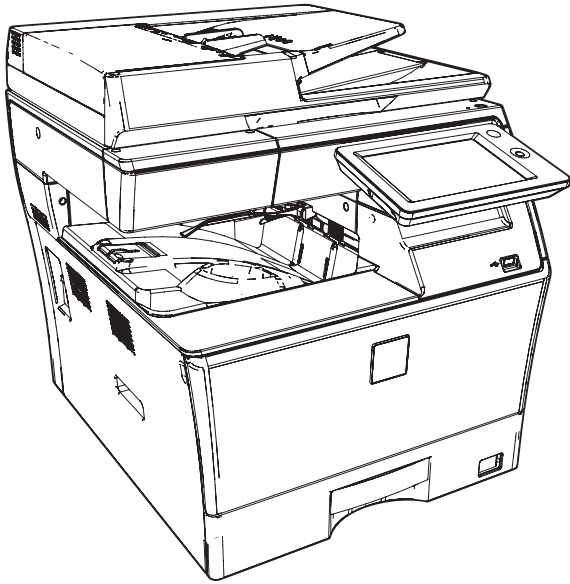


SHARP SERVICE MANUAL

CODE: 00ZMXC303/S1E



DIGITAL FULL COLOR MULTIFUNCTIONAL SYSTEM

MX-C303/303W **MODEL MX-C304/304W**

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

SHARP CORPORATION

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The contents are subject to change without notice.

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NOTE FOR SERVICING

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 position 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 sharp edges inside. Be careful not to damage fingers when servicing.
- Do not throw toner or a toner cartridge in a fire. Otherwise, toner may ignite and burn you.
- When replacing a lithium battery on a PWB, only use the specified replacement battery.
If a battery of different specification is used, it may cause a machine malfunction or breakdown.
- When carrying a unit with PWB or electronic parts installed to it, be sure to put it in an anti-static-electricity bag.
It may otherwise cause a machine breakdown or malfunction.

CAUTION
DOUBLE POLE/NEUTRAL FUSING

2. Warning for servicing

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

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

3. Note for installing site

Do not install the machine at the following sites.

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

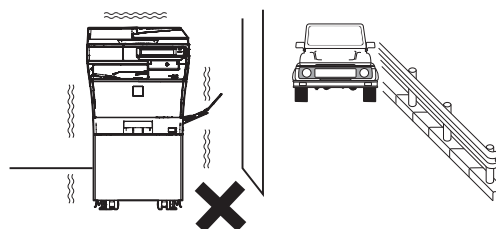
Paper may get damp and form condensation inside the machine, causing paper jam or copy dirt.

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



- **Place of extreme vibrations**

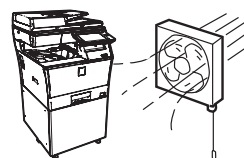
It may cause a breakdown.



- **Poorly ventilated place**

An electrostatic type copier will produce ozone.

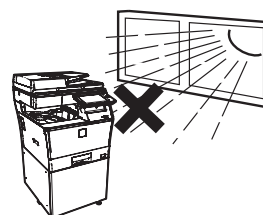
The quantity of ozone produced is designed to a low level so as not to affect human bodies. However, continuous use of such a machine may produce an ozone smell. Install the machine in a well ventilated place.



- **Place of direct sunlight.**

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

It may cause a breakdown or output quality problems.



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

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

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



- **Place of much dust**

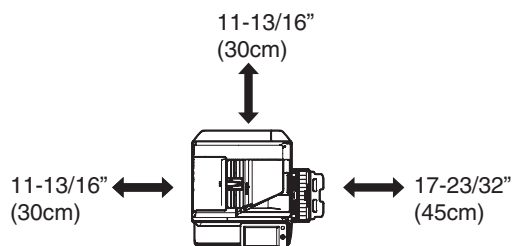
When dust or contaminants enters the machine, it may cause a breakdown or poor quality output.



- **Place near a wall**

The machine will require ventilation.

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



- **Unstable or irregular surface**

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

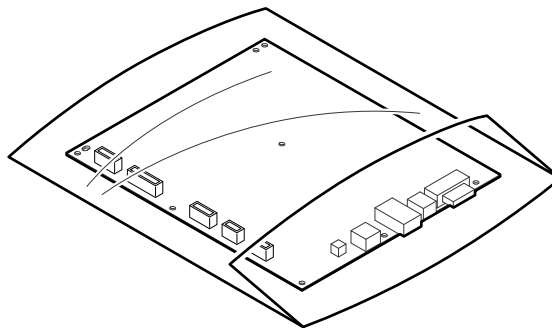
Use an optional desk or an exclusive-use desk.

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

4. Note for handling PWB and electronic parts

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

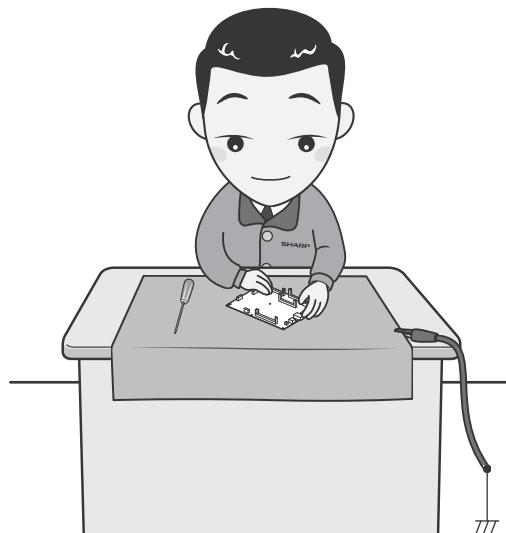
- When in transit or storing, put the parts in an anti-static bag or an anti-static case and do not touch them with bare hands.



- When and after removing the parts from an anti-static bag (case), use an earth band as shown below:
- Put an earth band to your arm, and connect it to the machine.



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



5. Note for repairing/replacing the LSU

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

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

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

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

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

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

Drum unit

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

Transfer unit

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

Developing unit

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

7. Screw tightening torque

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

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

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

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

Important

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

Screw kinds and tightening torques

Normal screws, set screws (including step screws)

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

Tapping screws (for iron)

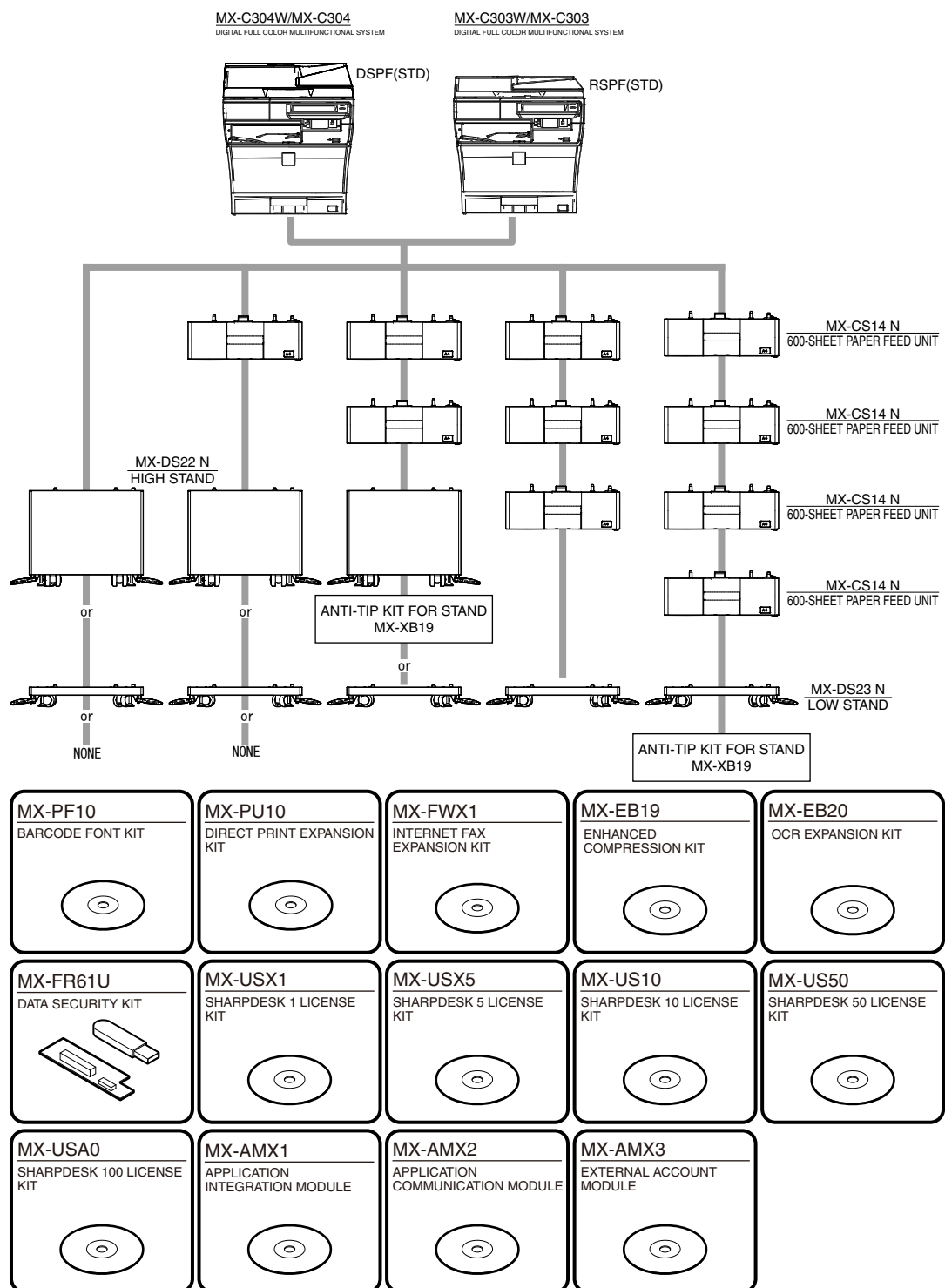
Screw diameter	Material to be fixed	Tightening torque (N·m)	Tightening torque (kgf·cm)	Tightening torque (lbft)
M3	Steel plate (Plate thickness 0.8mm or above)	1.0 - 1.2	10 - 12	0.7 - 0.9
M4	Steel plate (Plate thickness 0.8mm or above)	1.6 - 1.8	16 - 18	1.2 - 1.3
M3	Steel plate (Plate thickness less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

Tapping screw (for plastic)

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

[1] PRODUCT OUTLINE

1. System diagram



2. Product List

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-C303W	30	7	STD 500	OPT	STD	STD	STD	STD	STD	STD	OPT	STD RSPF	OPT	STD
MX-C303	30	7	STD 500	OPT	STD	STD	STD	STD	STD	N/A	N/A	STD RSPF	OPT	N/A
MX-C304W	30	7	STD 500	STD	STD	STD	STD	STD	STD	STD	OPT	STD DSPF	STD	STD
MX-C304	30	7	STD 500	STD	STD	STD	STD	STD	STD	N/A	N/A	STD DSPF	STD	N/A

*The same speed in both Color/Monochrome. The same speed in both A4/LTR.

3. Option list

	Model name	Name	RSPF model		DSPF model	
			MX-C303W	MX-C303	MX-C304W	MX-C304
Paper Feeder	MX-CS14 N	600-SHEET PAPER FEED UNIT	OPT			
Stand	MX-DS22 N	HIGH STAND	OPT			
	MX-DS23 N	LOW STAND	OPT			
	MX-XB19	ANTI-TIP KIT FOR STAND TBD	OPT			
Printer Expansion	-	PS EXPANSION KIT	STD			
	MX-PF10	BARCODE FONT KIT	OPT			
	MX-PU10	DIRECT PRINT EXPANSION KIT	OPT		STD	
Image Send Expansion	-	FACSIMILE EXPANSION KIT	STD	N/A	STD	N/A
	MX-FWX1	INTERNET FAX EXPANSION KIT	OPT	N/A	OPT	N/A
	MX-EB19	ENHANCED COMPRESSION KIT	OPT		STD	
	MX-EB20	OCR EXPANSION KIT	OPT		STD	
Authentication / Security	MX-FR61U	DATA SECURITY KIT	OPT			
Application / Solution	MX-USX1	SHARPPDESK 1 LICENSE KIT	OPT			
	MX-USX5	SHARPPDESK 5 LICENSE KIT	OPT			
	MX-US10	SHARPPDESK 10 LICENSE KIT	OPT			
	MX-US50	SHARPPDESK 50 LICENSE KIT	OPT			
	MX-USA0	SHARPPDESK 100 LICENSE KIT	OPT			
	MX-AMX1	APPLICATION INTEGRATION MODULE	OPT			
	MX-AMX2	APPLICATION COMMUNICATION MODULE	OPT		STD	
	MX-AMX3	EXTERNAL ACCOUNT MODULE	OPT		STD	
Other	-	WIRELESS LAN ADAPTOR	STD	N/A	STD	N/A
	-	HARD DISK EXPANSION KIT	STD			

STD: Equipped as standard

OPT: Installable option

N/A: Connection not allowed

[2] SPECIFICATIONS

1. Basic specifications

A. Engine Specification

Photo Conductor	OPC(Diameter: Black:φ30mm, Color: φ30mmx3 pieces)
Recording	Electronic Photo (Laser)
Development	Dry-Type Dual-Component Magnetic Brush Development
Charging	Charged Saw-Tooth Method
First Transfer	Mid-Transfer (Belt)
Second Transfer	Transfer Roller
Cleaning	Counter Blade
Fusing	Heat Roller
Waste toner disposal	No toner recycling system/Waste toner BOX system
Continuous toner supply	Not available

B. Engine speed (ppm)

(1) Tray 1

Paper size (short edge feed)	Monochrome	Color
A4	30	30
8.5x11, 7.25x10.5, B5, 16K	30	30
A5, 5.5x8.5	30	30
A6	16	16
Custom size	16	16

(2) Tray 2 - 5

Paper size (short edge feed)	Monochrome	Color
8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5	24	24
A4	30	30
8.5x11, 7.25x10.5, B5, 16K	30	30
A5, 5.5x8.5	30	30
A6	N/A	N/A
Custom size	16	16
Heavy paper (A4,A5,8.5x11,5.5x8.5,16k)	9	9

(3) Bypass tray

Paper size (short edge feed)	Monochrome	Color
8.5x14, 8.5x13, 8.5x13.4, 8.5x13.5	16	16
A4	21	21
8.5x11, 7.25x10.5, B5, 16K	21	21
A5, 5.5x8.5	21	21
A6	16	16
Extra	16	16
OHP(A4,8.5x11)	9	9
Envelope (Monarch, Com-9,Com-10,DL,C5,C6)	9	9
Heavy paper (A4,A5,8.5x11,8.5x14,8.5x13,8.5x13.4,8.5x13.5, 8.5x5.5, 16K)	9	9
Heavy paper (Custom size)	9	9

C. Printable area

Void area	Top/Rear: Total 8mm or less
Loss width (Void area)	Top: 4mm+/- 1mm Rear: 2 - 7mm Top Rear Total: 8mm or less

* No margin print function not provided.

D. Engine resolution

Resolution *1	Copy	<Writing> 600 x 600dpi 9,600(equivalent)x 600dpi
	Print (PCL/PS)	<Writing> 600 x 600dpi 9,600(equivalent)x 600dpi
Tone (Equivalent to 256 levels *2)	Copy	<Writing> 600 x 600dpi x 4bit 9,600(equivalent) x 600dpi
	Print (PCL/PS)	<Writing> 600 x 600dpi x 1bit 600 x 600dpi x 4bit 9,600(equivalent) x 600dpi

*1 Default resolution is 600dpi.

*2 The Dither and Error Diffusion methods using 8 bit input will be performed.

E. Scanner section

(1) Resolution/Gradation

Scan Resolution for Copying (dpi)		Monochrome	Color
	Document Glass	600x600dpi (default)	600x600dpi (default)
	RSPF	600x600dpi 600x400dpi (default)	600x600dpi (default) 600x400dpi
	DSPF	600x600dpi 600x400dpi (default)	600x600dpi (default) 600x400dpi
Transmission Resolution (dpi)	Refer to Image Transmission Feature.		
Exposure Lamp	White LED		
Scan Levels	10 bit		
Output Levels	Monochrome : 1bit Gray scale : 8bit Full Color : RGB each color 8bit		

(2) Document table

Form	Fixed original glass (Flatbed)
Scan Range	216x356mm (A4/Legal)
Standard Location of Original	Rear Left
Original size detection	No
Heater (scanner section)	No

F. Document feeder

(1) Basic Specification

RSPF Model

Type		RSPF (Reversing single pass feeder)
Document setup direction		Upward standard (1 to N feeding standard)
Document standard position		Center standard
Document feeding method		Sheet-through method
Document size	Standard size	*All types of standard size paper are fed vertically. (AB type) A4, B5, A5, A6, 16K (Inch type) 8.5x14, 8.5x13.5, 8.5x13.4, 8.5x13, 8.5x11, 5.5x8.5
	Direct entry size	Horizontal scanning (Y): 105mm – 216mm Vertical scanning (X): 140mm – 356mm
	Long paper	500mm (Monochrome 2 levels only)
	Business card	Horizontal scanning (Y): 51mm - 55mm Vertical scanning (X): 89mm - 91mm *1-sided scanning only
Mixed feeding (Same AB/inch type and same width)		Yes
Random feeding (Different Ab/inch type and different width)		No

Type			RSPF (Reversing single pass feeder)
Document weight	Plain paper	1 - sided scanning	50 to 105g/m2, 13 to 28 lb. Bond
		2 - sided scanning	50 to 105g/m2, 13 to 28 lb. Bond
	Special paper		Business card: Thickness: 0.1mm to 0.2mm
Paper capacity			Max 50 sheets (80g/m2) or up to 6.5 mm of the height Business card: Max 25 sheets or up to 6.5 mm of the height
Document type that can not be fed			Transparency, second original drawing, tracing paper, carbon paper, thermal paper, wrinkled/ broken/ torn document, document with cutting and pasting, documents printed with ink ribbon, and perforated document except for 2-hole punched, 3-hole punched, 4-hole punched, 4 wide hole punched
Paper detection			No
Paper feeding direction			Right hand feeding
Stamp			No
Power source			Provided from the main unit
Option detection			Standard to the main body
Installation			Standard to the main body
Packaged item			No

DSPF Model

Type			DSPF (DupReversing single pass feeder)
Document setup direction			Upward standard (1 to N feeding standard)
Document standard position			Center standard
Document feeding method			Sheet-through method
Document size	Standard size		*All types of standard size paper are fed vertically. (AB type) A4, B5, A5, A6, 16K (Inch type) 8.5x14, 8.5x13.5, 8.5x13.4, 8.5x13, 8.5x11, 5.5x8.5
	Direct entry size		Horizontal scanning (Y): 105mm – 216mm Vertical scanning (X): 140mm – 356mm
	Long paper		500mm (Monochrome 2 levels only)
	Business card		Horizontal scanning (Y): 51mm - 55mm Vertical scanning (X): 89mm - 91mm
Mixed feeding (Same AB/inch type and same width)			Yes
Random feeding (Different Ab/inch type and different width)			No
Document weight	Plain paper	1 - sided scanning	Thin paper: 35 to 49g/m2, 9 to 13 lb. bond Plain paper: 50 to 105g/m2, 13 to 28 lb. Bond
		2 - sided scanning	Plain paper: 50 to 105g/m2, 13 to 28 lb. Bond
	Special paper		Business card: Thickness: 0.1mm to 0.2mm
Paper capacity			Max 100 sheets (80g/m2) or up to 13 mm of the height Business card: Max 25 sheets or up to 6.5 mm of the height
Document type that can not be fed			Transparency, second original drawing, tracing paper, carbon paper, thermal paper, wrinkled/ broken/ torn document, document with cutting and pasting, documents printed with ink ribbon, and perforated document except for 2-hole punched, 3-hole punched, 4-hole punched, 4 wide hole punched
Paper detection			No
Paper feeding direction			Right hand feeding
Stamp			No
Power source			Provided from the main unit
Option detection			Standard to the main body
Installation			Standard to the main body
Packaged item			Glass cleaner (It can be stored the DSPF)

(2) Scan Speed

RSPF

	Monochrome (A4 / 8.5x11)	Color (A4 / 8.5x11)
1-sided	40 sheets/minute (600x300dpi)	40 sheets/minute (600x300dpi)
	30 sheets/minute (600x400dpi)	30 sheets/minute (600x400dpi)
	20 sheets/minute (600x600dpi)	20 sheets/minute (600x600dpi)
2-sided	18 pages/minute (600x300dpi)	18 pages/minute (600x300dpi)
	14 pages/minute (600x400dpi)	14 pages/minute (600x400dpi)
	10 pages/minute (600x600dpi)	10 pages/minute (600x600dpi)

DSPF

	Monochrome (A4 / 8.5x11)	Color (A4 / 8.5x11)
1-sided	70 sheets/minute (600x300dpi)	70 sheets/minute (600x300dpi)
	52 sheets/minute (600x400dpi)	52 sheets/minute (600x400dpi)
	35 sheets/minute (600x600dpi)	35 sheets/minute (600x600dpi)
	Thin paper	44 sheets/minute (600x300dpi)
		33 sheets/minute (600x400dpi)
		22 sheets/minute (600x600dpi)
2-sided	110 pages/minute (600x300dpi)	110 pages/minute (600x300dpi)
	82 pages/minute (600x400dpi)	82 pages/minute (600x400dpi)
	55 pages/minute (600x600dpi)	55 pages/minute (600x600dpi)

(3) Image send Speed

RSPF

	Monochrome (A4 / 8.5x11)	Color (A4 / 8.5x11)
Fax*1	1-sided	40 sheets/min. (200x200dpi, 1bit)
	2-sided	18pages/min. (200x200dpi, 1bit)
Internet FAX*2	1-sided	40 sheets/min. (200x200dpi, 1bit)
	2-sided	18 pages/min. (200x200dpi, 1bit)
Scanner*3	1-sided	40 sheets/min. (200x200dpi/300x300dpi, 1bit)
	2-sided	18 pages/min. (200x200dpi/300x300dpi, 1bit)

*1: Default 200x200dpi (Equivalent to 200x100dpi)

*2: Default 200x100dpi

*3: Default 200x200dpi

DSPF

	Monochrome (A4 / 8.5x11)	Color (A4 / 8.5x11)
Fax*1	1-sided	70 sheets/min. (200x200dpi, 1bit)
	2-sided	110 pages/min. (200x200dpi, 1bit)
Internet FAX*2	1-sided	70 sheets/min. (200x200dpi, 1bit)
	2-sided	110 pages/min. (200x200dpi, 1bit)

		Monochrome (A4 / 8.5x11)	Color (A4 / 8.5x11)
Scanner*3	1-sided	70 sheets/min. (200x200dpi/300x300dpi, 1bit)	70 sheets/min. (200x200dpi/ 300x300dpi, 8bit)

*1: Default 200x200dpi (Equivalent to 200x100dpi)

*2: Default 200x100dpi

*3: Default 200x200dpi

G. Paper feed section

(1) Basic specifications

Form	Std: 1-Paper Tray / Multi Bypass Tray Max: 5-Paper Tray / Multi Bypass Tray
Heater	No

Item	Tray1	Multi bypass
Paper Capacity	Standard paper (80g/m2)	250 sheets 80 sheets (A6)
Paper size detection	No	
Method to change paper size	Changed by Users	
Default paper size setting	AB systems: A4 Inch systems: 8.5x11	
Detection of remaining paper	Only detect if any paper remains or not	

(2) Other paper type capacities

Paper Type	Tray1 (Main unit)	Tray2-5 (Option)	Multi Bypass Tray
Postcard	N/A	N/A	10 sheets
Envelope	N/A	N/A	10 sheets
OHP	N/A	N/A	10 sheets
Heavy paper 1	N/A	350 sheets	20 sheets
Heavy paper 2	N/A	250 sheets	20 sheets
Tab Paper	N/A	N/A	N/A
Gloss Paper	N/A	N/A	1 sheets
Other Special Paper	N/A	N/A	1 sheet

(3) Size of paper which can be fed

			Paper Feeding Section		
			Main Unit	Option Tray2-5	Multi Bypass
Paper Size	8.5x14 (Legal)	216x356mm	No	Yes	Yes
	8.5x13.5 (Asian Legal)	216x343mm	No	Yes	Yes
	8.5x13.4 (Mexican Legal)	216x340 mm	No	Yes	Yes
	8.5x13 (Foolscap)	216x330 mm	No	Yes	Yes
	8.5x11 (Letter)	216x279 mm	Yes	Yes	Yes
	5.5x8.5 (Invoice)	140x216 mm	Yes	Yes	Yes
	7.25x10.5 (Executive)	184x266 mm	Yes	Yes	Yes
	A4	210x297 mm	Yes	Yes	Yes
	B5	182x257 mm	Yes	Yes	Yes
	A5	148x210 mm	Yes	Yes	Yes
	A6	105x148mm	Yes	No	Yes
	16K	195x270 mm	Yes	Yes	Yes
	Envelope*1		No	No	Yes
	Custom*2		Yes	Yes	Yes

			Paper Feeding Section		
			Main Unit	Option Tray2-5	Multi Bypass
Paper Type	Thin Paper	55-59g/m2 13-16lb bond	No	Yes	Yes
	Plain Paper 1	60-89g/m2 16-24lb bond	Yes	Yes	Yes
	Plain paper 2	90-105g/m2 24-28lb bond	Yes	Yes	Yes
	Recycled Paper		Yes	Yes	Yes
	Color Paper		Yes	Yes	Yes
	Letter Head		Yes	Yes	Yes
	Pre-Printed Paper		Yes	Yes	Yes
	Pre-Punched Paper		Yes	Yes	Yes
	Heavy paper 1	106-176g/m2 28 lb bond -65 lb Cover	No	No	Yes
	Heavy paper 2	177-220g/m2 65 lb bond -80 lb Cover	No	Yes	Yes
	Heavy paper	221 g/mor more 80lb Cover or more	No	No	No
	Envelope		No	No	Yes
	Embossed		No	No	Yes
	Transparency		No	No	Yes
	Label		No	No	Yes
	Tab Paper		No	No	No
	Glossy Paper		No	No	Yes
	User Setting 1-7		Yes	Yes	Yes

*1 Envelope Type

Type	Size
Monarch	98x191
Com 9	98.4x225.4
Com10	105x241
DL	110x220
C5	162x229
C6	114x162

*2 Custom Size

		AB System (mm)		Inch System (inch)	
		Min.	Max.	Min.	Max.
Multi Bypass Tray	X	140	356	5_1/2	14
	Y	90	216	3_5/8	8_1/2

H. Paper exit section

(1) Duplex

Method	Non-stack
Logo paper support*1	Yes

*1 Printing on letterhead paper with two different textures front and back is appropriately controlled.

(2) Exit Capacity

Ejection part	Center part of the main unit
Ejection method	Face-down ejection
Paper capacity for ejection	150 sheets (for A4, 8.5x11)
Out put paper size and weight	Refer to "Size of paper which can be discharged".
Shifter function	No
Detection of ejected paper	No
Detection of full ejected paper	Yes

(3) Size of paper which can be discharged

			Duplex Section	Paper Ejection Section (Center Tray)
Paper Size	8.5x14 (Legal)	216x356mm	Yes	Yes
	8.5x13.5 (Asian Legal)	216x343mm	Yes	Yes
	8.5x13.4 (Mexican Legal)	216x340 mm	Yes	Yes
	8.5x13 (Foolscap)	216x330 mm	Yes	Yes
	8.5x11 (Letter)	216x279 mm	Yes	Yes
	5.5x8.5 (Invoice)	140x216 mm	Yes	Yes
	7.25x10.5(Executive)	184x266 mm	No	Yes
	A4	210x297 mm	Yes	Yes
	B5	182x257 mm	Yes	Yes
	A5	148x210 mm	Yes	Yes
	A6	105x148mm	No	Yes
	16K	195x270 mm	Yes	Yes
	Envelope*1		No	Yes
	Custom*2		Yes*2	Yes
Paper Type	Thin Paper	55-59g/m2 3-16 lb.bond	No	Yes
	Plain Paper	60-105g/m2 6-28 lb.bond	Yes	Yes
		Recycled paper	Yes	Yes
		Color paper	Yes	Yes
		Letter head	Yes	Yes
		Pre-printed paper	Yes	Yes
		Pre-punched paper	Yes	Yes
	Heavy paper	106-220g/m2 16 lb bond -28 lb Cover	No	Yes
		221 g/mor more 81lb Cover or more	No	No
	Envelope	75-90g/m2	No	Yes
	Transparency		No	Yes
	Label		No	Yes
	Tab paper		No	No
	Glossy paper		No	Yes
	User setting 1-7		Yes	Yes

*1 Envelope Type

Type	Size
Monarch	98x191
Com 9	98.4x225.4
Com10	105x241
DL	110x220
C5	162x229
C6	114x162

*2 Custom Size

		AB System (mm)		Inch System (inch)	
		Min.	Max.	Min.	Max.
Multi Bypass Tray	X	140	356	5_1/2	14
	Y	90	216	3_5/8	8_1/2
Duplex section	X	210	356	8_3/8	14
	Y	140	216	5_1/2	8_1/2

I. Operation panel

(1) Display Device

Size	7 inch
Form	Dot matrix LCD, touch panel

Size	7 inch
Number of Dots in display	1024x600 dots (WSVGA)
Color display	Yes
LCD Drive Display Area (WxD)	154.21x85.92
LCD Back Light	LED backlight method
LCD Contrast Adjust	Yes
Angle/Position Adjustment	Yes

J. Controller board

CPU		ARM11 600MHz ARM9 400MHz (1W energy saving mode 75MHz)	
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 ports (Front/ Rear port can be used simultane usely)	SOC
		USB HUB (4 port)	Front port
			For IC card reader (internal)
			Rear port
			Empty
USB 2.0 (High speed) (Device)		1 port	
USB certification		No	
ACRE expansion I/F		No	
Serial I/F (for coin vender)		Extension connector x1 (not as standard) *Support by service parts separately.	
Memory		Refer to Memory / Hard disc	
Memory Slot		0	
Windows Premium Logo		No	
WHQL certification		Yes	
Bluetooth		No	
Motion sensor		No	
NFC tag		No	

K. Memory/Hard disk

Flash Memory	eMMC	ICU PWB		HDD*1
		REUS	SOC	
		On board	On board	
2GB	16GB	1GB	4GB	500GB (Std)

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

L. eMMC

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

Item	Specification
Compliant regulation	IEEE802.11 n/g/b
Transmission method	IEEE802.11n/g OFDM method
	IEEE802.11b DS-SS method
HOST I/F	USB 2.0 Type A - Connect the module to the MFP embedded I USB I/F
DEVICE I/F	IEEE802.11 n/g/b
Antenna type	Embedded type
Access mode	Infrastructure mode, Access point mode
Security	WEP, WPA/WPA2-mixed personal (PSK), WPA/WPA2-mixed enterprise (EAP)*, WPA2 personal (PSA), WPA2 enterprise (EAP)* *Not applicable to access point mode

N. Warm-up time

Warm up time	Main power SW on*1	58 sec
	Sub Power SW on*1	47 sec
Availability of Preheat mode		Yes
Jam recovery time		47 sec

*1: Result may change depending on the environmental condition.

O. Power source

	North America	200V
Voltage / Current	120V 12A	220-240V 8A
Frequency	60Hz	50/60Hz
Power source cord	Fixed type (Direct)	Inlet type
Power switch	2 switches Primary switch: in the left side cover Secondary switch (momentary SW): on the operation panel	

P. Power consumption

	100V	200V
Max. rated power consumption*1	1.44 kW	1.84 kW
Fax waiting power consumption *Condition of network Standing by: Connection with TCP/IP protocol only.	2W or less	2W or less
Time to move into Preheat mode	1 minute (Default)	
Recovery time from Preheat mode	15 seconds	
Time to move into Sleep mode	1 minute (Default)	Europe: 11 minutes Other: 1minute

Q. Security

Admin/Service password scheme	YES
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2. Copy function

A. First copy time

Engine	RSPF Model		DSPF Model	
	Monochrome	Color	Monochrome	Color
OC	6.3 sec	7.4 sec	5.5sec	6.7sec
RSPF	8.5 sec	10.8 sec	—	—
DSPF	—	—	7.7sec	9.4sec

<Measuring condition>

- Short edge feeding of A4/8.5x11 from the 1st tray.
- At the time of rotating polygon.
- Auto color selection is OFF.
- The time may vary depending on the conditions.
- Fastest value of the measuring condition above.

3. printer function

A. Printer driver supported OS

OS	Custo m PCL6 SPDL 2-c	Custo m PCL5 c	Custo m PS	PPD	PC- Fax	TWAI N
Windows	XP	No	No	No	No	No
	XP x 64	No	No	No	No	No
	Server 2003	No	No	No	No	No
	Server 2003x64	No	No	No	No	No
	Vista	No	No	No	No	No
	Vista x 64	No	No	No	No	No
	Server 2008	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
	Server 2008x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
	Windows 7	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
	Windows 7x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
	Server 2008 R2x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
	Windows 8	No	No	No	No	No
	Windows 8x64	No	No	No	No	No
	Server 2012x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
	Windows 8.1	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
	Windows 8.1x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
	Server 2012 R2x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
	Windows 10	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
	Windows 10x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
	Server 2016x64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM
Mac	9.0	No	No	No	No	No
	X10.2	No	No	No	No	No
	X10.3	No	No	No	No	No
	X10.4	No	No	No	No	No
	X10.5	No	No	No	No	No
	X10.6	No	No	CD-ROM	No	No
	X10.7	No	No	CD-ROM	No	No
	X10.8	No	No	CD-ROM	No	No
	X10.9	No	No	CD-ROM	No	No
	X10.10	No	No	CD-ROM	No	No
	X10.11	No	No	CD-ROM	No	No
	X10.12	No	No	CD-ROM	No	No
	X10.13	No	No	CD-ROM	No	No

B. PDL emulation-Font

PDL (command)		Pre-installed font	Option font
PCL5c compatible/ PCL6 compatible	STD	European outline font =80 styles Line printer font (BMP) =1 style	Barcode font =28 styles

PDL (command)		Pre-installed font	Option font
Genuine Postscript3	STD	European outline font =139 styles	—
Font for List Print Scalable font	STD	Arphic mobile font	—

4. Image send function

A. Mode

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

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

* Enhanced Compression kit is needed for RSPF model.

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 (ACS)	Yes	N/A	N/A

(2) Resolution

Level	Scanner	Internet Fax/ Direct SMTP	Fax
1	100x100dpi	200x100dpi (Half Tone: N/A.)	Standard: 203.2x97.8dpi (Half Tone: N/A.)
2	150x150dpi	N/A	N/A
3	200x200dpi	200x200dpi	Fine (203.2x195.6dpi)
4	300x300dpi	200x400dpi	Super Fine (203.2x391dpi)
5	400x400dpi	400x400dpi	Ultra Fine (406.4x391dpi)
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
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

D. Number of available Fax sending/receiving

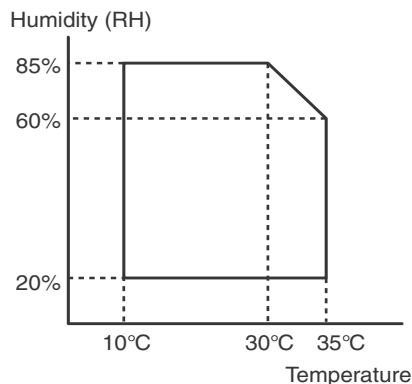
Sending	100 messages (in common use with Image send) or 20000 images (in common use with Copy/Print/Image send)
Receiving	400 messages/2000 images (in common use with Fax and Internet Fax for both messages and images)

*Use ITU-T No.1 chart

5. Dimension and weight

Model	RSPF model	DSPF model
Outer dimensions (W x D x H)	491 x 568 x 516 mm 19-11/32 x 22-3/8 x 20-21/64 inch	491 x 568 x 565 mm 19-11/32 x 22-3/8 x 22-1/4 inch
Footprint (W x D)	491 x 568 mm 19-11/32 x 22-3/8 inch	
Occupied area (When extending multi bypass tray/Exit tray, Operation panel is tilted at the max angle.)	675 x 588 mm 26-37/64 x 23-5/32 inch	
Weight (Including drum and developer cartridge. Not including toner cartridge.)	Approx.35kg, Approx.77.2 lb.	Approx.38kg, Approx.83.8 lb.

6. Environmental conditions



[3] CONSUMABLE PARTS

1. Consumable system table

A. North America, Middle America, South America

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner Cartridge (Black)	Toner Cartridge (Black) x1	6k	MX-C30NT-B	10	Life: A4 5% document
Toner Cartridge (Cyan)	Toner Cartridge (Cyan) x1	6k	MX-C30NT-C	10	Life: A4 5% document
Toner Cartridge (Magenta)	Toner Cartridge (Magenta) x 1	6k	MX-C30NT-M	10	Life: A4 5% document
Toner Cartridge (Yellow)	Toner Cartridge (Yellow) x 1	6k	MX-C30NT-Y	10	Life: A4 5% document
Developer Cartridge (Black)	Develop Cartridge (Black) x1	575K rotation	MX-C32NV-B	10	Standard printable number: 75K Maximum printable number: 100K
Developer Cartridge (Cyan)	Develop Cartridge (Cyan) x1	575K rotation	MX-C32NV-C	10	Standard printable number: 45K Maximum printable number: 60K
Developer Cartridge (Magenta)	Develop Cartridge (Magenta) x1	575K rotation	MX-C32NV-M	10	Standard printable number: 45K Maximum printable number: 60K
Developer Cartridge (Yellow)	Develop Cartridge (Yellow) x1	575K rotation	MX-C32NV-Y	10	Standard printable number: 45K Maximum printable number: 60K
Drum Cartridge	Drum Cartridge x1	575k rotation	MX-C30DR	10	Standard printable number: 75k (BK) 45K (CL) Maximum printable number: 100K (BK) 60K (CL)

B. Europe, Australia, New Zealand

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner Cartridge (Black)	Toner Cartridge (Black) x1	6k	MX-C30GT-B	10	Life: A4 5% document
Toner Cartridge (Cyan)	Toner Cartridge (Cyan) x1	6k	MX-C30GT-C	10	Life: A4 5% document
Toner Cartridge (Magenta)	Toner Cartridge (Magenta) x 1	6k	MX-C30GT-M	10	Life: A4 5% document
Toner Cartridge (Yellow)	Toner Cartridge (Yellow) x 1	6k	MX-C30GT-Y	10	Life: A4 5% document
Developer Cartridge (Black)	Develop Cartridge (Black) x1	575K rotation	MX-C32GV-B	10	Standard printable number: 75K Maximum printable number: 100K
Developer Cartridge (Cyan)	Develop Cartridge (Cyan) x1	575K rotation	MX-C32GV-C	10	Standard printable number: 45K Maximum printable number: 60K
Developer Cartridge (Magenta)	Develop Cartridge (Magenta) x1	575K rotation	MX-C32GV-M	10	Standard printable number: 45K Maximum printable number: 60K
Developer Cartridge (Yellow)	Develop Cartridge (Yellow) x1	575K rotation	MX-C32GV-Y	10	Standard printable number: 45K Maximum printable number: 60K
Drum Cartridge	Drum Cartridge x1	575K rotation	MX-C30DR	10	Standard printable number: 75k (BK) 45K (CL) Maximum printable number: 100K (BK) 60K (CL)

C. Middle East

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner Cartridge (Black)	Toner Cartridge (Black) x1	6k	MX-C30FT-B	10	Life: A4 5% document
Toner Cartridge (Cyan)	Toner Cartridge (Cyan) x1	6k	MX-C30FT-C	10	Life: A4 5% document
Toner Cartridge (Magenta)	Toner Cartridge (Magenta) x 1	6k	MX-C30FT-M	10	Life: A4 5% document
Toner Cartridge (Yellow)	Toner Cartridge (Yellow) x 1	6k	MX-C30FT-Y	10	Life: A4 5% document
Developer Cartridge (Black)	Develop Cartridge (Black) x1	575K rotation	MX-C32FV-B	10	Standard printable number: 75K Maximum printable number: 100K
Developer Cartridge (Cyan)	Develop Cartridge (Cyan) x1	575K rotation	MX-C32FV-C	10	Standard printable number: 45K Maximum printable number: 60K
Developer Cartridge (Magenta)	Develop Cartridge (Magenta) x1	575K rotation	MX-C32FV-M	10	Standard printable number: 45K Maximum printable number: 60K
Developer Cartridge (Yellow)	Develop Cartridge (Yellow) x1	575K rotation	MX-C32FGV-Y	10	Standard printable number: 45K Maximum printable number: 60K

Item	Content	Life	Model name	Quantity in collective package	Remarks
Drum Cartridge	Drum Cartridge x1	575K rotation	MX-C30DR	10	Standard printable number: 75k (BK) 45K (CL) Maximum printable number: 100K (BK) 60K (CL)

D. Asia, Hong Kong

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner Cartridge (Black)	Toner Cartridge (Black) x1	6k	MX-C30AT-B	10	Life: A4 5% document
Toner Cartridge (Cyan)	Toner Cartridge (Cyan) x1	6k	MX-C30AT-C	10	Life: A4 5% document
Toner Cartridge (Magenta)	Toner Cartridge (Magenta) x 1	6k	MX-C30AT-M	10	Life: A4 5% document
Toner Cartridge (Yellow)	Toner Cartridge (Yellow) x 1	6k	MX-C30AT-Y	10	Life: A4 5% document
Developer Cartridge (Black)	Develop Cartridge (Black) x1	575K rotation	MX-C32AV-B	10	Standard printable number: 75K Maximum printable number: 100K
Developer Cartridge (Cyan)	Develop Cartridge (Cyan) x1	575K rotation	MX-C32AV-C	10	Standard printable number: 45K Maximum printable number: 60K
Developer Cartridge (Magenta)	Develop Cartridge (Magenta) x1	575K rotation	MX-C32AV-M	10	Standard printable number: 45K Maximum printable number: 60K
Developer Cartridge (Yellow)	Develop Cartridge (Yellow) x1	575K rotation	MX-C32AV-Y	10	Standard printable number: 45K Maximum printable number: 60K
Drum Cartridge	Drum Cartridge x1	575K rotation	MX-C30DR	10	Standard printable number: 75k (BK) 45K (CL) Maximum printable number: 100K (BK) 60K (CL)

2. Maintenance parts list

A. U.S.A/Canada/South and Central America

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing unit	MX-C34FU1	Fusing unit (Heater lamp 120V) x 1	150K	4	
Primary transfer unit	MX-C32U1	Primary transfer unit x 1	150K	1	
Toner collection container	MX-C30HB	Toner collection container unit x 1	8K *1	10	Each color A4 5% coverage30% color ratio

B. Germany/Italy/Australia/New Zealand/Asia/Middle East/Africa

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing unit	MX-C34FU	Fusing unit (Heater lamp 230V) x 1	150K	4	
Primary transfer unit	MX-C32U1	Primary transfer unit x 1	150K	1	
Toner collection container	MX-C30HB	Toner collection container unit x 1	8K *1	10	Each color A4 5% coverage30% color ratio

*1: Life of each color A4 5% coverage30% color ratio conversion value

(The ratio is a rough reference since it differs depending on print contents, paper sizes, kinds of paper, use environment, the number of continuous prints.)

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.

In an actual case, the ratio of monochrome output and color output may differ greatly.

When data of mixed documents (monochrome and color) are output, monochrome document data may be output in the color mode in order to prevent against fall in the job efficiency. (ACS auto color selection).

In addition, 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.

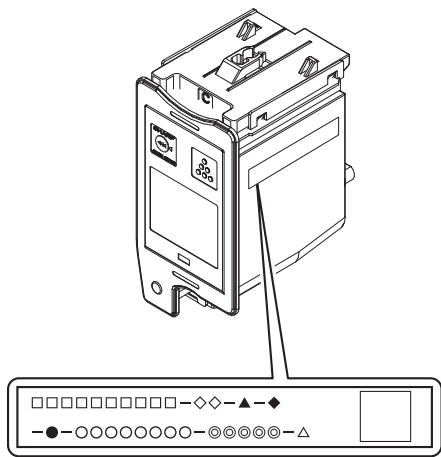
To check the developer/drum life, use SIM22-13.

	Standard printable number		Maximum printable number		Rotation	
	Black	Color	Black	Color	Black	Color
Developer/Drum	75K	45K	45K	60K	575K	575K

4. Production number identification

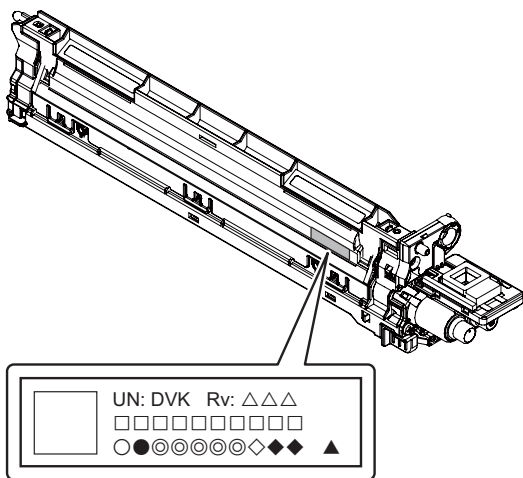
A. Toner cartridge

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



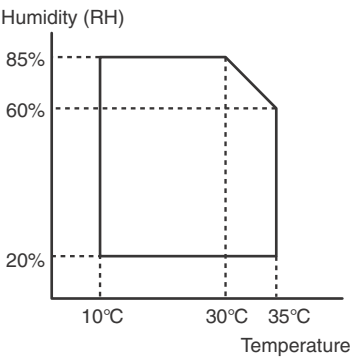
- : Unit code/Model name
- ◇: Color code (Black: BK /Cyan: CY /Magenta: MA /Yellow: YE)
- ▲: Destination
- ◆: Skating
- : Production place
- : Production date (YYYYMMDD)
- ⊙: Serial number
- △: Version

B. Developer cartridge



- △: Version
- : Unit code/Model name
- : Production year
- : Production place
- ⊙: Serial number
- ◇: Production month
- ◆: Production day
- ▲: Skating
- ◆: Skating

5. Environmental conditions

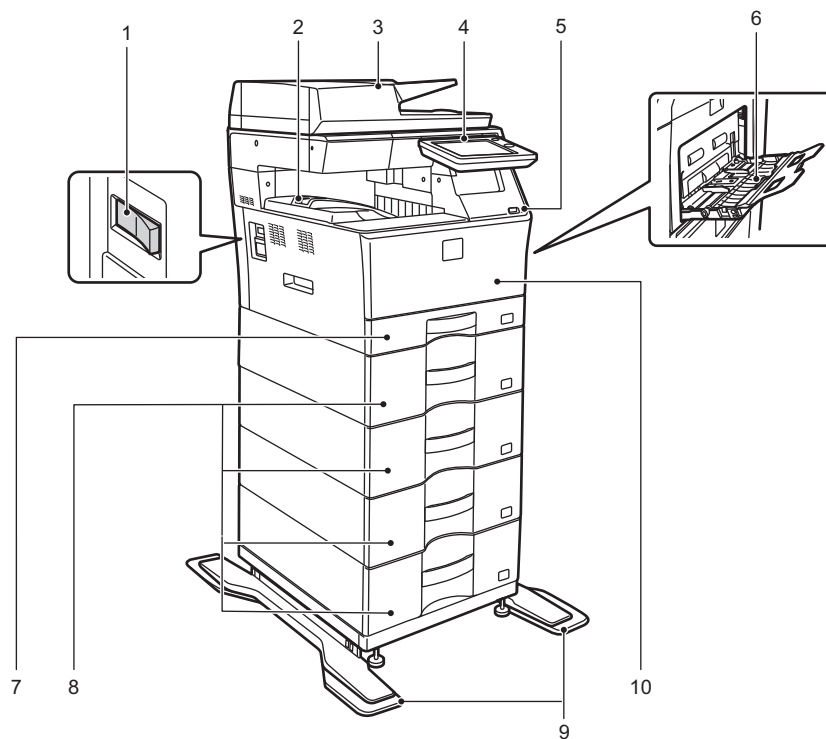


Standard environmental conditions	Temperature	21 - 25 degree C
	Humidity	50 +/- 10%RH
Usage environmental conditions	Temperature	10 - 35 degree C
	Humidity	20 - 85%RH
Storage period	Toner/Developer: 24 months from the manufactured month (Production lot) under unsealed state Drum: 36 months from the manufactured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

* Unsealed state is the state that the drum is not exposed. (The drum is covered by the black paper in packing state.)

[4] EXTERNAL VIEW AND INTERNAL STRUCTURE

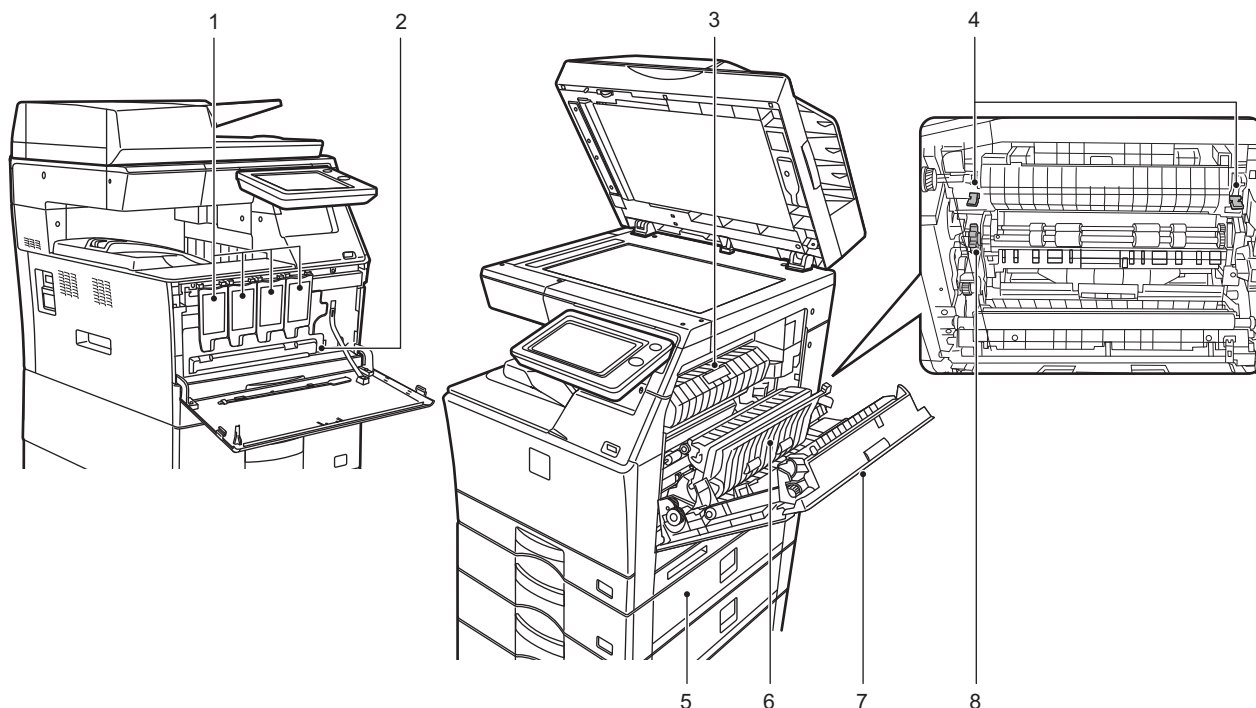
1. Exterior



No.	Name	Function/Operation
1	Main Power switch	Use this button to turn the machine's power on and off. When using the fax or Internet fax functions, always keep this switch in the " I " position.
2	Output tray	Output is delivered to this tray.
3	Automatic document feeder	This automatically feeds and scans multiple originals.
4	Operation panel	This panel hosts the [Power] button, [Power Save] button/indicator, error indicator, [Home Screen] key, main power indicator, data notification indicator, and touch panel. Use the touch panel to operate each of these functions.
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).
6	Bypass tray	Use this tray to feed paper manually. When loading large paper, open the extension guide.
7	Tray 1	Store paper in this tray. A maximum of 250 sheets (80 g/m2 (20 lbs.)) of paper can be loaded.
8	Tray2-5 (When a paper feed unit is installed) *	Store paper in this tray. A maximum of 600 sheets (80 g/m2 (20 lbs.)) of paper can be loaded.
9	Anti-tip kit for stand *	This is attached to the tip-resistant legs of stand when installing two 600-sheet paper feed units and the High stand (MX-DS22 N), or four 600-sheet paper feed units and the Low stand (MX-DS23 N).
10	Front cover	Open this cover to replace a toner cartridge.

* Option

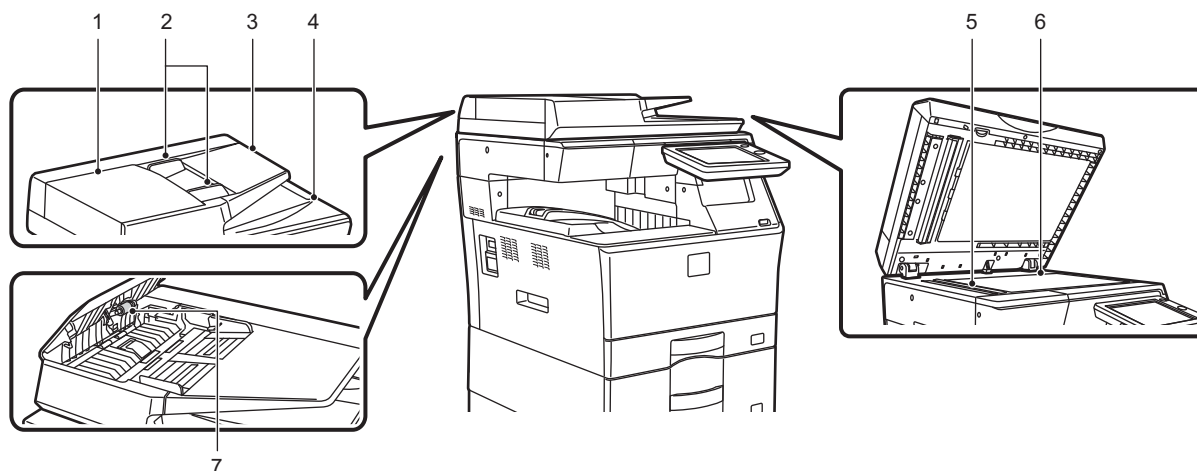
2. Interior, side and back



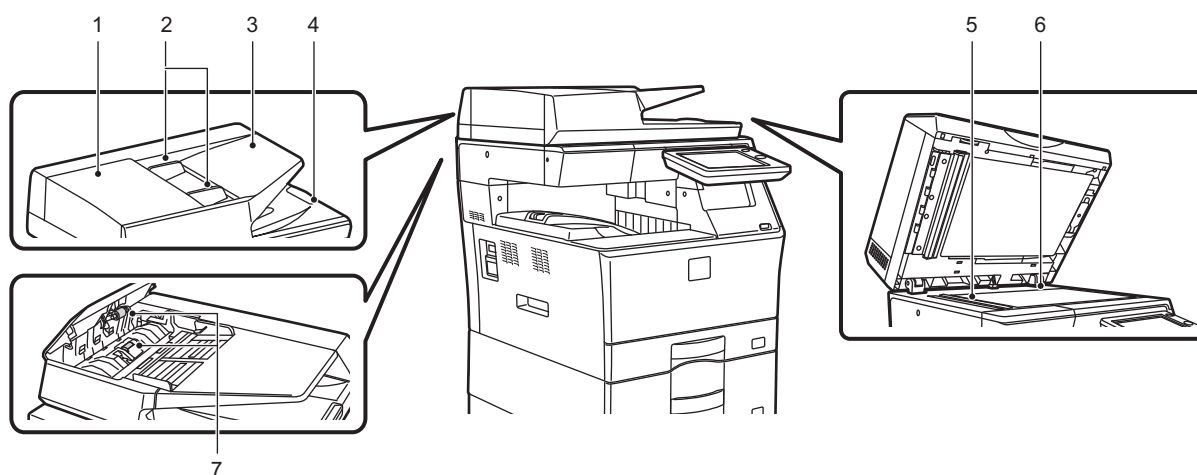
No.	Name	Function/Operation
1	Toner cartridge	These contain toner for printing. When the toner runs out in a cartridge, the cartridge of the color that ran out must be replaced.
2	Toner collection container	This collects excess toner that remains after printing.
3	Fusing unit paper guide	Open to remove misfed paper.
4	Fusing unit release levers	Push down these levers to release the pressure when removing misfed paper from inside the fusing area or when feeding an envelope from the bypass tray.
5	Right cover of paper feed unit (When a paper feed unit is installed)	Open this to remove a paper misfeed in tray 2. (when a paper feed unit is installed)
6	Duplex conveyor cover	Open this cover to remove a misfeed.
7	Side cover	Open this cover to remove a misfeed.
8	Roller rotating knob	Rotate to remove misfed paper.

3. Automatic document feeder and document glass

MX-C303W

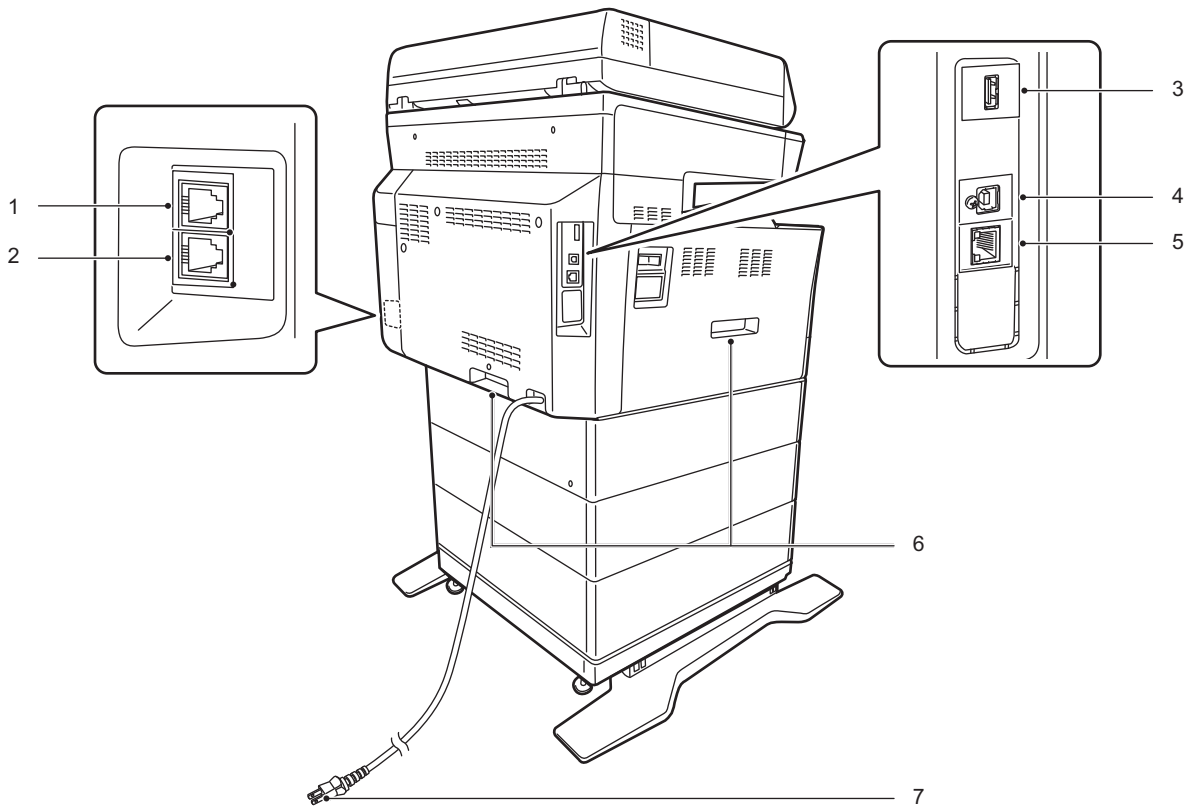


MX-C304W



No.	Name	Function/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.

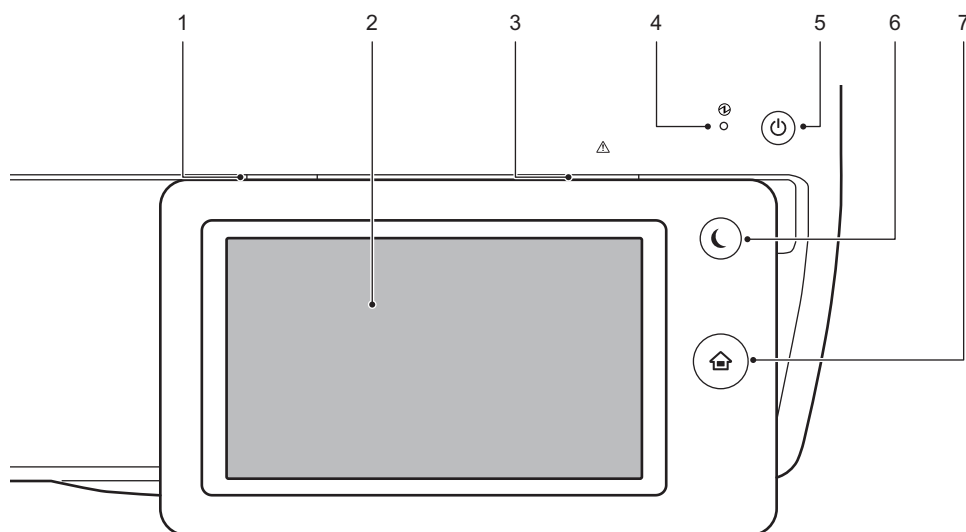
4. I/F connectors



No.	Name	Function/Operation
1	Extension phone socket (TEL)*	When the fax function of the machine is used, an extension phone can be connected to this socket.
2	Telephone line socket (LINE)*	When the fax function of the machine is used, the telephone line is connected to this socket.
3	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).
4	USB port (B type)	The machine does not use this connector.
5	LAN connector	Connect the LAN cable to this connector when the machine is used on a network. Use a shielded LAN cable.
6	Handle	Grasp them when moving the machine.
7	Power plug	

* Can only be used on the MX-C303W/C304W.

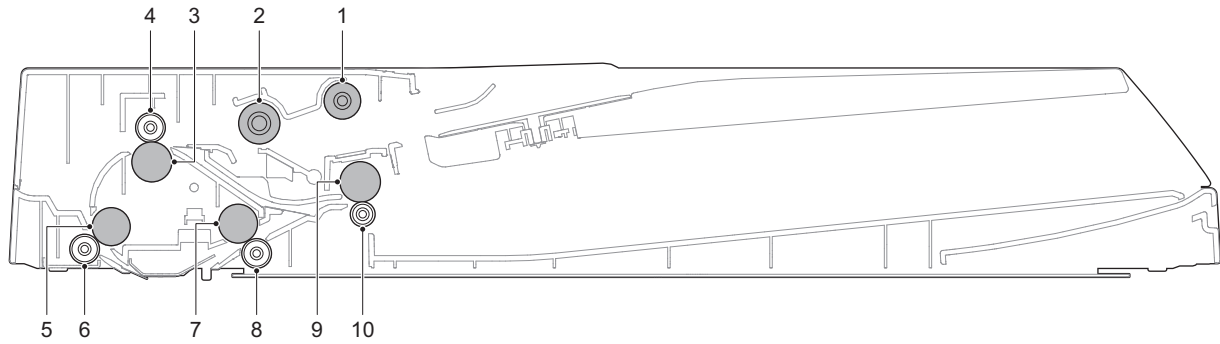
5. Operation panel



No.	Name	Function/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.
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.

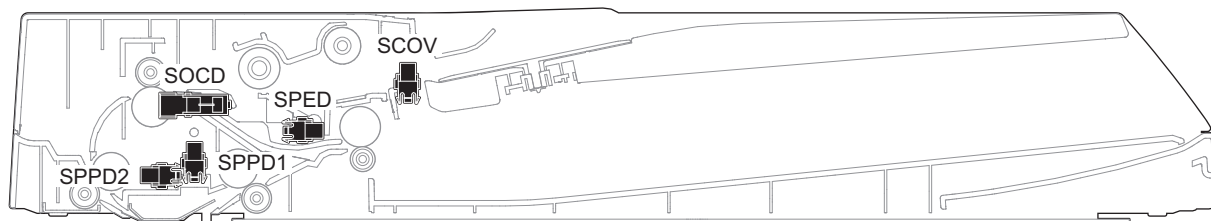
6. RSPF

A. Rollers



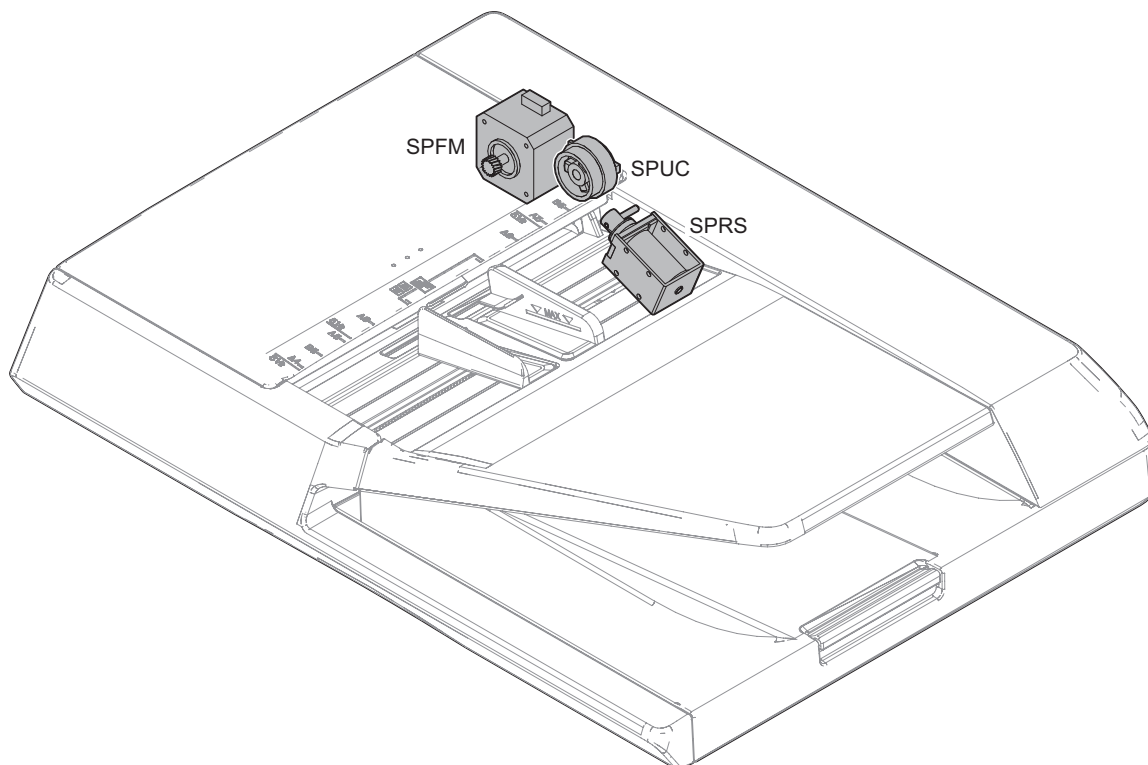
No.	Name	Function and Operation
1	Pickup roller	Feeds a document to the paper feed roller.
2	Separation roller	Separates a document to prevent double-feeding.
3	Registration roller (Drive)	Transports a document to the Before reading roller. / Controls the transport timing of the document and adjusts 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

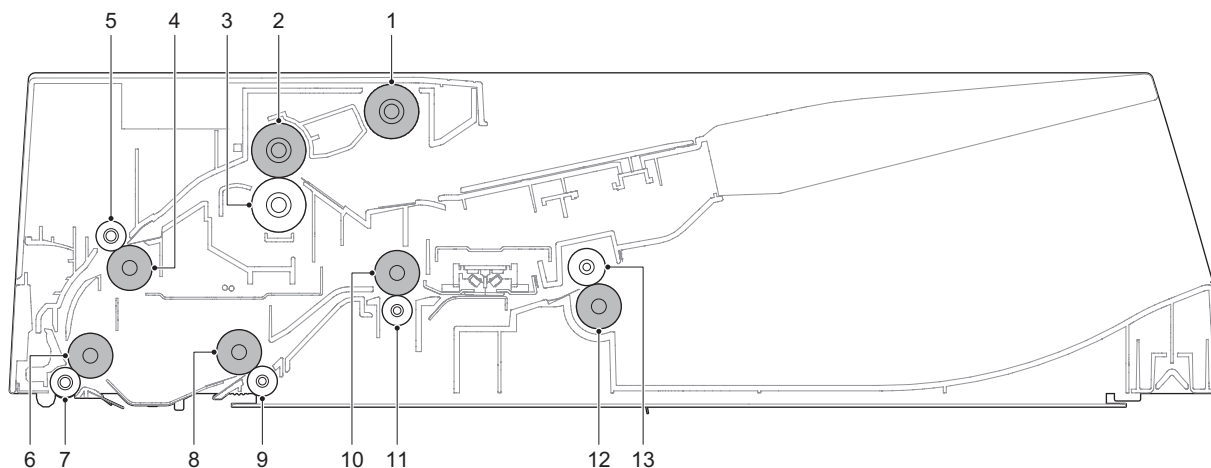
C. Motors/Clutches/Solenoids



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

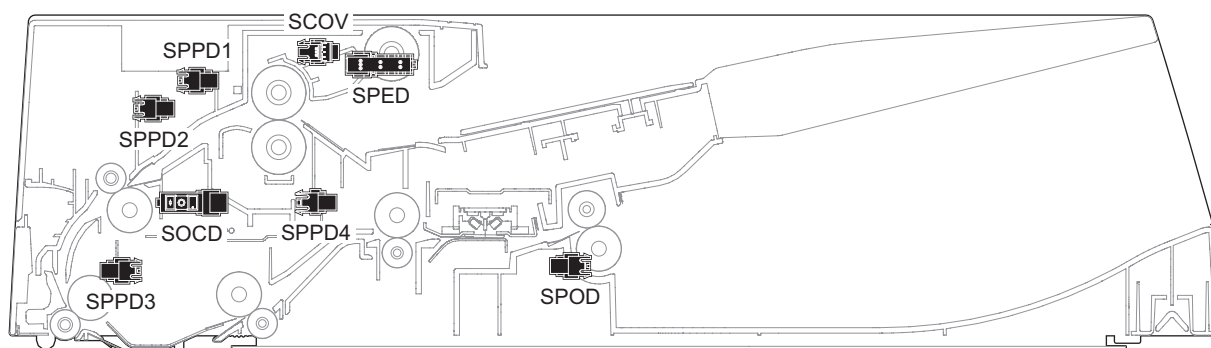
7. DSPF

A. Rollers



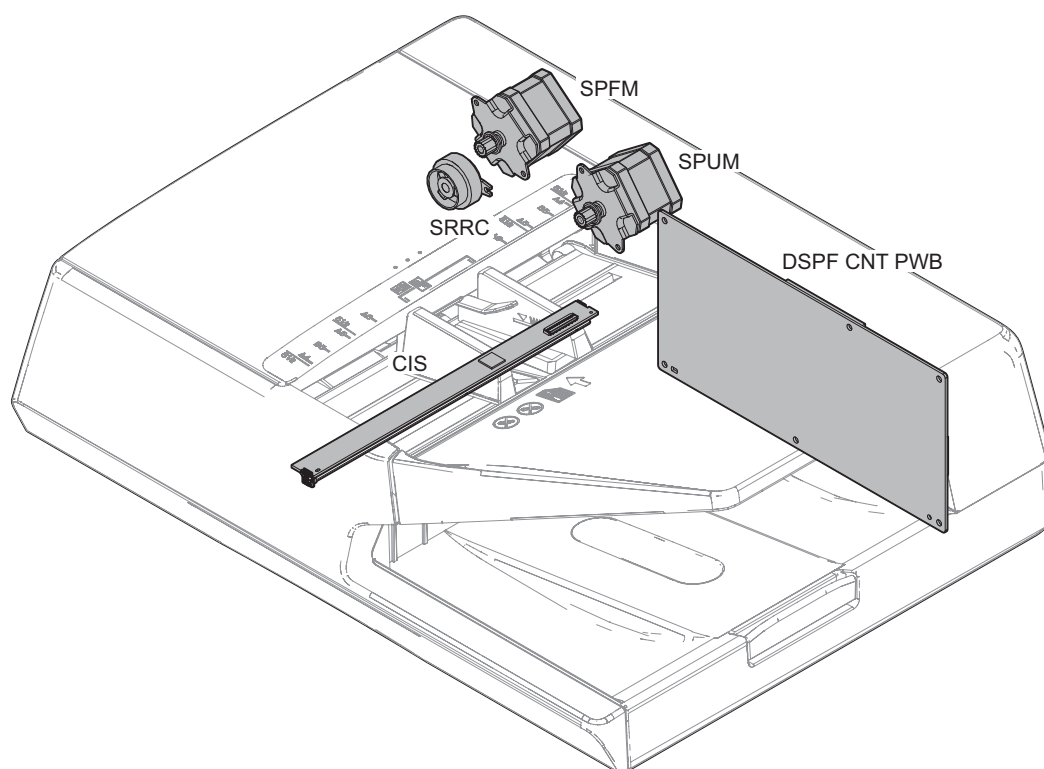
No.	Name	Function and Operation
1	Pickup roller	Picks up document and feed it to the document feed roller.
2	Document feed roller	Feeds a document to the transport section. Makes a buckle on paper between the registration roller and this roller to correct the start position of document skew and document 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)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.
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

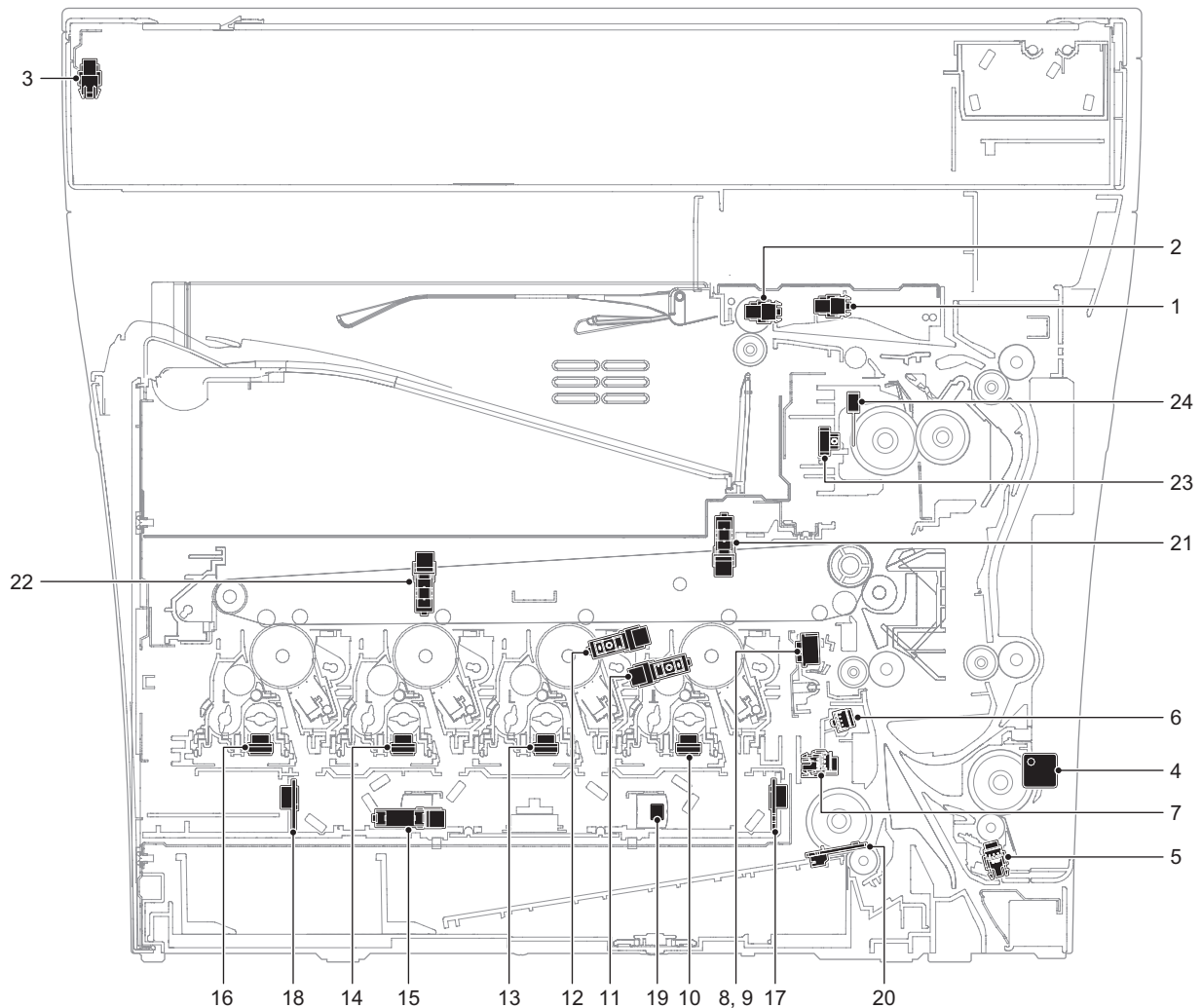
C. Motors/Clutches/PWB/Lamps/Fan



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

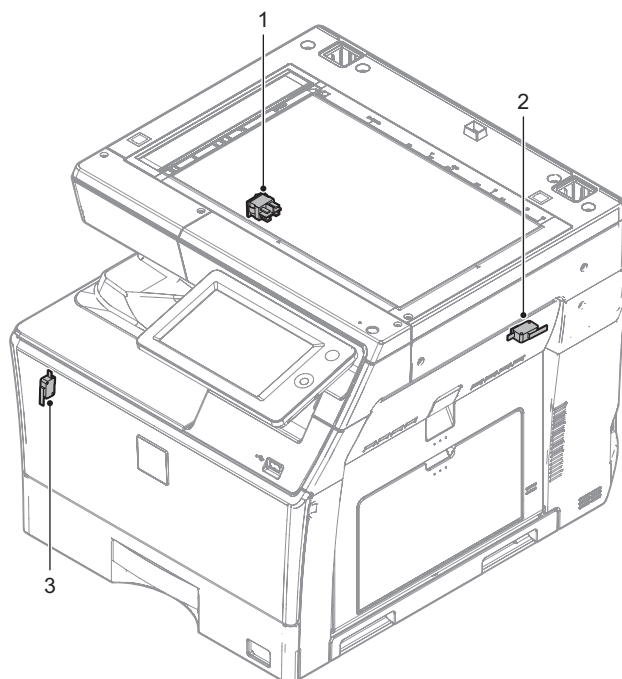
8. Sensors and detectors



No.	Signal name	Name	Type	Function and Operation
1	POD1	Fusing paper exit detector	Light transmission	Detects paper pass in the fusing section.
2	TFD2	Paper exit full detector	Light transmission	Detects paper full in the paper exit tray.
3	MHPS	Scanner home position sensor	Light transmission	Detects the scanner home position.
4	HUD_M/TH_M	Temperature/humidity sensor	Temperature/humidity sensor	Detects the temperature and the humidity. (For the process control)
5	MPED	Paper empty detector (Manual paper feed tray)	Light transmission	Detects paper empty. (Manual paper feed tray)
6	PPD2	Document transport sensor 2	Light reflection	Detects paper pass in front of the resist roller.
7	CPED1	Paper empty sensor (Paper feed tray 1)	Light transmission	Detects paper empty. (Paper feed tray 1)
8	REGS_F/PCS_F	Registration sensor F (Image density sensor)	Light reflection	Detects color shift. (F side) / Detects the CMY toner patch density.
9	REGS_R	Registration sensor R (Image density sensor)	Light reflection	Detects the K toner patch density. (R side)
10	TCS_K	Toner sensor (K)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (K).
11	DHPD_K	OPC drum rotation sensor (K)	Light transmission	Detects rotation and the phase of the OPC drum (K).
12	DHPD_CL	OPC drum rotation sensor (CL)	Light transmission	Detects rotation and the phase of the OPC drum (CL).
13	TCS_C	Toner sensor (C)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (C).
14	TCS_M	Toner sensor (M)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (M).
15	TNFD	Waste toner full detector	Light transmission	Detects when waste toner container has become full.
16	TCS_Y	Toner sensor (Y)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (Y).
17	BD_KC	Laser beam sensor (KC) (on BD PWB(KC))	Photo diode	Detects the timing of the laser beams.
18	BD_MY	Laser beam sensor (MY) (on BD PWB(MY))	Photo diode	Detects the timing of the laser beams.

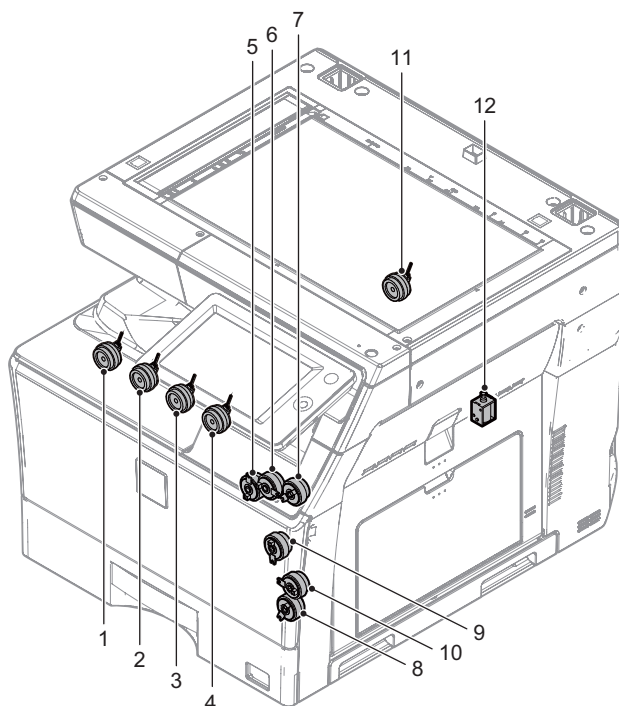
No.	Signal name	Name	Type	Function and Operation
19	TH_LSU	LSU thermistor (on LD PWB)	Thermistor	Detects the temperature in the LSU. (Used for correction of distortion.)
20	TH_P	Ozone duct thermistor	Thermistor	Detects the temperature in the Ozone duct.
21	1TUD_K	Transfer belt separation detector BK	Light transmission	Detects position of the transfer belt. Detects initialization of the transfer unit.
22	1TUD_CL	Transfer belt separation detector CL	Light transmission	Detects position of the transfer belt. Detects initialization of the transfer unit.
23	TH_UM	Fusing temperature sensor (Main)	Non-contact thermistor	Detects the surface temperature at the center section of the fusing roller.
24	TH_US	Fusing temperature sensor (Sub)	Thermistor	Detects the surface temperature at the edge section of the fusing roller.

9. Switches



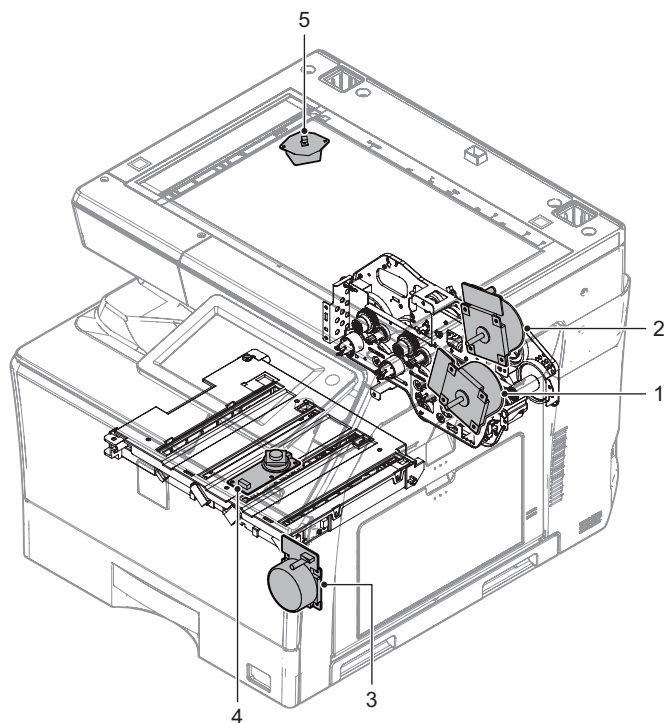
No.	Signal name	Name	Type	Function and Operation
1	MSW	Main power switch	Seesaw switch	Turns ON/OFF the main power.
2	DSW_R	Right door open/close switch	Micro switch	Detects open/close of the right door. Opens/closes the power lines of the fusing section, the motors, and the LSU laser.
3	DSW_F	Front door open/close switch	Micro switch	Detects open/close of the front door. Opens/closes the power lines of the fusing section, the motors, and the LSU laser.

10. Clutches and solenoids



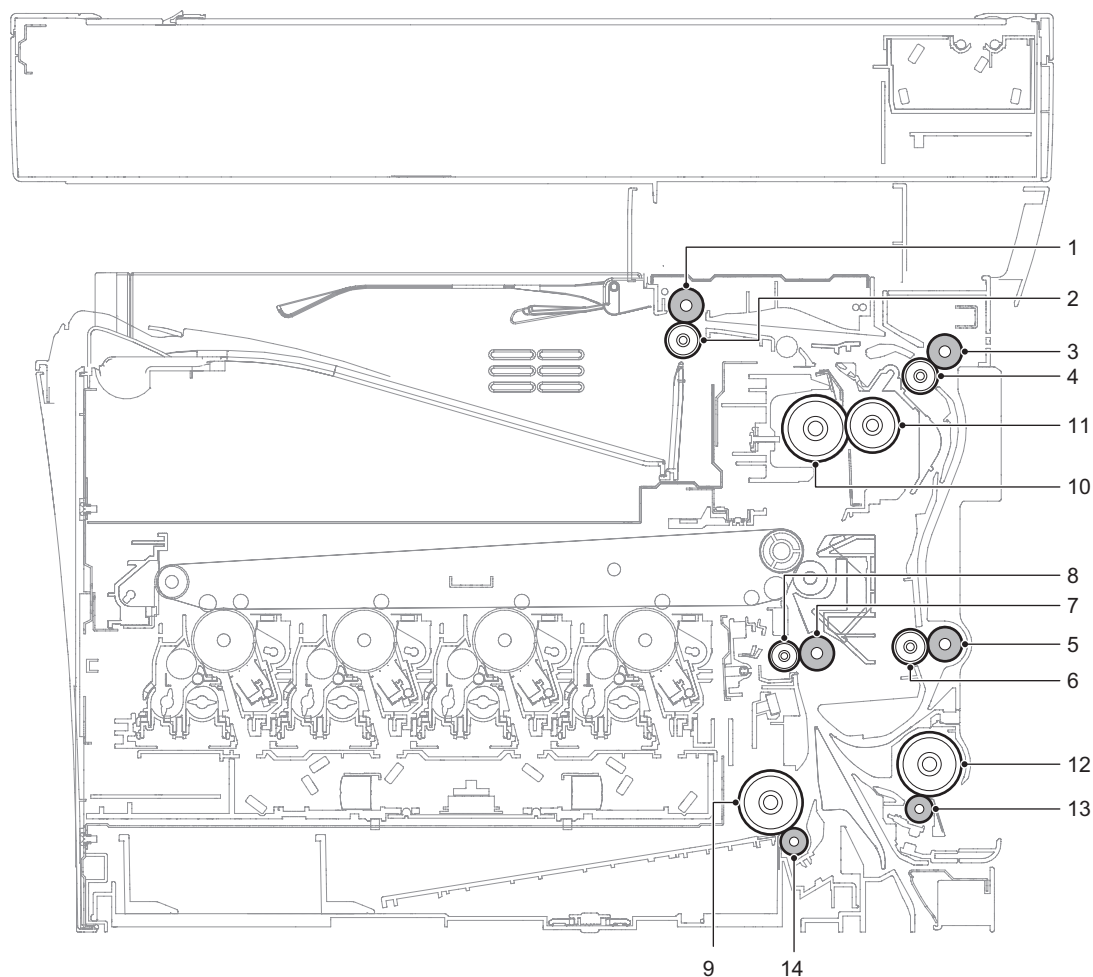
No.	Signal name	Name	Type	Function and Operation
1	TNC_Y	Toner supply clutch (Y)	Electromagnetic clutch	Controls the supply of the Y toner cartridge.
2	TNC_M	Toner supply clutch (M)	Electromagnetic clutch	Controls the supply of the M toner cartridge.
3	TNC_C	Toner supply clutch (C)	Electromagnetic clutch	Controls the supply of the C toner cartridge.
4	TNC_K	Toner supply clutch (BK)	Electromagnetic clutch	Controls the supply of the BK toner cartridge.
5	PORC	Paper exit reverse clutch	Electromagnetic clutch	Controls the operation of the paper exit roller when the paper exit roller rotates clockwise.
6	POC	Paper exit clutch	Electromagnetic clutch	Controls the operation of the paper exit roller when the paper exit roller rotates counter clockwise.
7	ADUC	ADU transport clutch	Electromagnetic clutch	Controls ON/OFF of the roller in the ADU section.
8	CPUC1	Paper feed clutch (Paper feed tray 1)	Electromagnetic clutch	Controls ON/OFF of the roller in the paper feed tray 1 section.
9	RRC	Regist Roller clutch	Electromagnetic clutch	Controls the operation of the registration roller.
10	MFPC	Manual paper feed clutch	Electromagnetic clutch	Controls the operation of the roller of the Manual paper feed clutch.
11	ITURC	Primary transfer separation clutch 1	Electromagnetic clutch	Controls the primary transfer separation mode.
12	PCSS	Process control shutter solenoid	Solenoid	Controls Open/Close of the Process control shutter solenoid.

11. Drive motors



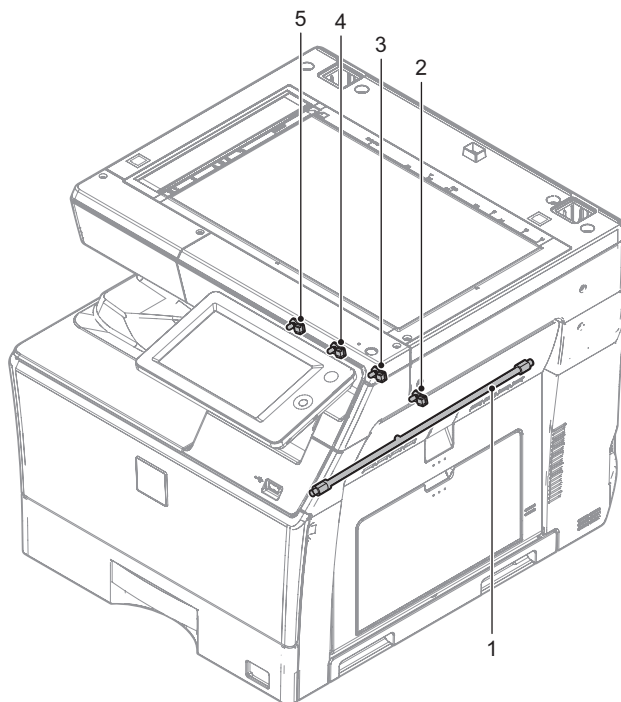
No.	Signal name	Name	Type	Function and Operation
1	DM_CL	Main drive CL motor	DC brush-less motor	Drives the developing/OPC drum section (CL).
2	DM_K	Main drive BK motor	DC brush-less motor	Drives the developing/black OPC drum (BK)/transfer section.
3	MM	Main motor	DC brush-less motor	Drives the fusing unit and the paper feed section.
4	PGM	Polygon motor	DC brush-less motor	Scans the laser beam.
5	MIM	SCN motor	Stepping Motor	Drives the Scanner unit.

