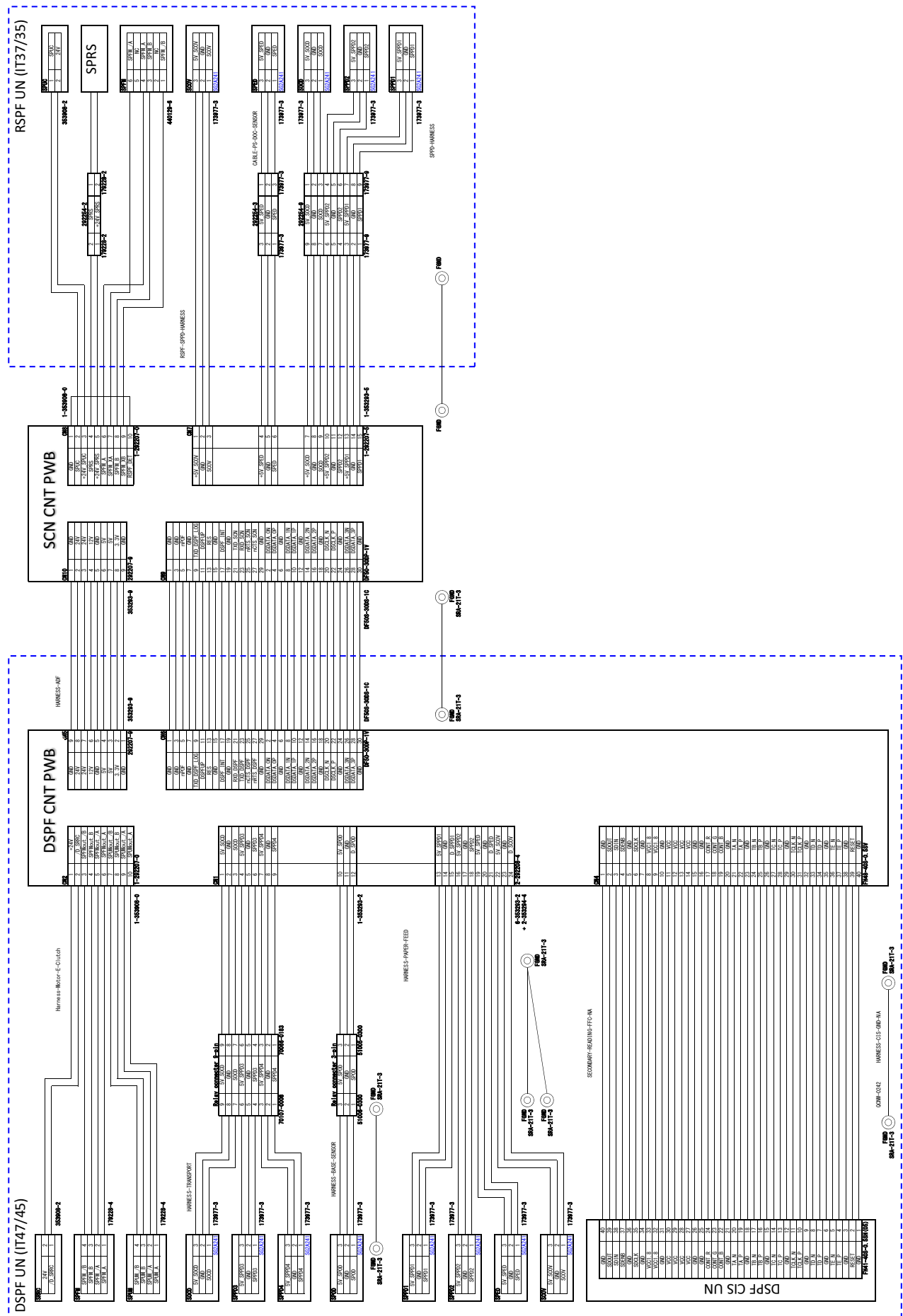
E. Fusing/Right door/Paper exit/Main drive/Fan