12. Rollers



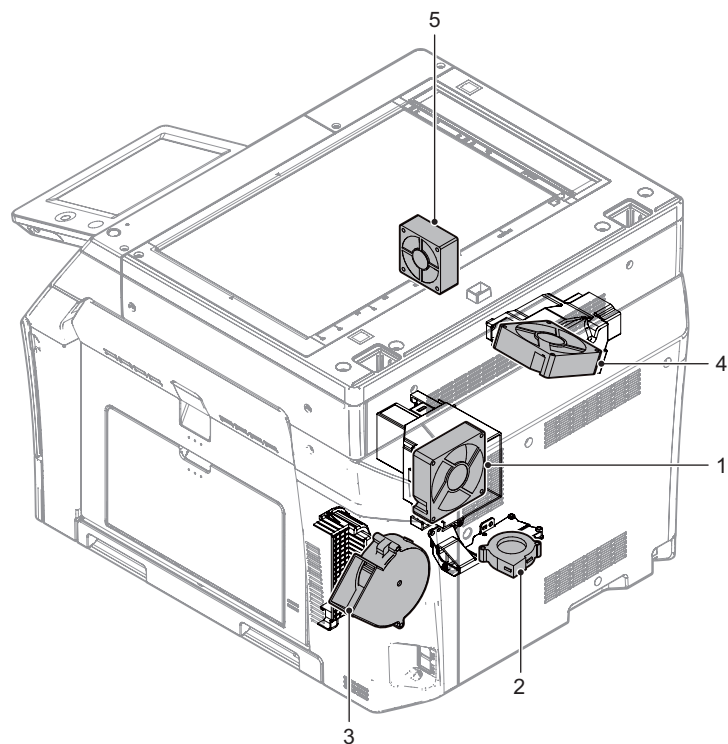
No.	Name	Function and Operation
1	Paper exit roller (Drive)	Drives the roller in the paper exit section.
2	Paper exit roller (Idle)	Apply a pressure to paper and the paper exit roller to provide the transport power of the Paper pressure (idle) roller to paper.
3	Right door paper enter roller (Drive)	Transports paper from the transport roller to the right door paper exit roller.
4	Transport roller (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the Paper pressure (idle) roller to paper.
5	Right door paper exit roller (Drive)	Lower duplex drive transport roller which transports paper to the registration rollers.
6	Transport roller (Idle)	Transports paper to the Pressure (idle) Transport Roller. Paper is buckled between the Pressure (idle) Transport Roller and this roller to correct the paper skew and the relation between images and paper.
7	PS roller (Idle)	Transports paper to the transfer section. Controls the transport timing of paper and adjusts relative relations between the image and paper.
8	PS roller (Drive)	PS Roller that controls the transport timing of paper and adjusts the relative position between images on the Transfer Belt and the registered paper.
9	Paper Feed Roller (Paper feed tray1)	Feeds paper from the cassette to the paper transport section.
10	Fuser heat roller	Applies heat through the roller to the toner on the paper to fuse the toner into the paper.
11	Fusing pressure roller	Flexible silicone-rubber pressure fusing roller.
12	Paper Feed Roller (Manual paper feed)	Feeds paper to the paper transport section.
13	Separation roller (Manual paper feed)	Apply the pressure to the paper feed roller in reverse direction and prevents the paper from feeding it in layered condition.
14	Separation roller (Paper feed tray 1)	Apply the pressure to the paper feed roller in reverse direction and prevents the paper from feeding it in layered condition.

13. Lamps



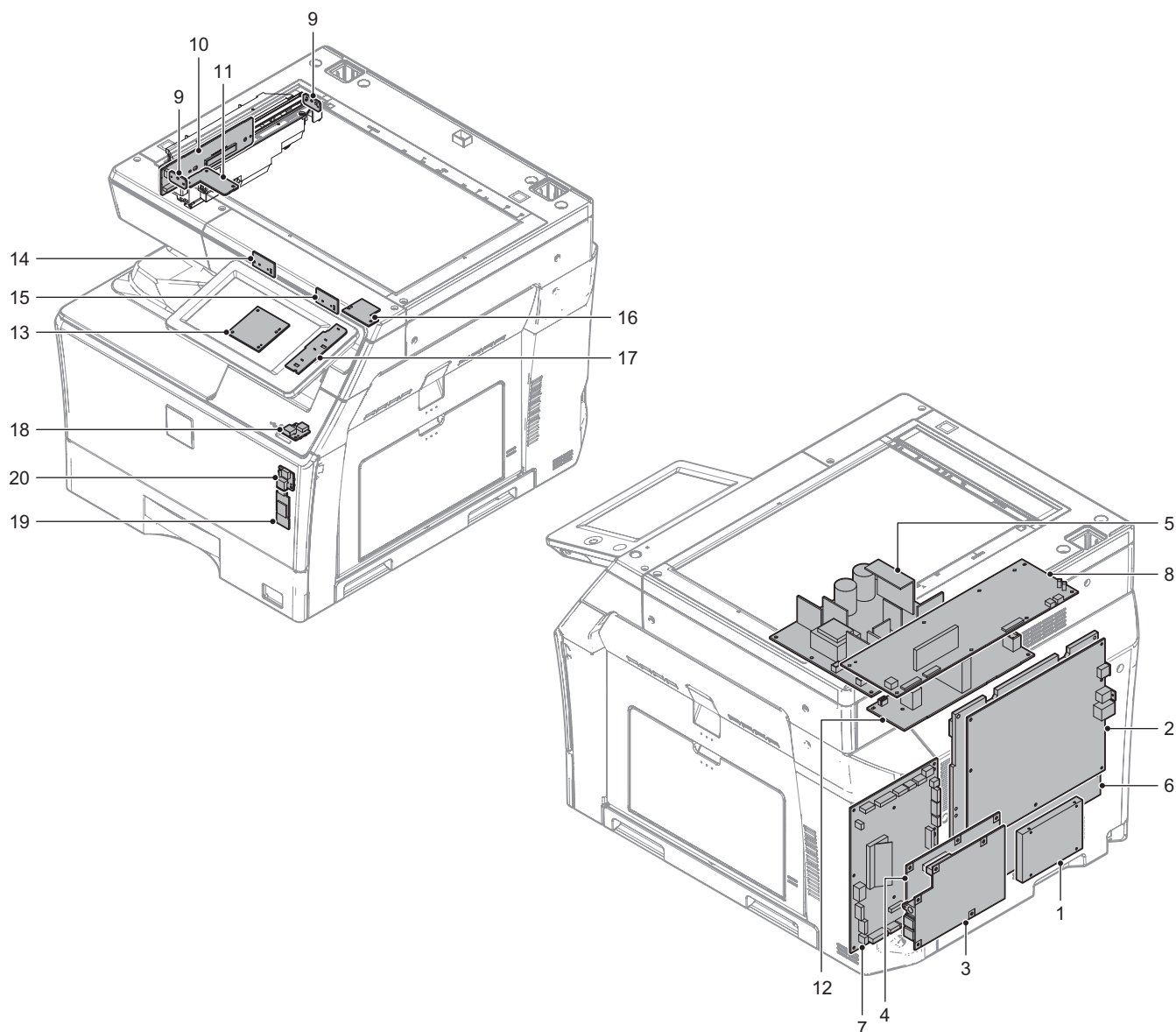
No.	Name	Function and Operation
1	Heater lamp (HL_UM)	Heats the fusing roller.
2	Discharge lamp (K)	Discharges electric charges on the OPC drum.(K)
3	Discharge lamp (C)	Discharges electric charges on the OPC drum.(C)
4	Discharge lamp (M)	Discharges electric charges on the OPC drum.(M)
5	Discharge lamp (Y)	Discharges electric charges on the OPC drum.(Y)

14. Fans



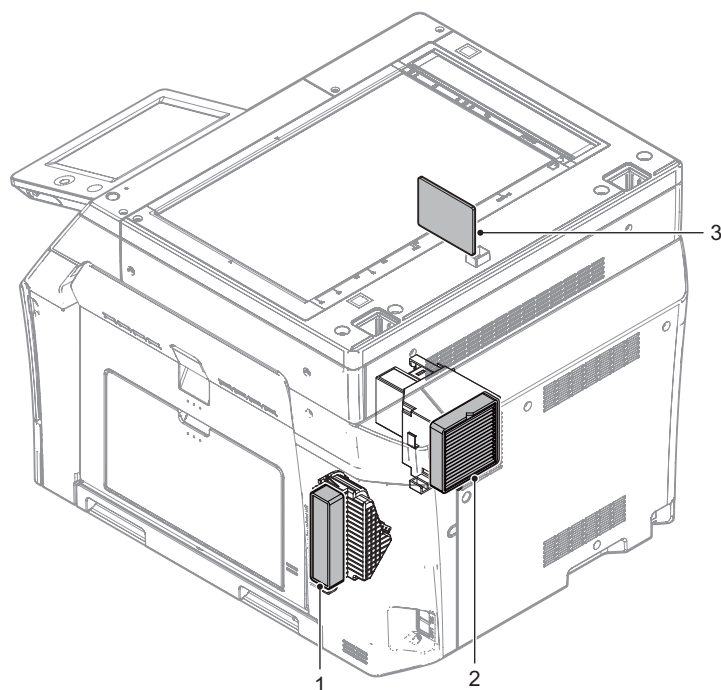
No.	Signal name	Name	Function and Operation
1	FUFM	Fusing cooling fan	Cools the fusing section.
2	LSUFM	LSU cooling fan	Cools the LSU.
3	OZFM1	Ozone fan 1	Filters the ozone generated from the image process section.
4	PSFM	Power cooling fan motor	Cools the power supply.
5	CFM1	Cooling fan motor	Cools the power supply surroundings by suction.

15. PWB



No.	Name	Function and Operation
1	HDD	Stores the MFP PWB program data, the filing data, the e-manual data, the watermark data, the log data, and the authentication data. Also used as a work area.
2	MFPC PWB	Controls image data and machine functionality.
3	LIU PWB	Controls telephone line interface.
4	FAX MAIN PWB	Controls FAX transmission / reception.
5	DC PWB	Controls DC voltage.
6	HV PWB	Generates the high voltages for the following components: main charger units, primary transfer unit and DV Units.
7	PCU PWB	Controls the engine section.
8	SCN cnt PWB	Controls the scanner section.
9	LED PWB	Based PWB with scanner light source LED.
10	CCD PWB	Scans the document image and converts read signal from analog to digital.
11	LED driver PWB	Drives the scanner lamp. (Inside CCD unit of scanner)
12	AC HL PWB	AC input, heater lamp driving power supply.
13	LCD I/F PWB	Output signals to the LCD unit and touch panel.
14	Front LED_G PWB	Display indication state of MFP.
15	Front LED_R PWB	Display indication state of MFP.
16	PW-KEY PWB	Outputs the key operation signal.
17	HM-KEY PWB	Outputs the key operation signal.
18	USB I/F PWB	Connects with the USB port on the front of the machine.
19	Wireless LAN PWB	Connects the network with the wireless connection. (Only wireless LAN model)
20	USB CN PWB	Connects Wireless LAN PWB. (Only wireless LAN model)

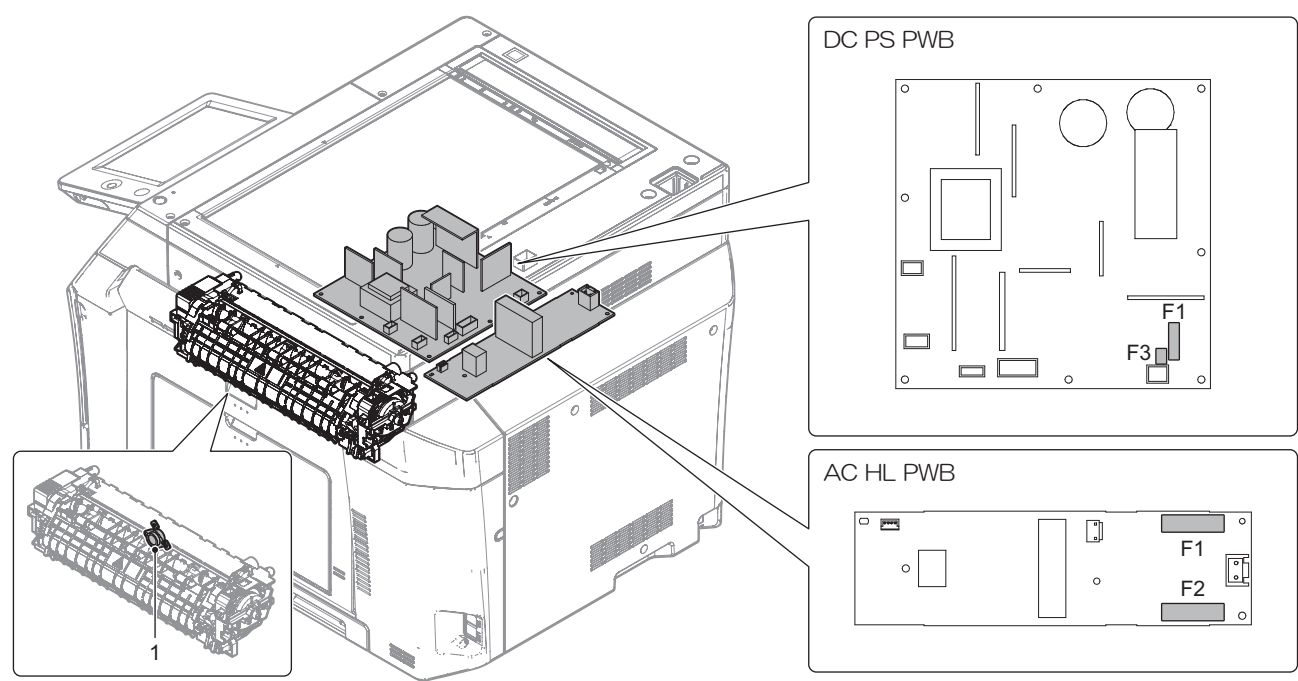
16. Filter



No.	Name	Function and Operation
1	Ozone filter	Absorbs ozone generated in the image process section.
2	UFP filter	Absorbs the UFP generated in the machine.*1 (Use only for Europe)
3	Intake filter	Prevent dust from entering the machine.

* 1 UFP: Ultrafine Particle Particles with a diameter of 0.1 micrometer or less

17. Fuses and thermostats



No.	Name	Function and Operation	Section
1	Upper thermostat	Shuts down the heater lamp circuit when the fusing section is overheated.	Fusing unit

Signal name	Name	Type	Section
F1	Fuse	250V 6.3A	DC PS PWB
F3	Fuse	250V T2A	DC PS PWB
F1	Fuse	250V 20A (EX 100V system) 250V/10A (EX 200V system)	AC HL PWB
F2	Fuse	250V 20A (EX 100V system) 250V/20A (EX 200V system)	AC HL PWB

1. Details of adjustment

ADJ 1 Adjusting high voltage values

1-A Adjust the main charger grid voltage

This adjustment is needed in the following situations:

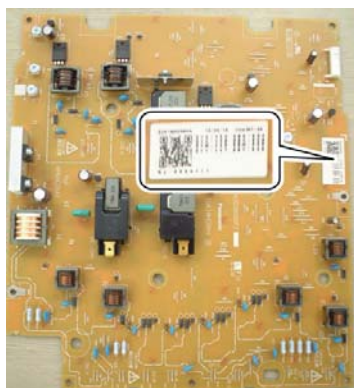
- * When the high voltage power PWB is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

- 1) Enter the SIM 8-2 mode.
- 2) Select an output mode and an item to be adjusted.
- 3) Enter the adjustment value (specified value) in the middle speed mode, 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, the output is stopped.

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



NOTE: 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.

Item/Display			Content	Setting range
MIDDLE	A	SPEED_GB_K	K charging/grid bias set value at middle speed	150 - 850
	B	SPEED_GB_C	C charging/grid bias set value at middle speed	150 - 850
	C	SPEED_GB_M	M charging/grid bias set value at middle speed	150 - 850
	D	SPEED_GB_Y	Y charging/grid bias set value at middle speed	150 - 850
LOW	A	SPEED_GB_K	K charging/grid bias set value at low speed	150 - 850
	B	SPEED_GB_C	C charging/grid bias set value at low speed	150 - 850
	C	SPEED_GB_M	M charging/grid bias set value at low speed	150 - 850
	D	SPEED_GB_Y	Y charging/grid bias set value at low speed	150 - 850

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.

NOTE: 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.

1-B Adjust the developing bias voltage

This adjustment is needed in the following situations:

- * When the high voltage power 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.
- 3) Enter the adjustment value (specified value) in the middle speed mode, 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, the output is stopped.

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

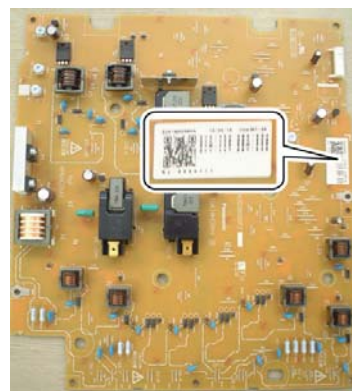
NOTE: Note that the adjustment value may differ depending on the high voltage power PWB.

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.

Item/Display			Content	Setting range
MIDDLE	A	DVB_K	K developing bias set value at middle speed	0-600
	B	DVB_C	C developing bias set value at middle speed	0-600
	C	DVB_M	M developing bias set value at middle speed	0-600
	D	DVB_Y	Y developing bias set value at middle speed	0-600
LOW	A	DVB_K	K developing bias set value at low speed	0-600
	B	DVB_C	C developing bias set value at low speed	0-600
	C	DVB_M	M developing bias set value at low speed	0-600
	D	DVB_Y	Y developing bias set value at low speed	0-600

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.



NOTE: 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.

1-C Transfer 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 an item to be adjusted.

- 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, the output is stopped.
By setting the default value (specified value), the specified output is provided.

Item/Display		Content				Setting value	Default value	
A	TC1 LOW SPEED CL K	Primary transfer bias adjustment value	Color	K	Low speed	0 - 255	95	
B	TC1 MIDDLE SPEED CL K				Middle speed	0 - 255	109	
C	TC1 LOW SPEED CL CMY			CMY	Low speed	0 - 255	139	
D	TC1 MIDDLE SPEED CL CMY				Middle speed	0 - 255	186	
E	TC1 LOW SPEED BW K		Black/White	K	Low speed	0 - 255	95	
F	TC1 MIDDLE SPEED BW K				Middle speed	0 - 255	146	
G	TC2 PLAIN CL SPX	Secondary transfer bias adjustment value	Color	Plain paper 1	Front surface	0 - 255	103	
H	TC2 PLAIN CL DPX				Back surface	0 - 255	96	
I	TC2 PLAIN BW SPX		Black/White		Front surface	0 - 255	90	
J	TC2 PLAIN BW DPX				Back surface	0 - 255	83	
K	TC2 PLAIN2 CL SPX		Color	Plain paper 2	Front surface	0 - 255	103	
L	TC2 PLAIN2 CL DPX				Back surface	0 - 255	96	
M	TC2 PLAIN2 BW SPX		Black/White		Front surface	0 - 255	90	
N	TC2 PLAIN2 BW DPX				Back surface	0 - 255	83	
O	TC2 HEAVY1 CL SPX		Color	Heavy paper 1	Front surface	0 - 255	83	
P	TC2 HEAVY1 CL DPX				Back surface	0 - 255	76	
Q	TC2 HEAVY1 BW SPX		Black/White		Front surface	0 - 255	76	
R	TC2 HEAVY1 BW DPX				Back surface	0 - 255	69	
S	TC2 HEAVY2 CL SPX		Color	Heavy paper 2	Front surface	0 - 255	83	
T	TC2 HEAVY2 CL DPX				Back surface	0 - 255	76	
U	TC2 HEAVY2 BW SPX				Black/White	Front surface	0 - 255	76
V	TC2 HEAVY2 BW DPX					Back surface	0 - 255	69
W	TC2 OHP CL		Color	OHP		0 - 255	69	
X	TC2 OHP BW		Black/White			0 - 255	69	
Y	TC2 ENVELOPE CL		Color	Envelope		0 - 255	69	
Z	TC2 ENVELOPE BW		Black/White			0 - 255	69	
AA	TC2 THIN CL		Color	Thin paper		0 - 255	96	
AB	TC2 THIN BW		Black/White			0 - 255	90	
AC	TC2 GLOSSY CL		Color	Gloss paper		0 - 255	69	
AD	TC2 GLOSSY BW		Black/White			0 - 255	76	
AE	TC2 EMBOSS CL		Color	emboss paper		0 - 255	83	
AF	TC2 EMBOSS BW		Black/White			0 - 255	76	
AG	TC2 LABEL CL		Color	label paper		0 - 255	83	
AH	TC2 LABEL BW		Black/White			0 - 255	76	
AI	TC2 INTERVAL LOW	Interval bias adjustment value	Low speed		0 - 255	0		
AJ	TC2 INTERVAL MIDDLE		Middle speed		0 - 255	0		
AK	TC2 COUNTER LOW	Counter bias adjustment value	Low speed		0 - 255	119		
AL	TC2 COUNTER MIDDLE		Middle speed		0 - 255	119		
AM	TC2 CLEANING MINUS LOW	Cleaning bias adjustment value	Low speed		0 - 255	59		
AN	TC2 CLEANING MINUS MIDDLE		Middle speed		0 - 255	59		
AO	TC2 CLEANING PLUS LOW		Low speed		0 - 255	119		
AP	TC2 CLEANING PLUS MIDDLE		Middle speed		0 - 255	119		

Plain paper1: 60-89g/m2 (16-24 lb. bond) Plain paper2: 90-105g/m2 (24-28 lb. bond)

Heavy paper1: 106-176g/m2 (28-65 lb. bond) Heavy paper2: 177-220g/m2 (65-80 lb. bond)

ADJ 2 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.

2-A Image density sensor adjustment

The image density sensor and the transfer belt 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 Sim44-2

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 SIM44-2 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.

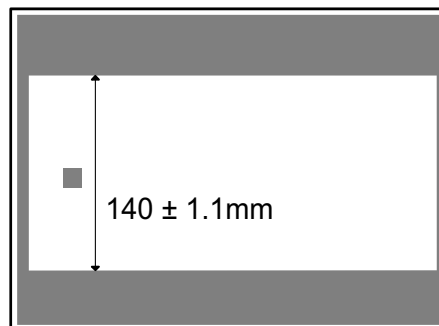
- * Color image density sensor
- * The PCU PWB
- * Transfer belt (dirt, scratch)
- * Transfer belt cleaner

ADJ 3 Print image position, image magnification ratio, void area, off-center adjustment (Print engine) (Manual adjustment)

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

This adjustment must be performed in the following cases:

- * 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 halftone is $140 \pm 1.1\text{mm}$.



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 image print area adjustment

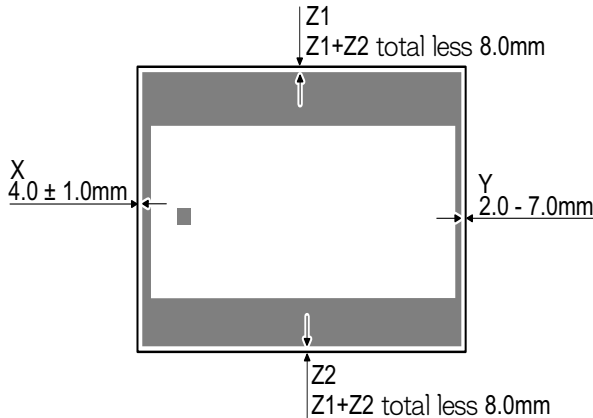
This adjustment must be performed in the following cases:

- * When the LSU is replaced or removed.
- * When a paper tray is replaced.
- * When the paper tray section is disassembled.
- * When the manual feed tray is replaced.
- * When the manual feed tray is disassembled.
- * When the duplex mode paper transport section is disassembled.
- * 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, be sure to execute the print image magnification ratio adjustment (ADJ 4A) (main scanning direction) (print engine) (manual adjustment).

- 1) Enter the SIM 50-10 mode.
- 2) Set A4 (11 x 8.5") paper to all the paper feed trays. Select an adjustment item of the target paper feed tray with scroll key.
- 3) Press [EXECUTE] key.
The adjustment pattern is printed.
- 4) Check the adjustment pattern to confirm that the items below are in the range of the standard values.



	Content	Standard adjustment value
X	Lead edge void area	$4.0 \pm 1.0 \text{ mm}$
Y	Rear edge void area	$2.0 - 7.0 \text{ mm}$
Z1/Z2	FRONT/REAR void area	Total less than 8mm

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

- 5) 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-STD	All tray (Off center)
Sub scanning direction	SUB-STD	All tray (Transport direction)
Main scanning direction	MAIN-MF	Manual tray
	MAIN-CS1	Tray 1
	MAIN-CS2	Tray 2
	MAIN-CS3	Tray 3
	MAIN-CS4	Tray 4
	MAIN-CS5	Tray 5
	MAIN-ADU	Back side of duplex
	MAIN-CS1-A6	Tray 1 (A6)
Sub scanning direction	SUB-MFT	Manual tray
	SUB-CS1	Tray 1
	SUB-CS2	Tray 2
	SUB-CS3	Tray 3
	SUB-CS4	Tray 4
	SUB-CS5	Tray 5
	SUB-ADU	Back side of duplex

Note

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

3-C Print image off-center adjustment

This adjustment must be performed in the following cases:

- * When the LSU is replaced or removed.
- * When a paper tray is replaced.
- * When the paper tray section is disassembled.
- * When ADJ 4A 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 mode paper transport section is disassembled.
- * 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.

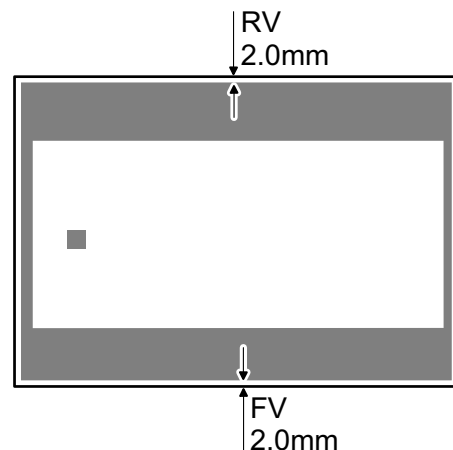
- * The print image magnification ratio adjustment (ADJ 3A) (main scanning direction) has been properly adjusted.

- 1) Enter SIM 50-10 mode.
- 2) Select the target paper feed tray (MAIN-XX) with the scroll key.

Display/Item	Content	Setting range
NO	Not select	1

- 3) Set A4 (11" x 8.5") paper in the paper feed tray selected in procedure 2).
- 4) Press [EXECUTE] key.
The adjustment pattern is printed.
- 5) 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

$FV + FV \ 4.0\text{mm} \pm 2.0\text{mm}$

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

$RV = 2.0\text{mm} - 5.0\text{mm}$

$FV = 4. \pm 1.0\text{mm}$

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

- 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 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.

ADJ 4 Print engine image distortion adjustment / OPC drum phase adjustment / Color registration adjustment (Print engine section)

This adjustment must be performed in the following cases:

- * When the color shift occurs.
- * When the LSU is replaced.
- * When the LSU is removed from the main unit.
- * When the unit is installed or when the installing place is changed.
- * When maintenance work is performed. (Replacement of the OPC drum, the OPC cartridge, the transfer unit, the transfer belt, etc.)
- * When [ADJ 3A] Print engine image magnification ratio adjustment (BK) (main scanning direction) is performed.
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.
- * When the color phase is not proper even after execution of the color balance adjustment.
- * When the OPC drum drive section is disassembled.
- * When the primary transfer unit is replaced. (when it is removed from the machine)
- * When the developing unit or the OPC drum unit is removed from the machine.

4-A Print engine image distortion adjustment (Manual adjustment) / OPC drum phase adjustment (Automatic adjustment) / Color registration adjustment (Automatic adjustment)

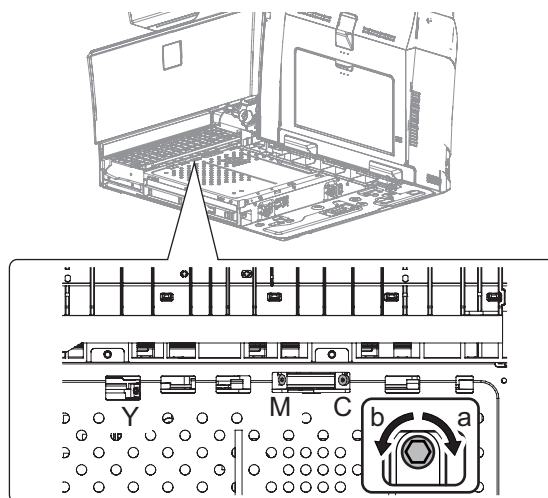
This adjustment performs the print engine image distortion adjustment, the OPC drum phase adjustment, and the color registration adjustment simultaneously.

- 1) Enter SIM50-22 mode.
- 2) Press [EXECUTE] key.
The image registration automatic adjustment is started. (It takes about 15 sec to complete the adjustment.)
- 3) When the adjustment is completed, the value of the adjustment result is displayed.
The current skew level for each color is displayed on the SKEW display section.

Item/Display			Content	Setting range (unit)
MAIN F	-	REG_M_F (VALUE)	Registration adjustment correction amount main scanning direction F	1.0 - 199.0 (+/-0.1)
	()	REG_M_F (DIF)	Registration value correction amount from the previous one, main scanning F	-199.0 - 199.0 (+/-0.1)

Item/Display			Content	Setting range (unit)
MAIN R	-	REG_M_R (VALUE)	Registration adjustment correction value, main scanning direction R	1.0 - 199.0 (+/-0.1)
	()	REG_M_R (DIF)	Registration value correction amount from the previous one, main scanning R	-199.0 - 199.0 (+/-0.1)
SUB	-	REG_SUB (VALUE)	Registration adjustment correction value, sub scanning direction	1.0 - 199.0 (+/-0.1)
	()	REG_SUB (DIF)	Registration value correction amount from the previous one, sub scanning	-199.0 - 199.0 (+/-0.1)
SKE W	CMY	SKEW_CLC	SKEW adjustment rotating direction and the number of clicks (CMY)	L99.9 - R99.9 (+/-0.1)
	ALL - ROT ATE		SKEW adjustment rotating direction and the number of clicks (K)	
PHASE		PHASE_AD J	Phase adjustment value (1: Value of this time, 2: Value of the previous time) Angle step 0 degrees (1) -> 45 degrees (2) -> 90 degrees (3) -> 135 degrees (4) -> 180 degrees (5) -> 225 degrees (6) -> 270 degrees (7) -> 315 degrees (8)	1 - 8 (+/-1)

- 4) Write down the displayed skew level.
When "SKEW_**" values are in the following ranges, the adjustment needs not to be done.
* To make "SKEW_**" values in the following ranges, turn the LSU skew adjustment screws clockwise direction (a) or counterclockwise direction (b).
SKEW_C : +/-30, SKEW_M : +/-40, SKEW_Y : +/-20
*When there is no indication before "SKEW_**", turn the LSU skew adjustment screws clockwise direction (a)
*When there is "-" indication before "SKEW_**", turn the LSU skew adjustment screws counterclockwise direction (b).
 - 5) If there are several skewed areas on the test printing result, turn all the LSU skew adjustment screws shown in the figure to adjust, and perform the procedures 2) to 4).
- Repeat the procedures 2) to 5) until the printing result has no skew area.
- If the printing result has no skew area, the adjustment is finished.
- For the adjustment, remove the paper tray, and turn the skew adjustment screw from the bottom of the main unit.



Important

When the adjustment is made by turning the LSU skew adjustment screw of K, the states of C, M and Y (SKEW) are changed. Execute SIM50-22 to check to confirm that C, M, and Y (SKEW) are OK.

The adjustment result can be checked by the following manual adjustment mode.

* ADJ 4B

Image skew adjustment (Manual adjustment) (SIM50-20)

* ADJ 4C

Color registration offset adjustment (SIM50-20)

Note

When the color registration is greatly shifted due to replacement of the LSU, etc, if SIM50-22 is used to perform the color registration automatic adjustment, an error may occur.

In this case, the adjustment may be properly executed by setting the adjustment items A - I of SIM50-20 to "100" and executing the automatic adjustment again.

If color shift in an actual print image differs in the center, the front side, and the rear side, the color shift offset adjustment can improve it. (Refer to ADJ 4C.)

Normally there is a difference in color shift in several dots. Perform the adjustment only when the adjustment is required.

4-B Print engine image skew (LSU skew) adjustment (Manual adjustment) (No need to adjust normally)

If a more accurate adjustment than the automatic adjustment ADJ 4A is required, use this method of adjustment.

This adjustment is made by changing the parallelism of the LSU unit scan laser beams for the OPC drum.

- 1) Enter the SIM 50-20 or 64-01 mode.
- 2) Select the paper feed tray with A4(11"x8.5") paper in it, and press [START] key.
- 3) The image skew (image registration) adjustment pattern is printed.
- 4) Check the printed black image for any skew.

Use the four cross points printed in black to measure the squareness.

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

Method 1

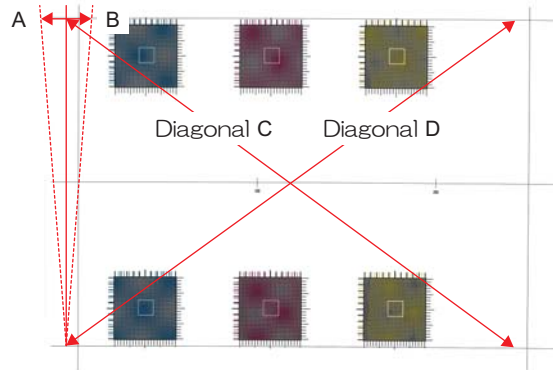
Measure the distances between opposing corners of the rectangle print pattern, and compare the two distances to check the squareness.

Method 2

Check the squareness of the vertical and horizontal sides of the rectangle print pattern by using A4(11"x8.5") paper sides.

Important

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



Method 1

Measure the length of the diagonal lines of the rectangle print pattern.

Calculate the difference between the measured lengths C and D of the diagonal lines.

Check to insure that the difference between C and D is in the following range.

$$C - D = 0.8\text{mm}$$

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

Method 2

Fit the side of A4(11"x8.5") paper to the long side of the rectangle print pattern.

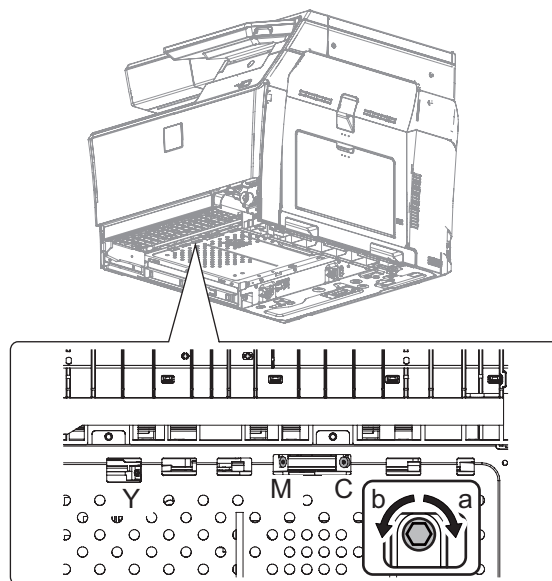
Measure the slant (skew) of the vertical side for the horizontal side of paper as shown in the figure.

If the above distance is 0.5mm or less, there is no need to adjust.

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

- 5) Open the front cover, remove the waste toner box, and turn the four LSU image skew adjustment screws in the same direction by the same amount.

For the adjustment, remove the front cover and the waste toner box, and turn the skew adjustment screw.



(Skew adjustment screw rotation direction)

When C is greater than D in the method 1 or there is some skew in the direction (a) in the method 2, turn the screw clockwise.

When C is smaller than D in the method 1 or there is some skew in the direction (b) in the method 2, turn the screw counterclockwise.

(Reference of the rotation amount of the skew adjustment screw)

In case of the method 1, 0.8mm/about 1.5 rotations

In case of the method 2, 0.5mm/about 1.5 rotations

Repeat the procedures 2) to 6).

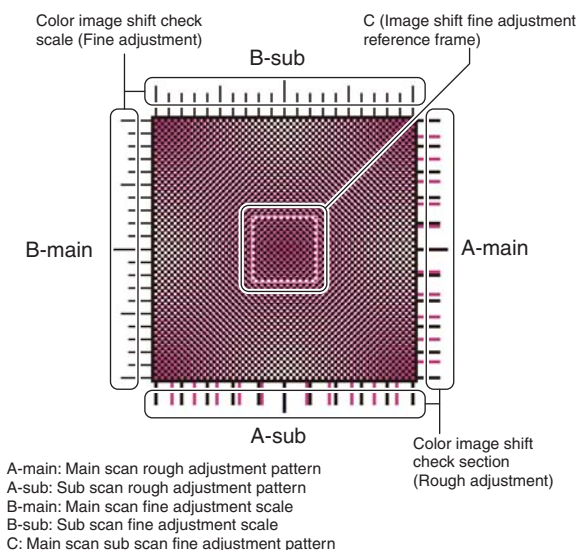
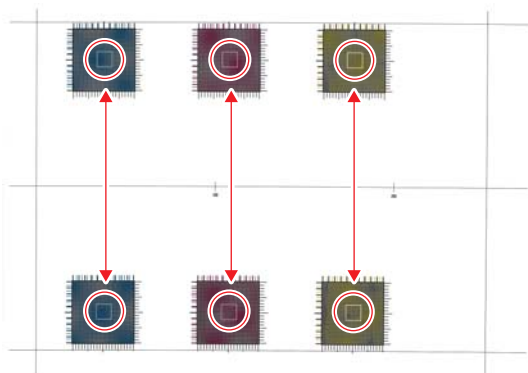
After completion of the black image skew adjustment, go to the procedure 7).

6) Perform the same procedures as 1) and 2).

7) Check the printed color image for any skew.

If the difference between the shift amounts on the F and R sides is within +/- 1 scale of the fine adjustment check scale, there is no need to perform the adjustment.

Measure the skew amount from the print patterns on the front and rear sides of each color.



In each Y/M/C color print pattern printed separately in the F side and in the R side, note the same print color pattern and check to confirm that the F side and the R side look identical.

Rough adjustment pattern check:

Check the sub scan rough adjustment color image shift check section on the R side and the F side of each color, use the center position of the black scale as the reference, and check the balance in shifts of the color image line positions in the positive and the negative directions. The balance in the R side must be the same as that in the F side.

Fine adjustment pattern check:

Check the square frames on the R side and the F side of each color. (Normally five sections of high density can be seen.) Check the sub scanning direction position of the center area of high density (one of the above five sections). These must be on the same position on the R side and the F side.

In this case, use the sub scan direction color image shift check scale (fine adjustment) as the reference.

Visually check the color density and make the darkest section as the center, and use it as the read value of the shift amount.

Check that the difference in the center position of the dark density section is within +/-1 step.

The positional relations of the front and the rear frame of the print color patterns of a same color are compared. There is no need that all the colors are in the same state. Compare only the positional relations of color patterns of a same color.

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

8) Turn the LSU skew adjustment screw of the adjustment target color to adjust.

(Skew adjustment screw rotation direction)

When the F side is skewed to the right side for R side: Turn the screw clockwise.

When the F side is skewed to the left side for the R side: Turn the screw counterclockwise.

(Reference of the rotation amount of the skew adjustment screw)

Skew of difference by one step between F and R sides (Difference by one scale of the fine adjustment check scale) / Turn for about 2 clicks.

Repeat the procedures 7) to 8) until a satisfactory result is obtained.

4-C Color registration offset adjustment (No need to adjust normally)

This adjustment is used to set the offset value for the automatic color registration adjustment (ADJ 4A).

If there is any difference in color phase at the center and the four corners of an actual print image, this adjustment may improve it. Especially when there is any color shift at the center area, this adjustment may improve it effectively.

This adjustment cannot eliminate color shifts in all the areas, but average the overall color shifts.

After the automatic adjustment, use this color registration offset adjustment to correct color shift partially, performing the adjustment efficiently.

Note

Before execution of this adjustment, check to confirm that the following adjustment has been properly made.

* ADJ 4A or ADJ 4B image skew adjustment (LSU unit)

[Kinds of adjustment values]

There are following two kinds of registration adjustment values.

• Base registration adjustment value: XXX(FRONT)/XXX(REAR)

They are manual adjustment values and automatic adjustment values, and reflected when the automatic registration adjustment is executed. It varies for every operation of the automatic registration adjustment.

• Offset adjustment values: OFFSETXXF/OFFSETXXR

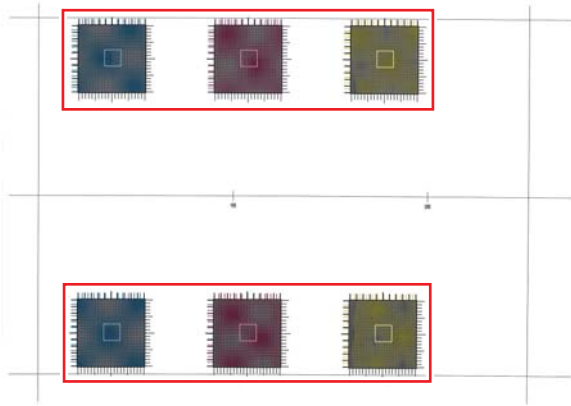
They are the offset adjustment values added to the above base registration adjustment values, and are not changed unless SIM50-20 is executed to change.

1) Enter SIM50-20 mode.

2) Select the paper feed tray with A4(11"x8.5") paper in it.

3) Press [OK] key.

The color image registration check pattern is printed.



4) Check the color image registration.

There are 6 color image registration patterns in total; two on each of the F side, the R side. Check all the patterns to confirm that they are within the specified range. Also check to confirm that there is not much shift in each color image registration check pattern.

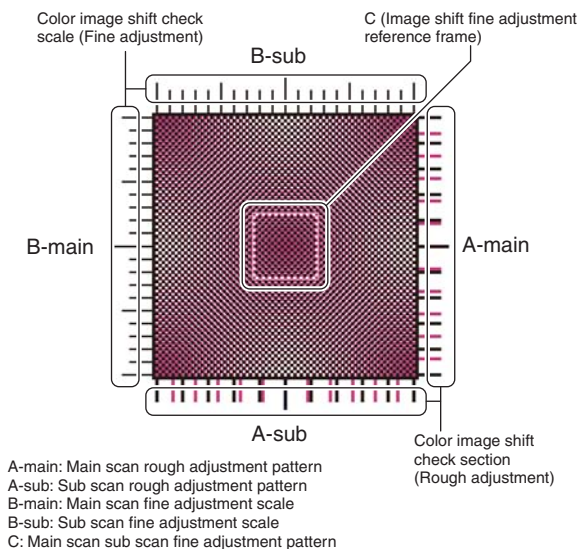
Note

There are two kinds of adjustment: one in the main scanning direction and the other in the sub scanning direction. The vertical direction in the above figure is that in the main scanning direction, and the horizontal direction is that in the sub scanning direction.

There are also two kinds of adjustments: the rough adjustment and the fine adjustment. Perform the rough adjustment then perform the fine adjustment.

For the main scan direction image registration, the offset on the F side, the R side, and at the center is independently adjusted.

If there is a difference in the sub scanning direction image registration between the F and R sides, perform the skew adjustment (ADJ 4A).



Check the print patterns of the rough adjustment and the fine adjustment of 6 check patterns.

How to check the rough adjustment pattern and input of the adjustment value:

Visually check the color image registration check section, use the center position of the black scale as the reference, and check the shift balance in the positive and negative directions at the color image line position.

Use the center position of the black scale as the reference, and check that the color image line is symmetrical in the positive side and the negative side.

If shift is in the arrow mark X1 and Y1, increase the adjustment value. If shift is in the arrow mark X2 and Y2, decrease the adjustment value. The reference arrow on the check pattern faces the positive direction.

(Reference adjustment value)

1 scale/10 (When the set value is changed by 10, shift is made by 1 scale.)

How to check the fine adjustment pattern and input of the adjustment value:

Check to confirm that the darkest spot (one of 5 spots seen normally) is within the center area of the image registration adjustment reference frame in the square frame.

At that time, use the color image registration check scale (fine adjustment) as the reference.

Visually check and consider the darkest section of color density as the center, and measure the shift from it.

Check to confirm that the center of the dark density section is within +/- 1 step.

(If the fine adjustment print pattern is in the range of 0 +/- 1 for the fine adjustment reference pattern scale, there is no need to adjust.)

If shift is in the arrow mark X1 and Y1, increase the adjustment value. If shift is in the arrow mark X2 and Y2, decrease the adjustment value.

(Reference adjustment value)

1 scale/1 (When the set value is changed by 1, shift is made by 1 scale.)

If there is a considerable difference in color shift in the square and at the center area, perform the adjustment.

Select an adjustment item (OFF SET X F / OFF SET X R / OFF SET X S), and change the adjustment value to adjust.

OFF SET X F: F side main scanning direction registration offset set value (The color shift on the F side and at the center area is changed.)

OFF SET X D: R side main scanning direction registration offset set value (The color shift on the R side and at the center area is changed.)

OFF SET X S: Sub scanning direction registration offset set value (Color is shifted to the sub scanning direction overall.)

Important

When the adjustment value of OFF SET X F and OFF SET X R are changed, the color at the center area will be affected. Consider this when executing the adjustment.

(Adjustment conditions and method)

To adjust evenly overall, adjust so that the color shifts on the F side, the R side and at the center are of the same level.

To adjust with the center area most focused, adjust so that the color shift at the center becomes smaller than that on the F side and the R side.

When the offset adjustment value is 0, if the color registration adjustment (automatic adjustment) is performed, the color shift on the F side and that on the R side are automatically adjusted to be smaller than that on the center area.

	Item/Display	Content	Setting range	Default value
A	CYAN(FRONT)	Image registration adjustment Value (Main scanning direction) (Cyan) (F side)	1-199	100
B	CYAN(REAR)	Image registration adjustment Value (Main scanning direction) (Cyan) (R side)	1-199	100
C	MAGENTA(FRONT)	Image registration adjustment Value (Main scanning direction) (Magenta) (F side)	1-199	100

Item/Display			Content		Setting range		Default value
D	MAGENTA(REAR)		Image registration adjustment Value (Main scanning direction) (Magenta) (R side)		1-199		100
E	YELLOW(FRONT)		Image registration adjustment Value (Main scanning direction) (Yellow) (F side)		1-199		100
F	YELLOW(REAR)		Image registration adjustment Value (Main scanning direction) (Yellow) (R side)		1-199		100
G	CYAN(SUB)		Image registration adjustment value (Sub scanning direction) (Cyan)		1-199		100
H	MAGENTA(SUB)		Image registration adjustment value (Sub scanning direction) (Magenta)		1-199		100
I	YELLOW(SUB)		Image registration adjustment value (Sub scanning direction) (Yellow)		1-199		100
J	OFFSET_C_MAIN_F		Image registration offset adjustment value (Main scanning direction) (Cyan) (F side)		1-99		50
K	OFFSET_C_MAIN_R		Image registration offset adjustment value (Main scanning direction) (Cyan) (R side)		1-99		50
L	OFFSET_M_MAIN_F		Image registration offset adjustment value (Main scanning direction) (Magenta) (F side)		1-99		50
M	OFFSET_M_MAIN_R		Image registration offset adjustment value (Main scanning direction) (Magenta) (R side)		1-99		50
N	OFFSET_Y_MAIN_F		Image registration offset adjustment value (Main scanning direction) (Yellow) (F side)		1-99		50
O	OFFSET_Y_MAIN_R		Image registration offset adjustment value (Main scanning direction) (Yellow) (R side)		1-99		50
P	OFFSET_C_SUB		Image registration offset adjustment value (Sub scanning direction) (Cyan)		1-99		50
Q	OFFSET_M_SUB		Image registration offset adjustment value (Sub scanning direction) (Magenta)		1-99		50
R	OFFSET_Y_SUB		Image registration offset adjustment value (Sub scanning direction) (Yellow)		1-99		50
S	MULTICOUNT		Number of print		1-999		1
T	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	
		CS5		Tray 5		6	
U	DUPLEX	YES	Duplex print section	Yes	0-1	0	1 (NO)
		NO		No		1	

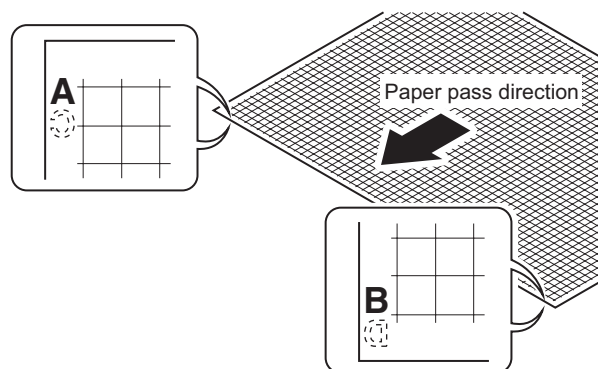
ADJ 5 Scanner image skew adjustment (RSPF/DSPF)

5-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

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



- 2) Copy the adjustment chart (created in step1) to 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)

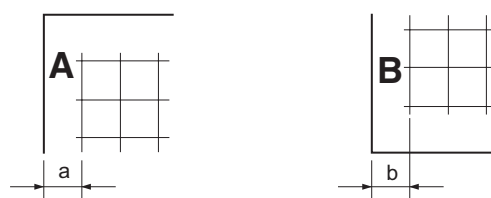
* Check with one of the following methods:

Method 1

(Front side)

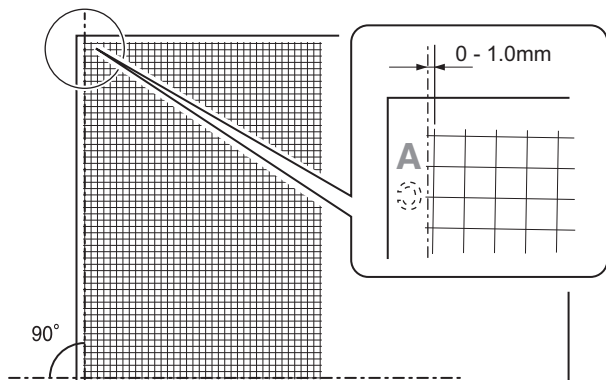
Make sure that the output satisfies the condition

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



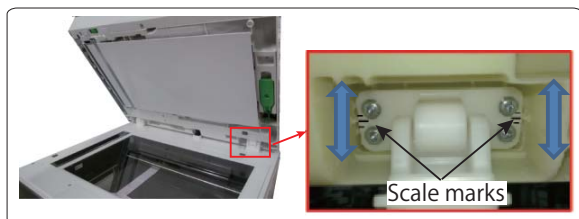
Method 2

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



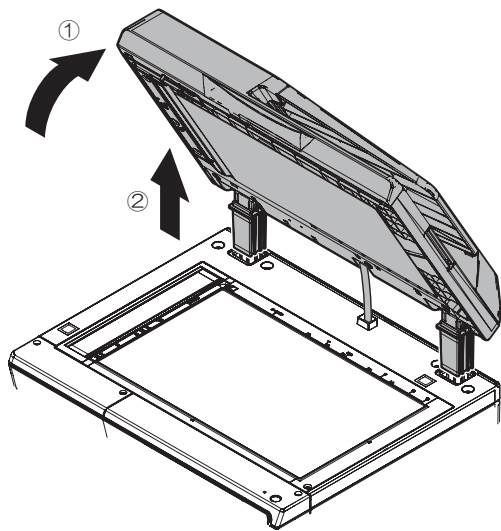
If the copy image is not in the above state, perform the step3)

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

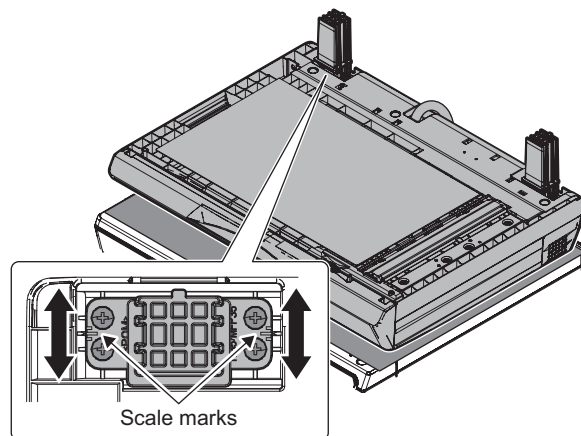


For RSPF procedure

- a) Open the RSPF unit and lift it.

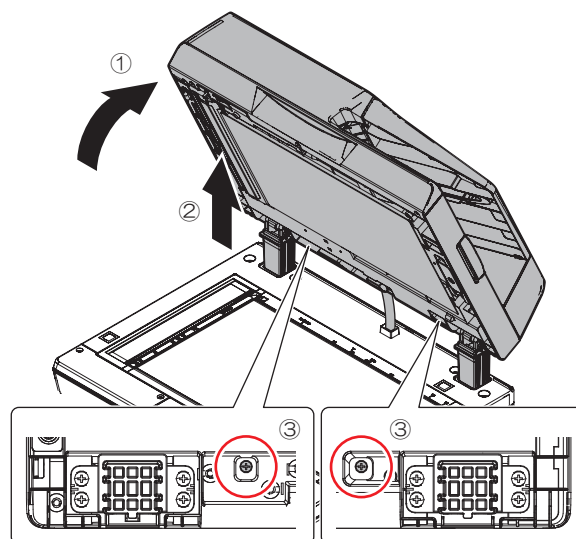


- b) Place the RSPF unit on the protective sheet then, adjust the position of the hinge, after loosening four screws of the right hinge of the RSPF unit.

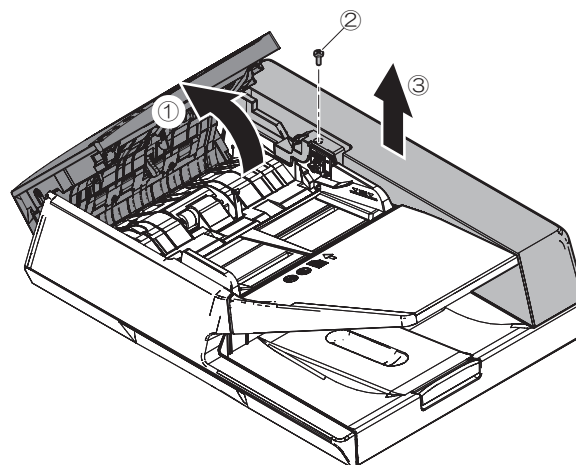


For DSPF procedure

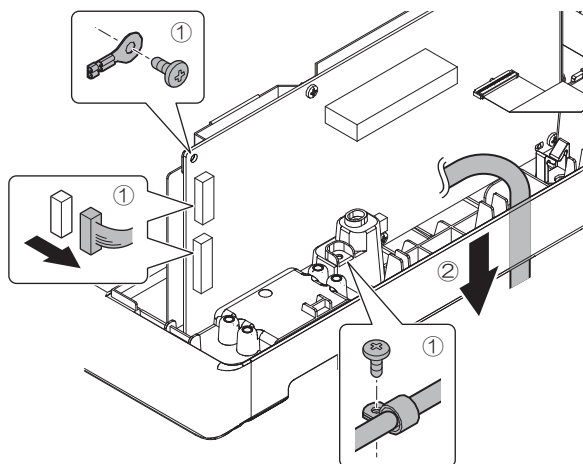
- a) Open the DSPF unit and lift it then, remove the screws.



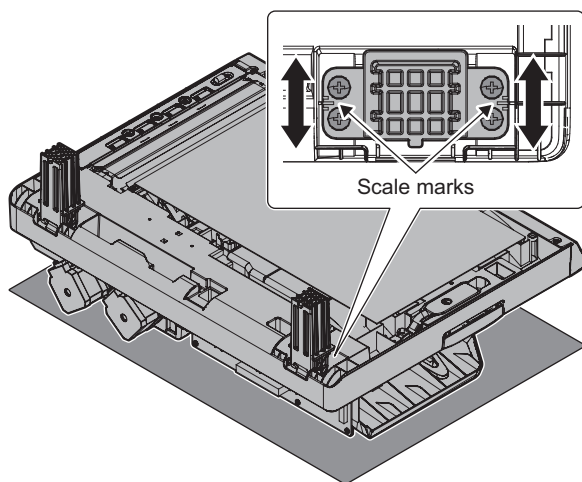
- b) Open the cover and remove the screw, then remove the rear cabinet.



- 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 ($a-b=\pm 1\text{mm}$ or less) is satisfied

5-B SPF skew adjustment (Back surface mode)

This adjustment is needed in the following situations:

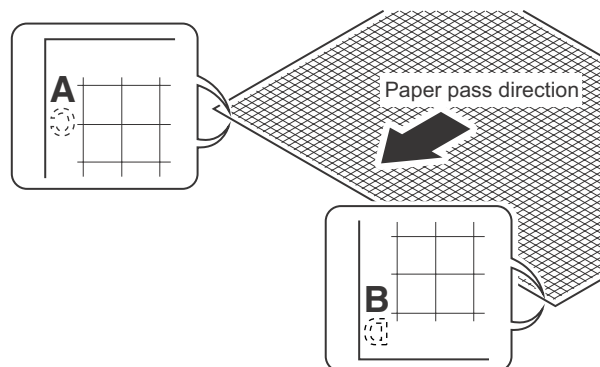
- * The SPF section has been disassembled.
- * When replacing the SPF unit.
- * The SPF unit generates skewed scanned images.

- 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.



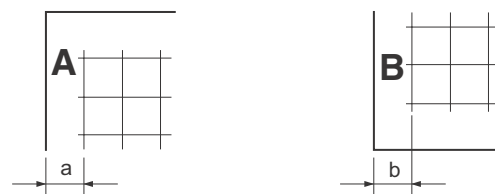
- 2) Copy the adjustment chart (created in step 1) to A4 (11" x 8.5") paper in SPF duplex mode, and then check the image for skews (Set in the DSPF feed tray so that the mark on the adjustment chart is at the edge).

* Check with one of the following methods.

[Check Method 1]

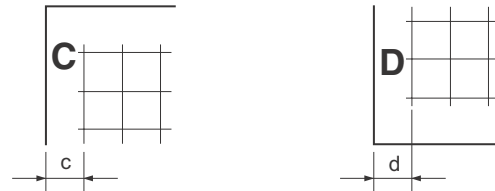
(Front side)

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



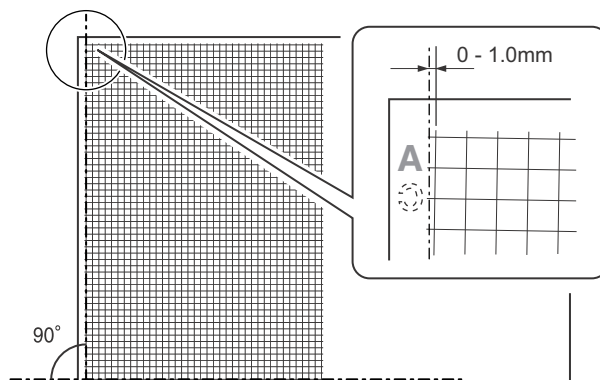
(Back side)

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



[Check Method 2]

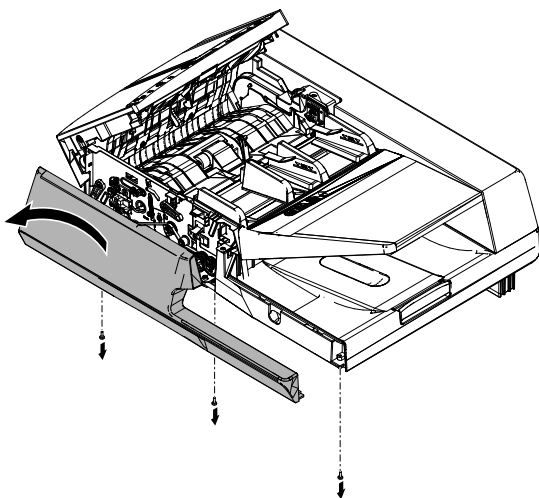
Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0mm.



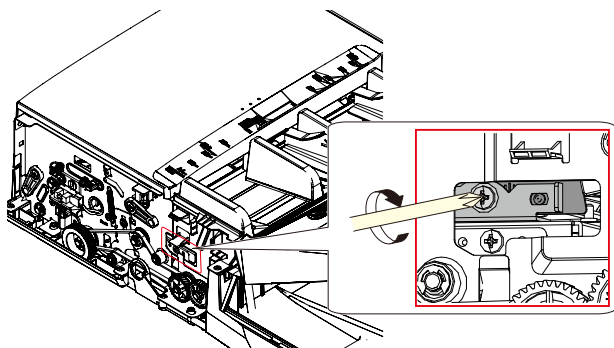
If the back surface copy image is as shown above and the front surface copy is not as shown above, go to the step 3) of "ADJ 4A SPF skew adjustment (Front surface mode)".

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

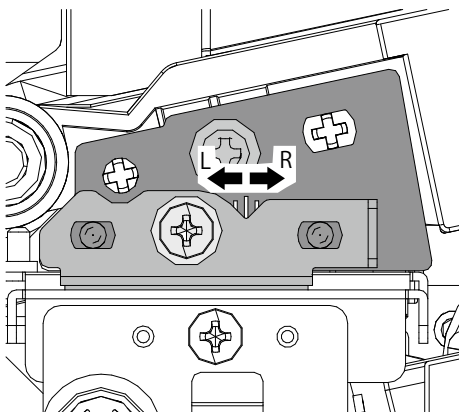
- 3) Remove the front frame cabinet of the SPF.



- 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 6 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).

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

Important

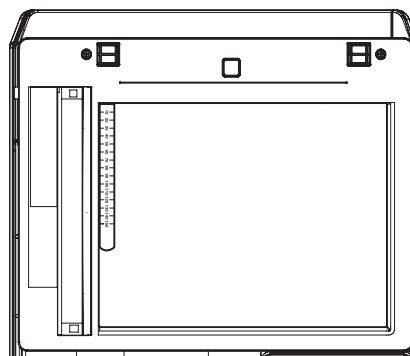
If the default adjustment value of the scan image magnification ratio adjustment (main scanning direction) of SIM 48-1, copy image quality may be degraded. Therefore, this adjustment must be executed only when there is a special necessity.

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.



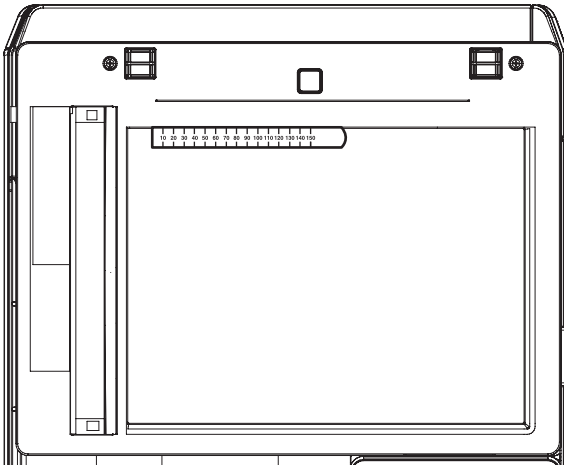
- 2) Enter the SIM 48-1 mode.
- 3) Make a normal copy and obtain the copy magnification ratio.
Press [CLOSE] key to shift from the simulation mode to the copy mode, and make a copy.
- 4) Check that the copy magnification ratio is within the specified range (100 +/- 0.8%).
If the copy magnification ratio 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%).

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

This adjustment must be performed in the following cases:

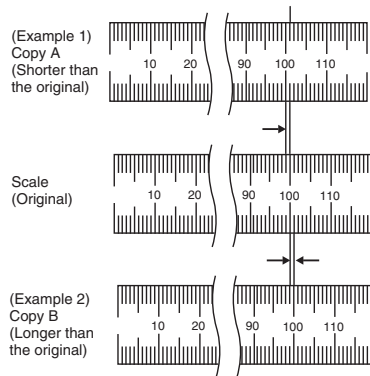
- * When the copy magnification ratio in the copy image sub scanning direction is not properly adjusted.
- * When the scanner motor is replaced.
- * U2 trouble has occurred.
- * When the SCNPWB is replaced.
- * When the EEPROM of the scanner control PWB is replaced.

- 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%).

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

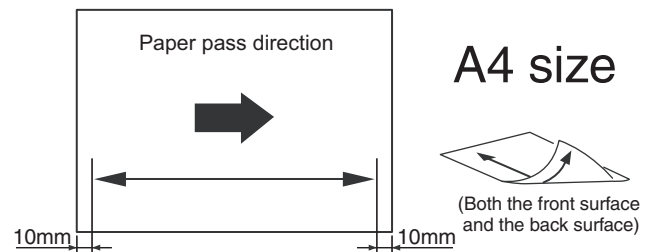
This adjustment must be performed in the following cases:

- * 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.

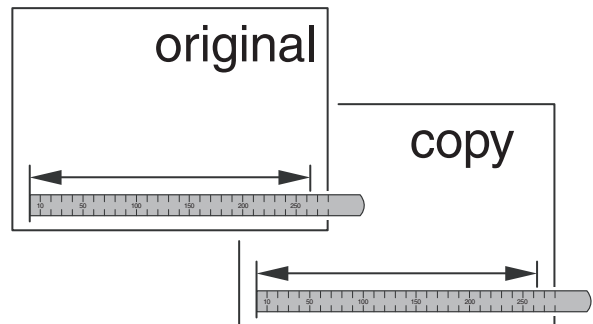
a. Adjustment procedures

- 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:

$$\text{Image magnification ratio} = \frac{\text{Original size}}{\text{Original size}} \times 100 (\%)$$

$$\text{Image magnification ratio} = 99 / 100 \times 100 = 99 (\%)$$

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.

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

Item	Display	Content	Setting range	Default value
D	SPF(SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
E	SPFB(MAIN)	RSPF document back surface magnification ratio adjustment (Main scan)	1 - 99	50
F	SPFB(SUB)	RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99	50

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 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.

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

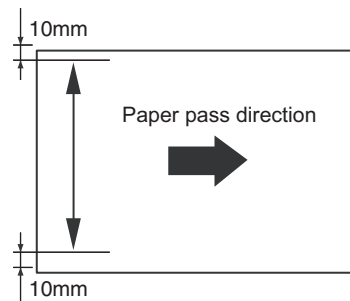
This adjustment must be performed in the following cases:

- * 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 RSPF mode copy image in the sub scanning direction is not proper.
- * When the RSPF is disassembled.

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

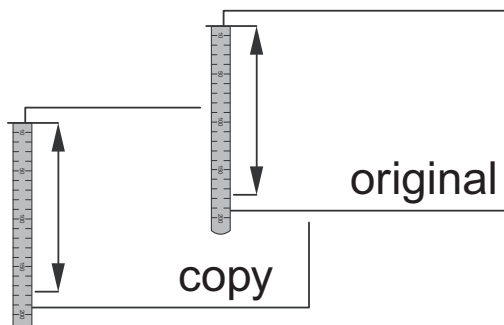
The adjustment chart is prepared by the following procedures.

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



A4 size

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

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 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.

ADJ 7 Scan image off-center 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.

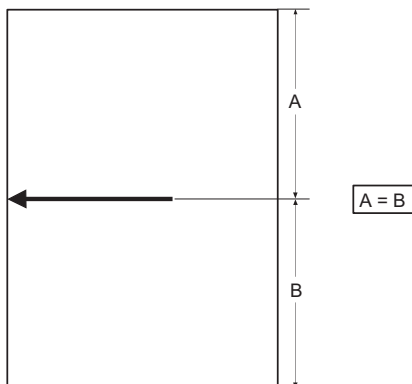
In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ 4).

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

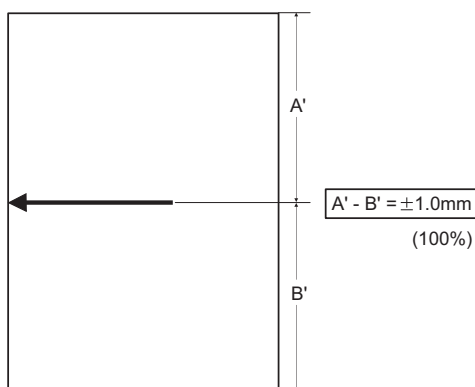
This adjustment must be performed in the following cases:

- * 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.

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

This adjustment must be performed in the following cases:

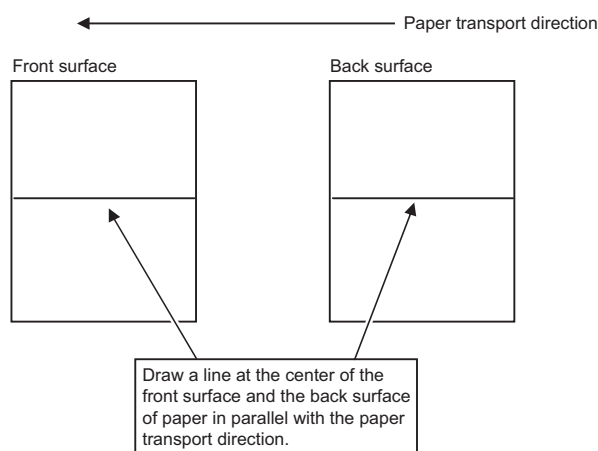
- * When the SCN PWB is replaced.
- * When the EEPROM on the scan control PWB is replaced.
- * When the scanner (reading) section is disassembled.
- * When the scanner (reading) section is replaced.
- * When U2 trouble occurs.
- * When the DSPF/RSPF section is disassembled.
- * When the DSPF/RSPF unit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

Important

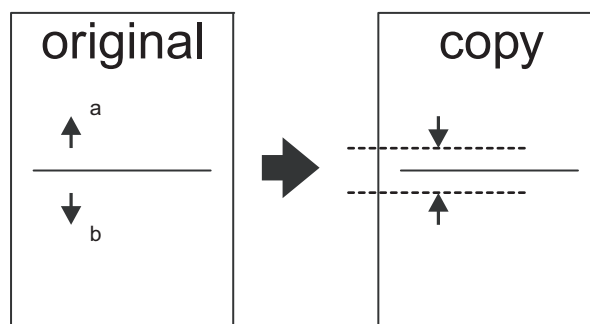
To execute this adjustment, it is required that the ADJ 7A Scan image off-center adjustment (Document table mode) must have been properly adjusted.

- 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 SPF.
- 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 $0 \pm 2.7\text{mm}$ 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	1 - 99	50
B	SPF(SIDE1)	SPF front surface image off-center adjustment	1 - 99	50
C	SPF(SIDE2)	SPF back surface image off-center adjustment	1 - 99	50

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
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)	0 - 99	30
D		FRONT_REAR (SIDE1)	0 - 99	20
E		TRAIL_EDGE (SIDE1)	0 - 99	30
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2)	0 - 99	30
G		FRONT_REAR (SIDE2)	0 - 99	20
H		TRAIL_EDGE (SIDE2)	0 - 99	30
I	OFFSET_SPF1	RSPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2	RSPF back surface document off-center adjustment	1 - 99	50
K	SCAN_SPEED_SPF1	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
L	SCAN_SPEED_SPF2	RSPF document back surface magnification ratio adjustment (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 8 Copy image position and image loss 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).

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

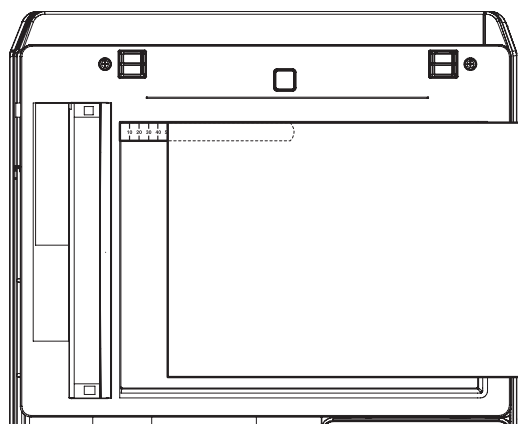
This adjustment must be performed in the following cases:

- * 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 4/ ADJ 5 Print engine image skew, image position, image magnification ratio, void area adjustments has been completed normally.

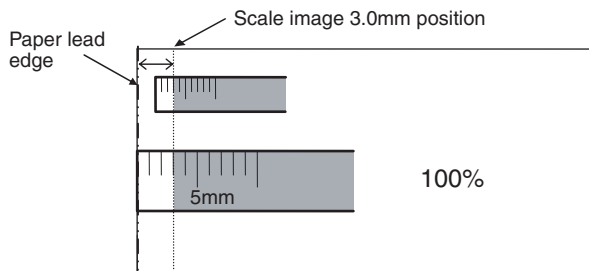
- 1) Place a scale on the document table as shown in the figure below.
Place a scale so that it is in parallel with the scanning direction and that its lead edge is in contact with the document guide plate.
Place white paper on the document table so that the scale lead edge can be seen.



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

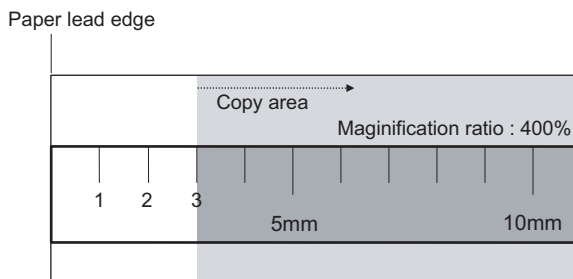
Item/Display		Content	Setting range	Default value
A	Lead edge adjustment value	RRCA	Document lead edge reference position (OC)	0 - 99 50
B	Image loss area	LEAD	Lead edge image loss area setting	0 - 99 30
C	setting value	SIDE	Side image loss area adjustment	0 - 99 20

- 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 3.0mm 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 3.0mm 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: 3.0mm, Image loss: 3.0mm

Item/Display	Content		Adjustment range	De-fault value	Standard adjustment value
LEAD	Image loss adjustment	Lead edge image loss adjustment	0 - 99	30	3.0 +/- 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, image loss, void area adjustment (Manual adjustment) (RSPF 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 RSPF section is disassembled.
- * When the RSPF unit is replaced.

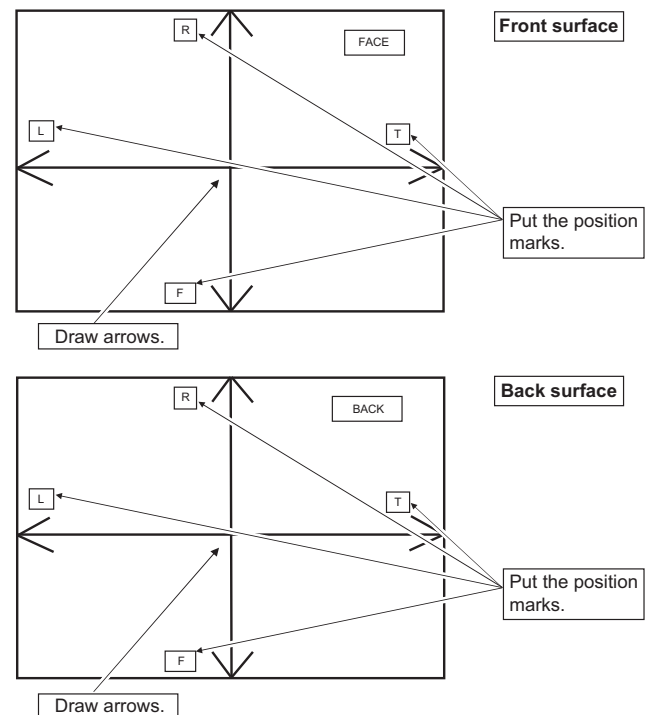
a. Adjustment procedures

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.

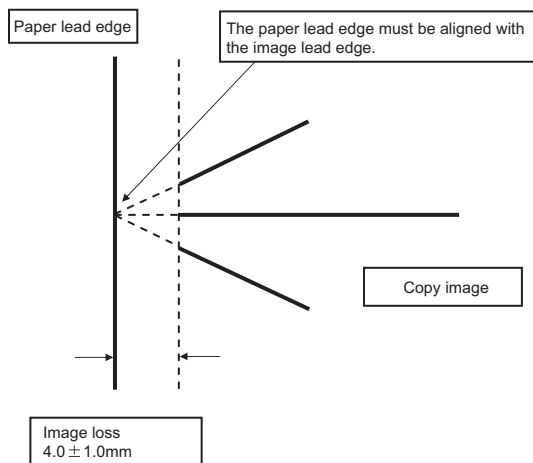
Item/Display		Content	Setting range	Default value
A	SIDE1	Front surface document scan position adjustment (CCD)	1 - 99	50
B	SIDE2	Back surface document scan position adjustment (CCD)	1 - 99	50
C	Image loss amount setting SIDE1	LEAD_EDGE (SIDE1)	0 - 99	30
D		FRONT_REAR (SIDE1)	0 - 99	20
E		TRAIL_EDGE (SIDE1)	0 - 99	30

Item/Display			Content	Setting range	Default value
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		SPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2		SPF back surface document off-center adjustment	1 - 99	50
K	SCAN_SPEED_SPF1		RSPF document front surface magnification ratio (Sub scan)	1 - 99	50
L	SCAN_SPEED_SPF2		RSPF document back surface magnification ratio (Sub scan)	1 - 99	50

- * Item A, B: When the adjustment value is increased, the scan timing is delayed.
- * Item C - H: When the adjustment value is increased, the image loss is increased.
- * Item 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)

- 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):
40 Lead edge image loss set value (Front surface)
TRAIL EDGE (SIDE 2):
40 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)
- 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.

- 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

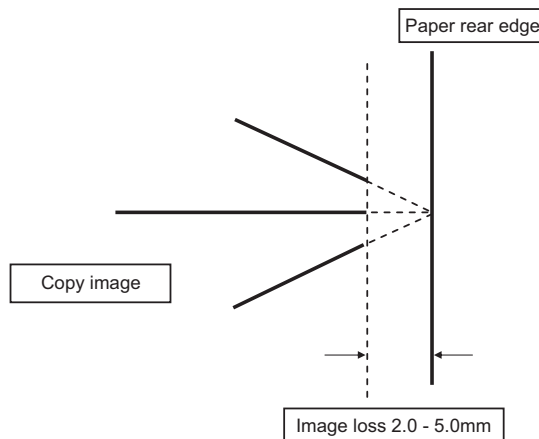
(When the adjustment value is increased, the print image position is shifted to the delaying direction for the paper.)

(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)

- 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.

- 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)

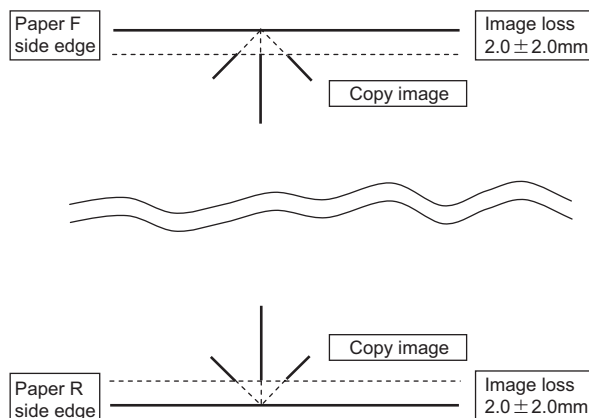
(When the adjustment value is increased, the rear edge image loss is increased.)

(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)

- 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 Color balance/density adjustment

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

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

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

The importance levels of them are shown below.

(Since the following items affect the color balance/density directly, they must be adjusted or set before execution of the image quality adjustments.)

- 1) The following adjustment items must be adjusted properly.

Job No	Adjustment item	Simulation
ADJ 5	Print engine image distortion adjustment / OPC drum phase adjustment / Color registration adjustment (Print engine section)	50-22/20

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

- 1) The following items must be adjusted properly.

Job No	Adjustment item		Simulation
ADJ 2	Adjusting high voltage values	ADJ 2A Adjust the main charger grid voltage	8-2
		ADJ 2B Adjust the developing bias voltage	8-1
		ADJ 2C Transfer current and voltage adjustment	8-6
ADJ @	Scan image focus adjustment		48-1

Note for the color balance/density check and adjustments

- * For the color balance adjustments, be sure to use the paper specified for color (recommended paper).

Note that, if another kind of paper is used for the color balance adjustment, proper image qualities (color balance, density) may not be obtained.

- * When setting the adjustment pattern on the document table in the automatic color 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 color balance/density check and adjustment

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

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

The following are the four major cases.

- 1) When installing (When a printer option is installed)
- 2) When a periodic maintenance is performed.
- 3) When a repair, an inspection, or a maintenance is performed. (When a consumable part is replaced.)
- 4) When an installation, a repair, or inspection is performed. (Without replacement of a consumable part)

(3) Copy color balance and density check

Important

Before checking the copy color 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 a copy of the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11), and check that they are proper.

a. Note for execution of the color balance and density check in the color copy mode

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

At that time, all the color balance adjustments in the user adjustment mode must be set to the default (center).

In addition, be sure to use the specified paper for color.

b. Note for checking the monochrome copy mode density

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

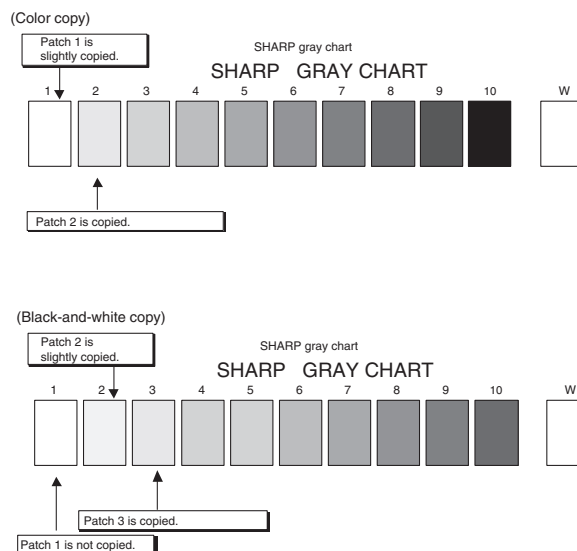
In addition, all the color balance adjustments in the user adjustment mode must be set to the default (center).

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

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

Important

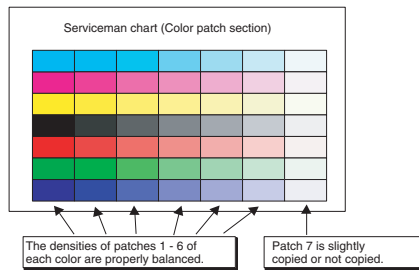
For the color (gray) balance, use the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) to check.



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

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

(Color copy)

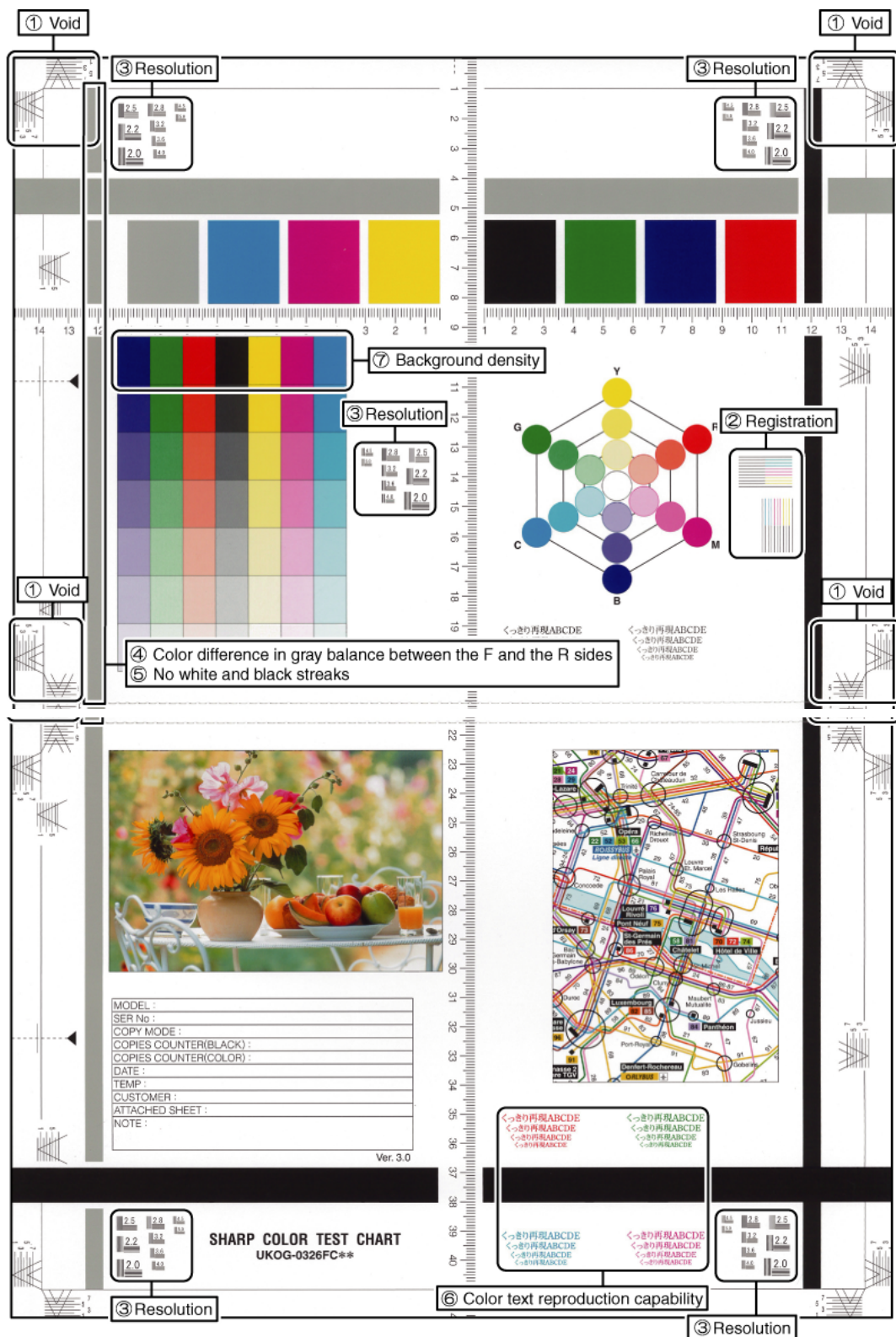


a. Color copy check items (Check to confirm the following:)

When using the servicing color test chart, fold or separate the chart.

- 1) There are 8 void areas.
- 2) Registrations (one point for the main scanning, and one point for the sub scanning) are not shifted.
- 3) The resolution of 5.0 can be seen.

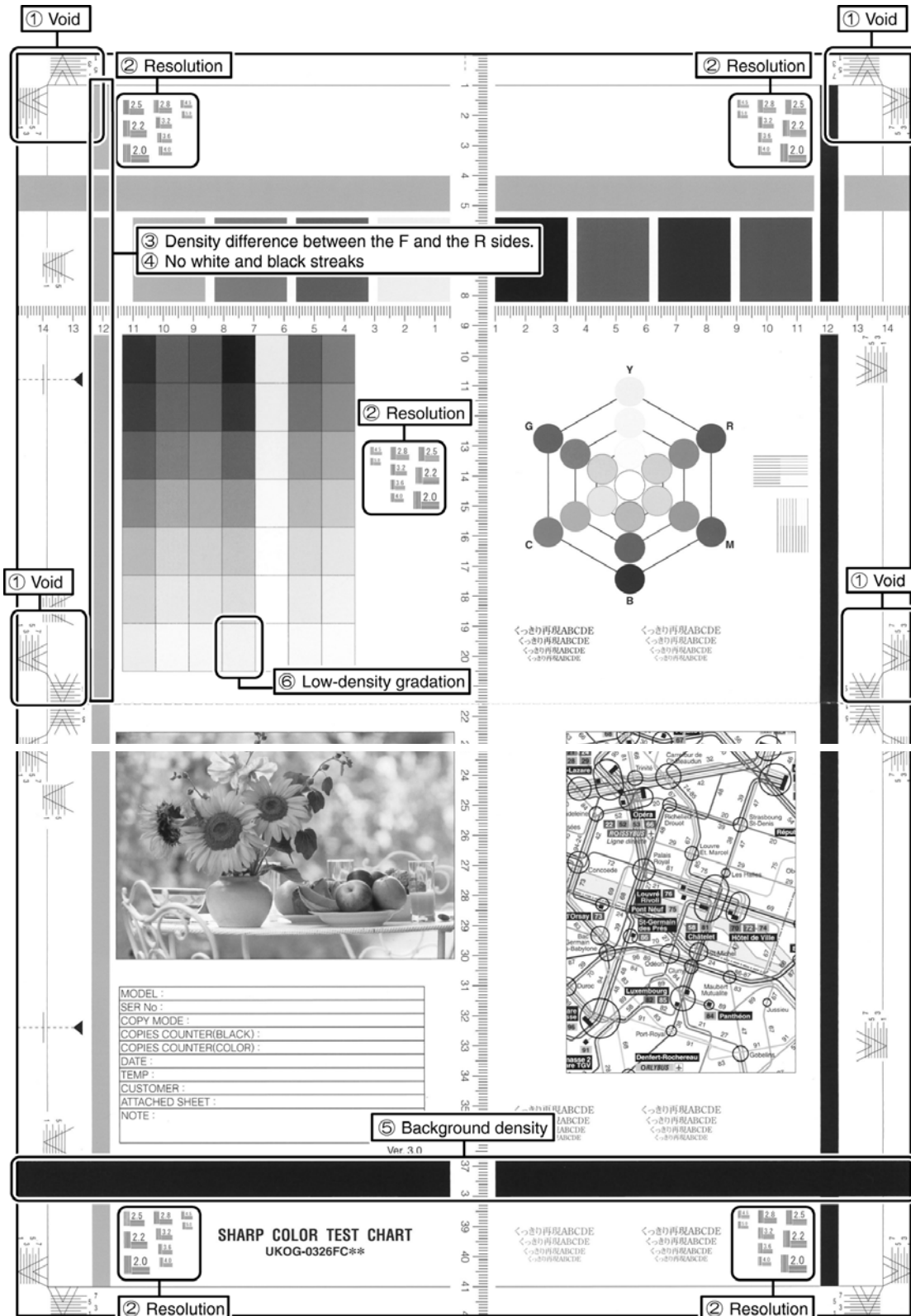
- 4) The color difference in gray balance between the F and the R sides is not so great.
- 5) There are no white and black streaks.
- 6) Color texts are clearly reproduced.
- 7) The background density is not so light.