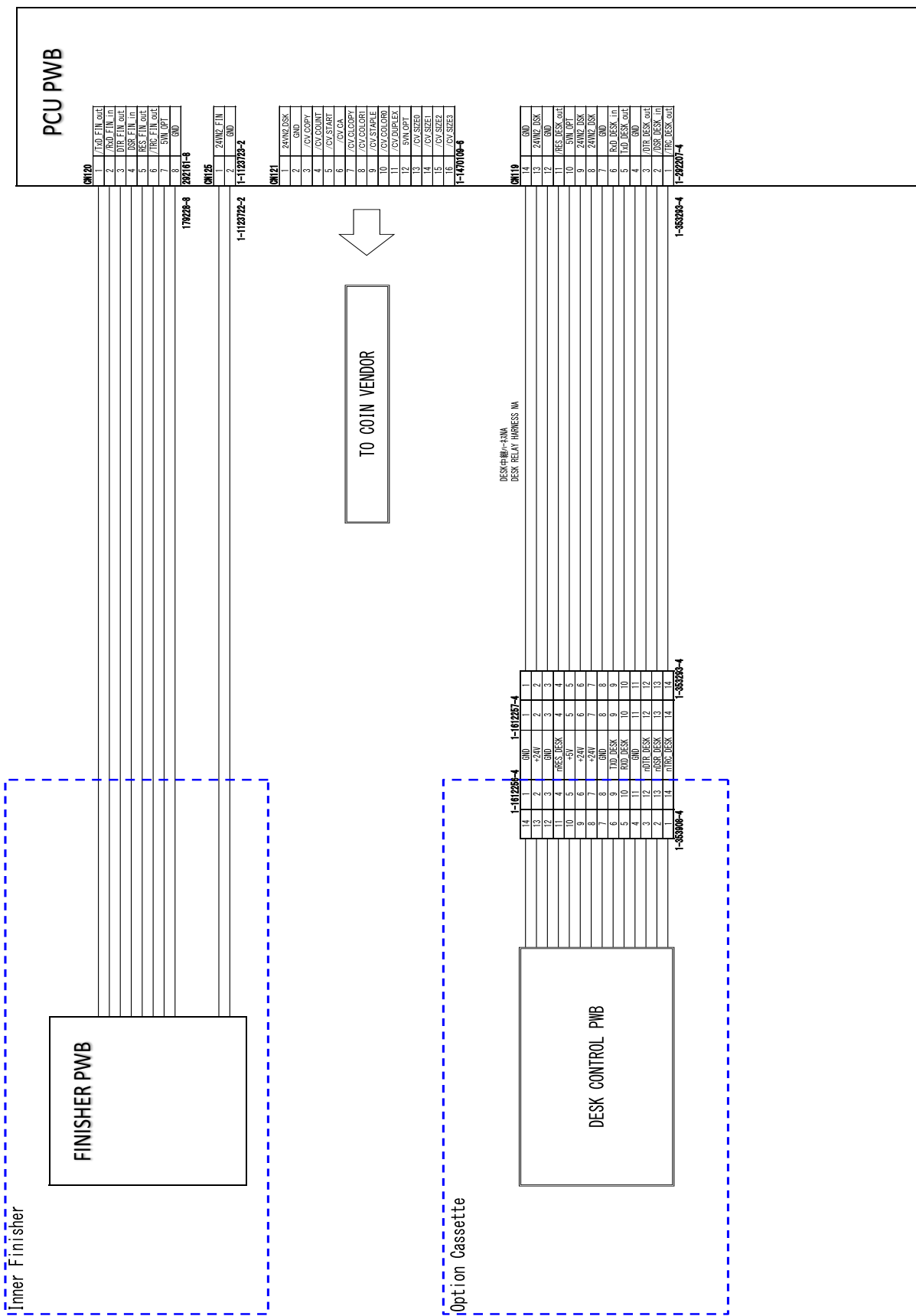
F. Power supply/WH



G. SPF



H. Option



[13] OTHERS

1. TOOL LIST

PARTS CODE	Name	NOTE
UKOG-0012QSZZ	Conductive grease	Drive unit
UKOG-0020QSZZ	White standard chart	DSPF CIS calibration
UKOG-0162FCZZ	Gray test chart	Gray balance adjustment
UKOG-0235FCZZ	Grease (JFE552)	
UKOG-0299FCZZ	Grease (HANARL FL-955R)	
UKOG-0307FCZZ	Grease (FLOIL G-313S)	
CKOG-0345DS51	Yellow toner	OPC drum
UKOG-0326FC11	Service test chart	Gray balance adjustment
UKOG-0326FCZZ	Service test chart	Gray balance adjustment
UKOG-0356FCZZ	Scanner adjustment chart	CCD calibration / CIS calibration

2. VARIOUS STORAGE DATA HANDLING

A. HDD / eMMC PWB memory contents

(1) 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
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

(2) 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
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

B. Necessary steps when replacing PWB, HDD, eMMC PWB

(1) MFPc PWB replacement procedure (work flow)

Registered user information will not be recovered if MFPc PWB is affected by U2-05 trouble.

- 1) Attach EEPROM, eMMC PWB of the MFPc PWB onto the new MFPc 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).

(3) 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.

a. 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	---	---

(2) 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.

b. Replacement procedures when HDD storage data can be backed up

b-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.)	

c. Replacement procedures when HDD storage data cannot be backed up due to breakdown

c-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.

c-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.

d. 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.

d-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	Backup data	Not available	Available	Disable	---	Disable	---	---
8	System registration data	Available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service/User
9	FAX/internet FAX received data	Not available	Available	Enable	SIM66-62	Disable	---	---
10	eOSA application file	Not available	Install application	Disable	---	Disable	Install application	Service

d-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

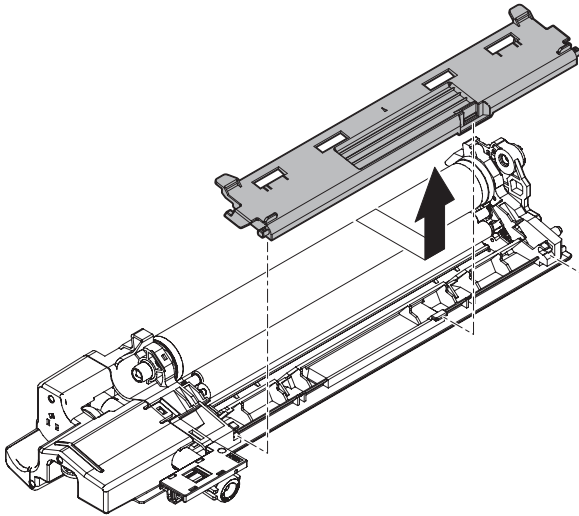
3. CLEANING BLADE REPLACEMENT PROCEDURE

Note

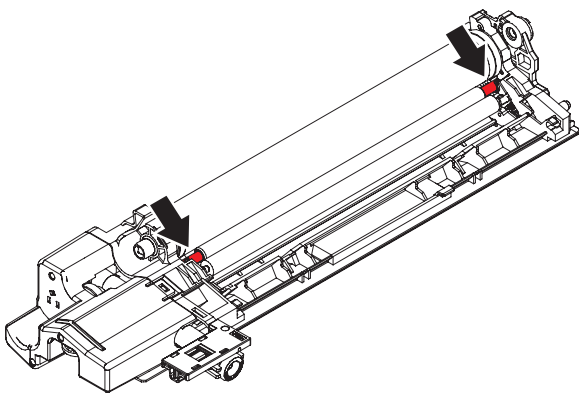
- Drum units are based on replacement in units.
- As OPC drum, charging roller, cleaning roller, cleaning blade, etc., dirt, scratches, and inadequate mounting will affect image quality, sufficient care is required.
- If you need to replace the cleaning blade, replace it carefully following the procedure below.

Disassembly procedure

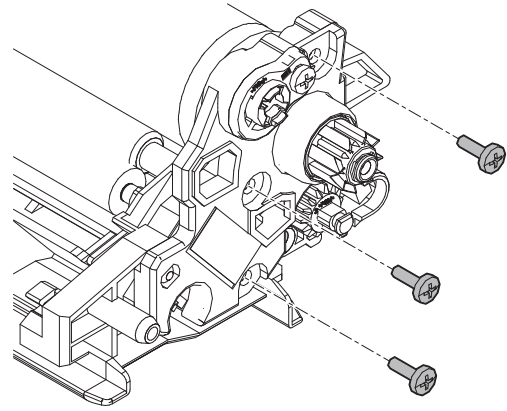
- 1) Remove the MCR cover.



- 2) Push down the shaft at both ends of the charging roller until it clicks downward. Confirm that the OPC drum and the charging roller are not in contact with the whole area.