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

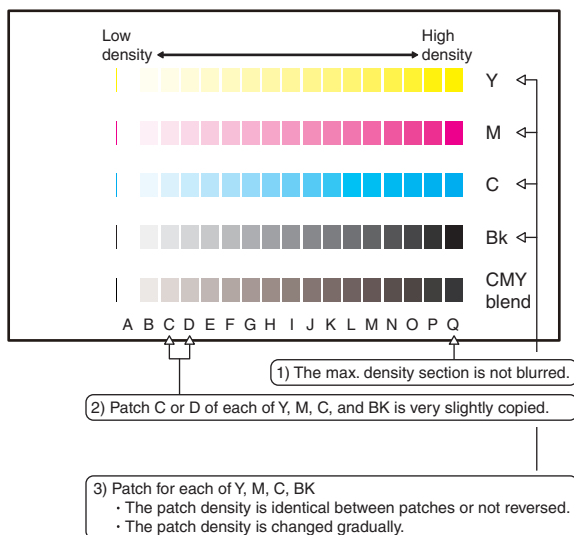
When using the servicing color test chart, fold or separate the chart.

- 1) There are 8 void areas.
- 2) The resolution of 4.0 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 density is not so light.
- 6) The black low-density gradation is copied slightly.



(Method 2)

Use SIM46-21 to print the color balance adjustment sheet, and check each process (CMY) black patch color balance and the black patch in order to confirm that the color balance adjustment is proper or not more precisely.



If the color balance of each patch of the process black (CMY mixed color) is slightly shifted to Magenta, it means that the adjustment is proper. If the color balance of the adjustment pattern printed in this mode is slightly shifted to Magenta, it is converted into the natural gray color balance by the color table in an actual copy mode. (When the color balance target is DEF 1.)

(4) Printer color balance/density check

Important

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

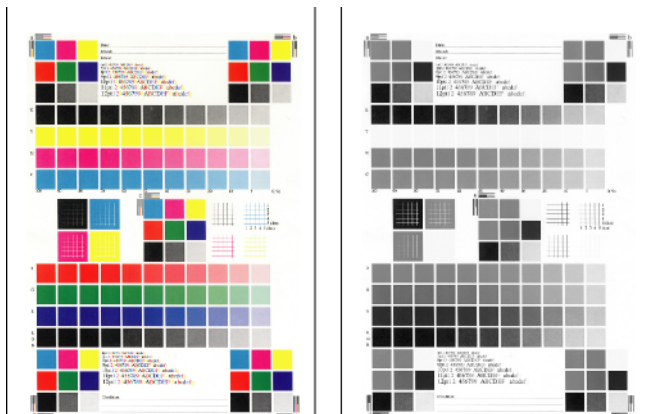
- * Execute the high density image correction (Process correction) forcibly. (SIM 44-6)
- * The half-tone image correction is forcibly executed. (SIM 44-26)

(Method 1)

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

Important

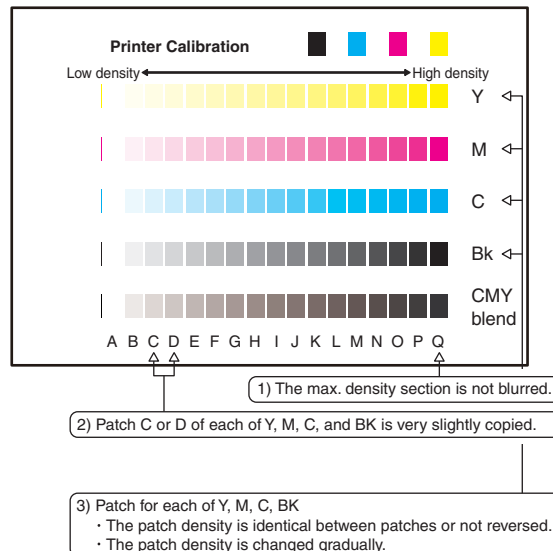
Set each set value to the default and press [EXECUTE] key. The print test pattern is printed.



The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed. The density level of each color must be almost at the same level.

(Method 2)

Use SIM 67-25 to print the color balance adjustment sheet and compare each process (CMY) black patch color balance and the black patch to check the color balance.



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

The density level of each color must be almost at the same level.

Patch B may not be copied.

Patch A must not be copied.

If the color balance of each patch of the process black (CMY mixed color) is slightly shifted to Magenta, it means that the adjustment is proper. In an actual print mode, it is converted into the natural gray color balance by the color table. (When the color balance target is DEF 1.)

9-A Scanner calibration

9-A (1)

Scanner calibration (CCD calibration) (Document table mode)

This adjustment must be performed in the following cases:

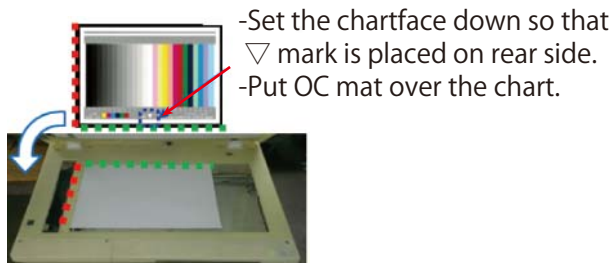
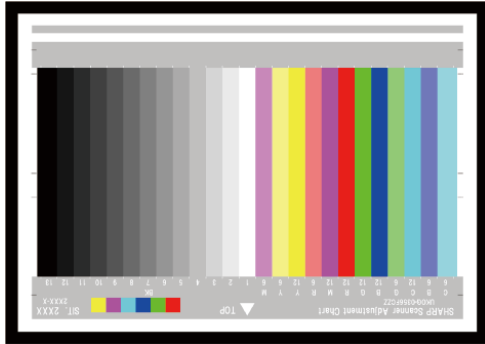
- * When the CCD unit is replaced.
- * When a U2 trouble is occurred.
- * When the SCN PWB is replaced.
- * When the EEPROM on the SCN PWB is replaced.

(1) Note before adjustment

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

(2) Adjustment procedures

- 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 so that the lighter density side of the patch is on the left side.



If the SIT 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 SIT chart.

Important

Check to insure that the SIT chart (UKOG-0356FCZZ) is in close contact with the document table.

- 2) Enter the SIM 63-3 mode and press [EXECUTE] key. The automatic operation is started. During the adjustment, [EXECUTE] is highlighted. After completion of the adjustment, [EXECUTE] returns to the normal display.

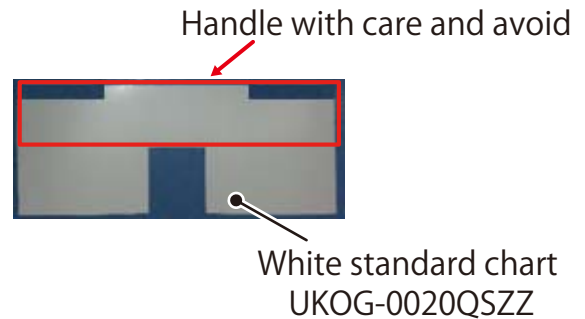
Note

Since the SIT chart (UKOG-0280FCZZ or UKOG-0280FC Z1) is easily discolored by sunlight (especially ultraviolet rays) and humidity and temperature, put it in a bag (such as a dark bag) and store in a dark place of low temperature and low humidity.

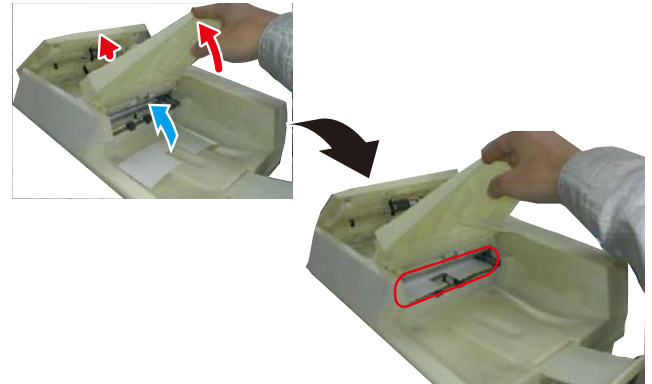
9-A (2)

Shading adjustment (Calibration) (DSPF mode)

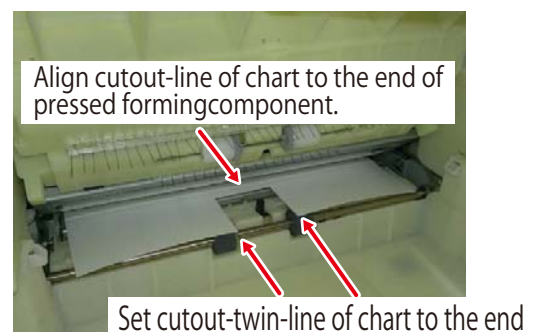
(1) Note before adjustment



- 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

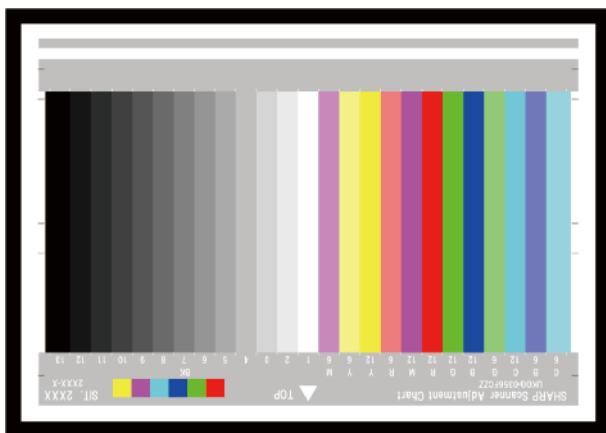
- * When DSPF CCD unit has been replaced
- * When U2 trouble has been occurred
- * When DSPF CNT PWB has been replaced

(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

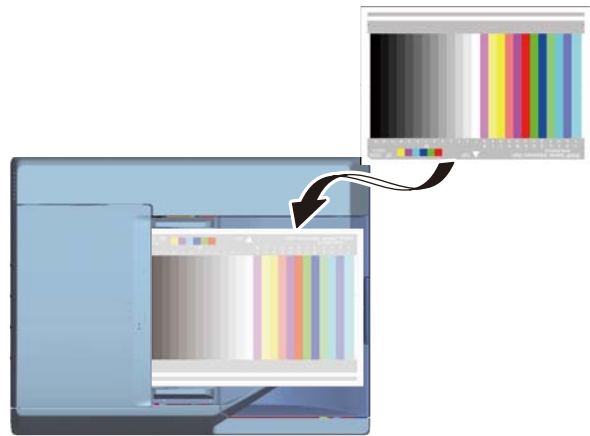
Note

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 color 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 belt) 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 SCN PWB has been replaced.
- * The EEPROM on the SCN PWB has been replaced.

a. General

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

Since it is desirable to perform the copy color balance adjustment (automatic adjustment) before the automatic printer color balance and density adjustment, it is advisable to perform the adjustment in this mode.

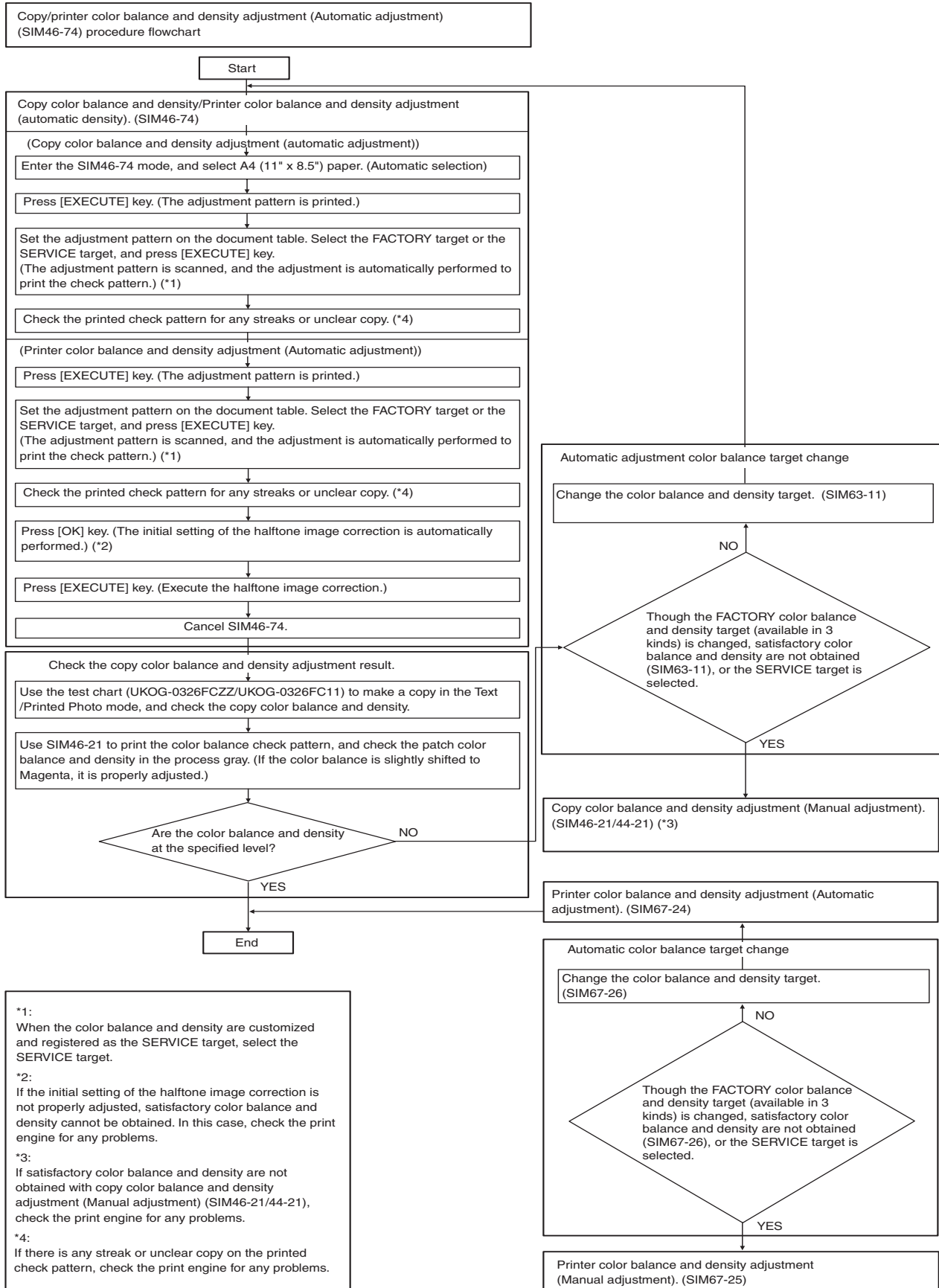
This mode is also advisable to effectively perform both of the automatic copy color balance and density adjustment (SIM46-24) and the automatic printer color balance and density adjustment (SIM67-24). It saves considerable time when compared with performing each of the auto copy/printer color balance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

The color balance adjustment (automatic adjustment) is used to adjust the copy density of each of Cyan, Magenta, Yellow, and Black automatically.

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

b. Adjustment procedures

(Auto color balance adjustment by the serviceman)



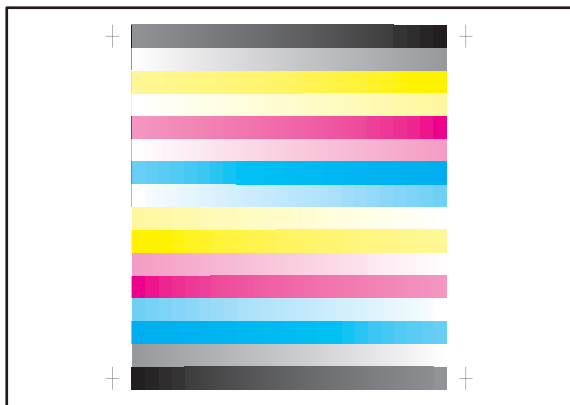
1) Enter the SIM46-74 mode.

2) Press [EXECUTE] key.

The high density process control is performed, and the copy color patch image (adjustment pattern) is printed out. (A4/11" x 8.5" paper is automatically selected.)

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

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

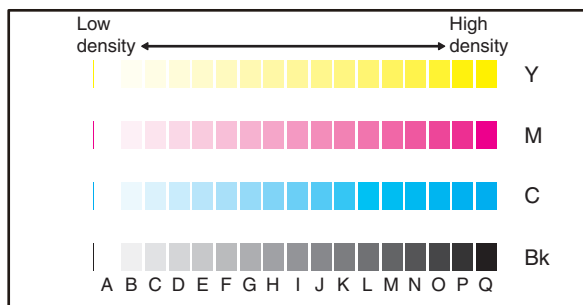


4) Select [FACTORY] target, and press [EXECUTE] key.

When the color balance is customized by the manual color balance adjustment (SIM 46-21) according to the user's request, and the color balance is registered with SIM63-7 as the service target, if the color balance is required to be adjusted, select the [SERVICE] target.

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

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

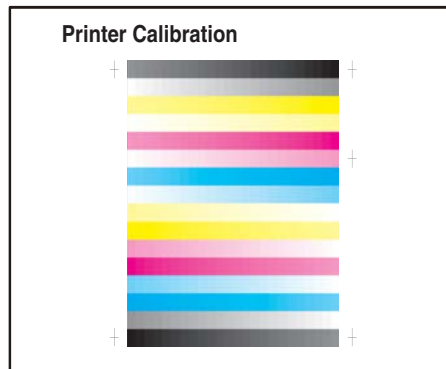


5) Press [EXECUTE] key.

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

6) Set the color patch image (adjustment pattern) printed in the procedure 5) on the document table.

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

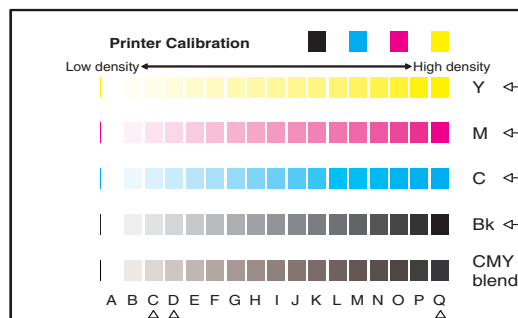


7) Select [FACTORY] target, and press [EXECUTE] key.

When the color balance is customized with the manual color balance adjustment (SIM 67-25) according to the user's request and the color balance is registered as the service target with SIM 67-27, if the color balance is adjusted to that color balance, select the [SERVICE] target.

The printer color balance adjustment (step 1) is automatically performed and the color 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.



1) The max. density section is not blurred.

2) Patch C or D of each of Y, M, C, and BK is very slightly copied.

3) Patch for each of Y, M, C, BK
 • The patch density is identical between patches or not reversed.
 • The patch density is changed gradually.

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.

11) Check the copy color balance and density.

(Refer to the item of the copy color balance and density check.)

When satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 4), change the factory color balance target with SIM 63-11 and repeat the procedures from 1).

If a satisfactory result is not obtained with the above procedure, perform the manual color balance adjustment.

Also when the service target is selected in procedure 4) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment.

12) Check the printer color balance and density.

(Refer to the item of the printer color balance and density check.)

When satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 7), change the factory color balance target with SIM 67-26 and repeat the procedures from 1).

If a satisfactory result on the color balance and the density is not obtained with the automatic adjustment, execute the manual adjustment (SIM 67-25).

Also when the service target is selected in procedure 7) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment.

If the color 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, transfer belt) 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 SCN PWB has been replaced.
- * The EEPROM on the SCN PWB has been replaced.

9-C (1)

Copy color balance and density adjustment (Automatic adjustment)

a. General

The color balance adjustment (automatic adjustment) is used to adjust the copy density of each of Cyan, Magenta, Yellow, and Black automatically.

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

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

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

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

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

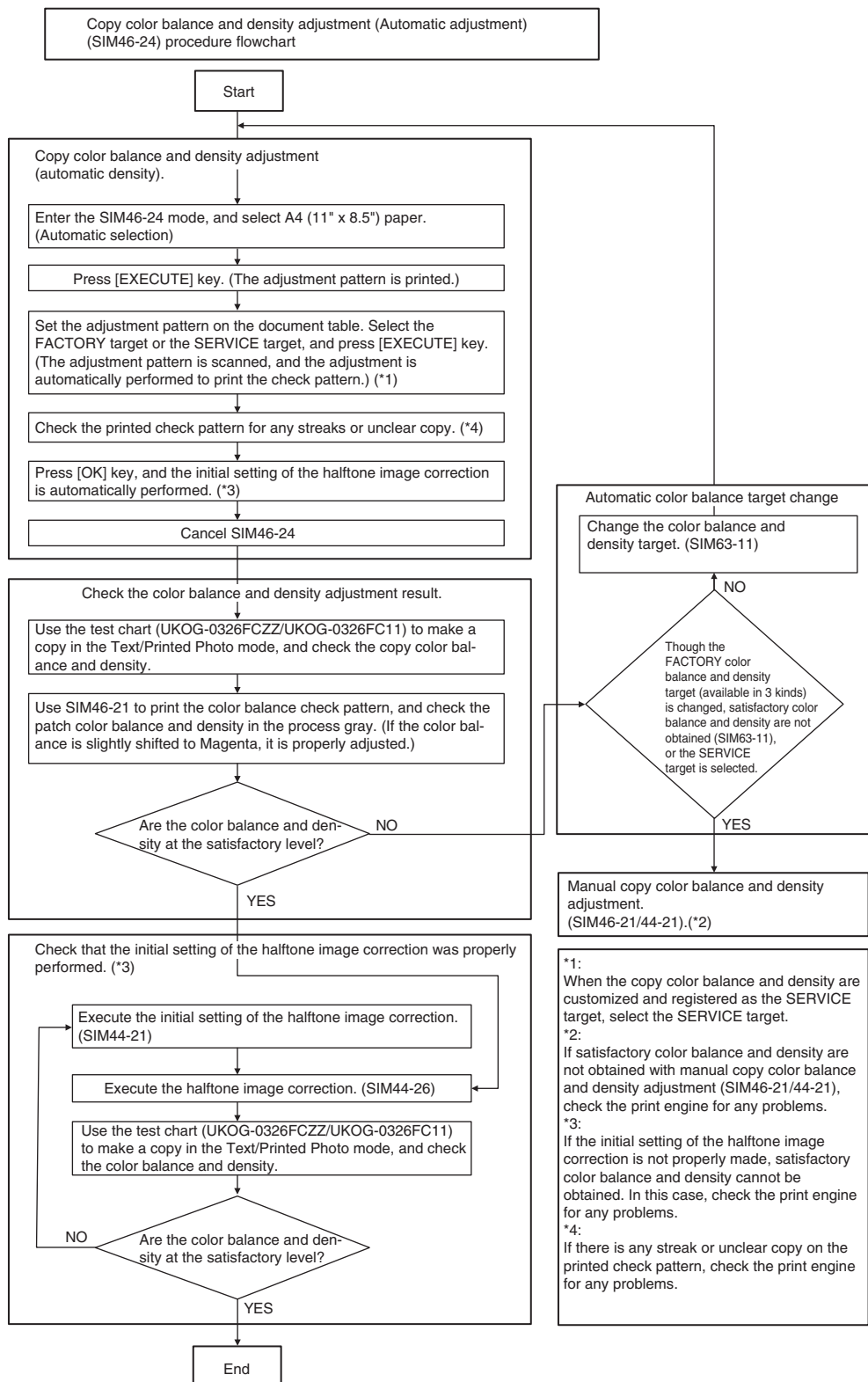
When, however, the machine has a fatal problem or when the machine condition is greatly changed, this function does not work effectively.

If the machine condition is dramatically changed, a fatal problem occurs, or the normal color targets cannot be obtained, service must recalibrate the machine to specification.

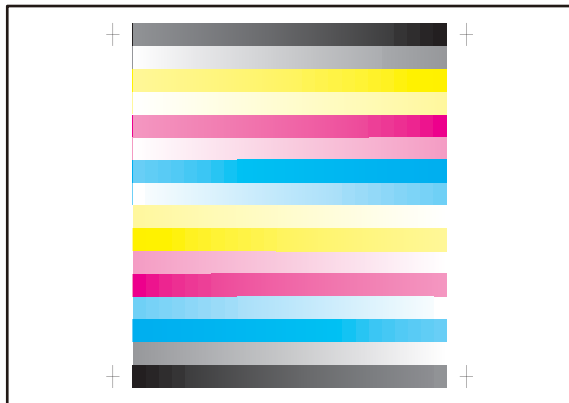
To perform the adjustment, the above difference must be fully understood.

b. Adjustment procedure

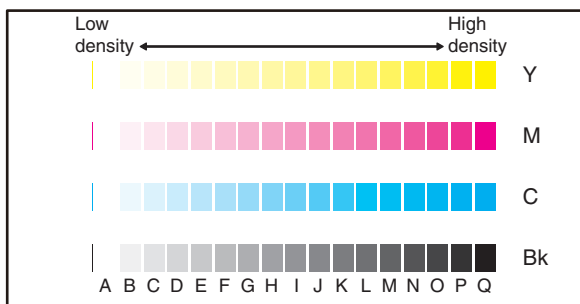
(Auto color balance adjustment by the serviceman)



- 1) Enter the SIM 46-24 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" is automatically selected.)
The color patch image (adjustment pattern) is printed out.
- 3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.
Place the printed color 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 color patch image (adjustment pattern) paper.



- 4) Select [FACTORY] target, and press [EXECUTE] key.
When the color balance is customized with the manual color balance adjustment (SIM 46-21) according to the user's request and the color balance is registered as the service target with SIM 63-7, if the color balance is adjusted to that color balance, select the service target.
The copy color balance adjustment is automatically executed to print the color 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 halftone image correction is performed.
After pressing [OK] key, the initial setting of the halftone image correction is started. During the operation, "NOW REGISTERING THE NEW TARGET OF HALFTONE PROCON." is displayed. This operation takes several minutes.
After completion of the operation, "PLEASE QUIT THIS MODE" is displayed.
Do not cancel the simulation until "PLEASE QUIT THIS MODE" is displayed.
- 6) Check the color balance and density.
(Refer to the item of the copy color balance and density check.)

- 7) Use SIM44-26 to execute the halftone 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 color balance and density. (Refer to the item of the copy color balance and density check.)
If the copy color balance and density are not satisfactory, perform the following procedures.
- 9) Execute the initial setting of the halftone image correction. (SIM 44-21)
- 10) Execute the halftone image correction. (Forcible execution) (SIM44-26)
- 11) Use the servicing color test chart (UKOG-0317FCZZ/UKOG-0317FC11) in the Text/Printed Photo mode (Manual) to check the copy color balance/density. (Refer to the item of the copy color balance and density check.)

Though the above procedures 9) - 11) are performed, the copy color 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 satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 4), change the factory color balance target with SIM 63-11 and repeat the procedures from 1).

If a satisfactory result on the color balance and the density is not obtained with the automatic adjustment, execute the manual adjustment (SIM 46-21) (ADJ 10C (2)).

Also when the service target is selected in procedure 7) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment (ADJ 10C(2)).

If the color 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 color balance and density adjustment (Manual adjustment)

a. General

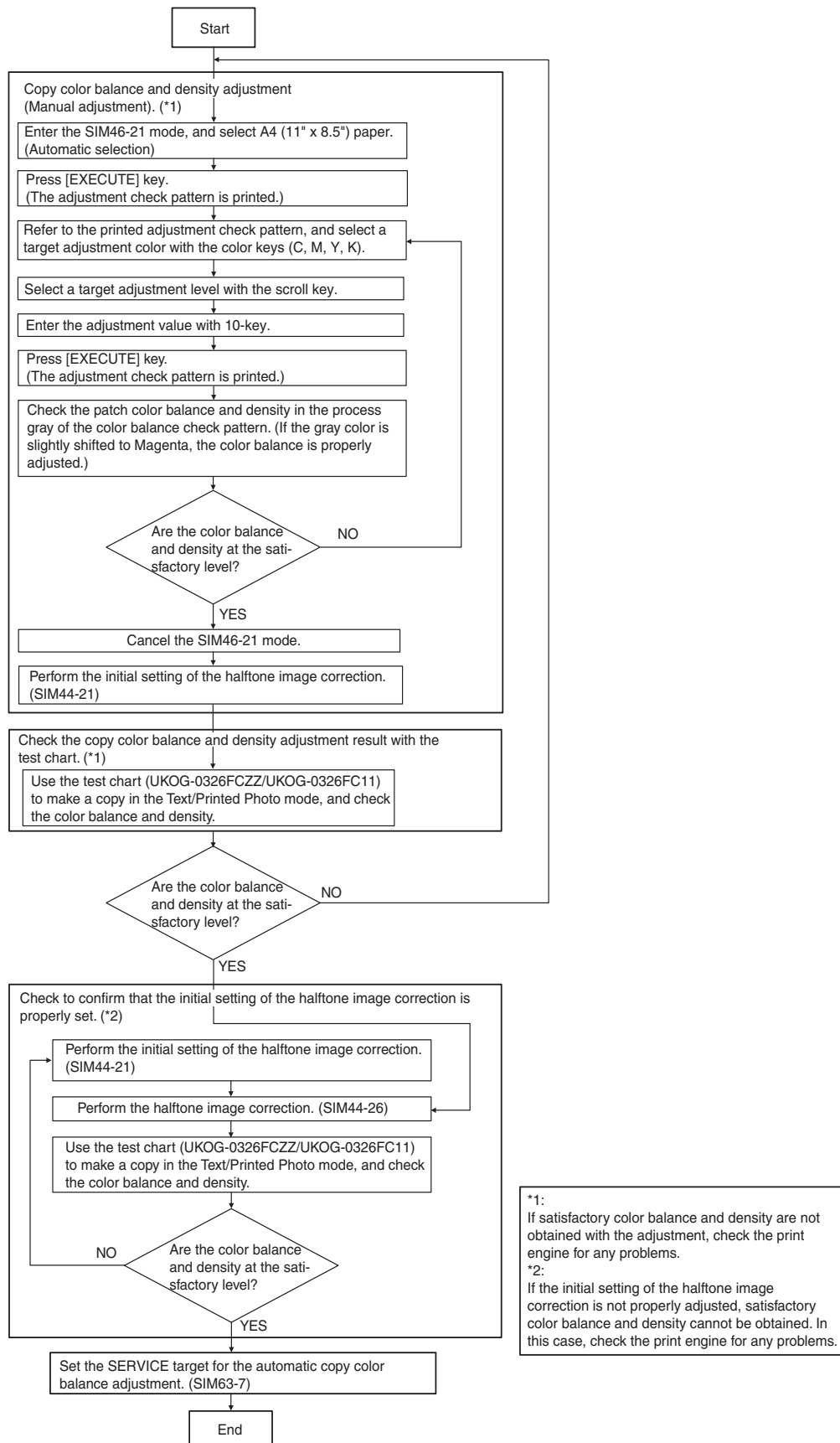
The color balance adjustment (Manual adjustment) is used to adjust the copy density of CMYK. This is used at the following situation. When the result of auto adjustment described above is not existing within the range of reference. When a fine adjustment is required. When there is request from the user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

This manual adjustment is executed only for the color patch which could not adjusted properly in the automatic adjustment.

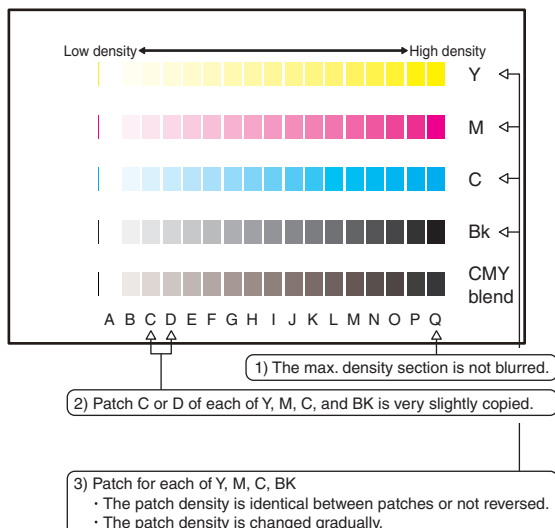
If the color balance is improper, execute the automatic color balance adjustment in advance, and execute this adjustment for better efficiency.

b. Adjustment procedure

Copy color balance and density adjustment (Manual adjustment) procedure flowchart (SIM46-21)



- 1) Enter the SIM46-21 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" paper is automatically selected.)
The color balance adjustment pattern is printed.
- 3) Check that the following specification is satisfied or the color 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.

The density level of each color must be almost at the same level.

Patch B may not be copied.

Patch A must not be copied.

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

If the color balance of each patch of the process black (CMY mixed color) is slightly shifted to Magenta, it means that the adjustment is proper. If the color balance of the adjustment pattern printed in this mode is slightly shifted to Magenta, it is converted into the natural gray color balance by the color correction table in an actual copy mode. (When the color balance target is DEF 1.)

- 4) Select the color to be adjusted with the color select key, and select the adjustment point with the scroll key.
- 5) Enter the adjustment value with 10-key and press [OK] key.
The adjustment value is set in the range of (1 - 999). When SIM 46-24 is used to adjust the automatic color 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) - 5) 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.

Referring to the black/gray patches, adjust so that each process (CMY) black/gray patch color balance of A - Q (MAX) approaches the black/gray patch level as far as possible.

- 6) Make a copy of the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) and a user's document according to necessity in the normal copy mode, the text/Printed Photo mode (Manual) to check the adjustment result.
(Refer to the item of the copy color balance/density check.)

- 7) Execute SIM 44-21. (Execute the initial setting of the halftone image correction.)

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.

Note

This procedure is to save the copy color balance adjustment data as the reference data for the halftone correction.

Immediately after execution of ADJ 10C (2) (Color balance adjustment, Manual) with SIM 46-21, be sure to execute this procedure.

When Color balance adjustment, Auto is executed with SIM 46-24, this procedure is automatically executed.

- 8) Use SIM 44-26 to execute the halftone image correction. (Forcible execution)

Enter the SIM 44-26 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.

- 9) Make a copy of the servicing color test chart (UKOG-0317FCZZ/UKOG-0317FC11) and a user's document according to necessity in the Text/Printed Photo mode (Manual) and check the adjustment result again. (Refer to the item of the copy color balance/density check.)

If the copy color balance and density are not adjusted to the specified level, there may be another cause.

Troubleshoot the cause, and repair or perform proper treatments, and try all the procedures of the print image adjustment from the beginning.

Note

If the color balance is customized, use SIM 63-7 to register the color balance as the service target.

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

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

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.

Simulation No. and descriptions of the adjustment		Copy Mode				Image Scan Mode				FAX	Printer
		Color		Monochrome		Color		Monochrome			
		Auto	Manual	Auto	Manual	Auto	Manual	Auto	Manual		
46-01	Color copy density adjustment (for each color copy mode) (separately for the low density area and the high-density area) (No need to adjust normally)	○	○	—	—	—	—	—	—	—	—
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 color balance adjustment (separately for the low-density area and the high-density area) (No need to adjust normally)	—	—	—	—	○	○	—	—	—	—
46-09	RSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)	○	○	○	○	○	○	○	○	○	—
46-10	Color copy color balance, gamma adjustment (for each color copy mode) (No need to adjust normally)	○	○	—	—	—	—	—	—	—	—
46-16	Monochrome copy density, gamma adjustment (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)	—	—	○	—	—	—	○	—	○	—
46-21	Copy color balance and density adjustment (Manual adjustment)	○	○	○	○	—	—	—	—	—	—
46-23	Copy high density image density reproduction setting (Normally unnecessary to the setting change)	○	○	○	○	—	—	—	—	—	—
46-24	Copy color balance and density adjustment (Automatic adjustment)	○	○	○	○	—	—	—	—	—	—
46-25	Copy color balance adjustment (Single color copy mode) (No need to adjust normally)	—	○	—	—	—	—	—	—	—	—
46-26	Single color copy mode color balance default setting	—	○	—	—	—	—	—	—	—	—
46-27	Color copy, text, line image reproduction adjustment (edge gamma, density adjustment) (Text, Map mode) (No need to adjust normally)	○	○	—	—	—	—	—	—	—	—
46-30	Copy mode sub scanning direction resolution setting	○	○	—	—	—	—	—	—	—	—
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)	—	—	○	—	—	—	○	—	○	—
46-36	2-color (red, black) copy mode fine color adjustment (No need to adjust normally)	—	○	—	—	—	—	—	—	—	—
46-37	Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)	—	—	○	○	—	—	○	○	○	○
46-38	Color copy mode dark area gradation (black component quantity) 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)	—	—	—	—	—	—	—	—	○	—

Simulation No. and descriptions of the adjustment		Copy Mode				Image Scan Mode					
		Color		Monochrome		Color		Monochrome			
		Auto	Manual	Auto	Manual	Auto	Manual	Auto	Manual	FAX	Printer
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	Resolution setting for each monochrome copy mode (No need to adjust normally)	—	—	○	○	—	—	—	—	—	—
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, color balance adjustment for each dither (Automatic adjustment) (No need to adjust normally)	○	○	○	○	—	—	—	—	—	○
46-55	Dropout color setting	—	—	—	—	—	—	—	○	—	—
46-58	Pseudo resolution UP function setting	○	○	○	○	—	—	—	—	—	—
46-60	Color (Copy/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)	○	○	—	—	○	○	—	—	—	—
46-65	Color correction table setting (No need to adjust normally)	○	○	—	—	—	—	—	—	—	—
46-66	Watermark adjustment	○	○	○	○	—	—	—	—	—	○
46-68	Scan mode auto resolution judgement adjustment	—	—	—	—	○	—	○	—	—	—
46-74	Printer/Copy color 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	—	—	—	—	○	○	—	—	—	—

*1: Text Printed Photo / Copy document, Text Printed Photo only

*2: Printer RGB save -> FAX resend only

*3: Printer RGB save only

*4: Only the watermark is related.

9-D (1)

**Color copy density adjustment (for each color 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 46-1 mode.
- 2) Select the copy mode to be adjusted with the scroll key.

Display/Item	Content	Setting range	Default
A	AUTO	Auto	LOW 1 - 99 50
		HIGH 1 - 99 50	
B	TEXT	Text	LOW 1 - 99 50
		HIGH 1 - 99 50	
C	TEXT/PRINTED PHOTO	Text/Printed Photo	LOW 1 - 99 50
		HIGH 1 - 99 50	
D	TEXT/PHOTO	Text/Photograph	LOW 1 - 99 50
		HIGH 1 - 99 50	
E	PRINTED PHOTO	Printed Photo	LOW 1 - 99 50
		HIGH 1 - 99 50	
F	PHOTOGRAPH	Photograph	LOW 1 - 99 50
		HIGH 1 - 99 50	
G	MAP	Map	LOW 1 - 99 50
		HIGH 1 - 99 50	
H	LIGHT	Light document	LOW 1 - 99 50
		HIGH 1 - 99 50	
I	TEXT (COPY TO COPY)	Text (Copy document)	LOW 1 - 99 50
		HIGH 1 - 99 50	
J	TEXT/PRINTED PHOTO (COPY TO COPY)	Text/Printed Photo (Copy document)	LOW 1 - 99 50
		HIGH 1 - 99 50	
K	PRINTED PHOTO (COPY TO COPY)	Printed Photo (Copy document)	LOW 1 - 99 50
		HIGH 1 - 99 50	
L	TEXT (COLOR TONE ENHANCEMENT)	Text (Color tone enhancement)	LOW 1 - 99 50
		HIGH 1 - 99 50	
M	TEXT/PRINTED PHOTO (COLOR TONE ENHANCEMENT)	Text/Printed Photo (Color tone enhancement)	LOW 1 - 99 50
		HIGH 1 - 99 50	
N	TEXT/PHOTO (COLOR TONE ENHANCEMENT)	Text/Photograph (Color tone enhancement)	LOW 1 - 99 50
		HIGH 1 - 99 50	
O	PRINTED PHOTO (COLOR TONE ENHANCEMENT)	Printed Photo (Color tone enhancement)	LOW 1 - 99 50
		HIGH 1 - 99 50	
P	PHOTOGRAPH (COLOR TONE ENHANCEMENT)	Photograph (Color tone enhancement)	LOW 1 - 99 50
		HIGH 1 - 99 50	
Q	MAP (COLOR TONE ENHANCEMENT)	Map (Color tone enhancement)	LOW 1 - 99 50
		HIGH 1 - 99 50	
R	LIGH (COLOR TONE ENHANCEMENT)	Light (Color tone enhancement)	LOW 1 - 99 50
		HIGH 1 - 99 50	
S	SINGLE COLOR	Single color	LOW 1 - 99 50
		HIGH 1 - 99 50	
T	SINGLE COLOR (COPY TO COPY)	Single color (Copy document)	LOW 1 - 99 50
		HIGH 1 - 99 50	
U	TWO COLOR	Two-color (Red/Black) copy	LOW 1 - 99 50
		HIGH 1 - 99 50	

Display/Item	Content	Setting range	Default
V	TWO COLOR (COPY TO COPY)	Two-color (Red/Black) copy (Copy 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)

**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.

Item/Display	Content	Setting range	Default value
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	AUTO 1 (COPY TO COPY)	Auto 1 (Copy document)	LOW 1 - 99 50
		HIGH 1 - 99 50	
K	AUTO 2 (COPY TO COPY)	Auto 2 (copy to copy)	LOW 1 - 99 50
		HIGH 1 - 99 50	
L	AUTO 3 (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	

Item/Display		Content		Setting range	Default value
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 (3) Color copy color balance, gamma adjustment (for each color copy mode) (No need to adjust normally)

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

This adjustment must be performed in the following cases:

- * When there is necessity to change the color 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 a color to change the adjustment value with the color key.
 - 4) Select the density level (point) to be adjusted with the scroll key.

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

- 5) 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 color densities selected with the color keys 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 color balance and the density for each density level (point).

- 6) 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 (4) Monochrome copy density, gamma adjustment (for each monochrome copy mode) (No need to adjust normally)

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

- 3) Enter the 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 color 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 (5)

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.

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

Note

MODE1: High gamma (Improves the image contrast)

MODE2: Normal gamma

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:

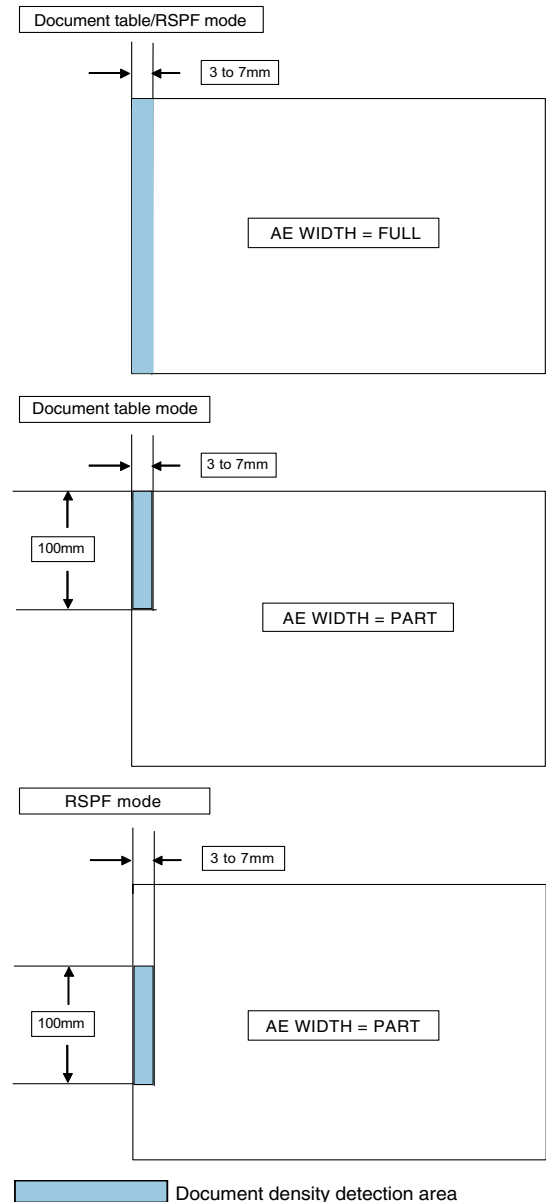
Document density reading area in monochrome auto mode is 3 - 7 mm (leading edge of document) x Document width. No relationship to PRESCAN MODE

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.



9-D (6)

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: Side 1)	1 - 250	196
C COPY : DSPF (SIDE2)	Copy mode (for DSPF: Side 2)	1 - 250	196
D SCAN : OC	Scanner mode (for OC)	1 - 250	196
E SCAN : DSPF (SIDE 1)	Scanner mode (for DSPF: Side 1)	1 - 250	196
F SCAN : DSPF (SIDE 2)	Scanner mode (for DSPF: Side 2)	1 - 250	196
G FAX : OC	FAX mode (for OC)	1 - 250	196
H FAX : DSPF (SIDE 1)	FAX mode (for DSPF: Side 1)	1 - 250	196
I FAX : DSPF (SIDE 2)	FAX mode (for DSPF: Side 2)	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)	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

9-D (7)

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.

Item/Display	Content	Setting range	Default value
A COLOR COPY : TEXT/PRINTED PHOTO	Text print (color copy)	1 - 9	3
B COLOR COPY : TEXT	Text (color copy)	1 - 9	3
C COLOR COPY : PRINTED PHOTO	Printed photo (color copy)	1 - 9	5
D COLOR COPY : PHOTOGRAPH	Photograph (color copy)	1 - 9	5
E COLOR COPY : TEXT/PHOTO	Text/Photograph (color copy)	1 - 9	3
F COLOR COPY : MAP	Map (color copy)	1 - 9	5
G COLOR COPY : LIGHT	Light document (color density)	1 - 9	6
H COLOR COPY : TEXT/PRINTED PHOTO (COPY TO COPY)	Copy document, Character print (color copy)	1 - 9	5
I COLOR COPY : TEXT (COPY TO COPY)	Copy document, Character (color copy)	1 - 9	5
J COLOR COPY : PRINTED PHOTO (COPY TO COPY)	Copy document, Printed photo (color copy)	1 - 9	5
K COLOR PUSH : TEXT/PRINTED PHOTO	Text print (color PUSH)	1 - 9	3
L COLOR PUSH : TEXT	Text (color PUSH)	1 - 9	3
M COLOR PUSH : PRINTED PHOTO	Printed photo (color PUSH)	1 - 9	5
N COLOR PUSH : PHOTOGRAPH	Photograph (color PUSH)	1 - 9	5
O COLOR PUSH : TEXT/PHOTO	Text/Photograph (color PUSH)	1 - 9	3
P 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 (8)

Color copy, text, line image reproduction adjustment (edge gamma, density adjustment) (Text, Map mode) (No need to adjust normally)

Adjustment 1

By changing Text/Printed Photo, Text/Photograph, automatic copy mode Text, line image edge section gamma and the density, the reproducibility of text and line profile can be varied optionally.

With this adjustment, the density and the thickness of fine text and lines can be varied.

Check the result of this adjustment by text/printed photo copy mode (manual).

This adjustment is required in the following cases.

* When the reproducibility of text and line copy image is to be changed.

* When there is request from the user.

- 1) Enter the SIM 46-27 mode.
- 2) Select the mode to be adjusted with the scroll key.

Item/Display (Copy mode)	Content	Setting range	Default value
A BLACK TEXT (SLOPE)	Black character edge gamma skew adjustment	1 - 99	50
B BLACK TEXT (INTERCEPT)	Black character edge density adjustment	1 - 99	50
C COLOR TEXT (SLOPE)*1	Color character edge gamma skew adjustment	1 - 99	50
D COLOR TEXT (INTERCEPT)	Color character edge density adjustment	1 - 99	50

	Item/Display (Copy mode)	Content	Setting range	Default value
E	ED TEXT (SLOPE)	Text/Map mode gamma adjustment (Text/Map mode)	1 - 99	50
F	ED TEXT (INTERCEPT)	Text/Map mode density adjustment (Text/Map mode)	1 - 99	50

- 3) Enter the adjustment value with 10-key.
 When the adjustment values of item A and C are changed, the gamma at the line edge section is changed.
 When the adjustment value is increased, the image contrast of character edge and line edge is increased. When the adjustment value is decreased, the image contrast of character and line edge is decreased.
 When the adjustment value of the adjustment item B and D are increased, the image density at the line edge section is increased, and vice versa.
- 4) Press [OK] key.
- 5) Make a copy in color text/printed photo copy mode (manual), check the copy.
 When checking, use a copy of the document with a thin character and line image.
 If a satisfactory result is not obtained, return to the SIM 46-27 mode and change the adjustment value.
 Repeat the above procedures until a satisfactory result is obtained.

Adjustment 2

This adjustment is used to change the gamma and the density in the Text/Map copy mode.

This adjustment is required in the following cases.

* To change the contrast and the density of the Text/Map copy mode images.

* When there is request from the user.

- 1) Enter the SIM 46-27 mode.
- 2) Select the mode to be adjusted with the scroll key.

	Item/Display (Copy mode)	Content	Setting range	Default value
A	BLACK TEXT (SLOPE)	Black character edge gamma skew adjustment	1 - 99	50
B	BLACK TEXT (INTERCEPT)	Black character edge density adjustment	1 - 99	50
C	COLOR TEXT (SLOPE)*1	Color character edge gamma skew adjustment	1 - 99	50
D	COLOR TEXT (INTERCEPT)	Color character edge density adjustment	1 - 99	50
E	ED TEXT (SLOPE)	Text/Map mode gamma adjustment (Text/Map mode)	1 - 99	50
F	ED TEXT (INTERCEPT)	Text/Map mode density adjustment (Text/Map mode)	1 - 99	50

- 3) Enter the adjustment value with 10-key.
 When the adjustment value of the adjustment item E is changed, the gamma (contrast) is changed.
 When the adjustment value is increased, the contrast is increased, and vice versa.
 When the adjustment value of the adjustment item F is increased, the image density is increased, and vice versa.
- 4) Press [OK] key.
- 5) Make a copy in the Text/Map copy mode (manual), and check the output print.
 If a satisfactory result is not obtained, use SIM46-27 to change the adjustment value.
 Repeat the above procedures until a satisfactory result is obtained.

9-D (9)

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.

<RSPF>

	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	230
D	G-Ratio Fluorescence	Gray making setting (G) Fluorescent pen	0 - 1000	330
E	R-Ratio RIP	Print gray making setting (R)	0 - 1000	299
F	G-Ratio RIP	Print gray making setting (G)	0 - 1000	587

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

<DSPF>

	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	230
D	G-Ratio Fluorescence	Gray making setting (G) Fluorescent pen	0 - 1000	330
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) Fluorescence pen (DSPF FOR back side)	0 - 1000	215
H	G-Ratio Fluorescence DSPF	Gray making setting (G) Fluorescence pen (DSPF For back side)	0 - 1000	220
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 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 red image is increased. When the adjustment value is decreased, copy density of red image is decreased.
- 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 (10) Color copy mode dark area gradation (black component quantity) adjustment (No need to adjust normally)

Use to adjust the black ingredient amount in the color copy mode. (except character and line image)

As a result of this adjustment, the gradation of the shade part changes.

This adjustment is required in the following cases.

- * When reproduction as solid of black image is required.
- * To make the black background and the dark area darker
- * When change of gradation of the shade part is required.
- * When there is request from the user.

- 1) Enter the SIM 46-38 mode.
- 2) Select the AUTO MODE or the MANUAL MODE with the mode key.
- 3) Select the mode to be adjusted with the scroll key.

Item/Display (Copy mode)		Select button	Content	Default value
MANUAL	TEXT PRT	(-) LUT2	Text print (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	TEXT	(-) LUT2	Text (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	PRINTED PHOTO	(-) LUT2	Printed photo (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	PHOTO	(-) LUT2	Photograph/Text photograph (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	TEXT PHOTO	(-) LUT2	Text/Photograph (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
	MAP	(-) LUT2	Map (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		

Item/Display (Copy mode)		Select button	Content	Default value
MANUAL	CPY TO CPY/ TXT PRT	(-) LUT2	Copy document/ Text printed (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	CPY TO CPY/ TEXT	(-) LUT2	Copy document/ Text (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	COPY TO COPY/ PHOTO	(-) LUT2	Copy document/ Printed photo (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	LIGHT ORIGINAL	(-) LUT2	Pencil	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
AUTO	AUTO0	(-) LUT2	Auto mode judgment 0	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO1	(-) LUT2	Auto mode judgment 1	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO2	(-) LUT2	Auto mode judgment 2	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO3	(-) LUT2	Auto mode judgment 3	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO4	(-) LUT2	Auto mode judgment 4	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO5	(-) LUT2	Auto mode judgment 5	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO6	(-) LUT2	Auto mode judgment 6	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		

- 4) Press the black ingredient amount select button.
When reproduction as solid of black image is required:
Selects + button
When there is desire to darken copy of black image:
Selects + button
When a dark color image is reproduced in the black:
Selects - button
- 5) Make a copy in color copy mode and check the copy.
If a satisfactory result is not obtained, return to the SIM 46-38 mode and change the adjustment value.
Repeat the above procedures until a satisfactory result is obtained.

9-D (11)**Color (Copy/Scan) mode sharpness adjustment (No need to adjust normally)**

Use for sharpness adjustment of the high density image in color copy 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	SCREEN FILTER LEVEL	H	Sharpness (filter) adjustment of dot pattern image in auto copy mode	Strong emphasis	3 (Auto)
		L		Soft emphasis	
		AUTO		Auto	
B	CPY CL AUTO FILTER LEVEL	SOFT	Sharpness (filter) adjustment for the automatic copy mode (Text, Printed Photo / Printed Photo images)	SOFT	2 (CENTER)
		CENTER		CENTER	
		HIGH		HIGH	
C	CPY PUSH AUTO FILTER LEVEL	SOFT	Sharpness (filter) adjustment for the automatic push scan mode (Text, Printed Photo / Printed Photo images)	SOFT	2 (CENTER)
		CENTER		CENTER	
		HIGH		HIGH	
D	COLOR COPY : CMY	OFF	Soft filter applying setting to C, M, Y image in color copy mode	OFF	1 (ON)
		ON		ON	
E	COLOR COPY : K	OFF	Soft filter applying setting to K image in color copy mode	OFF	1 (ON)
		ON		ON	
F	SINGLE COLOR : CMY	OFF	Soft filter applying setting to C, M, Y image in single color copy mode	OFF	1 (ON)
		ON		ON	
G	2 COLOR COPY : CMY	OFF	Setting of YES/NO of applying the soft filter to C/M/Y images of the 2-color copy mode	OFF	1 (ON)
		ON		ON	
H	2 COLOR COPY : K	OFF	Setting of YES/NO of applying the soft filter to K images of the 2-color copy mode	OFF	1 (ON)
		ON		ON	
I	B/W COPY	OFF	Soft filter applying setting in monochrome copy mode	OFF	1 (ON)
		ON		ON	
J	COLOR PUSH : RGB	OFF	Soft filter applying setting to image in push scan color mode	OFF	1 (ON)
		ON		ON	
K	B/W PUSH	OFF	Soft filter applying setting to image in push scan monochrome mode	OFF	1 (ON)
		ON		ON	
L	COLOR PRINT: CMY	OFF	Setting of ON/OFF of soft filter application to color print C, M, Y images	OFF	1 (ON)
		ON		ON	
M	COLOR PRINT: K	OFF	Setting of ON/OFF of soft filter application to color print K images	OFF	1 (ON)
		ON		ON	
N	B/W PRINT	OFF	Setting of ON/OFF of soft filter application to monochrome print images	OFF	1 (ON)
		ON		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:

When selecting AUTO, Select HIGH to obtain clear images. Select SOFT to reduce moire.

* Adjustment item D - K:

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 (12)**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	CMY (0: ENABLE 1: DISABLE)	0	CMY engine highest density correction mode: Enable	0 - 1	0
		1	CMY engine highest density correction mode: Disable		
B	K (0: ENABLE 1: DISABLE)	0	K engine highest density correction mode: Enable	0 - 1	1
		1	K engine highest density correction mode: Disable		
C	CYAN MAX TARGET	Scanner target value for CYAN maximum density correction		0 - 999	500
D	MAGENTA MAX TARGET	Scanner target value for MAGENTA maximum density correction		0 - 999	500
E	YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction		0 - 999	500
F	BLACK MAX TARGET	Scanner target value for BLACK maximum density correction		0 - 999	500
G	RATIO LOW	Mix ratio of high density correction (LOW) (1/100)		0-100	0
H	RATIO HIGH	Mix ratio of high density correction (HIGH) (1/100)		0-100	0
I	DITHER THRESHOLD	Dither threshold (LOW)		0-255	255
J	SLOPE THRESHOLD	Slope threshold (HIGH) (1/100)		100-500	500

- * If a tone gap occurs on part of high density, set 0 to item A and B
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 and B.
The tone gap may occur in high density part.

Important

Do not change the setting values of item C, D, E and F. If these values are changed, density of the high density part is changed.
If these values are changed, be sure to execute the copy color balance density adjustment. (Auto adjustment)

When adjusting density on low density part, select "A (COPY LOW)". When adjusting density on high density part, select "D

9-D (13)**Copy color balance adjustment (Single color copy mode) (No need to adjust normally)**

This adjustment is used to set the color balance and the density in the single color copy mode to the user's request.

The adjustment is made by changing Y, M, C components of each color.

This adjustment is not required normally, but executed when there is a request from the user.

When the default adjustment value is changed, this adjustment is required in the following cases.

- * When it is required to change the color balance in the single color copy mode.
- * When there is request from the user.

a. Adjustment procedure

- 1) Enter the SIM 46-25 mode.
- 2) Select the color to be adjusted with the scroll key.
- 3) Select the color (YMC) to be adjusted with the color key.
- 4) Enter the adjustment value with 10-key.

Item/Display		Setting range	Default value		
			C	M	Y
A	RED	0 - 255	0	255	200
B	GREEN	0 - 255	255	0	255
C	BLUE	0 - 255	255	150	0
D	CYAN	0 - 255	255	0	0
E	MAGENTA	0 - 255	0	255	0
F	YELLOW	0 - 255	0	0	255
G	ORANGE	0 - 255	0	150	255
H	NAVY	0 - 255	255	200	0
I	LIGHT GREEN	0 - 255	150	0	150
J	LIGHT BLUE	0 - 255	150	20	0
K	AQUA MARINE	0 - 255	170	0	50
L	PURPLE	0 - 255	128	255	0
M	PINK	0 - 255	0	150	20
N	YELLOW GREEN	0 - 255	128	0	255
O	BEIGE	0 - 255	0	50	170

- 5) Press [OK] key.
 - 6) Make a copy in the single color copy mode and check the copy.
- If a satisfactory result is not obtained, return to the SIM 46-25 mode and change the adjustment value.
Repeat the above procedures until a satisfactory result is obtained.

9-D (14)**DSPF/RSPF 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/RSPF mode differs from copy in document table mode.
- * When copy density in DSPF/RSPF mode is low or too high.
- * When the DSPF/RSPF unit is replaced.
- * When the DSPF/RSPF unit is disassembled.
- * The CCD unit has been replaced.
- * U2 trouble has occurred.
- * When the 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.
(COPY HIGH)".

[DSPF]

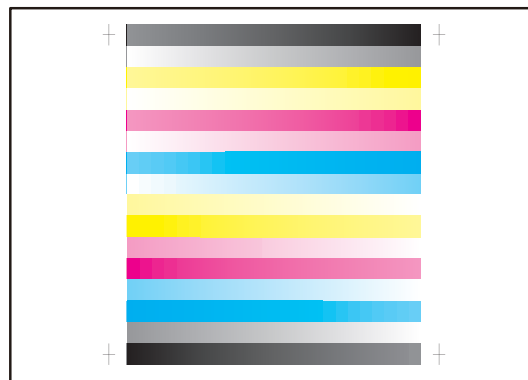
Item/Display			Content	Setting range	Default value
A	O C	COPY SIDEA: LOW	RSPF copy mode exposure adjustment (Low density side)	1 - 99	47
B		SCAN SIDEA: LOW	RSPF scanner mode exposure adjustment (Low density side)	1 - 99	47
C		FAX SIDEA: LOW	RSPF FAX mode exposure adjustment (Low density side)	1 - 99	47
D		COPY SIDEA: HIGH	RSPF copy mode exposure adjustment (High density side)	1 - 99	52
E		SCAN SIDEA: HIGH	RSPF scanner mode exposure adjustment (Low density side)	1 - 99	52
F		FAX SIDEA: HIGH	RSPF FAX mode exposure adjustment (high density)	1 - 99	52
A	D S P F	COPY SIDEB: LOW	RSPF copy mode exposure adjustment (Low density side)	1 - 99	47
B		SCAN SIDEB: LOW	RSPF scanner mode exposure adjustment (Low density side)	1 - 99	47
C		FAX SIDEB: LOW	RSPF FAX mode exposure adjustment (Low density side)	1 - 99	47
D		COPY SIDEB: HIGH	RSPF copy mode exposure adjustment (High density side)	1 - 99	50
E		SCAN SIDEB: HIGH	RSPF scanner mode exposure adjustment (Low density side)	1 - 99	50
F		FAX SIDEB: HIGH	RSPF FAX mode exposure adjustment (high density)	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 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

- 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.
- Press [OK] key.
- 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.

- 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).



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

Select item (Mode/Image)	Content
HEAVYPAPER*1	Adjustment item to improve the color balance in the heavy paper mode
BLACK EDGE	Adjustment item (K) to improve the reproduction of lines, text density, and thickness
COLOR EDGE	Adjustment item (Color) to improve the reproduction of lines, text density, and thickness
COLOR ED	Adjustment item to improve the color balance in the text mode and the map mode.
B/W ED	Adjustment item to improve the density and gradation in the monochrome auto mode, text mode, map mode and light original mode
B/W 600	Adjustment item to improve the density and gradation in the monochrome auto mode Text/ Printed Photo mode and Text/Photo mode.
B/W 600 LOW	Adjustment item to improve the density and gradation in the monochrome auto mode (Printed Photo mode and Photo 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 manual paper feed tray.

9-D (15)

Copy gamma, color 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

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

9-D (16) Dropout color adjustment (Normally not required.)

This adjustment is used to adjust the level of chroma of color images which are reproduced as monochrome images in the image send mode (monochrome manual text mode).

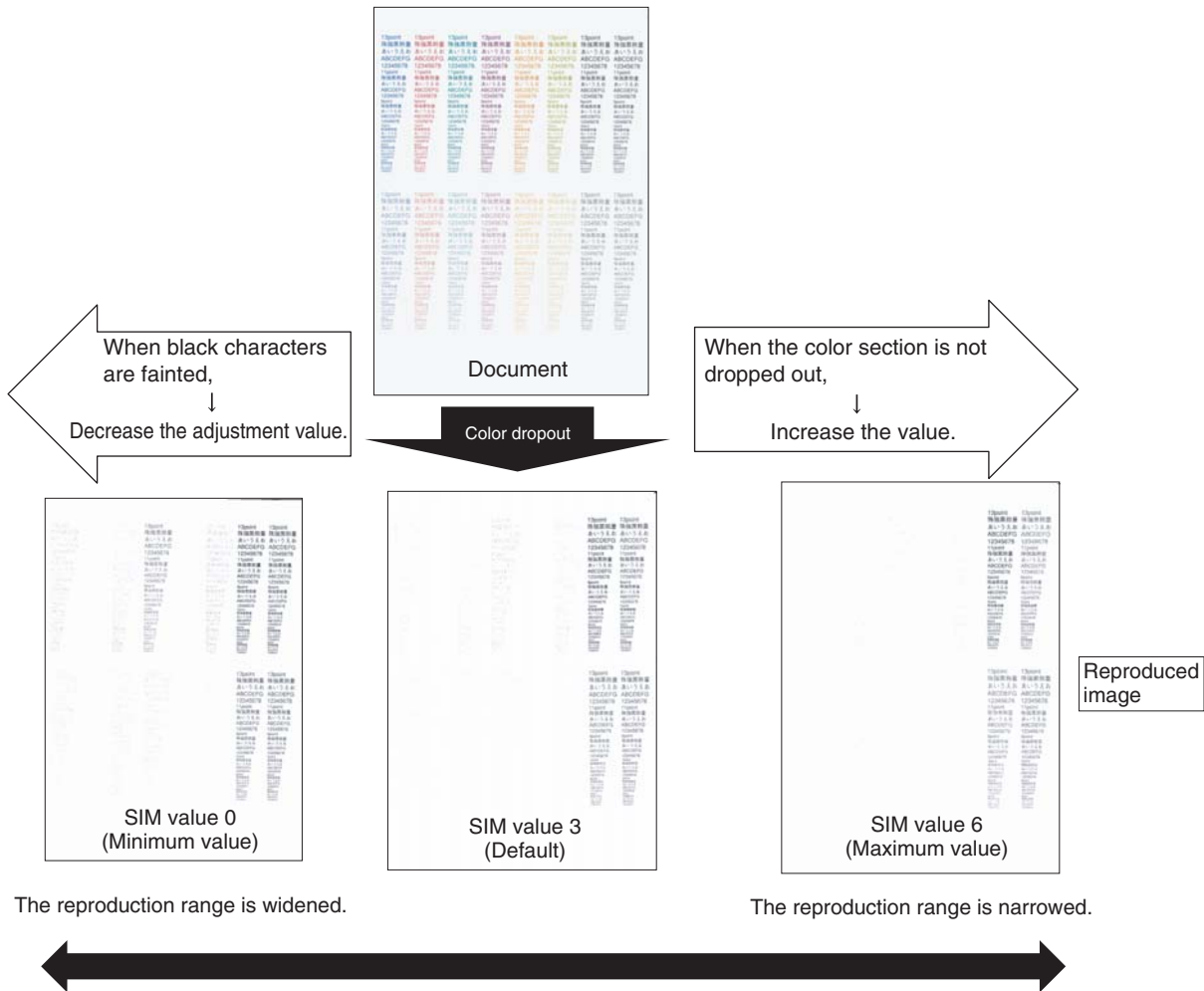
This adjustment must be performed in the following cases:

- When there is request from the user.
- 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) 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 (17)**Watermark adjustment (Normally not required)**

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.

- 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.

Item/Display	Content	Setting range	Default setting
A WOVEN DEN BK LOW	Watermark density level (Color: Black/Adjustment for light images)	0 - 255	15
B WOVEN DEN BK MIDDLE	Watermark density level (Color: Black, Density: Standard)	0 - 255	19
C WOVEN DEN BK HIGH	Watermark density level (Color: Black, Density: Dark)	0 - 255	23
D WOVEN DEN C LOW	Watermark density level (Color: Cyan / Adjustment for light images)	0 - 255	19
E WOVEN DEN C MIDDLE	Watermark density level (Color: Cyan, Density: Standard)	0 - 255	23
F WOVEN DEN C HIGH	Watermark density level (Color: Cyan, Density: Dark)	0 - 255	27
G WOVEN DEN M LOW	Watermark density level (Color: Magenta / Adjustment for light images)	0 - 255	15
H WOVEN DEN M MIDDLE	Watermark density level (Color: Magenta, Density: Standard)	0 - 255	18
I WOVEN DEN M HIGH	Watermark density level (Color: Magenta, Density: Dark)	0 - 255	21
J CONTRAST	Contrast adjustment	0 - 255	2
K HT TYPE (POS)	For half-tone index watermark type positive	42 - 43	42
L HT TYPE (NEGA)	For half-tone index watermark type negative	42 - 43	42

Description**A~I:**

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.

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.

J:

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.)

K:

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.

L:

To reproduce the containing characters of watermark copy (secondary output) more clearly, set to 43.

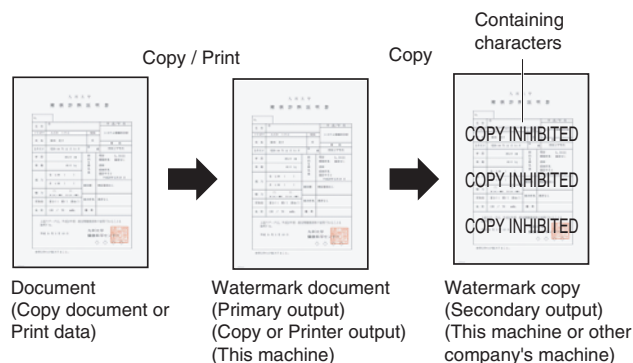
In that case, however, the containing characters of the watermark document (primary output) can be easily reproduced.

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

Kinds of watermarks (Mode selected in the watermark copy mode)	Density value	Adjustment values of adjustment items A - I	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	The watermark color is available in Cyan, Magenta, and 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 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 color balance adjustment. * Use SIM46-54 to execute the color balance adjustment for each dither. * Adjust the watermark print contrast in the system setting. • Though the watermark of cyan or magenta is selected in the black and white mode, the black watermark is synthesized. • For a document which is judged as monochrome with ACS selected, though the watermark color is specified as cyan or magenta, the black watermark is synthesized. • 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)

Watermark kind mode selection	Density	Adjustment
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 for adjusting the watermark with SIM46-54

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

However, note the following items.

- When either of item K or L 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 K or L 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 color balance/density adjustment

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

This adjustment is required in the following cases.

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

9-E (1) Printer color balance adjustment (Automatic adjustment)

a. General

The color balance adjustment (auto adjustment) is used to adjust the print density of each color (Cyan, Magenta, Yellow, Black) automatically with SIM 67-24 or the user program.

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

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

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

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

If the print color balance is lost for some reasons, the user can use this color 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.

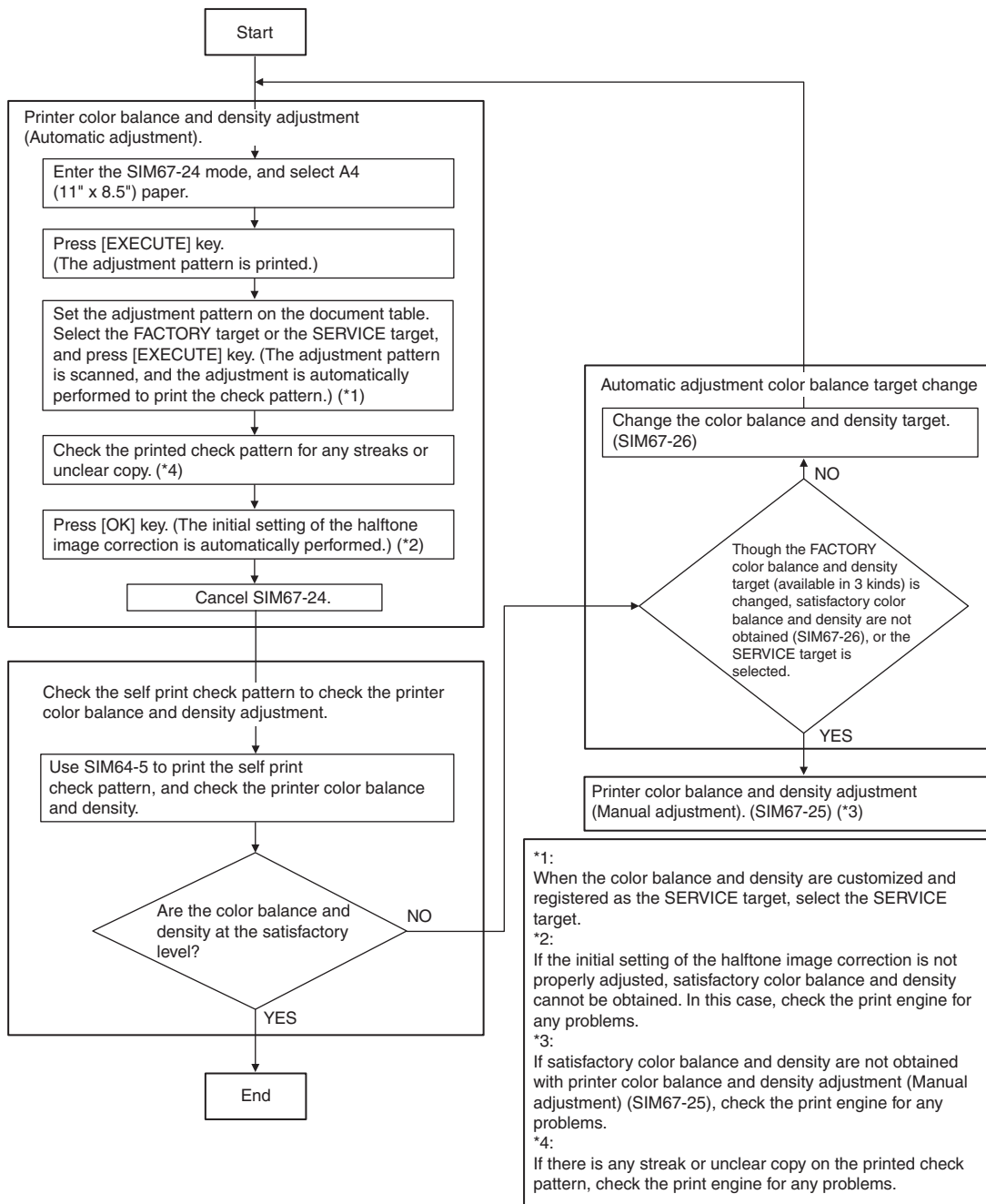
On the other hand, the auto color balance adjustment by the serviceman functions to recover the normal color balance though the machine condition is greatly changed. If the machine has a fatal problem, repair and adjust it for obtaining the normal color balance.

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

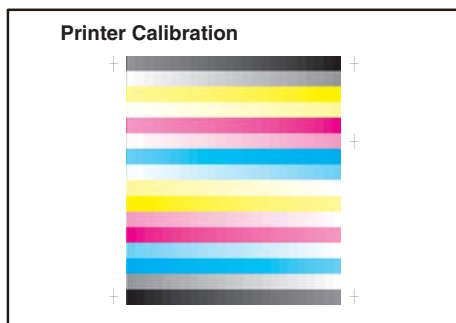
b. Adjustment procedure

(Auto color balance adjustment by the serviceman)

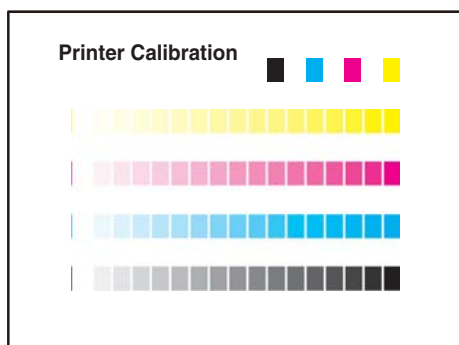
Printer color balance and density adjustment (Automatic adjustment) procedure flowchart (SIM67-24)



- 1) Enter the SIM 67-24 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" paper is automatically selected.)
The color patch image (adjustment pattern) is printed out.
- 3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.
Place the printed color 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 color patch image (adjustment pattern) paper.



- 4) Select [FACTORY] key, and press [EXECUTE] key.
When the color balance is customized with the manual color balance adjustment (SIM 67-25) according to the user's request and the color balance is registered as the service target with SIM 67-27, if the color balance is adjusted to that color balance, select the service target.
The copy color balance adjustment is automatically executed and prints the color 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 color balance and density.
(Refer to the item of the printer color balance and density check.)
When satisfactory color balance and density are not obtained from the automatic adjustment by selecting the factory target in procedure 4), change the factory color balance target with SIM 67-26 and repeat the procedures from 1).

If a satisfactory result on the color balance and the density is not obtained with the automatic adjustment, execute the manual adjustment (SIM 67-25).

Also when the service target is selected in procedure 4) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment.

If the color 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 color balance adjustment (Manual adjustment)

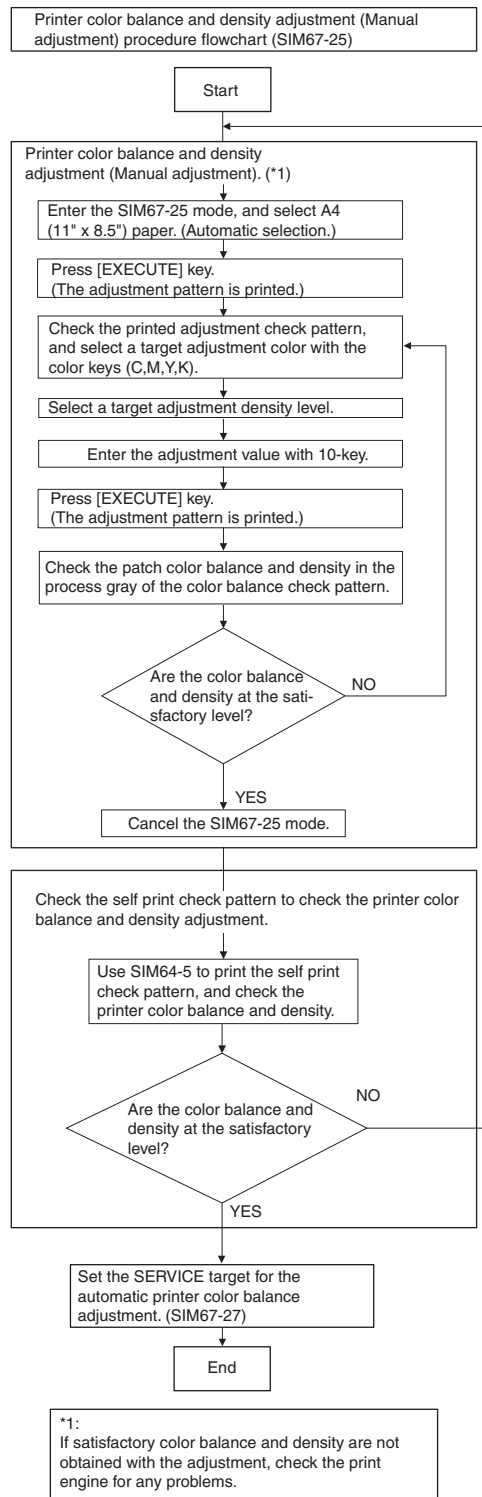
a. General

The color balance adjustment (Manual adjustment) is used to adjust the printer density of C, M, Y and K. 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 color balance.

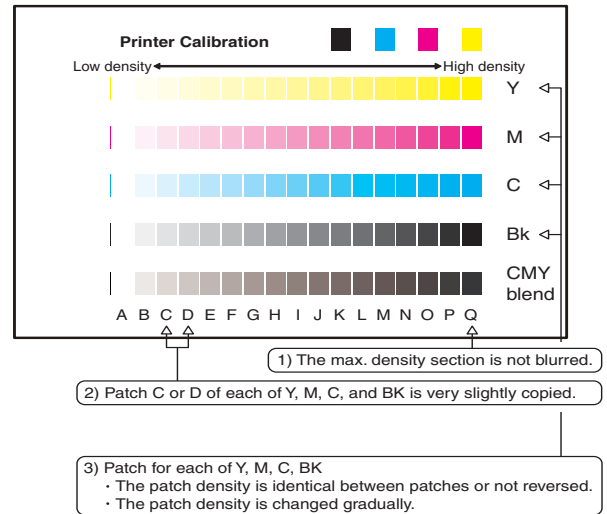
In this manual adjustment, adjust only the color patch which could not adjusted properly in the automatic adjustment.

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

b. Adjustment procedure



- 1) Enter the SIM 67-25 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" paper is automatically selected.)
The color balance adjustment pattern is printed.
- 3) Check that the following specification is satisfied or the color 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.

The density level of each color must be almost at the same level.

Patch B may not be copied.

Patch A must not be copied.

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

If the color balance of each patch of the process black (CMY mixed color) is slightly shifted to Magenta, it means that the adjustment is proper. In an actual print mode, it is converted into the natural gray color balance by the color table. (When the color balance target is DEF 1.)

- 4) Select the color to be adjusted with the color select key, and select the adjustment point with the scroll key.
- 5) 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 color 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) - 5) 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.

Referring to the black/gray patches, adjust so that each process (CMY) black/gray patch color balance of A - Q (MAX) approaches the black/gray patch level as far as possible.

- 6) Check the color balance and density.
(Refer to the item of the printer color balance and density check.)

Note

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

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

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

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 10E (1) and ADJ 10E (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 A, B with the scroll key.

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

Item/Display		Content	Setting range	Default value
C	CYAN MAX TARGET	Scanner target value for CYAN maximum density correction	0 - 999	500
D	MAGENTA MAX TARGET	Scanner target value for MAGENTA maximum density correction	0 - 999	500
E	YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction	0 - 999	500
F	BLACK MAX TARGET	Scanner target value for BLACK maximum density correction	0 - 999	500

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

The tone gap may occur in high density part.

Important

If the setting values of item C, D, E and F are changed, density of the high density part is changed.

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

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

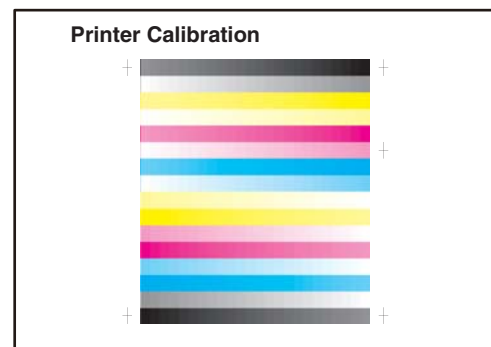
a. General

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

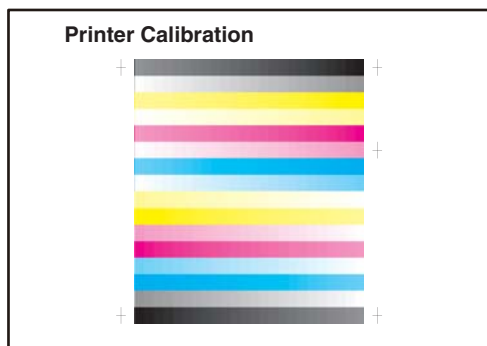


- 4) Press [EXECUTE] key.
The color balance adjustment is automatically performed.
The adjustment pattern is printed out. Check it for any abnormality.

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

Select item (Mode)	Content
HEAVY PAPER	Adjustment item to improve the color balance in the heavy paper mode
B/W	Adjustment item to improve the density and gradation in the monochrome mode
4BIT_GRAPHICS	Adjustment item to improve the color balance in the text mode
DOT_SCREEN1	Adjustment item to improve the color balance in Dot (High Line Number).
DOT_SCREEN2	Adjustment item to improve the color balance in Dot (Low Line Number) mode
DOT_SCREEN1_BW	Adjustment item to improve the density and gradation in Dot mode of Monochrome High Quality mode
SHIGH	Adjustment item to improve the color balance in Super Fine Text mode

- 7) Press [EXECUTE] key.
A4/11" x 8.5" paper is automatically selected.
The color patch image (adjustment pattern) is printed out.
- 8) Set the color patch image (adjustment pattern) printed in the procedure 7) on the document table so that the thin lines on the printed color patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern).



- 9) Press [EXECUTE] key.
The color 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 color balance and density check.)

ADJ 10 Touch panel coordinate setting

This adjustment must be performed in the following cases:

- * The operation panel has been replaced.
 - * U2 trouble has occurred.
 - * The SCN PWB has been replaced.
 - * The EEPROM on the scanner control PWB has been replaced.
- 1) Enter the SIM 65-1 mode.

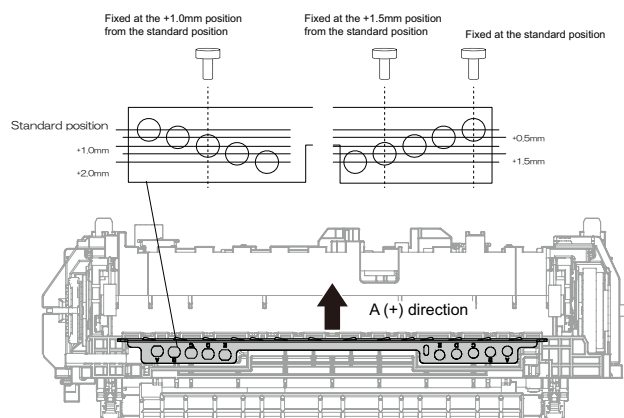


- 2) Precisely press the cross mark points (4 positions).
When the cross mark is pressed precisely, a buzzer sounds and the display is reversed. When all the four points are pressed and the touch panel adjustment is completed, the display returns to the simulation sub number entry screen.
In case of an error, the display returns to the entry screen again.
Check to confirm that there is no shift between the display frame and the detection position when the touch panel is pressed.
* When pressing the touch panel, never use a sharp tip (such as a needle or a pin).

ADJ 11 Fusing paper guide position adjustment

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

- * When a paper jam occurs in the fusing section.
 - * When wrinkles are made on paper in the fusing section.
 - * When an image deflection or an image blur is generated in the paper rear edge section.
- 1) Change the screw position of the fusing paper guide by referring the figure.



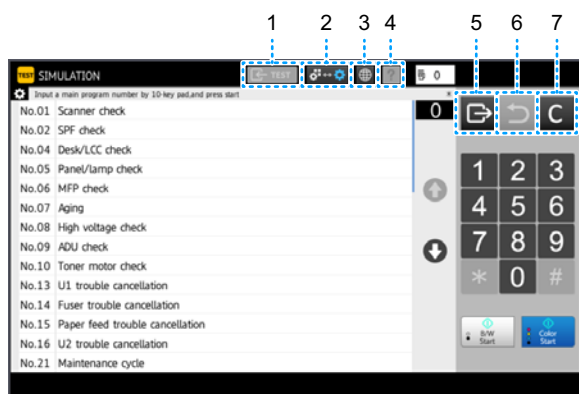
The standard fixing position is the center part of the screw holes. Change the position according to the situation.

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

Normally, the hole on the fusing paper guide standard fixing position is used to fix the fusing paper guide.

[6] SIMULATION

1. 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

2. 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 (operation hysteresis) 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.

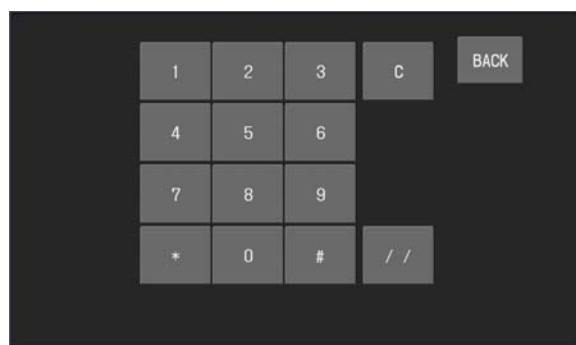
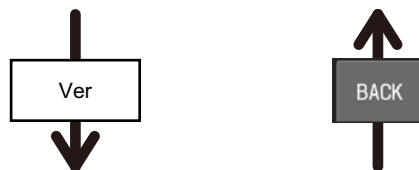
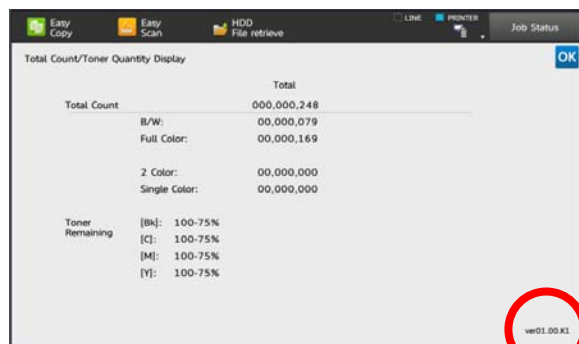
Simulation mode

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.