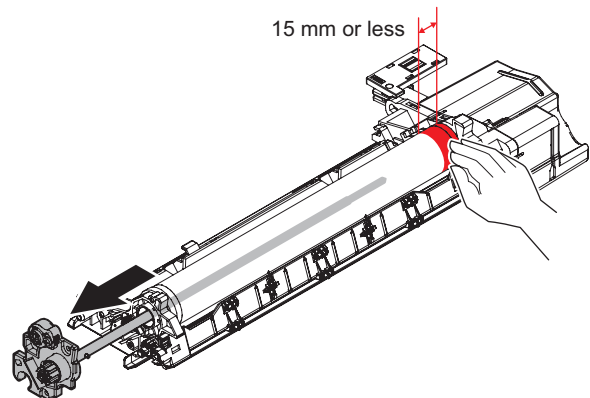
- 3) Remove the 3 screws.



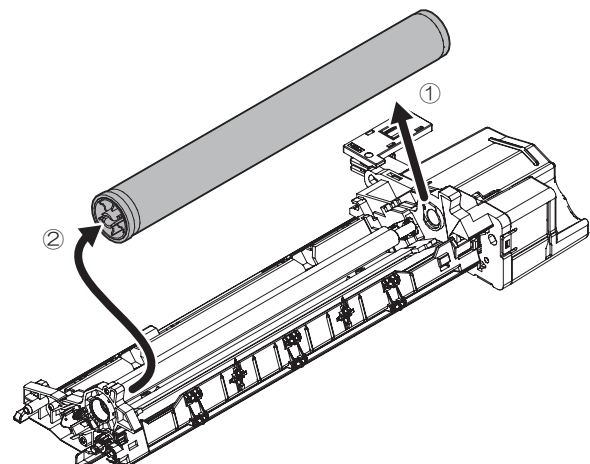
- 4) Remove the Drum shaft assembly. Hold down the opposite end of the drum.

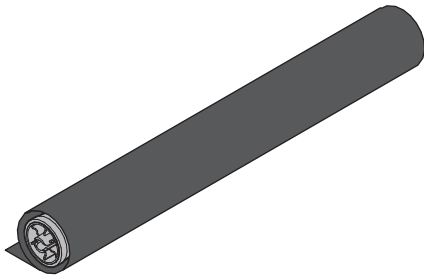
Important

- As much as possible, hold down only the flange area (black area) and do not touch the OPC drum.



- 5) Remove the OPC drum. Block the OPC drum with black paper. Also place it on a cushioning material etc. and take care not to scratch it.

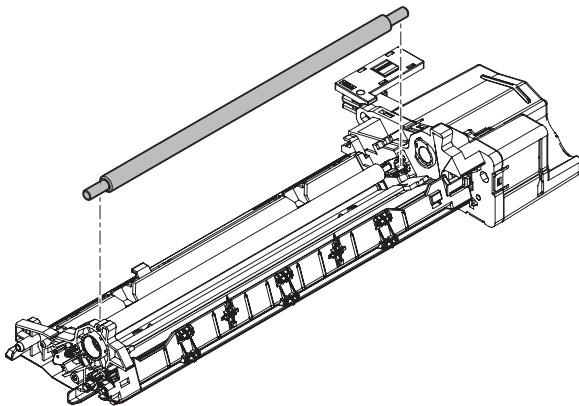




6) Remove the charging roller. Having both ends.

Important

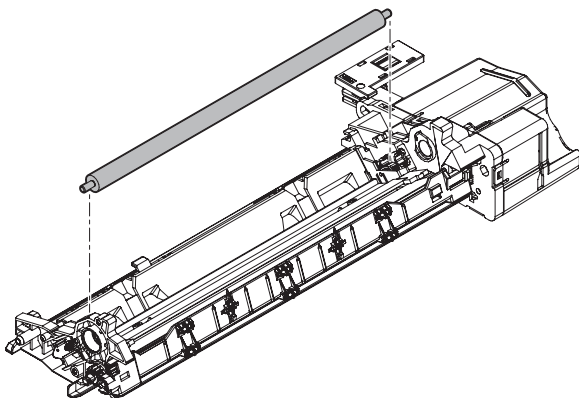
- During storage, hold only the shaft parts at both ends so that the rollers do not come in contact with others.
- Keep the roller surface so that it does not get dirty. Also, do not touch it with bare hands. When there is dirt adhesion, it can be wiped with a dry cloth. Alcohol can not be used.