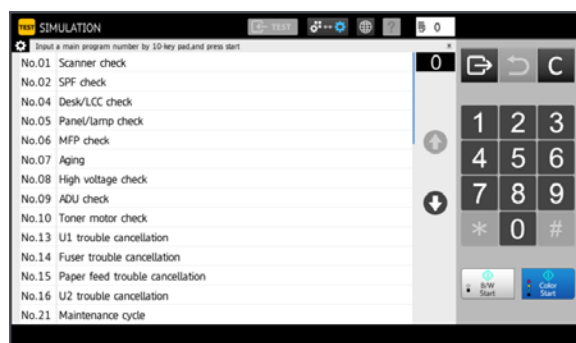
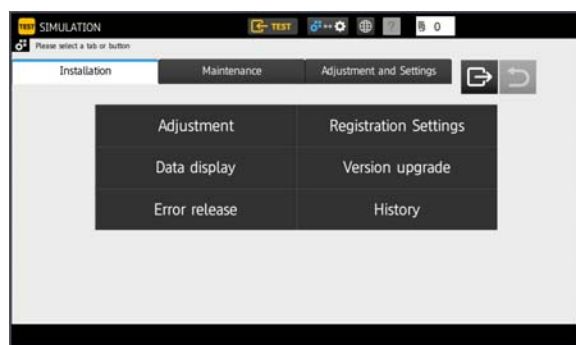
3. Starting the simulation

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
			50-22	Auto adjustment of registration & drum position
		2 Positioning	50-10	Manual image position adjustment
		3 Copy	46-21	Color 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
		1 Function/Option settings	26-2	Size setup
			26-3	Auditor setup
			26-50	Function setting
			26-33	Special function setting
			26-78	ROPE password setting
		2 Counter mode	26-5	A3(11x17) count up
			26-8	Banner size count up
			26-52	A blank paper count mode setup
		3 FAX/Image send settings	66-1	Image send software SW. setting
2	Registration Settings	1 Function/Option settings	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)
		2 Counter mode	27-9	FSS function adjustment
			27-14	FSS test mode setup
			27-15	FSS connect status
		3 FAX/Image send settings	27-16	FSS alert setting
			27-16	FSS alert setting
			27-16	FSS alert setting
		4 Toner 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
		5 FSS setting	27-15	FSS connect status
			27-16	FSS alert setting
			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	Pre-install data update
			49-7	Pre-install 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
		4 List printing	22-10	Machine system display
			22-6	Data print mode
			23-2	JAM/trouble data print mode
		5 USB storage	56-99	Export all log data
		5 USB storage	56-99	Export all log data
2	Adjustment	1 Positioning	50-10	Manual image position adjustment
			50-22	Auto adjustment of registration & drum position
		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
		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	Pre-install 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
			50-22	Auto adjustment of registration & drum position
			50-22	Auto adjustment of registration & drum position
			50-20	Registration adjustment
		2 Image Quality Automatic Adjustment	46-74	Copy/printer gradation auto adjustment
			61-14	Laser power setting collective input
		3 Image Quality Adjustment	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)
			67-20	Output auto adjustment
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
5	Copy		46-21	Color 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)
			63-7	Copy gradation auto adjustment target setup: service
			63-8	Copy gradation auto adjustment target clear: service
			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
			67-27	Printer gradation auto adjustment target setup: service
			67-28	Printer gradation auto adjustment target clear: service

The first menu		The second menu	SIM number	SIM Title
7	Touch panel		65-1	Touch panel adjustment
8	Function/ Option settings		64-2	Self print (B/W) : service
9	Data display	1 Counter display	22-1	Counter display
			22-9	Paper feed counter display
			22-13	Process cartridge display
		2 System/ Version	22-5	ROM version data display
			22-10	Machine system display
		3 List printing	22-6	Data print mode
			23-2	JAM/trouble data print mode
		4 USB storage	56-99	Export all log data

B. List of classic mode

Sim No.	Content	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
1-1	Used to check the operation of the scanner (reading) unit and the control circuit			
1-2	Used to check the sensors in the scanner (reading) section and the related circuit			
1-5	Used to check the operation of the scanner (reading) unit and the control circuit			
2-1	Used to check the operations of the automatic document feeder and the control circuit			
2-2	Used to check the operations of the sensors and the detectors in the automatic document feeder section and the control circuit			
2-3	Used to check the operations of the loads in the automatic document feeder and the control circuit			
4-2	Used to check the operations of the sensors and detectors in the desk/large capacity tray (LCC) and the control circuit of those			
4-3	Used to check the operations of the loads in the desk and the control circuit of those			
4-5	Used to check the operations of the paper feed desk paper transport clutch (DTRC)			
5-1	Used to check the operation of the display, LCD in the operation paper and the control circuit			
5-2	Used to check the operation of the heater lamp and the control circuit			
5-3	Used to check the operation of the scanner lamp and the control circuit			
5-4	Used to check the operation of the discharge lamp and the control circuit			
6-1	Used to check the operations of the load in the paper transport system (clutches and solenoids) and the control circuit			
6-2	Used to check the operations of each fan motor and its control circuit			
6-3	Used to check the operations of the transport unit and the control circuit			
6-90	Used to reset the machine to the factory setting (The scanner is set to the lock enable position)	6		
7-1	Used to set the operating conditions of aging			
7-6	Used to set the operating intermittent aging cycle			
7-8	Used to display the warm up time			
7-9	Color setting in the color copy test mode (used to check the copy operation and the image quality for each color)			

Sim No.	Content	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
7-12	The document reading number of sheets (for aging operation)			
8-1	Used to check and adjust the operations of the developing voltage in each print mode and the control circuit. *When the middle speed is adjusted the low speed are also adjusted simultaneously			
8-2	Used to check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit. *When the middle speed is adjusted the low speed are also adjusted simultaneously			
8-6	Used to check and adjust the operation of the transport voltage and the control circuit			
10-1	Used to check the operations of the toner supply mechanism (toner supply clutch) and the related circuit			
13	Used to cancel U1 trouble	5	6	
14	Used to cancel H3, H4, H5 troubles	5	6	
16	Used to cancel the self-diag U2 trouble	5	6	
21-1	Used to set the maintenance cycle		4	
22-1	Used to check the print count value in each section and each operation mode	3-1	1-1	9-1
22-2	Used to check the total number of misfeed and troubles			
22-3	Used to check misfeed positions and the misfeed count of each position		1-2	
22-4	Used to check the trouble (self diag) history			
22-5	Used to check the ROM version of each unit	3-2	1-3	9-2
22-6	Used to output the setting/adjustment data, the firmware version and the counter list	3-3	1-4	9-3
22-8	Used to check the number of operations (counter value) of the SPF and the scan (reading) unit		1-1	
22-9	Used to check the number of use (print quantity) of each paper feed section	3-1	1-1	9-1
22-10	Used to check the system configuration (option, internal hardware)	3-2	1-3	9-2
22-11	Used to check the use frequency (send/ receive) of FAX			
22-12	Used to check the SPF misfeed positions and the number os misfeed at each position		1-2	
22-13	Used to check the operating time of the process section (OPC drum, DV unit, toner cartridge) and the fusing unit	3-1	1-1	9-1
22-14	Used to display the use status of the toner cartridge			
22-18	Used to display the user data delete history			
22-19	Used to check the values of the counters related to the scan - image send			
22-40	Used to display the error code list and the contents			
22-41	Used to check JAM code information			
22-42	Used to check the JAM/trouble data			
22-43	JAM data details display			
22-90	Used to output the various set data lists			
23-2	Used to output the trouble history list of paper jam and misfeed	3-3	1-4	9-3
23-80	Used to check the operation of paper feed and paper transport in the paper feed section and the paper transport section. Used to output the list of the operation status of the sensor and detectors in the paper feed section and the paper transport section			
23-81	Used to export paper feed time list			
24-1	Used to clear the jam counter and the trouble counter		3	

Sim No.	Content	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
24-2	Used to clear the number of use (the number of prints) of each paper feed section		3	
24-3	Used to clear the SPF and the scan (reading) unit counter		3	
24-4	Used to clear the maintenance counter the printer counter of the transport unit and the fusing unit		3	
24-5	Used to clear the developer counter and toner remaining counter			
24-35	Used to clear the toner cartridge use status data			
25-1	Used to check the operations of the developing section			
25-2	Used to make the initial setting of toner density when replacing developer		2-2 -5	2
25-4	Used to display the operation data of the toner supply quantity			
25-5	Used to display the toner density correction data			
25-10	Developer/drum serial no setting			
26-2	Used to set the paper size of the large capacity tray (LCC)	2-1		
26-3	Used to set the specifications of the auditor	2-1		
26-6	Used to set the specifications of the destination			
26-7	Used to set the machine ID			
26-10	Used to set the trial mode of the network scanner			
26-18	Used to set Disable/Enable of the toner save mode operation	2-4		
26-30	Used to set the operation mode corresponding to the CE mark			
26-32	Used to set the specifications of the fusing cleaning operation			
26-33	Special function setting	2-1		
26-35	Used to set the display/mode of Sim 22-4 trouble history when a same trouble occurred repeatedly. There are two display modes. Display as one trouble and display as several series of troubles			
26-38	Used to set continue/stop of print when the maintenance life is reached			
26-41	Used to set Enable/Disable of the magnification ratio automatic select function in the center binding mode			
26-49	Used to set the print speed of postcard mode			
26-50	Used to set functions	2-1		
26-52	Used to set whether non-printed paper is counted up or not	2-2		
26-66	Simulation password setting			
26-69	Used to set the operating conditions for toner near end	2-4		
26-73	Enlargement continuous shoot, A3 wide copy mode image loss adjustment			
26-74	Used to set the OSA trial mode			
26-78	Used to set the password of the remote operation panel	2-1		
26-79	Used to set Yes/No of the pop-up display of security			
26-85	Simulation function setting			
27-2	Used to set the sender's registration number and the HOST server telephone number	2-5		
27-4	Used to set the initial call and toner order auto send	2-5		
27-5	Used to set the machine tag No.			
27-6	Used to set of the manual service call			
27-7	Used to set of the enable, alert callout	2-5		

Sim No.	Content	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
27-9	Used to set the paper transport time recording Yes/No threshold value and shading gain adjustment retry number	2-5		
27-10	Used to clear the trouble prediction history information			
27-11	Used to check the serial communication retry number and the scanner gain adjustment retry number history			
27-12	Used to check the high density, halftone process control and the automatic registration adjustment error history			
27-13	Used to check the history of paper transport time between sensors			
27-14	Used to set the FSS function connection test mode	2-5		
27-15	Used to display the FSS connection status	2-5		
27-16	Used to set the FSS alert send	2-5		
30-1	Used to check the operations of the sensors and the detectors in other than the paper feed section and the control circuit			
30-2	Used to check the operations of the sensors and the detectors in the paper feed section and the control circuit			
43-1	Used to set the fusing temperature in each mode			
43-2	Used to set the fusing operation and preheating			
43-20	Used to set the environment correction under low temperature and low humidity (L/L) for the fusing temperature setting (Sim43-2) in each paper mode			
43-21	Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (Sim43-2) in each paper mode			
43-24	Fusing motion setup			
43-35	Fusing nip operation check			
44-1	Used to set each correction operation function in the image forming section			
44-2	Used to adjust the sensitivity of the image density sensor		2-2 -3	2
44-4	Used to set the conditions of the high density process control operation			
44-6	Used to execute the high density process control forcibly	1-5	2-3	
44-9	Used to display the result data of the high density process control operation			
44-12	Used to display the operation data of the high density process control and the image density sensor			
44-14	Used to display the output level of the temperature and humidity sensor			
44-15	Used to set the OPC drum idle rotation			
44-21	Used to set the halftone process control target			5
44-22	Used to display the toner patch density level in the halftone process control operation			
44-24	Used to display the correction target and the correction level in the halftone process control operation			
44-25	Used to set the calculating conditions of the correction value for the halftone process control			
44-26	Used to execute the halftone process control compulsory	1-5	2-3	
44-27	Used to clear the correction data of the halftone process control			
44-28	Used to set the process control execution conditions			

Sim No.	Content	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
44-29	Used to set the operating conditions of the process control during a job			
44-37	Used to set the development bias correction level in the continuous printing operation			
44-43	Used to display the identification information of the developing unit			
44-62	Used to set the process control execution conditions			
46-1	Used to adjust the copy density in the copy mode			
46-2	Used to adjust the copy density in the copy mode			
46-4	Used to adjust the density in the image send mode			
46-5	Used to adjust the density in the image send mode			
46-8	Used to adjust the image send mode color balance RGB			
46-9	Used to adjust the scan image density			3
46-10	Used to adjust the copy color balance and the gamma (for each color copy mode)			
46-16	Used to adjust the monochrome copy density and the gamma			
46-19	Used to set the operating conditions for the density scanning (exposure) of monochrome auto copy mode documents			
46-21	Copy color balance adjustment (manual adjustment)	1-3		5
46-23	Used to set the density correction of copy high density section (high density tone gap supported)			
46-24	Copy color balance adjustment (auto adjustment)			5
46-25	Used to adjust the copy color balance (single color copy mode)			
46-26	Used to reset the single color mode color balance set value to the default			
46-27	Used to adjust the gamma/density of copy images, text and line image edges			
46-30	Used to adjust the resolution in the sub scanning direction in the copy mode			
46-32	Used to adjust the document background density reproducibility in the monochrome auto copy mode			
46-36	Used to adjust the colors in the two color copy mode			
46-37	Used to adjust the reproduction capability of monochrome mode color			
46-38	Used to adjust the black component amount in the color copy mode			
46-39	Used to adjust the sharpness of FAX send images			
46-40	Used to adjust the FAX send image density (Collective adjustment of all the modes)			
46-41	Used to adjust the FAX send image density (Normal)			
46-42	Used to adjust the FAX send image density (Fine)			
46-43	Used to adjust the FAX send image density (Super fine)			
46-44	Used to adjust the FAX send image density (Ultra fine)			
46-45	Used to adjust the FAX send image density (600dpi)			
46-46	Used to adjust the FAX send image density (RGB RIP)			
46-47	Used to set the compression rate of copy and scan images (JPEG)			

Sim No.	Content	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
46-48	Used to set the copy output resolution of copy mode			
46-51	Used to adjust the gamma for the copy mode heavy paper mode and the image process mode			
46-52	Used to set the gamma default for the copy mode heavy paper and the image process mode			1-3
46-54	Used to perform the engine halftone automatic density adjustment (dither)			1-3
46-55	Used to adjust the drop out color in the image send mode (monochrome manual text mode)			
46-58	Used to set the copy mode pseudo resolution (smoothing process)			
46-60	Used to adjust the sharpness in the copy/scan mode			
46-61	Used to adjust the area separation recognition level			
46-62	Used to set the operating condition of the ACS the area separation the background image process and the auto exposure mode			
46-63	Used to adjust the density in the copy low density section			
46-65	Used to set the color correction table			
46-66	Used to adjust the reproduction capability of watermarks in the copy/printer mode			
46-68	Used to adjust the auto resolution judgement (For MX-xx70 series)			
46-74	Copy color balance adjustment (Auto adjustment)/printer color balance adjustment (Auto adjustment)	1-1 -5	2-2 -3	1-2 -3
46-90	Used to set the process operation of high compression PDF images			
46-91	Used to adjust the reproduction capability of black text			
48-1	Used to adjust the scan image magnification ratio (in the main scanning direction and the sub scanning direction)			1-1
48-5	Used to correct the scan image magnification ratio (in the sub scanning direction)			1-1
48-6	Used to adjust the rotation speed of each motor			
49-1	Used to perform the firmware update	4	5	
49-7	Pre-install data update	4	5	
50-1	Copy image position, image loss adjustment			1-1
50-5	Used to adjust the print lead edge image position			1-1
50-6	Used to adjust the copy image position and the image loss (SPF mode)			1-1
50-10	Used to adjust print image position	1-2	2-1	1-1
50-12	Used to perform the scan image off center position adjustment			1-1
50-20	Image registration adjustment (Main scanning direction)			1-2
50-22	Used to adjust the image registration (Main scan direction, sub scan direction)	1-1	2-1	1-1 -2
50-23	Used to set the registration for temperature adjustment			
50-24	Used to display the detail data of SIM 44-2, 50-22			
50-27	Used to perform the image loss adjustment of scanned images in the FAX or image send mode			
51-1	Used to adjust the ON/OFF timing of the secondary transport voltage			

Sim No.	Content	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
51-2	Used to adjust the contact pressure (deflection amount) on paper by the main unit and the SPF resist roller			
53-8	Used to adjust the document lead edge reference and the SPF mode document scan position			3
53-9	SPF dirt detection setting			
53-10	SPF dirt detection execution			
55-1	Used to set the specification of the engine control operations (SOFT SW)			
55-2	Used to set the specifications of the scanner control operation (SOFT SW)			
55-3	Used to set the specifications of the controller operation (SOFT SW)			
55-10	Used to set the special stamp text for Taiwan			
56-1	Used to transport data between HDD - MFP PWB SRAM/EEPROM			
56-2	Used to backup the data in the EEPROM and HDD to the USB memory			
56-3	Used to backup the document filing data to the USB memory			
56-4	Used to backup the JOB log data to the USB memory			
56-5	Used to import the SIM22-6 data to a USB memory in the text format			
56-6	Used to output the JAM/trouble data			
56-7	Used to export system log data to the USB memory			
56-8	Used to perform ICC profile update			
56-15	MFP EEPROM data restore			
56-99	Used to export system log data to the USB memory	3-4	1-5	9-4
60-1	Used to check the memory operations (read/write) of the SCU-MFP PWB			
61-1	Used to check the LSU polygon motor rotation and laser detection			
61-3	Used to set the laser power			
61-4	Used to print the print image skew adjustment pattern			
61-14	Used to set the laser power correction			1-3
62-1	Used to format the HDD			
62-3	Used to check read/write of the STORAGE (all areas)			
62-4	Used to check the format of the STORAGE (logical).			
62-7	Used to print the STORAGE self diagnostics error log			
62-9	Storage data clear			
62-12	Used to set Enable/Disable of auto format in a STORAGE trouble			
62-14	Used to delete the document filing management data			
62-21	Used to display the storage information in the STORAGE.			
63-1	Used to display the shading correction result			
63-2	Used to perform shading	1-5		3
63-3	Used to perform scanner (CCD) color balance and gamma auto adjustment	1-5	2-3	3
63-4	Used to display the scanner test chart patch density			
63-5	Used to perform the scanner (CCD) color balance and gamma default setting		2-3	3
63-7	Used to register the service target of the copy mode auto color balance adjustment			5
63-8	Used to set the default of the service target of the copy mode auto color balance adjustment			5

Sim No.	Content	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
63-11	Used to set the target color balance of the copy mode auto color balance adjustment			5
64-1	Test print (self print) (color mode)			
64-2	Test print (self print) (monochrome mode)			8
64-4	Printer test print (self print)			
64-5	Printer test print (self print) (PCL)	1-4		
64-6	Printer test print (self print) (PS)			
65-1	Used to adjust the touch panel (LCD display section) detection coordinates			7
65-2	Used to display the touch panel (LCD display section) detection coordinates			
65-5	Used to check the operation panel key input			
66-1	Used to display the image send-related soft SW (2-150) on the LCD to allow changing the soft SW while checking with the LCD	2-3		
66-2	Used to enter a country code and set the default value for the country code			
66-3	Used to check read/write of the EEPROM and the SDRAM on the MODEM controller and display the result			
66-4	Used to send the selected signals to the line and the main unit speaker (send level: max)			
66-5	Used to send the selected signal to the line and the main unit speaker (send level: soft SW setting)			
66-6	Used to print the confidential registration check table (BOX No, BOX name, pass code)			
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 (send level: max)			
66-9	Used to send the selected sound message to the line and the speaker (send level: soft SW setting)			
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 (send level: max)			
66-12	Used to send the selected signal at 300bps to the line and the speaker (send level: soft SW setting)			
66-13	Used to register dial number for Sim66-14/15/16 dial test			
66-14	Used to execute the dial pulse (10pps) send test and to adjust the make time			
66-15	Used to execute the dial pulse (20pps) send test and to adjust the make time			
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 (send level: max)			
66-18	Used to send the DTMF signal to the line and the speaker (send level: soft SW setting)			
66-21	Used to print the selected items (system error, protocol monitor)			
66-29	Used to initialize the telephone book data and FAX system error			
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			

Sim No.	Content	Easy Mode		
		Installation	Maintenance	Adjustment and Settings
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 BOX			
66-42	Used to rewrite the program to power control installed in the FAX BOX			
66-43	Used to write the adjustment value into the power control installed in the FAX BOX			
66-61	Used to display the image send-related soft SW (151-250) on the LCD to allow changing the soft SW while checking with the LCD			
66-62	Used to import the FAX receive data into a USB memory in PDF file type			
67-17	Printer reset			
67-20	Output auto adjustment			1-3
67-21	Out put manual adjustment			
67-24	Printer color balance adjustment (Auto adjustment)			6
67-25	Printer color balance adjustment (Manual adjustment)	1-4		6
67-26	Used to set the target color balance of the printer mode auto color balance adjustment			6
67-27	Used to set the service target of the printer mode auto color balance adjustment			6
67-28	Used to set the default of the service target of the printer mode auto color adjustment			6
67-31	Used to clear the printer calibration value			
67-33	Used to change the gamma of the printer screen			
67-34	Used to set the density correction in the printer high density section			
67-36	Used to adjust the density in the low density section			
67-41	Used to set 2 color print			
67-42	Used to set 2 color print color density			
67-43	Used to adjust 2 color mode color balance			
67-46	Used to adjust the image enhancement			
67-52	Used to set the default of the gamma of the printer screen			1-3
67-54	Printer color balance adjustment			1-3

5. Details of simulation

1

1-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the scanner (reading) unit and the control circuit.
Section	Scanner (reading)

Operation/Procedure

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

RSPF

Item/Display	Operation mode	Default value
OC SCAN	300DPI	300DPI (186mm/s)
	400DPI	400DPI (186mm/s)
	600DPI	600DPI (124mm/s)

DSPF

Item/Display	Operation mode	Default value
OC SCAN	300DPI	300DPI (351mm/s)
	400DPI	400DPI (351mm/s)
	600DPI	600DPI (234mm/s)

1-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the sensors in the scanner (reading) section and the related circuits.
Section	Scanner (reading)

Operation/Procedure

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

1-5	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the scanner (reading) unit and the control circuit.
Section	Scanner (reading)

Operation/Procedure

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

RSPF

Item/Display	Operation mode	Default value
OC SCAN	300DPI	300DPI (186mm/s)
	400DPI	400DPI (186mm/s)
	600DPI	600DPI (124mm/s)

DSPF

Item/Display	Operation mode	Default value
OC SCAN	300DPI	300DPI (351mm/s)
	400DPI	400DPI (351mm/s)
	600DPI	600DPI (234mm/s)

2

2-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the automatic document feeder and the control circuit.
Section	SPF

Operation/Procedure

- 1) Select the operation mode and the speed with the touch panel key.
- 2) Press [EXECUTE] key.
The RSPF repeats paper feed, transport, and paper exit operations at the speed corresponding to the scan resolution (operation speed).
When [EXECUTE] key is pressed, the operation is terminated.

RSPF

Item/Display	Operation mode	Default value
SPF SCAN (SINGLE)	300DPI	300DPI(248mm/s)
	400DPI	400DPI(186mm/s)
	600DPI	600DPI(124mm/s)
SPF SCAN (DOUBLE)	300DPI	300DPI(248mm/s)
	400DPI	400DPI(186mm/s)
	600DPI	600DPI(142mm/s)

DSPF

Item/Display	Operation mode	Default value
SPF SCAN (SINGLE)	300DPI	300DPI(468mm/s)
	400DPI	400DPI(351mm/s)
	600DPI	600DPI(234mm/s)
SPF SCAN (DOUBLE)	300DPI	300DPI(368mm/s)
	400DPI	400DPI(276mm/s)
	600DPI	600DPI(184mm/s)

2-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and the detectors in the automatic document feeder section and the control circuits.
Section	Automatic document feeder

Operation/Procedure

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

RSPF

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

DSPF

Display	Content
SSET	SPF installation detection
SOC	SPF UNIT open/close sensor
SCOV	SPF cover open/close sensor
SPED	Document tray empty sensor
SPPD1	Document pass sensor 1
SPPD2	Document pass sensor 2
SPPD3	Document pass sensor 3
SPPD4	Document pass sensor 4
SPOD	Document exit sensor



SWD_LEN and SWD_AD are not ON/OFF display.

2-3

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

Operation/Procedure

- 1) Select a target item of the operation check with the touch panel key.
- 2) Press [EXECUTE] key.
The selected load performs the operation.
When [EXECUTE] key is pressed, the operation is terminated.

RSPF

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

DSPF

Display	Content
SPUM_F	DSPF paper feed motor (normal rotation)
SPUM_R	DSPF paper feed motor (reverse rotation)
SPFM	DSPF transport motor (normal rotation)
SRRC	Registration roller clutch

4

4-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and detectors in the desk and the control circuit of those.
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
DSW_D1	Desk1 door open/close sensor
D1PPD	Paper pass sensor1
D1PQD	Tray1 Paper quantity detect sensor
D1PED	Tray1 Paper empty detect sensor
D1ULD	Tray1 Lift Upper limit detect sensor
D1PRED1	Tray1 detect & paper size sensor1
D1PRED2	Tray1 detect & paper size sensor2
D1PRED3	Tray1 detect & paper size sensor3
D2MDC	Tray2 installation detection connector
DSW_D2	Desk2 door open/close sensor
D2PPD	Paper pass sensor2
D2PQD	Tray2 Paper quantity detect sensor
D2PED	Tray2 Paper empty detect sensor
D2ULD	Tray2 Lift Upper limit detect sensor
D2PRED1	Tray2 detect & paper size sensor1
D2PRED2	Tray2 detect & paper size sensor2
D2PRED3	Tray2 detect & paper size sensor3
D3MDC	Tray3 installation detection connector

Display	Content
DSW_D3	Desk3 door open/close sensor
D3PPD	Paper pass sensor3
D3PQD	Tray3 Paper quantity detect sensor
D3PED	Tray3 Paper empty detect sensor
D3ULD	Tray3 Lift Upper limit detect sensor
D3PRED1	Tray3 detect & paper size sensor1
D3PRED2	Tray3 detect & paper size sensor2
D3PRED3	Tray3 detect & paper size sensor3
D4MDC	Tray4 installation detection connector
DSW_D4	Desk4 door open/close sensor
D4PPD	Paper pass sensor4
D4PQD	Tray4 Paper quantity detect sensor
D4PED	Tray4 Paper empty detect sensor
D4ULD	Tray4 Lift Upper limit detect sensor
D4PRED1	Tray4 detect & paper size sensor1
D4PRED2	Tray4 detect & paper size sensor2
D4PRED3	Tray4 detect & paper size sensor3

4-3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the loads in the desk and the control circuit of those.
Section	Desk

Operation/Procedure

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

Desk

Display	Content
D1PFM	Desk1 paper feed motor
D1LM	Desk1 tray lift-up motor
D1PFC	Desk1 paper feed clutch
D1TRC	Desk1 paper transport clutch
D2PFM	Desk2 paper feed motor
D2LM	Desk2 tray lift-up motor
D2PFC	Desk2 paper feed clutch
D2TRC	Desk2 paper transport clutch
D3PFM	Desk3 paper feed motor
D3LM	Desk3 tray lift-up motor
D3PFC	Desk3 paper feed clutch
D3TRC	Desk3 paper transport clutch
D4PFM	Desk4 paper feed motor
D4LM	Desk4 tray lift-up motor
D4PFC	Desk4 paper feed clutch
D4TRC	Desk4 paper transport clutch

4-5

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the paper feed desk paper transport clutch (DTRC)
Section	Desk

Operation/Procedure

Check the ON operation

Press 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

Press 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
	D4 OFF/ON	D4 TRC operation check

5

5-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the display, LCD in the operation panel, and control circuit.
Section	Operation panel

Operation/Procedure

The LCD is changed as shown below.

The contrast changes every 2sec from the current level to MAX → MIN → the current level. During this period, each LED is lighted.

The LCD display contrast change and the LED lighting status are checked.

5-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the heater lamp and the control circuit.
Section	Fusing

Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Press [EXECUTE] key.

The selected heater lamp operates ON/OFF.

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

Heater lamp operation check method:

Remove the front cabinet upper, the left cabinet, 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	Main heater lamp (main)
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5-3

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

Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Press [EXECUTE] key.

The scanner lamp lights up for 10 sec.

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

RSPF

Display	Content
OC COPY LAMP	OC copy lamp

DSPF

Display	Content
---------	---------

OC COPY LAMP	OC copy lamp
DSPF COPY LAMP	DSPF copy lamp

5-4

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the discharge lamp and the control circuit.
Section	Process

Operation/Procedure

- 1) Select a target of the operation check with the touch panel key.
When [ALL] key is pressed, all the items are selected.
- 2) Press [EXECUTE] key.
The selected discharge lamp is lighted.
When [EXECUTE] key is pressed, the operation is terminated.

DL_K	Discharge lamp K
DL_C	Discharge lamp C
DL_M	Discharge lamp M
DL_Y	Discharge lamp Y

6

6-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the load in the paper transport system (clutches and solenoids) and the control circuits.
Section	Paper transport/Paper exit section

Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Press [EXECUTE] key.

The selected load performs the operation.

When [EXECUTE] key is pressed, 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
POC	Paper delivery clutch
PORC	Paper delivery / switch back clutch
MM	Main motor
1TURC	Primary transfer separation clutch 1
PCSS	Process control shutter solenoid
RRC	PS clutch
ADUC	ADU transport clutch
CPUC	Paper feed tray 1 paper feed clutch
MPFC	Manual paper feed clutch

6-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of each fan motor and its control circuit.
Section	Others

Operation/Procedure

- 1) Select the item to be operation checked with the touch panel key.
- 2) Press [EXECUTE] key.
The selected load performs the operation.
When [EXECUTE] key is pressed, the operation is terminated.
Press [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
PSFM	Power cooling fan motor
FUFM	Fusing cooling fan
LSUFM	LSU cooling fan
OZFM1	Ozone fan 1
CFM12	Cooling fan motor

6-3	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the transport unit and the control circuit.
Section	Process (Transport)

Operation/Procedure

button	Content
TC1	Primary transfer (normal rotation)

- 1) When [EXECUTE] key is pressed, the operation of the mode selected in 1) is performed.

Mode select button	Mode display	Content	NOTE
TC1	BLACK	Monochrome mode position	Black mode position -> Color mode position -> Drum separation position -> (Black mode position) (Repeated in this sequence.)
	COLOR	Color mode position	
	FREE	Non-transport position	

6-4	
Purpose	Operation test/check
Function (Purpose)	Used to check the cleaning operation of the main charger
Section	Process

Operation/Procedure

- 1) Select the items to be checked with the touch panel key
- 2) Press [EXECUTE] key

MC (K) COUNT	Main charger cleaner operation check
MC (C) COUNT	
MC (M) COUNT	
MC (Y) COUNT	
ALL	All color

6-90	
Purpose	Setting
Function (Purpose)	Used to reset the machine to the factory setting. (The scanner is set to the lock enable position)
Section	Scanner

Operation/Procedure

- 1) Press [EXECUTE] key.
The scanner is shifted to the lock enable position and stopped.

7

7-1	
Purpose	Setting
Function (Purpose)	Used to set the operating conditions of aging.
Section	Others

Operation/Procedure

- 1) Select an item to be set with the touch panel key.
- 2) Press [EXECUTE] key.
The machine is rebooted in the aging mode.

The aging operation condition set by this mode is maintained hereafter unless the power is turned off or the setting is changed.

AGING	Aging operation setup
INTERVAL	Intermittent operation setting
MISFEED DISABLE	JAM detection ignoring setting
FUSING DISABLE	Fusing unit ignoring setting
WARMUP DISABLE	Warming up ignoring setting
DV CHECK DISABLE	Developing unit ignoring setting
SHADING DISABLE	Shading correction operation omitting setting
CCD GAIN FREE	CCD gain adjustment omitting setting

7-6	
Purpose	Setting
Function (Purpose)	Used to set the operating intermittent aging cycle.
Section	

Operation/Procedure

- 1) Enter the intermittent aging operation cycle (unit: sec) with 10-key.
- 2) Press [OK] key.

The time entered in procedure 1) is set.

* The interval time that can be set is 1 to 900 (sec).

The aging operation condition set by this mode is maintained hereafter unless the power is turned off or the setting is changed.

7-8	
Purpose	Operation display
Function (Purpose)	Used to display the warm-up time.
Section	

Operation/Procedure

Press [EXECUTE] key.

Counting of the warm-up time is started and the time required for warm-up is displayed

* Interruption of counting by pressing [EXECUTE] key is inhibited.

7-9	
Purpose	Operation test/check
Function (Purpose)	Color setting in the color copy test mode (Used to check the copy operation and the image quality for each color).
Section	

Operation/Procedure

- 1) Select the copy color with the touch panel key.
(Two or more colors can be selected.)
The key of the selected color is highlighted.
- 2) Press [EXECUTE] key.
Copying is performed with the selected color.

When [CLOSE] key is pressed, the display goes into the copy operation menu in the simulation mode.

K	Setup/cancel of black
C	Setup/cancel of cyan
M	Setup/cancel of magenta
Y	Setup/cancel of yellow

7-12	
Purpose	Operation test/check
Function (Purpose)	The document reading number of sheets setting (for aging operation)
Section	SPF

Operation/Procedure

- 1) Set document reading quantity with 10-key.
(Setting range:0 - 255)
- 2) Press [OK] key. The set value is saved.

The aging operation condition set by this mode is maintained hereafter unless the power is turned off or the setting is changed.

8

8-1	
Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operations of the developing voltage in each print mode and the control circuit. * When the middle speed is adjusted, the low speed are also adjusted simultaneously.
Section	Process (Developing)

Operation/Procedure

- 1) Select a speed with [MIDDLE] and [LOW] keys on the touch panel.
- 2) Select a target item to be adjusted with scroll keys.
- 3) Enter the setting value with 10-key. (The value specified on the label of the high voltage PWB must be entered.)
* When the r s key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [OK] key. Press [OK] key. The set value is saved.

Item/Display (Mode)			Content	Adjustment range	Default value
MIDDLE	A	MIDDLE SPEED DVB_K	Developing bias voltage (Middle speed mode)	K	0 - 600
	B	MIDDLE SPEED DVB_C	Developing bias voltage (Middle speed mode)	C	0 - 600
	C	MIDDLE SPEED DVB_M	Developing bias voltage (Middle speed mode)	M	0 - 600

Item/Display (Mode)			Content	Adjustment range	Default value
	D	MIDDLE SPEED DVB_Y	Developing bias voltage (Middle speed mode)	Y	0 - 600
LOW	A	LOW SPEED DVB_K	Developing bias voltage (Low speed mode)	K	0 - 600
	B	LOW SPEED DVB_C	Developing bias voltage (Low speed mode)	C	0 - 600
	C	LOW SPEED DVB_M	Developing bias voltage (Low speed mode)	M	0 - 600
	D	LOW SPEED DVB_Y	Developing bias voltage (Low speed mode)	Y	0 - 600

8-2	
Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit. * When the middle speed is adjusted, the low speed are also adjusted simultaneously.
Section	Process (Charging)

Operation/Procedure

- 1) Select a speed with [MIDDLE] and [LOW] keys on the touch panel.
- 2) Select a target item to be adjusted with scroll keys.
- 3) Enter the adjustment value with 10-key. (The value specified on the label of the high voltage PWB must be entered.)
* When the r s key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [OK] key. The set value is saved.

Item/Display (Mode)			Content	Adjustment range	Default value
MIDDLE	A	MIDDLE SPEED GB_K	Main charger grid voltage (Middle speed mode)	K	150 - 850
	B	MIDDLE SPEED GB_C	Main charger grid voltage (Middle speed mode)	C	150 - 850
	C	MIDDLE SPEED GB_M	Main charger grid voltage (Middle speed mode)	M	150 - 850
	D	MIDDLE SPEED GB_Y	Main charger grid voltage (Middle speed mode)	Y	150 - 850
LOW	A	LOW SPEED GB_K	Main charger grid voltage (Low speed mode)	K	150 - 850
	B	LOW SPEED GB_C	Main charger grid voltage (Low speed mode)	C	150 - 850
	C	LOW SPEED GB_M	Main charger grid voltage (Low speed mode)	M	150 - 850
	D	LOW SPEED GB_Y	Main charger grid voltage (Low speed mode)	Y	150 - 850

Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operation of the transport voltage and the control circuit.
Section	Process (Transport)

Operation/Procedure

- 1) Select a target item to be adjusted with scroll keys.
- 2) Enter the set value with 10-key.
Enter the default value specified on the following list.
- 3) Press [OK] key. The set value is saved.

Item/Display		Content				Setting range	Default value	
A	TC1 LOWCL K	Primary transfer bias adjustment value	Color	K	Low	0 - 255	95	
B	TC1 MIDDLE CL K				Middle	0 - 255	109	
C	TC1 LOW CL CMY			CMY	Low	0 - 255	139	
D	TC1 MIDDLE CL CMY				Middle	0 - 255	186	
E	TC1 LOW BW K		Monochrome	K	Low	0 - 255	95	
F	TC1 MIDDLE BW K				Middle	0 - 255	146	
G	TC2 PLAIN CL SPX	Secondary transfer bias adjustment value	Color	Plain paper	Front surface	0 - 255	103	
H	TC2 PLAIN CL DPX				Back surface	0 - 255	96	
I	TC2 PLAIN BW SPX		Monochrome		Front surface	0 - 255	90	
J	TC2 PLAIN BW DPX				Back surface	0 - 255	83	
K	TC2 PLAIN2 CL SPX		Color	Plain paper 2	Front surface	0 - 255	103	
L	TC2 PLAIN2 CL DPX				Back surface	0 - 255	96	
M	TC2 PLAIN2 BW SPX		Monochrome		Front surface	0 - 255	90	
N	TC2 PLAIN2 BW DPX				Back surface	0 - 255	83	
O	TC2 HEAVY1 CL SPX		Color	Heavy paper 1	Front surface	0 - 255	83	
P	TC2 HEAVY1 CL DPX				Back surface	0 - 255	76	
Q	TC2 HEAVY1 BW SPX		Monochrome		Front surface	0 - 255	76	
R	TC2 HEAVY1 BW DPX				Back surface	0 - 255	69	
S	TC2 HEAVY2 CL SPX		Color	Heavy paper 2	Front surface	0 - 255	83	
T	TC2 HEAVY2 CL DPX				Back surface	0 - 255	76	
U	TC2 HEAVY2 BW SPX		Monochrome		Front surface	0 - 255	76	
V	TC2 HEAVY2 BW DPX				Back surface	0 - 255	69	
W	TC2 OHP CL		Secondary transfer bias adjustment value	Color	OHP		0 - 255	69
X	TC2 OHP BW			Monochrome			0 - 255	69
Y	TC2 ENVELOPE CL			Color	Envelope		0 - 255	69
Z	TC2 ENVELOPE BW			Monochrome			0 - 255	69
AA	TC2 THIN CL	Color		Thin paper		0 - 255	96	
AB	TC2 THIN BW	Monochrome				0 - 255	90	
AC	TC2 GLOSSY PAPER CL	Color		Gloss paper		0 - 255	69	
AD	TC2 GLOSSY PAPER BW	Monochrome				0 - 255	76	
AE	TC2 EMBOSS CL	Color		Embossed paper		0 - 255	83	
AF	TC2 EMBOSS BW	Monochrome				0 - 255	76	
AG	TC2 LABEL CL	Color		Label		0 - 255	83	
AH	TC2 LABEL BW	Monochrome				0 - 255	76	
AI	TC2 INTERVAL LOW	2nd transfer bias adjustment value between paper	Low		0 - 255	0		
AJ	TC2 INTERVAL MIDDLE		Middle		0 - 255	0		
AK	TC2 COUNTER LOW	2nd transfer counter bias adjustment value	Low		0 - 255	119		
AL	TC2 COUNTER MIDDLE		Middle		0 - 255	119		
AM	TC2 CLEANING MINUS LOW	2nd transfer cleaning negative bias adjustment value	Low		0 - 255	59		
AN	TC2 CLEANING MINUS MIDDLE		Middle		0 - 255	59		
AO	TC2 CLEANING PLUS LOW	2nd transfer cleaning positive bias adjustment value	Low		0 - 255	119		
AP	TC2 CLEANING PLUS MIDDLE		Middle		0 - 255	119		

10

10-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the toner supply mechanism (toner supply clutch) and the related circuit.
Section	Process (Developing)

Operation/Procedure

- 1) Select a target of the operation check with the touch panel key.
When [ALL] key is pressed, all the items are selected.
- 2) Press [EXECUTE] key.
The selected load operation is performed for 10 sec.
When [EXECUTE] key is pressed, the operation is terminated.

Important

This simulation must be executed without installing the toner cartridges.

TNC_K	toner supply clutch K
TNC_C	toner supply clutch C
TNC_M	toner supply clutch M
TNC_Y	toner supply clutch Y

13

13--	
Purpose	Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U1" trouble.
Section	

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key to execute cancellation of the trouble.

14

14--	
Purpose	Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag H3, H4, H5 troubles.
Section	

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key to execute cancellation of the trouble.

16

16--	
Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U2" trouble.
Section	SCN MFP PWB / PCU PWB

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key to execute cancellation of the trouble.

21

21-1	
Purpose	Setting
Function (Purpose)	Used to set the maintenance cycle.
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) Press [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	75K
B	MAINTENANCE COUNTER (COLOR)	Maintenance counter (Color)	0: Default 1 - 300: 1K- 300K 999:Free	45K

22

22-1	
Purpose	Adjustment/Setting/Operation data output/Check
Function (Purpose)	Used to check the print count value in each section and each operation mode. (Used to check the maintenance timing.)
Section	

Operation/Procedure

Change the display page with scroll key on the touch panel.

Item	Display	Content	
Total output quantity	TOTAL OUT (BW)	Total output quantity of black and white	All prints including jams
	TOTAL OUT (COL)	Total output quantity of color	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)
	TOTAL (2COL)	Total use quantity of 2-color	Effective paper (including self print, excluding jams)
	TOTAL (3COL)	Total use quantity of 3-color	Effective paper (including self print, excluding jams)
	TOTAL (SGL_COL)	Total use quantity of single color	Effective paper (including self print, excluding jams)

Item	Display	Content	
Copy	COPY (BW)	Black and white copy counter	Billing target (excluding self print)
	COPY (COL)	Full color copy counter	Billing target (excluding self print)
	COPY (2COL)	2-color copy counter	Billing target (excluding self print)
	COPY (SGL_COL)	Single color copy counter	Billing target (excluding self print)
Print	PRINT (BW)	Black and white print counter	Billing target (excluding self print)
	PRINT (COL)	Full color print counter	Billing target (excluding self print)
	PRINT (2COL)	2-color print counter	Billing target (excluding self print)
	PRINT (3COL)	3-color print counter	Billing target (excluding self print)
	PRINT (SGL_COL)	Single color print counter	Billing target (excluding self print)
Document filing	DOC FIL (BW)	Black and white document filing print counter	
	DOC FIL (COL)	Color document filing print counter	
	DOC FIL (2COL)	2-color document filing print counter	
	DOC FIL(SGL COL)	Single color document filing print counter	
Other	OTHER (BW)	Black and white other counter	Self print quantity
	OTHER (COL)	Color other counter	Self print quantity

22-2	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the total number of misfeed and troubles. (When the number of total jam is considerably great, it is judged as necessary for repair.)
Section	

Operation/Procedure

The paper jam, trouble counter value is displayed.

MACHINE JAM	Machine JAM counter
RSPF/DSPF JAM	SPF JAM counter
TROUBLE	Trouble counter

22-3	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check misfeed positions and the misfeed count of each position. * Presumption of the faulty point by this data is possible.
Section	

Operation/Procedure

The paper jam and misfeed history is displayed from the latest one up to 50 items. (The old ones are deleted sequentially.)

22-4	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the trouble (self diag) history.
Section	

Operation/Procedure

The trouble history is displayed from the latest one up to 30 items. (The old ones are deleted sequentially.)

22-5	
Purpose	Others
Function (Purpose)	Used to check the ROM version of each unit (section).
Section	Firmware

Operation/Procedure

The ROM version of the installed unit in each section is displayed. When there is any trouble in the software, use this simulation to check the ROM version, and upgrade the version if necessary.

Display	Content
S/N	Serial No. (The codes for November and December are "X" and "Y" respectively.)
BUNDLE	Bundle version
ICU-MAIN	ICUM (MAIN section)
ICU-BIOS	ICUM (BIOS section)
ASIC-MAIN	ASIC (MAIN section)
ASIC-SUB	ASIC (SUB section)
IMAGE DATA	Image process program
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
E-MANUAL	Users manual data
OCR-DIC	OCR dictionary data
SCU	SCU
DSPF	DSPF
PCU	PCU
DESK	Desk unit program
DESK2	Desk unit program
DESK3	Desk unit program
DESK4	Desk unit program
FAX	FAX
ACU	High compression PDF unit
FONT UNICODE	Unicode font

22-6	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to output the setting/adjustment data (simulation, FAX soft switch, counter), the firmware version, and the counter list.
Section	

Operation/Procedure

* When installing or servicing, this simulation is executed to print the adjustment data and set data for use in the next servicing. (Memory trouble, PWB replacement, etc.)

1) Select the print list mode with 10-key.

Display	Print list mode	Print content
DATA PATTERN	NO.1	Firmware version, counter data, etc.
	NO.2	Data related to the image registration
	NO.3	Data related to the process control

Display	Print list mode	Print content
2SIDED PRINT	1-SIDED	One sided printing (Default)
	2-SIDED	Double sided printing

2) Press [EXECUTE] key to start printing the list selected in step 1).

22-8	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the number of operations (counter value) of the SPF, and the scan (reading) unit.
Section	

Operation/Procedure

The counter values of the SPF, and the scanner related counters are displayed.

Display	Content
SPF	Document feed quantity
SCAN	Number of times of scan
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)

22-9	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the number of use (print quantity) of each paper feed section.
Section	Paper feed, ADU

Operation/Procedure

The counter values related to paper feed are displayed.

Display	Content
TRAY1	Paper feed counter (Paper feed tray 1)
TRAY2	Paper feed counter (Paper feed tray 2)
TRAY3	Paper feed counter (Paper feed tray 3)
TRAY4	Paper feed counter (Paper feed tray 4)
MFT	Manual paper feed counter
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
TRAY5_TTL	Accumulated tray 5 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)
TRAY5_RETRY	Paper feed retry counter (Paper feed tray 5)
MFT_RETRY	Manual paper feed retry counter

22-10	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the system configuration (option, internal hardware).
Section	

Operation/Procedure

The system configuration is displayed.

(The model names of the installed devices and options are displayed.)

Item display name	Display content	Content
MACHINE	MX-C303W	Main unit
	MX-C304W	
SPF	STANDARD	Duplex single pass feeder
DESK	MX-CS14	Paper feed unit
FAX1	STANDARD	Facsimile expansion kit
PS	STANDARD	PS expansion kit
SECURITY	MX-FR61U	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
FONT	MX-PF11	PCL kanji font kit
INTERNET-FAX	MX-FWX1	Internet Fax expansion kit
AIM	MX-AMX1	Application integration module
ACM	STANDARD/ MX-AMX2	Application communication module
EAM	STANDARD/ MX-AMX	External account module
OFFICE DRT	STANDARD/ MX-PU10	Direct print expansion kit
SHC-PDF	STANDARD/ MX-EB11	Enhanced compression kit
OCR	STANDARD/ MX-EB20	OCR expansion kit

22-11	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the use frequency (send/receive) of FAX. (Only when FAX is installed)
Section	FAX

Operation/Procedure

The values of the FAX send counter and the FAX receive counter are displayed.

FAX OUTPUT	FAX print quantity counter
FAX SEND	FAX send counter
FAX RECEIVED	FAX receive counter
SEND IMAGES	FAX send quantity counter
SEND TIME	FAX send time
RECEIVED TIME	FAX receive time

22-12	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the SPF mis-feed positions and the number of mis-feed at each position. (When the number of mis-feed is considerably great, it can be judged as necessary for repair.)
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)	Used to check the operating time of the process section (OPC drum, DV unit, toner cartridge) and the fusing unit
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) (Counter)
MAINTENANCE COL	Maintenance counter (Color)
FUSING UNIT	Fusing unit
FUSING ROLLER	Fusing roller
PRESSURE ROLLER	Fusing pressure roller
SEPARATE PLATE	Fusing separation plate
TC1 UNIT	Primary transfer unit
TC1 BELT	Primary transfer belt
TRANSFER BLADE	Transfer cleaning blade
TC2 UNIT	Secondary transfer unit
TC2 ROLLER	Secondary transfer roller
OZONE FILTER	Ozone filter
DEVE CTRG (K)	DV unit (K)
DEVE CTRG (C)	DV unit (C)
DEVE CTRG (M)	DV unit (M)
DEVE CTRG (Y)	DV unit (Y)
DRUM CTRG (K)	OPC drum unit (K)
DRUM CTRG (C)	OPC drum unit (C)
DRUM CTRG (M)	OPC drum unit (M)
DRUM CTRG (Y)	OPC drum unit (Y)
TONER CTRG (K)	Toner cartridge (K)
TONER CTRG (C)	Toner cartridge (C)
TONER CTRG (M)	Toner cartridge (M)
TONER CTRG (Y)	Toner cartridge (Y)

22-14	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the use status of the toner cartridge.
Section	Process

Operation/Procedure

The status of the toner cartridge is displayed.

Display item	Content	Accumulated No. of installed cartridges (Unit)	Accumulated No. of near near end (Unit)	Accumulated No. of end (Unit)
		INSTALL	NN END	END
TONER(K)	Toner cartridge use counter (K)	0 - 510	0 - 510	0 - 510
TONER(C)	Toner cartridge use counter (C)	0 - 510	0 - 510	0 - 510
TONER(M)	Toner cartridge use counter (M)	0 - 510	0 - 510	0 - 510
TONER(Y)	Toner cartridge use counter (Y)	0 - 510	0 - 510	0 - 510

22-18	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the user data delete history.
Section	

Operation/Procedure

The date and time of the user data delete are displayed.

Display item		Content
Item name	Date	
START	Year/month/day/hour/min.	Delete history (Date and time of operation start)
END	Year/month/day/hour/min.	Delete history (Date and time of operation end)

22-19	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the values of the counters related to the scan - image send.
Section	

Operation/Procedure

Used to display the counter value related to the network scanner
Change the display with scroll key.

Item/Display		Content
Network scanner	NET SCN ORG_B/W	Network scanner document read quantity counter (B/W scan job)
	NET SCN ORG_CL	Network scanner document read quantity counter (Color scan job)
	NET SCN ORG_2CL	Network scanner document read quantity counter (2-Color scan job)
	NET SCN ORG_SGL	Network scanner document read quantity counter (Single-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)
	SCAN TO HDD_2CL	SCAN TO HDD record quantity (2-COLOR)
	SCAN TO HDD_SGL	SCAN TO HDD record quantity (SINGLE color)

22-40	
Purpose	Error contents display
Function (Purpose)	Used to display the error code list and the contents.
Section	

Operation/Procedure

1) Select the main error code.

The sub error code and the contents are displayed.

22-41	
Purpose	JAM code contents display
Function (Purpose)	Used to display the JAM code list and the contents.
Section	

Operation/Procedure

- 1) Select the JAM code.

Display can be changed by [ENGINE] and [SPF] keys.

22-42	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the JAM/trouble data
Section	

Operation/Procedure

- 1) Select the item to be checked with the touch panel key.
- 2) Printable with [COLOR] and [MONO] keys.

Display data	Counter		Content			
	Display	Content	JAM CODE/ TROUBLE CODE	DATE/ TIME	TOTAL COUNT (BW)	TOTAL COUNT (CL)
PAPER JAM	PAPER JAM COUNT	Number of machine JAM troubles	Generated JAM code (Machine)	Generated date/ time (YY/ MM/ DD HH:M M:SS)	Total output quantity of black and white	Total output quantity of color
SPF JAM	SPF JAM COUNT	Number of SPF JAM troubles	Generated JAM code (SPF)			
TROUBLE	TROUBLE COUNT	Number of troubles	Generated trouble code			

22-43	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	JAM data details display
Section	

Operation/Procedure

- 1) Select the item to be checked with the touch panel key.
When [COUNTER] key is pressed, the JAM counter, the paper feed counter, and the paper feed retry counter are displayed.
When [HISTORY1] key is pressed, the JAM history is displayed.
When [HISTORY2] key is pressed, 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

Item	Content	Description
JOB (*1)	Job Mode	Job mode
JN	Job No	First after JOB start or not
OF	Offset	Paper exit: Offset
EP	Exit Position	Paper exit: Exit position
PC	Punch	Paper exit: Punch
SP	Staple	Paper exit: Staple

*1: Refer to the detail display content of HISTORY1.

Display data and contents (HISTORY2)

Item	Content
NO.	History number
DATE/TIME	Occurrence date
TEMPERATURE	External air temperature sensor temperature/AD value
HUMIDITY	External air humidity sensor humidity/AD value
TH_P	Thermistor of the main unit temperature/AD value
TH1_LSU	LSU thermistor temperature/AD value
TH_UM	Fusing upper main thermistor temperature/AD value
TH_UM_AD1	Fusing upper main thermistor (compensation) temperature/AD value
TH_UM_AD2	Fusing upper main thermistor (differential) temperature/AD value
TH_LM	Fusing lower sub thermistor 2 temperature/AD value
TH_US	Fusing upper sub thermistor 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	Inch series fixed form	9x12
01B		9x12R
01C		13x19
01D		13x19R
MLG		Mexican-Legal
MLR		Mexican-Legal-R
ALG		Asian-Legal
ALR		Asian-Legal-R
EXT		Extra (Special)

Display	Content	
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
B4		B4
B4R		B4R
B5		B5
B5R		B5R
B6		B6
B6R		B6R
54		A0x2
55		A0x2 R
A0		A0
A0R		A0R
B0		B0
B0R		B0R
B1		B1
B1R		B1R
B2R		B2
B2R		B2R
K8		K8
K8R		K8R
K16		K16
16R		K16R
K32		K32
32R		K32R
66		SRA3
67		SRA3R
68		SRA4
69		SRA4R
06A		318 x 469 mm
06B		469 x 318 mm
06C		234 x 318 mm
06D		318 x 234 mm
06E		312 x 440 mm
06F		440 x 312 mm
70		220 x 312 mm
71		312 x 220 mm
82	Domestic special (Envelope)	DBL Postcard
83		DBL Postcard-R
84		Postcard
85		Postcard-R
87		119 x 277 mm
89		120 x 235 mm
08B		90 x 205 mm
08D		90 x 185 mm
08F		240 x 332 mm
91		216 x 277 mm
93		197 x 267 mm
95		190 x 240 mm
97		162 x 229 mm
99		142 x 205 mm

Display	Content	
09B	Domestic special (Envelope)	119 x 197 mm
09D		120 x 176 mm
09F		114 x 162 mm
0A1		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	Other	A3 width
0B1		B4 width
0B2		A4 width
0B3		A3 width (Long size)
0B4		B4 width (Long size)
0B5		A4 width (Long size)
0BC		Custom (Large size)
0BD		Custom (Small size)
0BF		Custom
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

Display	Content
THN	Thin paper
US1	User type 1
US2	User type 2
US3	User type 3
US4	User type 4
US5	User type 5
US6	User type 6
US7	User type 7
HV2	Heavy paper 2
PL2	Plain paper 2 (not used)
HV3	Heavy paper 3
HV4	Heavy paper 4
GLS	Glossy paper

Display content detail: Job mode (JOB)

Display	Content
SHD	Shading.
PCL	Process control
SIM	Test mode (Sim)
ICP	Interruption copy
CP	Copy
FXS	FAX send scan
AXS	AXIS
FXP	FAX reception print
PR	Printer
FXC	FAX communication report print
00A	Zaurus print
SLF	Self/Test print
00C	Document counter
RMT	Remote maintenance
00E	SIM 52-01
00F	Tandem (Cordless handset)
CFP	Confidential print
NET	Network scanner
PRF	Proof print

22-90

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to output the various set data lists.
Section	

Operation/Procedure

- 1) Change the display with scroll key.
- 2) Select the print target with the keys on the touch panel.
- 3) Press [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

Category	Item	Content
Home screen	HOME SCREEN LIST	Home screen list
Copy setting	COPY SETTINGS LIST	Copy settings list
Printer setting	PRINTER SETTINGS LIST	Printer settings list
FAX/Image send	METADATA SET LIST	Meta data set list
	SCAN SETTINGS LIST	Scan settings list
	FAX SETTINGS LIST	Fax settings list
	I-FAX SETTINGS LIST	Internet fax settings list
Document filing list	DOCUMENT FILING SETTINGS LIST	Document filing settings list
SHARP OSA setting	SHARP OSA SETTINGS LIST	SHARP OSA settings list
Network setting	NETWORK SETTINGS LIST	Network settings list
Security setting	SECURITY SETTINGS LIST	Security settings list
Energy save setting	ENERGY SAVE LIST	Energy save settings list
Image quality adjustment	IMAGE QUALITY ADJUSTMENT LIST	Image quality adjustment list
Image sending activity report	IMAGE SENDING ACTIVITY REPORT (FAX)	Image sending activity report (FAX)
	IMAGE SENDING ACTIVITY REPORT (SCAN)	Image sending activity report (scanner)
	IMAGE SENDING ACTIVITY REPORT (INTERNET FAX)	Image sending activity report (Internet FAX)
Transfer table list	ANTI JUNK FAX NUMBER LIST	Receive rejection number table
	ALLOW/REJECT MAIL & DOMAIN NAME LIST	Receive rejection/allow address
	INBOUND ROUTING LIST	Transfer table list
	DOCUMENT ADMIN LIST	To administrator transfer list

* When the data list print of system setting is inhibition in DSK model, this setting is invalid.

23

23-2

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to output the trouble history list of paper jam and misfeed. (If the number of troubles of misfeed is considerably great, the judgment is made that repair is required.)
Section	

Operation/Procedure

Press [EXECUTE] key to execute print.

The trouble history of paper jams and misfeed is printed.

23-80

Purpose	Operation test/check
Function (Purpose)	Used to print out list of the paper transport time when the paper JAM is occurred.
Section	Paper feed, Paper transport

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key. When [EXECUTE] key is pressed, 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

Item	Content
PIC TRAY	Paper feed tray
OUT TRAY	Paper exit tray
INF1(ILLEGAL)	Illegal detection
INF2(SENSOR)	Sensor information

23-81

Purpose	Operation test/check
Function (Purpose)	Used to output the trouble history list of SIM23-80.
Section	Paper feed, Paper transport

Operation/Procedure

- 1) Connect the USB flash drive to the main unit.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key to execute cancellation of the trouble.

24

24-1

Purpose	Data clear
Function (Purpose)	Used to clear the jam counter, and the trouble counter. (After completion of maintenance, clear the counters.)
Section	

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
 - 2) Press [EXECUTE] key.
 - 3) Press [YES] key.
- The target counter is cleared.

MACHINE	Machine JAM counter
SPF	SPF JAM counter
TROUBLE	Trouble counter

24-2

Purpose	Data clear
Function (Purpose)	Used to clear the number of use (the number of prints) of each paper feed section.
Section	

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
 - 2) Press [EXECUTE] key.
 - 3) Press [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
TRAY5	Tray 5 paper feed counter
MFT	Manual paper feed counter (Total)
ADU	ADU paper feed counter

24-3

Purpose	Data clear
Function (Purpose)	Used to clear SPF, and the scan (reading) unit counter.
Section	

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
 - 2) Press [EXECUTE] key.
 - 3) Press [YES] key.
- The target counter is cleared.

SPF	SPF document feed counter (No. of discharged sheets)
SCAN	Scan 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

24-4

Purpose	Data clear
Function (Purpose)	Used to clear the maintenance counter, the printer counters of the transport unit and the fusing unit. (After completion of maintenance, clear the counters.)
Section	

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
 - 2) Press [EXECUTE] key.
 - 3) Press [YES] key.
- The target counter is cleared.

Item/Display	Content
Maintenance	MAINTENANCE ALL
	Maintenance counter (Total) (Counter)
	Maintenance counter (Total) (Number of use days)
	MAINTENANCE COL
Fusing	Maintenance counter (Color) (Counter)
	Maintenance counter (Color) (Number of use days)
	FUSING UNT
	Fusing unit (Counter)
	Fusing unit (Number of use days)
	Fusing unit (Accumulated number of rotations)
	FUSING ROLLER
	Fusing roller (Counter)
	Fusing roller (Number of use days)
	Fusing roller (Accumulated number of rotations)
	PRESS ROLLER
	Pressure roller (Counter)
SEPARATION PLATE	Pressure roller (Number of use days)
	Pressure roller (Accumulated number of rotations)
	Separation plate (Counter)
	Separation plate (Number of use days)
	Separation plate (Accumulated number of rotations)

Item/Display		Content
Transfer	TC1 UNIT	Primary transfer unit (Counter)
		Primary transfer unit (Number of use days)
		Primary transfer unit (Accumulated number of rotations)
	TC1 BELT	Primary transfer belt (Counter)
		Primary transfer belt (Number of use days)
		Primary transfer belt (Accumulated number of rotations)
	TRANS BLADE	Transfer blade (Counter)
		Transfer blade (Number of use days)
		Transfer blade (Accumulated number of rotations)
	TC2 UNT	Secondary transfer unit (Counter)
		Secondary transfer unit (Number of use days)
		Secondary transfer unit (Accumulated number of rotations)
	TC2 ROLLER	Secondary transfer roller (Counter)
		Secondary transfer roller (Number of use days)
		Secondary transfer roller (Accumulated number of rotations)
Other	OZON FILTER	Ozone filter (Counter)
		Ozone filter (Number of use days)
Drum	DRUM CTRG K	Drum unit (K) (Counter)
		Drum unit (K) (Number of use days)
		Drum unit (K) (Accumulated number of rotations)
	DRUM CTRG C	Drum unit (C) (Counter)
		Drum unit (C) (Number of use days)
		Drum unit (C) (Accumulated number of rotations)
	DRUM CTRG M	Drum unit (M) (Counter)
		Drum unit (M) (Number of use days)
		Drum cartridge (M) (Accumulated number of rotations)
	DRUM CTRG Y	Drum unit (Y) (Counter)
		Drum unit (Y) (Number of use days)
		Drum unit (Y) (Accumulated number of rotations)
Drum blade	DRUM BLADE K	Drum blade K (Counter)
		Drum blade K (Number of use days)
		Drum blade K (Accumulated number of rotations)
	DRUM BLADE C	Drum blade C (Counter)
		Drum blade C (Number of use days)
		Drum blade C (Accumulated number of rotations)
	DRUM BLADE M	Drum blade M (Counter)
		Drum blade M (Number of use days)
		Drum blade M (Accumulated number of rotations)
	DRUM BLADE Y	Drum blade Y (Counter)
		Drum blade Y (Number of use days)
		Drum blade Y (Accumulated number of rotations)

24-5	
Purpose	Data clear
Function (Purpose)	Used to clear the developer counter and toner remaining counter.

Section

Operation/Procedure

- 1) Select the item to be cleared with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) Press [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)
DV_C	Developer cartridge print counter (C)
	Developer cartridge accumulated traveling distance (cm) (C)
	Number of day that used developer (day) (C)
DV_M	Developer cartridge print counter (M)
	Developer cartridge accumulated traveling distance (cm) (M)
	Number of day that used developer (day) (M)
DV_Y	Developer cartridge print counter (Y)
	Developer cartridge accumulated traveling distance (cm) (Y)
	Number of day that used developer (day) (Y)

24-35	
Purpose	Data clear
Function (Purpose)	Used to clear the toner cartridge use status data.

Section

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The toner cartridge use status data (SIM22-14) are cleared.

25

25-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the developing section.

Section

Process (Developing section)

Operation/Procedure

- 1) Select the process speed with [MIDDLE], [LOW] keys.
- 2) Press [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)
TCS_C	Toner sensor output value (C)
TCS_M	Toner sensor output value (M)
TCS_Y	Toner sensor output value (Y)
TSG_K	Toner density sensor control voltage level (K)
TSG_C	Toner density sensor control voltage level (C)
TSG_M	Toner density sensor control voltage level (M)
TSG_Y	Toner density sensor control voltage level (Y)

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

25-2

Purpose	Setting
Function (Purpose)	Used to make the initial setting of toner density when replacing developer. (Automatic adjustment)
Section	Image process (Photo conductor/Developing/Transfer/Cleaning)

Operation/Procedure

- 1) Select a color to be adjusted with the touch panel.
- 2) Press [EXECUTE] key.

The developing motor rotates for 90 sec, 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.



Execute simulation 10-3 before executing this simulation.

When the above operation is interrupted on the way, the reference toner concentration level is not set. Also when error code of EE-EC, EE-EL or EE-EU is displayed, the reference toner density level is not set normally.

Do not execute this simulation except when new developer is supplied. If it is executed in other cases, undertoner or overtone may occur, causing a trouble.

Division	Item/Display	Display range
Toner density control adjustment value in the low speed process mode	AT DEVE ADJ_L_K	1 - 255
	AT DEVE ADJ_L_C	1 - 255
	AT DEVE ADJ_L_M	1 - 255
	AT DEVE ADJ_L_Y	1 - 255
Toner density control adjustment value in the medium speed process mode	AT DEVE ADJ_M_K	1 - 255
	AT DEVE ADJ_M_C	1 - 255
	AT DEVE ADJ_M_M	1 - 255
	AT DEVE ADJ_M_Y	1 - 255
Toner density sensor control voltage level in the low speed process mode	AT DEVE VO_L_K	1 - 255
	AT DEVE VO_L_C	1 - 255
	AT DEVE VO_L_M	1 - 255
	AT DEVE VO_L_Y	1 - 255
Toner density sensor control voltage level in the medium speed process mode	AT DEVE VO_M_K	1 - 255
	AT DEVE VO_M_C	1 - 255
	AT DEVE VO_M_M	1 - 255
	AT DEVE VO_M_Y	1 - 255

Display during execution of the simulation

Item/Display	Content
TCS_K	Toner sensor output value (K)
TCS_C	Toner sensor output value (C)
TCS_M	Toner sensor output value (M)
TCS_Y	Toner sensor output value (Y)
TSG_K	Toner density sensor control voltage level (K)
TSG_C	Toner density sensor control voltage level (C)
TSG_M	Toner density sensor control voltage level (M)
TSG_Y	Toner density sensor control voltage level (Y)

Error content

Display	Error name	Error content
EE-EL	EL abnormality	The sensor output level is less than 77, or the control voltage exceeds 207.
EE-EU	EU abnormality	The sensor output level exceeds 177, or the control voltage is less than 52.
EE-EC	EC abnormality	The sensor output level is outside of 128 +/- 3.

25-4

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the operation data of the toner supply quantity. (Not used in the market.)
Section	Process
Operation/Procedure	The operation data of the toner supply quantity are displayed.

25-5

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the toner density correction data. (Not used in the market.)
Section	Process
Operation/Procedure	The toner density correction data are displayed.

25-10

Purpose	Setting
Function (Purpose)	Developer/drum serial no. setting (Not used in the market)
Section	
Operation/Procedure	

26

26-2

Purpose	Setting
Function (Purpose)	Used to set the paper size of the tray.
Section	Paper feed
Operation/Procedure	Select a paper size and a weight system to be changed.

Item	Setting value	Content
Tray4 (Tandem)	0	8.5x11
	1	A4
	2	B5
LCC	0	8.5x11
	1	A4
	2	B5
G/LBS Set	0	Gram
	1	LBS

26-3	
Purpose	Setting
Function (Purpose)	Used to set the specifications of the auditor. (Setting must be made according to the auditor use conditions.)
Section	Auditor

Operation/Procedure

Select an item to be set with the touch panel.

Item/Display		Content	Default value
BUILT-IN AUDITOR	P10	Built-in auditor mode (standard mode) operation.	P10
OUTSIDE AUDITOR	NONE	No external connection vendor is used.	NONE
	P VENDOR1	Coin vendor mode (Only the copy mode can be controlled.)	
	P VENDOR3	Vendor mode in which signals for the intercard connected to the PCU are used for communication in parallel I/F.	
	P OTHER	Mode for an external auditor connected to the SCU.	
	VENDOR-EX (*1)	Vendor I/F for EQUITRAC	
	VENDOR-EX (MULTI) (*1)	VENDOR-EX + Multi job cueing Enable mode	
	S VENDOR	Serial vendor mode	
DOC ADJ	ON	Support for the auditor in document filing print	OFF
	OFF	No support for the auditor in document filing print	
PF ADJ	ON	Continuous printing is performed in the duplex print mode. If the remaining money expires during continuous printing, the sheets in the machine are discharged without being printed on the back surfaces.	OFF
	OFF	Continuous printing is not performed in the duplex print mode. (The remaining amount is checked for printing every surface in all the printing process.) If the remaining money expires during printing, the sheet is discharged without printing on the back surface.	
VENDOR MODE (*2)	MODE1	Vendor mode 1	MODE 3
	MODE2	Vendor mode 2	
	MODE3	Vendor mode 3	
COUNTUP TIMING	FUSER_IN	Mode in which the detection timing of the paper lead edge by the sensor after the paper passes the fusing section is used as the money charging timing.	EXIT_O UT
	FUSER_OUT	Mode in which the detection timing of the paper rear edge by the sensor after the paper passes the fusing section is used as the money charging timing.	
	EXIT_OUT	Mode in which the detection timing of the paper rear edge by the paper exit sensor of the right paper exit tray or of the after process unit is used as the money charging timing.	

Item/Display		Content	Default value
IMS CONTROL	ON	Image send mode is limited.	OFF
	OFF	Image send mode is not limited.	
PRINTER CONTROL	MODE1	All the items in OUTSIDE AUDITOR and VENDOR MODE are allowed to select.	MODE 3
	MODE2	OUTSIDE AUDITOR is always set to P VENDOR1 and VENDOR MODE is always set to MODE3.	
	MODE3	OUTSIDE AUDITOR is always set to P OTHER and VENDOR MODE is always set to MODE3.	

(*1) Displayed only when EQUITRAC.

(*2) Refer to the details of the vendor mode.

Details of the vendor mode

	Completion of the specified quantity. (Money remaining)	Insufficient money during copy job		Completion of the specified quantity. (No money remaining)
		BW/Color (no money remaining)	Color (Money remaining)	
		Condition 1	Condition 3	Condition 4
MODE1	Operation 1	Operation 2	Operation 2	Operation 1
MODE2	Operation 1	Operation 1	Operation 2	Operation 1
MODE3	Operation 1	Operation 3	Operation 2	Operation 3

Operation 1:

Standby during setting time of auto clear. Default is 60 seconds, which can be changed in the system setting.

Operation 2:

Auto clear is not made.

Operation 3:

The display is shifted to the initial screen.

Details of the printer control

MODE1	I) Selectable all VENDOR MODE
MODE2	I) Printing of the copy job (not including the reprint in copy mode) and print job (including the reprint in printer mode/self-print in printer mode) are exclusively controlled using READY signal from the vender. II) If READY signal from the vender gets ready during printing, the print job in progress will be completed and other print jobs will be held on the job queue, and then the copy job becomes executable. III) If READY signal becomes NotReady, the copy job in progress will be canceled after the print stops, and then the print of the printer job will resume.
MODE3	I) If READY signal from the auditor becomes NotReady during printing the copy job/print job (including Self-print)/all kinds of reprint jobs, all of copy/print/any kinds of reprint jobs on the job queue will be canceled right after the print of the job in progress stops.

26-6	
Purpose	Setting
Function (Purpose)	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.
Section	

Operation/Procedure

- 1) Select an item to be set with the touch panel.
- 2) Press [EXECUTE] key.
The selected set content is saved.

26-7	
Purpose	Setting
Function (Purpose)	Used to set the machine ID.

Section

Operation/Procedure

- 1) Enter the machine ID with the 10-key.
Max. 30 digits of numerals and alphabetical characters can be inputted.
To select a desired character, press 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) Press [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)	Used to set the trial mode of the network scanner.

Section

Operation/Procedure

- 1) Enter the set value with 10-key.
- 2) Press [OK] key.
The set value in step 1) is saved.

TRIAL MODE (0: YES 1: NO)	0	Trial mode setting
	1	Trial mode cancel (Default)

26-18	
Purpose	Setting
Function (Purpose)	Used to set Disable/Enable of the toner save mode operation. (For the Japan and the UK versions.)

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.
The set value in step 2) is saved.

Item/Display		Content		Default value
A	COPY(0:OFF 1:SV1 2:SV2 :SV3)	0	Copy toner save mode is inhibited	0
		1	Copy toner save mode 1	
		2	Copy toner save mode 2	
		3	Copy toner save mode 3	
B	PRINTER(0: OFF 1:SV1 :SV2 3:SV3)	0	Printer toner save mode is inhibited	0
		1	Printer toner save mode 1	
		2	Printer toner save mode 2	
		3	Printer toner save mode 3	
C	COPY TS DISPLAY(0:Y ES :NO)	0	Copy toner save setting is displayed.	0
		1	Copy toner save setting is not displayed.	
D	PRINTER TS DISPLAY(0:Y ES 1:NO)	0	Printer toner save setting is displayed.	0
		1	Printer toner save setting is not displayed.	

26-30	
Purpose	Setting
Function (Purpose)	Used to set the operation mode corresponding to the CE mark (Europe safety standards). (For slow start to drive the fusing heater lamp)

Section

Operation/Procedure

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

0	Control allowed
1	Control inhibited

- 2) Press [OK] key.

The set value in step 1) is saved.

* Even in Enable state, the control may not be executed due to the power frequency, etc.

<Default value of each destination>

U.S.A	1 (CE not supported)	EUROPE	0 (CE supported)
CANADA	1 (CE not supported)	U.K.	0 (CE supported)
INCH	1 (CE not supported)	AUS.	0 (CE supported)
JAPAN	1 (CE not supported)	AB_A	0 (CE supported)
AB_B	1 (CE not supported)		

26-32	
Purpose	Setting
Function (Purpose)	Used to set the specifications of the fusing cleaning operation.

Section

Fusing

Operation/Procedure

- 1) Enter the set value with 10-key.
Enable/Disable of the user fusing cleaning function is set.
- 2) Press [OK] key.

Item/Display		Content		Setting range	Default value
A	CLEANIN G PRINT SET	User fusing cleaning function is Enable.		0 YES	0
		User fusing cleaning function is Disable.		1 NO	

26-33	
Purpose	Setting
Function (Purpose)	Used to set the special function.
Section	Fusing

Operation/Procedure

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

	Content	Default
Function1	Application Portal	OFF
Function2	Extended LAN	OFF

26-35

Purpose	Setting
Function (Purpose)	Used to set the display mode of SIM 22-4 trouble history when a same trouble occurred repeatedly. There are two display modes: display as one trouble and display as several series of troubles.

Section

Operation/Procedure

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

0	Only once display. (Default)
1	Any time display.

- 2) Press [OK] key.
The set value in step 1) is saved.

26-38

Purpose	Setting
Function (Purpose)	Used to set Continue/Stop of print when the maintenance life is reached.

Section

Operation/Procedure

- 1) Enter the set value with 10-key.
- 2) Press [OK] key.
The set value in step 1) is saved.

Item/Display		Content		Default value
A	MAINTENANCE LIFE OVER (0: CONTINUE 1: STOP)	0	Setting of Print Continue/ Stop when the maintenance life is over (Print Continue)	0
		1	Setting of Print Continue/ Stop when the maintenance life is over (Print Stop)	

26-41

Purpose	Setting
Function (Purpose)	Used to set Enable/Disable of the magnification ratio automatic select function (AMS) in the center binding mode.

Section

Operation/Procedure

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

0	AMS Disable
1	AMS Enable

- 2) Press [OK] key.
The set value in step 1) is saved.

<Default value of each destination>

U.S.A	0 (Disable)	U.K.	1 (Enable)
CANADA	0 (Disable)	AUS.	0 (Disable)
INCH	0 (Disable)	AB_A	0 (Disable)
JAPAN	0 (Disable)	CHINA	0 (Disable)

AB_B	0 (Disable)	KOREA	0 (Disable)
EUROPE	1 (Enable)	BRAZIL	0 (Disable)

26-49

Purpose	Setting
Function (Purpose)	Used to set the print speed of postcards mode.
Section	

Operation/Procedure

Select the copy speed mode with the touch panel. (Default: LOW)

Item/Setting value	Content	Default value
LOW	Postcard copy speed LOW	LOW
HIGH	Postcard copy speed HIGH	

26-50

Purpose	Setting
Function (Purpose)	Used to set functions.
Section	

Operation/Procedure

- 1) Select a target item of setting with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. (The set value is saved.)

Item/Display		Content		Default value
A	BW REVERSE	0	BW reverse copy Disable	Refer to *2
		1	BW reverse copy Enable	
B	COLOR MODE	2-color/Single color copy mode Enable/Disable setting		0 *1
C	COLOR MODE (PRINTER)	0	All colors and monochrome counters are displayed.	2
		1	All are displayed except for the 3-color print counter.	
		2	Monochrome and full color print counters are displayed.	
D	FEED TRAY COLOR	0	Paper feed tray color display ON during paper feed	0
		1	Paper feed tray color display OFF during paper feed	
E	WIRELESS SET	0	Disables wireless LAN setting.	0
		1	Enables wireless LAN setting.	
F	POWER SHUT-OFF SET	0	Automatic power shut off is displayed.	*2
		1	Automatic power shut off is not displayed.	
G	USB DEVICE	0	USB device setting is disabled	0
		1	USB device is enabled	

(*1) Default values for each destination of item B

Set value	Mode		2-Color/Single Counter
	Single	2-color	
0	OFF	OFF	OFF
1	OFF	ON	OFF
2	ON	OFF	OFF
3	ON	ON	OFF
4	OFF	OFF	ON
5	OFF	ON	ON
6	ON	OFF	ON
7	ON	ON	ON

(*2)

<Default value of each destination>

Destination	Item A	Item H
U S A	1	1
CANADA	1	1
INCH	1	1

Destination	Item A	Item H
TAIWAN	1	1
EUROPE	1	0
U K	0	0
AUS	1	1
BRAZIL	1	1

26-52

Purpose	Setting
Function (Purpose)	Used to set whether non-printed paper (insertion paper, cover paper) is counted up or not.
Section	

Operation/Procedure

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

0	Count up
1	No count up

- 2) Press [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)

26-66

Purpose	Setting
Function (Purpose)	Used to set the password for the simulation.
Section	

Operation/Procedure

- 1) The current password for the simulation is displayed.
- 2) Enter the set value with 10-key.
- 3) Press [SET] key.

26-69

Purpose	Setting
Function (Purpose)	Used to set the operating conditions for toner near end.
Section	

Operation/Procedure

- 1) Select an item to be set with scroll keys.
 - 2) Enter the set value with 10-key.
 - 3) Press [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.	

Item/Display			Content	Default value
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	
E TONER END JUDGMENT	1		Toner end judgement by toner remaining counter or toner sensor.	1
	2		Toner end judgement by toner sensor.	
	3		Toner end judgement by toner cartridge.	
F TONER E-MAIL ALERT	0		Low status send of E-mail alert (When the toner preparation message is displayed) (in near near toner end)	0
	1		Low status send of E-mail alert (near toner end)	
G TONER MIB UNIT	0		Receive the remaining toner level MIB in 1% increment.	0
	1		Receive the remaining toner level MIB in 5% increment.	
	2		Receive the remaining toner level MIB in 25% increment.	
H MIB TONER LOW INDICATION	0		Receive toner remaining quantity from toner MIB when toner low detects.	0
	1		Receive toner low from toner MIB when toner low detects.	
I E-RIC LIST PRINT	0		Unattached list print data to status mail of E-RIC	0
	1		Attach list print data to status mail of E-RIC	

(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.

D: Machine operation at toner end

E: Toner end judgement setting when toner near end message is displayed.

Important

When item A is set to "0" and item E is properly set, printing can be made after toner near end. However, improper phenomena such as insufficient density, thin spots, or improper color balance may result depending on the using conditions.

When item E is set to "1" printing is disabled after toner near end. In this case, toner end display is made in the toner near end status, and copy/print/FAX outputs are disabled.

26-73	
Purpose	Setting
Function (Purpose)	Enlargement continuous shoot, A3 wide copy mode image loss (shade delete quantity) adjustment

Section	
Operation/Procedure	
1) Select an item to be set with scroll keys.	
2) Enter the set value with 10-key.	
3) Press [OK] key.	
When the adjustment value is increased, the image loss (shade delete quantity) is increased.	

Item/Display		Content	Setting range	Default value
A	DELETING SHADOW ADJ (M)	Rear frame side image loss quantity (shade delete quantity) adjustment	0 - 50	0 (Adjustment amount: 0.1mm/step)
B	DELETING SHADOW ADJ (S)	Lead edge image loss quantity (shade delete quantity) adjustment	0 - 50	0 (Adjustment amount: 0.1mm/step)

26-74	
Purpose	Setting
Function (Purpose)	Used to set the OSA trial mode.
Section	

Operation/Procedure	
1) Enter the set value with 10-key.	
2) Press [OK] key.	

Item/Display		Content	Default value
A	OSA TRIAL MODE (0: YES 1: NO)	0 Used to set the OSA trial mode.	1
		1 OSA trial mode is canceled.	

26-78	
Purpose	Setting
Function (Purpose)	Used to set the password of the remote operation panel.
Section	

Operation/Procedure	
1) Enter a password with 10-key. (5 - 8 digits)	
The entered password is displayed on the column of "NEW".	
In order to correct the entered password, press the [clear] key to delete the entered value one digit by one digit.	
2) Press [SET] key.	

26-79	
Purpose	Setting
Function (Purpose)	Used to set YES/NO of the pop-up display of user data security.

Section	
Operation/Procedure	
1) Enter the set value with 10-key.	
2) Press [OK] key.	

Item/Display		Content	Setting range		Default value
A	DISP SET	Delete result supported the security pop-up display ON	YES	1	0
		Delete result supported the security display OFF	NO	0	
B	SIM PASSWORD DISP	Simulation start password input display ON	YES	1	0
		Simulation start password input display OFF	NO	0	

26-85	
Purpose	Setting
Function (Purpose)	Used to set the function of the simulation mode.
Section	

Operation/Procedure	
1) Enter the set value with 10-key.	
2) Press [OK] key.	

Item/Display		Content	Setting range	Default
A	SIM MODE PASS SET	Password input display for transferring between each simulation ON	1	0
		Password input display for transferring between each simulation OFF	0	
B	SIM MODE SETTING	Simulation mode EASY	1	0
		Simulation mode CLASSIC	0	

27

27-2	
Purpose	Setting
Function (Purpose)	Used to set the sender's registration number and the HOST server telephone number. (FSS function)
Section	

Operation/Procedure	
1) Select an item to be set with touch panel.	
[USER FAX NO] [SERVA TEL NO]	
2) Enter the set value with 10-key.	
3) Press [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.
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27-4

Purpose

Setting

Function (Purpose)

Used to set the initial call and toner order auto send. (FSS function)

Section**Operation/Procedure**

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

The set value in step 2) is saved.

Item/Display			Content		Setting range		Default value	Remarks
A	FSS MODE	NEB1	Set the FSS MODE	Exclusive for send in NE-B mode	0 - 3	0	1	
		NEB2		Send/Receive in NE-B mode		1		
		NFB1		Exclusive for send in NE-F mode		2		
		NFB2		Send/Receive in NE-F mode		3		
B	RETRY_BUSY		Resend number setting when busy		0 - 15		2	0: No retry
C	TIMER(MINUTE)_BUSY		Resend timer setting (minute) when busy		1 - 15		3	
D	RETRY_ERROR		Resend number setting when error		0 - 15		1	0: No retry
E	TIMER(MINUTE)_ERROR		Resend timer setting (minute) when error		1 - 15		1	
F	FAX RETRY		Resend number setting when FAX initial connection		0 - 15		2	Unit: Number of times
G	TONER ORDER TIMING(K)	EMPTY	Toner order auto send timing setting (K)	Empty	0 - 11	0	6	
		NEAR_END		Near end		1		
		0.05		0.05		2		
		0.1		0.1		3		
		0.15		0.15		4		
		0.2		0.2		5		
		0.25		0.25		6		
		0.3		0.3		7		
		0.35		0.35		8		
		0.4		0.4		9		
		0.45		0.45		10		
		0.5		0.5		11		
H	TONER ORDER TIMING(C)	EMPTY	Toner order auto send timing setting (C)	Empty	0 - 11	0	6	
		NEAR_END		Near end		1		
		0.05		0.05		2		
		0.1		0.1		3		
		0.15		0.15		4		
		0.2		0.2		5		
		0.25		0.25		6		
		0.3		0.3		7		
		0.35		0.35		8		
		0.4		0.4		9		
		0.45		0.45		10		
		0.5		0.5		11		
I	TONER ORDER TIMING(M)	EMPTY	Toner order auto send timing setting (M)	Empty	0 - 11	0	6	
		NEAR_END		Near end		1		
		0.05		0.05		2		
		0.1		0.1		3		
		0.15		0.15		4		
		0.2		0.2		5		
		0.25		0.25		6		
		0.3		0.3		7		
		0.35		0.35		8		
		0.4		0.4		9		
		0.45		0.45		10		
		0.5		0.5		11		
J	TONER ORDER TIMING(Y)	EMPTY	Toner order auto send timing setting (Y)	Empty	0 - 11	0	6	
		NEAR_END		Near end		1		
		0.05		0.05		2		
		0.1		0.1		3		
		0.15		0.15		4		
		0.2		0.2		5		
		0.25		0.25		6		
		0.3		0.3		7		
		0.35		0.35		8		
		0.4		0.4		9		
		0.45		0.45		10		
		0.5		0.5		11		

Item/Display		Content		Setting range	Default value	Remarks
K	TEMP HISTORY CYCLE	Frequency of acquiring the temperature and humidity history		1 - 1440	60	Unit: min.
L	LOG OUTPUT CAPACITY(PCU)	Log output capacity		0 - 50	30	Unit: [KB]
M	TONER ORDER TIMING CONTROL	Toner order timing control	Toner order alert call at fixed toner remaining amount	0 - 1	0	
	LOG OUTPUT CAPACITY(PCU)		Toner order alert call at predicted toner consumption amount		1	
N	TONER ORDER DELIVERY SETTING	Toner order delivery setting		0 - 1	0	
O	TONER ORDER DELIVERY INTERVAL	Toner order delivery interval setting		1 - 15	3	Unit: Date
P	REMOTE FIRMWARE UPDATE (PULL)	Pull type firmware update is inhibited or not allowed.		0 - 1	0	0 : Allowed 1 : Inhibited
Q	FIRMWARE VER. SEARCH INTERVAL	Firmware search interval setting		1 - 90	7	Unit: Date

27-5

Purpose	Setting
Function (Purpose)	Used to set the machine tag No. (This function allows the host computer to check the machine tag No.) (FSS function)
Section	Communication (RIC/MODEM)

Operation/Procedure

- 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, press the [clear] key to delete the entered value one digit by one digit.
- Press [SET] key.

27-6

Purpose	Setting
Function (Purpose)	Used to set of the manual service call. (FSS function)
Section	

Operation/Procedure

- Enter the set value with 10-key.

0	Allow (Default)
1	Inhibit

- Press [OK] key.
The set value in step 1) is saved.

27-7

Purpose	Setting
Function (Purpose)	Used to set of the enable, alert callout. (FSS function)
Section	

Operation/Procedure

- Select an item to be set with scroll keys.
- Enter the set value with 10-key.
- Press [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	0	1
	FSS function disable	1	
B ALERT (0: YES 1: NO)	Alert call enable (*1)	0	0
	Alert call disable	1	
C CONNECTION (0: FAX 1: No Use 2: HTTP)	FAX connection enable	0	2 (HTTP)
	Not used.	1	
	HTTP connection enable	2	

*1 Alert send timing

No alert cause	Initial state / Trouble / Continuous JAM alert
Maintenance	When the maintenance timing is reached.
Service call	When pressing Service call.
Toner send request	When the toner order automatic send setting is reached.
Toner collection request	Revision of the toner installation date (only for a new product)
Alert resend	

27-9

Purpose	Setting
Function (Purpose)	Used to set the paper transport time recording YES/NO threshold value and shading gain adjustment retry number. (FSS function)
Section	

Operation/Procedure

- Select an item to be set with scroll keys.
- Enter the set value with 10-key.
- Press [OK] key.
The set value in step 2) is saved.

Item/Display	Content	Setting range	Default value
A FEED TIME2	Threshold value of paper transport time between sensors (SPF)	0 - 100	50(%)
B GAIN ADJUSTMENT RETRY	Threshold value of the gain adjustment retry number	0 - 20	11 (TIMES)
C JAM ALERT	Continuous JAM alert judgment threshold value (Alert judgment threshold value for continuous JAM's) (Setting of the number of JAM's continuously made at which it is judged as an alert.)	1 - 100	10 (TIMES)
D JAM ALERT PERIOD	Continuous JAM alert interval value	0 - 99	30 (DAYS)

* Items A: 0%, standard passing time between sheets of paper; 100%, time for judgment as a jam between sheets of paper.

* Item B: Because of a trouble in shading operation, the number of retry is actually not registered.

27-10

Purpose	Data clear
Function (Purpose)	Used to clear the trouble prediction history information. (FSS function)

Section**Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The history information of trouble prediction is cleared.

Target history	Serial communication retry history
	High density process control error history
	Halftone process control error history
	Automatic registration adjustment error history
	Scanner gain adjustment retry history
	DSPF gain adjustment retry history
	Paper transport time between sensors

27-11

Purpose	Others
Function (Purpose)	Used to check the serial communication retry number and the scanner gain adjustment retry number history. (FSS function)

Section**Operation/Procedure**

The serial communication retry number history and the scanner gain adjustment retry number history are displayed.

[RSPF]

Display Item			Content
Item name	Occurrence date (Display)	Retry number	
LSU1	99/99/99 99:99:99	8 digits	Serial communication retry number history display
LSU2	99/99/99 99:99:99	8 digits	
DESK1	99/99/99 99:99:99	8 digits	
DESK2	99/99/99 99:99:99	8 digits	
FINISHER1	99/99/99 99:99:99	8 digits	
FINISHER2	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ1	99/99/99 99:99:99	8 digits	Scanner gain adjustment retry history
SCAN GAIN ADJ2	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ3	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ4	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ5	99/99/99 99:99:99	8 digits	Scanner gain adjustment retry history
TONER ORDER(K)	99/99/99 99:99:99	8 digits	Black toner order alert call date/time
TONER ORDER(C)	99/99/99 99:99:99	8 digits	Cyan toner order alert call date/time
TONER ORDER(M)	99/99/99 99:99:99	8 digits	magenta toner order alert call date/time
TONER ORDER(Y)	99/99/99 99:99:99	8 digits	Yellow toner order alert call date/time

[DSPF]

Display Item			Content
Item name	Occurrence date (Display)	Retry number	
LSU1	99/99/99 99:99:99	8 digits	Serial communication retry number history display
LSU2	99/99/99 99:99:99	8 digits	
DESK1	99/99/99 99:99:99	8 digits	
DESK2	99/99/99 99:99:99	8 digits	
FINISHER1	99/99/99 99:99:99	8 digits	
FINISHER2	99/99/99 99:99:99	8 digits	
DSPF1	99/99/99 99:99:99	8 digits	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	
DSPF GAIN ADJ1	99/99/99 99:99:99	8 digits	
DSPF GAIN ADJ2	99/99/99 99:99:99	8 digits	DSPF gain adjustment retry history display * This is only for DSPF supported machines.
DSPF GAIN ADJ3	99/99/99 99:99:99	8 digits	
DSPF GAIN ADJ4	99/99/99 99:99:99	8 digits	
DSPF GAIN ADJ5	99/99/99 99:99:99	8 digits	
TONER ORDER(K)	99/99/99 99:99:99	8 digits	Black toner order alert call date/time
TONER ORDER(C)	99/99/99 99:99:99	8 digits	Cyan toner order alert call date/time
TONER ORDER(M)	99/99/99 99:99:99	8 digits	magenta toner order alert call date/time
TONER ORDER(Y)	99/99/99 99:99:99	8 digits	Yellow toner order alert call date/time

27-12

Purpose	Others
Function (Purpose)	Used to check the high density, halftone process control and the automatic registration adjustment error history. (FSS Function)

Section**Operation/Procedure**

The high density, halftone process control and the automatic registration adjustment error history is displayed.

HV_ERR1	High density process control error history 1
HV_ERR2	High density process control error history 2
HV_ERR3	High density process control error history 3
HV_ERR4	High density process control error history 4
HV_ERR5	High density process control error history 5
H_TONE ERR1	Halftone process control error history 1
H_TONE ERR2	Halftone process control error history 2
H_TONE ERR3	Halftone process control error history 3
H_TONE ERR4	Halftone process control error history 4
H_TONE ERR5	Halftone process control error history 5
AUTO REG ADJ1	Automatic registration adjustment error history 1
AUTO REG ADJ2	Automatic registration adjustment error history 2
AUTO REG ADJ3	Automatic registration adjustment error history 3
AUTO REG ADJ4	Automatic registration adjustment error history 4
AUTO REG ADJ5	Automatic registration adjustment error history 5

27-13

Purpose

Others

Function (Purpose)

Used to check the history of paper transport time between sensors. (FSS function)

Section**Operation/Procedure**

Change the display with scroll key.

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

27-14

Purpose

Setting

Function (Purpose)

Used to set the FSS function connection test mode.

Section**Operation/Procedure**

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

0	Disable (Default)
1	Enable

- 2) Press [OK] key.

The set value in step 1) is saved.

27-15

Purpose

Operation test/check

Function (Purpose)

Used to display the FSS connection status.

Section**Operation/Procedure**

The FSS operating status is displayed.

Item/Display	Content	Setting range		Default value
FSS CONNECTION	Used to display the FSS connection status.	0	Not operated	0
		1	Operated	

27-16

Purpose	Setting
Function (Purpose)	Used to set the FSS alert send.
Section	

Operation/Procedure

- 1) Enter the set value with 10-key.
The value for the FSS alert operation specification is set.
- 2) Press [OK] key.

Item/Display	Content	Setting range	Default value
A MAINTENANCE ALERT (0:YES 1:NO)	Maintenance alert send Enable setting	Alert send Enable 0	0
		Alert send Disable 1	
B TONER ORDER ALERT (0:YES 1:NO)	Toner order alert send Enable setting	Alert send Enable 0	0
		Alert send Disable 1	
C TONER CTRG ALERT (0:YES 1:NO)	Toner cartridge replacement alert send Enable setting	Alert send Enable 0	0
		Alert send Disable 1	
D JAM ALERT (0:YES 1:NO)	Continuous JAM alert send Enable setting	Alert send Enable 0	0
		Alert send Disable 1	
E TROUBLE ALERT (0:YES 1:NO)	Trouble alert send Enable setting	Alert send Enable 0	0
		Alert send Disable 1	

30

30-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and the detectors in other than the paper feed section and the control circuits.
Section	

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.
The sensors and the detectors which are turned ON are highlighted.

Display	Contents
POD1	Detects the paper exit from fusing.
PPD2	Resist detection
TFD2	Paper exit tray full detection
DSW_R	Right door open/close detection
DSW_F	Front cover open/close detection
DHPD_K	OPC drum phase detection (K)
DHPD_CL	OPC drum phase detection (Color)
TNFD	Waste toner full detection
1TUD_CL	Primary transfer belt separation detection (K)
1TUD_K	Primary transfer belt separation detection (Color)

30-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and the detectors in the paper feed section and the control circuits.
Section	

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.
The sensors and the detectors which are turned ON are highlighted.

Display	Contents
MPED	Paper empty sensor (Manual paper feed tray)
CPED1	Tray 1 paper empty sensor

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43-1

Purpose	Setting
Function (Purpose)	Used to set the fusing temperature in each mode.
Section	

Operation/Procedure

- 1) Select the SW-A or the SW-B.
- 2) Select an item to be set with scroll keys.
- 3) Select an item to be set with displayed value.

The set value in step 3) is saved.

Display	Content	Setting range	Default
PLAIN PAP1&WUP&RDY GR	Used to change the fusing temperature setting of plain paper1, WUP, and Ready series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
PLAIN PAP2	Used to change the fusing temperature setting of plain paper2	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
HEAVY PAPER GR	Used to change the fusing temperature setting of heavy paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
THIN PAPER GR	Used to change the fusing temperature setting of thin paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	

Display	Content	Setting range	Default
RECYCLED PAPER GR	Used to change the fusing temperature setting of recycled paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
GLOSSY PAPER GR	Used to change the fusing temperature setting of gloss paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
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	

Display	Content	Setting range	Default
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	
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)

Used to set the fusing temperature and pre-heating.

Section

Operation/Procedure

- 1) Select the SW-A or SW-B.
- 2) Select an item to be set with scroll keys.
- 3) Enter the set value with 10-key.
- 4) Press [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	30 - 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	1 - 255	
D	HI WU FM ON TMP	FM preliminary rotation start TH_UM when warming up at alpha degree C or above	30 - 200	
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 (Timer 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_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	INDIA	—				
Group C	EUROPE	U. K	AUS.	TAIWAN	AB	CHINA	KOREA	BRAZIL

List of Default values and set values for each destination

Item	Default value			
	SW_A		SW_B	
	Group B	Group C	Group B	Group C
A	80	80	80	80
B	30	30	30	30
C	15	15	15	15
D	105	105	105	105
E	15	15	15	15
F	0	0	0	0
G	0	0	0	0
H	100	100	100	100
I	10	10	10	10
J	145	145	145	145
K	155	155	160	160

43-20	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the environmental correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-2) in each paper mode.

Section	
Operation/Procedure	<ol style="list-style-type: none"> 1) Select an item to be set with scroll keys. 2) Enter the set value with 10-key. 3) Press [OK] key. The set value in step 2) is saved. <p>Correction value: -49 - +49, Input value: Actually inputted value (1 - 99)</p>

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	44
B	WARMUP FUMOFF LL	Fusing motor prior rotation completion time under LL environment	1 - 99	50
C	WARMUP END TIME LL	Correction value for warm-up completion time under LL environment	1 - 99	50
D	HI_WU_FM_ON_TMP_LL	Correction value for FM prior rotation start TH_UM in warm-up at alpha degree C or above under LL environment	1 - 99	44
E	HI_WU_END_TIME_LL	Correction value for warm-up completion time in warm-up at alpha degree C or above under LL environment	1 - 99	50
F	LO_WARMUP_TIME_LL	Correction value of the setting value applying time in warm-up of 120degree C or below under LL environment (Time from Ready completion)	1 - 99	50
G	HI_WARMUP_TIME_LL	Correction value of the setting value applying time in warm-up of 120degree C or above under LL environment (Time from Ready completion)	1 - 99	53
H	HI_WARMUP_BORDER_LL	Correction value of the threshold value alpha to apply the setting value in warm-up of alpha degree C or above under LL environment	1 - 99	50
I	JOBEND_FUMON_TIME_LL	Correction value for the after rotation time when completing a job under LL environment	1 - 99	50
J	TH_UM E-STAR LL	Correction value for preheating TH_UM set value under LL environment	1 - 99	53
K	TH_UM PRE-JOB LL	Correction value for the set value of TH_UM when restoring from preheating under LL environment	1 - 99	53

* 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)	Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-2) in each paper mode.

Section

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [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	List of Default values and set values for each destination
B WARMUP FUMOFF HH	Fusing motor previous rotation completion time	1 - 99	
C WARMUP END TIME HH	Warm-up completion time	1 - 99	
D HI_WU_FM_ON_TMP HH	FM preliminary rotation start TH_UM when warming up at alpha degree C or above	1 - 99	
E HI_WU_END_TIME HH	Warm-up completion time when warm-up at alpha degree C or above	1 - 99	List of Default values and set values for each destination
F LO_WARMUP_TIME_HH	Correction value for AF - AH application time (Time from Ready complete)	1 - 99	
G HI_WARMUP_TIME HH	Correction value for AJ - AL application time (Time from Ready complete)	1 - 99	
H HI_WARMUP_BORDER_H H	Threshold value alpha to which AN - AP is applied	1 - 99	
I JOBEND_FU MON_TIME HH	After-rotation time after completion of a job	1 - 99	
J TH_UM E-STAR HH	TH_UM set value when preheating	1 - 99	
K TH_UM PRE-JOB HH	Resetting from preheating TH_UM set value	1 - 99	

* Item WARMUP END TIME HH: 1 Count = 1s Change

Correction value for the other items: 1 count for 1 degrees C change

List of destination groups

Group	Destination							
Group B	U. S. A	CANA DA	INC H	-				
Group C	EURO PE	U. K	AUS .	TAIW AN	AB	CHI NA	KOR IA	BRAZI L

List of Default values and set values for each destination

Item	Default value	
	Group B	Group C
A	50	50
B	50	50
C	50	50
D	50	50

Item	Default value	
	Group B	Group C
E	50	50
F	50	50
G	50	50
H	50	50
I	50	50
J	50	50
K	50	50

43-24

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the temperature adjustment value.
Section	

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [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	CANA DA	INC H	-				
Group C	EURO PE	U. K	AUS .	TAIW AN	AB	CHI NA	KOR IA	BRAZI L

List of Default values and set values for each destination

Item	Default value	
	Group B	Group C
A	10	10
B	10	10
C	10	10
D	2	3

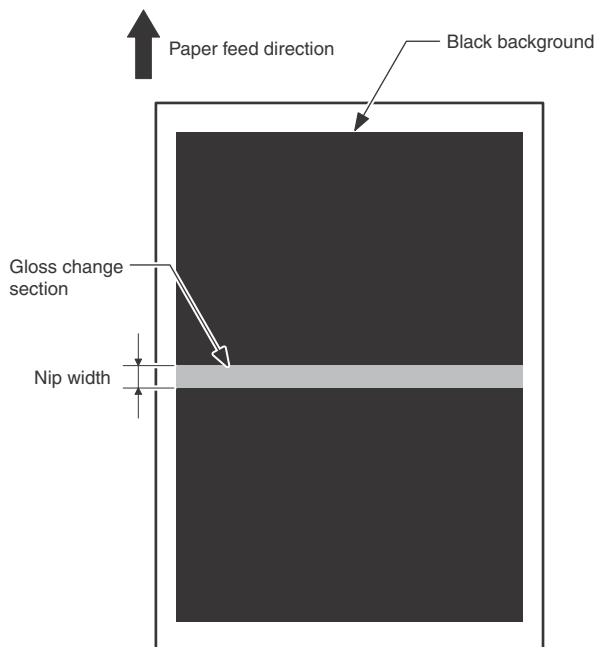
Purpose	Adjustment and setting
Function (Purpose)	Fusing nip operation check
Section	Fusing

Operation/Procedure

- 1) Prepare a black-background image, and put it on the cassette with the black background facing upward.
- 2) Enter the set value with 10-key. (The cassette is specified.)
- 3) Press [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 60sec, 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 - 8mm.

* 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 - 6	2
		CS1		1	
		CS2		2	
		CS3		3	
		CS4		4	
		CS5		5	



Purpose	Setting
Function (Purpose)	Used to set each correction operation function in the image forming (process) section.
Section	Image process (Photo conductor/Developing/Transfer/Cleaning)

Operation/Procedure

- 1) Select an item to be set with the touch panel.
(The selected item is highlighted.)
- 2) Press [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_S UP	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_RECV	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_T BL	Enable/Disable setting of toner supply control by the yield count		Allow
PRT_HT	Enable/Disable setting of printer correction feedback of half-tone process control		Allow
MD VG	Enable/Disable setting of the membrane decrease grid voltage correction		Allow
MD EV	Enable/Disable setting of the membrane decrease environment grid voltage correction		Allow
MD 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		Disable

Item/Display	Content	Setting range	Default value
AR_AUTO	Auto registration adjustment Enable/Disable setting	Black text on white background (Inhibit: 0=NO) white text on black background (Allow: 1=YES)	Allow
AR_ERROR	Auto registration adjustment execution error check Enable/Disable setting		Allow
DM_PHASE	Drum phase fitting Enable/Disable setting		Allow
TC	Enable/Disable setting of transfer output correction		Allow

44-2	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the sensitivity of the image density sensor (registration sensor).
Section	Process

Operation/Procedure

When [EXECUTE] key is pressed, 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.

Classification	Item/Display	Content	Setting range	Default value
PROCON/REGIST	A REGS_F LED	Light emitting quantity adjustment value	1 - 255	21
	B REGS_R LED		1 - 255	21
	C REGS_F	Transfer belt substrate detection level value (F side) when the light emitting quantity adjustment is completed.	0 - 255	0
	D REGS_R	Transfer belt substrate detection level value (R side) when the light emitting quantity adjustment is completed.	0 - 255	0
	E REGS_F DARK	Specular reflection dark voltage (F side)	0 - 255	0
	F REGS_R DARK	Specular reflection dark voltage (R side)	0 - 255	0
PROCON	G PCS_F DARK	Diffuse reflection dark voltage (F side)	0 - 255	0
	S PCS_F CL_ka	Diffuse reflection normalization coefficients	100 - 2000	500
	U BELT_PCS_F MAX	Belt substrate F side monitor max. value (Process control)	0 - 255	0
	V BELT_PCS_F MIN	Belt substrate F side monitor min. value (Process control)	0 - 255	0
	W BELT_PCS_F DIF	Belt substrate F side monitor difference (BELT_PCS_F MAX-MIN)	0 - 255	0
	X BELT_PCS_R MAX	Belt substrate R side monitor max. value (Process control)	0 - 255	0
	Y BELT_PCS_R MIN	Belt substrate R side monitor min. value (Process control)	0 - 255	0
	Z BELT_PCS_R DIF	Belt substrate R side monitor difference (BELT_PCS_F MAX-MIN)	0 - 255	0

Classification	Item/Display	Content	Setting range	Default value
REGIST	A A BELT_REGS_F_MAX	Belt substrate F side monitor max. value (Registration)	0 - 255	0
	A B BELT_REGS_F_MIN	Belt substrate F side monitor min. value (Registration)	0 - 255	0
	A C BELT_REGS_F_DIF	Belt substrate F side monitor difference (BELT_REGS_F MAX-MIN)	0 - 255	0
	A D BELT_REGS_R_MAX	Belt substrate R side monitor max. value (Registration)	0 - 255	0
	A E BELT_REGS_R_MIN	Belt substrate R side monitor min. value (Registration)	0 - 255	0
	A F BELT_REGS_R_DIF	Belt substrate R side monitor difference (BELT_REGS_R MAX-MIN)	0 - 255	0
	A G PATCH_REGS_F_K	Toner patch detection level F (K)	0 - 255	0
	A H PATCH_REGS_F_C	Toner patch detection level F (C)	0 - 255	0
	A I PATCH_REGS_F_M	Toner patch detection level F (M)	0 - 255	0
	A J PATCH_REGS_F_Y	Toner patch detection level F (Y)	0 - 255	0
	A K PATCH_REGS_R_K	Toner patch detection level R (K)	0 - 255	0
	A L PATCH_REGS_R_C	Toner patch detection level R (C)	0 - 255	0
	A M PATCH_REGS_R_M	Toner patch detection level R (M)	0 - 255	0
	A N PATCH_REGS_R_Y	Toner patch detection level R (M)	0 - 255	0

Error name	Error content
F sensor adjustment abnormality	REGS_F LED error The target is not reached by 3 times of adjustments.
R sensor adjustment abnormality	REGS_R LED error The target is not reached by 3 times of adjustments.
F Color sensor adjustment abnormality	PCS_F_CL_ka calculation error The target is not reached
Process control F sensor adjustment abnormality	BELT_PCS_F DIF error The difference between the max. value and the min. value of the substrate detection level is greater than the specified value when the transfer belt rotates 1 turn
Process control R sensor adjustment abnormality	BELT_PCS_R DIF error The difference between the max. value and the min. value of the substrate detection level is greater than the specified value when the transfer belt rotates 1 turn
Registration substrate F scan abnormality	BELT_REGS_F_DIF error The difference between the max. value and the min. value of the substrate detection level is greater than the specified value when the transfer belt rotates 1 turn
Registration substrate R scan abnormality	BELT_REGS_R_DIF error The difference between the max. value and the min. value of the substrate detection level is greater than the specified value when the transfer belt rotates 1 turn

Purpose	Setting
Function (Purpose)	Used to set the conditions of the high density process control operation.
Section	Process

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

Important

Set the items to the default values unless a change is specially required.

Item/Display	Content	Setting range	Default value
A PCS_CL TARGET	Color image sensor adjustment target value	1 - 255	*
B PCS_K TARGET	Black image sensor adjustment target value	1 - 255	
C LED_CL OUTPUT	Color image sensor light emitting start level	1 - 255	
D LED_K OUTPUT	Black image sensor light emitting start level	1 - 255	
E PCS ADJUSTMENT LIMIT	Color image sensor adjustment error allowance level	1 - 255	
F BELT GROUND DIF	Transfer belt one-turn substrate detection level difference allowance level	1 - 255	
G BIAS_CL STANDARD DIF	Developing bias (for color) reference correction voltage	0 - 255	
H BIAS_BK STANDARD DIF	Developing bias (for black) reference correction voltage	0 - 255	
I BIAS PATCH INTERVAL	Toner patch making developing bias interval	1 - 255	
J Y_PAT TARGET ID	Process control target density level (yellow)	1 - 255	
K M_PAT TARGET ID	Process control target density level (magenta)	1 - 255	
L C_PAT TARGET ID	Process control target density level (cyan)	1 - 255	
M K_PAT TARGET ID	Process control target density level (black)	1 - 255	
N HV_BK_GROUND LIMIT	Black image sensor adjustment error allowance level	1 - 255	
O LED ADJUSTMENT ROUGH STEP	LED radiation quantity adjustment rough 1step	1 - 255	
P LED ADJUSTMENT ROUGH STEP UP THRESH	LED radiation quantity adjustment rough 1step execution threshold level upper	1 - 255	
Q LED ADJUSTMENT ROUGH STEP LOW THRESH	LED radiation quantity adjustment rough 1step execution threshold level lower	1 - 255	

List of destination groups

Group	Destination							
Group B	U. S. A	CANA DA	INC H	—				
Group C	EURO PE	U. K	AUS .	TAIW AN	AB	CHI NA	KOR IA	BRAZI L

List of Default values and set values for each destination

Item	Default value	
	Group B	Group C
A	204	204
B	204	204
C	21	21
D	21	21
E	8	8
F	1	1
G	60	60
H	60	60
I	60	60
J	48	48
K	50	50
L	50	50
M	50	48
N	60	60
O	5	5
P	240	240
Q	140	140

Purpose	Adjustment
Function (Purpose)	Used to execute the high density process control forcibly.
Section	Process

Operation/Procedure

Press [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
CL_SEN_ADJ_ERR	Color image sensor adjustment abnormality
BK_SEN_ADJ_ERR	Black image sensor adjustment abnormality
K_HV_ERR	K high density process control abnormality
C_HV_ERR	C high density process control abnormality
M_HV_ERR	M high density process control abnormality
Y_HV_ERR	Y high density process control abnormality
TIMEOUT_ERR	Time out

Details of error display	Content description
CL_SEN_ADJ_ERR	Color image sensor adjustment abnormality
BK_SEN_ADJ_ERR	Black image sensor adjustment abnormality
K_EHT_ERR	K process control abnormality
C_EHT_ERR	C process control abnormality
M_EHT_ERR	M process control abnormality
Y_EHT_ERR	Y process control abnormality
TIMEOUT_ERR	Time out

Purpose	Operation data display
Function (Purpose)	Used to display the result data of the high density process control operation.
Section	Image process (Photo conductor/Developing/Transfer/Cleaning)

Operation/Procedure

Select a target display mode with [CPY/PRN], [OTHER] keys.

44-12	
Purpose	Operation data display
Function (Purpose)	Used to display the operation data of the high density process control and the image density sensor (registration sensor).
Section	Image process (Photo conductor/Developing)
Operation/Procedure	
Select a display mode with [TARGET] [PATCH] keys.	

44-14	
Purpose	Operation data display
Function (Purpose)	Used to display the output level of the temperature and humidity sensor.
Section	Process (OPC drum, development)/Fusing/LSU

Operation/Procedure

The output levels of the fusing temperature sensor, the machine temperature sensor, and the humidity sensor are displayed.

Item/Display	Content
TEMPERATURE	Temperature thermistor (differential) temperature/AD value
HUMIDITY	Humidity sensor (differential) temperature/AD value
TH_P	Thermistor in the main unit temperature/AD value
TH1_LSU	LSU thermistor1 (detection) AD value
TH_UM	Fusing main thermistor differential input level (degrees C) / (AD value)
TH_UM_AD1	Fusing upper main thermistor (compensation) temperature/AD value
TH_UM_AD2	Fusing upper main thermistor (detection) temperature/AD value
TH_US	Fusing sub thermistor (differential) temperature/AD value
TH_LM	Fusing lower main thermistor (differential) temperature/AD value
TH_PS	Thermistor of the temperature/AD value

44-15	
Purpose	Setting
Function (Purpose)	Used to set the OPC drum idle rotation.
Section	Process

Operation/Procedure

- 1) Select an item to be set with the scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [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

44-21	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the halftone process control target.
Section	Process
Operation/Procedure	
Press [EXECUTE] key.	
The halftone process control target is set and the operation data are displayed.	

Display	Content
COMPLETE	Normal complete
ERROR COLOR SENSOR ADJUSTMENT	Color image density sensor sensitivity adjustment error
ERROR BLACK SENSOR ADJUSTMENT	Black image density sensor sensitivity adjustment error
[YMCK]	High density process control error [YMCK]
OTHER	Other errors

44-22	
Purpose	Operation data display
Function (Purpose)	Used to display the toner patch density level in the halftone process control operation.
Section	Process

Operation/Procedure

- 1) The toner patch density level made in the halftone process control operation is displayed.

44-24	
Purpose	Operation data display
Function (Purpose)	Used to display the correction target and the correction level in the halftone process control operation.
Section	Process

Operation/Procedure

- 1) Select the display category with [NEXT] key.
- 2) Select a target adjustment color with [K] [C] [M] [Y] key.

44-25	
Purpose	Setting
Function (Purpose)	Used to set the calculating conditions of the correction value for the halftone process control.
Section	Process

Operation/Procedure

- 1) Select a target adjustment color with [K] [C] [M] [Y] key.
- 2) Select a target adjustment density level with scroll key on the touch panel.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key.

Important

Set the items to the default values unless a change is specially required.

Item/Display		Content	Setting range	Default value	
				K	CMY
A	HIGHLIGHT VALUE LIMIT	Highlight correction amount limit value	0 - 128	20	20
B	MAX VALUE LIMIT	Maximum density value correction limit value	0 - 128	20	20

44-26	
Purpose	Adjustment/Setup
Function (Purpose)	Used to execute the halftone process control compulsory.
Section	Process

Operation/Procedure

Press [EXECUTE] key.

The halftone process control is performed and the operation data are displayed.

COMPLETE	Normal complete
ERROR COLOR SENSOR ADJUSTMENT	Color image density sensor sensitivity adjustment error
ERROR BLACK SENSOR ADJUSTMENT	Black image density sensor sensitivity adjustment error
[YMCK]	High density process control error [YMCK] error
OTHER	Other errors

44-27	
Purpose	Data clear
Function (Purpose)	Used to clear the correction data of the halftone process control.
Section	Process

Operation/Procedure

1) Press [EXECUTE] key.

2) Press [YES] key.

The correction data of the halftone process control are cleared.

44-28	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the process control execution conditions.
Section	Process

Operation/Procedure

1) Select a target item of setting with scroll key on the touch panel.

2) Enter the set value with 10-key.

3) Press [OK] key. (The set value is saved.)

Important

Set the items to the default values unless a change is specially required.

Item/Display			Content	Setting range	Default value
A	INITIAL	YES	When warm-up after clearing the counter of the OPC drum and the developer unit	Enable	0
		NO		Disable	
B	SW ON		When supplying the power (when canceling power shut-off)	Color process control Enable	3
				Process control Disable	
				BK process control Enable	
				Pixel count judgment	

Item/Display			Content	Setting range	Default value
C	TIME		After passing the specified time from leaving READY continuously (Time can be changed by INTERVAL TIME)	Color process control Enable	3
				Process control Disable	
				BK process control Enable	
				Pixel count judgment	
D	HUM_LIMIT		HUM judgment is made when turning ON the power and after passing INTERVAL TIME.	Color process control Enable	0
				Process control Disable	
				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.	Color process control Enable	0
				Process control Disable	
				BK process control Enable	
F	REV1	YES	When the accumulated traveling distance of K or M OPC drum unit reaches the specified level after turning ON the power.	Enable	1
		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	1
		NO		Disable	
H	REV2_CL	YES	When the accumulated traveling distance of M OPC drum unit reaches the specified level from execution of the previous density correction.	Enable	1
		NO		Disable	
I	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
J	DAY	When there is no color job from when the previous color 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	0	1
			1 - 999: 1 - 999 days passing	999	
K	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	1
			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	
			Enable Disable	0 1	
L	LO-COV	Setting of the execution judgment of the process control in continuous printing of low print ratio images	Enable Disable	0 1	1
M	TonerCA-END	Setting of the process control interval reduction when the toner cartridge remaining quantity is 25% or less (If this is set to Enable, item M RATIO is changed.)	Enable Disable	0 1	1
N	AVERAGE-PAGE	Setting of the number of pages of item	1: 10 pages - 5: 50 pages 1 step corresponds to 10 pages.	1 5	3

Item/Display		Content		Setting range	Default value
O	LIMIT PAGE	Setting of the number of connected jobs of the process control and of the limit number of the process control	1: 10 pages - 99: 990 pages 1 step corresponds to 10 pages.	1	10
		A number of reservation jobs are connected. When the number of jobs exceeds the specified number of pages (the set value of this setting), the process control is performed. The process control is performed by AND conditions of item REV condition and the specified number of pages (the set value of this setting).		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%.		1 - 999	5
Q	PIX_RATIO_CL	Magnification ratio setting (%) of the color (CMY) toner count specified value The set value of 100 corresponds to K print of A4 at the print ratio of 5%.		1 - 999	5
R	INTERVAL TIME	Setting of the leaving time when turning ON the power (including the sleep recovery time) (h: hour)		1 - 255	3
S	HUM HOUR	Interval setting of the temperature and humidity monitoring time of "HUM" (unit: 10 minutes)		1 - 24	2
T	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
U	BK_RATIO	Magnification ratio setting (%) of the specified value of the BK OPC drum traveling distance of "REV2_BK"		1 - 999 (Entry of 20 corresponds to 100,000 mm.)	15
V	M_RATIO	Magnification ratio setting (%) of the M OPC drum traveling distance of "REV2_CL"		1 - 999 (Entry of 20 corresponds to 100,000 mm.)	15
W	REV1_RATIO	Magnification ratio setting (%) of the REV1 OPC drum traveling distance of "REV1"		1 - 255	20
X	LOW_RATIO	Implementation interval of the LOW mode process control		1 - 999	15

Item/Display			Content		Setting range	Default value
Y	COLOR BORDER		Judgment criteria whether the BK high density process control is individually performed or not (Setting of the ratio of the M OPC drum rotation distance for the K OPC drum rotation distance (%))	0: The BK process control is executed regardless of the M OPC drum traveling distance.	0 - 999	20
				1 - 999: 1 - 999(%)		
Z	BK ONLY		Setting of the frequency of execution of the 4-color high density process control when only monochrome output is continued (The result of this setting is applied only when the M OPC drum rotation distance is smaller than the set value of COLOR BORDER.)	Frequency of once for 5 times	0	4
				Frequency of once for 1 - 5 times	1 - 5	
				The 4-color high density process control is always performed.	6	
A A	HT_DIF		HT process control execution judgment developing bias variation value		1 - 255	40
A B	RG_ON_SYNC	CL	Setting of execution of the registration adjustment when executing the process control when turning ON the power	When the color process control is executed.	0	0
		ALL		Executed regardless of the process control.	1	
		CL/BK		When the color process control and the K process control are executed.	2	
A C	RG_TEMP_TIMER		Time interval from registration adjustment after turning ON the power to the next execution.		0 - 240 (MINUTE)	0
A D	RG_PERM_TIMER		Setting of inhibit time of execution of the registration adjustment		0 - 15 (HOUR)	0
A E	RG_HOUR_TIMER		Setting of the interval time of execution of the registration adjustment		0 - 15 (Above) + (HOUR)	6
A F	RG_BW_SYNC		Setting of Enable/Disable of the registration adjustment after a monochrome job	Enable	0	1
				Disable	1	
A G	MC_CLEAN_DISP		MC cleaning display setting	Disable	0	0
				Enable	1	
A H	MC_CLEAN_DISP_TIME		MC cleaning display interval setting		1 - 99	15

44-29

Purpose

Setting

Function (Purpose)

Used to set the operating conditions of the process control during a job.

Section

Process

Operation/Procedure

- 1) Select a target item of setting with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

Item/Display	Content	Setting range		Default value
A COPY	During copy job	0	0: No execution	2
B PRINTER	During print job	-	1: HV only	2
C FAX	During FAX print job	2	2: HV -> HT	2
D SELF PRINT	During self print			2
E COPY TO PRT TABLE	Halftone process control copier - printer conversion table select	0 - 1	0: CALCULATED 1: DEFAULT ULT	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

HV: High density process control

HT: Halftone process control

44-31

Purpose

Adjustment/Setup

Function (Purpose)

Used to adjust the OPC drum phase. (Manual adjustment)

Section

Process

Operation/Procedure**Important**

For the OPC drum phase adjustment, do not use this simulation, but use SIM50-22 (auto adjustment).

- 1) Select item A with scroll key.
- 2) Enter the value corresponding to the adjustment pattern with 10-key.
- 3) Press [EXECUTE] key. (The adjustment pattern is printed out.)
- 4) Select an adjustment pattern whose deflection is within two scale lines on the adjustment pattern of C, M, Y colors.
- 5) Select item B with scroll key.
- 6) Enter the adjustment pattern sheet number selected in procedure 4).
- 7) Press [EXECUTE] key.
- 8) The adjusted adjustment pattern is printed.

44-37	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the bias correction level in the continuous printing operation.

Section

Operation/Procedure

- 1) Select a set target color with the touch panel.
- 2) Select a target item with scroll keys.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key. (The set value is saved.)

Note

When the print density is varied in the continuous printing operation, this simulation is used.

Item/Display		Content	Setting range	Default value
A	MUL_M C_ADJ	Multi-grid bias correction enable/disable setting	Enable	0
			Disable	1

44-43	
Purpose	Data display
Function (Purpose)	Used to display the identification information of the developing unit.

Section

Operation/Procedure

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

44-62	
Purpose	Setup/Adjustment
Function (Purpose)	Used to set the process control execution conditions.
Section	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	CL ID DOWN	The densities of C, M, and Y decrease. (The C/M/Y high density process control target values decrease.)
	CL ID UP	The densities of C, M, and Y increase. (The C/M/Y high density process control target values increase.)
	BK ID DOWN	The density of K decreases. (The high density process control target value decreases.)
	BK ID UP	The density of K increases. (The high density process control target value increases.)
	ALL ID DOWN	The densities of C, M, Y and K decrease. (The C/M/Y/K high density process control target values decrease.)
	ALL ID UP	The densities of C, M, Y and K increase. (The C/M/Y/K high density process control target values increase.)
	NORMAL	The standard density of C, M, Y and K. (The C/M/Y/K high density process control target values are the standard values.)
PROCON MODE	HIGH QUALITY2	The execution frequency of the process control is highest. (It is set when the color image quality is given priority.)
	HIGH QUALITY1	The execution frequency of the process control is high. (It is set when the color image quality is given priority.)
	PRINT PERFORMANCE 1	The execution frequency of the process control is low. (It is set when the job speed is given priority.)
	PRINT PERFORMANCE 2	The execution frequency of the process control is lowest. (It is set when the job speed is given priority.)
	NORMAL	The process control is executed in the normal 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) Press [EXECUTE] key.
- 4) Press [YES] key.

46

46-1	
Purpose	Adjustment (Color copy mode)
Function (Purpose)	Used to adjust the copy density in the copy mode.

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
* When the r s key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [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.

Item/Display		Content	Setting range	Default value
A	AUTO	Auto	LOW	1 - 99
			HIGH	50
B	TEXT	Text	LOW	1 - 99
			HIGH	50

Item/Display		Content		Setting range	Default value
C	TEXT/PRINTED PHOTO	Text/Printed Photo	LOW	1 - 99	50
			HIGH	1 - 99	50
D	TEXT/PHOTO	Text/Photograph	LOW	1 - 99	50
			HIGH	1 - 99	50
E	PRINTED PHOTO	Printed Photo	LOW	1 - 99	50
			HIGH	1 - 99	50
F	PHOTOGRAPH	Photograph	LOW	1 - 99	50
			HIGH	1 - 99	50
G	MAP	Map	LOW	1 - 99	50
			HIGH	1 - 99	50
H	LIGHT	Light document	LOW	1 - 99	50
			HIGH	1 - 99	50
I	TEXT(COPY TO COPY)	Text (Copy document)	LOW	1 - 99	50
			HIGH	1 - 99	50
J	TEXT/PRINTED PHOTO (COPY TO COPY)	Text/Printed Photo (Copy document)	LOW	1 - 99	50
			HIGH	1 - 99	50
K	PRINTED PHOTO (COPY TO COPY)	Printed Photo (Copy document)	LOW	1 - 99	50
			HIGH	1 - 99	50
L	TEXT (COLOR TONE ENHANCEMENT)	Text (Color tone enhancement)	LOW	1 - 99	50
			HIGH	1 - 99	50
M	TEXT/PRINTED PHOTO (COLOR TONE ENHANCEMENT)	Text/Printed Photo (Color tone enhancement)	LOW	1 - 99	50
			HIGH	1 - 99	50
N	TEXT/PHOTO (COLOR TONE ENHANCEMENT)	Text/Photograph (Color tone enhancement)	LOW	1 - 99	50
			HIGH	1 - 99	50
O	PRINTED PHOTO (COLOR TONE ENHANCEMENT)	Printed Photo (Color tone enhancement)	LOW	1 - 99	50
			HIGH	1 - 99	50
P	PHOTOGRAPH (COLOR TONE ENHANCEMENT)	Photograph (Color tone enhancement)	LOW	1 - 99	50
			HIGH	1 - 99	50
Q	MAP (COLOR TONE ENHANCEMENT)	Map (Color tone enhancement)	LOW	1 - 99	50
			HIGH	1 - 99	50
R	LIGHT(COLOR TONE ENHANCEMENT)	LIGHT DOCUMENT(Color tone enhancement)	LOW	1 - 99	50
			HIGH	1 - 99	50
S	SINGLE COLOR	Single color	LOW	1 - 99	50
			HIGH	1 - 99	50
T	SINGLE COLOR (COPY TO COPY)	Single color (Copy document)	LOW	1 - 99	50
			HIGH	1 - 99	50
U	TWO COLOR	2-color (red/black) copy	LOW	1 - 99	50
			HIGH	1 - 99	50
V	TWO COLOR (COPY TO COPY)	2-color (red/black) copy (copy document)	LOW	1 - 99	50
			HIGH	1 - 99	50

46-2	
Purpose	Adjustment (Monochrome copy mode)
Function (Purpose)	Used to adjust the copy density in the copy mode.
Section	

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
* When the r s key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [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.

Item/Display		Content		Setting range	Default value
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	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

46-4	
Purpose	Adjustment (Color scanner mode)
Function (Purpose)	Used to adjust the density in the image send mode.
Section	

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
* When the r s key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [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

Mode	Item/Display		Content	Setting range	Default value
HIGH	A	AUTO	Auto	1 - 99	50
	B	TEXT	Text	1 - 99	50
	C	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	E	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Map	1 - 99	50
	H	RIP	—	1 - 99	50

46-5	
Purpose	Adjustment (Monochrome scanner mode)
Function (Purpose)	Used to adjust the density in the image send mode.
Section	

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
 - * When the r s key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

Mode	Item/Display		Content	Setting range	Default value
LOW	A	AUTO	Auto	1 - 99	50
	B	TEXT	Text	1 - 99	50
	C	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	E	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Map	1 - 99	50
	H	RIP	—	1 - 99	50
HIGH	A	AUTO	Auto	1 - 99	50
	B	TEXT	Text	1 - 99	50
	C	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	E	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Map	1 - 99	50
	H	RIP	—	1 - 99	50

46-8	
Purpose	Adjustment (Color scanner mode)
Function (Purpose)	Used to adjust the image send mode color balance RGB.
Section	

Operation/Procedure

- 1) Select an adjustment target with [R] [G] [B] keys on the touch panel.
- 2) Select an adjustment target item on the touch panel.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key. (The set value is saved.)

The color balance can be adjusted separately for the low density area and the high density area.

When the adjustment value is increased, the image density of the target color is increased, and vice versa.

Item/Display		Content	Default value
A	LOW DENSITY POINT	Low density correction amount	50
B	HIGH DENSITY POINT	High density correction amount	50

46-9	
Purpose	Adjustment (DSPF/RSPF mode)
Function (Purpose)	Used to adjust the scan image density.
Section	

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
 - * When the r s key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 3) Press [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

Item/Display			Content	Setting range	Default value
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)	Used to adjust the copy color balance and the gamma (for each color copy mode).

Section

Operation/Procedure

- 1) Select an adjustment target mode with the touch panel key.
- 2) Select an adjustment target color with [K][C][M][Y] keys on the touch panel.
- 3) Select an adjustment target item on the touch panel.
- 4) Enter the set value with 10-key.
 - * When the r s key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 5) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

TEXT	Text
TEXT/PRT PHOTO	Text/Printed Photo
PRINTED PHOTO	Printed Photo
PHOTO + TEXT/PHOTO	Photograph + Text/Printed Photo
MAP	Map
LIGHT	Light document
COPY ORG	Copy document

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

46-16	
Purpose	Adjustment
Function (Purpose)	Used to adjust the monochrome copy density and the gamma

Section

Operation/Procedure

- 1) Select an adjustment target item on the touch panel.
 - 2) Enter the set value with 10-key.
 - * When the r s key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
 - 3) Press [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
F	POINT6	Point 6	1 - 999	500
G	POINT7	Point 7	1 - 999	500
H	POINT8	Point 8	1 - 999	500
I	POINT9	Point 9	1 - 999	500
J	POINT10	Point 10	1 - 999	500
K	POINT11	Point 11	1 - 999	500
L	POINT12	Point 12	1 - 999	500
M	POINT13	Point 13	1 - 999	500
N	POINT14	Point 14	1 - 999	500
O	POINT15	Point 15	1 - 999	500
P	POINT16	Point 16	1 - 999	500
Q	POINT17	Point 17	1 - 999	500

46-19	
Purpose	Setting
Function (Purpose)	Used to set the operating conditions for the density scanning (exposure) of monochrome auto copy mode documents.

Section

Operation/Procedure

Select an item to be set with touch panel.

When an item is selected, it is highlighted and the setting change is saved.

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

46-21	
Purpose	Adjustment
Function (Purpose)	Copy color balance adjustment (Manual adjustment)

Section

Operation/Procedure

- 1) Select an adjustment target color with [K][C][M][Y] keys on the touch panel.
- 2) Select an adjustment target item on the touch panel.
- 3) Enter the set value with 10-key.
 - * When the \uparrow key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [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 pressed, the check pattern is printed in the color balance and density corresponding to the adjustment value.

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

46-23	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the density correction of copy high density section (High density tone gap supported).

Section

Operation/Procedure

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

0	Enable
1	Inhibit

- 2) Press [OK] key. (The set value is saved.)

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

Item/Display	Content	Setting range	Default value
C CYAN MAX TARGET	Scanner target value for CYAN maximum density correction	0 - 999	500
D MAGENTA MAX TARGET	Scanner target value for MAGENTA maximum density correction	0 - 999	500
E YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction	0 - 999	500
F BLACK MAX TARGET	Scanner target value for BLACK maximum density correction	0 - 999	500
G RATIO LOW	Mix ratio of high density correction (LOW) (1/100)	0 - 100	0
H RATIO HIGH	Mix ratio of high density correction (HIGH) (1/100)	0 - 100	0
I DITHER THRESHOLD	Dither threshold (LOW)	0 - 255	255
J SLOPE THRESHOLD	Slope threshold (HIGH) (1/100)	100 - 500	500

- * When tone gap is generated in the high density area, set items A and B 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 items A and B to "1".

The tone gap may occur in high density part.

Important

Do not change the values of items C, D, E, and F. If these values are changed, the density in the high density area is changed.

46-24	
Purpose	Adjustment
Function (Purpose)	Copy color balance adjustment (Auto adjustment)

Section

Operation/Procedure

- 1) Press [EXECUTE] key.
The color patch image (adjustment pattern) is printed out.
- 2) Place the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.
- 3) Press [EXECUTE] key.
The copy color balance automatic adjustment is performed, then the adjustment result pattern is printed.
- 4) Press [OK] key.
The halftone correction target registration is processed.

46-25	
Purpose	Adjustment
Function (Purpose)	Used to adjust the copy color balance. (Single color copy mode)

Section

Operation/Procedure

- 1) Select an adjustment target color with [C][M][Y] keys on the touch panel.
- 2) Select an adjustment target item with scroll key on the touch panel.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density of the target color is increased, and vice versa.

Item/Display		Setting range	Default value		
			C	M	Y
A	RED	0 - 255	0	255	200
B	GREEN	0 - 255	255	0	255
C	BLUE	0 - 255	255	150	0
D	CYAN	0 - 255	255	0	0
E	MAGENTA	0 - 255	0	255	0
F	YELLOW	0 - 255	0	0	255
G	ORANGE	0 - 255	0	150	255
H	NAVY	0 - 255	255	200	0
I	LIGHT GREEN	0 - 255	150	0	150
J	LIGHT BLUE	0 - 255	150	20	0
K	AQUA MARINE	0 - 255	170	0	50
L	PURPLE	0 - 255	128	255	0
M	PINK	0 - 255	0	150	20
N	YELLOW GREEN	0 - 255	128	0	255
O	BEIGE	0 - 255	0	50	170

46-26	
Purpose	Adjustment
Function (Purpose)	Used to reset the single color mode color balance set value to the default.

Section

Operation/Procedure

- 1) Press [EXECUTE] key.
 - 2) Press [YES] key.
- The color balance value of the single color mode is reset to the default value.

46-27	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the gamma/density of color copy images, texts, and line image edges.

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) Press [OK] key. (The set value is saved.)

Item/Display (Copy mode)		Content	Setting range	Default value
A	BLACK TEXT (SLOPE)	Black character edge gamma skew adjustment	1 - 99	50
B	BLACK TEXT (INTERCEPT)	Black character edge density adjustment	1 - 99	50
C	COLOR TEXT (SLOPE)	Color character edge gamma skew adjustment	1 - 99	50
D	COLOR TEXT (INTERCEPT)	Color character edge density adjustment	1 - 99	50

Item/Display (Copy mode)		Content	Setting range	Default value
E	ED TEXT (SLOPE)	Text/Map mode gamma skew adjustment (Text/Map mode)	1 - 99	50
F	ED TEXT (INTERCEPT)	Text/Map mode density adjustment (Text/Map mode)	1 - 99	50

When the adjustment values of items A and C are changed, the gamma of character edge and line edge image density section is changed.

When the adjustment value is increased, the image contrast of character edge and line edge is increased. When the adjustment value is decreased, the image contrast of text and line edge is decreased.

When the adjustment values of items B and D are increased, the image density of character edge and line edge section is decreased, and vice versa.

46-30	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the resolution in the sub scanning direction in the copy mode.

Section

Operation/Procedure

- 1) Refer to the following table, and enter the set value corresponding to the resolution mode with 10-key.
- 2) Press [OK] key. (The set value is saved.)

Item/Display		Content	Setting range	Default value
A	SCAN RESOLUTION SW	Scan resolution selection (COPY: COLOR)	Mode1	0
			Mode2	1

DSPF/RSPF

Mode	Scan mode	Resolution in the sub scanning direction (DPI)		
		25-99% [Magnification ratio]	100-200% [Magnification ratio]	201-400% [Magnification ratio]
Mode1	OC	600	600	600
	DSPF/RSPF	600	600	-
Mode2	OC	400	600	600
	DSPF/RSPF	400	600	-

46-32	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the document background density reproducibility in the monochrome auto copy mode.

Section

Operation/Procedure

- 1) Select a target item of setting with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [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

Item / Display		Content	Setting range	Default value
C	SCAN:OC	Scanner mode (for OC)	1 - 250	196
D	SCAN:RSPF	Scanner mode (for RSPF)	1 - 250	196
E	FAX:OC	FAX mode (for OC)	1 - 250	196
F	FAX:RSPF	FAX mode (for RSPF)	1 - 250	196

DSPF

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

46-36

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the colors in the 2-color copy mode.

Section

Operation/Procedure

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

By changing the density level of each color, the color adjustment in the 2-color copy mode can be performed.

Item/Display			Content	Setting range	Default value			Default value
					C	M	Y	
OUTC OLOR (Outp ut color coeffic ient)	A	RED	R output color	0 - 255	0	255	200	-
	B	GREEN	G output color	0 - 255	255	0	255	-
	C	BLUE	B output color	0 - 255	255	150	0	-
	D	CYAN	C output color	0 - 255	255	0	0	-
	E	MAGENT A	M output color	0 - 255	0	255	0	-
	F	YELLOW	Y output color	0 - 255	0	0	255	-
	G	ORANG E	O output color	0 - 255	0	150	255	-
	H	NAVY	N output color	0 - 255	255	200	0	-

Item/Display			Content	Setting range	Default value			Default value
					C	M	Y	
OUTC OLO R (Outp ut color coefficient)	I	LIGHT GREEN	LG output color	0 - 255	150	0	150	-
	J	LIGHT BLUE	LB output color	0 - 255	150	20	0	-
	K	AQUA MARINE	AM output color	0 - 255	170	0	50	-
	L	PURPLE	PU output color	0 - 255	128	255	0	-
	M	PINK	P output color	0 - 255	0	150	20	-
	N	YELLOW GREEN	YG output color	0 - 255	128	0	255	-
	O	BEIGE	BE output color	0 - 255	0	50	170	-
CHR OMA (Chroma adjustment)	A	RED / BLACK	Red extraction mode (The red recognition area is adjusted.)	0 - 6	-	-	-	3
	B	KS:CHROMATIC	Chromatic color extraction mode (The chromatic color recognition area is adjusted.)	0 - 6	-	-	-	3

46-37

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the reproduction capability of monochrome mode color.

Section

Operation/Procedure

- 1) Select a target item with scroll keys on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key.
- 4) Press [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.

RSPF

Item/Display		Content	Setting range	Default value
A	R-Ratio	Gray making setting (R)	0 - 1000	121
B	G-Ratio	Gray making setting (G)	0 - 1000	767
C	R-Ratio Fluorescence	Gray making setting (R) Fluorescent pen	0 - 1000	230
D	G-Ratio Fluorescence	Gray making setting (G) Fluorescent pen	0 - 1000	330
E	R-Ratio RIP	Print gray making setting (R)	0 - 1000	299
F	G-Ratio RIP	Print gray making setting (G)	0 - 1000	587

B-Ratio	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)

DSPF

Item/Display		Content	Setting range	Default value
A	R-Ratio	Gray making setting (R)	0 - 1000	121
B	G-Ratio	Gray making setting (G)	0 - 1000	767
C	R-Ratio Fluorescence	Gray making setting (R) Fluorescent pen	0 - 1000	230
D	G-Ratio Fluorescence	Gray making setting (G) Fluorescent pen	0 - 1000	330
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	215
H	G-Ratio Fluorescence DSPF	Gray making setting (G) Fluorescent pen DSPF	0 - 1000	220
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	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 Default DSPF	Gray making setting (B) 1000 - R-Ratio DSPF - G-Ratio 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)

* B-Ratio: The value of gray making setting (B) is obtained from the formula below.

$$1000 - R - \text{Ratio} - G - \text{Ratio}$$

When [DEFAULT] key is pressed, the values are set to the initial values (Default).

When the adjustment value of the adjustment item A is increased, the copy density of red images is decreased. When the adjustment value is decreased, the density is increased.

When the adjustment value of the adjustment item B is increased, the copy density of yellow images is increased. When the adjustment value is decreased, the density is also decreased.

46-38	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the black component amount in the color copy mode.
Section	

Operation/Procedure

- 1) Select the AUTO MODE or the MANUAL MODE with the mode key.
- 2) Select the mode to be adjusted with the scroll key.
- 3) Press the black component amount select key.

This adjusts black component amount in the color copy mode. (except character and line image)

As a result of this adjustment, the gradation of the shade part changes.

Item/Display (Copy mode)		Select button	Content	Default value
MANUAL	TEXT PRT	(-) LUT2	Text print (Manual)	NORMAL
		(-) LUT1		
		NORMAL		
		(+) LUT1		
	TEXT	(-) LUT2	Text (Manual)	NORMAL
		(-) LUT1		
		NORMAL		
		(+) LUT1		
	PRINTED PHOTO	(-) LUT2	Printed photo (Manual)	NORMAL
		(-) LUT1		
		NORMAL		
		(+) LUT1		
	PHOTO	(-) LUT2	Photograph/Text photograph (Manual)	NORMAL
		(-) LUT1		
		NORMAL		
		(+) LUT1		
	TEXT PHOTO	(-) LUT2	Text/Photograph (Manual)	NORMAL
		(-) LUT1		
		NORMAL		
		(+) LUT1		
	MAP	(-) LUT2	Map (Manual)	NORMAL
		(-) LUT1		
		NORMAL		
		(+) LUT1		
	CPY TO CPY/TXT PRT	(-) LUT2	Copy document/ Text printed (Manual)	NORMAL
		(-) LUT1		
		NORMAL		
		(+) LUT1		
	CPY TO CPY/TEXT	(-) LUT2	Copy document/ Text (Manual)	NORMAL
		(-) LUT1		
		NORMAL		
		(+) LUT1		
	CPY TO CPY/ PHOTO	(-) LUT2	Copy document/ Printed photo (Manual)	NORMAL
		(-) LUT1		
		NORMAL		
		(+) LUT1		
	LIGHT ORIGINAL	(-) LUT2	Pencil	NORMAL
		(-) LUT1		
		NORMAL		
		(+) LUT1		
AUTO	AUTO	(-) LUT2	Auto mode judgment	NORMAL
		(-) LUT1		
		NORMAL		
		(+) LUT1		

46-39	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the sharpness of FAX send images.
Section	

Operation/Procedure

- 1) Select a target item with scroll keys on the touch panel.
 - 2) Enter the set value with 10-key.
 - 3) Press [OK] key. (The set value is saved.)
- Input small numeric value to obtain crispy image. Input large numeric value to decrease moire.

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

46-40	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Collective adjustment of all the modes)
Section	

Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key
When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content	Setting range	Default value
A	EXPOSURE LEVEL(ALL)	Used to adjust the FAX send image density. (Collective adjustment of all the modes)	1 - 99	50

46-41	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Normal)
Section	

Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key
When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display		Content		Setting range	Default value	
A	AUTO	Auto		1 - 99	50	
B	EXPOSURE1	Exposure 1		1 - 99	50	
C	EXPOSURE2	Exposure 2		1 - 99	50	
D	EXPOSURE3	Exposure 3		1 - 99	50	
E	EXPOSURE4	Exposure 4		1 - 99	50	
F	EXPOSURE5	Exposure 5		1 - 99	50	
G	EXECUTE MODE	AUTO	Print mode	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) Press [EXECUTE] key, or [OK] key
When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display			Content		Setting range	Default value
A	AUTO		Fine/Automatic		1 - 99	50
B	EXPOSURE1		Fine/Exposure 1		1 - 99	50
C	EXPOSURE2		Fine/Exposure 2		1 - 99	50
D	EXPOSURE3		Fine/Exposure 3		1 - 99	50
E	EXPOSURE4		Fine/Exposure 4		1 - 99	50
F	EXPOSURE5		Fine/Exposure 5		1 - 99	50
G	AUTO H_TONE		Fine/Automatic/ Halftone		1 - 99	50
H	EXPOSURE1 H_TONE		Fine/Exposure 1/ Halftone		1 - 99	50
I	EXPOSURE2 H_TONE		Fine/Exposure 2/ Halftone		1 - 99	50
J	EXPOSURE3 H_TONE		Fine/Exposure 3/ Halftone		1 - 99	50
K	EXPOSURE4 H_TONE		Fine/Exposure 4/ Halftone		1 - 99	50
L	EXPOSURE5 H_TONE		Fine/Exposure 5/ Halftone		1 - 99	50
M	EXECUTE MODE	AUTO	Print mode	Fine/Auto	1	1
		EXP1		Fine/ Exposure 1	2	
		EXP2		Fine/ Exposure 2	3	
		EXP3		Fine/ Exposure 3	4	
		EXP4		Fine/ Exposure 4	5	
		EXP5		Fine/ Exposure 5	6	
		AUTO H_TONE		Fine/ Automatic/ halftone	7	
		EXP1 H_TONE		Fine/ Exposure 1/ Halftone	8	
		EXP2 H_TONE		Fine/ Exposure 2/ Halftone	9	
		EXP3 H_TONE		Fine/ Exposure 3/ Halftone	10	
		EXP4 H_ONE		Fine/ Exposure 4/ Halftone	11	
		EXP5 H_TONE		Fine/ Exposure 5/ Halftone	12	

46-43

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Super Fine)

Section**Operation/Procedure**

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key

When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display			Content		Setting range	Default value
A	AUTO		Super Fine/Auto		1 - 99	50
B	EXPOSURE1		Super Fine/ Exposure 1		1 - 99	50
C	EXPOSURE2		Super Fine/ Exposure 2		1 - 99	50
D	EXPOSURE3		Super Fine/ Exposure 3		1 - 99	50
E	EXPOSURE4		Super Fine/ Exposure 4		1 - 99	50
F	EXPOSURE5		Super Fine/ Exposure 5		1 - 99	50
G	AUTO H_TONE		Super Fine/ Auto/Halftone		1 - 99	50
H	EXPOSURE1 H_TONE		Super Fine/ Exposure 1/Halftone		1 - 99	50
I	EXPOSURE2 H_TONE		Super Fine/ Exposure 2/Halftone		1 - 99	50
J	EXPOSURE3 H_TONE		Super Fine/ Exposure 3/Halftone		1 - 99	50
K	EXPOSURE4 H_TONE		Super Fine/ Exposure 4/Halftone		1 - 99	50
L	EXPOSURE5 H_TONE		Super Fine/ Exposure 5/Halftone		1 - 99	50
M	EXECUTE MODE	AUTO	Print mode	Super Fine/ Auto	1	1
		EXP1		Super Fine/ Exposure 1	2	
		EXP2		Super Fine/ Exposure 2	3	
		EXP3		Super Fine/ Exposure 3	4	
		EXP4		Super Fine/ Exposure 4	5	
		EXP5		Super Fine/ Exposure 5	6	
		AUTO H_TONE		Super Fine/ Auto/ Halftone	7	
		EXP1 H_TONE		Super Fine/ Exposure 1/ Halftone	8	
		EXP2 H_TONE		Super Fine/ Exposure 2/ Halftone	9	
		EXP3 H_TONE		Super Fine/ Exposure 3/ Halftone	10	
		EXP4 H_TONE		Super Fine/ Exposure 4/ Halftone	11	
		EXP5 H_TONE		Super Fine/ Exposure 5/ Halftone	12	

46-44

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (Ultra fine)

Section**Operation/Procedure**

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key

When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

Item/Display			Content		Setting range	Default value
A	AUTO		Ultra Fine/Auto		1 - 99	50
B	EXPOSURE1		Ultra Fine/Exposure 1		1 - 99	50
C	EXPOSURE2		Ultra Fine/Exposure 2		1 - 99	50
D	EXPOSURE3		Ultra Fine/Exposure 3		1 - 99	50
E	EXPOSURE4		Ultra Fine/Exposure 4		1 - 99	50
F	EXPOSURE5		Ultra Fine/Exposure 5		1 - 99	50
G	AUTO H_TONE		Ultra Fine/Auto/ Halftone		1 - 99	50
H	EXPOSURE1 H_TONE		Ultra Fine/ Exposure 1/Halftone		1 - 99	50
I	EXPOSURE2 H_TONE		Ultra Fine/ Exposure 2/Halftone		1 - 99	50
J	EXPOSURE3 H_TONE		Ultra Fine/ Exposure 3/Halftone		1 - 99	50
K	EXPOSURE4 H_TONE		Ultra Fine/ Exposure 4/Halftone		1 - 99	50
L	EXPOSURE5 H_TONE		Ultra Fine/ Exposure 5/Halftone		1 - 99	50
M	EXECUTE MODE	AUTO	Print mode	Ultra Fine/ Auto	1	1
		EXP1		Ultra Fine/ Exposure 1	2	
		EXP2		Ultra Fine/ Exposure 2	3	
		EXP3		Ultra Fine/ Exposure 3	4	
		EXP4		Ultra Fine/ Exposure 4	5	
		EXP5		Ultra Fine/ Exposure 5	6	
		AUTO H_TONE		Ultra Fine/ Auto/ Halftone	7	
		EXP1 H_TONE		Ultra Fine/ Exposure 1/ Halftone	8	
		EXP2 H_TONE		Ultra Fine/ Exposure 2/ Halftone	9	
		EXP3 H_TONE		Ultra Fine/ Exposure 3/ Halftone	10	
		EXP4 H_TONE		Ultra Fine/ Exposure 4/ Halftone	11	
		EXP5 H_TONE		Ultra Fine/ Exposure 5/ Halftone	12	

46-45

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (600dpi).
Section	

Operation/Procedure

- 1) Set the document on the document table.
- 2) Enter the set value with 10-key.
- 3) Press [EXECUTE] key, or [OK] key
When [EXECUTE] key is pressed, the adjustment value is set and the scanned document image is outputted.

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

46-46

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the FAX send image density. (RGB RIP)
Section	

Operation/Procedure

- 1) Select a target mode for adjustment.
- 2) Set the document on the document table.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key.
When the set value is increased, the density becomes higher. When the set value is decreased, the density becomes lower.

Item/Display		Content	Setting range	Default value
A	STANDARD RIP	For Normal/ Halftone OFF mode	1 - 99	50
B	FINE RIP	For Fine/ Halftone OFF mode	1 - 99	50
C	FINE RIP H_TONE	For Fine/ Halftone ON mode	1 - 99	50
D	SUPER FINE RIP	For Super Fine/ Halftone OFF mode	1 - 99	50
E	SUPER FINE RIP H_TONE	For Super Fine/ Halftone ON mode	1 - 99	50
F	ULTRA FINE RIP	For Ultra fine/ Halftone OFF mode	1 - 99	50
G	ULTRA FINE RIP H_TONE	For Ultra fine/ Halftone ON mode	1 - 99	50
H	600DPI RIP	For 600dpi/ Halftone OFF mode	1 - 99	50
I	600DPI RIP H_TONE	For 600dpi/ Halftone ON mode	1 - 99	50

46-47

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the compression rate of copy and scan images (JPEG).
Section	

Operation/Procedure

- 1) Select a target item with scroll keys on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [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)	

Category	Item/Display		Content	Setting range	Default value
FILLING (GRAY)	B	FILLING (G)	LOW	Low compression (Gray)	0
			MIDDLE	Medium compression (Gray)	
			HIGH	High compression (Gray)	
PRINT HOLD (COLOR)	C	PRINT (C)	LOW	Low compression (Color)	0
			MIDDLE	Medium compression (Color)	
			HIGH	High compression (Color)	
PRINT HOLD (GRAY)	D	PRINT (G)	LOW	Low compression (Gray)	0
			MIDDLE	Medium compression (Gray)	
			HIGH	High compression (Gray)	
PUSH SCAN (COLOR) (Scanner Color)	E	SCAN (C)	MIDDLE 1	Medium compression mode 1	1
			MIDDLE 2	Medium compression mode 2	
			MIDDLE 3	Medium compression mode 3	
PUSH SCAN (GRAY) (Scanner Gray)	F	SCAN (G)	MIDDLE 1	Medium compression mode 1	1
			MIDDLE 2	Medium compression mode 2	
			MIDDLE 3	Medium compression mode 3	

46-48	
Purpose	Adjustment/Setup
Function (Purpose)	Used to change the copy output resolution to 600dpi or 1200dpi depending on the printing quality.
Section	

Operation/Procedure

- 1) Select a target item with scroll keys on the touch panel.

Item	Button display	Content	Default value
AUTO	600DPI ED	AUTO	600DPI DT
	600DPI DT		
TEXT/PRT PHOTO	600DPI ED	Text/Printed Photo	600DPI DT
	600DPI DT		

46-51	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the gamma for the copy mode heavy paper mode and the image process mode.
Section	

Operation/Procedure

- 1) Select a target adjustment mode with the touch panel key [PAPER/DITHER].
- 2) Select an adjustment target color with [K][C][M][Y] keys on the touch panel.
- 3) Select a target adjustment density level with scroll key on the touch panel.
- 4) Enter the set value with 10-key.
- 5) Press [EXECUTE] key, or [OK] key.

When [EXECUTE] key is pressed, 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	Color
HEAVY	Copier heavy paper gamma	KCMY
DITH1	Black edge	K
DITH2	Color edge	KCMY
DITH3	Color error diffusion	KCMY
DITH4	Monochrome error diffusion	K
DITH8	Monochrome dither(600dpi)	K
DITH9	Monochrome dither(600dpi low)	K

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

46-52	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the gamma default for the copy mode heavy paper and the image process mode. (After execution of either SIM46-54 or SIM46-51, the adjustment value is reset to the initial value.)
Section	

Operation/Procedure

- 1) Select an item to be set to the default with the touch panel key. To reset the adjustment values of all the items, select [ALL].
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

Display		Content
Dither	HEAVYPAPER	Copier/Heavy paper gamma
	BLACK EDGE	Black edge
	COLOR EDGE	Color edge
	B/W ED	Monochrome error diffusion
	B/W 600	Monochrome dither 600dpi
	B/W 600 LOW	Monochrome dither 600dpi Low
	WOVEN1	Watermark 1
	WOVEN2	Watermark 2
	WOVEN3	Watermark 3
	WOVEN4	Watermark 4

46-54	
Purpose	Adjustment
Function (Purpose)	Used to perform the engine halftone automatic density adjustment (dither).
Section	

Operation/Procedure

- 1) Press [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 press [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) Press [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
BLACK EDGE	Black edge
COLOR EDGE	Color edge
B/W ED	Monochrome error diffusion
B/W 600	Monochrome dither 600dpi
B/W 600 LOW	Monochrome dither 600dpi Low
WOVEN1	Watermark 1
WOVEN2	Watermark 2
WOVEN3	Watermark 3
WOVEN4	Watermark 4

- 5) Press [EXECUTE] key.
The 48 patch self print is printed.
- 6) Place the 48 patch self print on the document table, and press [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), press [OK] key.

46-55	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the drop out color in the image send mode (monochrome manual text mode).
Section	

Operation/Procedure

In the image send mode (monochrome manual text mode), the range where color images are reproduced as monochrome images is adjusted.

- 1) Enter the adjustment value with 10-key and 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

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

46-58	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the copy mode pseudo resolution. (Smoothing process)
Section	

Operation/Procedure

- 1) Select an item (mode) to be set with the button and the scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.
1(ON): 9600 (equivalent) x 600dpi
0 (OFF): 600 x 600dpi
The setting is reflected only the image edge area.

Mode	Item/Display	Content (copy mode)	Setting range	Default value
COLOR	A AUTO	Auto	OFF 0 ON 1	0
	B TEXT	Text	OFF 0 ON 1	1
	C TEXT PRT	Text print	OFF 0 ON 1	0
	D PRINTED PHOTO	Printed Photo	OFF 0 ON 1	0
	E TEXT PHOTO	Text photograph	OFF 0 ON 1	0
	F PHOTO	Photograph	OFF 0 ON 1	0
	G MAP	Map	OFF 0 ON 1	1
	H LIGHT	Light document	OFF 0 ON 1	0
	I CPY TO CPY/ TEXT	Text (copy document)	OFF 0 ON 1	1
	J CPY TO CPY/ TXT PRT	Text print (copy document)	OFF 0 ON 1	0
	K CPY TO CPY/ PHOTO	Printed Photo (copy document)	OFF 0 ON 1	0

Mode	Item/Display		Content (copy mode)	Setting range		Default value
MONO	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)	Used to adjust the sharpness in the color auto copy mode.
Section	

Operation/Procedure

- 1) Select a target item with scroll keys on the touch panel.
- 2) Input numeric value corresponding to sharpness level (filter process mode) with 10-keys.
- 3) Press [OK] key.

This is used to adjust the sharpness in the color auto copy mode and the smoothness (roughness) in the dark area.

Item/Display			Content	Setting range		Default value
A	SCREEN FILTER LEVEL	H	Sharpness setting of dot pattern image in auto copy mode	Strong emphasis	1	3
		L		Soft emphasis	2	
		AUTO		Auto	3	
B	RGB FILTER LEVEL	SOFT	Sharpness setting of RGB image in copy/push/fax mode	SOFT	1	2
		CENTER		CENTER	2	
		HIGH		HIGH	3	
C	CPY PUSH AUTO FILTER LEVEL	SOFT	Sharpness setting for the auto push scan mode	SOFT	1	2
		CENTER		CENTER	2	
		HIGH		HIGH	3	
D	COLOR COPY : CMY	OFF	Soft filter applying setting to C, M, Y image in color copy mode	OFF	0	1
		ON		ON	1	
E	COLOR COPY : K	OFF	Soft filter applying setting to K image in color copy mode	OFF	0	1
		ON		ON	1	
F	SINGLE COLOR : CMY	OFF	Soft filter applying setting to C, M, Y image in single color copy mode	OFF	0	1
		ON		ON	1	

Item/Display			Content	Setting range		Default value
G	2 COLOR COPY : CMY	OFF	Setting of YES/NO of applying the soft filter to C/M/Y images of the 2-color copy mode	OFF	0	1
		ON		ON	1	
H	2 COLOR COPY : K	OFF	Setting of YES/NO of applying the soft filter to K images of the 2-color copy mode	OFF	0	1
		ON		ON	1	
I	B/W COPY	OFF	Soft filter applying setting in monochrome copy mode	OFF	0	1
		ON		ON	1	
J	COLOR PUSH : RGB	OFF	Soft filter applying setting to image in push scan color mode	OFF	0	1
		ON		ON	1	
K	B/W PUSH	OFF	Soft filter applying setting to image in push scan monochrome mode	OFF	0	1
		ON		ON	1	
L	COLOR PRINT: CMY	OFF	Setting of ON/OFF of soft filter application to color print C, M, Y images	OFF	0	0
		ON		ON	1	
M	COLOR PRINT: K	OFF	Setting of ON/OFF of soft filter application to color print K images	OFF	0	0
		ON		ON	1	
N	B/W PRINT	OFF	Setting of ON/OFF of soft filter application to monochrome print images	OFF	0	0
		ON		ON	1	

46-61

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the area separation recognition level.
Section	

Operation/Procedure

- 1) Select an adjustment mode.
- 2) Select a target adjustment item with scroll key on the touch panel.
- 3) Enter the adjustment value using the 10-key.
- 4) Press [OK] key.

Important

This Sim is overwritten by changing Image "Quality Adjustment" -> "Copy Image Quality" -> "Image Quality Priority".

(It is overwritten just by pressing the "Store" on screen without changing the setting.)

Make sure to set corresponding item Z to "1" after changing the value. Then the adjustment of "Image Quality Priority" in System Settings will be invalidated. (The adjustment itself is allowed from UI point of view however, the image quality won't change because the setting won't be reflected to the Sim.)

- When "AUTO" in "COLOR" or "MONO" has been adjusted:

Go to COLOR -> AUTO -> and set Z to 1.... Image Quality Priority "Auto" will be invalidated.

- When "TPP" or "COPY (AUTO&TPP)" in "COLOR" or "MONO" has been adjusted:

Go to COLOR -> TPP -> and set Z to 1.... Image Quality Priority "Text/Prtd.Photo" will be invalidated.

(The item Z is not available in "MONO" and "COPY (AUTO&TPP)")

The adjustment of "MONO" -> "TPP" will affect FAX.

This must be set to the default unless any change is specially required.

When the adjustment value is set to a value greatly different from the default value, image quality trouble may occur for some documents.

Item/Display		Content
COLOR	AUTO	[Color] Auto
	TPP	[Color] Manual (Text print)
	COPY(TPP and AUTO)	[Color] Copy document (Text print and auto)
MONO	AUTO	[Gray/Monochrome] Auto
	TPP	[Gray/Monochrome] Manual (Text print)
	COPY(TPP and AUTO)	[Gray/Monochrome] Copy document (Text print and auto)

Item/Display		Content	Setting range	Default value
A	SEGMENT: SWITCH [TXT ON SCR]	Detection ON/OFF: Text on dot	0 - 1	0
B	SEGMENT: SWITCH [LINE SCR]	Detection ON/OFF: line screen	0 - 1	0
C	SEGMENT: SWITCH [SMALL SCR]	Detection ON/OFF: Dot in a small area	0 - 1	0
D	SEGMENT: SWITCH [HIGH LPI]	Detection ON/OFF: High line number judgment select	0 - 1	0
E	SEGMENT: SWITCH [TXT ON SCR IMAGE SEND]	Detection ON/OFF: Text on image send dots	0 - 1	0
F	SEGMENT: ADJUST [BK TXT 1]	Detection level adjustment: Black text 1	1 - 99	50
G	SEGMENT: ADJUST [CL TXT 1]	Detection level adjustment: Color text 1	1 - 99	50
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

Item/Display		Content	Setting range	Default value
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)	Used to set the operating conditions of the ACS, the area separation, the background image process, and the auto exposure mode.

Section

Operation/Procedure

- 1) Select a target adjustment item with scroll key on the touch panel.
- 2) Enter the adjustment value using the 10-key.
- 3) Press [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

Item/Display		Content		Setting range	Default value
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	ON OFF	AE mode ON/ OFF switch: For color copy	ON OFF	0 1
N	AE_ONOFF_MC	ON OFF	AE mode ON/ OFF switch: For mono-chrome copy	ON OFF	0 1
O	AE_ONOFF_CS	ON OFF	AE mode ON/ OFF switch : For color scan	ON OFF	0 1
P	AE_ONOFF_MS	ON OFF	AE mode ON/ OFF switch : For mono-chrome copy	ON OFF	0 1
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
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

Item/Display		Content	Setting range	Default value
E	COLOR COPY : TEXT/PHOTO	Text/Photograph (color copy)	1 - 9	3
F	COLOR COPY : MAP	Map (color copy)	1 - 9	5
G	COLOR COPY : LIGHT	Light document (color density)	1 - 9	6
H	COLOR COPY : TEXT/PRINTED PHOTO (COPY TO COPY)	Copy document, Character print (color copy)	1 - 9	5
I	COLOR COPY : TEXT (COPY TO COPY)	Copy document, Character (color copy)	1 - 9	5
J	COLOR COPY : PRINTED PHOTO (COPY TO COPY)	Copy document, Printed photo (color copy)	1 - 9	5
K	COLOR PUSH : TEXT/PRINTED PHOTO	Text print (color PUSH)	1 - 9	5
L	COLOR PUSH : TEXT	Text (color PUSH)	1 - 9	5
M	COLOR PUSH : PRINTED PHOTO	Printed photo (color PUSH)	1 - 9	5
N	COLOR PUSH : PHOTOGRAPH	Photograph (color PUSH)	1 - 9	5
O	COLOR PUSH : TEXT/PHOTO	Text/Photograph (color PUSH)	1 - 9	5
P	COLOR PUSH : MAP	Map (color PUSH)	1 - 9	5

46-65

Purpose

Adjustment/Setup

Function (Purpose)

Used to set the color correction table.

Section

Operation/Procedure

- 1) Select an adjustment mode.
- 2) Select an item (mode) to be set with the scroll key.
- 3) Enter the adjustment value using the 10-key.
- 4) Press [OK] key.

When the setting is changed, the color tone is changed. This function is used to make copies of different color tone for each copy mode.

The initial value must be set unless any special change is required.

46-63

Purpose

Adjustment/Setup

Function (Purpose)

Used to adjust the density in the copy low density section.

Section

Operation/Procedure

- 1) Select a target adjustment item with scroll key on the touch panel.
- 2) Enter the adjustment value using the 10-key.
- 3) 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.

Item/Display		Content	Setting range	Default value
A	COLOR COPY : TEXT/PRINTED PHOTO	Text print (color copy)	1 - 9	3
B	COLOR COPY : TEXT	Text (color copy)	1 - 9	3
C	COLOR COPY : PRINTED PHOTO	Printed photo (color copy)	1 - 9	5
D	COLOR COPY : PHOTOGRAPH	Photograph (color copy)	1 - 9	5

Category	Mode	Item/Display		Content	Setting range	Default value
OC	COPY	A	TEXT PRINTED PHOTO	Text print	0 - 12	0
		B	TEXT	Text	0 - 12	3
		C	PRINTED PHOTO	Printed Photo	0 - 12	0
		D	PHOTO	Photograph	0 - 12	1
		E	TEXT PHOTO	Text photograph	0 - 12	1
		F	MAP	Map	0 - 12	3
		G	LIGHT ORIGINAL	Pencil	0 - 12	0
		H	COPY TO COPY/ TEXT PRINTED PHOTO	Copy document/ Text print	0 - 12	2
		I	COPY TO COPY/ TEXT	Copy document/ Text	0 - 12	3
		J	COPY TO COPY/ PHOTO	Copy document/ Printed Photo	0 - 12	2
		K	AUTO0	Automatic mode judgment 0	0 - 12	0
		L	AUTO1	Automatic mode judgment 1	0 - 12	0
		M	AUTO2	Automatic mode judgment 2	0 - 12	1
		N	AUTO3	Automatic mode judgment 3	0 - 12	1
		O	AUTO4	Automatic mode judgment 4	0 - 12	0
		P	AUTO5	Automatic mode judgment 5	0 - 12	0
		Q	AUTO6	Automatic mode judgment 6	0 - 12	0
	PREVIEW	A	TEXT PRINTED PHOTO	Text print	0 - 12	0
		B	TEXT	Text	0 - 12	3
		C	PRINTED PHOTO	Printed Photo	0 - 12	0
		D	PHOTO	Photograph	0 - 12	1
		E	TEXT PHOTO	Text photograph	0 - 12	1
		F	MAP	Map	0 - 12	3

Category	Mode	Item/Display		Content	Setting range	Default value
OC	PREVIEW	G	LIGHT ORIGINAL	Pencil	0 - 12	0
		H	COPY TO COPY/ TEXT PRINTED PHOTO	Copy document/ Text print	0 - 12	2
		I	COPY TO COPY/ TEXT	Copy document/ Text	0 - 12	3
		J	COPY TO COPY/ PHOTO	Copy document/ Printed Photo	0 - 12	2
		K	AUTO0	Automatic mode judgment 0	0 - 12	0
		L	AUTO1	Automatic mode judgment 1	0 - 12	0
		M	AUTO2	Automatic mode judgment 2	0 - 12	1
		N	AUTO3	Automatic mode judgment 3	0 - 12	1
		O	AUTO4	Automatic mode judgment 4	0 - 12	0
		P	AUTO5	Automatic mode judgment 5	0 - 12	0
		Q	AUTO6	Automatic mode judgment 6	0 - 12	0
	SPF1 (Document feeder (RSPF)/ (DSPF)To p)	A	TEXT PRINTED PHOTO	Text print	0 - 12	4
		B	TEXT	Text	0 - 12	7
		C	PRINTED PHOTO	Printed Photo	0 - 12	4
		D	PHOTO	Photograph	0 - 12	5
		E	TEXT PHOTO	Text photograph	0 - 12	5
		F	MAP	Map	0 - 12	7
		G	LIGHT ORIGINAL	Pencil	0 - 12	4
		H	COPY TO COPY/ TEXT PRINTED PHOTO	Copy document/ Text print	0 - 12	6
		I	COPY TO COPY/ TEXT	Copy document/ Text	0 - 12	7
		J	COPY TO COPY/ PHOTO	Copy document/ Printed Photo	0 - 12	6
		K	AUTO0	Automatic mode judgment 0	0 - 12	4
		L	AUTO1	Automatic mode judgment 1	0 - 12	4
		M	AUTO2	Automatic mode judgment 2	0 - 12	5
		N	AUTO3	Automatic mode judgment 3	0 - 12	5
		O	AUTO4	Automatic mode judgment 4	0 - 12	4

Category	Mode	Item/Display		Content	Setting range	Default value
SPF1 (Document feeder (RSPF)/ (DSPF)To p)	COPY	P	AUTO5	Automatic mode judgment 5	0 - 12	4
		Q	AUTO6	Automatic mode judgment 6	0 - 12	4
	PREVIEW	A	TEXT PRINTED PHOTO	Text print	0 - 12	4
		B	TEXT	Text	0 - 12	7
		C	PRINTED PHOTO	Printed Photo	0 - 12	4
		D	PHOTO	Photograph	0 - 12	5
		E	TEXT PHOTO	Text photograph	0 - 12	5
		F	MAP	Map	0 - 12	7
		G	LIGHT ORIGINAL	Pencil	0 - 12	4
		H	COPY TO COPY/ TEXT PRINTED PHOTO	Copy document/ Text print	0 - 12	6
		I	COPY TO COPY/ TEXT	Copy document/ Text	0 - 12	7
		J	COPY TO COPY/ PHOTO	Copy document/ Printed Photo	0 - 12	6
		K	AUTO0	Automatic mode judgment 0	0 - 12	4
		L	AUTO1	Automatic mode judgment 1	0 - 12	4
		M	AUTO2	Automatic mode judgment 2	0 - 12	5
		N	AUTO3	Automatic mode judgment 3	0 - 12	5
		O	AUTO4	Automatic mode judgment 4	0 - 12	4
		P	AUTO5	Automatic mode judgment 5	0 - 12	4
		Q	AUTO6	Automatic mode judgment 6	0 - 12	4
SPF2(Document feeder (DSPF) Back)	COPY	A	TEXT PRINTED PHOTO	Text print	0 - 12	8
		B	TEXT	Text	0 - 12	11
		C	PRINTED PHOTO	Printed Photo	0 - 12	8
		D	PHOTO	Photograph	0 - 12	9
		E	TEXT PHOTO	Text photograph	0 - 12	9
		F	MAP	Map	0 - 12	11
		G	LIGHT ORIGINAL	Pencil	0 - 12	8
		H	COPY TO COPY/ TEXT PRINTED PHOTO	Copy document/ Text print	0 - 12	10
		I	COPY TO COPY/ TEXT	Copy document/ Text	0 - 12	11
		J	COPY TO COPY/ PHOTO	Copy document/ Printed Photo	0 - 12	10

Category	Mode	Item/Display		Content	Setting range	Default value
SPF2(Document feeder (DSPF) Back)	COPY	K	AUTO0	Automatic mode judgment 0	0 - 12	8
		L	AUTO1	Automatic mode judgment 1	0 - 12	8
		M	AUTO2	Automatic mode judgment 2	0 - 12	9
		N	AUTO3	Automatic mode judgment 3	0 - 12	9
		O	AUTO4	Automatic mode judgment 4	0 - 12	8
		P	AUTO5	Automatic mode judgment 5	0 - 12	8
		Q	AUTO6	Automatic mode judgment 6	0 - 12	8
	PREVIEW	A	TEXT PRINTED PHOTO	Text print	0 - 12	8
		B	TEXT	Text	0 - 12	11
		C	PRINTED PHOTO	Printed Photo	0 - 12	8
		D	PHOTO	Photograph	0 - 12	9
		E	TEXT PHOTO	Text photograph	0 - 12	9
		F	MAP	Map	0 - 12	11
		G	LIGHT ORIGINAL	Pencil	0 - 12	8
		H	COPY TO COPY/ TEXT PRINTED PHOTO	Copy document/ Text print	0 - 12	10
		I	COPY TO COPY/ TEXT	Copy document/ Text	0 - 12	11
		J	COPY TO COPY/ PHOTO	Copy document/ Printed Photo	0 - 12	10
		K	AUTO0	Automatic mode judgment 0	0 - 12	8
		L	AUTO1	Automatic mode judgment 1	0 - 12	8
		M	AUTO2	Automatic mode judgment 2	0 - 12	9
		N	AUTO3	Automatic mode judgment 3	0 - 12	9
		O	AUTO4	Automatic mode judgment 4	0 - 12	8
		P	AUTO5	Automatic mode judgment 5	0 - 12	8
		Q	AUTO6	Automatic mode judgment 6	0 - 12	8

46-66

Purpose

Adjustment/Setup

Function (Purpose)

Used to adjust the reproduction capability of watermarks in the copy/printer mode.

Section

Operation/Procedure

This is to adjust the reproduction capability of watermarks in the copy/printer mode.

- 1) Select the adjustment mode.
- 2) Select an adjustment item according to the necessity.
- 3) Enter the adjustment value with 10-key and press [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).
	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	WOVEN DEN C LOW	Watermark density level (Cyan LOW)	0 - 255	19	To increase the watermark density, increase the adjustment value.
	E	WOVEN DEN C MIDDLE	Watermark density level (Cyan MIDDLE)	0 - 255	23	
	F	WOVEN DEN C HIGH	Watermark density level (Cyan HIGH)	0 - 255	27	To decrease the watermark density, decrease the adjustment value.
	G	WOVEN DEN M LOW	Watermark density level (Magenta LOW)	0 - 255	15	NOTE:
	H	WOVEN DEN M MIDDLE	Watermark density level (Magenta MIDDLE)	0 - 255	18	When the adjustment value is increased, the watermark area which is originally not reproduced becomes difficult to disappear.
	I	WOVEN DEN M HIGH	Watermark density level (Magenta HIGH)	0 - 255	21	When the adjustment value is decreased, the watermark area which is originally reproduced becomes easy to disappear.
	J	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.
	K	HT TYPE (POS)	For halftone index watermark type positive	42 - 43	42	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.)
L	HT TYPE (NEGA)	For halftone index watermark type negative	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.

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 ON, the exposure mode to be set is specified.	TEXT/PRINTED PHOTO TEXT PRINTED PHOTO PHOTOGRAPH TEXT/PHOTO MAP	0 - 5 0 1 2 3 4 5	0	
POSITION	A	LINE SPACE 1	Line space in the watermark print box (24P - 36P)		0 - 200	50	Normally set to the default. No need to change in the market.
	B	LINE SPACE 2	Line space in the watermark print box (37P - 48P)		0 - 200	60	
	C	LINE SPACE 3	Line space in the watermark print box (49P - 64P)		0 - 200	70	
	D	LINE SPACE 4	Line space in the watermark print box (65P - 80P)		0 - 200	80	
	E	BLANK H/B 1	Upper margin/Lower margin in the watermark print box (24P - 36P)		0 - 200	25	
	F	BLANK H/B 2	Upper margin/Lower margin in the watermark print box (37P - 48P)		0 - 200	30	
	G	BLANK H/B 3	Upper margin/Lower margin in the watermark print box (49P - 64P)		0 - 200	35	
	H	BLANK H/B 4	Upper margin/Lower margin in the watermark print box (65P - 80P)		0 - 200	40	
	I	BLANK L/R 1	Left margin/Right margin in the watermark print box (24P - 36P)		0 - 200	60	
	J	BLANK L/R 2	Left margin/Right margin in the watermark print box (37P - 48P)		0 - 200	90	
	K	BLANK L/R 3	Left margin/Right margin in the watermark print box (49P - 64P)		0 - 200	120	
	L	BLANK L/R 4	Left margin/Right margin in the watermark print box (65P - 80P)		0 - 200	150	

46-68

Purpose

Adjustment/Setup

Function (Purpose)

Used to adjust the automatic resolution judgement.

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) Press [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 color balance adjustment (Auto adjustment)/Printer color balance adjustment (Auto adjustment)

Section

Operation/Procedure

This simulation is used to perform SIM46-24 and SIM67-24 continuously.

To perform both the copy color balance adjustment (Automatic adjustment) and the printer color balance adjustment (Automatic adjustment), use this simulation for efficient adjustment operations.

- 1) Press [EXECUTE] key, and the high density process control is performed. Then, the copy color balance adjustment pattern is printed.
- 2) Place the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.
- 3) Press [EXECUTE] key, and the copy color balance adjustment is performed and the adjustment result pattern is printed.
- 4) Press [EXECUTE] key, and the printer color balance adjustment pattern is printed.
- 5) Place the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.
- 6) Press [EXECUTE] key, and the printer color balance adjustment (automatic adjustment) is performed and the adjustment result pattern is printed.
- 7) Press [OK] key, and the halftone correction target is registered.
- 8) When [EXECUTE] key is displayed, press 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 color balance adjustment (automatic adjustment) is performed and the simulation is canceled, the adjustment result is not effective.

46-90

Purpose	Adjustment
Function (Purpose)	Used to set the process operation of high-compression PDF images.

Section

Operation/Procedure

- 1) Select a target adjustment mode.
- 2) Select an adjustment target item with the scroll key.
- 3) Enter the set value with 10-key.
- 4) Press [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	Compression mode switch	0 - 1	0
	D OUTPUT RESOLUTION	Resolution setting	0 - 3	0

46-91

Purpose	Adjustment
Function (Purpose)	Used to adjust the reproduction capability of black text.

Section

Operation/Procedure

- 1) Select an item to be set with the scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. The adjustment value is set.

When COLOR key or MONO key is pressed, the adjustment value is set and a copy is made simultaneously.

Item	Display	Content	Description	Default value
A	SEGMENT PARAM	COMM ON SPECIAL	Area separation setting select	0: Other than image send mode black text emphasis (simple, high compression) 1: Image send mode black text emphasis (simple, high compression)
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	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	0: High compression/ Ultra Fine mode select 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)	Used to adjust the scan image magnification ratio (in the main scanning direction and the sub scanning direction).

Section

Operation/Procedure

- 1) Select a target adjustment item on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [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, and 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, and F, G 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
B	CCD (SUB)	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99
C	SPF (MAIN)	RSPF document front surface magnification ratio adjustment (Main scan)	1 - 99
D	SPF (SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99

Item/Display	Content	Setting range	Default value
E	SPFB (MAIN)	RSPF document back surface magnification ratio adjustment (Main scan)	1 - 99
F	SPFB (SUB)	RSPF document back surface magnification ratio adjustment (Sub scan)	1 - 99
G	COPY CORRECTION (SUB)	Copy magnification ratio correction (Sub scan)	1 - 7

A change of "1" in the adjustment value of item A, C, and 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, and F corresponds to a change of about 0.1% in the copy magnification ratio.

[DSPF]

Item/Display	Content	Setting range	Default value
A	CCD (MAIN)	SCAN main scanning magnification ratio adjustment (CCD)	1 - 99
B	CCD (SUB)	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99
C	SPF (MAIN)	RSPF document front surface magnification ratio adjustment (Main scan)	1 - 99
D	SPF (SUB)	RSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99
E	SPFB (MAIN)	RSPF document back surface magnification ratio adjustment (Main scan)	1 - 99
F	COPY CORRECTION (SUB)	Copy magnification ratio correction (Sub scan)	1 - 7

48-5

Purpose	Adjustment
Function (Purpose)	Used to correct the scan image magnification ratio (in the sub scanning direction).

Section

Scanner section

Operation/Procedure

- 1) Select a target adjustment item on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [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(MID)	Scanner motor (Reference speed)	1 - 99
B	MR(LO)	Scanner motor (Low speed)	1 - 99
C	SPF(HI)	Document feed (SPF) motor (High speed)	1 - 99
D	SPF(MID)	Document feed (SPF) motor (Reference speed)	1 - 99
E	SPF(LO)	Document feed (SPF) motor (Low speed)	1 - 99

48-6	
Purpose	Adjustment
Function (Purpose)	Used to adjust the rotation speed of each motor.

Section

Operation/Procedure

- 1) Select an adjustment target mode with [MID] [LOW A] keys on the touch panel.

Mode Select		Item/Display	Content	Setting range	Default value
COLOR/MONO	MID	A	DM-K(COLOR)	1-99	54
COLOR/MONO	MID	B	DM-K(MONO)		54
HEAVY1,2	LOW A	A	DM-K(COLOR/MONO)		52
COLOR/MONO	MID	C	DM-CL	1-99	54
HEAVY1,2	LOW A	B			56
COLOR/MONO	MID	D	MM	1-99	38
HEAVY1,2	LOW A	C			56

The greater the correction value is, the higher the speed is, and vice versa. Change by +/-1 corresponds to 0.1%.

List of destination groups

Group	Destination		
North America	U. S. A	CANADA	INCH
Europe	EUROPE	U. K	AUS.
Other	AB	TAIWAN	

- 2) Select a target adjustment item on the touch panel.
- 3) Enter the set value with 10-key.
- 4) Press [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.

49

49-1	
Purpose	
Function (Purpose)	Used to perform the firmware update.
Section	

Operation/Procedure

- 1) Save the firmware to the USB memory.
- 2) Insert the USB memory into the main unit. (Use USB I/F of the operation panel section.)
- 3) Select a target firmware file for update with the touch panel.
- 4) Select a target firmware.
Press [ALL] key to select all the Firmware collectively.
- 5) Press [EXECUTE] key.
- 6) Press [YES] key.

The selected firmware is updated. When the operation is normally completed, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

Item/Display	Content	Error display in case or abnormality
UPSIDE BUNDLE	Bundle version (Upper)	UPBDL
BOTTOM BUNDLE	Bundle version (Lower)	BTMBDL
ICU-MAIN	ICUM main program	ICUM
ICU-BIOS	ICUM sub program	ICUB
ICU-LOGO	ICU logo data	Dtlogo
ASIC-MAIN	ASIC main program	ASICM
ASIC-SUB	ASIC sub program	ASICS
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

Item/Display	Content	Error display in case or abnormality
DESK2	Desk unit program	DESK
DESK3	Desk unit program	DESK
DESK4	Desk unit program	DESK
FAX	Standard FAX program	FAX

49-7	
Purpose	
Function (Purpose)	Pre-install 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

50-1

Purpose	Adjustment
Function (Purpose)	Copy image position, image loss adjustment
Section	

Operation/Procedure

- 1) Select an adjustment target item on the touch panel.
- 2) Enter the set value with 10-key.
Set the items other than RRCA, LEAD, and SIDE to the default.
RRCA: Image lead edge reference position adjustment
LEAD: Lead edge image loss adjustment
SIDE: Side image loss adjustment
- 3) Press [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	42
E		DENB	Rear edge void area adjustment	1 - 99	42
F		FRONT/REAR	FRONT/REAR void area adjustment	1 - 99	35
G	Off-center adjustment	OFFSET_OC	OC document off-center adjustment	1 - 99	50
H	Magnification ratio correction	SCAN_SPEED_OC	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99	50
I	Sub scanning direction print area correction value	DENB-MFT	Manual feed correction value	1 - 99	50
J		DENB-CS1	Tray 1 correction value	1 - 99	50
K		DENB-CS2	Tray 2 correction value	1 - 99	50
L		DENB-CS3	Tray 3 correction value	1 - 99	50
M		DENB-CS4	Tray 4 correction value	1 - 99	50
N		DENB-CS5	Tray 5 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)	Used to adjust the print lead edge image position. (PRINTER MODE)

Section**Operation/Procedure**

- 1) Select a target adjustment item (DEN-C) with scroll key on the touch panel.
- 2) Enter the adjustment value using the 10-key.
- 3) Press [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	35
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 area adjustment correction value	1 - 99	50
J	DENB-ADU		ADU rear edge void area adjustment correction value	1 - 99	50
K	DENB-HV		Heavy paper correction value	1 - 99	50
L	MULTI COUNT		Number of print	1 - 999	1
M	PAPER	MFT	Tray selection	Manual paper feed	2
		CS1		Tray 1	
		CS2		Tray 2	
		CS3		Tray 3	
		CS4		Tray 4	
		LCC		LCC	
N	DUPLX X	YES	Duplex print selection	Yes	1
		NO		No	

When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distance from the paper lead edge to the image lead edge is decreased.

When the set value is changed by 1, the distance is changed by about 0.1mm.

50-6	
Purpose	Adjustment
Function (Purpose)	Used to adjust the copy image position and the image loss. (SPF mode)
Section	SPF

Operation/Procedure

- 1) Select an adjustment target item on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [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)	0 - 99	30
D		FRONT_REAR (SIDE1)	0 - 99	20
E		TRAIL_EDGE (SIDE1)	0 - 99	30
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2)	0 - 99	30
G		FRONT_REAR (SIDE2)	0 - 99	20
H		TRAIL_EDGE (SIDE2)	0 - 99	30
I	OFFSET_SPF1	RSPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2	RSPF back surface document off-center adjustment	1 - 99	50
K	SCAN_SPEED_SPF1	RSPF document front surface magnification ratio (Sub scan)	1 - 99	50
L	SCAN_SPEED_SPF2	RSPF document back surface magnification ratio (Sub scan)	1 - 99	50

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

Item C - H: When the adjustment value is increased, the image loss is increased.

Item E - H: When a shadow image appears on the rear edge, increase the adjustment value to delete the shadow.

All adjustment items: 1 step = 0.1mm change

[DSPF]

Item/Display		Content	Setting range	Default value
A	SIDE1	Front surface document scan position adjustment (CCD)	1 - 99	50
B	SIDE2	Back surface document scan position adjustment (CCD)	1 - 99	50
C	Image loss amount setting SIDE1	LEAD_EDGE (SIDE1)	0 - 99	30
D		FRONT_REAR (SIDE1)	0 - 99	20
E		TRAIL_EDGE (SIDE1)	0 - 99	30
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2)	0 - 99	30
G		FRONT_REAR (SIDE2)	0 - 99	20
H		TRAIL_EDGE (SIDE2)	0 - 99	30
I	OFFSET_SPF1	DSPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2	DSPF back surface document off-center adjustment	1 - 99	50
K	SCAN_SPEED_SPF1	DSPF document front surface magnification ratio (Sub scan)	1 - 99	50

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

Item C - H: When the adjustment value is increased, the image loss is increased.

Item E - H: When a shadow image appears on the rear edge, increase the adjustment value to delete the shadow.