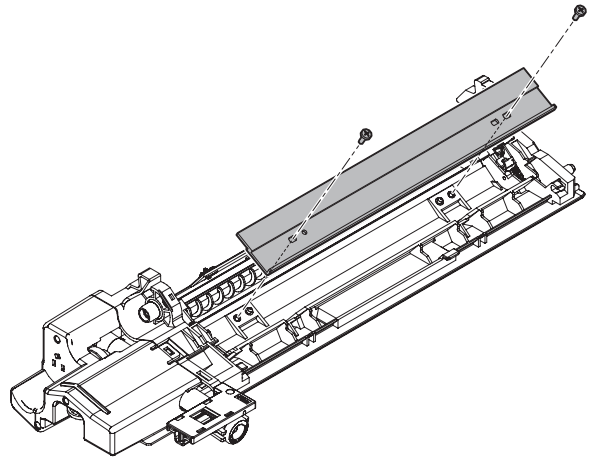
7) Remove the cleaning roller. Having both ends.

Important

- During storage, hold only the shaft parts at both ends so that the rollers do not come in contact with others.
- Keep the roller surface so that it does not get dirty.



- 8) Remove 2 screws.
- 9) Remove the cleaning blade.

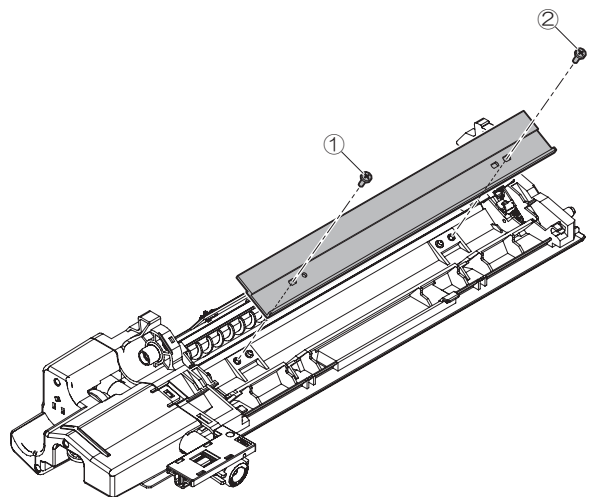


Assembling procedure

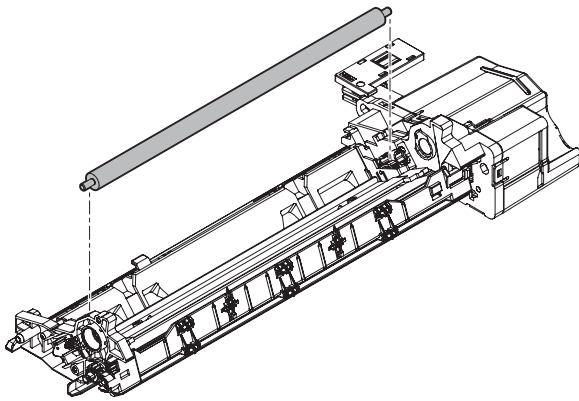
1) Attach the cleaning blade.

Important

- When attaching the cleaning blade, tighten the screw in the order of (1) - (2).
- Since the screw is directly fastened to the resin frame, be careful not to break the screw hole when fastening the screw.
- After installation, make sure that the cleaning blade does not ride on the side seal F side and R side (brown malt). Can not run on.



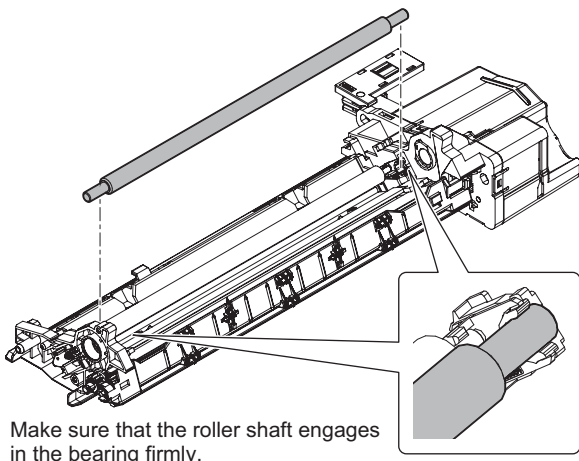
- 2) Attach the cleaning roller. Having both ends.



- 3) Attach the charging roller. Having both ends.
When installing the charging roller, push it all the way in.