All adjustment items: 1 step = 0.1mm change

50-10	
Purpose	Adjustment
Function (Purpose)	Used to adjust print image position
Section	

Operation/Procedure

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

Item/Display		Content	Setting range	Default value
A	BK-MAG	Main scan print magnification ratio BK	60 - 140	100
B	MAIN-STD	Collective correction	Standard (off center)	50
C	SUB-STD		Standard (sub scan)	50

Item/Display		Content		Setting range	Default value
D	MAIN-MFT	Print off center	Manual tray	1 - 99	50
E	MAIN-CS1		Tray1	1 - 99	50
F	MAIN-CS2		Tray2	1 - 99	50
G	MAIN-CS3		Tray3	1 - 99	50
H	MAIN-CS4		Tray4	1 - 99	50
I	MAIN-CS5		Tray5	1 - 99	50
J	MAIN-ADU		ADU	1 - 99	50
K	MAIN-CS1-A6		Tray1(A6)	1 - 99	50
L	SUB-MFT	Registration motor timing	Manual tray	1 - 99	50
M	SUB-CS1		Tray1	1 - 99	50
N	SUB-CS2		Tray2	1 - 99	50
O	SUB-CS3		Tray3	1 - 99	50
P	SUB-CS4		Tray4	1 - 99	50
Q	SUB-CS5		Tray5	1 - 99	50
R	SUB-ADU		ADU	1 - 99	50
S	SUB-CS1-A6		Tray1(A6)	1 - 99	50
T	SUB-HV-A	Shifting amount value	Heavy1, 2	1 - 99	50
U	SUB-HV-B		Heavy3, 4	1 - 99	50
V	SUB-GLOSSY PAPER		Gross	1 - 99	50
W	SUB-EMBOSS		Emboss	1 - 99	50
X	SUB-OHP		OHP	1 - 99	50
Y	SUB-ENV		Envelop	1 - 99	50
Z	MULTI COUNT	Number of print		1 - 999	1
A A A	PAPE R	MFT	Tray selection	Manual paper feed	1
				Tray 1	2
				Tray 2	3
				Tray 3	4
				Tray 4	5
				Tray 5	6
A B	DUPL EX	YES	Duplex print selection	Yes	0
		NO		No	1
A C	ALT FEED	NOR MAL	Other tray	Normal	0
		ALL OTH ER		All tray except PAPER	1

50-12	
Purpose	Adjustment
Function (Purpose)	Used to perform the scan image off-center position adjustment. (The adjustment is made separately for each scan mode.)

Section

Operation/Procedure

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

When the adjustment value is increased, the image position is shifted to the rear frame side. When the adjustment value is decreased, it is shifted to the front frame side.

1step = 0.1mm

Item/Display		Content	Setting range	Default value
A	OC	Document table image off-center adjustment	1 - 99	50
B	SPF (SIDE1)	SPF front surface image off-center adjustment	1 - 99	50
C	SPF (SIDE2)	SPF back surface image off-center adjustment	1 - 99	50

50-20	
Purpose	Adjustment
Function (Purpose)	Image registration adjustment (Main scanning direction)

Section

Operation/Procedure

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

Item/Display		Content	Setting range	Default value
A	CYAN(FRONT)	Registration adjustment value main scanning direction CYAN F side	1 - 199	100
B	CYAN(REAR)	Registration adjustment value main scanning direction CYAN R side	1 - 199	100
C	MAGENTA(FRONT)	Registration adjustment value main scanning direction MAGENTA F side	1 - 199	100
D	MAGENTA(REAR)	Registration adjustment value main scanning direction MAGENTA R side	1 - 199	100
E	YELLOW(FRONT)	Registration adjustment value main scanning direction YELLOW F side	1 - 199	100
F	YELLOW(REAR)	Registration adjustment value main scanning direction YELLOW R side	1 - 199	100
G	CYAN(SUB)	Registration adjustment value sub scanning direction CYAN (Black drum reference)	1 - 199	100
H	MAGENTA(SUB)	Registration adjustment value sub scanning direction MAGENTA (Black drum reference)	1 - 199	100
I	YELLOW(SUB)	Registration adjustment value sub scanning direction YELLOW (Black drum reference)	1 - 199	100
J	OFFSET_C_M AIN_F	Registration adjustment value main scanning direction offset value CYAN (FRONT)	1 - 99	50
K	OFFSET_C_M AIN_R	Registration adjustment value main scanning direction offset value CYAN (REAR)	1 - 99	50
L	OFFSET_M_M AIN_F	Registration adjustment value main scanning direction offset value MAGENTA (FRONT)	1 - 99	50
M	OFFSET_M_M AIN_R	Registration adjustment value main scanning direction offset value MAGENTA (REAR)	1 - 99	50
N	OFFSET_Y_M AIN_F	Registration adjustment value main scanning direction offset value YELLOW (FRONT)	1 - 99	50
O	OFFSET_Y_M AIN_R	Registration adjustment value main scanning direction offset value YELLOW (REAR)	1 - 99	50
P	OFFSET_C_S UB	Registration adjustment value sub scanning direction offset value CYAN	1 - 99	50
Q	OFFSET_M_S UB	Registration adjustment value sub scanning direction offset value MAGENTA	1 - 99	50

Item/Display			Content	Setting range	Default value
R	OFFSET_Y_S	UB	Registration adjustment value sub scanning direction offset value YELLOW	1 - 99	50
Y	MULTICOUNT		Number of print	1 - 999	1
Z	PAPE	MFT	Tray selection	Manual paper feed	2
		CS1		Tray 1	
		CS2		Tray 2	
		CS3		Tray 3	
		CS4		Tray 4	
		CS5		Tray 5	
A	DUPL	YES	Duplex print selection	Yes	1
A	EX	NO		No	

50-22

Purpose	Adjustment
Function (Purpose)	Used to adjust the image registration. (Main scan direction, sub scan direction) (Auto adjustment)/OPC drum phase adjustment (Auto adjustment)

Section

Operation/Procedure

- 1) Press [EXECUTE] key.

The adjustment is automatically performed, and the adjustment data are displayed.

Note

The contents of the following list are mainly used by the technical division, and are not necessary for the market.

Item/Display			Content	Setting range (unit)	Color/History	Default value	NOTE
MAIN F	-	REG_M_F (VALUE)	Registration adjustment correction amount main scanning direction F	1.0 - 199.0 (+/-0.1)	CMY/-	100	
	()	REG_M_F (DIF)	Registration value correction amount from the previous one, main scanning F	-199.0 - 199.0 (+/-0.1)	CMY/-	0	
MAIN R	-	REG_M_R (VALUE)	Registration adjustment correction value, main scanning direction R	1.0 - 199.0 (+/-0.1)	CMY/-	100	
	()	REG_M_R (DIF)	Registration value correction amount from the previous one, main scanning R	-199.0 - 199.0 (+/-0.1)	CMY/-	0	
SUB	-	REG_SUB (VALUE)	Registration adjustment correction value, sub scanning direction	1.0 - 199.0 (+/-0.1)	CMY/-	100	
	()	REG_SUB (DIF)	Registration value correction amount from the previous one, sub scanning	-199.0 - 199.0 (+/-0.1)	CMY/-	0	
SKEW	CMY	SKEW_CLC	SKEW adjustment rotating direction and the number of clicks (CMY)	-999 - +999 (+/-1)	CMY/-	0	If the value is plus, + is displayed to left side of numerical value. If the value is minus, - is displayed to left side of numerical value.
	()		SKEW adjustment rotating direction and the number of clicks from the previous one	-1999 - +1999 (+/-1)	CMY/-	0	The difference amount from the previous value of SKEW - C / M / Y
	ALL_ROTATE		SKEW adjustment rotating direction and the number of clicks (K)	-999 - +999 (+/-0.1)	K/-	0	If the value is plus, + is displayed to left side of numerical value. If the value is minus, - is displayed to left side of numerical value.
PHASE		PHASE_ADJ	Phase adjustment value (1: Value of this time, 2: Value of the previous time) Angle step 0° (1) -> 45° (2) -> 90° (3) -> 135° (4) -> 180° (5) -> 225° (6) -> 270° (7) -> 315° (8)	1 - 8 (+/-1)	-/2	1	-

Error displays in case of abnormal end

	Error code	Error display	Error contents	Description
Forcible end error	-	SUSPENDED	Door open end	Door open during operation
	-	SUSPENDED	CA end	CA button pressed during operation
	-	-	OFF end	Unconfirmed operation during operation (Power OFF)

	Error code	Error display	Error contents	Description
Basic error	1	TONER EMPTY	Toner empty	BK or ALL color EMPTY detection
	2	BEFORE BEHAVIOR	Other condition	Other condition
	4	SENSOR CALIBRATION F	Calibration error F	The target is not reached by 3 times of retry of F or R
	5	SENSOR CALIBRATION R	Calibration error R	
	6	SENSOR CALIBRATION FR	Calibration error FR	
	7	TIME OVER	Time error	No data are obtained for 90sec from data acquisition
	8	PROCESS CONTROL	Process control error	Process control error detection
Sub scanning adjustment error	10 - 49	DATA SUB X X XXX XX		
Main scanning adjustment error	50 - 89	DATA MAIN X X XXX XX		
Adjustment range error	90 - 107	RANGE XXX X XX		

Purpose (This simulation is normally not used in the market.)

Function (Purpose) Used to set the registration for temperature adjustment.

Section

Operation/Procedure

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

Item/Display			Contents	Setting range	Default value
A	CT_N	CT_NORM_MAIN_F_C	Normal correction temperature correction coefficient (Cyan main scanning F side)	1 - 199	100
		CT_NORM_MAIN_R_C	Normal correction temperature correction coefficient (Cyan main scanning R side)	1 - 199	100
		CT_NORM_SUB_C	Normal correction temperature correction coefficient (Cyan sub scanning)	1 - 199	100
		CT_NORM_MAIN_F_M	Normal correction temperature correction coefficient (Magenta main scanning F side)	1 - 199	105
		CT_NORM_MAIN_R_M	Normal correction temperature correction coefficient (Magenta main scanning R side)	1 - 199	105
		CT_NORM_SUB_M	Normal correction temperature correction coefficient (Magenta sub scanning)	1 - 199	107
		CT_NORM_MAIN_F_Y	Normal correction temperature correction coefficient (Yellow main scanning F side)	1 - 199	102
		CT_NORM_MAIN_R_Y	Normal correction temperature correction coefficient (Yellow main scanning R side)	1 - 199	102
		CT_NORM_SUB_Y	Normal correction temperature correction coefficient (Yellow sub scanning)	1 - 199	107
A	CP_N	CP_NORM_MAIN_F_C	Normal correction operation rate correction coefficient (Cyan main scanning F side)	1 - 199	98
		CP_NORM_MAIN_R_C	Normal correction operation rate correction coefficient (Cyan main scanning R side)	1 - 199	98
		CP_NORM_SUB_C	Normal correction operation rate correction coefficient (Cyan sub scanning)	1 - 199	90
		CP_NORM_MAIN_F_M	Normal correction operation rate correction coefficient (Magenta main scanning F side)	1 - 199	110
		CP_NORM_MAIN_R_M	Normal correction operation rate correction coefficient (Magenta main scanning R side)	1 - 199	110

Item/Display			Contents	Setting range	Default value
F	CP_N	CP_NORM_SUB_M	Normal correction operation rate correction coefficient (Magenta sub scanning)	1 - 199	90
		CP_NORM_MAIN_F_Y	Normal correction operation rate correction coefficient (Yellow main scanning F side)	1 - 199	110
		CP_NORM_MAIN_R_Y	Normal correction operation rate correction coefficient (Yellow main scanning R side)	1 - 199	110
		CP_NORM_SUB_Y	Normal correction operation rate correction coefficient (Yellow sub scanning)	1 - 199	90
A	CT_J	CT_JOB_M_AIN_C	Correction during job temperature correction coefficient (Cyan main scanning)	1 - 199	100
		CT_JOB_SUB_C	Correction during job temperature correction coefficient (Cyan sub scanning)	1 - 199	100
		CT_JOB_M_AIN_M	Correction during job temperature correction coefficient (Magenta main scanning)	1 - 199	105
		CT_JOB_SUB_M	Correction during job temperature correction coefficient (Magenta sub scanning)	1 - 199	107
		CT_JOB_M_AIN_Y	Correction during job temperature correction coefficient (Yellow main scanning)	1 - 199	102
		CT_JOB_SUB_Y	Correction during job temperature correction coefficient (Yellow sub scanning)	1 - 199	107
		CP_JOB_M_AIN_C	Correction during job operation rate correction coefficient (Cyan main scanning)	1 - 199	98
		CP_JOB_SUB_C	Correction during job operation rate correction coefficient (Cyan sub scanning)	1 - 199	90
A	CP_J	CP_JOB_M_AIN_M	Correction during job operation rate correction coefficient (Magenta main scanning)	1 - 199	110
		CP_JOB_SUB_M	Correction during job operation rate correction coefficient (Magenta sub scanning)	1 - 199	90
		CP_JOB_M_AIN_Y	Correction during job operation rate correction coefficient (Yellow main scanning)	1 - 199	110
		CP_JOB_SUB_Y	Correction during job operation rate correction coefficient (Yellow sub scanning)	1 - 199	90

50-24	
Purpose	(This simulation is normally not used in the market.)
Function (Purpose)	Used to display the detail data of automatic registration data.
Section	
Operation/Procedure	

50-27	
Purpose	Adjustment
Function (Purpose)	Used to perform the image loss adjustment of scanned images in the FAX or image send mode.
Section	
Operation/Procedure	

- 1) Select a target adjustment mode with [FAX] or [SCANNER] key.
- 2) Select an adjustment target item on the touch panel.
- 3) Enter the set value with 10-key.
- 4) Press [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)	0 - 100	30 (3mm)
	B	OC	FRONT_REAR (OC)	0 - 100	20 (2mm)
	C		TRAIL_EDGE (OC)	0 - 100	20 (2mm)
	D	Image loss amount setting SPF	LEAD_EDGE (SPF_SIDE1)	0 - 100	20 (2mm)
	E	SIDE1	FRONT_REAR (SPF_SIDE1)	0 - 100	20 (2mm)
	F		TRAIL_EDGE (SPF_SIDE1)	0 - 100	30 (3mm)
	G	Image loss amount setting SPF	LEAD_EDGE (SPF_SIDE2)	0 - 100	20 (2mm)
	H	SIDE2	FRONT_REAR (SPF_SIDE2)	0 - 100	20 (2mm)
	I		TRAIL_EDGE (SPF_SIDE2)	0 - 100	30 (3mm)

Item/Display				Content	Setting range	Default value
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)
	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 SIDE2	LEAD_EDGE (SPF_SIDE2)	Back surface lead edge image loss amount setting	0 - 100 30 (2mm)
	H		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 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_SIDE1)	Front surface lead edge image loss amount setting	0 - 100 0 (0mm)
	E		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 SIDE2	LEAD_EDGE (SPF_SIDE2)	Back surface lead edge image loss amount setting	0 - 100 0 (0mm)
	H		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)

51-1

Purpose

Adjustment/Setup

Function (Purpose)

Used to adjust the ON/OFF timing of the secondary transport voltage.

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Enter the set value with 10-key.
- 3) Press [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	TC2 ON TIMING	Secondary transfer voltage ON timing setting	40
B	TC2 OFF TIMING	Secondary transfer voltage OFF timing setting	60

51-2

Purpose

Adjustment/Setup

Function (Purpose)

Used to adjust the contact pressure (deflection amount) on paper by the main unit and the SPF registration roller. (This adjustment is performed when there is a considerable variation in the print image position on the paper or when paper jams frequently occur.)

Section

Operation/Procedure

- 1) (When RSPF model)
Select a target adjustment mode with [SIDE1] or [SIDE2] or [ENGINE] keys.
- 2) Select a target item to be adjusted with scroll keys.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key. (The set value is saved.)

[RSPF]

Mode	Display/Item		Content	Default value
SIDE1	A	NORMAL_PL AIN_HIGH	RSPF front surface document deflection amount adjustment value (Normal/Plain paper/HIGH)	50
	B	NORMAL_PL AIN_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

Mode	Display/Item		Content	Default value
SIDE2	A	NORMAL_PL AIN_ HIGH_1	RSPF back surface document deflection amount adjustment value 1 (Normal/Plain paper/HIGH)	50
	B	NORMAL_PL AIN_ LOW_1	RSPF back surface document deflection amount adjustment value 1 (Normal/Plain paper/LOW)	50
ENGINE	A	TRAY1 PLAIN PAPER (S)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Small size)	60
	B	TRAY1 PLAIN PAPER (L)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Large size)	60
	C	TRAY1 PLAIN PAPER(A6)	Tray1 deflection adjustment value (Plain paper/A6 size)	60
	D	TRAY2PLAIN PAPER (S)	Tray2 deflection adjustment value (Plain paper/Small size)	70
	E	TRAY2 PLAIN PAPER (L)	Tray2 deflection adjustment value (Plain paper/Large size)	60
	F	TRAY2 HEAVY A PAPER(S)	Tray2 deflection adjustment value (Heavy paper A/Small size)	70
	G	TRAY2 HEAVY A PAPER(L)	Tray2 deflection adjustment value (Heavy paper A/Large size)	70
	H	TRAY2 HEAVY B PAPER(S)	Tray2 deflection adjustment value (Heavy paper B/Small size)	50
	I	TRAY2 HEAVY B PAPER(L)	Tray2 deflection adjustment value (Heavy paper B/Large size)	50
	J	MANUAL PLAIN PAPER (S)	Manual feed tray/deflection adjustment value (Plain paper/Small size)	60
	K	MANUAL PLAIN PAPER (L)	Manual feed tray/deflection adjustment value (Plain paper/Large size)	60
	L	MANUAL HEAVY A PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper A/Small size)	70
	M	MANUAL HEAVY A PAPER(L)	Manual feed tray/deflection adjustment value (Heavy paper A/Large size)	80
	N	MANUAL HEAVY B PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper B/Small size)	60
	O	MANUAL HEAVY B PAPER (L)	Manual feed tray/deflection adjustment value (Heavy paper B/Large size)	60
	P	MANUAL OHP	Manual feed tray/deflection adjustment value (OHP)	80
	Q	MANUAL ENV	Manual feed tray/deflection adjustment value (Envelop)	80
	R	MANUAL LABEL	Manual feed tray/deflection adjustment value (Label)	70
	S	ADU PLAIN PAPER (S)	ADU/deflection adjustment value (Plain paper/Small size)	60
	T	ADU PLAIN PAPER (L)	ADU/deflection adjustment value (Plain paper/Large size)	60
	U	ADU HEAVY A PAPER (S)	ADU/deflection adjustment value (Heavy paper A/Small size)	40
	V	ADU HEAVY A PAPER (L)	ADU/deflection adjustment value (Heavy paper A/Large size)	40

Mode	Display/Item		Content	Default value
ENGINE	W	ADU HEAVY B PAPER (S)	ADU/deflection adjustment value (Heavy paper B/Small size)	40
	X	ADU HEAVY B PAPER (L)	ADU/deflection adjustment value (Heavy paper B/Large size)	40
	Y	DESK (S)	DESK/deflection adjustment value (Plain paper/Small size)	50
	Z	DESK HEAVY A PAPER(S)	DESK/deflection adjustment value (Heavy paper A/Small size)	40
	AA	DESK HEAVY B PAPER(S)	DESK/deflection adjustment value (Heavy paper B/Small size)	40
	AB	DESK (L)	DESK/deflection adjustment value (Plain paper/Large size)	40
	AC	DESK HEAVY A PAPER (L)	DESK/deflection adjustment value (Heavy paper A/Large size)	40
	AD	DESK HEAVY B PAPER (L)	DESK/deflection adjustment value (Heavy paper B/Large size)	40

[DSPF]

Mode	Display/Item		Content	Default value
REGI1	A	NORMAL_ PLAIN_HI GH	DSPF front surface document deflection amount adjustment value (Normal/Plain paper/HIGH)	70
	B	NORMAL_ PLAIN_LO W	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
	C	TRAY1 PLAIN PAPER(A6)	Tray1 deflection adjustment value (Plain paper/A6 size)	60
	D	TRAY2 PLAIN PAPER (S)	Tray1 deflection adjustment value (Plain paper/Small size)	70
	E	TRAY2 PLAIN PAPER (L)	Tray1 deflection adjustment value (Plain paper/Large size)	60
	F	TRAY2 HEAVY A PAPER(S)	Tray2 deflection adjustment value (Heavy paper A/Small size)	70
	G	TRAY2 HEAVY A PAPER(L)	Tray2 deflection adjustment value (Heavy paper A/Large size)	70
	H	TRAY2 HEAVY B PAPER(S)	Tray2 deflection adjustment value (Heavy paper B/Small size)	50
	I	TRAY2 HEAVY B PAPER(L)	Tray2 deflection adjustment value (Heavy paper B/Large size)	50

Mode	Display/Item		Content	Default value
ENGINE	J	MANUAL PLAIN PAPER (S)	Manual feed tray/deflection adjustment value (Plain paper/Small size)	60
	K	MANUAL PLAIN PAPER (L)	Manual feed tray/deflection adjustment value (Plain paper/Large size)	60
	L	MANUAL HEAVY A PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper A/Small size)	70
	M	MANUAL HEAVY A PAPER(L)	Manual feed tray/deflection adjustment value (Heavy paper A/Large size)	80
	N	MANUAL HEAVY B PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper B/Small size)	60
	O	MANUAL HEAVY B PAPER (L)	Manual feed tray/deflection adjustment value (Heavy paper B/Large size)	60
	P	MANUAL OHP	Manual feed tray/deflection adjustment value (OHP)	80
	Q	MANUAL ENV	Manual feed tray/deflection adjustment value (Envelop)	80
	R	MANUAL LABEL	Manual feed tray/deflection adjustment value (Label)	70
	S	ADU PLAIN PAPER (S)	ADU/deflection adjustment value (Plain paper/Small size)	60
	T	ADU PLAIN PAPER (L)	ADU/deflection adjustment value (Plain paper/Large size)	60
	U	ADU HEAVY A PAPER (S)	ADU/deflection adjustment value (Heavy paper A/Small size)	40
	V	ADU HEAVY A PAPER (L)	ADU/deflection adjustment value (Heavy paper A/Large size)	40
	W	ADU HEAVY B PAPER (S)	ADU/deflection adjustment value (Heavy paper B/Small size)	40
	X	ADU HEAVY B PAPER (L)	ADU/deflection adjustment value (Heavy paper B/Large size)	40
	Y	DESK (S)	DESK/deflection adjustment value (Plain paper/Small size)	40
	Z	DESK HEAVY A PAPER(S)	DESK/deflection adjustment value (Heavy paper A/Small size)	50
	AA	DESK HEAVY B PAPER(S)	DESK/deflection adjustment value (Heavy paper B/Small size)	40
	AB	DESK (L)	DESK/deflection adjustment value (Plain paper/Large size)	30
	AC	DESK HEAVY A PAPER (L)	DESK/deflection adjustment value (Heavy paper A/Large size)	50
	AD	DESK HEAVY B PAPER (L)	DESK/deflection adjustment value (Heavy paper B/Large size)	40

Note on "Large size" and "Small size"

Small size: The paper length in the transport direction is shorter than the LT size (216mm).

Large size: The paper length in the transport direction is longer than the LT size (216mm).

Adjustment value

When the adjustment value is increased, the warp amount is increased. When the adjustment value is decreased, the warp amount is decreased.

(When the adjustment value is changed by 1, the stop timing is changed by 0.1mm.)

53

53-8

Purpose	Adjustment
Function (Purpose)	Used to adjust the document lead edge reference and the SPF mode document scan position.

Section

Operation/Procedure

Select an adjustment item with [AUTO] [MANUAL] key.

< AUTO: Document lead edge reference (RRCA) adjustment > (Auto adjustment)

- 1) Set a sheet of black paper of A4 or 11"x 8.5" on the document table.
- 2) Press [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) Press [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)	Used to set dirt detection for SPF scanning position.

Section

Operation/Procedure

- 1) Select an items to be set with scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key. (The set value is saved.)

[RSPF]

Item/Display	Content	Setting range	Default value
A SIDEA_SCAN_POSITI ON_SE T_STAR T	OFF	0	0
	ON	1	
B SIDEA_SCAN_POSITI ON_SE T_JOB	OFF	0	1
	ON	1	

Item/Display			Content		Setting range	Default value
C	SIDEA_SCAN_POSITION_LV	WEAK	SPF front surface optimum scan position detection level setting	Low	0	1
		MIDDLE		Medium	1	
		STRONG		High	2	
D	OC_DIRT_LVL	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_POSITION_START	OFF	SPF front surface optimum scan position detection setting (When starting)	OFF	0	0
		ON		ON	1	
B	SIDEA_SCAN_POSITION_JOB	OFF	SPF front surface optimum scan position detection setting (After a job)	OFF	0	1
		ON		ON	1	
C	SIDEA_SCAN_POSITION_LV	WEAK	SPF front surface optimum scan position detection level setting	Low	0	1
		MIDDLE		Medium	1	
		STRONG		High	2	
D	OC_DIRT_LVL	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	SIDEA_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/OFF after JOB	4	

53-10

Purpose	Adjustment/Setup
Function (Purpose)	SPF dirt detection execution.
Section	

Operation/Procedure

1) Press [EXECUTE] key.

[RSPF]

Item	Content
SPF SIDEA	SPF front surface dirt detection position (main scan position 1 to 8) "-": No dirt, A***: Dirt
OC	OC surface dirt detection position (main scan position 1 to 8) "-": No dirt, ***: Dirt

[DSPF]

Item	Content
SPF SIDEA	SPF front surface dirt detection position (main scan position 1 to 8) "-": No dirt, A***: Dirt
SPF SIDEB	DSPF back surface dirt detection position (main scan position 1 to 8) "-": No dirt, A***: Dirt
OC	OC surface dirt detection position (main scan position 1 to 8) "-": No dirt, ***: Dirt

55

55-1

Purpose (Do not use this function unless specially required.)

Function (Purpose) Used to set the specifications of the engine control operations. (SOFT SW)

Section

Operation/Procedure

55-2

Purpose (Do not use this function unless specially required.)

Function (Purpose) Used to set the specifications of the scanner control operation. (SOFT SW)

Section

Operation/Procedure

55-3

Purpose (Do not use this function unless specially required.)

Function (Purpose) Used to set the specifications of the controller operation. (SOFT SW)

Section

Operation/Procedure

55-10

Purpose Adjustment/Setting

Function (Purpose) Used to set the special stamp text. (Taiwan only)

Section

Operation/Procedure

- 1) Select an item to be set (digit, color, type) with the scroll key.
- 2) Enter the value corresponding to the setting item with 10-key.
- 3) Press [OK] key.

Item/Display		Content	Setting range	Default value
A	1ST DIGIT	First digit (left edge)	1 - 90	1
B	2ND DIGIT	Second digit	32 [blank: 20H]	
C	3RD DIGIT	Third digit	65 - 90	
D	4TH DIGIT	Fourth digit	[Alphabet: 41H("A") - 5AH("Z")]	
E	5TH DIGIT	Fifth digit	48 - 57	
F	6TH DIGIT	Sixth digit (right edge)	[Numeral: 30H("0") - 39H("9")]	
G	COLOR	K	Color specification input	0
			C	
			M	
			Y	
			R	
			G	
			B	

Item/Display			Content		Setting range	Default value
H	TYPE	PATTERN 1	Print composing method	Edging type	0	1
		PATTERN 2		OR process type	1	
		PATTERN 3		No-delete-composition type	2	

Input value

Print	Blank	A	B	C	E	F	G
Input value	32	65	66	67	69	70	71

Print	H	I	J	K	L	M	N
Input value	72	73	74	75	76	77	78

Print	O	P	Q	R	T	U	V
Input value	79	80	81	82	84	85	86

Print	W	X	Y	Z	0	1	2
Input value	87	88	89	90	48	49	50

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

56

56-1

Purpose Backup

Function (Purpose) Used to transport data between STORAGE-EEPROM.

Section

Operation/Procedure

- 1) Select a target content of data transfer.
- 2) Press [EXECUTE] key and press [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 HDD
STORAGE -> EEPROM	Transfer from HDD to EEPROM

56-2

Purpose Data backup

Function (Purpose) Used to backup the data in the EEPROM. STORAGE (including user authentication data and address data) to the USB flash drive.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select a target transfer item with the touch panel.
- 3) Press [EXECUTE] key, and press [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) Press [SET] key.
- 5) Press [EXECUTE] key, and press [YES] key.
Data transfer selected in the procedure 2) is performed.
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-3	
Purpose	Data backup
Function (Purpose)	Used to backup the document filing data to the USB flash drive.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select a target transfer item with the touch panel.
- 3) Press [EXECUTE] key, and press [YES] key.
Data transfer selected in the procedure 2) is performed.
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-4	
Purpose	Data backup
Function (Purpose)	Used to backup the JOB log data to the USB flash drive.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Press [JOB LOG EXPORT] key.
- 3) Press [EXECUTE] key, and press [YES] key.
Data transfer selected in the procedure 2) is performed.
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-5	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to import the SIM22-6 data to a USB flash drive in the TEXT format.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select a kind of data to be imported.
- 3) Press [EXECUTE] key, and press [YES] key.
Procedure 2) The selected data are imported.
When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-6	
Purpose	Operation data check
Function (Purpose)	Used to import the SIM23-2 data to a USB flash drive in the TEXT format.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select a kind of data to be imported.
- 3) Press [EXECUTE] key, and press [YES] key.

56-7	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to import the syslog data to a USB flash drive.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select SYSLOG EXPORT to be imported.
- 3) Press [EXECUTE] key, and press [YES] key.

56-8	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to import the ICC profile data to a USB flash drive.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select the ICC profile data to be imported.
- 3) Press [EXECUTE] key, and press [YES] key.

56-15	
Purpose	Backup
Function (Purpose)	MFP EEPROM data restore

Section

Operation/Procedure

- 1) Confirm that new EEPROM attached on the PWB.
- 2) Press [EXECUTE] key, and press [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)	Used to import the log data to a USB flash drive.

Section

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select the log item data to be imported.
- 3) Press [EXECUTE] key, and press [YES] key.

Item	Contents
SIM00-11	Import SIM00-11 data.
SIM56-2	Perform simplified output of SIM56-2.
SIM56-4	Import SIM56-4 job log data.
SIM56-5	Import SIM56-5 data.
SIM56-6	Import SIM56-6 data.
SIM56-7	Import SIM56-7 system log data.

60

60-1

Purpose	Operation test/check
Function (Purpose)	Used to check the memory operations (read/write).

Section

Operation/Procedure

- 1) Press [EXECUTE] key.
Start the test.

Result display	Description
OK	Success
NG	Fail
NONE	DIMM trouble
INVALID	Execution disable

61

61-1

Purpose	Operation test/check
Function (Purpose)	Used to check the LSU polygon motor rotation and laser detection.

Section LSU

Operation/Procedure

- 1) Press [EXECUTE] key.
When the operation is completed normally, [OK] is displayed. In case of an abnormal end, [NG] is displayed.

Display	Content
LSU TESTRESULT NG: PG	Polygon mirror rotation abnormality
LSU TESTRESULT NG: K	Laser abnormality (K)
LSU TESTRESULT NG: CL	Laser light emitting abnormality (C,M,Y)

61-3

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the laser power

Section

Operation/Procedure

- 1) Select a target mode for adjustment with [COPY600], [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) Press [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
COPY 600	A	LASER POWER MIDDLE(K)	Laser power setting middle speed/K	110
	B	LASER POWER MIDDLE(C)	Laser power setting middle speed/C	110
	C	LASER POWER MIDDLE(M)	Laser power setting middle speed/M	110
	D	LASER POWER MIDDLE(Y)	Laser power setting middle speed/Y	110
	E	LASER POWER LOW(K)	Laser power setting low speed/K	110
	F	LASER POWER LOW(C)	Laser power setting low speed/C	110
	G	LASER POWER LOW(M)	Laser power setting low speed/M	110
	H	LASER POWER LOW(Y)	Laser power setting low speed/Y	110
	I	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	110
	J	LASER POWER LOW(BW)	Laser power setting low speed/BW	110
	K	LASER DUTY MIDDLE(K)	Laser duty select middle speed/K	0
	L	LASER DUTY MIDDLE(C)	Laser duty select middle speed/C	0
	M	LASER DUTY MIDDLE(M)	Laser duty select middle speed/M	0
	N	LASER DUTY MIDDLE(Y)	Laser duty select middle speed/Y	0
	O	LASER DUTY LOW(K)	Laser duty select low speed/K	0
	P	LASER DUTY LOW(C)	Laser duty select low speed/C	0
	Q	LASER DUTY LOW(M)	Laser duty select low speed/M	0
	R	LASER DUTY LOW(Y)	Laser duty select low speed/Y	0
	S	LASER DUTY MIDDLE(BW)	Laser duty select middle speed/BW	0
	T	LASER DUTY LOW(BW)	Laser duty select low speed/BW	0
COPY 600	U	LASER POWER K1	Laser power setting K1	100
	V	LASER POWER K2	Laser power setting K2	100
	W	LASER POWER K3	Laser power setting K3	100
	X	LASER POWER K4	Laser power setting K4	100
	Y	LASER POWER C1	Laser power setting C1	100
	Z	LASER POWER C2	Laser power setting C2	100
	AA	LASER POWER C3	Laser power setting C3	100
	AB	LASER POWER C4	Laser power setting C4	100
	AC	LASER POWER M1	Laser power setting M1	100
	AD	LASER POWER M2	Laser power setting M2	100
	AE	LASER POWER M3	Laser power setting M3	100
	AF	LASER POWER M4	Laser power setting M4	100
	AG	LASER POWER Y1	Laser power setting Y1	100
	AH	LASER POWER Y2	Laser power setting Y2	100
	AI	LASER POWER Y3	Laser power setting Y3	100
	AJ	LASER POWER Y4	Laser power setting Y4	100

Mode		Item / Display	Content	Default
PRINT ER 600/ FAX	A	LASER POWER MIDDLE(K)	Laser power setting middle speed/K	110
	B	LASER POWER MIDDLE(C)	Laser power setting middle speed/C	110
	C	LASER POWER MIDDLE(M)	Laser power setting middle speed/M	110
	D	LASER POWER MIDDLE(Y)	Laser power setting middle speed/Y	110
	E	LASER POWER LOW(K)	Laser power setting low speed/K	110
	F	LASER POWER LOW(C)	Laser power setting low speed/C	110
	G	LASER POWER LOW(M)	Laser power setting low speed/M	110
	H	LASER POWER LOW(Y)	Laser power setting low speed/Y	110
	I	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	110
	J	LASER POWER LOW(BW)	Laser power setting low speed/BW	110
	K	LASER DUTY MIDDLE(K)	Laser duty select middle speed/K	0
	L	LASER DUTY MIDDLE(C)	Laser duty select middle speed/C	0
	M	LASER DUTY MIDDLE(M)	Laser duty select middle speed/M	0
	N	LASER DUTY MIDDLE(Y)	Laser duty select middle speed/Y	0
	O	LASER DUTY LOW(K)	Laser duty select low speed/K	0
	P	LASER DUTY LOW(C)	Laser duty select low speed/C	0
	Q	LASER DUTY LOW(M)	Laser duty select low speed/M	0
	R	LASER DUTY LOW(Y)	Laser duty select low speed/Y	0
PRINT ER 600/ FAX	S	LASER DUTY MIDDLE(BW)	Laser duty select middle speed/BW	0
	T	LASER DUTY LOW(BW)	Laser duty select low speed/BW	0
	U	LASER DUTY MIDDLE(K 1BIT)	Laser duty select middle speed (1BIT)/K	0
	V	LASER DUTY MIDDLE(C 1BIT)	Laser duty select middle speed (1BIT)/C	0
	W	LASER DUTY MIDDLE(M 1BIT)	Laser duty select middle speed (1BIT)/M	0
	X	LASER DUTY MIDDLE(Y 1BIT)	Laser duty select middle speed (1BIT)/Y	0
	Y	LASER DUTY LOW(K 1BIT)	Laser duty select low speed (1BIT)/K	0
	Z	LASER DUTY LOW(C 1BIT)	Laser duty select low speed (1BIT)/C	0
	AA	LASER DUTY LOW(M 1BIT)	Laser duty select low speed (1BIT)/M	0
	AB	LASER DUTY LOW(Y 1BIT)	Laser duty select low speed (1BIT)/Y	0
	AC	LASER DUTY MIDDLE(BW 1BIT)	Laser duty select middle speed (1BIT)/ BW	0
	AD	LASER DUTY LOW(BW 1BIT))	Laser duty select low speed (1BIT)/BW	0

The print image skew adjustment pattern is printed.

Item/Display			Content			Default value
A	MULTICOUNT		Print quantity (1-999)			1
B	PAPER	MFT	Tray selection	1	Manual paper feed	2 (CS 1)
		CS1		2	Paper feed tray 1	
		CS2		3	Paper feed tray 2	
		CS3		4	Paper feed tray 3	
		CS4		5	Paper feed tray 4	
		CS5		6	Paper feed tray 5	

61-14

Purpose	Adjustment
Function (Purpose)	Used to set the laser power at once.
Section	

Operation/Procedure

This Sim mode allows change of laser power settings easily, and all at once. However, this change will not change the initial value of SIM 61-3 (Laser power settings).

The laser power set in this Sim mode will be:

Initial value of Sim 61-3 x Initial value of Sim 61-14 (%)

1) Press 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%)	
C	-2	Fine (80%)	0
	-1	Slight fine (90%)	
	0	Normal (100%)	
	1	Slight thick (110%)	
M	-2	Fine (80%)	0
	-1	Slight fine (90%)	
	0	Normal (100%)	
	1	Slight thick (110%)	
Y	-2	Fine (80%)	0
	-1	Slight fine (90%)	
	0	Normal (100%)	
	1	Slight thick (110%)	
	2	Thick (120%)	

Important

Same as [SYSTEM SETTINGS] -> [Image Quality Adjustment] -> [Collective Adjustment] -> Black Letter/Black Line Width Adjustment

61-4

Purpose	Adjustment
Function (Purpose)	Used to print the print image skew adjustment pattern.
Section	

Operation/Procedure

- 1) Select a target item on the touch panel.
- 2) Enter the print conditions setting value with 10-key.
- 3) Press [EXECUTE] key.

62-1

Purpose	Data clear
Function (Purpose)	Used to format the Storage. (STORAGE: Excluding the Operation manual and the watermark data)

Section**Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

Used to execute the STORAGE format.

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

Item	Content
ALL AREA	Storage format
EXCEPT SYSTEM AREA	Storage format (Except system area)
PREINSTALL DATA	Storage format (Pre-installed data area)

62-3

Purpose	Operation test/check
Function (Purpose)	Used to check read/write of the STORAGE (all areas).

Section**Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

Read/write operations are performed.

Item	Content
ALL	Storage read/write check (All area)
PART	Storage read/write check (Partial area)
SMART (SHORT)	Storage self-diagnostic (Partial area)
SMART (EXTENDED)	Storage self-diagnostic (All 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.

FORMAT	Format of specified partition
CHECK	Specified partition check

62-7

Purpose	Operation test/check
Function (Purpose)	Used to print the Storage self diagnosis error log.

Section**Operation/Procedure**

- 1) Press [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.

62-11

Purpose	Data clear
Function (Purpose)	Used to delete the document filing data.

Section**Operation/Procedure**

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

Used to delete the document filing data.

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

62-12

Purpose	Setting
Function (Purpose)	Used to set Enable/Disable of auto format in the storage trouble.

Section**Operation/Procedure**

- 1) Enter the set value with 10-key.
- 2) Press [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)	Used to initialize the database file.

Section**Operation/Procedure**

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

Item	Content
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**Operation/Procedure**

Storage information is displayed.

63-1

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the shading correction result.
Section	Scanner

Operation/Procedure

1) Select a target color to display with [R] [G] [B] on the touch panel.

[RSPF]

Display item	Description	Remarks
ANALOG GAIN ODD	Analog gain adjustment value (odd number)	
ANALOG GAIN EVEN	Analog gain adjustment value (even number)	
DIGITAL GAIN ODD	Digital gain adjustment value (odd number)	
DIGITAL GAIN EVEN	Digital gain adjustment value (even number)	
SMP AVE ODD	Reference plate sampling average value (ODD)	
SMP AVE EVEN	Reference plate sampling average value (EVEN)	
TARGET	Target value	
BLACK LEVEL	Black output level	
ERROR CODE	Error code (0, 1 - 14)	0: No error 1: STAGE1, Loop number over 2: STAGE2, The target value is under the specified value 3: STAGE3, The gain set value is negative. 4: END is not asserted. (Gain adjustment) 5: STAGE2, Retry maximum 6: STAGE2, Underflow 7: Black shading error 8: Other error 9: END is not asserted. (White shading) 10: END is not asserted. (Black shading) 11: END is not asserted. (Light quantity correction) 12: END is not asserted. 13: Register check error (White booting/Before gain) 14: Register check error (Before light quantity correction)
RSPF BACK WHITE LEVEL 1ST	First scan RSPF back surface white reference level	
RSPF BACK WHITE LEVEL 2ND	Second scan RSPF back surface white reference level	

[DSPF]

Display item	Description	Remarks
OC		
ANALOG GAIN ODD	Analog gain adjustment value (odd number)	
ANALOG GAIN EVEN	Analog gain adjustment value (even number)	
DIGITAL GAIN ODD	Digital gain adjustment value (odd number)	
DIGITAL GAIN EVEN	Digital gain adjustment value (even number)	
SMP AVE ODD	Reference plate sampling average value (ODD)	
SMP AVE EVEN	Reference plate sampling average value (EVEN)	
TARGET	Target value	
BLACK LEVEL	Black output level	
ERROR CODE	Error code (0, 1 - 14)	0: No error 1: STAGE1, Loop number over 2: STAGE2, The target value is under the specified value 3: STAGE3, The gain set value is negative. 4: END is not asserted. (Gain adjustment) 5: STAGE2, Retry maximum 6: STAGE2, Underflow 7: Black shading error 8: Other error 9: END is not asserted. (White shading) 10: END is not asserted. (Black shading) 11: END is not asserted. (Light quantity correction) 12: END is not asserted. 13: Register check error (White booting/Before gain) 14: Register check error (Before light quantity correction)
DSPF BACK WHITE LEVEL 1ST	First scan DSPF back surface white reference level	
DSPF BACK WHITE LEVEL 2ND	Second scan DSPF back surface white reference level	

Display item		Description	Remarks
DSP F	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	
	BLACK LEVEL	Black output level	
	ERROR CODE	Error code (0, 1 - 14)	0: No error 1: STAGE1, Loop number over 2: STAGE2, The target value is under the specified value 3: STAGE3, The gain set value is negative. 4: END is not asserted. (Gain adjustment) 5: STAGE2, Retry maximum 6: STAGE2, Underflow 7: Black shading error 8: Other error 9: END is not asserted. (White shading) 10: END is not : asserted. (Black shading) 11: END is not : asserted. (Light quantity correction) 12: END is not : asserted. 13: Register check : error (White booting/Before gain) 14: Register check : error (Before light quantity correction)
	DSPF BACK WHITE LEVEL 1ST 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)

Used to perform shading.

Section**Operation/Procedure**

- 1) Press [EXECUTE] key.

Used to perform shading.

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

When the DSPF is connected, the following items are displayed.

Display	Contents
OC SHADING	OC analog correction level correction or shading correction data creation (OC mode)
DSPF SHADING	DSPF analog correction level correction or shading correction data creation (SPF mode)

63-3

Purpose

Adjustment

Function (Purpose)Used to perform scanner (CCD) color balance
and gamma auto adjustment.**Section**

Scanner

Operation/Procedure**For OC mode**

- 1) Place the scanner adjustment chart (UKOG-0356FCZZ) on the reference position of the left rear frame side of the document table.
- 2) Select the color which needs to be adjusted. Then, press [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, press [EXECUTE] key.

The scanner (CCD) color balance automatic adjustment is performed.

63-4

Purpose

Adjustment/Setting/Operation data check

Function (Purpose)

Used to display the SIT chart patch density.

Section**Operation/Procedure**

- 1) Set the scanner adjustment chart (UKOG-0356FCZZ) to the reference position on the left rear frame side of the document table.
- 2) Select the color which needs to be adjusted. Then, press [EXECUTE] key.

The patch of the SIT chart is scanned.

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

- 3) Select a data display mode.

GAMMATHROUGH	SIT chart scan data
COPY GAMMA	Copy mode gamma process data of the SIT chart scan data
SCANNER GAMMA	Image send mode gamma process data of the SIT chart scan data
SIT CHECK	SIT chart scan data/Check result

Select an target display color with [R] [G] [B] keys.

63-5	
Purpose	Adjustment/Setup
Function (Purpose)	Used to perform the scanner (CCD) color balance and gamma default setting.

Section

Operation/Procedure

- 1) Press [EXECUTE] key, and press [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

63-7	
Purpose	Adjustment/Setup
Function (Purpose)	Used to register the service target of the copy mode auto color balance adjustment.

Section

Operation/Procedure

- 1) Press [SETUP] key on the touch panel.
- 2) Set the color balance adjustment pattern sheet printed with SIM46-21 on the document table.
- 3) Press [EXECUTE] key.
The patch image of the adjustment pattern sheet is scanned.
- 4) Press [OK] key.
The service target of the copy mode automatic color balance adjustment is registered according to the patch image of the scanned adjustment pattern sheet.
The registered color balance and the density are displayed.
Select a target color with [C] [M] [Y] [K] key.

Important

This simulation is executed only when the copy color balance is manually adjusted.

B	Point B target value
C	Point C target value
D	Point D target value
E	Point E target value
F	Point F target value
G	Point G target value
H	Point H target value
I	Point I target value
J	Point J target value
K	Point K target value
L	Point L target value
M	Point M target value

N	Point N target value
O	Point O target value
P	Point P target value
BASE	Background sampling value

63-8	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the default of the service target of the copy mode auto color balance adjustment.

Section

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.
The service target of the copy mode automatic color balance adjustment is set to the default.
The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

63-11	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the target color balance of the copy mode auto color balance adjustment.

Section

Operation/Procedure

- 1) Select the target color balance with the touch panel.

Item/Display	Content	Default value
TARGET TBL	DEF1 The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Magenta. When this target is selected, the color balance is converted into natural gray color balance by the color table in an actual copy mode and print is made.	DEF 1
	DEF2 The engine color balance adjustment target in the automatic color balance operation is slightly shifted to natural gray color balance. When this target is selected, the color balance is slightly shifted to Cyan by the color table in an actual copy mode and print is made.	
	DEF3 The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Cyan. When this target is selected, the color balance is converted into the color balance with enhanced Cyan by the color table in an actual copy mode and print is made.	

Operation/Procedure

- 1) Set the print conditions.
Select an item to be print condition with scroll keys.
Set the print conditions with 10-key.
Select a target print color with [K] [C] [M] [Y] key.
- 2) Press [EXECUTE] key.
The test print (self print) is performed.

64-1	
Purpose	Operation test/check
Function (Purpose)	Test print. (Self print) (Color mode)
Section	

Item/Display			Content		Setting range		Default value
A	PRINT PATTERN (1, 2, 9 - 11, 17 - 19, 21, 22)		Specification of the print pattern (* For details, refer to the description below.)		1 - 58 (Printable only 1, 2, 9 - 11, 17 - 19, 21, 22)		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)		236
D	DENSITY (FIXED "255" IF A: 9)		Used to specify the print gradation.		1-255 (Pattern 9: 255 Fixed except above:1-255)		255
E	MULTI COUNT		Number of print		1 - 999		1
F	EXPOSURE (2 - 8 IF A: 17 - 19)	NONE	Exposure mode specification	No process (through)	1-8 (Pattern 17-19: 2-8 except above:1-8)	1	8
		TEXT/PRINTED PHOTO		Text/Printed Photo		2	
		TEXT/PHOTO		Text/ Photograph		3	
		TEXT		Text		4	
		PHOTO		Photograph		5	
		PRINTED PHOTO		Printed Photo		6	
		MAP		Map		7	
		STANDARD DITHER		Dither without correction		8	
G	PAPER	MFT	Tray selection	Manual paper feed	1 - 6	1	2
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
		CS5		Tray 5		6	
H	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1
		NO		No		1	
I	PAPER TYPE	PLAIN 1	Paper type	Plain paper 1	1 - 7	1	1
		PLAIN 2		Plain paper 2		2	
		HEAVY		Heavy paper		3	
		OHP		OHP		5	
		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)	* When all colors are selected, print is made in CMY.
18	256 gradations pattern (Other dither)		* When all colors are selected, print is made in CMY. * 16 gradations are printed in the main scanning direction, and feedback is made, and the next 16 gradations are printed. (16 x 16 patch print) * Print is started at 5mm from the paper lead edge. * Print is made from 255 gradations, and 0-254 gradations are printed.
19	256 gradations pattern (For text dither)		* Print is made from 255 gradations, and 0-254 gradations are printed.
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	

64-2	
Purpose	Operation test/check
Function (Purpose)	Test print. (Self print) (Monochrome mode)
Section	

Operation/Procedure

- 1) Set the print conditions.
Select an item to be print condition with scroll keys.
Set the print conditions with 10-key.
- 2) Press [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 - 58 (Printable only 1, 2, 9 - 11, 17 - 19, 21, 22)		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 - 6	1	2
		CS1	Manual paper feed		2	
		CS2	Tray 1		3	
		CS3	Tray 2		4	
		CS4	Tray 3		5	
		CS5	Tray 4		6	
H	DUPLEX	YES	Duplex print selection	0 - 1	0	1
		NO	No		1	
I	PAPER TYPE	PLAIN 1	Paper type	1 - 7	1	1
		PLAIN 2	Plain paper 1		2	
		HEAVY	Plain paper 2		3	
		OHP	Heavy paper		4	
		ENVELOPE	OHP		5	
		HEAVY2	Envelope		6	
		GLOSSY	Heavy paper 2		7	
			Glossy paper			

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 test print. (Self print)
Section	

Operation/Procedure

- 1) Set the print conditions.
 Select an item to be print condition with scroll keys.
 Set the print conditions with 10-key.
 Select a target print color with [K] [C] [M] [Y] key.
- 2) Press [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 - 6	6
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	
		CS5		Tray 5	6	
E	HALFTONE	LOW	Halftone	Low line number	0	0
		HIGH		High line number	1	
F	QUALITY	STANDARD	Image quality setting	600dpi	0	1
		HIGHQUALITY		600dpi (High Quality)	1	
G	DITHER	STRAIGHT	Specification of dither correction	Straight	0	1
		CALIB		Calibration	1	
H	PAPER TYPE	PLAIN 1	Paper type	Plain paper 1	0	0
		PLAIN 2		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 (COLOR)
2	256 gradations pattern (B/W)
3	256 gradations pattern (COLOR) (Y-M-C-K continuous)
4	Halftone pattern (COLOR)
5	Halftone pattern (B/W)
6	Background dot print

64-5	
Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PCL)
Section	

Select an item to be print condition with scroll keys.

Set the print conditions with 10-key.

Select a target print color with [K] [C] [M] [Y] key.

2) Press [EXECUTE] key.

The test print (self print) is performed.

Operation/Procedure

1) Set the print conditions.

Item/Display			Content		Setting range	Default value
A	PRINT PATTERN		Print pattern specification		1 - 5	3
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	
		CS5		Tray 5	6	
E	HALFTONE	LOW(IMAGE)	Halftone	For Photo	0	2
		HIGH(TEXT)		For text	1	
		AUTO		Auto (for photo/text)	2	
F	QUALITY	STANDARD	Image quality setting	600dpi	0	1
		HIGHQUALITY		600dpi (High Quality)	1	
G	DITHER	STRAIGHT	Specification of dither correction	Straight	0	1
		CALIB		Calibration	1	
H	PAPER TYPE	PLAIN 1	Paper type	Plain paper 1	0	0
		PLAIN 2		Plain paper 2	1	
		HEAVY		Heavy paper	2	
		HEAVY2		Heavy paper 2	3	
		GLOSSY		Glossy paper	4	
I	INTENT	PERCEPTUAL	Rendering indent	Perceptual	0	0
		COLORIMETRIC		Color metric	1	
		SATURATION		Saturation	2	
J	OUTPUT PROFILE	SHARP	Output profile	Standard	0	0
		STANDARD		Photo image	1	
		GRAPHICS		Graphics	2	
K	RGB SOURCE PROFILE	SRGB	RGB source profile	SRGB	0	0
		GAMMA1.6		Gamma 1.6	1	
		GAMMA1.8		Gamma 1.8	2	
		GAMMA2.0		Gamma 2.0	3	
		GAMMA2.6		Gamma 2.6	4	
		GAMMA3.0		Gamma 3.0	5	
		TONER SAVE		TONER SAVE	6	
L	GRAY COMPENSATION	K	Gray print method	K only	0	0
		KCMY		KCMY	1	
M	PURE BLACK PRINT	ON	Black monochrome print	set.	0	0
		OFF		not set.	1	
N	BW TONER SAVE	OFF	Monochrome toner save	not set.	0	0
		ON		set.	1	

Print pattern of Item A

Pattern No.	Content
1	COLOR
2	B/W
3	Continuous COLOR,B/W
4	Service chart (COLOR)
5	Service chart (B/W)

64-6	
Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PS)
Section	

Operation/Procedure

- 1) Set the print conditions.
 Select an item to be print condition with scroll keys.
 Set the print conditions with 10-key.
 Select a print color with [K] [C] [M] [Y] key.
- 2) Press [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	
		CS5		Tray 5	6	
E	HALFTONE	LOW(IMAGE)	Halftone	For Photo	0	2
		HIGH(TEXT)		For text	1	
		AUTO		Auto (for photo/text)	2	
F	QUALITY	STANDARD	Image quality setting	600dpi	0	1
		HIGHQUALITY		600dpi (High Quality)	1	
G	DITHER	STRAIGHT	Specification of dither correction	Straight	0	1
		CALIB		Calibration	1	
H	PAPER TYPE	PLAIN 1	Paper type	Plain paper 1	0	0
		PLAIN 2		Plain paper 2	1	
		HEAVY		Heavy paper	2	
		HEAVY2		Heavy paper 2	3	
		GLOSSY		Glossy paper	4	
I	INTENT	PERCEPTUAL	Rendering indent	Perceptual	0	0
		COLORIMETRIC		Color metric	1	
		SATURATION		Saturation	2	
J	OUTPUT PROFILE	SHARP	Output profile	Standard	0	0
		STANDARD		Photo image	1	
		GRAPHICS		Graphics	2	
K	RGB SOURCE PROFILE	SRGB	RGB source profile	SRGB	0	0
		GAMMA1.6		Gamma 1.6	1	
		GAMMA1.8		Gamma 1.8	2	
		GAMMA2.0		Gamma 2.0	3	
		GAMMA2.6		Gamma 2.6	4	
		GAMMA3.0		Gamma 3.0	5	
		TONER SAVE		TONER SAVE	6	
L	GRAY COMPENSATION	K	Gray print method	K only	0	0
		KCMY		KCMY	1	
M	PURE BLACK PRINT	ON	Black monochrome print	set.	0	1
		OFF		not set.	1	
N	BW TONER SAVE	OFF	Monochrome toner save	not set.	0	0
		ON		set.	1	
O	CMYK SIMULATION	OFF	CMYK simulation	OFF	0	0
		SWOP		SWOP	1	
		EURO		EURO	2	
		JAPAN COLOR		JAPAN COLOR	3	
		TONER SAVE		TONER SAVE	4	

Print pattern of Item A

Pattern No.	Content
1	COLOR
2	B/W

65-1	
Purpose	Adjustment
Function (Purpose)	Used to adjust the touch panel (LCD display section) detection coordinates.
Section	Operation panel section

Operation/Procedure

Touch the center of the cross mark at the four corners of the screen.

When the adjustment is completed normally, the screen shifts to the simulation sub number entry menu.

In case of an error, the screen returns to the adjustment menu.

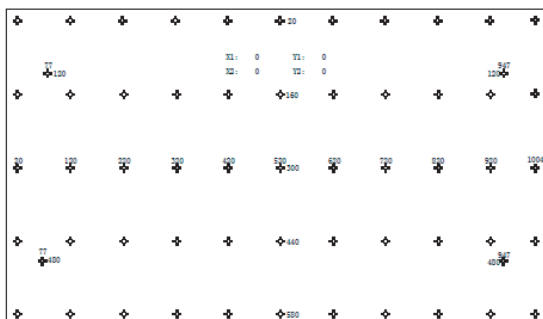


65-2	
Purpose	Operation check/test
Function (Purpose)	Used to display the touch panel (LCD display section) detection coordinates.
Section	

Operation/Procedure

Touch the touch panel.

The coordinates X (horizontal direction) and Y (vertical direction) of the touched position is displayed in real time.



65-5	
Purpose	Operation check/test
Function (Purpose)	Used to check the operation panel key input.
Section	

Operation/Procedure

Press [HOME] key.

If the key entry is effective, the guidance for pressing the next key is displayed. When all the key entries are completed, "COMPLETE" is displayed.

<Check target key>

10 Inch LCD model
HOME

66-1	
Purpose	Setting
Function (Purpose)	Used to display the FAX-related soft SW (2 - 150) on the LCD to allow changing the soft SW while checking with the LCD.
Section	FAX

Operation/Procedure

- 1) Enter the [SW NO] with 10-key.
* When [C] key is pressed, the entered value of [SW NO] is cleared.
- 2) Press [DATA] button.
The soft SW data entered in procedure 1) is displayed.
* When [SW NO] button is pressed, the display returns to the initial screen.
- 3) Enter the number corresponding to the bit to be changed with 10-key.
* [1] -> [0]
[0] -> [1]
- 4) When [EXECUTE] button is pressed, it is highlighted and the setting is saved.

After saving the setting, [EXECUTE] button returns to the normal display.

66-2	
Purpose	Setting
Function (Purpose)	Used to enter a country code and set the default value for the country code.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-02, the following screen is displayed.
* When [DEST CODE] button is pressed, the display is shifted to the country code list screen.
* The currently set country code is displayed in the column of "PRESENT:".
- 2) 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 pressed, the column of "NEW:" is cleared.
- 3) When [SET] button is pressed 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.
- 4) When [EXECUTE] button is pressed, it is highlighted and [YES] and [NO] buttons become active. The country name is displayed on the tile line.
- 5) When [YES] button is pressed, it is highlighted and the soft SW corresponding to the country code is initialized.
- 6) 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 pressed 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	11111011
FINLAND	00111100
NORWAY	10000010
DENMARK	00110001
NETHERLANDS	01111011
ITALY	01011001
SWITZERLAND	10100110
AUSTRIA	00001010
INDONESIA	01010100
THAILAND	10101001
MALAYSIA	01101100
INDIA	01010011
PHILIPPINES	10001001
HONGKONG	01010000
RUSSIA	10111000
SOUTHAFRICA	10011111
SPAIN	10100000
PORTUGUESE	10001011
LUXEMBURG	01101001
BELGIUM	00001111
CZECH	00101110
HUNGARY	01010001
GREECE	01000110
POLAND	10001010
BRAZIL	00010110
KOREA	01100001
VIETNAM	10111100

66-3	
Purpose	Operation test/Check
Function (Purpose)	Used to check read/write of the EEPROM and the SDRAM on the MODEM controller and display the result.
Section	FAX

Operation/Procedure

- When the machine enters Simulation 66-03, the following screen is displayed.
* Select the page of memory check item with the scroll key.
- When the memory check item button is selected, the display is shifted to the memory check screen.
- When [EXECUTE] button is pressed, it is highlighted and the memory check of the selected item is started.
- After completion of memory check, [EXECUTE] button returns to the normal display and the result of memory check is displayed.

Memory check status

NO CHECK	No check	
CHECKING	During checking	
OK	Check complete OK	
NG A##	Check complete NG	Error occurring address or data line is displayed for each item.

Check item

Check memory item		Remark
1	All Memory Device Check (once)	All the items are checked once.
2	MODEM EEPROM <1> (once)	Check only once in LINE1
3	MODEM EEPROM <1> (repeat)	Repeat check in LINE1
4	MODEM SDRAM <1> (once)	Check only once in LINE1
5	MODEM SDRAM<1>(repeat)	Repeat check in LINE1

66-4	
Purpose	Operation test/Check
Function (Purpose)	Used to send the selected signals to the line and the main unit speaker. (Send level: max.)
Section	FAX

Operation/Procedure

- When the machine enters Simulation 66-04, the screen on the right is displayed. (Default, left upper selected.)
* Use scroll keys to switch the send mode select page.
- When a button of a signal to be sent is selected, it is highlighted and the previously set button is shifted to the normal display.
- When [EXECUTE] button is pressed, it is highlighted and signals are sent.
- To end signal send:
When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

<Signal send table>

NOSIGNAL	33.6 V34	31.2 V34	28.8 V34
26.4 V34	24.0 V34	21.6 V34	19.2 V34
16.8 V34	14.4 V34	12.0 V34	9.6 V34
7.2 V34	4.8 V34	2.4 V34	14.4 V33
12.0 V33	14.4 V17	12.0 V17	9.6 V17
7.2 V17	9.6 V29	7.2 V29	4.8 V27t
2.4 V27t	0.3 FLG	CED 2100	CNG 1100
0.3 V21	ANSam	RINGER	No RBT

DP MAKE	DP BRK	NO MSG	Volt/mA
---------	--------	--------	---------

66-5	
Purpose	Operation test/Check
Function (Purpose)	Used to send the selected signal to the line and the main unit speaker. (Send level: Soft SW setting) (For the kinds of send signals, refer to SIM66-04.)
Section	FAX

Operation/Procedure

- When the machine enters Simulation 66-05, the item selection screen is displayed.
* Use scroll keys to switch the send mode select page.
- When a button of a signal to be sent is selected, it is highlighted and the previously set button is shifted to the normal display.
- When [EXECUTE] button is pressed, it is highlighted and signals are sent.
- To end signal send:
* When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

66-6	
Purpose	Data output/Check
Function (Purpose)	Used to print the confidential registration check table (BOX NO., BOX name, passcode. (If there is no confidential registration, no print is made.)
Section	FAX

Operation/Procedure

- When [EXECUTE] button is pressed, it is highlighted and the confidential checkable is printed.
* If there is no confidential registration, no print is made even though [EXECUTE] key is pressed.
- After completion of printing, [EXECUTE] button returns to the normal display.

66-7	
Purpose	Data output/Check
Function (Purpose)	Used to output all image data saved in the image memory. (Confidential data are also outputted.)
Section	FAX

Operation/Procedure

- 1) When [EXECUTE] button is pressed, it is highlighted and all image data saved in the image memory are outputted.
- 2) After completion of printing, [EXECUTE] button returns to the normal display.

66-8	
Purpose	Operation test/Check
Function (Purpose)	Used to send the selected sound messages to the line and the speaker. (Send level: Max.)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-08, the item selection screen is displayed.
- 2) 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)	Used to send the selected sound message to the line and the speaker. (Send level: Soft SW setting) * For details of sound messages, refer to the sound message table of SIM66-08.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-09, the item selection screen is displayed.
- 2) When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and a sound message is sent.
- 4) To end signal send:
When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

66-10	
Purpose	Data clear
Function (Purpose)	Used to clear the FAX and image send image data. (The confidential data and redial data are also cleared)
Section	FAX

Operation/Procedure

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

66-11	
Purpose	Operation test/Check
Function (Purpose)	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Max.)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-11, the item selection screen is displayed.
- 2) When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and a sound message is sent.
- 4) To end signal send:
When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

<300bps send signal table>

NO SIGNAL	11111	11110	00000
010101	00001		

66-12	
Purpose	Operation test/Check
Function (Purpose)	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Soft SW setting) * For the kings of send signals at 300bps, refer to SIM66-11, 300bps send signal table.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-12, the item selection screen is displayed.
- 2) When a button of a sound message to be sent is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and a sound message is sent.
- 4) To end signal send:
When [EXECUTE] button is pressed, it is highlighted and signal send is interrupted.

66-13	
Purpose	Setting
Function (Purpose)	Used to register dial numbers for SIM66-14/15/16, Dial test. (Up to 20 digits can be registered.)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-13, the number input screen is displayed.
* The number saved in the memory is displayed in the column of [PRESENT:]. (If there is no data, [-----] is displayed.)
- 2) Enter a number with 10-key.
The entered number is displayed in the column of [NEW:].
After entering 20 digits, 10-key is disabled (no response). Only [C] key is enabled. (10-key [0] to [9], [*], [#], [C] key (back by one digit))
- 3) When [SET] key is pressed after completion of entry, the entered number is displayed (registered) in the column of [PRESENT:].
The column of [NEW:] becomes blank.

66-14	
Purpose	Adjustment
Function (Purpose)	Used to execute the dial pulse (10PPS) send test and to adjust the make time.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-14, the adjustment item screen is displayed.
- 2) When [EXECUTE] button is pressed, it is highlighted and the dial pulse is sent from the line in the set make time.
- 3) To end the dial test, press [EXECUTE] button again. The button returns to the normal display and the test is terminated.

66-15	
Purpose	Adjustment
Function (Purpose)	Used to execute the dial pulse (20PPS) send test and to adjust the make time.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-15, the adjustment item screen is displayed.
- 2) When [EXECUTE] button is pressed, 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, press [EXECUTE] button again. The button returns to the normal display and the test is terminated.

66-16	
Purpose	Adjustment
Function (Purpose)	Used to execute the DTFM signal send test and to adjust the send level.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-16, the item selection screen is displayed.
- 2) When [EXECUTE] button is pressed, 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, press [EXECUTE] button. The button returns to the normal display and the test is terminated.

66-17	
Purpose	Operation test/Check
Function (Purpose)	Used to send the DTMF signal to the line and the speaker. (Send level: Max.)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-17, the number selection screen is displayed.
- 2) When a button of a send signal is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and signals are sent.
- 4) To stop signal sending:

When [EXECUTE] button is pressed, it returns to the normal display and signal sending is interrupted.

66-18	
Purpose	Operation test/Check
Function (Purpose)	Used to send the DTMF signal to the line and the speaker. (Send level: Soft SW setting)
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-18, the number selection screen is displayed.
- 2) When a button of a send signal is selected, it is highlighted and the previously set button returns to the normal display.
- 3) When [EXECUTE] button is pressed, it is highlighted and signals are sent.
- 4) To stop signal sending:

When [EXECUTE] button is pressed, it returns to the normal display and signal sending is interrupted.

66-21	
Purpose	Check
Function (Purpose)	Used to print the selected items (system error, protocol monitor).
Section	FAX

Operation/Procedure

- 1) When an item button to be printed is selected, it is highlighted and the previously set button returns to the normal display.
- 2) Press [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)	Used to initialize the telephone book data (the one-touch registration table, the FTP/Desktop expansion table, the group expansion table, the program registration table, the interface memory box table, the meta data, Inbound-Routing, and the DocumentAdmin table).
Section	FAX

Operation/Procedure

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

The telephone book data area cleared.
- 3) After completion of memory clear, [EXECUTE] button returns to the normal display and [YES] and [NO] buttons gray out.

66-30	
Purpose	Operation test/Check
Function (Purpose)	Used to display the TEL/LIU status change. The display is highlighted by status change.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-30, the item selection screen is displayed.
- 2) RGDT, RHS, EXHS and SiDAA are highlighted when the signal is detected, and displayed normally when the signal is not detected.

<TEL/LIU status change item description>

RGDT	Telephone line voltage
RHS	Handset hook SW
EXHS	External telephone hook SW
SiDAA	Polarity inversion signal

66-31	
Purpose	Setting
Function (Purpose)	Used to set ON/OFF the port for output to TEL/LIU.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-31, the item selection screen is displayed.
- 2) Change the port setting.
When a port is set to ON, the port display is highlighted.
- 3) When [EXECUTE] button is pressed, the changed setting is reflected to the port which outputs to TEL/LIU.
- 4) To terminate the process, press [EXECUTE] button again. [EXECUTE] button returns to the normal display.

<Port which outputs to TEL/LIU>

CION	S.	150Von
------	----	--------

66-32	
Purpose	Operation test/Check
Function (Purpose)	Used to check the fixed data received from the line and to display the result.
Section	FAX

Operation/Procedure

- 1) Press [EXECUTE] button to check the fixed data received from the line. At that time, [EXECUTE] button is highlighted.
 - * Fixed data check procedure
 - * The data received from the line is checked of the following fixed data status for minutes, then if they are in accord with "OK" is displayed on LCD, if not "NG" is displayed.
 - * The judgment is made in 2 minutes.
Receive speed: 300BPS
Receive data: 00H
Judgment data: 100byte
- 2) After completion of check, [EXECUTE] button returns to the normal display. The result is displayed as "OK" or "NG."

66-33	
Purpose	Operation test/Check
Function (Purpose)	Used to execute detection of various signals with the line connected and to display the detection result. When a signal is detected, the display is highlighted.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-33, the item selection screen is displayed.
- 2) The signal to be checked can be selected from the two options: "FNET" and "BT/CNG/CED/DTMF."
- 3) When a signal is detected, "FNET" and "BUSY TONE CNG CED DTMF" are highlighted. When a signal is not detected, they are normally displayed.

<Signal used for signal detection check>

(When "FNET" is selected)

FNET

(When "BT/CNG/CED/DTMF" is selected)

BUSY TONE	CNG	CED	DTMF
-----------	-----	-----	------

66-36	
Purpose	Operation test/Check
Function (Purpose)	Used to check send and receive data from the MODEM controller to the MFP controller or the data line or the command line individually.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-36, the item selection screen is displayed.
- 2) Operation check
Select an item to be checked on the screen.

<MFP controller I/F check item table>

MFP <- MDMC (DATA once) Data line Once	MFP -> MDMC (DATA once) Data line Once
MFP <- MDMC (DATA repeat) Data line Repeat	MFP -> MDMC (DATA repeat) Data line Repeat
MFP <- MDMC (CMD once) Command line Once	MFP -> MDMC (CMD once) Command line Once
MFP <- MDMC (CMD repeat) Command line Repeat	MFP -> MDMC (CMD repeat) Command line Repeat

66-39	
Purpose	Setting
Function (Purpose)	Used to check and change the destination setting saved in EEPROM of the FAX BOX.
Section	FAX

Operation/Procedure

- 1) When the machine enters the simulation, the currently set destination button is highlighted. (In the default state, JAPAN is set as the destination.)
- 2) Select a destination button to set the destination. The selected button is highlighted and the previously selected button returns to the normal display.
 - * When the destination button is changed, the new destination setting is saved to EEPROM of the FAX BOX.

<Destination setting table>

JAPAN	U.S.A/CANADA	EUROPE	AUSTRALIA
CHINA	ASIA&OTHERS		

66-42	
Purpose	Setting
Function (Purpose)	Used to rewrite the program to power control installed in the FAX BOX.
Section	FAX

Operation/Procedure

- 1) Press [EXECUTE] button.[EXECUTE] button is highlighted and YES] and [NO] buttons become active.
- 2) Press [YES] button.
The power control program is rewritten.
- 3) When rewriting of the power control program is normally completed, "OK" is displayed and [EXECUTE] button returns to the normal display, and [YES] and [NO] buttons gray out.

66-43

Purpose	Setting
Function (Purpose)	Used to write the adjustment value into the power control installed in the FAX BOX.
Section	FAX

Operation/Procedure

- 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 pressed, 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)	Used to display the FAX-related soft SW (151 - 250) on the LCD to allow changing the soft SW while checking with the LCD.
Section	FAX

Operation/Procedure

- Enter the [SW NO] with 10-key.
- Press [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 pressed, it is highlighted and the setting is saved.

66-62

Purpose	Backup
Function (Purpose)	Used to import the FAX receive data into a USB flash drive in PDF file type.
Section	FAX

Operation/Procedure

- Insert the USB flash drive into the main unit.
- Select data to be imported.
- Press [EXECUTE] key.
Execute import of data selected in procedure 2).
When the operation is completed normally, [COMPLETE] is displayed. In case of an abnormal end, [ERROR] is displayed.

Error display	Content
Error: No USB memory device	No USB flash drive installed
Error: No image data	No image data
Error	Other errors

67

67-17

Purpose	Reset
Function (Purpose)	Printer controller reset/Default value setting
Section	Printer

Operation/Procedure

- Press [EXECUTE] key.
- Press [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.

67-20

Purpose	Adjustment/Setup
Function (Purpose)	Adjust the gray balance (Auto adjustment)
Section	

Operation/Procedure

- Select target item mode.
Patch image (adjustment pattern) is printed out.
- Place the printed adjustment pattern on the document table.
- Tap [EXECUTE] key.
- Place the printed adjustment pattern on the document table.
- Tap [EXECUTE] key.
- Tap [OK] key.
The halftone correction target registration is processed.

67-21

Purpose	Adjustment/Setup
Function (Purpose)	Adjust the gray balance (Manual adjustment)
Section	

Operation/Procedure

- Select target item mode.
- Tap [EXECUTE] key.
Patch image (adjustment pattern) is printed out.
- Input measurement result based on patch image (adjustment pattern) printed.
- Tap [EXECUTE] key.
- Tap [OK] key.
The halftone correction target registration is processed.

Button	Item/Display	Content	Setting range	Default
COPY (GRAY)	A LIGHT_X	Copy density range LIGHT X axis	1-11	6
	B LIGHT_Y	Copy density range LIGHT Y axis	1-11	6
	C DARK_X	Copy density range DARK X axis	1-11	6
	D DARK_Y	Copy density range DARK Y axis	1-11	6
PRINTER (GRAY)	A LIGHT_X	Printer density range LIGHT X axis	1-11	6
	B LIGHT_Y	Printer density range LIGHT Y axis	1-11	6
	C DARK_X	Printer density range DARK X axis	1-11	6
	D DARK_Y	Printer density range DARK Y axis	1-11	6

67-24	
Purpose	Adjustment/Setup
Function (Purpose)	Printer color balance adjustment (Auto adjustment)
Section	Printer

Operation/Procedure

- 1) Press [EXECUTE] key.
The 48 color patch image (adjustment pattern) is printed out.
- 2) Place the printed adjustment pattern on the document table, select [FACTORY] or [SERVICE] mode.
- 3) Press [EXECUTE] key.
The printer color balance auto adjustment is performed, and the adjustment result is printed.
- 4) Press [OK] key.
The halftone correction target registration is processed.

67-25	
Purpose	Adjustment/Setup
Function (Purpose)	Printer color balance adjustment (Manual adjustment)
Section	Printer

Operation/Procedure

- 1) Select an adjustment target color with [K][C][M][Y] keys 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 pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [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 pressed, the check pattern is printed in the color balance and density corresponding to the adjustment value.

Item/Display		Setting range	Default value
A	POINT1	1 - 999	500
B	POINT2	1 - 999	500
C	POINT3	1 - 999	500
D	POINT4	1 - 999	500
E	POINT5	1 - 999	500
F	POINT6	1 - 999	500
G	POINT7	1 - 999	500
H	POINT8	1 - 999	500
I	POINT9	1 - 999	500
J	POINT10	1 - 999	500
K	POINT11	1 - 999	500
L	POINT12	1 - 999	500
M	POINT13	1 - 999	500
N	POINT14	1 - 999	500
O	POINT15	1 - 999	500
P	POINT16	1 - 999	500
Q	POINT17	1 - 999	500

67-26	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the target color balance of the printer mode auto color balance adjustment.
Section	Printer

Operation/Procedure

- 1) Select the target color balance with the touch panel.

Item/Display		Content	Default value
Target value table select	DEF1	The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Magenta. When this target is selected, the color balance is converted into natural gray color balance by the color table in an actual printer mode and print is made.	DEF 1
	DEF2	The engine color balance adjustment target in the automatic color balance operation is slightly shifted to natural gray color balance. When this target is selected, the color balance is slightly shifted to Cyan by the color table in an actual printer mode and print is made.	
	DEF3	The engine color balance adjustment target in the automatic color balance operation is slightly shifted to Cyan. When this target is selected, the color balance is converted into the color balance with enhanced Cyan by the color table in an actual printer mode and print is made.	

67-27	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the service target of the printer mode auto color balance adjustment.
Section	Printer

Operation/Procedure

- 1) Press [SETUP] key on the touch panel.
- 2) Place the printed color balance adjustment pattern sheet printed in SIM 67-25 on the document table.
- 3) Press [EXECUTE] key.
The patch image of the adjustment pattern sheet is scanned.
- 4) Press [OK] key.
The service target of the printer mode auto color balance adjustment is set according to the scanned adjustment pattern sheet patch images.

The registered color balance and the density are displayed.

Select a target color with [C] [M] [Y] [K] key.

Important

This simulation is executed only when the printer color balance is manually adjusted.

B	Point B target value
C	Point C target value
D	Point D target value
E	Point E target value
F	Point F target value
G	Point G target value
H	Point H target value
I	Point I target value
J	Point J target value
K	Point K target value
L	Point L target value
M	Point M target value
N	Point N target value
O	Point O target value
P	Point P target value
BASE	Background sampling value

67-28	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the default of the service target of the printer mode auto color balance adjustment.
Section	Printer

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The service target of the printer mode auto color balance adjustment is set to the default.

The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

Display	Content	Button
HEAVY PAPER	Heavy paper	CMYK
SCREEN1	600dpi 1bit Photo	
SCREEN2	600dpi 1 bit Graphics	
SCREEN3	600dpi 4 bit Photo	
SCREEN4	600dpi 4 bit Graphics	K
SCREEN7	B/W 600dpi 1bit Photo	
SCREEN8	B/W 600dpi 4bit Photo	
SCREEN11	B/W 600dpi 1bit Graphics	
SCREEN12	B/W 600dpi 4bit Graphics	CMYK
SCREEN14	DotScreen1	
SCREEN15	DotScreen2	K
SCREEN16	DotScreen1_BW	
SCREEN18	SHIGH	CMYK
SCREEN 22	Extra High	CMYK

67-31	
Purpose	Data clear
Function (Purpose)	Used to clear the printer calibration value.
Section	Printer

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.

The printer calibration data (Halftone correction data) are cleared.
(The printer color balance correction is canceled.)

67-34	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the density correction in the printer high density section. (Support for the high density section tone gap)

Section	Printer
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Operation/Procedure

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

0	Enable
1	Disable

- 2) Press [OK] key. (The set value is saved.)

67-33	
Purpose	Adjustment/Setup
Function (Purpose)	Used to change the gamma of the printer screen with different dither.
Section	Printer

Operation/Procedure

- 1) Select a target change color with [K] [C] [M] [Y] key on the touch panel.
- 2) Select a target screen with [SCREEN] key.
- 3) Select a target adjustment density level with scroll key.
- 4) Enter the set value with 10-key.
- 5) Press [OK] key. (The set value is saved.)

When [EXECUTE] key is pressed, the check pattern is printed in the color 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	Setting range	Default value
A CMY (0: ENABLE 1: DISABLE)	0 CMY engine highest density correction mode: Enable	0 - 1	0
	1 CMY engine highest density correction mode: Disable		
B K (0: ENABLE 1: DISABLE)	0 K engine highest density correction mode: Enable	0 - 1	1
	1 K engine highest density correction mode: Disable		
C CYAN MAX TARGET	Scanner target value for CYAN maximum density correction	0 - 999	500
D MAGENTA MAX TARGET	Scanner target value for MAGENTA maximum density correction	0 - 999	500
E YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction	0 - 999	500
F BLACK MAX TARGET	Scanner target value for BLACK maximum density correction	0 - 999	500
G PRINTER TOTAL TONAR LIMIT SETUP	Printer total toner limitation setup	0 - 3	0
H RATIO LOW	Mix ratio of high density correction LOW	0 - 100	33
I RATIO HIGH	Mix ratio of high density correction HIGH	0 - 100	0
J DITHER THRESHOLD	Dither threshold LOW	0 - 255	250
K SLOPE THRESHOLD	SLOPE THRESHOLD	100 - 500	400

* When tone gap is generated in the high density section, set items A and B 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 items A and B to "1."

The tone gap may occur in high density part.

Important

Do not change the values of items C, D, E, and F. If these values are changed, the density in the high density area is changed.

67-36	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the density in the low density section.
Section	Printer

Operation/Procedure

- 1) Select a set value with the scroll key.
- 2) Enter the adjustment value using the 10-key.
- 3) Press [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 C	A patch input value C	0 - 13
B	A PATCH INPUT M	A patch input value M	
C	A PATCH INPUT Y	A patch input value Y	
D	A PATCH INPUT K	A patch input value K	

67-41	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the threshold for judging the selected color printing or the black color printing in the black and white mode.
Section	Printer

Operation/Procedure

- 1) Select a set value with the scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

Item/Display	Content	Setting range	Default value
A	C1	Mode1 : Threshold of Saturation	0 - 255
B	V1	Mode1 : Threshold of Brightness	0 - 255

67-42	
Purpose	Adjustment
Function (Purpose)	Used to adjust the gradation by increasing / decreasing the selected color component amount or the black color component amount in the black and white mode.
Section	Printer

Operation/Procedure

- 1) Select Mode1 or Mode2.
- 2) Select an item to be set.

Mode	Item/Display	Content	Default value
MODE 1	Black (Achromatic color)	F1	Black : Light
		F2	Black : Normal
		F3	Black : Dark
	COLOR (Selected color)	G1	Selected color : Light
		G2	Selected color : Normal
		G3	Selected color : Dark

67-43	
Purpose	Adjustment
Function (Purpose)	2 Color mode balance adjustment
Section	Printer

Operation/Procedure

- 1) Select an adjustment item with the scroll key.
- 2) Enter the set value with 10-keys.
- 3) Press [OK] key.

Item/Display	Content	Color	Setting range	Default value		
				C	M	Y
A	RED	R output color	CMY	0 - 255	0	235
B	GREEN	G output color	CMY	0 - 255	180	0
C	BLUE	B output color	CMY	0 - 255	235	159
D	CYAN	C output color	CMY	0 - 255	182	0
E	MAGENTA	M output color	CMY	0 - 255	0	271
F	YELLOW	Y output color	CMY	0 - 255	0	234

67-46	
Purpose	Adjustment
Function (Purpose)	Adjust the image enhancement
Section	

Operation/Procedure

- 1) Select target item.
- 2) Enter the set value.
- 3) Tap [OK] key.

Item/Display	Content	Default
A	PROCESS	Edge judgement range CMYK
		Edge judgement range K
B	CANCEL	Edge cancel 600dpi

67-52	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the default of the gamma of the printer screen.
Section	Printer

Operation/Procedure

- 1) Select a target default setting mode with the touch panel.
Press [ALL] key to select all the modes.
- 2) Press [EXECUTE] key and press [YES] key.

When the printer screen gamma was changed by SIM 67-33, SIM67-54, it is reset to the default.

Item/Display		Content
Screen	HEAVYPAPER	Heavy paper screen
		Printer heavy paper automatic density correction amount
	600DPI_1BIT	SCREEN1 (600dpi 1bit Photo)
		SCREEN2 (600dpi 1bit Graphics)
	B/W	SCREEN7 (600dpi 1bit Graphics)
		SCREEN8 (600dpi 4bit Graphics)
		SCREEN11 (600dpi 1bit Graphics)
		SCREEN12 (600dpi 4bit Graphics)
Screen	B/W	Printer B/W toner save automatic density correction amount
	4BIT_GRAPHICS	SCREEN4 (600dpi 4bit Graphics)
	DOT_SCREEN1	SCREEN14(Dot Screen1)
	DOT_SCREEN2	SCREEN15(Dot Screen2)
	DOT_SCREEN1_BW	SCREEN16(Dot Screen1 BW)
	SHIGH	SCREEN18(SHIGH)

- 9) 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.

- 10) Make a print, and check the print image quality.

Note

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

67-54

Purpose	Adjustment
Function (Purpose)	Printer color balance adjustment

Section	Printer
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Operation/Procedure

This simulation is used to adjust the color balance, the density, and the gradation in the monochrome mode, the heavy paper mode, etc.

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

- Press [EXECUTE] key. (A4 or 11"x8.5" size paper is automatically selected.)
The color patch image (adjustment pattern) is printed out.
- Set the color patch image (adjustment pattern) printed in the procedure 1) on the document table so that the thin lines on the printed color patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern).
- Press [EXECUTE] key.
The color balance adjustment is automatically performed.
The adjustment pattern is printed out. Check it for any abnormality.
- Press [OK] key.
The list of the adjustment items (for each dither) is displayed.
- Select an adjustment item (for each dither).

Select item (Mode)	Content
Heavy Paper	Adjustment item to improve the color balance in the heavy paper mode
B/W	B/W
4BIT_GRAPHICS	600dpi/4bit Graphics
DOT_SCREEN1	PS Dotscreen1
DOT_SCREEN2	PS Dotscreen2
DOT_SCREEN1_BW	PS Dotscreen1 B/W
SHIGH	PCL SHIGH

- Press [EXECUTE] key. (A4 or 11"x8.5" size paper is automatically selected.)
The color patch image (adjustment pattern) is printed out.
- Set the color patch image (adjustment pattern) printed in the procedure 6) on the document table so that the thin lines on the printed color patch image (adjustment pattern) are on the left side.
- Press [EXECUTE] key.
The color balance adjustment is automatically performed, and the color balance check patch image is printed out.

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 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 dialling 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 dialling 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
28	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
	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
28	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. <div style="display: flex; justify-content: space-between;"> <div> "0000": V.27ter 2400bps "0001": V.29 9600bps "0010": V.27ter 4800bps "0011": V.29 7200bps "0100": V.33 14400bps "0101": V.17 14400bps "0110": V.33 12000bps "0111": V.17 14400bps </div> <div> "1000": V.17 14400bps "1001": V.17 9600bps "1010": V.17 12000bps "1011": V.17 7200bps "1100": V.17 14400bps "1101": V.17 14400bps "1110": V.17 14400bps "1111": V.17 14400bps </div> </div>	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		Not used		
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		Not used		
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	Remaining receivable memory	Setting to determine whether to issue a call when remaining memory reaches 64KB or less or 128KB or less. "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		Not used		
	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.	
	5	Call arrival	V150V24 detection setting	Setting of detection when non-ringing setting is received. "0": 24V detection "1": 150V detection	
	6-8		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 "01": Selection from A4 "10": Selection from A4 "11": Selection from A5/B5/A4	
	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. (SW63-6: Pseudo-nighttime mode setting <External calculation mode> functions.)	
	5		Not used		
	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). SW63-4: Nighttime FAX mode setting <When the internet FAX product key is disable> SW63-5: 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: SW63-4: Nighttime FAX mode setting <when Internet FAX reception is disabled> SW63-5: Pseudo-nighttime mode setting <when Internet FAX reception is enabled> SW63-6: 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.)
<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		Not used		
	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	
	7, 8		Not used		
94	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 *3	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. For MX-2310 series, the operation is made when this switch is set to ON.	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. "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. "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 (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": B5 or B4 (8.5 x 11 or 8.5 x 14) "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		Fax Output Tray Setting (Line 1)	Setting to determine the delivery tray for the output destination of FAX data received at Line1: 0: Center tray 1: Right tray 2: Finisher lower tray 3: Finisher upper tray 4: Finisher middle tray 5: Off-set tray 6: Top tray 7: Stacker top tray 8: Stacker top (expanded) tray 9: Stacker tray 10: Stacker (expanded) tray 11: Job separator (Upper tray)	
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

[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				
87	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	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	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	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	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	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	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	0
88	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	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	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	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	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	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	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	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	0
89	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	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	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	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	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	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	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	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	0
90	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	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	0
	3	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	1
	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	
	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	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	1	1
	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	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	0
91	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	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	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	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	0
	5	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	1
	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	1	1
	7	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	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	1	1
92	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	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	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	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	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	0
	6	0	0	0	0	0																																						

[illegible]

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[7] TROUBLESHOOTING

1. Error 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.

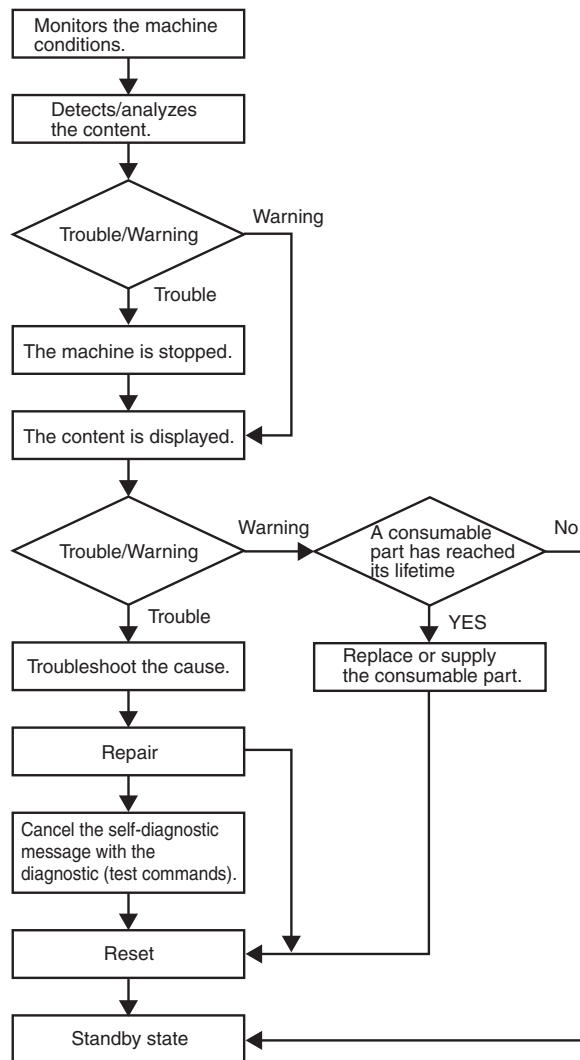
A warning message is displayed when a consumable part life is nearly expired or is expired.

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) Error code and operatable mode

Trouble content		Judg- ment block	Trouble code	Operatable mode							
				Copy scan	Scan (Push)	Scan (Pull)	Scan- To HDD	Print	List print	FAX Send	FAX print
Security abnormality trouble	Security module abnormality	ICU	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)	O	O	O	O	O	O	△1	△1
HDD trouble	eMMC breakdown		E7 (A8)	X	X	X	X	X	X	X	X
	HDD breakdown		E7 (07)	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	O	O	X	O
Scanner communication trouble	SCU communication error		A0 (02) E7 (80)	X	X	X	X	O	O	X	O
Backup battery voltage fall trouble	Backup battery voltage fall		U1 (01)	X	X	X	X	X	X	X	X
Operation dis- able trouble 2_save	Memory error (included not installed the expansion RAM)		U2(00,11,41,42)	X	X	X	X	X	X	X	X
	Serial number data error		U2 (30)	X	X	X	X	X	X	X	X
	HDD registration data check sum error		U2 (50)	X	X	X	X	X	X	X	X
Operation disable trouble 3	External serial I/F communication error		U7(50,51)	X	X	X	X	X	X	X	X
	Memory check error when booting		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
	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 connection trouble		PC (00)	X	X	X	X	X	X	X	X
Power controller trouble	Power controller error		L8 (20)	X	X	X	X	X	X	X	X
Special function trouble	Special function trouble		U2(60,70,74)	O	O	O	O	O	O	O	O
Laser trouble	LSU breakdown	PCU	E7 (20, 28, 29) L6 (10)	X	X	X	X	X	X *10	X	X
Engine trouble 1	Connection trouble (Model data discrepancy) (PCU detection)		A0 (21) E7 (50, 55)	X	X	X	X	X	X	X	X
Engine trouble 2_save	PCU troubles (motor, fusing, etc.)		H5(01) U2(90,91)	X *20	X *20	X *20	X *20	X *20	X *10 *20	X *20	X *20
Engine trouble 2	PCU troubles (motor, fusing, etc.)		C1(10,40) F2(22,40,64,70,74) H2(00,02,03) H3(00,02) H4(00) H7(10) L4(01,04,06,17,30,32 ,34,35,40,44) L8(01,02) U2(90,91)	X	X	X	X	X	X *10	X	X

Trouble content		Judgment block	Trouble code	Operatable mode							
				Copy scan	Scan (Push)	Scan (Pull)	Scan-To HDD	Print	List print	FAX Send	FAX print
Color trouble	PCU color trouble	PCU	C1(03, 05, 07) E7(21, 22, 23, 25, 26, 27, A1, A2, A3) F2(23, 24, 25, 41, 42, 43, 65, 66, 67, 71, 72, 73, 75, 76, 77)	X *19	X *19	X *19	X *19	X *19	X *10 *19	X *19	X *19
Paper feed tray 2 trouble	Paper feed tray 2 breakdown		U6(01)	△3	O	O	O	△3	△3 *10	O	△3
Paper feed tray 3 trouble	Paper feed tray 3 breakdown		U6(02)	△3	O	O	O	△3	△3 *10	O	△3
Paper feed tray 4 trouble	Paper feed tray 4 breakdown		U6(03)	△3	O	O	O	△3	△3 *10	O	△3
Paper feed tray 5 trouble	Paper feed tray breakdown		U6(04)	△3	O	O	O	△3	△3 *10	O	△3
Paper feed tray other troubles	Paper feed tray other breakdown		U6(00,11,12,13,14,30,40,50,55,56,57,58,59,60)	△11	O	O	O	△11	△11 *10	O	△11
Other troubles	Other troubles		EE (EC, EL, EU)	O	O	O	O	O	O	O	O
PCU trouble	PCU error		U6(70)	O *16	O *16	O *16	O *16	O *16	O *16	O *16	O *16
Process control trouble	Process control breakdown (PCU detection)	SCU	F2 (39, 49, 50, 51, 58, 78)	O *12	O	O	O	O	O	O	O
Operation disable trouble	Connection trouble (Model data discrepancy) (SCU detection)		A0 (22)	X	X	X	X	X	X	X	X
Color system trouble (SCU detection)	SCN color trouble (SCN detection)		UC(02)	△9	△9	△9	△9	O	O	△9	O
Color system trouble (DSPF detection)	SCN color trouble (DSPF detection)		UC(12)	△8	△8	△8	△8	O	O	△8	O
Anticopy trouble	Anticopying		UC(20)	X	X	X	X	O	O	X	O
Anticopy trouble (DSPF detection)	Anticopying (DSPF detection)		UC(30)	△7	△7	△7	△7	O	O	△7	O
Scanner trouble 1_save	SCU EEPROM error		U2 (80, 81)	X	X	X	X	O	O	X	O
Scanner trouble 2	Scanner section breakdown (mirror motor, lens, copy lamp)		L1 (00) L3 (00)	X	X	X	X	O	O	X	O
CCD trouble	CCD breakdown (shading, etc.)		E7 (10, 11, 14)	X	X	X	X	O	O	X	O
SPF/DF trouble	RSPF/DF breakdown		U5(00)	△6	△6	△6	△6	O	O	△6	O
SPF back surface trouble	General trouble in the SPF back surface scanning section		E6(10,11,14)	△7	△7	△7	△7	O	O	△7	O

Error where only history data are saved

Trouble content		Judgment block	Trouble code	Operatable mode							
				Copy scan	Scan (Push)	Scan (Pull)	Scan-To HDD	Print	List print	FAX Send	FAX print
History data is saved (PCU detection)		PCU	F2 (45)	O	O	O	O	O	O	O	O
History data is saved (PCU detection)		ICU	U2 (05)	O	O	O	O	O	O	O	O

O: Operation enabled X: 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.

△6: When detected during other than a job, the operation is enabled in the OC mode.

△7: When detected during other a job, the operation is enabled 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 and the LCC.

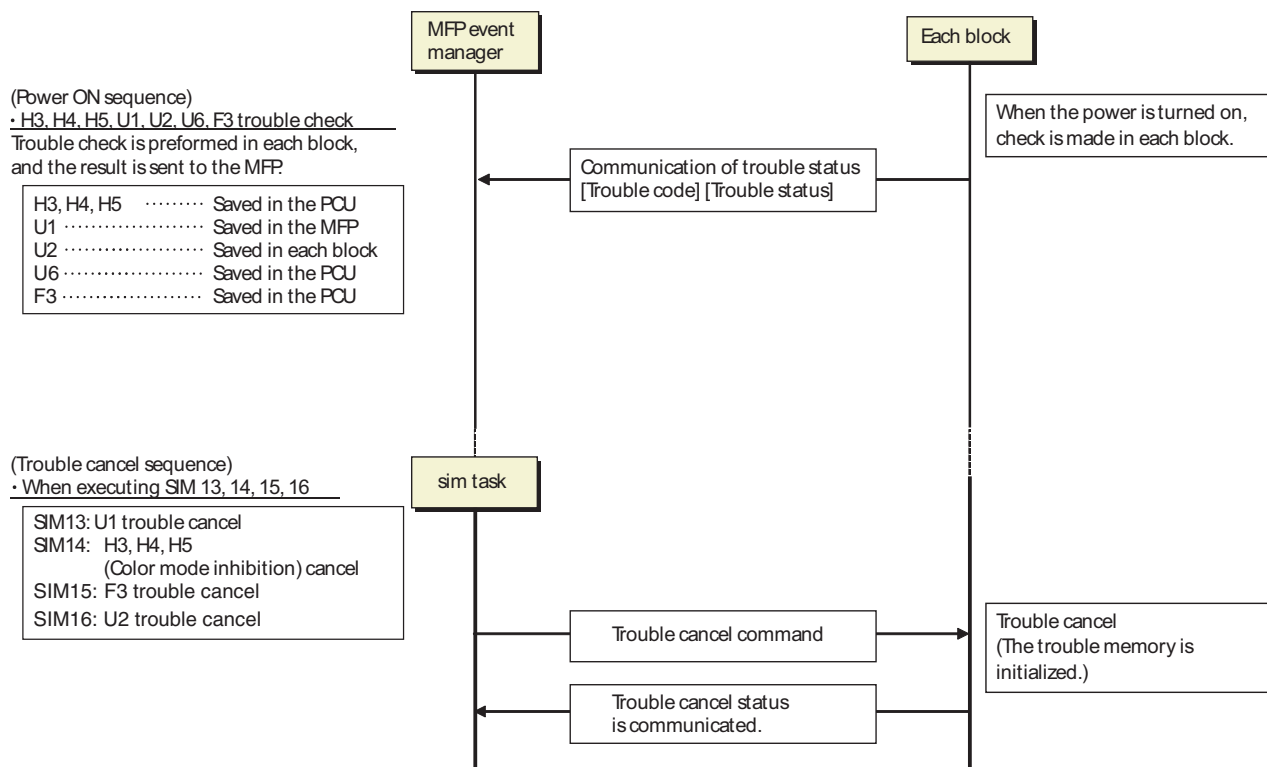
*12: A trouble message is displayed. (Example: Ready to copy. F2 trouble)

△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.)

*19: When the color mode is set to disable in the "Color mode disable setting" of the system setting, the operation is enabled in the black and white mode.

*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 HDD user authentication data check sum error
		30 MFPC PWB and PCU PWB manufacturing No. data inconsistency
	A0	15 Incompatible DSK BOOT and program firmware
		20 Conflict firmware and EEPROM data version (MFP)
↓ Last (High priority)	U2	11 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)

F. Error code list

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
A0	01	PCU ROM error	MFP			O		
	02	SCU ROM error	MFP			O		
	06	FAX ROM error	MFP			O		
	10	Color profile error	MFP			O		
	15	Incompatible DSK BOOT and program firmware	MFP			O		
	17	UI data error	MFP			O		
	18	ASIC MAIN firmware inconsistent error	MFP			O		
	19	MFP boot error	MFP			O		
	20	Conflict firmware and EEPROM data version (MFP)	MFP			O		
	21	Conflict firmware and EEPROM data version (PCU)	PCU			O		
	22	Conflict firmware and EEPROM data version (SCU)	PCU			O		
C1	10	Main charger trouble	PCU			O		
	40	MC PWB trouble	PCU			O		
E6	10	Shading black correction error (SPF)	SCN			O		
	11	Shading white correction error (SPF)	SCN			O		
	14	CCD ASIC error (SPF)	SCN			O		
E7	01	MFP image data error	MFP			O		
	03	HDD trouble	MFP			O		
	04	HDD-ASIC error	MFP			O		
	10	Shading error (Black correction)	SCU			O		
	11	Shading error (White correction)	SCU			O		
	14	CCD-ASIC error	SCU			O		
	20	LSU BD(KC) detection error / LSU LD deform error (K)	PCU			O		
	21	LSU LD deform error (C)	PCU			O		
	22	LSU LD deform error (M)	PCU			O		
	23	LSU BD(MY) detection error/LSU LD deform error (Y)	PCU			O		
	28	LSU - PCU communication error	PCU			O		
	29	LSU ASIC frequency error	PCU			O		
	49	Water Mark data error	MFP			O		
	50	Combination error between PWB and firmware (PCU PWB detection)	PCU			O		
	55	PCU PWB information sum error	PCU			O		
	60	Combination error between PWB and firmware (MFPC PWB detection)	MFP			O		
	61	Combination error between the MFPC PWB and the PCU PWB (MFPC PWB detection)	MFP			O		
	80	MFP - SCU PWB communication error	MFP			O		
	90	MFP - PCU PWB communication error	MFP			O		
	91	FAX reception image data error	MFP				O	
	92	Copy image data error	MFP			O		
	93	Copy, image send, FAX, filing, print image data process error	MFP			O		
	94	Image file data process error (when importing file data)	MFP			O		
	A8	eMMC PWB error	MFP			O		
	C0	TPM PWB (DSK) access error	MFP			O		
	C1	Security check error	MFP			O		
	C2	Firmware check sum error	MFP			O		
	C3	Firmware error	MFP			O		
EE	EC	Automatic toner density adjustment error	PCU			O		
	EL	Automatic toner density adjustment error (Over toner)	PCU			O		
	EU	Automatic toner density adjustment error (Under toner)	PCU			O		
F2	22	Discharge lamp trouble (K)	PCU					O
	23	Discharge lamp trouble (C)	PCU					O
	24	Discharge lamp trouble (M)	PCU					O
	25	Discharge lamp trouble (Y)	PCU					O
	30	Power thermistor trouble	PCU					O
	39	Temperature and humidity sensor (Ambient temperature detection) trouble	PCU					O
	40	Toner density sensor trouble (K)	PCU					O
	41	Toner density sensor trouble (C)	PCU					O
	42	Toner density sensor trouble (M)	PCU					O
	43	Toner density sensor trouble (Y)	PCU					O
	45	Color image density sensor trouble	PCU					O
	47	Ozone duct thermistor trouble	PCU					O
	49	LSU thermistor trouble	PCU					O
	50	K drum phase sensor trouble	PCU					O
	51	CL drum phase sensor trouble	PCU					O
	58	Temperature/humidity sensor trouble (HUD_M/TH_M)	PCU					O
	64	Toner supply operation trouble (K)	PCU					O
	65	Toner supply operation trouble (C)	PCU					O
	66	Toner supply operation trouble (M)	PCU					O

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
F2	67	Toner supply operation trouble (Y)	PCU					O
	70	Improper toner cartridge detection (K)	PCU					O
	71	Improper toner cartridge detection (C)	PCU					O
	72	Improper toner cartridge detection (M)	PCU					O
	73	Improper toner cartridge detection (Y)	PCU					O
	74	Toner cartridge CRUM error (K)	PCU					O
	75	Toner cartridge CRUM error (C)	PCU					O
	76	Toner cartridge CRUM error (M)	PCU					O
	77	Toner cartridge CRUM error (Y)	PCU					O
	78	Image density sensor trouble	PCU					O
F6	00	MFPC PWB - FAX communication trouble	MFP				O	
	01	FAX MAIN PWB EEPROM read/write error	FAX				O	
	02	FAX power supply trouble	FAX				O	
	04	FAX MODEM operation trouble	FAX				O	
	21	Improper combination of TEL/LIU PWB and FAX soft switch	MFP				O	
	30	FAX 1-chip microprocessor access error (FAX detection)	MFP				O	
	97	Incompatibility between FAX control PWB and the main machine	MFP				O	
	98	Incompatibility between the FAX MAIN PWB destination and the main machine destination	MFP				O	
H2	00	Thermistor open trouble (TH_UM_AD2)	PCU	O				
	02	Thermistor open trouble (TH_US)	PCU	O				
	03	Thermistor open trouble (TH_UM_CS)	PCU	O				
H3	00	Fusing section high temperature trouble (TH_UM_CS)	PCU	O				
	02	Fusing section high temperature trouble (TH_US)	PCU	O				
H4	00	Fusing section low temperature trouble (TH_UM_CS)	PCU	O				
	30	Thermistor input error (TH_UM)	PCU	O				
H5	01	5 times continuous POD1 not-reach jam	PCU	O				
H7	10	Recovery error from low fuser temp. (TH_UM_CS)	PCU	O				
L1	00	Scanner feed trouble	SCU	O				
L3	00	Scanner return trouble	SCU	O				
L4	01	Main motor trouble	PCU			O		
	06	Transfer unit lift trouble	PCU			O		
	17	Drum motor trouble K	PCU			O		
	18	Drum motor trouble C	PCU			O		
	32	Power source cooling fan trouble	PCU			O		
	34	LSU cooling fan trouble	PCU			O		
	35	Fusing cooling fan trouble	PCU			O		
	40	Ozone fan motor 1 trouble	PCU			O		
	44	Power source cooling fan 2 trouble	PCU			O		
L6	10	Polygon motor trouble	PCU			O		
L8	01	Full wave signal detection error	PCU			O		
	02	Full wave signal error	PCU			O		
	20	Communication error of MFPC PWB/LSU mother board	MFP			O		
PC	-	Personal counter not detected	MFP		O			
U1	01	Battery trouble	MFP			O		
U2	00	MFP EEPROM read/write error	MFP			O		
	05	Account data error	MFP			O		
	05	Erroneous detection of account management data / HDD internal authentication DB table error	MFP			O		
	11	MFPC PWB EEPROM counter check sum error	MFP			O		
	30	MFPC PWB and PCU PWB manufacturing No. data inconsistency	MFP			O		
	40	eMMC PWB system storage data area error	MFP			O		
	41	HDD system storage data area error	MFP			O		
	42	Machine adjustment data error	MFP			O		
	50	HDD user authentication data check sum error	MFP			O		
	60	Watermark check error	MFP			O		
	70	OCR dictionary check error	MFP			O		
	74	Recovery data error	MFP			O		
	80	SCU PWB EEPROM read/write error	SCU			O		
	81	SCU PWB EEPROM check sum error	SCU			O		
	90	PCU PWB EEPROM read/write error	PCU			O		
	91	PCU PWB EEPROM check sum error	PCU			O		
U5	00	SPF communication error	SCN			O		

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
U6	00	PCU PWB - Paper feed desk communication error	PCU			O		
	01	Desk paper feed tray1 lift trouble	PCU		O			
	02	Desk paper feed tray2 lift trouble	PCU		O			
	03	Desk paper feed tray3 lift trouble	PCU		O			
	04	Desk paper feed tray4 lift trouble	PCU		O			
	11	Desk paper feed tray1 transport trouble	PCU		O			
	12	Desk paper feed tray2 transport trouble	PCU		O			
	13	Desk paper feed tray3 transport trouble	PCU		O			
	14	Desk paper feed tray4 transport trouble	PCU		O			
	30	Desk communication error between paper feed tray 1 and tray 2	PCU		O			
	40	Desk communication error between paper feed tray 2 and tray 3	PCU		O			
	50	Desk - Main unit combination trouble	PCU		O			
	55	Desk firmware inconsistent error	PCU		O			
	56	Desk paper feed tray 1 firmware error	PCU		O			
	57	Desk paper feed tray 2 firmware error	PCU		O			
	58	Desk paper feed tray 3 firmware error	PCU		O			
	59	Desk paper feed tray 4 firmware error	PCU		O			
	60	Desk communication error between paper feed tray 3 and tray 4	PCU		O			
	70	Firmware version mismatch error between desks	PCU		O			
U7	50	MFPC PWB - Vendor machine communication error	MFP			O		
	51	Vendor machine error	MFP			O		
U9	01	Touch panel trouble	MFP			O		
UC	02	SCAN ASIC IPD error SCU	SCU			O		
	12	SCAN ASIC IPD error (DSPF detection)	SCU			O		
	20	SCAN ASIC DOCC error	SCU			O		
	30	SCAN ASIC DOCC error (DSPF detection)	SCU			O		

G. Details of error codes and countermeasures

A0-01 PCU ROM error

Trouble content	
Detail	MFP
Cause	The firmware version-up is not completed properly by interruption of the power during the version-up operation, etc. PCU PWB trouble.
Check & Remedy	Use SIM49-1 to perform the firmware version-up procedure again. Replace the PCU PWB.

A0-02 SCU ROM error

Trouble content	
Detail	MFP
Cause	The firmware version-up is not completed properly by interruption of the power during the version-up operation, etc. SCU PWB trouble.
Check & Remedy	Use SIM49-1 to perform the firmware version-up procedure again. Replace the MFPC 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 Color profile error

Trouble content	Color profile error
Detail	MFP
Cause	The content of the color profile is abnormal. Combination error between the MFPC PWB firmware and the color profile
Check & Remedy	Upgrade the firmware collectively. Replace the MFPC PWB.

A0-15 Incompatible DSK BOOT and program firmware

Trouble content	
Detail	MFP
Cause	Installation of the normal firmware was performed with a security kit enable.
Check & Remedy	Stop installation of the normal firmware.

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 content	
Detail	MFP
Cause	Inconsistency between the MFP firmware version and the EEPROM data version.
Check & Remedy	Check the combination of the firmware.

A0-21 Conflict firmware and EEPROM data version (PCU)

Trouble content	
Detail	PCU
Cause	Inconsistency between the PCU firmware version and the EEPROM data version.
Check & Remedy	Check the combination of the firmware.

A0-22 Conflict firmware and EEPROM data version (SCU)

Trouble content	
Detail	SCU
Cause	Inconsistency between the SCU firmware version and the EEPROM data version.
Check & Remedy	Check the combination of the firmware.

C1-10 Main charger trouble

Trouble content	
Detail	PCU
Cause	The main charger unit is not installed properly. There is an abnormality in the main charger unit. The developer unit is not installed properly. There is an abnormality in the developer unit. Disconnection of the high voltage MC PWB connector. Breakage of the high voltage harness. High voltage MC PWB trouble. PCU PWB trouble.
Check & Remedy	Check the output of the main charger with SIM8-2. Check the output of the developing bias with SIM8-1. Check disconnection of the main charger./Replace. Check disconnection of the developer unit./Replace. Check disconnection of the high voltage MC PWB connector./Replace. Replace the high voltage PWB. Replace the PCU PWB.

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

Trouble detection	SCU
Cause	CIS unit connector, harness connection trouble CIS unit trouble DSPF CNT PWB trouble
Check & Remedy	Check connection state of CIS unit connector, harness Replace CIS unit Replace DSPF CNT PWB

E6-11 Shading error (White level) (SPF)

Trouble detection	SCU
Cause	CIS unit connector, harness connection trouble Scanner lamp lighting trouble Dirt on mirror, reference white plate CIS unit trouble DSPF CNT PWB trouble
Check & Remedy	Check connection state of CIS unit connector, harness Check connection state of scanner lamp connector, harness Clean the reference white plate Replace CIS unit Replace DSPF CNT PWB SIM63-2 to execute

E6-14 CCD-ASIC error(SPF)

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

E7-01 MFP image data error

Trouble content	
Detail	MFP
Cause	Image data transfer error in the MFPC PWB. MFPC PWB trouble.
Check & Remedy	Check connection of the connector and the harness of the MFPC PWB. Check or replace the MFPC PWB.

E7-03 HDD trouble

Trouble content	
Detail	MFP
Cause	Connector, harness connection trouble in the MFPC PWB and HDD. HDD (error file management area) data abnormality (FAT breakage). MFPC PWB trouble.
Check & Remedy	Check connection of the connector and the harness of the MFPC PWB and HDD. Use SIM62-2, 3 to check read/write operations of the HDD. Replace the HDD. Check or replace the MFPC PWB.

E7-04 HDD-ASIC error

Trouble content	
Detail	MFP
Cause	HDD-ASIC trouble. (MFPC PWB trouble.) An error occurs in the HDD-ASIC self test when booting.
Check & Remedy	Check or replace the MFPC PWB.

E7-10 Shading error (Black correction)

Trouble content	
Detail	SCU
Cause	Abnormality in the CCD black scan level when the scanner lamp is turned OFF. Improper installation of the harness to the CCD unit. CCD unit abnormality. SCN cnt PWB abnormality.
Check & Remedy	Check connection of the harness to the CCD unit. Check the CCD unit. Check the SCN cnt PWB.

E7-11 Shading error (White correction)

Trouble content	
Detail	SCU
Cause	Abnormality in the CCD white reference plate scan level when the scanner lamp is turned ON. Improper installation of the harness to the CCD unit. Dirt on the mirror, lens, and the reference white plate. Scanner lamp lighting trouble. Scanner lamp drive PWB trouble CCD unit abnormality. SCN cnt PWB abnormality.
Check & Remedy	Check connection of the harness to the CCD unit. Check connection of the harness to the scanner lamp unit. Check or replace the scanner lamp. Check or replace the scanner lamp drive PWB. Clean or replace the mirror, the lens, and the reference white board. Check or replace the CCD unit. Check or replace the SCN cnt PWB.

E7-14 CCD-ASIC error

Trouble content	
Detail	SCU
Cause	SCU PWB trouble. Improper Installation of the harness to the CCD unit. CCD unit abnormality. SCN cnt PWB abnormality.
Check & Remedy	Check the SCU PWB. Replace the SCU PWB. Check connection of the harness to the CCD unit. Check or replace the CCD unit. Check or replace the SCN cnt PWB.

E7-20 LSU BD(KC) detection error / LSU LD deform error (K)

Trouble content	
Detail	PCU
Cause	Optical axis shift. Reduced laser power, lighting error, laser diode trouble. BD(KC) PWB trouble. Harness and connector trouble between the LD/BD(KC) PWB and the LSUcnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU.

E7-21 LSU LD deform error (C)

Trouble content	
Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. Harness and connector trouble between the LD PWB and the LSUcnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU.

E7-22 LSU LD deform error (M)

Trouble content	
Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. Harness and connector trouble between the LD PWB and the LSUcnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU.

E7-23 LSU BD(MY) detection error /LSU LD deform error (Y)

Trouble content	
Detail	PCU
Cause	Optical axis sift. Reduced laser power, lighting error, laser diode trouble.BD(MY) PWB trouble. Harness and connector trouble between the LD/BD(MY) PWB and the LSUcnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU.Check the PWB and connection of the harness in the LSU.Replace the LSU.

E7-28 LSU - PCU communication error

Trouble content	
Detail	PCU
Cause	Communication error between the CPU in the PCU PWB and the LSU control ASIC. Improper connection of the communication connector between the PCU PWB and MFPC PWB. Improper connection of the communication connector between the MFPC PWB and the LSUcnt PWB. Harness trouble between the PCU PWB and MFPC PWB. Harness trouble between the MFPC PWB and LSUcnt PWB. PCU PWB trouble. LSUcnt PWB trouble.MFPC PWB trouble.
Check & Remedy	Check connection of the connector and the harness between the PCU PWB and the MFPC PWB. Check connection of the connector and the harness between the MFPC PWB and the LSUcnt PWB Replace the PCU PWB. Replace the LSU. Replace the MFPC PWB.

E7-29 LSU ASIC frequency error

Trouble content	
Detail	PCU

Cause	Oscillation abnormality of the external oscillator and the internal oscillating circuit used in the LSU ASIC. LSU ASIC abnormality on the LSUcnt PWB. Frequency of the image transfer clock trouble from the MFPC PWB
Check & Remedy	Replace the LSU. Replace the 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 content	
Detail	MFP
Cause	Watermark data trouble. HDD trouble.
Check & Remedy	Use SIM49-5 to upload the watermark data. Replace the HDD.

E7-50 Combination error between PWB and firmware (PCU PWB detection)

Trouble content	
Detail	PCU
Cause	A PWB/firmware/LSU which is not compatible with the machine specifications is detected. PCU PWB trouble LSU trouble
Check & Remedy	Check the kind and the version of the firmware. Check or replace the LSU. Check or replace the PCU PWB.

E7-55 PCU PWB information sum error

Trouble content	PCU EEPROM PWB information sum error
Detail	PCU
Cause	PCU EEPROM sum check error. PCU EEPROM trouble. PCU EEPROM contact trouble.
Check & Remedy	Replace the PCU PWB. Replace the PCU EEPROM.

E7-60 Combination error between PWB and firmware (MFPC PWB detection)

Trouble content	
Detail	MFP
Cause	A PWB/firmware which is not compatible with the machine specifications is detected in the MFPC PWB. MFPC PWB trouble.
Check & Remedy	Check the kind and the version of the firmware. Check or replace the MFPC PWB.

E7-61 Combination error between the MFPC PWB and the PCU PWB (MFPC PWB detection)

Trouble content	
Detail	MFP
Cause	Combination error between the MFPC PWB and the PCU PWB. MFPC PWB trouble. PCU PWB trouble.
Check & Remedy	Check the combination between the MFPC PWB and the PCU PWB. Replace the MFPC PWB. Replace the PCU PWB.

E7-80 MFP - SCU PWB communication error

Trouble content	
Detail	MFP
Cause	SCN cnt PWB - MFPC PWB connection trouble. SCN cnt PWB trouble. MFPC PWB trouble.
Check & Remedy	Check connection of the SCN cnt PWB and the MFPC PWB. Check the ground. Replace the SCU PWB. Replace the MFPC PWB.

E7-90 MFP - PCU PWB communication error

Trouble content	
Detail	MFP
Cause	PCU PWB - MFPC PWB connection trouble. PCU PWB trouble. MFPC PWB trouble.
Check & Remedy	Check connection of the PCU PWB and the MFPC PWB. Check the ground. Replace the PCU PWB. Replace the MFPC PWB.

E7-91 FAX reception image data error

Trouble content	An error of FAX reception image data process occurs.
Detail	MFP
Cause	Image data process abnormality HDD trouble SD card trouble or contact error Image compression data corruption MFPC PWB trouble FAX MAIN PWB trouble
Check & Remedy	Use SIM60-01 to check the read/write operations of the memory. Replace the HDD. Replace or check installation of the SD card. Replace the MFPC PWB. Replace the FAX MAIN PWB.

E7-92 Copy image data error

Trouble content	An error of copy image data process occurs. (In Non ERDH)
Detail	MFP
Cause	Image data process abnormality HDD trouble Image compression data corruption MFPC PWB trouble DRAM memory trouble or contact error
Check & Remedy	Use SIM60-01 to check the read/write operations of the memory. Replace the HDD. Replace the MFPC PWB.

E7-93 Copy, image send, FAX, filing, print image data process error

Trouble content	An image data process error occurs in the following operation mode: • Copy (in ERDH) • Copy composing system function (Water mark) • When in image send • When filing documents • When displaying the preview • When printing with the GDI/PCL printer • Copy composing system function (Water mark)
Detail	MFP
Cause	Image data process abnormality HDD trouble Image compression data corruption MFPC PWB trouble DIMM memory trouble or contact error
Check & Remedy	Use SIM60-01 to check the read/write operations of the memory. Replace the HDD. Replace the MFPC PWB. Replace or check installation of the DIMM memory.

E7-94 Image file data process error (when importing file data)

Trouble content	File image process error (backup restore error) when importing filing data
Detail	MFP
Cause	Image data process abnormality HDD trouble Image compression data corruption MFPC PWB trouble DIMM memory trouble or contact error
Check & Remedy	Use SIM60-01 to check the read/write operations of the memory. Replace the HDD. Replace the MFPC PWB. Replace or check installation of the DIMM memory.

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 (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

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

E7-C3 Firmware error

Detail	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

Trouble content	The sampling level in the automatic toner density adjustment is outside of 128 +/- 3.
Detail	PCU
Cause	Toner density sensor trouble. Developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Replace the developing unit. Replace the PCU PWB.

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

Trouble content	The sampling level in the automatic toner density adjustment is 76 or less or the control voltage is 208 or above.
Detail	PCU
Cause	Toner density sensor trouble. Developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Replace the developing unit. Replace the PCU PWB.

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

Trouble content	The sampling level in the automatic toner density adjustment is 178 or above or the control voltage is 51 or less.
Detail	PCU
Cause	Toner density sensor trouble. Developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Replace the developing unit. Replace the PCU PWB.

F2-22 Discharge lamp trouble (K)

Trouble content	The lamp is kept open for 1 sec from turning on the discharge lamp.
Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (K) and the PCU PWB. Discharge lamp PWB (K) trouble. PCU PWB trouble.
Check & Remedy	Replace the discharge lamp PWB (K). Check the harness and the connector. Replace the PCU PWB.

F2-23 Discharge lamp trouble (C)

Trouble content	The lamp is kept open for 1 sec from turning on the discharge lamp.
Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (C) and the PCU PWB. Discharge lamp PWB (C) trouble. PCU PWB trouble.
Check & Remedy	Replace the discharge lamp PWB (C). Check the harness and the connector. Replace the PCU PWB.

F2-24 Discharge lamp trouble (M)

Trouble content	The lamp is kept open for 1 sec from turning on the discharge lamp.
Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (M) and the PCU PWB. Discharge lamp PWB (M) trouble. PCU PWB trouble.
Check & Remedy	Replace the discharge lamp PWB (M). Check the harness and the connector. Replace the PCU PWB.

F2-25 Discharge lamp trouble (Y)

Trouble content	The lamp is kept open for 1 sec from turning on the discharge lamp.
Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (Y) and the PCU PWB. Discharge lamp PWB (Y) trouble. PCU PWB trouble.
Check & Remedy	Replace the discharge lamp PWB (Y). Check the harness and the connector. Replace the PCU PWB.

F2-30 Power thermistor trouble

Trouble content	
Detail	PCU
Cause	Power thermistor trouble. Power thermistor harness connection trouble. PCU PWB trouble.
Check & Remedy	Check connection of the process thermistor harness and the connector. Replace the PCU PWB.

F2-39 Process thermistor trouble

Trouble content	
Detail	PCU
Cause	Process thermistor trouble. Process thermistor harness connection trouble. PCU PWB trouble.
Check & Remedy	Replace the process thermistor. Check connection of the process thermistor harness and the connector. Replace the PCU PWB.

F2-40 Toner density sensor trouble (K)

Trouble content	
Detail	PCU
Cause	Toner density sensor output abnormality. Sensor connector and harness connection trouble. Developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Check connection of the sensor connector and the harness. Replace the developing unit. Replace the PCU PWB.

F2-41 Toner density sensor trouble (C)

Trouble content	
Detail	PCU
Cause	Toner density sensor output abnormality. Sensor connector and harness connection trouble. Developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Check connection of the sensor connector and the harness. Replace the developing unit. Replace the PCU PWB.

F2-42 Toner density sensor trouble (M)

Trouble content	
Detail	PCU
Cause	Toner density sensor output abnormality. Sensor connector and harness connection trouble. Developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Check connection of the sensor connector and the harness. Replace the developing unit. Replace the PCU PWB.

F2-43 Toner density sensor trouble (Y)

Trouble content	
Detail	PCU
Cause	Toner density sensor output abnormality. Sensor connector and harness connection trouble. Developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Check connection of the sensor connector and the harness. Replace the developing unit. Replace the PCU PWB.

F2-45 Color image density sensor trouble

Trouble content	
Detail	PCU
Cause	Color image density sensor sensitivity adjustment trouble. Color image density sensor trouble. Sensor harness and connector connection trouble. Image density sensor dirt. Transfer unit lift operation trouble PCU PWB trouble.
Check & Remedy	Replace the color image density sensor. Check connection of the sensor harness and the connector. Clean the image density sensor. Repair the transfer unit lift mechanism. Replace the PCU PWB. Use SIM44-2 to perform the sensitivity adjustment of the process control sensor.

F2-47 Ozone duct thermistor trouble

Trouble content	
Detail	PCU
Cause	Ozone duct thermistor trouble. Improper connection of the communication connector between the Ozone duct and the MFPC PWB. MFPC PWB trouble.
Check & Remedy	Check connection of the connector and the harness between the Ozone duct and the MFPC PWB. Replace the MFPC PWB

F2-49 LSU thermistor trouble

Trouble content	
Detail	PCU
Cause	The LSU temperature is outside of -28 degrees C - 78 degrees C. LSU thermistor trouble. Improper connection of the communication connector between the PCU PWB and the MFPC PWB. Improper connection of the communication connector between the MFPC PWB and the LSUcnt PWB. Harness trouble between the PCU PWB and MFPC PWB. Harness trouble between the MFPC PWB and LSUcnt PWB. Harness and connector trouble between the LD PWB and the LSUcnt PWB. PCU PWB trouble. LSUcnt PWB trouble. MFPC PWB trouble.
Check & Remedy	Check connection of the connector and the harness between the PCU PWB and the MFPC PWB. Check connection of the connector and the harness between the MFPC PWB and the LSUcnt PWB. Check the PWB and connection of the harness in the LSU. Replace the PCU PWB. Replace the MFPC PWB Replace the LSU.

F2-50 K drum phase sensor trouble

Trouble content	
Detail	PCU
Cause	Drum phase sensor trouble. Drum phase sensor harness and connector connection trouble Drum drive section trouble. PCU PWB trouble.
Check & Remedy	Use SIM30-1 to check the operation of "DHPD_K". Replace the drum phase sensor. Check connection of the drum phase sensor harness and the connector. Repair the drum drive section. Replace the PCU PWB.

F2-51 CL drum phase sensor trouble

Trouble content	
Detail	PCU
Cause	Drum phase sensor trouble. Drum phase sensor harness and connector connection trouble Drum drive section trouble. PCU PWB trouble.
Check & Remedy	Use SIM30-1 to check the operation of "DHPD_CL". Replace the drum phase sensor. Check connection of the drum phase sensor harness and the connector. Repair the drum drive section. Replace the PCU PWB.

F2-58 Temperature/humidity sensor trouble (HUD_M/TH_M)

Trouble content	
Detail	PCU
Cause	Temperature/humidity sensor trouble. Temperature/humidity sensor harness and connector connection trouble MFPC PWB trouble.
Check & Remedy	Replace the temperature/humidity sensor. Check connection of the temperature/humidity sensor harness and the connector. Replace the MFPC PWB.

F2-64 Toner supply operation trouble (K)

Trouble content	
Detail	PCU
Cause	Toner supply clutch trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble. Toner transport pipe section trouble
Check & Remedy	Replace the Toner supply clutch. Replace the toner density sensor. Connector and harness check. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit. Check the toner transport pipe section.

F2-65 Toner supply operation trouble (C)

Trouble content	
Detail	PCU
Cause	Toner supply clutch trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble. Toner transport pipe section trouble
Check & Remedy	Replace the Toner supply clutch. Replace the toner density sensor. Connector and harness check. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit. Check the toner transport pipe section.

F2-66 Toner supply operation trouble (M)

Trouble content	
Detail	PCU
Cause	Toner supply clutch trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble. Toner transport pipe section trouble
Check & Remedy	Replace the Toner supply clutch. Replace the toner density sensor. Connector and harness check. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit. Check the toner transport pipe section.

F2-67 Toner supply operation trouble (Y)

Trouble content	
Detail	PCU
Cause	Toner supply clutch trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble. Toner transport pipe section trouble
Check & Remedy	Replace the Toner supply clutch. Replace the toner density sensor. Connector and harness check. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit. Check the toner transport pipe section.

F2-70 Improper toner cartridge detection (K)

Trouble content	
Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB.

F2-71 Improper toner cartridge detection (C)

Trouble content	
Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB.

F2-72 Improper toner cartridge detection (M)

Trouble content	
Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB.

F2-73 Improper toner cartridge detection (Y)

Trouble content	
Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB.

F2-74 Toner cartridge CRUM error (K)

Trouble content	
Detail	PCU
Cause	Toner cartridge (CRUM) trouble. PCU PWB trouble. Connector and harness trouble between PCU PWB and toner cartridge
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB. Check the connector and the harness between the PCU PWB and the toner cartridge.

F2-75 Toner cartridge CRUM error (C)

Trouble content	
Detail	PCU
Cause	Toner cartridge (CRUM) trouble. PCU PWB trouble. Connector and harness trouble between PCU PWB and toner cartridge
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB. Check the connector and the harness between the PCU PWB and the toner cartridge.

F2-76 Toner cartridge CRUM error (M)

Trouble content	
Detail	PCU
Cause	Toner cartridge (CRUM) trouble. PCU PWB trouble. Connector and harness trouble between PCU PWB and toner cartridge
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB. Check the connector and the harness between the PCU PWB and the toner cartridge.

F2-77 Toner cartridge CRUM error (Y)

Trouble content	
Detail	PCU
Cause	Toner cartridge (CRUM) trouble. PCU PWB trouble. Connector and harness trouble between PCU PWB and toner cartridge
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB. Check the connector and the harness between the PCU PWB and the toner cartridge.

F2-78 Registration image density sensor trouble (Transfer belt substrate reflection rate abnormality)

Trouble content	
Detail	PCU
Cause	Image density (registration) sensor trouble (Sensor sensitivity adjustment trouble). PCU PWB trouble. Image density (resist) sensor connector and harness connection trouble Image density (registration) sensor dirt. Transfer belt dirt, scratch.
Check & Remedy	Replace the image density (registration) sensor. Replace the PCU PWB. Check connection of the connector and the harness of the image density (resist) sensor. Clean the image density (registration) sensor. Clean or replace the transfer belt. Use SIM44-2 to perform the sensibility adjustment of the process control sensor.

F6-00 MFPC PWB - FAX communication trouble

Trouble content		MFP - FAX communication establishment error / Framing / Parity / Protocol error
Section		MFP
Case 1	Cause	FAX MAIN PWB trouble.
	Check and Remedy	Replace the FAX MAIN PWB.
Case 2	Cause	FAX control PWB - MFPC PWB connector and harness trouble
	Check and Remedy	Check the connector and the harness between the FAX MAIN PWB and the MFPC PWB.
Case 3	Cause	FAX MAIN PWB - Mother board connector and harness trouble
	Check and Remedy	Check the connector and the harness between the FAX MAIN PWB and the mother board.
Case 4	Cause	FAX MAIM PWB ROM trouble / ROM pin breakage
	Check and Remedy	Check the ROM of the FAX MAIN PWB.

F6-01 FAX MAIN PWB EEPROM read/write error

Trouble content		FAX MAIN PWB EEPROM access error (Read and write)
Section		FAX
Case 1	Cause	FAX MAIN PWB EEPROM trouble
	Check and Remedy	Check that no trouble occurs after replacement of EEPROM. Execute the memory check of SIM66-3 to insure that EEPROM can be accessed.
Case 2	Cause	FAX MAIN PWB EEPROM access circuit trouble
	Check and Remedy	Replace the FAX MAIN PWB.

F6-02 FAX power supply trouble

Trouble detection		PCU
Cause		DC power supply trouble at the main machine. SCN-MFP PWB trouble (Fuse break trouble). 24 volt detection circuit Trouble at FAX PWB. Harness trouble between the FAX PWB and SCN-MFP PWB.
Check & Remedy		Check the 24 volt supply circuit between the machine and the FAX PWB. Replace the DC power supply unit at the machine. Replace the SCN-MFP PWB. Replace the FAX PWB. REplace the harness between the machine and the FAX PWB.

F6-04 FAX MODEM operation trouble

Trouble content		FAX MAIN PWB MODEM chip operation trouble
Section		FAX
Case 1	Cause	FAX MODEM chip operation trouble.
	Check and remedy	Replace the FAX MAIN PWB.
Case 2	Cause	The FAX MODEM chip cannot be accessed.
	Check and Remedy	Replace the FAX MAIN PWB.

F6-21 Improper combination of TEL/LIU PWB and FAX soft switch

Trouble content		Incompatibility between the TEL/LIU PWB and the FAX MAIN PWB information (soft switch)
Section		MFP
Case 1	Cause	The destination of the TEL/LIU PWB installed is improper.
	Check and Remedy	Check the destination of the TEL/LIU PWB.
Case 2	Cause	TEL/LIU PWB trouble.
	Check and Remedy	Replace the TEL/LIU PWB.

F6-30 FAX 1-chip microprocessor access error (FAX detection)

Trouble content		FAX 1-chip microprocessor access error (Read and write)
Section		MFP
Case 1	Cause	Program writing trouble to the 1-chip microprocessor, or no program data written.
	Check and Remedy	Use SIM66-42 to rewrite the 1-chip microprocessor program.
Case 2	Cause	FAX 1-chip microprocessor circuit trouble.
	Check and Remedy	Replace the FAX MAIN PWB.

F6-97 Incompatibility between FAX MAIN PWB and the main machine

Trouble content		Incompatibility between FAX MAIN PWB and the main machine
Section		MFP
Case 1	Cause	The FAX control PWB installed is improper. FAX MAIN PWB trouble.
	Check and Remedy	Install a proper FAX MAIN PWB. Replace the FAX MAIN PWB.

F6-98 Incompatibility between the FAX control PWB destination and the main machine destination

Trouble content		Incompatibility between the FAX MAIN PWB destination and the main machine destination
Section		MFP
Case 1	Cause	Incompatibility between the destination information written into the FAX MAIN PWB EEPROM and that in the main machine (set with SIM26-6)
	Check and Remedy	1) Check the destination of the FAX MAIN PWB. 2) Check the destination of the machine. (SIM26-6)

H2-00 Thermistor open trouble (TH_UM_AD2)

Trouble content		
Detail		PCU
Cause		Thermistor trouble PCU PWB trouble Thermistor connector and harness connection trouble Fusing section connector connection trouble AC Power trouble Fusing unit not installed
Check & Remedy		Use SIM44-14 to check the state of the thermistor. Replace the thermistor. Replace the PCU PWB. Check connection of the thermistor connector and the harness. Check the connector in the fusing section.

H2-02 Thermistor open trouble (TH_US)

Trouble content	
Detail	PCU
Cause	Thermistor trouble PCU PWB trouble Thermistor connector and harness connection trouble Fusing section connector connection trouble AC Power trouble Fusing unit not installed
Check & Remedy	Use SIM44-14 to check the state of the thermistor. Replace the thermistor. Replace the PCU PWB. Check connection of the thermistor connector and the harness. Check the connector in the fusing section.

H2-03 Thermistor open trouble (TH_UM_CS)

Trouble content	
Detail	PCU
Cause	Thermistor trouble PCU PWB trouble Thermistor connector and harness connection trouble Fusing section connector connection trouble Power unit trouble. Fusing unit not installed
Check & Remedy	Use SIM44-14 to check the state of the thermistor. Replace the thermistor. Replace the PCU PWB. Check connection of the thermistor connector and the harness. Check the connector in the fusing section.

H3-00 Fusing section high temperature trouble (TH_UM_CS)

Trouble content	
Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble Power unit trouble. Thermistor connector and harness connection trouble
Check & Remedy	Use SIM44-14 to check the state of the thermistor. Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble. Replace the thermistor. Check connection of the thermistor connector and the harness.

H3-02 Fusing section high temperature trouble (TH_US)

Trouble content	
Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble Power unit trouble. Thermistor connector and harness connection trouble
Check & Remedy	Use SIM44-14 to check the state of the thermistor. Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble. Replace the thermistor. Check connection of the thermistor connector and the harness.

H4-00 Fusing section low temperature trouble (TH_UM_CS)

Trouble content	
Detail	PCU
Cause	Thermistor trouble. Heater lamp trouble. MFPC PWB trouble. Thermostat trouble. Connector, harness connection trouble. Power unit trouble.
Check & Remedy	Use SIM14 to cancel the trouble. Use SIM44-14 to check the state of the thermistor. Use SIM5-2 to check the flashing operation of the heater lamp. Replace the thermistor. Replace the heater lamp. Replace the MFPC PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit.

H4-30 Thermistor differential input trouble (Upper main) (TH_UM)

Trouble detection	PCU
Cause	HL_UM does not light. Thermistor trouble. Harness trouble. PCU PWB trouble.
Check & Remedy	Use SIM05-02 to check the flushing operation of the heater lamp. When the lamp lights on correctly, check the thermistor or the harness. Check the input circuit of the thermistor on the PCU PWB. When the lamp does not light on correctly, check the cut-line of the heater harness and the thermostat. Check the interlock switch. Check the lamp control circuit on the AC PWB and the PCU PWB. Use SIM14 to cancel the trouble.

H5-01 5 times continuous POD1 not-reach jam

Trouble content	
Detail	PCU
Cause	A fusing jam is not canceled completely. (A jam paper remains.) POD1 sensor trouble Fusing unit installation trouble POD1 sensor connector and harness connection trouble PCU PWB trouble Fusing unit, drive section trouble
Check & Remedy	Replace the POD1 sensor. Check installation of the fusing unit. Replace the fusing unit. Check or repair the fusing drive section. Check connection of the POD1 sensor connector and the harness. Replace the PCU PWB. Use SIM14 to cancel the trouble.

H7-10 Recovery error from low fuser temp. (TH_UM_CS)

Trouble content	The fusing temperature does not reach the specified level within the specified time from stopping a job due to fall in the fusing temperature.
Detail	PCU
Cause	Thermistor trouble. Heater lamp trouble. MFPC PWB trouble. Thermostat trouble. Connector, harness connection trouble. Power unit trouble.
Check & Remedy	Replace the thermistor. Replace the heater lamp. Replace the MFPC PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit. Use SIM5-2 to check the flashing operation of the heater lamp.

L1-00 Scanner feed trouble

Trouble content	Scanner feed is not completed within the specified time.
Detail	SCU
Cause	Scanner unit trouble. SCN cnt PWB trouble. Harness and connector connection trouble. Scanner home position sensor trouble. Scanner motor trouble.
Check & Remedy	Use SIM1-1 to check the scan operation. Replace the scanner unit. Replace the SCN cnt PWB. Check connection of the connectors and the harness. Replace the scanner home position sensor. Replace the scanner motor.

L3-00 Scanner return trouble

Trouble content	Scanner return is not completed within the specified time.
Detail	SCU
Cause	Scanner unit trouble SCU cnt PWB trouble Harness and connector connection trouble Scanner home position sensor trouble Scanner motor trouble
Check & Remedy	Use SIM1-1 to check the scan operation. Replace the scanner unit. Replace the SCN cnt PWB. Check connection of the connectors and the harness. Replace the scanner home position sensor. Replace the scanner motor.

L4-01 Main motor lock trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor trouble(MM) PCU PWB trouble
Check & Remedy	SIM6-1 to execute Check connection state of connector, harness Replace motor (MM) Replace PCU PWB

L4-06 Transfer unit lift trouble

Trouble content	A change in the primary transfer position sensor cannot be detected within the specified time in lifting operation of the primary transfer unit.
Detail	PCU
Cause	Transfer unit position sensor trouble Dirt on the transfer unit position sensor. PCU PWB trouble Connection trouble of the connector and the harness. Transfer unit lift mechanism trouble Primary transfer belt unit is not installed.
Check & Remedy	Use SIM6-3 to check the separating operation of the transfer unit. Install the primary transfer belt unit. Replace the transfer unit position sensor. Clean the transfer unit position sensor. Replace the PCU PWB. Check connection of the connector and the harness. Repair the transfer unit lift mechanism.

L4-17 Drum motor trouble K

Trouble content	The motor lock signal is detected during rotation of the drum motor.
Detail	PCU
Cause	Drum motor trouble Harness connection trouble between the MFPC PWB and the drum motor Control circuit trouble
Check & Remedy	Use SIM25-01 to check the operation of the drum motor. Check the harness and the connector between the MFPC PWB and the developing motor. Replace the MFPC PWB. Replace the drum motor.

L4-18 Drum motor trouble C

Trouble content	The motor lock signal is detected during rotation of the drum motor.
Detail	PCU
Cause	Drum motor trouble Harness connection trouble between the MFPC PWB and the drum motor Control circuit trouble
Check & Remedy	Use SIM25-01 to check the operation of the drum motor. Check the harness and the connector between the MFPC PWB and the developing motor. Replace the MFPC PWB. Replace the drum motor.

L4-32 Power source cooling fan trouble

Trouble content	The fan operation signal is not detected.
Detail	PCU
Cause	Power cooling fan trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-2 to check that the fan is actually rotating. Replace the power cooling fan. Replace the PCU PWB. Check connection of the connectors and the harness.

L4-35 Fusing fan trouble

Trouble content	The fan operation signal is not detected.
Detail	PCU
Cause	Fusing cooling fan trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-2 to check that the fan is actually rotating. Replace the fusing cooling fan. Replace the PCU PWB. Check connection of the connector and the harness.

L4-40 Ozone fan motor 1 trouble

Trouble content	The lock signal is detected during rotation of the ozone fan motor 1.
Detail	PCU
Cause	Harness/connector trouble between the PCU PWB and the fan motor. PCU PWB trouble. Fan motor trouble. The fan does not rotate because of the other trouble. (No power supply to the fan motor)
Check & Remedy	Use SIM6-2 to check the operation of the fan motor. Check the harness and the connector between the PCU PWB and the fan motor. Replace the PCU PWB. Replace the fan motor.

L4-44 Power source cooling fan 2 trouble

Trouble content	The lock signal is detected during rotation of the power source cooling fan 2.
Detail	PCU
Cause	Harness/connector trouble between the PCU PWB and the fan motor. PCU PWB trouble. Fan motor trouble. The fan does not rotate because of the other trouble. (No power supply to the fan motor)
Check & Remedy	Use SIM6-2 to check the operation of the fan motor. Check the harness and the connector between the PCU PWB and the fan motor. Replace the PCU PWB. Replace the fan motor.

L6-10 Polygon motor trouble

Trouble content	The polygon motor does not reach the specified RPM within the specified time after starting rotation of the polygon motor.
Detail	PCU
Cause	Polygon motor trouble. LSUcnt PWB trouble. Harness and connector trouble between the polygon motor unit and the LSUcnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the polygon motor. Check the PWB and connection of the harness in the LSU. Replace the LSU.

L8-01 Full wave signal detection error

Trouble detection	PCU
Cause	Connector, harness connection trouble Power supply unit trouble PCU PWB trouble
Check & Remedy	Check connection state of connector, harness Replace power supply unit Replace PCU PWB

L8-02 Full wave signal error

Trouble content	The full wave signal is not detected.
Detail	PCU
Cause	An abnormality in the full wave signal frequency is detected (The frequency is detected as 65Hz or above, or 45Hz or less) PCU PWB trouble. Power unit trouble Connection trouble of the connector and the harness Power frequency wave form abnormality
Check & Remedy	Replace the PCU PWB Replace the power unit Check connection of the connector and the harness Check the power wave form

L8-20 Communication error of MFPC PWB/LSU mother board

Trouble content	
Detail	MFP
Cause	LSU mother board PWB - MFPC PWB connection trouble. MFPC PWB trouble. LSU cnt board trouble.
Check & Remedy	Check connection between the LSU mother board PWB and the MFPC PWB. Check the ground of the main unit. Replace the MFPC PWB. Replace the LSU cnt board.

PC-- Personal counter not detected

Trouble content	
Detail	MFP
Cause	The personal counter is not installed. 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 content	RTC backup battery voltage fall
Detail	MFP
Cause	1) Battery life 2) Battery circuit abnormality
Check and Remedy	Check to confirm that the battery voltage is about 2.5V or above. Replace the battery.

U2-00 MFPC EEPROM read/write error

Trouble content	
Detail	MFP
Cause	MFPC PWB EEPROM trouble EEPROM socket contact trouble MFPC PWB trouble Strong external noises.
Check & Remedy	Replace the MFPC PWB EEPROM. Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the MFPC PWB in the Service Manual, and perform the works.) Check the power environment.

U2-05 Account data error

Trouble content	The HDD or the MFPC PWB installed is improper. (Erroneous detection of account management data)
Detail	MFP
Cause	The HDD was replaced. The MFPC PWB was replaced. HDD trouble MFPC PWB trouble
Check & Remedy	(Refer to the pages on the necessary works after replacing the HDD and the MFPC PWB in the Service Manual, and perform the works.) Use SIM16 to cancel the error.

U2-11 MFPC PWB EEPROM counter check sum error

Trouble content	
Detail	MFP
Cause	MFPC PWB EEPROM trouble EEPROM socket contact trouble MFPC PWB trouble Strong external noises.
Check & Remedy	Use SIM16 to cancel the error. (The previous writing data (about the latest 8 sheets) are written into the EEPROM.) Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the MFPC PWB in the Service Manual, and perform the works.)

U2-30 MFPC PWB and PCU PWB manufacturing No. data inconsistency

Trouble content	Inconsistency between the manufacturing No. saved in the PCU PWB and that in the MFPC PWB.
Detail	MFP
Cause	When replacing the PCU PWB or the MFPC PWB, the EEPROM which was mounted on the PWB before replacement is not mounted on the new PWB. MFPC PWB trouble PCU PWB trouble
Check & Remedy	Check that the EEPROM is properly set. Check to confirm that the EEPROM which was mounted on the PWB before replacement is mounted on the new PWB. Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the MFPC PWB in the Service Manual, and perform the works.) Replace the PCU PWB.

U2-40 eMMC PWB system storage data area error

Trouble content	
Detail	MFP
Cause	A file error occurs in the mSATA SSD system storage data partition.
Check & Remedy	Turn OFF/ON the power, and the backup data in the HDD are written into the mSATA SSD and the machine is automatically booted.

U2-41 HDD system storage data area error

Trouble content	
Detail	MFP
Cause	A file error occurs in the HDD system saved data area, disabling backup of the saved file of the machine adjustment values in the SD card. HDD trouble MFPC PWB trouble
Check & Remedy	Check the HDD, and replace if necessary. Check the MFPC PWB, and replace if necessary. When replacing the HDD and the MFPC PWB, refer to the chapter of "Necessary works and procedures of HDD and MFPC PWB replacement."

U2-42 Machine adjustment data error

Trouble content	
Detail	MFP
Cause	The saved file of the machine adjustment values in the eMMC PWB and the HDD cannot be found or is broken. Both of the eMMC PWB set data and the HDD system saved data area are broken. HDD trouble MFPC PWB trouble SD card trouble
Check & Remedy	Check the HDD, and replace if necessary. Check the MFPC PWB, and replace if necessary. Check the SD card, and replace if necessary. When replacing the HDD, the MFPC PWB, and the SD card, refer to the chapter of "Necessary works and procedures of HDD, MFPC PWB, and SD card replacement." Use SIM to adjust the machine again and set the adjustment values.

U2-50 HDD*1 user authentication data check sum error

Trouble content	
Detail	MFP
Cause	HDD trouble*1 MFPC PWB trouble Strong external noises.
Check & Remedy	Check the data related to the check sum error (address book, image send system registration data (senders record, meta data)) and register again. Use SIM16 to cancel the U2 trouble. Replace the HDD*1. Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the HDD and the MFPC PWB in the Service Manual, and perform the works.)*1

*1: SD card when no HDD is installed.

U2-60 Watermark check error

Trouble content	
Detail	MFP
Cause	Watermark data trouble HDD trouble MFPC PWB trouble
Check & Remedy	Use SIM16 to cancel the U2 trouble. Use SIM49-5 to install the watermark data. Replace the HDD. Replace the MFPC PWB. (Refer to the pages on the necessary works after replacing the HDD and the MFPC PWB in the Service Manual, and perform the works.)

U2-70 OCR dictionary check error

Trouble detection	MFP
Cause	OCR dictionary error
Check & Remedy	Use Sim49-6 to install the OCR dictionary data

U2-74 Recovery data error

Trouble detection	MFP
Cause	Data corruption due to storage error Data abnormality
Check & Remedy	SIM49-1 to execute

U2-80 SCU PWB EEPROM read/write error

Trouble content	
Detail	SCU
Cause	SCU PWB EEPROM trouble SCU PWB trouble SCU PWB EEPROM socket connection trouble
Check & Remedy	Replace the SCU PWB EEPROM. Replace the SCU PWB. Check connection of the SCU PWB EEPROM socket. Check the SIM adjustment value of the following items, and adjust again if they are improper. <ul style="list-style-type: none"> • Scanner-related adjustments • Touch panel-related adjustments Use SIM16 to cancel the trouble.

U2-81 SCU PWB EEPROM check sum error

Trouble content	
Detail	SCU
Cause	SCU PWB EEPROM trouble. Installation of non-initialized EEPROM. SCU PWB trouble. EEPROM socket contact trouble.
Check & Remedy	Replace the SCU PWB EEPROM. Replace the SCU PWB. Check contact of the EEPROM socket. Use SIM16 to cancel the trouble. (The check sum error detection data are calculated again to reset the proper check sum data.)

U2-90 PCU PWB EEPROM read/write error

Trouble content	
Detail	PCU
Cause	PCU PWB EEPROM trouble PCU PWB trouble EEPROM socket contact trouble
Check & Remedy	Replace the PCU PWB EEPROM. Check the SIM adjustment values of the engine, and adjust again if they are improper. Replace the PCU PWB. Check contact of the EEPROM socket. Use SIM16 to cancel the trouble.

U2-91 PCU PWB EEPROM check sum error

Trouble content	
Detail	PCU
Cause	PCU PWB EEPROM trouble PCU PWB trouble EEPROM socket contact trouble
Check & Remedy	Replace the PCU PWB EEPROM. Replace the PCU PWB. Check contact of the EEPROM socket. Use SIM16 to cancel the trouble. (The check sum error detection data are calculated again to reset the proper check sum data.)

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 CNT PWB trouble
Check & Remedy	Power OFF/ON to cancel Check connection state of connector, harness Replace SCN-cnt PWB Replace DSPF CNT 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 Tray2 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

U6-04 Desk paper feed tray 3 lift trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Sensor (D4ULD) trouble Tray3 lift up motor (D4LM) 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 (D4ULD) 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 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 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 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

U6-14 Desk paper feed tray 4 transport trouble

Trouble detection	PCU
Cause	Connector, harness connection trouble Motor (D4PFM) trouble Desk tray4 control PWB trouble PCU PWB trouble
Check & Remedy	SIM4-3 to execute Check connection state of connector, harness Replace motor (D4PFM) Replace desk tray4 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

U6-59 Desk paper feed tray 4 firmware error

Trouble detection	PCU
Cause	Firmware version is inconsistency
Check & Remedy	SIM49-1 to execute

U6-60 Desk communication error between paper feed tray 3 and tray 4

Trouble detection	PCU
Cause	Desk paper feed tray 3 and 4 connector, harness connection trouble Desk tray3 control PWB trouble Desk tray4 control PWB trouble Malfunction due to noise
Check & Remedy	Power OFF/ON to cancel Check connection state of connector, harness Replace desk tray3 control PWB Replace desk tray4 control PWB

U6-70 Desk firmware version mismatch error

Trouble detection	PCU
Cause	Firmware version is inconsistency
Check & Remedy	SIM49-1 to execute

U7-50 MFPC PWB - Vendor machine communication error

Trouble content	Communication error between the MFP and the serial vendor.
Detail	MFP
Cause	Improper setting of the vendor machine specifications (SIM26-3). Vendor machine trouble. MFPC PWB trouble. Connector, harness connection trouble. Strong external noises.
Check & Remedy	Cancel the error by turning OFF/ON the power. Check the connector and the harness in the communication line. Change the specifications of the vendor machine (SIM26-3). Replace the MFPC PWB.

U7-51 Vendor machine error

Trouble content	
Detail	MFP (Notification of a trouble from the serial vendor)
Cause	Serial vendor machine trouble. Connector, harness connection trouble.
Check & Remedy	Err.XX is displayed on the operation panel of the vendor. (XX is the detail code.) Repair the vendor machine referring to the detail code. Check the connector and the harness in the communication line.

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
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UC-02 SCAN - ASIC IPD error

Trouble content	
Detail	RSPF
Cause	SCU PWB trouble. (SCAN-ASIC trouble.)
Check & Remedy	Replace the SCU PWB.

UC-12 SCAN ASIC IPD error (DSPF detection)

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

H. Relation between the SCN-MFP PWB LED status and errors

When the machine cannot be booted, check the LED status of the MFPC PWB to presume the error content and its cause.

<Process content and LED display>

1, LED-R lighting-up status

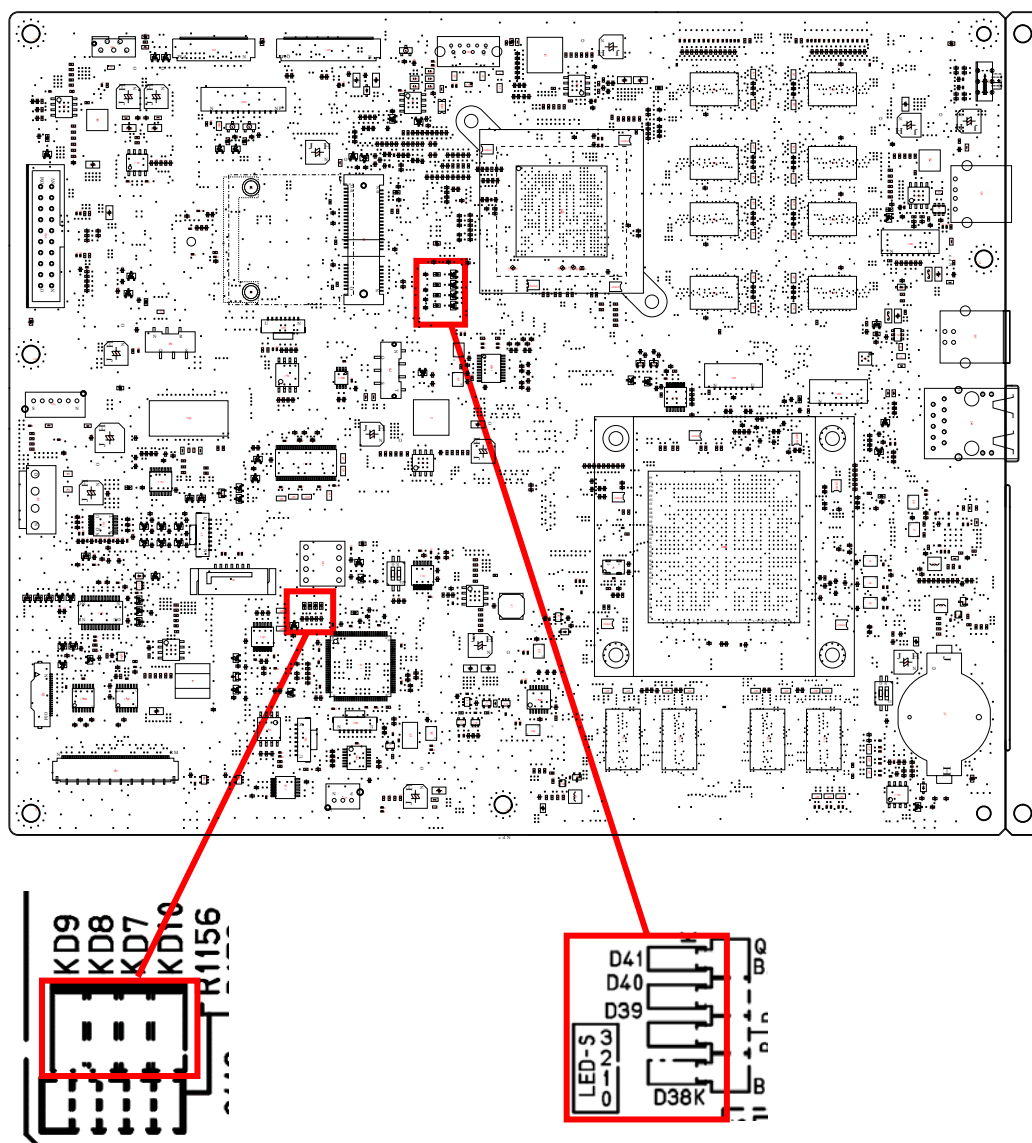
LED status (Lighting)	Process operation content	Countermeasure at error
●●●●	Normal status	
other status	Error	SCN-MFP PWB trouble. Replace SCN-MFP PWB.

2, LED-S lighting-up status

LED status (Lighting)	Process operation content	Countermeasure at error
●●●● --- ○●●● (3 second interval)	Normal status	
other status	Error	Replace mSATA SSD. IF still error. --> Replace SCN-MFP PWB.

* : LED ON / ○: LED OFF

MFP PWB



2. JAM and troubleshooting

A. JAM code list

(1) Main unit

JAM code	JAM content
MFT_LE	Manual feed tray paper feed JAM (paper feed roller needs to be replaced)
TRAY1_LE	Tray1 paper feed JAM (paper feed roller needs to be replaced)
TRAY1_LE	Tray1 paper feed JAM (paper feed roller needs to be replaced)
TRAY2_LE	Tray2 paper feed JAM (paper feed roller needs to be replaced)
TRAY3_LE	Tray3 paper feed JAM (paper feed roller needs to be replaced)
TRAY4_LE	Tray4 paper feed JAM (paper feed roller needs to be replaced)
TRAY5_LE	Tray5 paper feed JAM (paper feed roller needs to be replaced)
MFT_RT	Manual feed tray paper feed JAM (check paper state)
TRAY1_RT	Tray 1 paper feed JAM (check paper state)
TRAY2_RT	Tray 2 paper feed JAM (check paper state)
TRAY3_RT	Tray 3 paper feed JAM (check paper state)
TRAY4_RT	Tray 4 paper feed JAM (check paper state)
TRAY5_RT	Tray 5 paper feed JAM (check paper state)
MFT_1ST	Manual feed tray paper feed JAM (check paper loading state)
TRAY1_1ST	Tray1 paper feed JAM (check paper loading state)
TRAY2_1ST	Tray2 paper feed JAM (check paper loading state)
TRAY3_1ST	Tray3 paper feed JAM (check paper loading state)
TRAY4_1ST	Tray14paper feed JAM (check paper loading state)
TRAY5_1ST	Tray5 paper feed JAM (check paper loading state)
TRAY5_1ST	Tray5 paper feed JAM (check paper loading state)
PPD2_N2	PPD2 not-reached JAM (Cassette 2 feed paper)
MFT	PPD2 not-reached JAM (Manual paper feed)
TRAY1	PPD2 not-reached JAM (Tray 1 paper feed)
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_N5	PPD2 not-reached JAM (Tray 5 paper feed)
PPD2_NA	PPD2 not-reached JAM (ADU refeed paper)
PPD2_SM	PPD2 remaining JAM (Manual paper feed)
PPD2_S1	PPD2 remaining JAM (Tray1 paper feed)
PPD2_S2	PPD2 remaining JAM (Tray2 paper feed)
PPD2_S3	PPD2 remaining JAM (Tray3 paper feed)
PPD2_S4	PPD2 remaining JAM (Tray4 paper feed)
PPD2_S5	PPD2 remaining JAM (Tray5 paper feed)

JAM code	JAM content
PPD2_SA	PPD2 remaining JAM (ADU refeed paper)
POD1_NA	POD1 not-reached JAM (In the case of a jam at the second surface)
POD1_N	POD1 not-reached JAM
POD1_SA	POD1 remaining JAM (In the case of a jam at the second surface)
POD1_S	POD1 remaining JAM
TRAY2	D1PPD not-reached JAM (Tray 2 paper feed)
D1PPD_N03	D1PPD not-reached JAM (Tray 3 paper feed)
D1PPD_N04	D1PPD not-reached JAM (Tray 4 paper feed)
D1PPD_N05	D1PPD not-reached JAM (Tray 5 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)
D1PPD_S05	D1PPD remaining JAM (Tray 5 paper feed)
TRAY3	D1PPD not-reached JAM (Tray 3 paper feed)
D2PPD_N04	D2PPD not-reached JAM (Tray 4 paper feed)
D2PPD_N05	D2PPD not-reached JAM (Tray 5 paper feed)
D2PPD_S03	D2PPD remaining JAM (Tray 3 paper feed)
D2PPD_S04	D2PPD remaining JAM (Tray 4 paper feed)
D2PPD_S05	D2PPD remaining JAM (Tray 5 paper feed)
TRAY4	D3PPD not-reached JAM (Tray 4 paper feed)
D3PPD_N05	D3PPD not-reached JAM (Tray 5 paper feed)
D3PPD_S04	D3PPD remaining JAM (Tray 4 paper feed)
D3PPD_S05	D3PPD remaining JAM (Tray 5 paper feed)
TRAY5	D4PPD not-reached JAM (Tray 4 paper feed)
D4PPD_S05	D4PPD remaining JAM (Tray 5 paper feed)
P_ON	Jam detection at power ON
DOP	Door open JAM
DRUM	Drum lock detection
FUSER	Fuser winding detection
PRI_JAM	Time out for image ready
DESK_ERR	Desk communication error detection
MTR_ILG	Motor driver trouble JAM
SIZE_ILG	Size illegal JAM
STOP_JAM	Emergency stop request JAM (Controller request)
NO_MATCH	Parameter inconsistency

(2) SCU JAM causes

JAM code	JAM content
STOP_JAM	Emergency stop JAM
SPPD1_N	SPPD1 not-reached JAM
SPPD1_S	SPPD1 remaining JAM
SPPD2_N	SPPD2 not-reached JAM
SPPD2_S	SPPD2 remaining JAM
SPPD3_N	SPPD3 remaining JAM
SPPD3_S	SPPD3 remaining JAM
SPPD4_N	SPPD4 not-reached JAM
SPPD4_S	SPPD4 remaining JAM
SPOD_N	SPOD not-reached JAM
SPOD_S	SPOD remaining JAM

JAM code	JAM content
SPSD_SCN	Exposure start notification timer end
P_SHORT	Short size JAM
SDFS_S	Double feed JAM
ICU_REQ	ICU stop JAM
SPPD1_NR	SPPD1 reverse not-reached JAM
SPPD1_SR	SPPD1 reverse remaining JAM
SPPD2_NP	SPPD2 not-reached JAM (paper feed)
SPPD2_ND	SPPD2 not-reached JAM (double feed)
SMTR_ILG	SPF motor driver trouble JAM

Report code	Final receive signal (Send side)	Final receive signal (Receive side)
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.

3. Image send communication report code

A. Outline and 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

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-FAX or PC-IFAX; *If an error occurs when storing the job ticket (including fmSyncFile error); *If an error occurs when creating the thumbnail; *If an error occurs when creating the map; *If an error occurs during the storage of the control table;
67	F PASS # NG	In F code receiving, the pass code (SID) is not matched. <Receive>
68	BOX NO. NG	In F code reception, a box number which is not registered is specified. (SUB is not matched.) <Receive>
69	MEMORY OVER	Memory over in quick online sending <Send>
70	(JOB MEMORY OVER)	In PC-FAX reservation, the number of remote parties is exceeded. <Send>
71	NG71 XXXX *1	In PC-FAX reservation, data sent from PC includes some errors. <Send>
72	(NG72 XXXX) *1	In department management setting on the machine side: • In reservation from PC-FAX or PC-Internet FAX, a department number which is not registered on the machine side is specified. <Send> • In reservation from PC-FAX or PC-Internet FAX, the department number is not specified. <Send>

Report code (Communication result)	Display in the column of result	Content of communication interruption
73	NG73 XXXX *1	In reservation from PC-FAX or PC-Internet FAX, the use quantity limit is exceeded. <Send>
74	NG74 XXXX *1	When reserving specified filing in document filing in PC-FAX or PC-Internet FAX; <ul style="list-style-type: none"> The pass-code for the folder is set on the machine side and the pass-code from PC-XXX does not match with it. <Send> The pass-code for the folder is set on the machine side and no pass-code is specified by PC-XXX. <Send>
75	NG75 XXXX *1	<ul style="list-style-type: none"> Reservation cannot be made due to machine busy. (Reservation of PC-FAX cannot be accepted.) When "PC-FAX or PC-Internet FAX send inhibit" is set on the machine side.
76	NG76 XXXX *1	Reserved with receive confirmation request in PC-Internet FAX, but the Internet FAX sender is not registered on the machine side. <Send>
77	NG77 XXXX *1	In reserving specified filing in PC-FAX or PC-Internet FAX, the machine has no filing function.
78	NG78 XXXX *1	The filing function is inhibited on the machine side when filing specification is reserved by PC-FAX or PC-Internet FAX.
79	NG79 XXXX *1	An authentication error occurs when PC-FAX or PC-Internet FAX is reserved.
80	NG80 XXXX *1	NIC connect failure (network abnormality) <ul style="list-style-type: none"> Check for disconnection of cables. A network trouble (CE-XX) occurs. The port is set to DISABLE. Authentication of the POP server is failed when POP before SMTP is enabled. When an error other than the communication result code 93 or 94 in D-SMTP send (including error response of 5XX)
81	NG REPORT	In Internet FAX send, reply of receive confirmation of the remote machine is not normal. (Including PC-Internet FAX). <ul style="list-style-type: none"> Error of the disposition-modifier. The disposition modifier is not in an error, and the disposition type is other than displayed, dispatched, or processed.
82	NO REPORT	In Internet FAX send, time-out occurs in waiting for receive confirmation from the remote machine. (Including PC-Internet FAX). <ul style="list-style-type: none"> In a case where send confirmation wait time-out time is other than 0, when send confirmation reply from an Internet FAX destination is not received. Recalls of the set number of recalls are performed, but send confirmation reply from an internet AFX destination is not received.
83	NG LIMIT	In E-mail/FTP, Internet FAX send, the send data size exceeds the upper limit of send data.
84	REJECTED	In e-mail receive, a sender is registered in receive reject address/domain. <Receive>
85	NG85 XXXX *1	In e-mail receive, an error occurs in communication with POP3 server. <ul style="list-style-type: none"> Header acquisition error. Time-out during mail receive
86	RECEIVED	In e-mail receive, an unsupported attached file is received. Only the TIFF-F type is supported for attached files. <ul style="list-style-type: none"> The TIFF-F type of the attached file cannot be recognized. There is no attached file.
87	NG87 XXXX *1	In e-mail receive, an attached file cannot be stored in memory. <ul style="list-style-type: none"> Memory over
88	NG88 XXXX *1	In SMTP e-mail receive, an attached file cannot be stored in memory. <ul style="list-style-type: none"> Cannot be stored in memory. The number of items of acting receive data is the maximum, and an additional data cannot be stored.
89	NG89 XXXX *1	In SMTP e-mail receive, an error occurs in communication with the mail server. <ul style="list-style-type: none"> Time-out occurs during e-mail receive.
90	NG90 XXXX *1	After reservation by re-operation of document filing, conversion for image send cannot be made. <ul style="list-style-type: none"> conversion for image sending cannot be made.
91	NG91 XXXX *1 *2	Data cannot be written to the memory device when Scan To USB is executed. <ul style="list-style-type: none"> The memory device is disconnected during writing to the memory device. An error occurs due to a memory device trouble.
92	NG92 XXXX *1 *2	The USB device memory overflows during writing data into the memory device when "Scan to USB" is executed.
93	NG93 XXXX *1	When error in D-SMTP send (with recall) <ul style="list-style-type: none"> An error response of 4XX occurs during communication with the SMTP server. Time out occurs after establishment of connection with the SMTP server.
94	NG94 XXXX *1	When busy in D-SMTP send Time out occurs during establishment of connection with the SMTP server.
95	NG95 XXXX *1	When the path is too long in execution of Scan To USB.
96	NG96 XXXX *1	When the normal process is not executed in the secure mail sending.
98	NG98 XXXX *1	The copy inhibit pattern is detected when scanning a document.
99	NG99 XXXX *1	A document which is inhibited to be copied such as a banknote is scanned.

*1: For a job status result in "Display in the column of result," "NG △△ XXXX" is displayed. "△△" is the code number.

For a communication result, "Communication error △△ (XXXX)" is displayed.

*2: The error code of Scan To USB is specified only in the job log.

- When the communication result is OK, the communication sub code 1 and the communication sub code 2 are "0000."
- Errors in () are not used.

(2) Communication report sub code 1

The communication report sub code 1 (upper 2 digits) are always indicated as "00."

(3) Communication report sub code 2

Report code 2	Content of communication interruption	Send/Receive
00	When the conditions after 01 do not apply.	Send/Receive
01	Send length over	Send
02	EOL time up	Receive
03	Carrier detection time up	Receive
04	Time up of the communication start command from the machine side	Receive
05	Time up in phase C (8 min)	Send
06	Memory image decode error	Receive
07	Memory image decode error	Send
08	Time up between frames in phase C (Report code is 0 or 16.)	Send/Receive
09	Not used	—
10	Not used	—
11	Polarity reversion detection	Receive
12	Invalid command reception	Receive
13	Time up (1-minute timer/6-second time)	Receive
14	PUT error	Receive
15	In V.34 mode, time up is generated when shifting from Primary to Control.	Receive
16	In V.34 mode, time up is generated when shifting from Control to Primary.	Receive
17	Command receive time-up from MFP controller	Receive
18	Not used	—
19	Not used	—
20	Polarity reversion detection	Send
21	Invalid command reception	Send
22	Fallback retry number over	Send
23	Command retry number resend over	Send
24	Time up (T5 timer)	Send
25	Time up (T5 timer) in V.34 mode	Send
26	In V.34 mode, time up is generated when shifting from Primary to Control.	Send
27	In V.34 mode, time up is generated when shifting from Control to Primary.	Send
28	When sending the FSK signal, no response of send completion is sent back from the MODEM chip within a certain time. (V.34, other than V.34)	Send
29	Not used	—
30	A communication error is generated between MFP controller and Modem controller. (Report code is 0 or 16.)	—
31	DC current not detected (busy) Line disconnected.	Send
32	Dial tone not detected (busy)	Send
33	Busy tone detection (busy)	Send
34	T0 time up (Remote machine not responding)	Send
35	T1 time up (Remote machine not responding)	Send
36	In dialing, polarity reversion detection (Remote machine not responding)	Send
37	Calling is not made (busy)<Collision detected (including CNG detection)>	Send
38	Not used	—
60	In resend of document filed data, an error occurs in decoding or coding.	Resend
61	In resend of document filed data, setting to inhibit resolution conversion is made. (The resolution after resend is set to be Enlarged.)	Resend
62	In resend of document filed data, rotation setting is made for data which cannot be rotated.	Resend
63	In resend of document filed data, data cannot be stored in HD after conversion of resolution for resend.	Resend
64	In resending data of document file, during conversion for resending, the number of IMS management pages exceeds the upper limit (999). (IT occurs in OSA Scan to FTP also, resulting in memory over.)	Resend OSAScanToFTP
70	E-mail header acquisition error	E-mail receive
71	Time out occurs during e-mail receive.	E-mail receive
72	Receive reject occurs during e-mail receive.	E-mail receive
73	Network communication cannot be made due to port disable.	Network send
74	An authentication of the POP server is failed when POP before SMTP is enabled.	Network send
75	In the setting of SSL communication, when SSL communication is tried but the server side does not support SSL.	Network send
76	There is no image in network communication (transfer).	Network send
80	There is no attached file in received e-mail.	E-mail receive
81	The attached file of received e-mail is not of TIFF type which is supported.	E-mail receive
82	The TIFF type of the attached file in received e-mail cannot be recognized. ID error	E-mail receive
83	The TIFF type of the attached file in received e-mail cannot be recognized. Endian error	E-mail receive
84	The TIFF type of the attached file in received e-mail cannot be recognized. Version error	E-mail receive
85	The TIFF type of the attached file in received e-mail cannot be recognized. Tag data error	E-mail receive
86	The TIFF type of the attached file in received e-mail cannot be recognized. Tag parameter error	E-mail receive

Report code 2	Content of communication interruption	Send/Receive
87	The TIFF type of the attached file in received e-mail cannot be recognized. Header size error	E-mail receive
88	The TIFF type of the attached file in received e-mail cannot be recognized. Data error	E-mail receive
90	In e-mail receive, an attached file cannot be stored in memory. Memory over. Cannot be stored in memory.	E-mail receive
91	In e-mail receive, an attached file cannot be stored in memory. The file size is too great to be stored in memory.	E-mail receive
92	In SMTP e-mail receive, an attached file cannot be stored in memory. Cannot be stored in memory.	E-mail receive
93	There is character that cannot be processed. OCR processing error.	—

When the sub code 2 is "08" or "30" and the communication report is "OK," the report code is "00" or "16."

[8] FIRMWARE UPDATE

1. Outline

A. Cases where update is required

ROM update is required in the following cases:

- 1) When there is a necessity to upgrade the performance.
- 2) When installing a new spare part ROM for repair to the machine.
- 3) When installing a new spare parts PWB unit (with ROM) for repair to the machine.
- 4) When there is a trouble in the ROM program and it must be repaired.

B. Notes for update

(1) Relationship between each ROM and update

Before execution of ROM update, check combinations with ROM's installed in the other PWB's including options. Some combinations of each ROM's versions may cause malfunctions of the machine.

C. Update procedures and kinds of firmware

There are following methods of update of the firmware.

- 1) Update method using SIM 49-1
- 2) Update method using FTP
- 3) Update method using the Web page
- 4) Update method using the CN update function (There are three methods.)

Normally, one of 1) - 3) is used to update the firmware.

When any one of 1) - 3) is interrupted by an error such as power-off during updating, etc., and when retries of these methods are failed, the method 4) is employed.

Firmware types

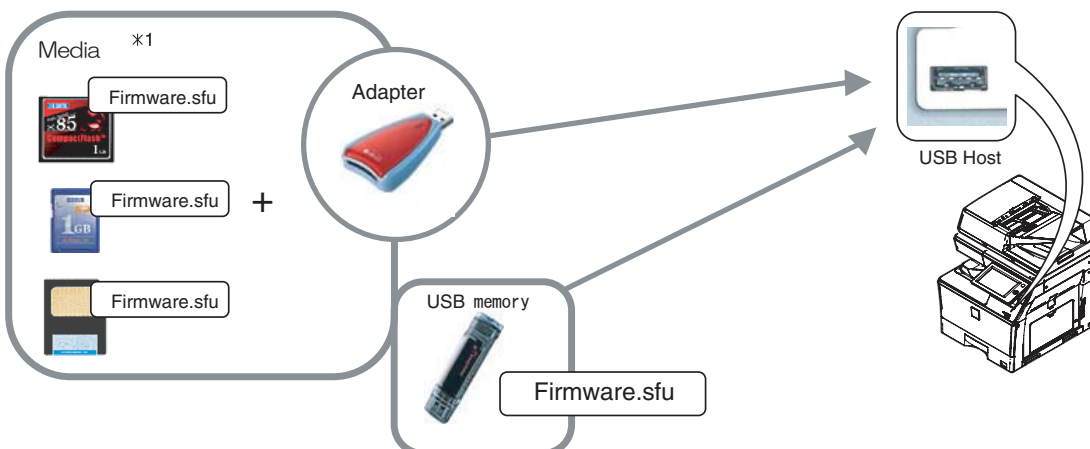
The firmware type can be displayed by SIM22-5.

Use SIM22-5 to check the firmware type.

2. Update procedure

A. Update method using SIM 49-1

For the update, connect the media or USB memory to the USB port that exists in the main body, and select the firmware data in the media or USB memory by simulation screen in the main unit.



*1:

- Store the firmware data (xxx .sfu) to the media or USB memory beforehand.
- The media used for the update must have an enough capacity for storing the firmware data.
- The USB memory equipped with the security (secure) function cannot be used.

Execution of the firmware by SIM49-01

- 1) Insert the media or USB memory which stores the firmware into the main unit. (Be sure to use the USB I/F on the operation panel.)
- 2) Enter the SIM49-01.

Press the key of the file to be updated. The screen transfers to the update screen.

* The number of key changes according to the number of the sfu file in the media or USB memory inserted.

* If the media or USB memory was not inserted when entry to the SIM49-01 screen, "INSERT A USB MEMORY DEVICE CONTAINING MFP FIRMWARE [OK]" is displayed on the screen. Insert the media or USB memory and push the [OK] key to open the file. If the media have not been inserted and [OK] key is pushed, the next screen does not appear and the screen waits the entry. Conversely, if the media or USB memory is pulled out on the file list screen, the error is detected by the [FILE] key pressing, and the first screen appears.

- 3) Current version number and the version number to be updated will be shown for each firmware respectively.
- 4) Press [ALL] key.

All the firmware programs are selected.

* Normally select all the firmwares and execute updating.

* In this case, firmwares which do not exist on the machine side are ignored.

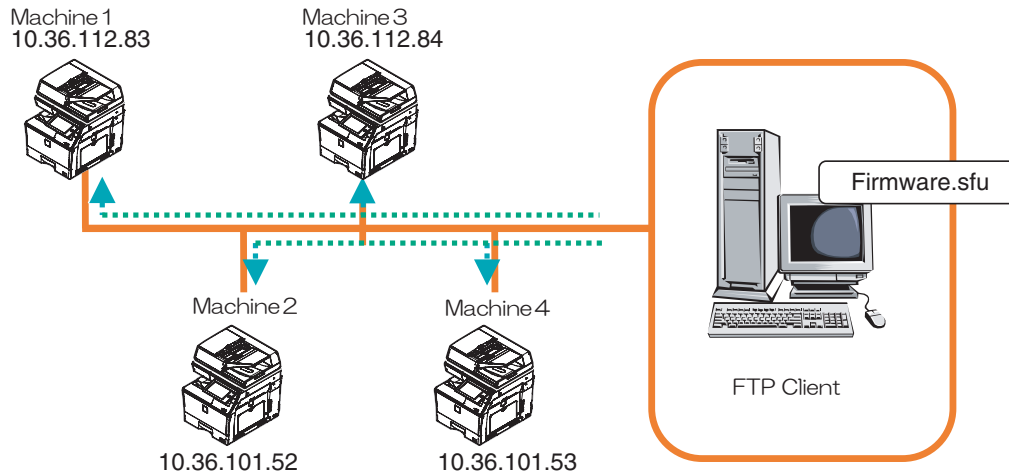
To update a certain firmware only, select the firmware with the firmware display key.

* If firmware's key is not selected, [EXECUTE] key is gray out and cannot be pressed.

- 5) Press [EXECUTE] key. "ARE YOU SURE? [YES] [NO]" becomes clear. Press [YES] key to start the update of selected firmware.
- 6) If the update is normal completion, Display "Complete"
- 7) If the update is not normal completion, Display "Error" and its firmware name or dose not reboot, in this case power OFF and ON if still same machine condition, go to the CN update

B. Firmware update using FTP

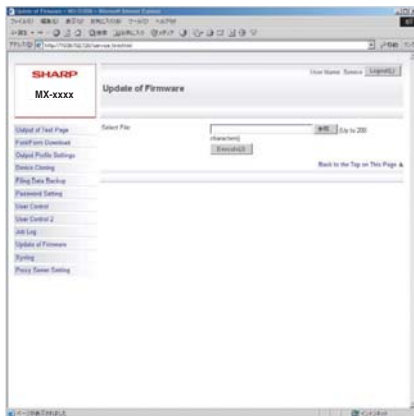
FTP software is used to transfer the firmware data (extension ".sfu") from the PC to the machine. The controller recognizes the firmware identifier and the machine automatically switches to firmware write mode. After the firmware is updated, the machine automatically resets.



C. Firmware update using the Web page

A Web browser (service technician's Web page) is used to update the firmware.

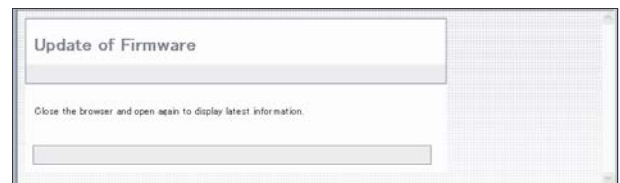
- 1) Start the Web browser on a PC and enter the specified URL (http://xxx.xxx.xxx/service_login.html) and enter the servicing page menu. Default password : "service". A special firmware upgrade page appears.
- 2) Click the "Update of Firmware" key in the Web page. Click the [Browse] key and select the 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. Firmware update using the CN update function (There are three methods.)

(1) Outline

The update method using the DIP SW of the SCN MFP PWB is called the CN update.

a. Function

There are the following three functions in the CN update mode.

- 1) Firmware update function

This function is used to update the firmware by transferring data from the PC which is connected to the SCN MFP PWB, the PCU PWB, the FAX PWB, and various options by means of a USB memory or USB cable.

This is basically the same as SIM49-01, but differs in the following points:

When the power is shut down or an abnormality occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update, this method can be used to update the firmware.

If, however, an abnormality occurs in the boot program, the mSATA SSD 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.

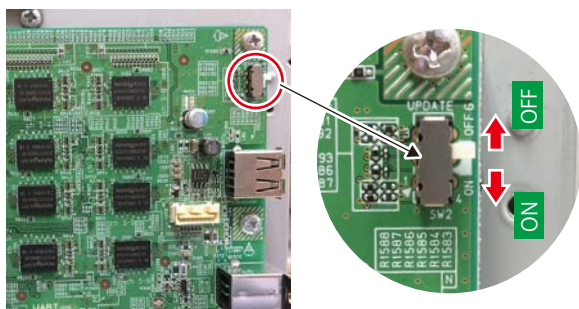
If, however, an abnormality occurs in the boot program, the mSATA SSD must be replaced with a new one having the normal boot program.

If an error occurs in the boot program, this method cannot be used. In such a case, the mSATA SSD must be replaced with a new one having the normal boot program.

c. DIP-SW used in the CN update mode

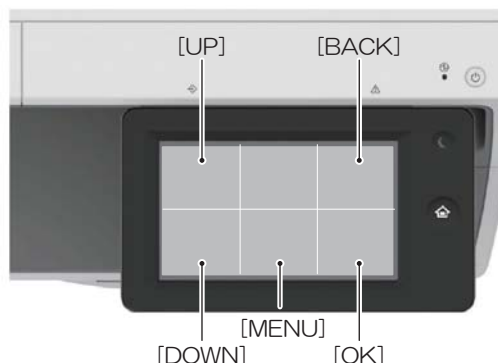
To enter the CN update mode, turn ON the UPDATE DIP-SW on the MFP PWB and boot the machine.

When terminating the CN update mode, reset UPDATE DIP-SW to OFF (normal mode).



d. Keys used in the CN update mode

The following five keys are used for operations in the CN update mode. Be careful, the functions of the keys differ from 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

a-1. Necessary items

- 1) mSATA SSD mounted on the SCN MFP PWB of the machine.

- 2) USB memory with the firmware file (SFU) saved in it.