Important

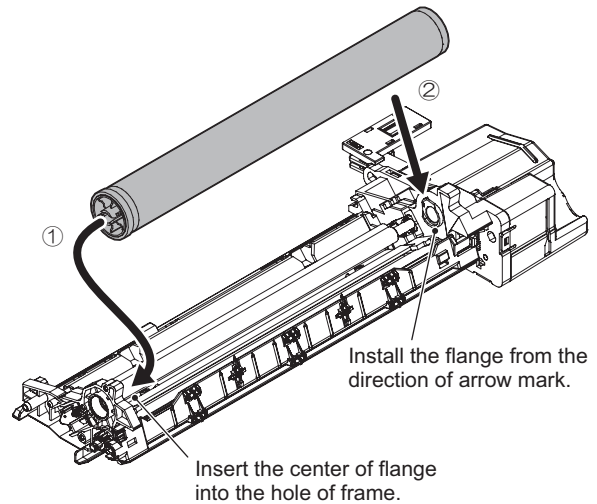
- Do not touch the roller part. (see the shaded part in the drawing below) of the cleaning roller and the charging roller. Hold the end sides of the shaft.
- Be careful not to attach yellow toner to charging roller or cleaning roller.
- After attaching the charging roller, confirm that the bearings at both ends are in a state of being lowered to the bottom.



- 4) Attach the OPC drum slowly in the order of (1) - (2).

Important

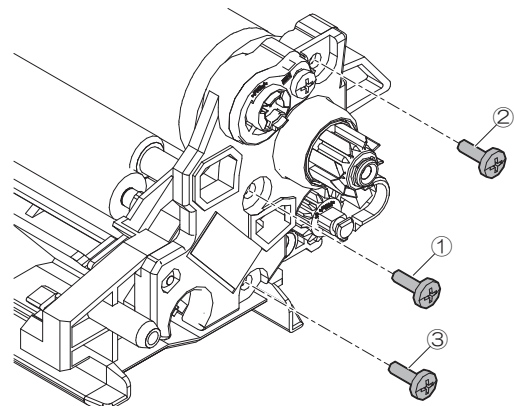
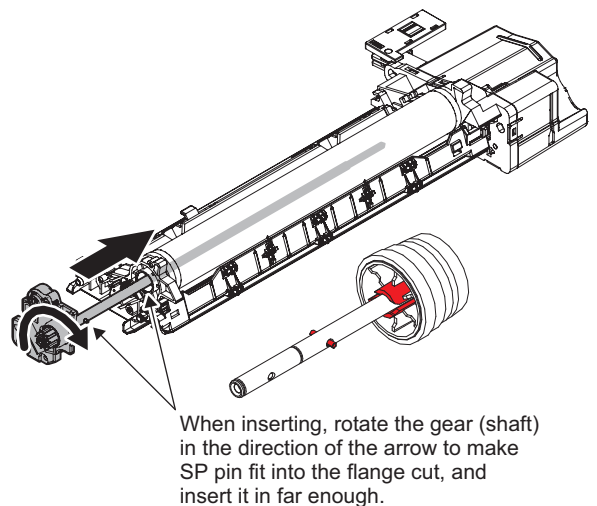
- When handling the OPC drum, hold it 15 mm or less from both ends (as much as possible, the flange area (black portion)).
- Be careful with handling the drum to prevent its surface from having a scratch.
- Before attaching the OPC drum, apply yellow toner (CKOG-0345DS51) to the entire OPC drum.
Be careful not to over paint.
- Be careful that yellow toner on the drum surface does not adhere to the charging roller.
When stearic acid adheres, it can be wiped with a dry cloth.
Alcohol can not be used.



- 5) Attach the Drum shaft assembly.

Important

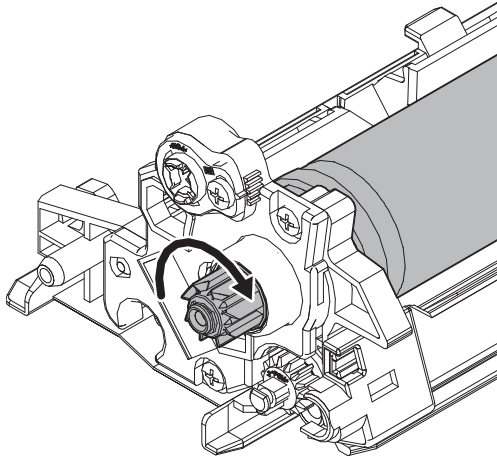
When attaching the drum shaft assembly, tighten the screw in the order of (1) - (3).



- 6) After assembling, rotate the OPC drum to the arrow direction.

Important

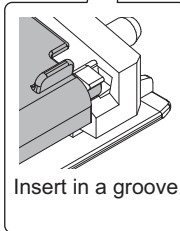
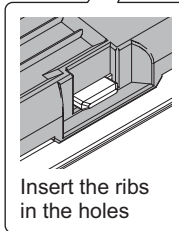
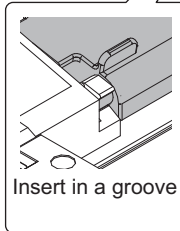
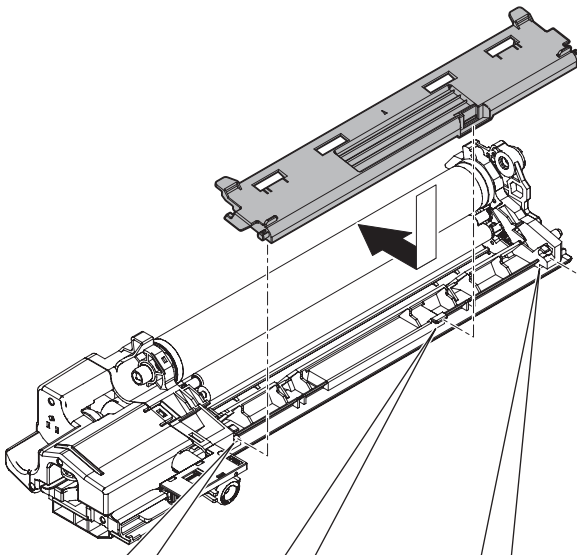
- Rotate the drum only in the direction of the arrow. Do not reverse rotation.
- Do not touch the image area. (meaning Do not touch the drum.)
- Turn the drum more than 2 turn. (Rotate it till the powder is gone.)
- Be careful with handling the drum to prevent its surface from having a scratch.



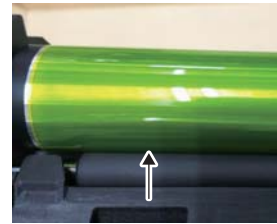
- 7) Attach the MCR cover.

Important

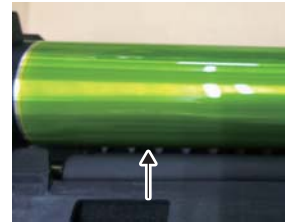
- Press it firmly until it clicks in the direction of the arrow below.



- After installing MCR cover, check that the MC roller contacts to the drum surface including F/R.

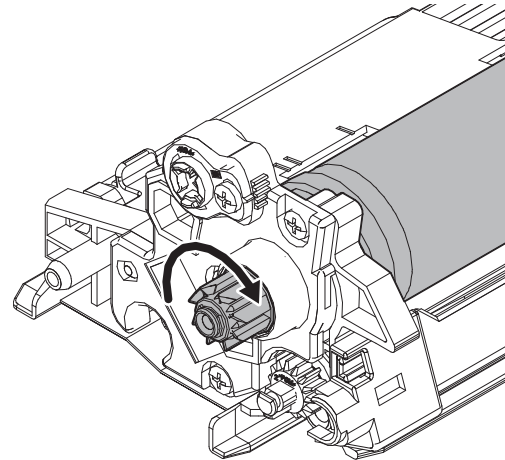


The drum surface contacts with the charging roller, and there is no gap.



There is a gap between the drum surface and the charging roller.

- After installing the MCR cover, rotate the drum in the correct direction of rotation, and confirm that the charging roller and the cleaning roller rotate.
At that time, check whether there is dirt or foreign matter adhering to the roller, and remove it with cloth in some cases.
- Rotate the drum only in the direction of the arrow. Do not reverse rotation.



4. Advanced Settings

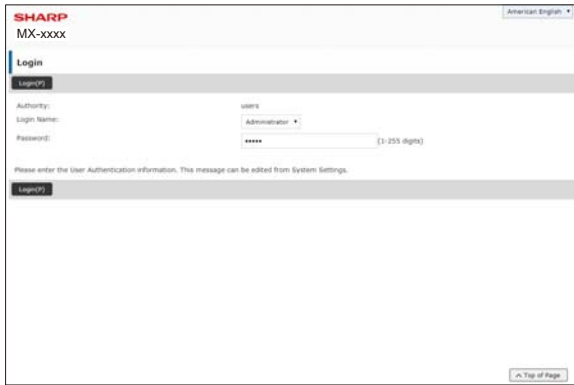
Describing on access procedure to advanced settings and operation.

Setting items list

ID	Setting item name
00001	Display Setting for Sharp OSA Browser Setting.
00002	Setting of Shortcut Dialog Display upon Inserting External Memory Device.

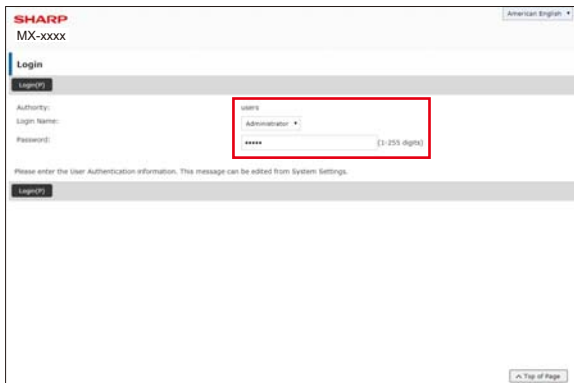
Access to advanced setting screen

- 1) Access the web page of the main machine.

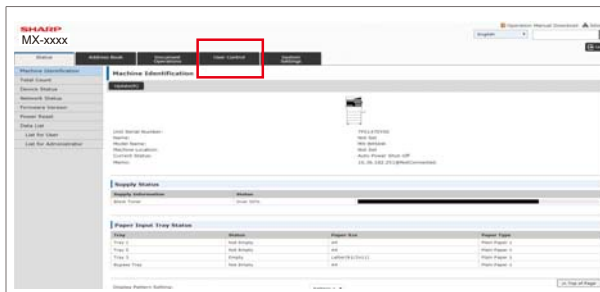


NOTE: Depending on the authentication method, a screen different from the above is displayed.

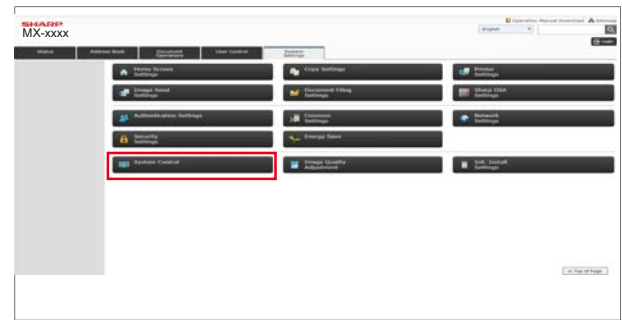
- 2) Log in with administrator privileges.



- 3) Select [System settings].



- 4) Select [System Control].



- 5) Select [Advanced settings].
Advanced setting page is displayed.

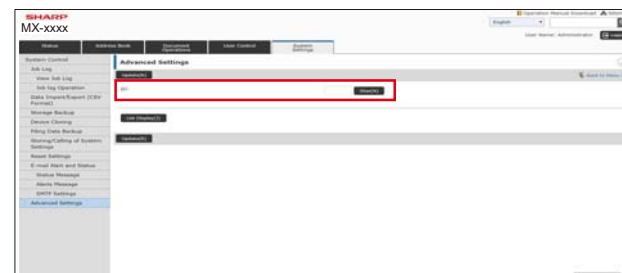


How to use advanced settings

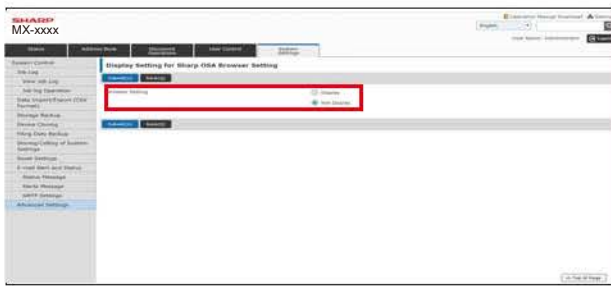
- 1) Select [OK(Y)] on the warning text screen.



- 2) Enter the setting item ID in the ID text box and press [Show(N)].



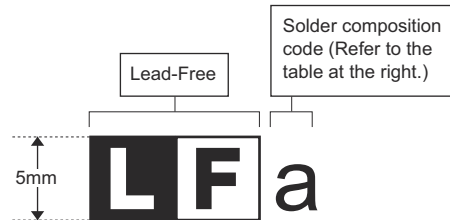
3) Change the setting of the target item.



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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