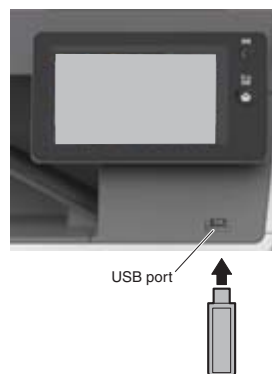
Note

Save the firmware file in the main directory or in a one-level lower directory.

a-2. Procedures

- 1) Turn OFF the power, and remove the cabinet and the MFP cover.
- 2) Turn ON the DIP SW of the SCN MFP PWB UP DATE. (Tilt it to the PWB side.)
- 3) Install the USB memory into the USB port.

USB memory installing position



- 4) Turn ON the power.
- 5) Check to confirm that the machine starts booting. (It takes more than ten seconds to display the menu.)

Update Program Init
Please wait

Version Check
Conf : 00050000

Display when booting is completed

- 6) Select the firmware update mode.
Select the update mode with [MENU] key and [BACK] key.

Firm Update
From USB Memory

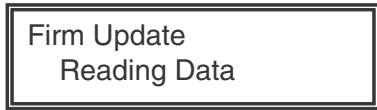
Display of the firmware update mode

- 7) Press [OK] key.
The firmware file saved in the USB memory is retrieved, and the file selection menu is displayed.

Firm Update
> F xxxxxxxx.sfu

Display of file selection

- 8) Select the firmware file (SFU).
Select the target firmware file (SFU) with [UP] key and [DOWN] key.
When [OK] key is pressed with a directory name (the head: "> D") displayed, the menu goes to the one-stage lower directory.
When [BACK] key is pressed in the lower-stage directory, the menu returns to the original upper directory.
- 9) Press [OK] key.
The selected firmware file (SFU) is read. It takes about one minute.



Display of file reading

- 10) After completion of reading, the firmware update process is continued.

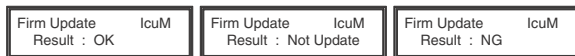


Display of the firmware update process

- * The abbreviated name of the firmware which is under update process is indicated on the right upper corner of the display.
- * During the update process, the display may flash instantaneously. It is a normal operation.

- 11) Check the update result.

Use [UP] key and [DOWN] key to display the results of all the firmware programs.



Display of the firmware update result

OK: Update is completed successfully.

NG: Update is failed.

Not Update: Update is not executed.

- 12) Turn OFF the power.
- 13) Turn OFF the DIP SW of the SCN MFP PWB UP DATE. (Set the DIP-SW to the normal mode.)
- 14) Turn ON the power, and check to confirm that the machine boots up normally.
- Check to confirm that the boot animation is displayed.
- Check to confirm that "Copying is enabled" is displayed on the copier basic menu.
- 15) Check to confirm the version of each firmware with SIM22-5.
- 16) Attach the SCN MFP PWB cover and the cabinet.

[9] MAINTENANCE

1. Works necessary when executing the maintenance

A. Counter check

Before execution of the maintenance, execute SIM22 to check the counter values of the following counters to confirm consuming states of each section.

- 1) Each consumable part counter
- 2) Each unit counter
- 3) Trouble counter, JAM counter

B. Counter reset

When a part or consumable part is replaced with new one in the maintenance. Execute SIM24 reset the following counters.

- 1) Maintenance counter
- 2) Each consumable part counter
- 3) Each unit counter
- 4) Trouble counter, JAM counter

C. Firmware version check and upgrading

Execute SIM22-5 to check the firmware version and update it as needed.

2. Display of maintenance execution timing

The message of maintenance execution timing is displayed when each counter reaches the set value. The relations between the message and the counters are shown below.

A. Maintenance counter

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
Maintenance required: TA	0 (Print continue)	Maintenance counter (Total)	When SIM21-1 set value is reached	Enable
	1 (Print stop)		When 90% of SIM21-1 set value is reached	Enable
<input type="checkbox"/> Maintenance required: TA	1 (Print stop)		When SIM21-1 set value is reached	Disable
Maintenance required: CA	0 (Print continue)	Maintenance counter (Color)	When SIM21-1 set value is reached	Enable
	1 (Print stop)		When 90% of SIM21-1 set value is reached	Enable
<input type="checkbox"/> Maintenance required: CA	1 (Print stop)		When SIM21-1 set value is reached	Disable
Maintenance required: AA	0 (Print continue)	Both of Total and Color	When SIM21-1 set value is reached	Enable
	1 (Print stop)		When 90% of SIM21-1 set value is reached	Enable
<input type="checkbox"/> Maintenance required: AA	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) and the maintenance counter (Color).

B. Primary Transfer unit

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-B set value	Counter name	Counter value	
Maintenance required: TK	0 (Print continue)	Primary Transfer unit print counter	When 150K is reached	Enable
	1 (Print stop)			

* After execution of the maintenance, execute SIM24-4 to clear the primary transfer unit print counter.

C. Fusing unit

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-D set value	Counter name	Counter value	
Maintenance required: FK	0 (Print continue)	Fusing unit print counter	When 150K is reached	Enable
	1 (Print stop)			

* After execution of the maintenance, execute SIM24-4 to clear the fusing unit print counter.

D. Drum cartridge

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-E set value	Counter name	Counter value	
Maintenance required: DK	0 (Print continue)	Drum unit print counter (K)	When 75K is reached or	Enable
	1 (Print stop)	Drum unit accumulated rotation counter (K)	When 575K rotation is reached	Disable
Maintenance required: D (C/M/Y)	0 (Print continue)	Drum unit print counter (C/M/Y)	When 45K is reached or	Enable
	1 (Print stop)	Drum unit accumulated rotation counter (C/M/Y)	When 575K rotation is reached	Disable

* After execution of the maintenance, execute SIM24-4 to clear print counter, the accumulated rotation counter of Drum cartridge (K/C/M/Y).

E. Developer cartridge

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-E set value	Counter name	Counter value	
Maintenance required: VK	0 (Print continue)	Developer print counter (K)	When 75K is reached or	Enable
	1 (Print stop)	DV unit accumulated rotation counter (K)	When 575K rotation is reached	Disable
Maintenance required: V (C/M/Y)	0 (Print continue)	Developer print counter (C/M/Y)	When 45K is reached or	Enable
	1 (Print stop)	DV unit accumulated rotation counter (C/M/Y)	When 575K rotation is reached	Disable

* After replacing developer, execute SIM25-2 to automatically clear counter of Developer cartridge (K/C/M/Y).

F. Toner cartridge

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
K/C/M/Y Toner Low (Do not replace cartridge until requested) (Close to near end)	No relation	Toner supply clutch input time	Specified time of rotations	Enable
Change the toner cartridge (Near end)	No relation	Toner supply amount is decreasing.	ATC sensor output variation	Enable
Change the toner cartridge K (End)	0 (Print continue)	The pixel count from near end reaches the specified value.	Specified pixel count	Disable
	1 (Print stop)			
Change the toner cartridge C/M/Y (End)	0 (Print continue)	The pixel count from near end reaches the specified value.	Specified pixel count	Enable for monochrome Disable for color
	1 (Print stop)			

G. Toner collection container

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
Replace Toner collection container [OK]	0 (Print continue)	When the waste toner full detection switch is ON for the specified time.		Enable
	1 (Print stop)			
Replace Toner collection container	0 (Print continue)	When the pixel count is reached from the near end detection.		Disable
	1 (Print stop)			

* When the Toner collection container is replaced, the display disappears.

H. Other (Ozone Filter)

Display content	Display condition			Print JOB Enable/Disable
	Sim26-38-A set value	Counter name	Counter value	
No	No relation	Ozone filter counter	When 75K rotations is reached.	Enable

3. Maintenance list

X: Check (Clean, replace, or adjust according to necessity.) O: Clean

▲: Replace △: Adjust ☆: Lubricate

Section name	Unit name	When calling	45K	75 K	90 K	135 K	150 K	180K	225 K	270 K	300 K	Remarks
OPC drum section	OPC drum cartridge (monochrome)	-	-	▲	-	-	▲	-	▲	-	-	Replace at (75K) or 2 years of use.
	OPC drum cartridge (color)	-	▲	-	▲	▲	-	▲	▲	▲	-	Replace at (45K) or 2 years of use.
Developing section	Developer cartridge (monochrome)	-	-	▲	-	-	▲	-	▲	-	-	
	Developer cartridge (color)	-	▲	-	▲	▲	-	▲	▲	▲	-	
Toner cartridge	Toner cartridge BK	User replacement for every toner empty.										
	Toner cartridge CMY	User replacement for every toner empty.										
Toner collection container	Toner collection container	Replaced by the user when full is detected.										

Section name	Unit name	Part name		When calling	75 K	150 K	225 K	300 K	Remark
SPF section	SPF unit	Paper feed/Transfer section	Paper feed roller	○	○	○	○	○	Replacement reference: Replace when the SPF feed counter reaches 100K or parts are worn.
			Paper pickup roller	○	○	○	○	○	
			Separation sheet	x	x	x	x	x	
			Each transfer roller	x	○	○	○	○	
			Torque limiter (for pickup)	x	x	x	x	x	
			Sensors	x	-	-	-	-	
			Scan plate	○	○	○	○	○	
		Paper exit section	Paper exit roller	x	○	○	○	○	
			Discharge brush	x	x	x	x	x	
		Others	OCmat	○	○	○	○	○	
DSPF section	DSPF unit	Paper feed/Transfer section	Gears	x	-	-	-	-	
			Paper feed roller	○	○	○	○	○	Replacement reference: Replace when the SPF feed counter reaches 100K or parts are worn.
			Paper pickup roller	○	○	○	○	○	
			Separation roller	○	○	○	○	○	
			Each transfer roller	x	○	○	○	○	
			Torque limiter (for separation)	x	x	x	x	x	
			Torque limiter (for pickup)	x	x	x	x	x	
			Sensors	x	-	-	-	-	
			No.1 scanning plate	○	○	○	○	○	
			No.2 scanning section ,scanning glass	○	○	○	○	○	
			No.2 scanning section, white reference glass	○	○	○	○	○	
			CIS unit	x	x	x	x	x	Air cleaning on SELFOC lens part as needed.
			Discharge brush	x	x	x	x	x	
		Paper exit section	Paper exit roller	x	○	○	○	○	
			Discharge brush	x	x	x	x	x	
		Others	OC mat	○	○	○	○	○	
Scanner section	Scanner unit	Drive section	Gears	x	-	-	-	-	Apply to the specified area when checking.
			Belts	x	-	-	-	-	
			Scanner lamp	X	X	X	X	X	
			Mirror, lens (inside the carriage)	X	X	X	X	X	
			Table glass, SPF glass	X	X	X	X	X	
			Shaft, rail (grease)	X	X	X	X	X	Apply to the specified area when checking. (UKOG-0307FCZZ)
Transfer section	Primary transfer unit	Primary transfer unit		X	-	▲	-	▲	Replace at (150K) or 2 years of use.
	Secondary transfer unit	Secondary transfer roller		X	-	O	-	O	Replace as needed.
LSU section	LSU	Dust-proof glass		X	X	X	X	X	
	Other	LSU cleaning sheet		X	▲	▲	▲	▲	Replace as needed.

Section name	Unit name	Part name	When calling	75 K	150 K	225 K	300 K	Remark
Paper feed section	Manual paper feed unit/Tray paper feed unit	Paper feed roller	X	O	O	O	O	Replace at 100K of paper feed counter or 1 year use.
		Separation roller	X	O	O	O	O	
		Torque limiter	X	X	X	X	X	
		Sensors	X	X	X	X	X	
Paper transport/ Paper exit/ ADU section		PS idle roller	X	O	O	O	O	
		Each transport roller	X	O	O	O	O	
		Paper guide	O	O	O	O	O	
		Discharge bluish	X	X	X	X	X	
		Gears	X	X	X	X	X	Apply to the specified area when checking.
Drive section		Gears (Grease)	X	X	X	X	X	Apply to the specified area when checking.
		Shafts earth section (conductivity grease)	X	X	X	X	X	Apply to the specified area when checking. (UKOG-0012QSZZ)
		Belts	X	X	X	X	X	
		Sensors	X	X	X	X	X	
Fusing section	Fusing unit	Fusing unit	X	-	▲	-	▲	Replace at 150K or 2 year of use.
Others		Process registration sensor	X	O	O	O	O	Clean when the Developer cartridge and the Drum unit is replaced.
		Ozone filter	X	▲	▲	▲	▲	Replace at 75K,.
		Intake filter	X	O	O	O	O	

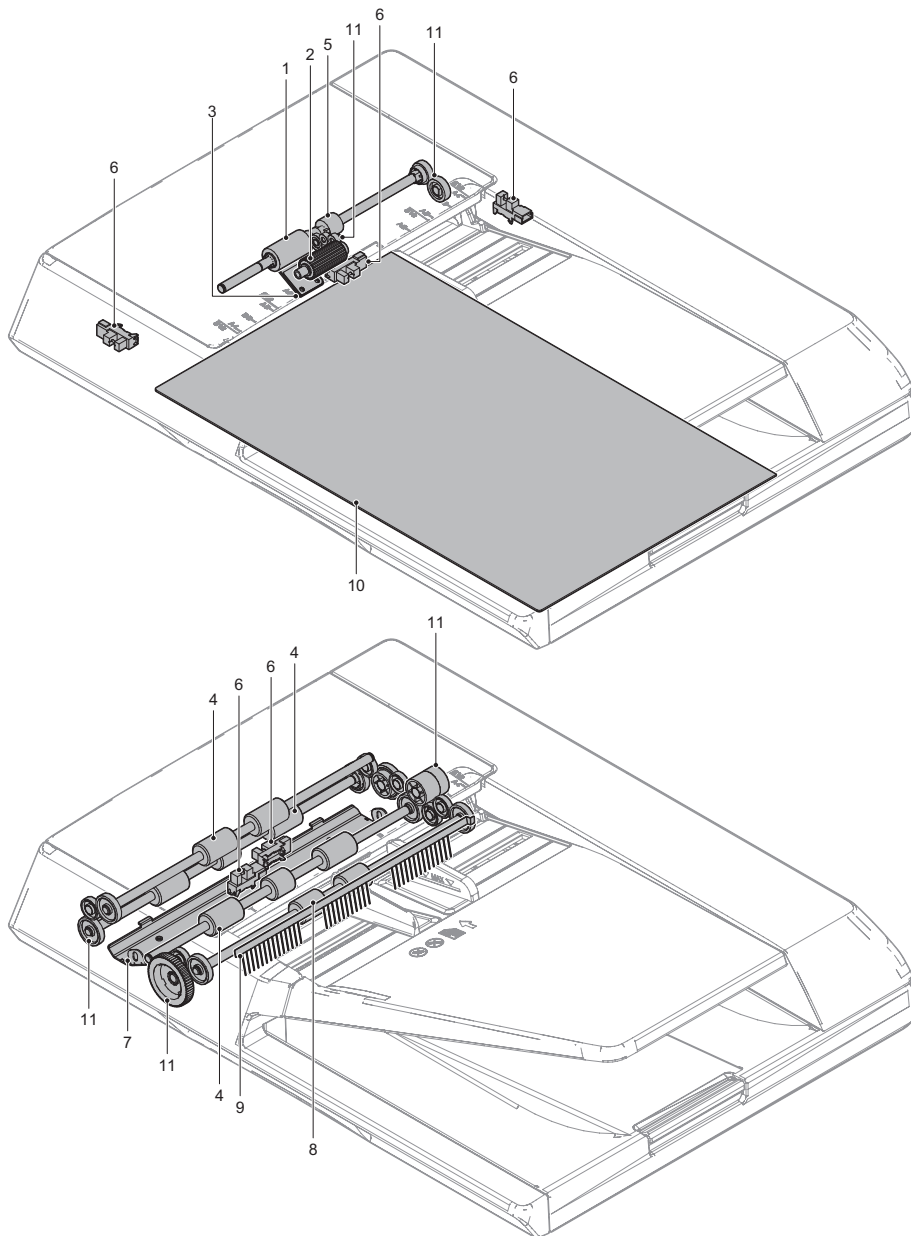
Option

Section name	Unit name	Parts name	When calling	75 K	150 K	225 K	300 K	REmark
Option tray MX-CS14 N		Pick-up roller	O	O	O	O	O	Replace at 100K of paper feed counter or 1 year use.
		Paper feed roller	O	O	O	O	O	
		Separation roller	O	O	O	O	O	
		Torque limiter	X	X	X	X	X	
		Transport rollers	X	O	O	O	O	
		Transport paper guides	O	O	O	O	O	
		Gears	X	X	X	X	X	Apply to the specified area when checking.

A. RSPF section

×: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name		When calling	75 K	150 K	225 K	300 K	Remark
1	Paper feed/ Transfer section	Paper feed roller	○	○	○	○	○	Replacement reference: Replace when the SPF feed counter reaches 100K or parts are worn.
2		Paper pickup roller	○	○	○	○	○	
3		Separation sheet	×	×	×	×	×	
4		Each transfer roller	×	○	○	○	○	
5		Torque limiter (for pickup)	×	×	×	×	×	
6		Sensors	×	-	-	-	-	
7		Scan plate	○	○	○	○	○	
8	Paper exit section	Paper exit roller	×	○	○	○	○	
9		Discharge brush	×	×	×	×	×	
10	Others	OCmat	○	○	○	○	○	
11	Drive section	Gears	×	-	-	-	-	

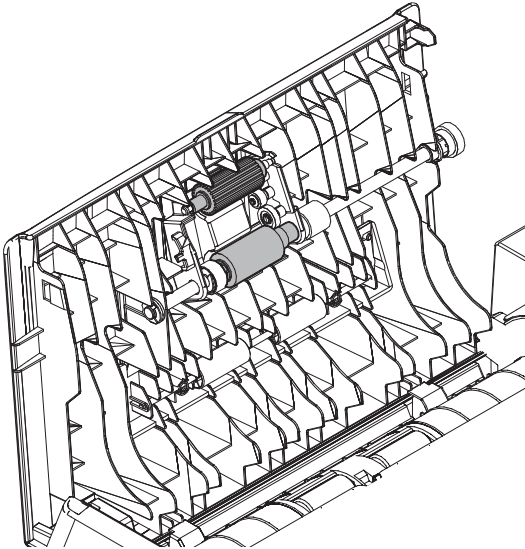


(1) Disassembly and assembly of maintenance parts

Paper feed roller

Pickup roller

- 1) Open the upper cover.
- 2) Clean the paper feed roller and pickup roller.

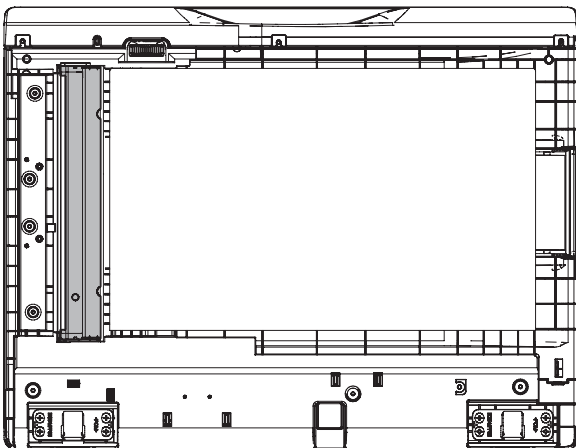


Transport rollers

- 1) Clean the transport rollers.

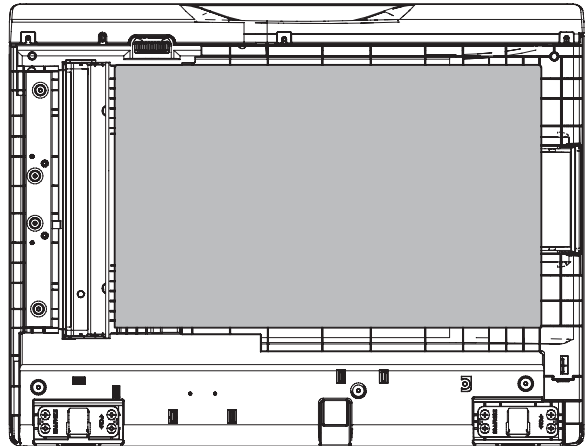
Scan plate

- 1) Open the RSPF unit.
- 2) Clean the scan plate.



OC mat

- 1) Open the RSPF unit.
- 2) Clean the OC mat.

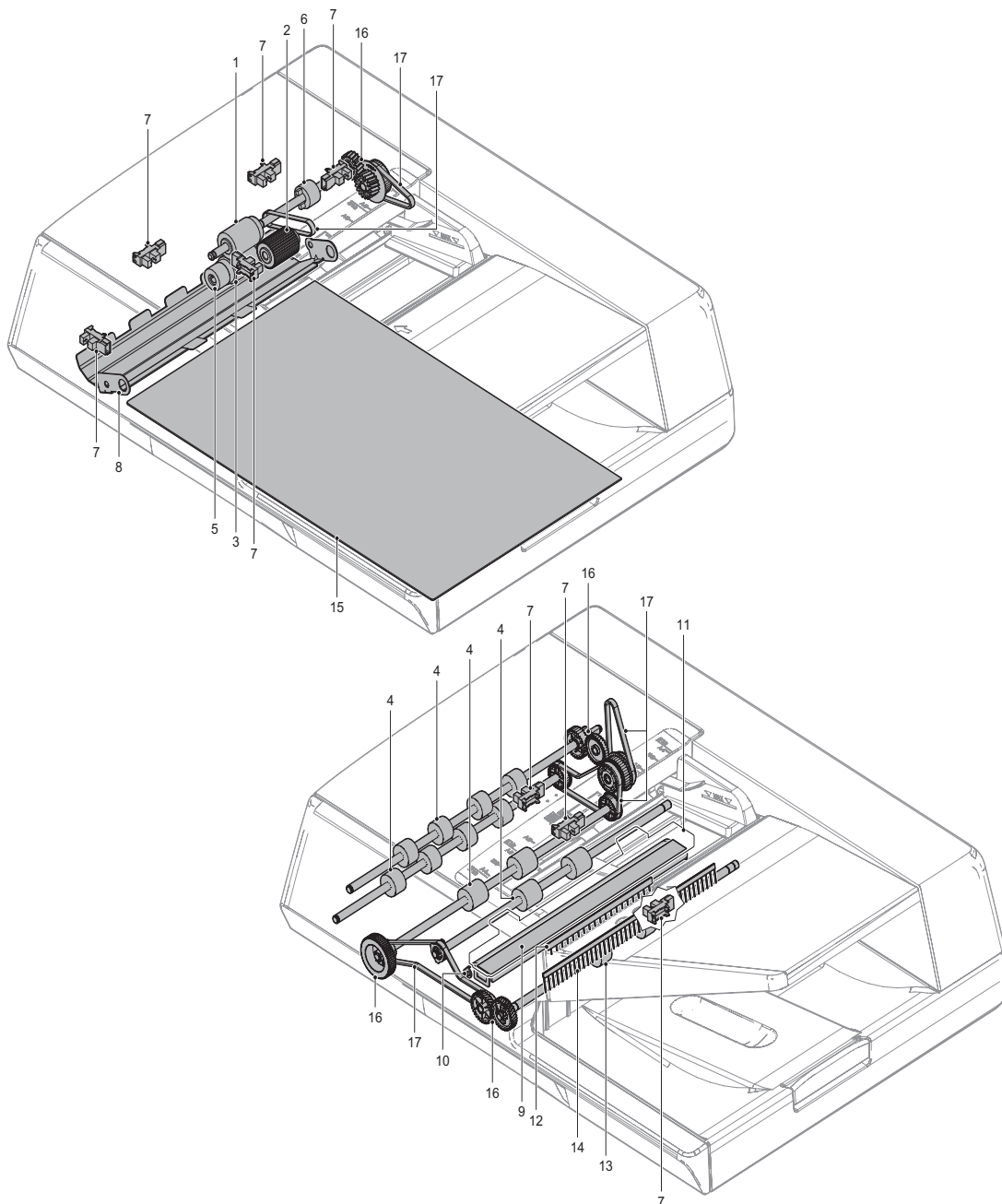


If you need to replace by confirmation, see the section on disassembly and assembly.

B. DSPF section

×: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name		When calling	75 K	150 K	225 K	300 K	Remark
1	Paper feed/ Transfer section	Paper feed roller	○	○	○	○	○	Replacement reference: Replace when the SPF feed counter reaches 100K or parts are worn.
2		Paper pickup roller	○	○	○	○	○	
3		Separation roller	○	○	○	○	○	
4		Each transfer roller	×	○	○	○	○	
5		Torque limiter (for separation)	×	×	×	×	×	
6		Torque limiter (for pickup)	×	×	×	×	×	
7		Sensors	×	-	-	-	-	
8		No.1 scanning plate	○	○	○	○	○	
9		No.2 scanning section ,scanning glass	○	○	○	○	○	
10		No.2 scanning section, white reference glass	○	○	○	○	○	
11		CIS unit	×	×	×	×	×	Air cleaning on SELFOC lens part as needed.
12		Discharge brush	×	×	×	×	×	
13	Paper exit section	Paper exit roller	×	○	○	○	○	
14		Discharge brush	×	×	×	×	×	
15	Others	OC mat	○	○	○	○	○	
16	Drive section	Gears	×	-	-	-	-	Apply to the specified area when checking.
17		Belts	×	-	-	-	-	



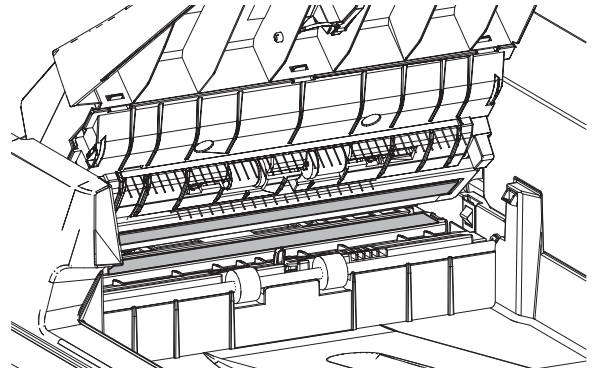
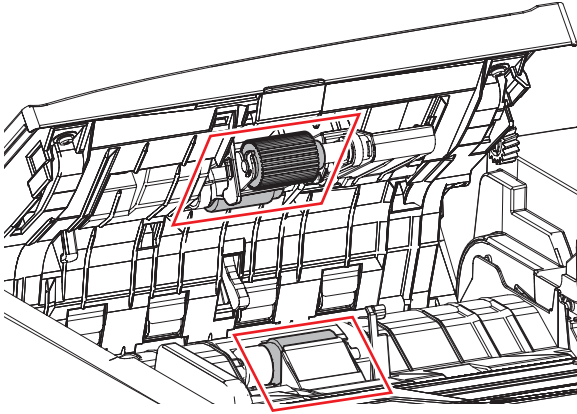
(1) Disassembly and assembly of maintenance parts

Paper feed roller

Pickup roller

Separation roller

- 1) Open the upper cover.
- 2) Clean the paper feed roller and pickup roller, separation roller.



OC mat

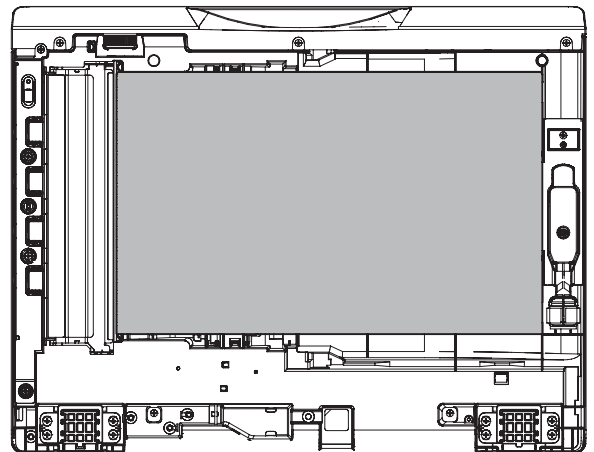
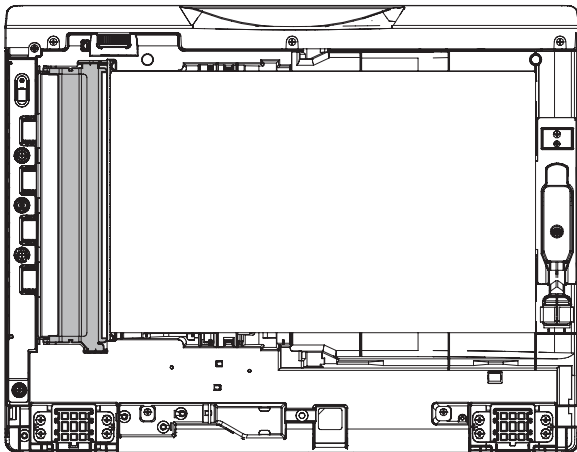
- 1) Open the DSPF unit.
- 2) Clean the OC mat.

Transport rollers

- 1) Clean the transport rollers.

No.1 scanning plate

- 1) Open the DSPF unit.
- 2) Clean the No.1 scanning plate.



If you need to replace by confirmation, see the section on disassembly and assembly.

No.2 scanning glass

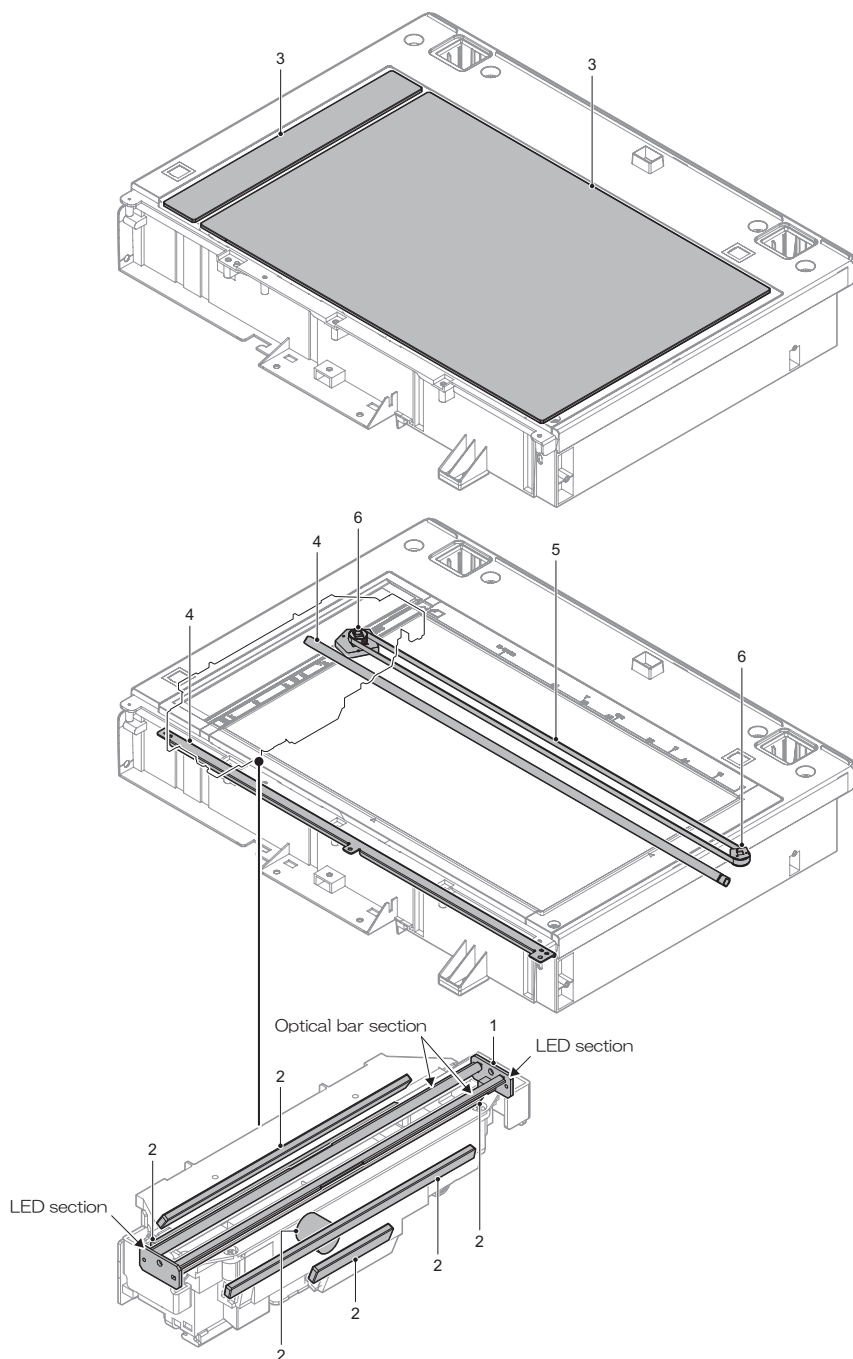
No.2 scanning white reference glass

- 1) Open the input tray cover.
- 2) Clean the No.2 scanning glass and No.2 scanning white reference glass.

C. Scanner section

X: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	When calling	75 K	150 K	225 K	300 K	Remark
1	Scanner lamp	X	X	X	X	X	Air cleaning on LED as needed.
2	Mirror, lens (inside the carriage)	X	X	X	X	X	Cleaning as needed.
3	Table glass, SPF glass	X	X	X	X	X	
4	Shaft, rail (grease)	X	X	X	X	X	Apply to the specified area when checking. (UKOG-0307FCZZ)
5	Drive belt	X	X	X	X	X	
6	Drive gear, pulley	X	X	X	X	X	

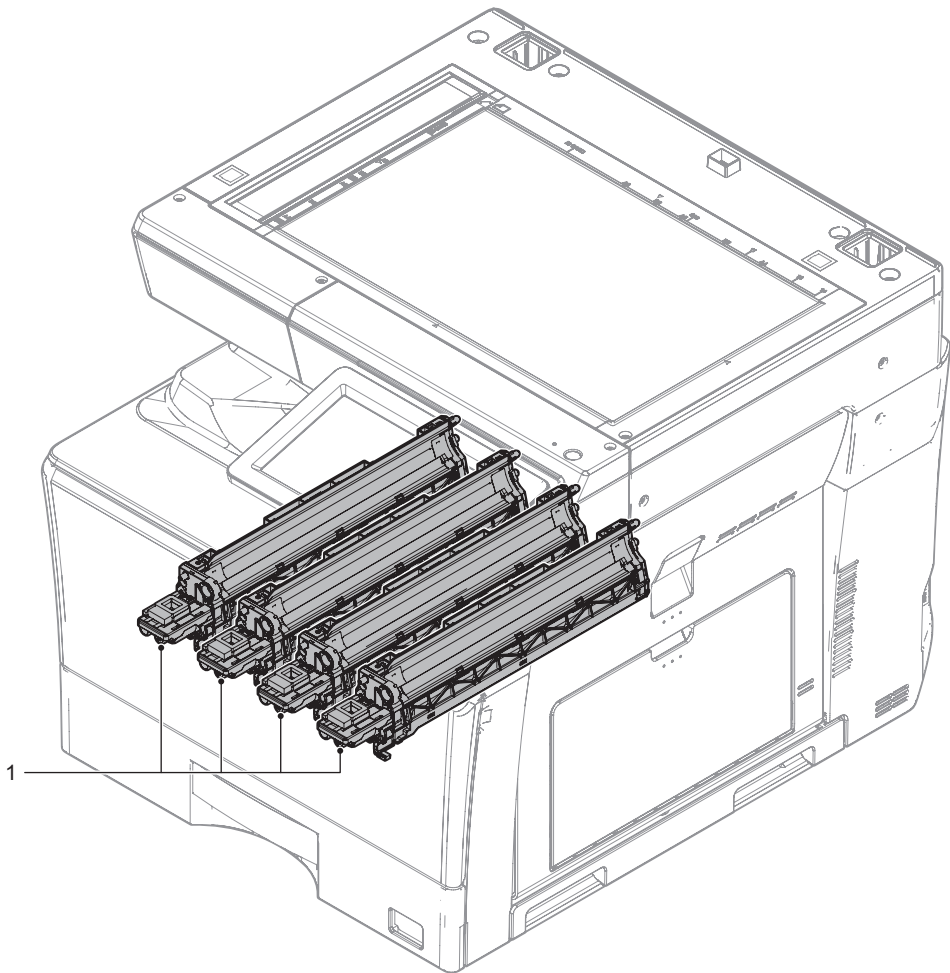


If you need to replace by confirmation, see the section on disassembly and assembly.

D. Developer cartridge section

X: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Unit name	callin g	45 K	75 K	90 K	135 K	150 K	180 K	225 K	270 K	300 K	Remark
1	Developer cartridge (monochrome)	-	-	▲	-	-	▲	-	▲	-	-	
	Developer cartridge (Color)	-	▲	-	▲	▲	-	▲	▲	▲	-	



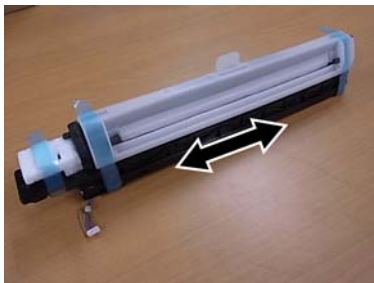
Notes for using the new Developer cartridge

- 1) Take out the Developer cartridge from the packing box.



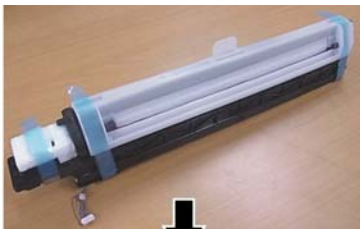
- 2) Shake the Developer cartridge five or six times vertically while still in the packing material.

* This is for preventing the unevenness of developing material



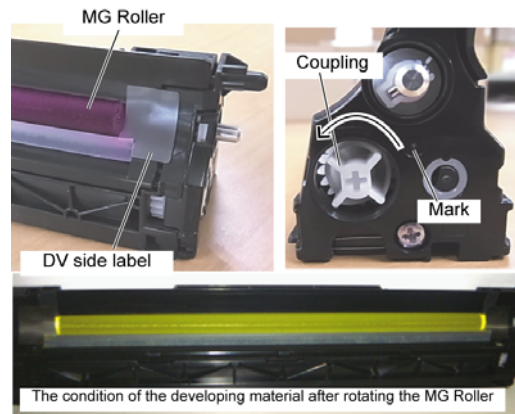
- 3) Remove the packing material from the Developer cartridge.

* When removing the MG cover, lift up the MG cover above by pressing the pawl.

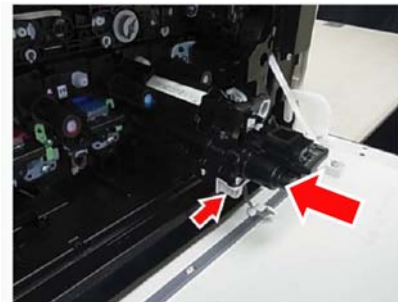


- 4) Rotate the coupling shown in the figure counter clockwise (the direction indicated by the mark) for preventing the developing material from pushing up the DV side label. It is possible to use a cross slot screwdriver.

Refer to the Note1, 2 and 3 described in the end of this procedure.



- 5) Install the Developer cartridge straight into the machine until the lever of the Developer cartridge catches. (Check the color and the position of the Developer cartridge.)



NOTE: If the development Un does not fit deeply, rotate the coupling about 10 degrees and insert unit again.

Make sure that unit can not be removed after insertion.

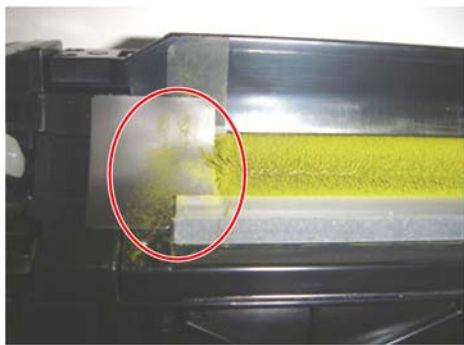
- 6) Connect the connector of the Developer cartridge.

Refer to the Note4 described at the end of this procedure.



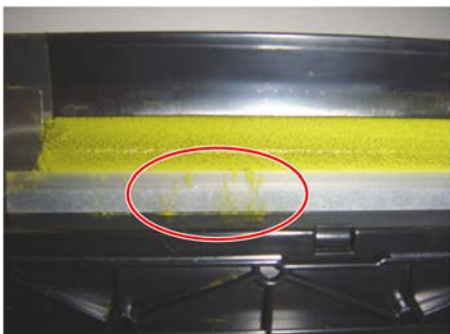
Clean the developing material when the developing material is on the DV side label as shown in the figure. (F/R both side)

* When installing, the remaining developing material could damage the drum unit.



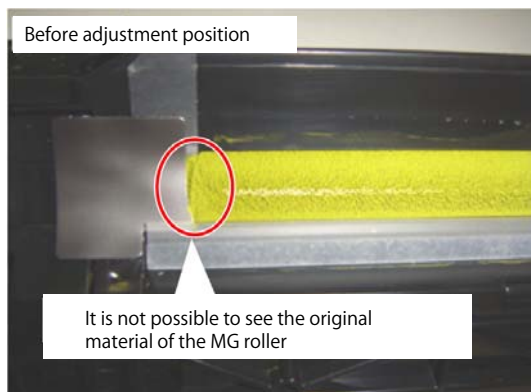
Clean the developing material when the developing material is on the DV blade as shown in the figure. (F/R both side)

* When installing, the remaining developing material could damage the drum unit.

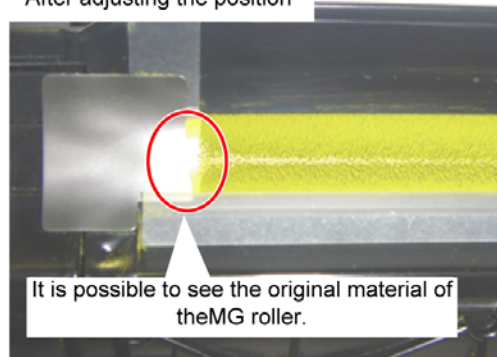


When the Developing material had migrated to the end of the seal, rotate the Developer MG Roller while tilting the DV Unit 45 degrees to re attract the Developer back to the MG Roller. (F/R both side)

* When installing the DV Unit with Developer on the seal, the drum unit can become damaged.

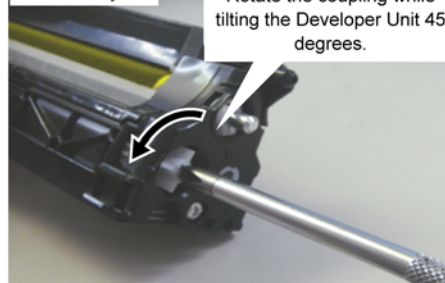


After adjusting the position



How to adjust

Rotate the coupling while tilting the Developer Unit 45 degrees.



Connect the connector of the Developer cartridge firmly.

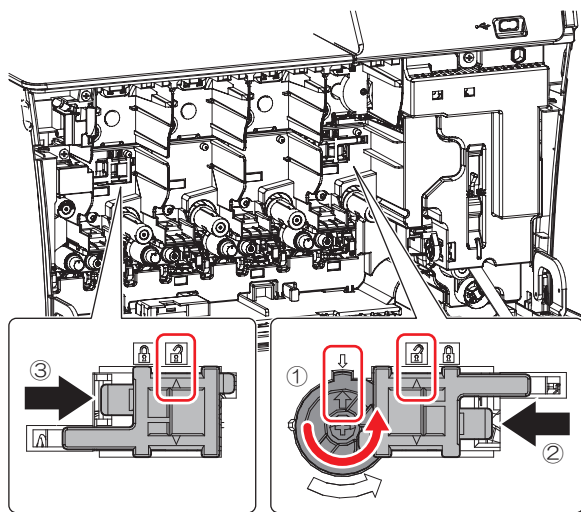
* When the connector is not connected correctly, the developing adjustment error occurs.

- 7) Execute SIM25-2 to adjust the Developer cartridge automatically. Developer cartridge counter is also cleared at the same time.

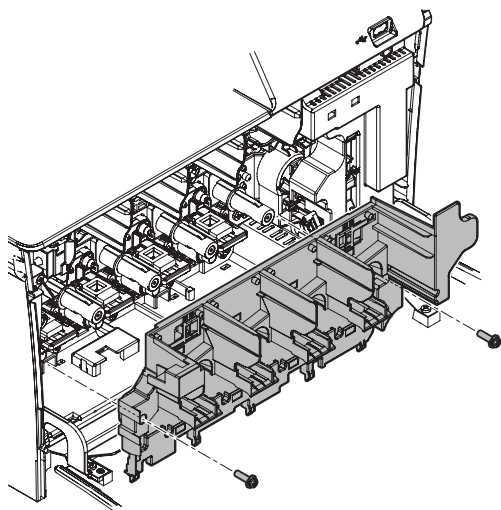
(1) Disassembly of Units

- 1) Remove the toner collection container.
- 2) Remove the toner cartridge.
- 3) Rotate the transfer cam to the release position.
Release the right rock lever and left rock lever

NOTE: Always turn the transfer cam counterclockwise.

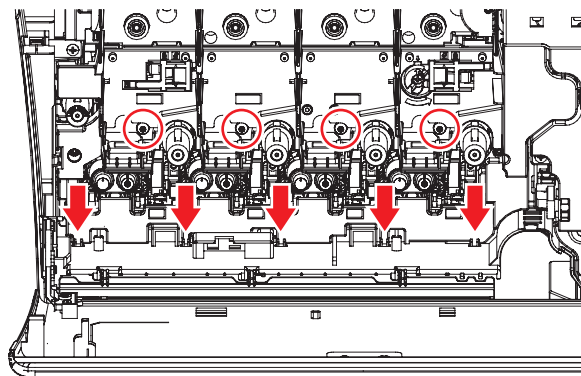


- 4) Remove the screws, and remove the Developer cartridge cover.

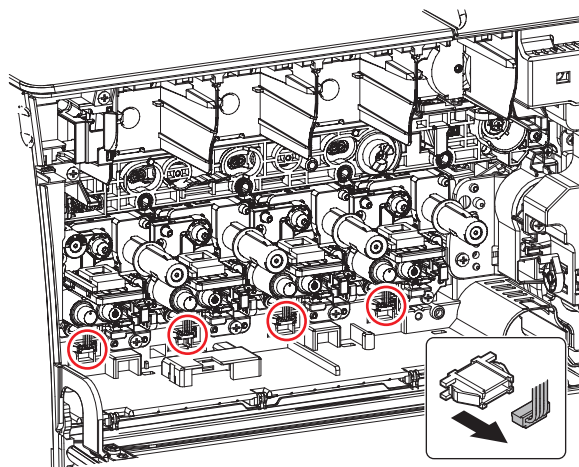


When attaching the Developer cartridge cover, insert the lower libs into the hole on the machine side.

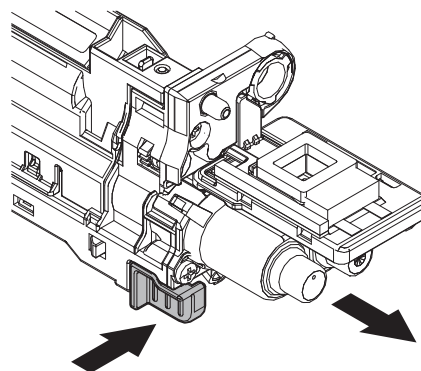
and mount it according to the bearing part(4 places) of the drum unit.



- 5) Disconnect the Developer cartridge connector.



- 6) Pull out the Developer cartridge with pressing the lever.



Important

When pulling and pushing in the Developer cartridge, put your hand beneath the unit and slide it horizontally along the guide.

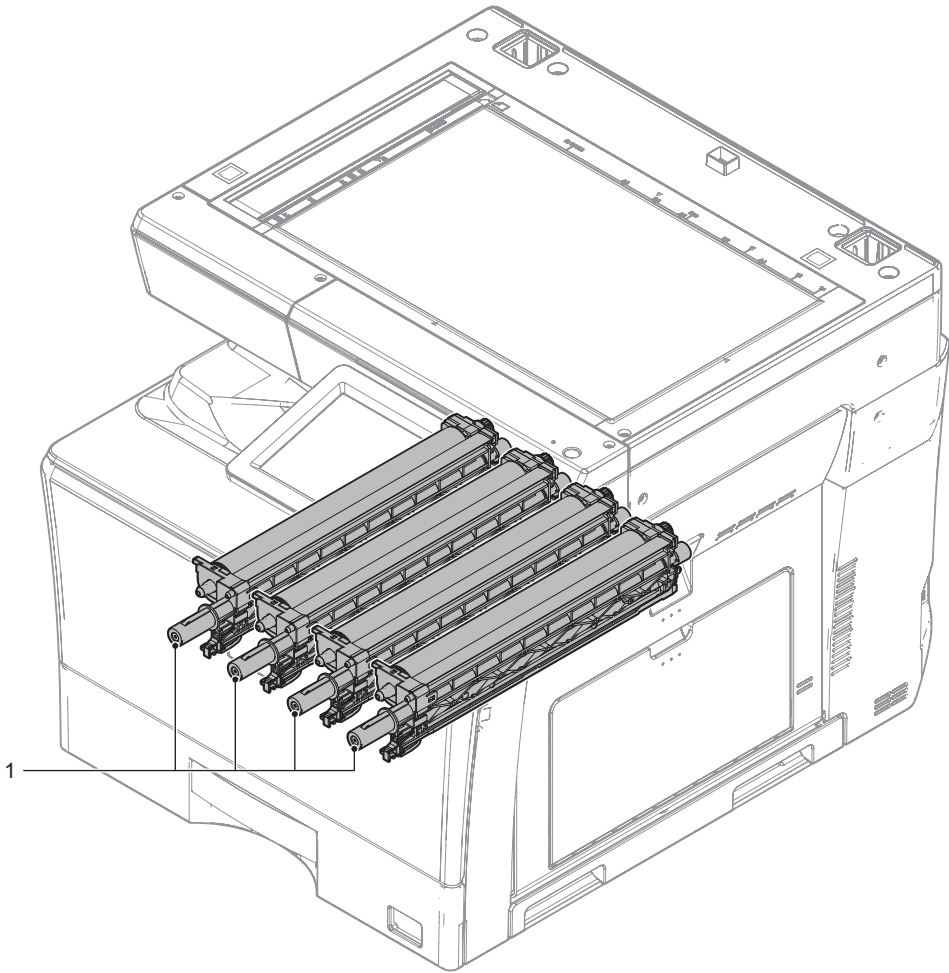
Important

When pushing in the Developer cartridge, connect the connector of the Developer cartridge firmly.

E. OPC Drum cartridge section

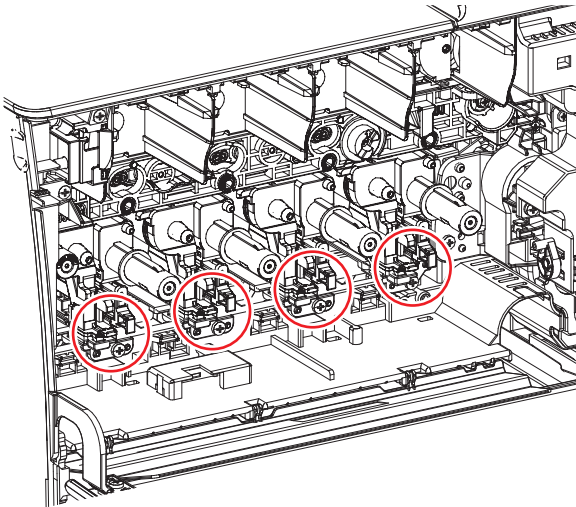
X: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Unit name	When calling	45 K	75 K	90 K	135 K	150 K	180 K	225 K	270 K	300 K	Remarks
1	OPC drum cartridge (monochrome)	-	-	▲	-	-	▲	-	▲	-	-	
	OPC drum cartridge (color)	-	▲	-	▲	▲	-	▲	▲	▲	-	



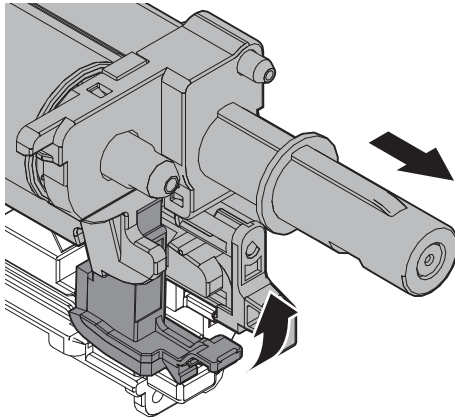
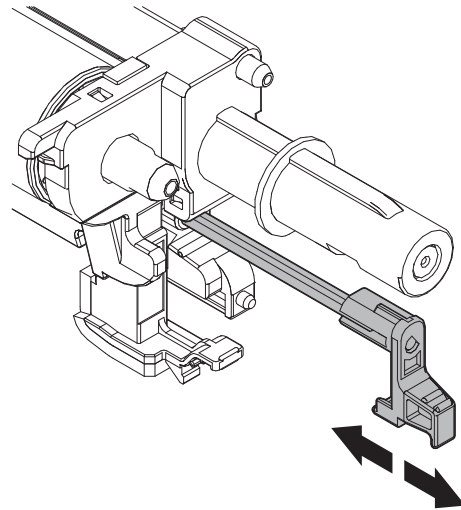
(1) Disassembly of Units

- 1) Remove the toner collection container.
- 2) Remove the Developer cartridge.
- 3) Lift up the lever and pull out the drum unit.



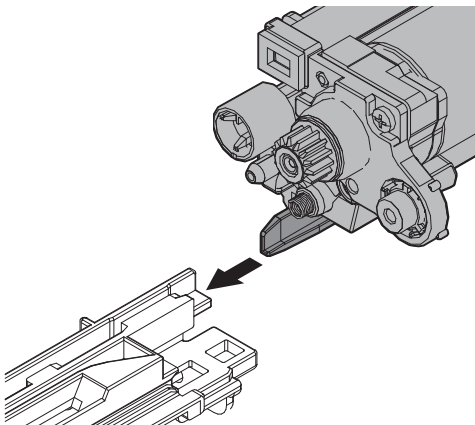
(2) How to use the MC charger cleaner. (Execute when image failure occurs)

- 1) Hold the cleaner lever and move it back and forth two or three times to clean the Main charger.(K/C/M/Y)



Important

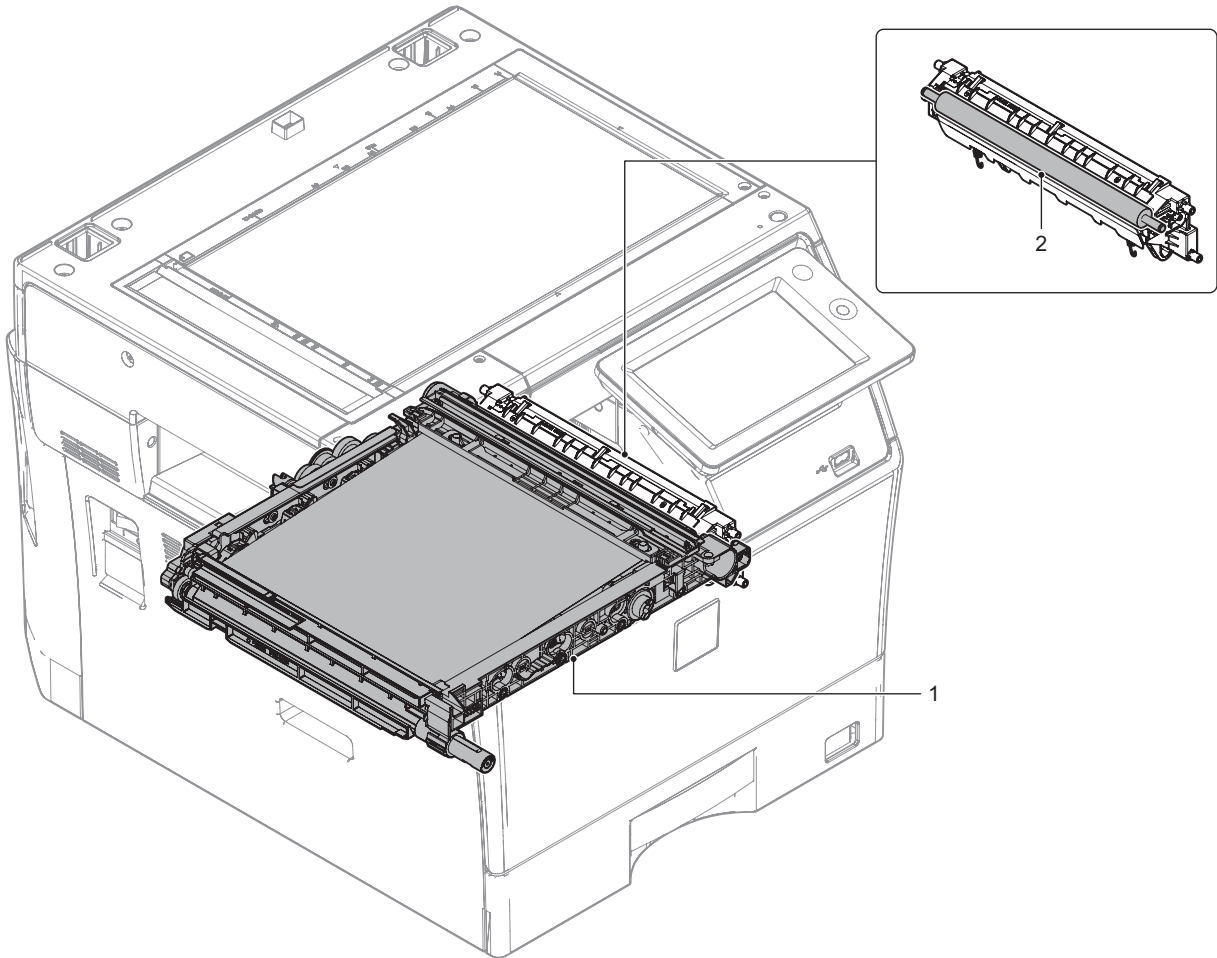
When pulling and pushing in the drum unit, put your hand beneath the unit and slide it horizontally along the guide on the right side. At the time, be careful not to touch the OPC drum surface.



F. Transfer section

X: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

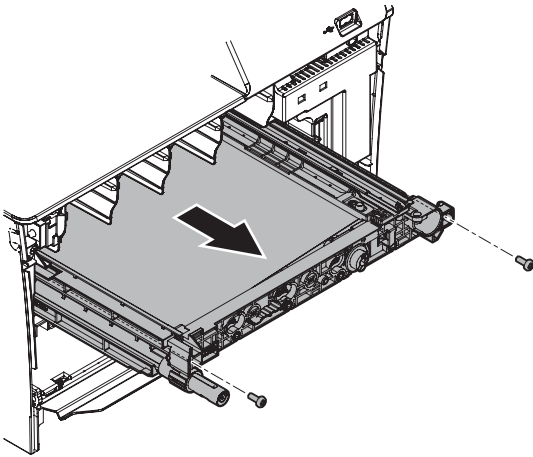
No.	Unit name	Part name	When calling	75 K	150 K	225 K	300 K	Remark
1	Primary transfer unit	Primary transfer unit	X	-	▲	-	▲	Replace at 150K or 2 year of use.
	Secondary transfer unit	Secondary transfer roller	X	-	○	-	○	Replace as needed



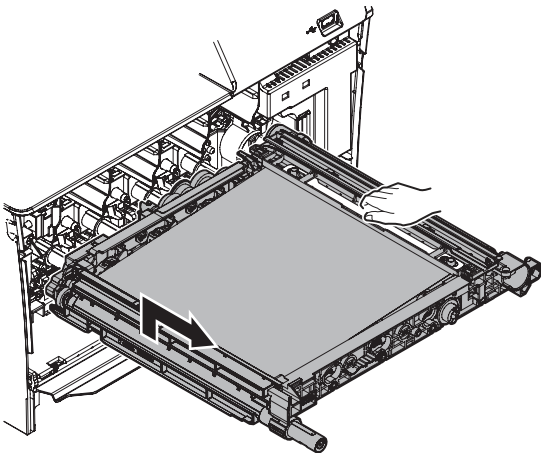
(1) Disassembly of Units

a. Primary transfer unit

- 1) Remove the toner collection container.
- 2) Open the right door.
- 3) Remove the screws and pull out the primary transfer unit it stops.



- 4) While holding the handle of primary transfer unit, lift the unit left to unlock and remove it.

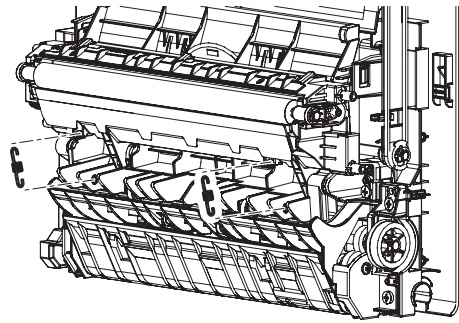


Important

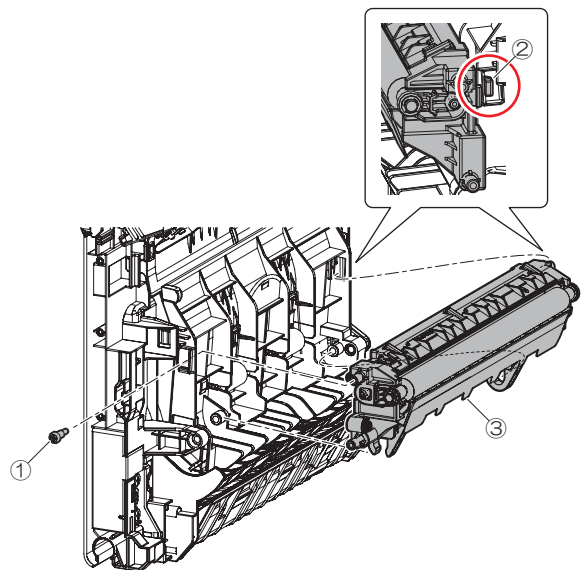
Be careful not to attach other foreign material on the transfer belt.

b. Secondary transfer unit

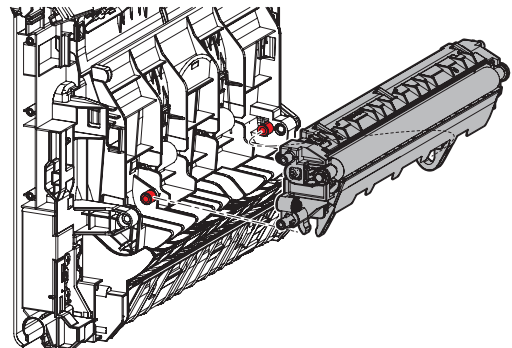
- 1) Open the right door.
- 2) Remove the springs.



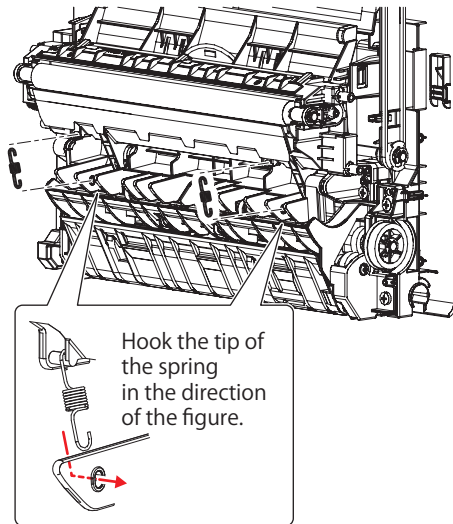
- 3) Remove the step screw at rear side, and remove the tab at the front side, and remove the secondary transfer unit.



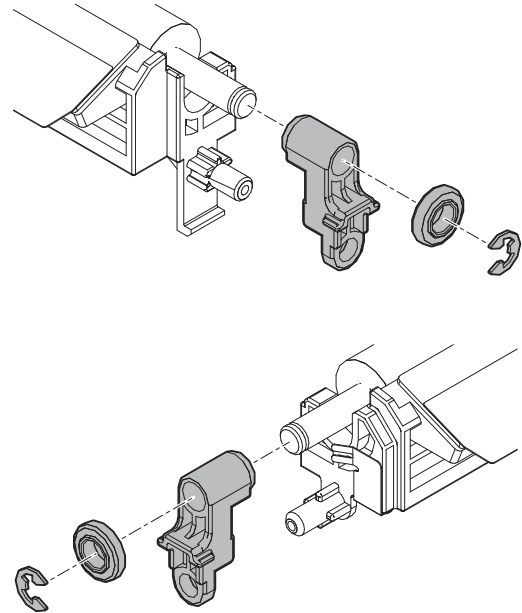
When attaching the secondary transfer unit, attach the unit to the positioning boss on the right door side.



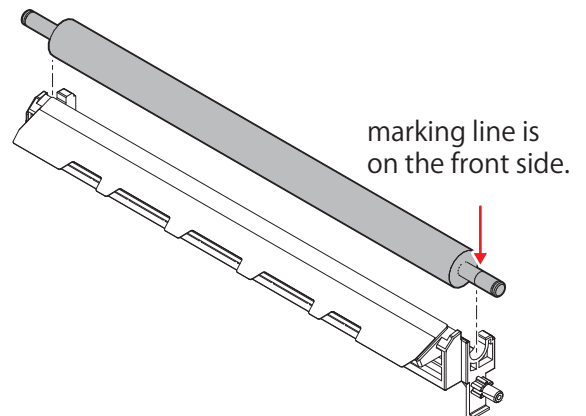
Be careful with the mounting direction of the spring when Attaching.



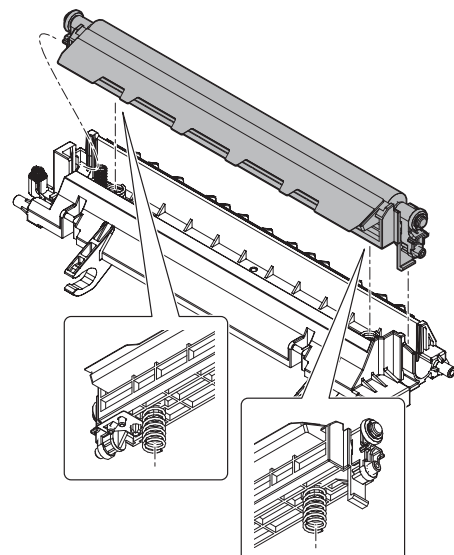
- 2) Remove the E-ring , the roller collar, the roller shaft bearing and remove the 2nf transfer roller.



NOTE: When attaching, place the marking line side of the roller on the F side



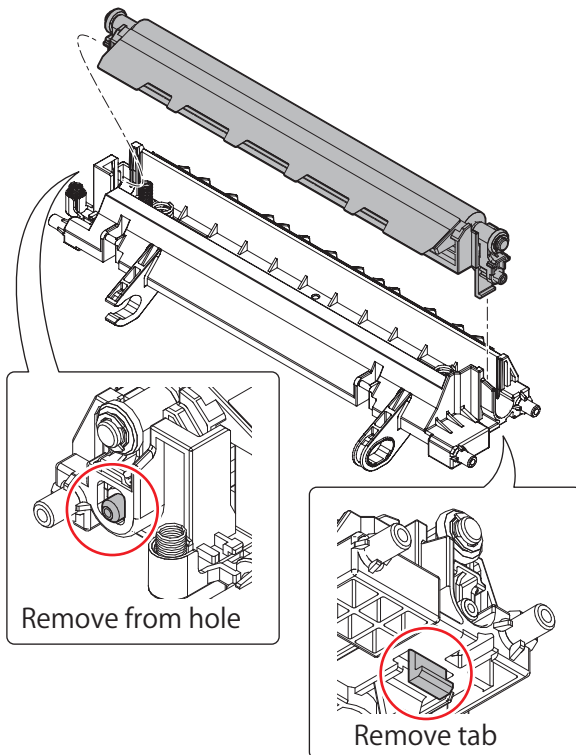
Make sure that the spring is inserted in the boss portion of the frame.



(2) Disassembly and assembly of maintenance parts

Secondary transfer roller

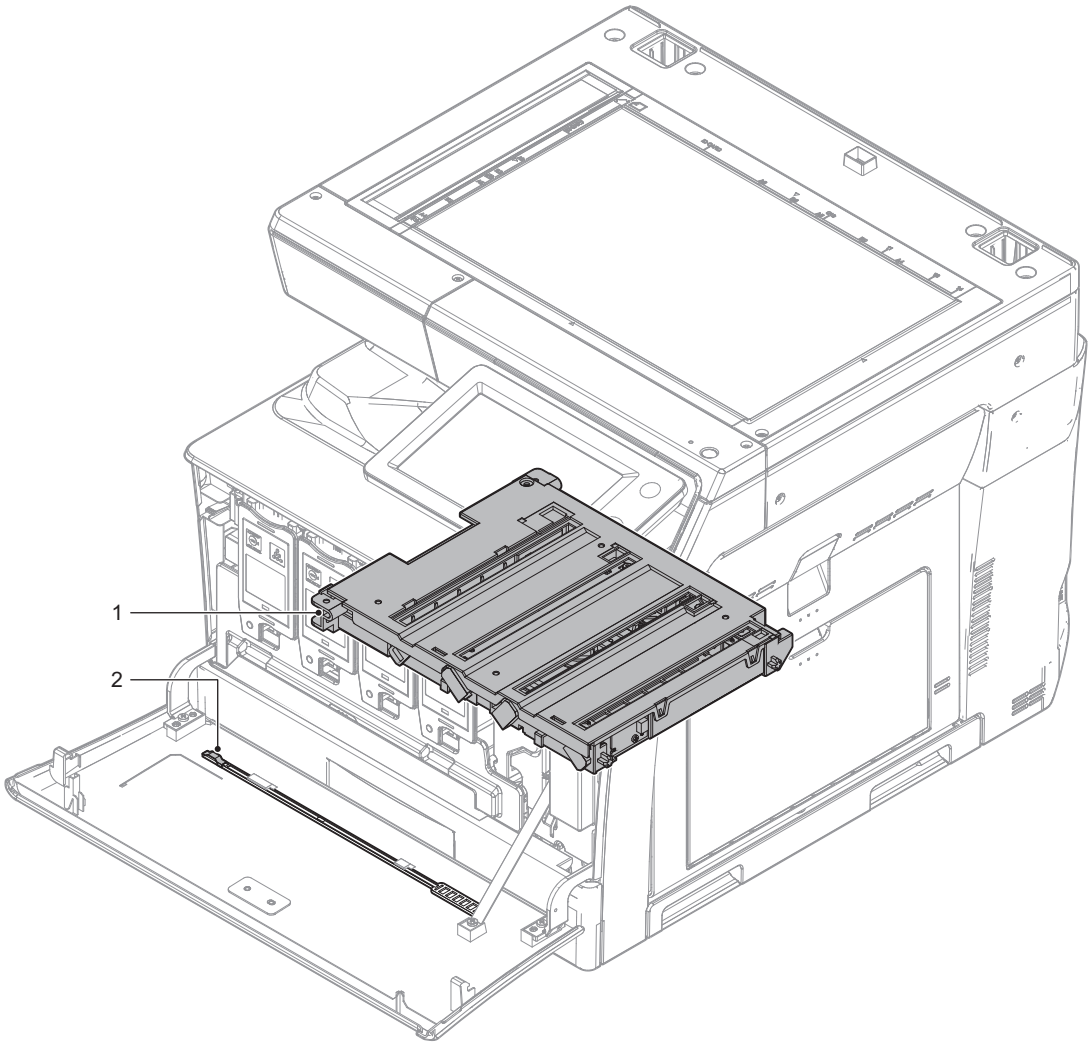
- 1) Remove the front tab and remove the secondary transfer roller frame assembly.



G. LSU section

X: Check (Clean, replace, or adjust according to necessity.) ○ : Clean ▲: Replace △: Adjust ☆: Lubricate

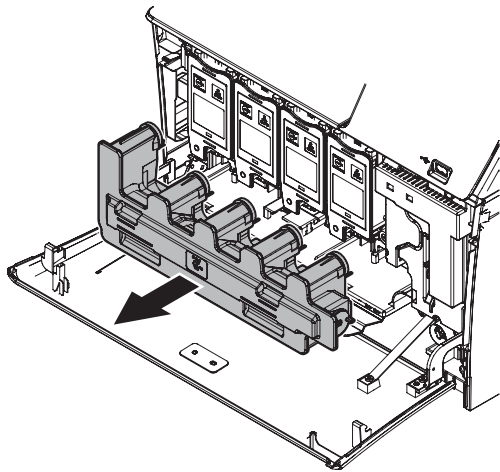
No.	unit name	Part name	When calling	75 K	150 K	225 K	300 K	Remark
1	LSU	Dust-proof glass	X	X	X	X	X	
2	Others	LSU cleaning unit (cleaning paper)	X	▲	▲	▲	▲	Replace as needed



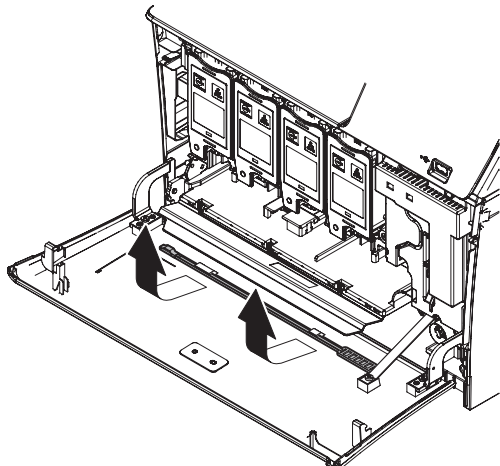
(1) Disassembly and assembly of maintenance parts

Dust-proof glass

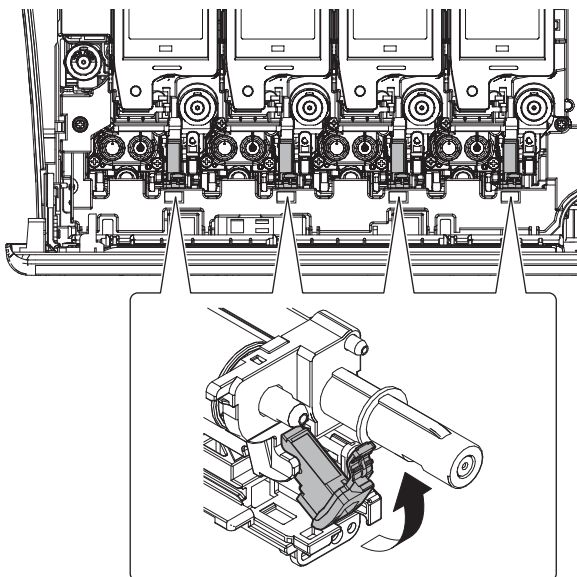
- 1) Pull out the paper tray.
- 2) Open the front cabinet and remove the toner collection container.



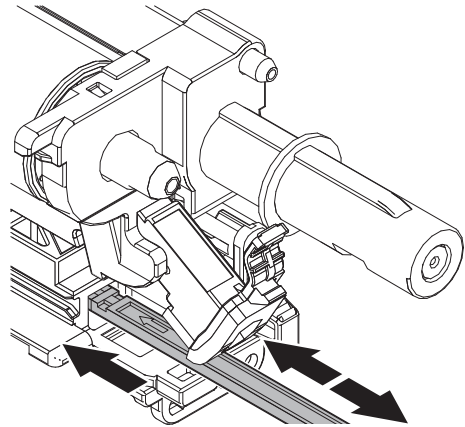
- 3) Remove the LSU cleaning unit.



- 4) Lift up and open the each OPC Drum unit lever.



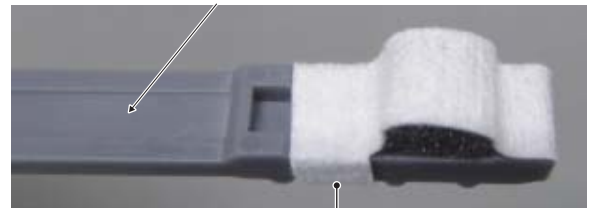
- 5) Insert the LSU cleaning rod with the felt attached facing downward, and move it back and forth two to three times to clean the LSU dustproof glass.(K/C/M/Y)



LSU cleaning paper

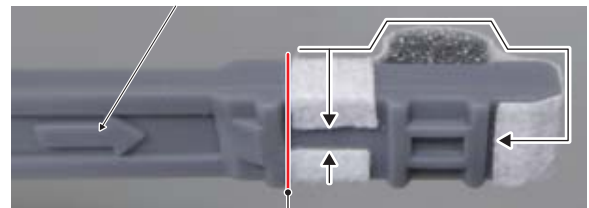
- 1) Replace as needed. (If the cleaning part is quite dirty.)

Cleaning side : No arrow



Wrap around and stick

Back side : There is arrow.

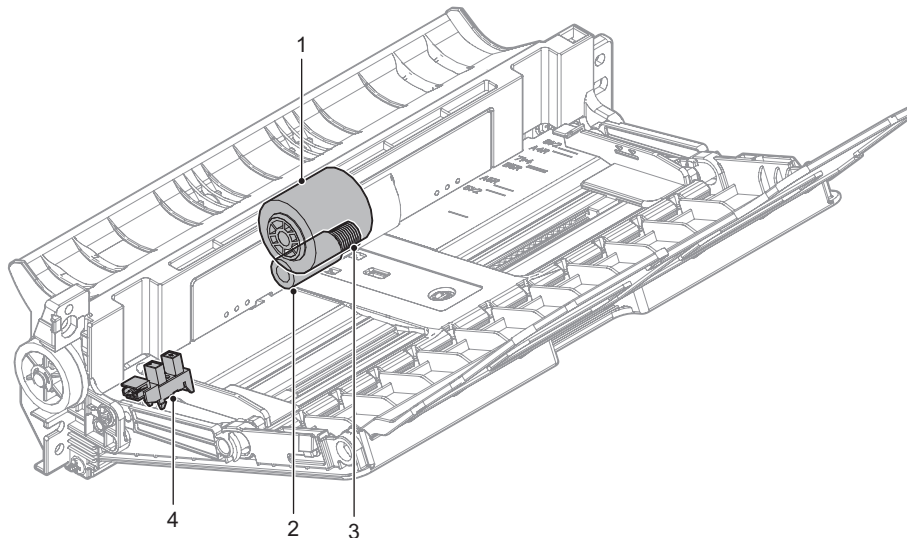


Reference position
Paste in the direction of the arrow.

H. Manual paper feed section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

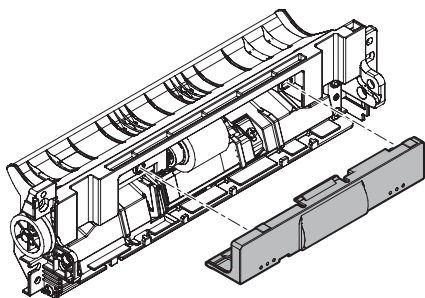
No.	Part name	When calling	75 K	150 K	225 K	300 K	Remark
1	Paper feed roller	X	O	O	O	O	Replace at 100K of each counter or 1 year of use.
2	Separation roller	X	O	O	O	O	
3	Torque limiter	X	X	X	X	X	
4	Sensors	X	X	X	X	X	



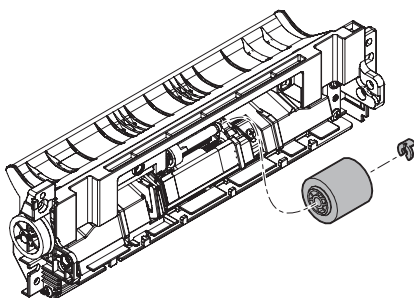
(1) Disassembly and assembly of maintenance parts

Paper feed roller

- 1) Remove the cover.



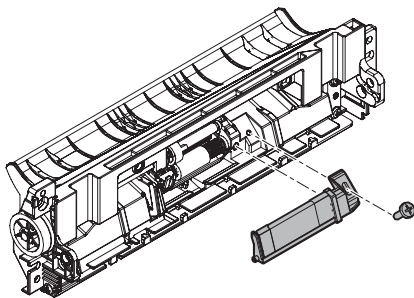
- 2) Remove the E-ring and remove the paper feed roller.
Clean the paper feed roller.
(Replace at 100K of counter or 1 year of use.)



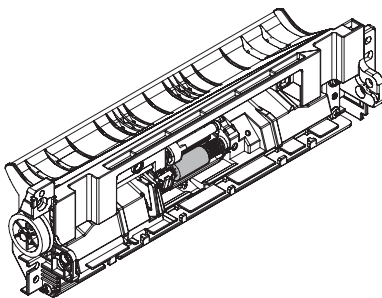
Separation roller

Torque limiter

- 1) Remove the cover.



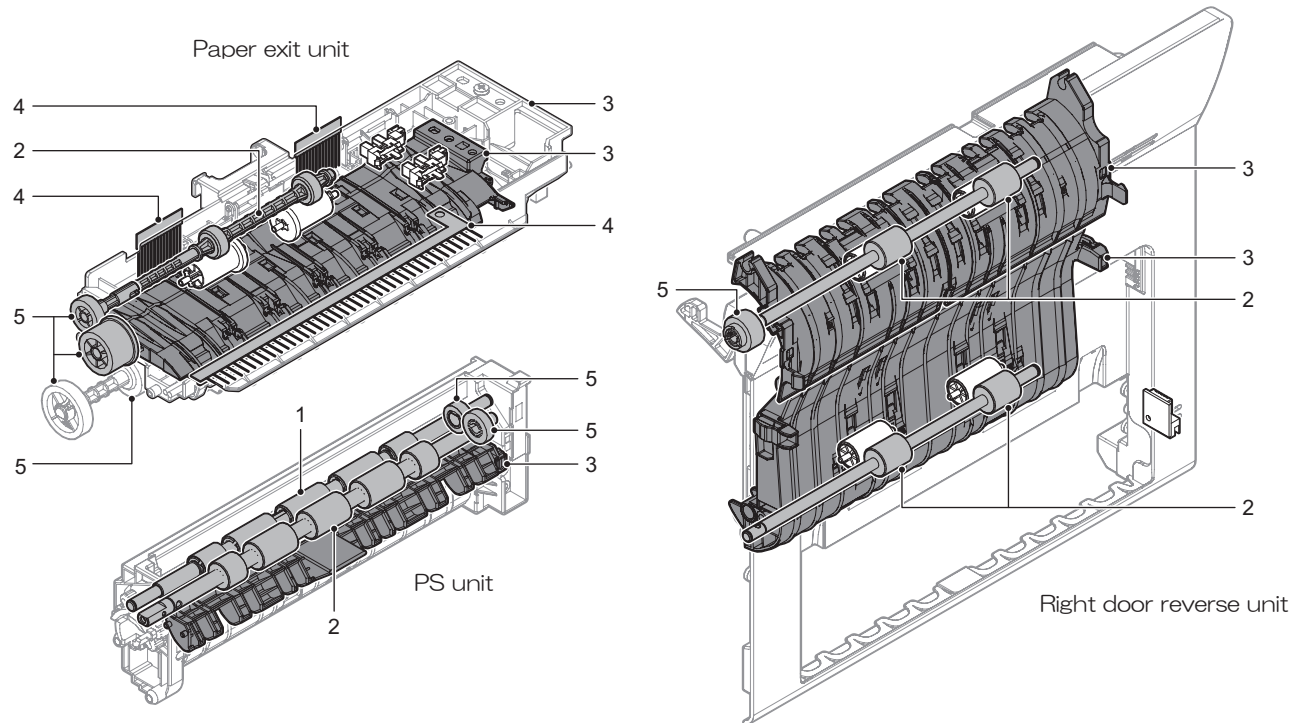
- 2) Clean the separation roller.
(Replace at 100K of counter or 1 year of use.)



I. Transport, Reverse, Paper exit section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	When calling	75 K	150 K	225 K	300 K	Remark
1	PS idle roller	X	O	O	O	O	
2	Transport rollers	X	O	O	O	O	
3	Paper guides	O	O	O	O	O	
4	Discharge brush	X	X	X	X	X	
5	Gears	X	X	X	X	X	Apply to the specified area when checking.



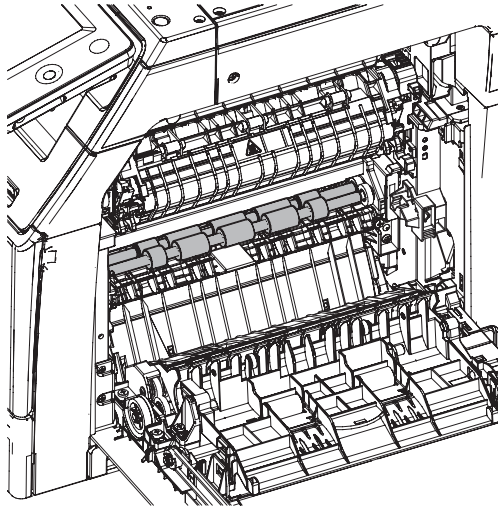
(1) Disassembly and assembly of maintenance parts

a. PS unit

PS idle roller

PS roller

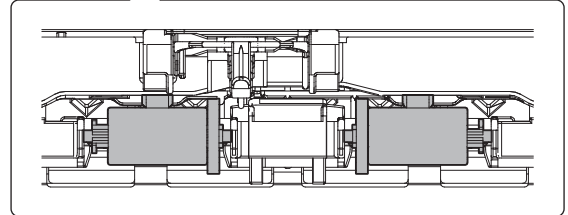
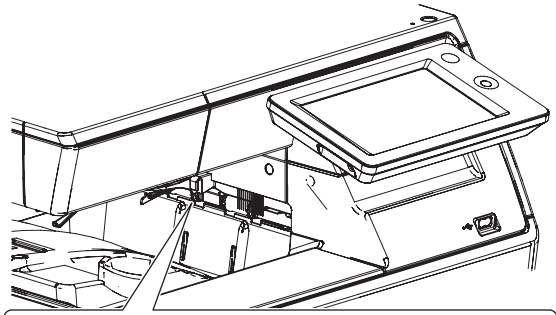
- 1) Open the right door.
- 2) Clean the PS idle roller and the PS roller.



c. Paper exit unit

Paper exit roller (Drive/Idle)

- 1) Clean the paper exit roller (Drive/Idle).

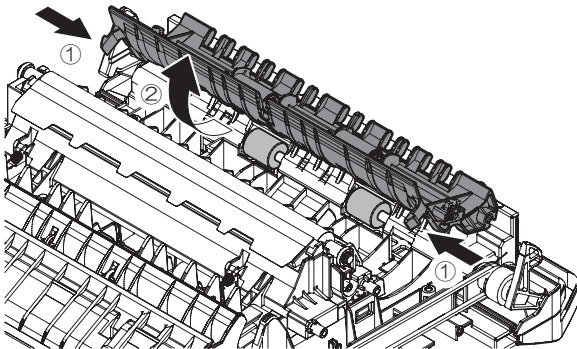


b. Right door reverse section

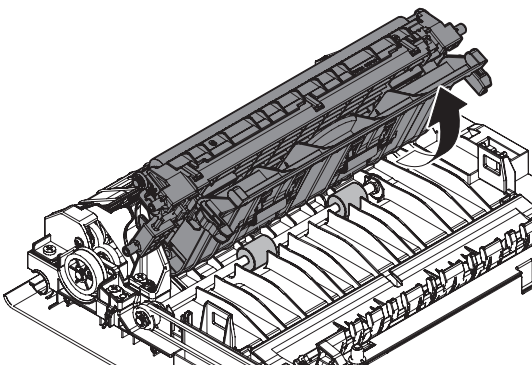
Right door paper enter roller

Right door paper exit roller

- 1) Open the right door.
- 2) Push the front and rear tabs and open the upper paper guide.
Clean the right door paper enter roller.



- 3) Open the lower paper guide and Clean the right door paper exit roller.

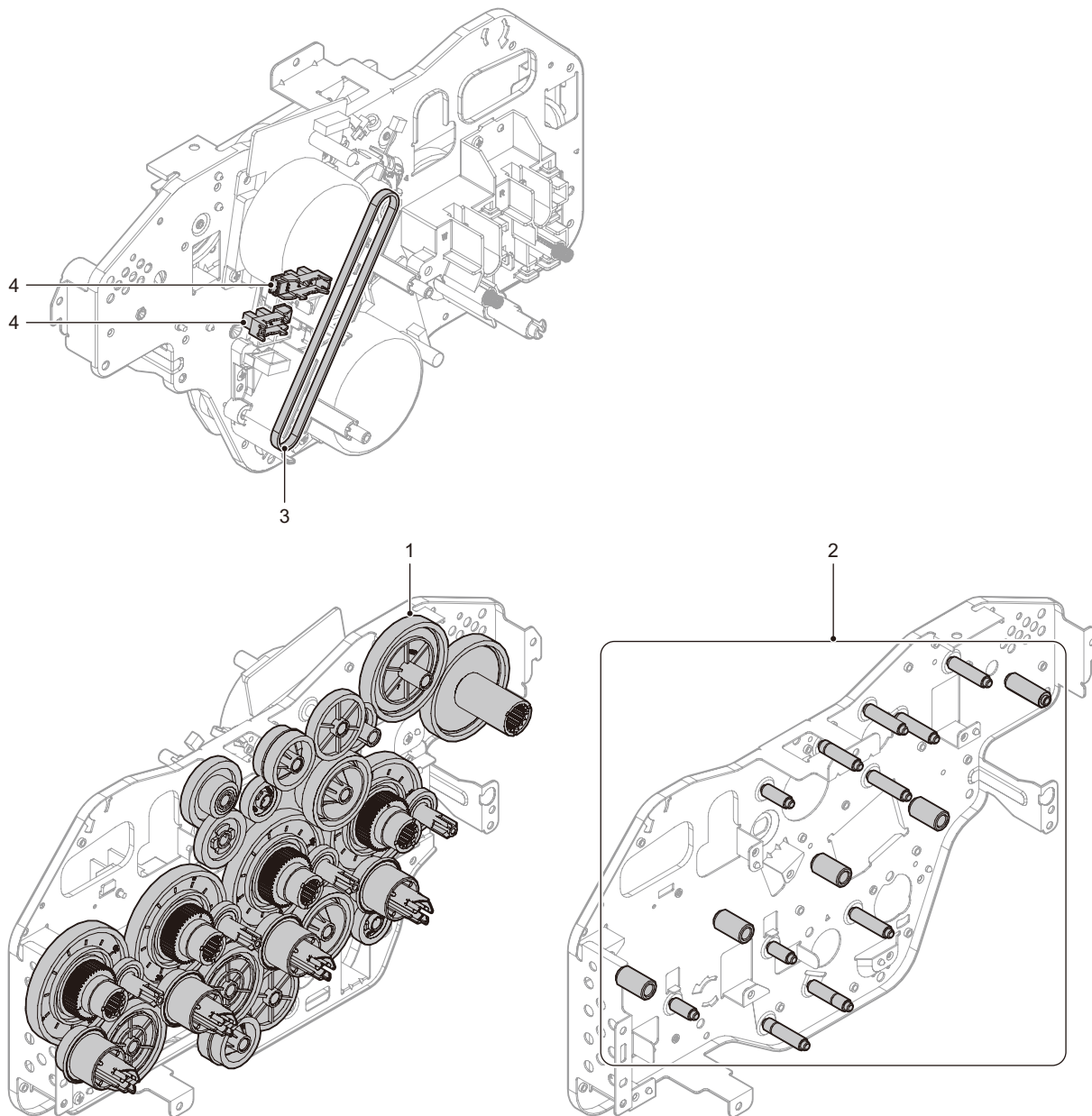


J. Drive section

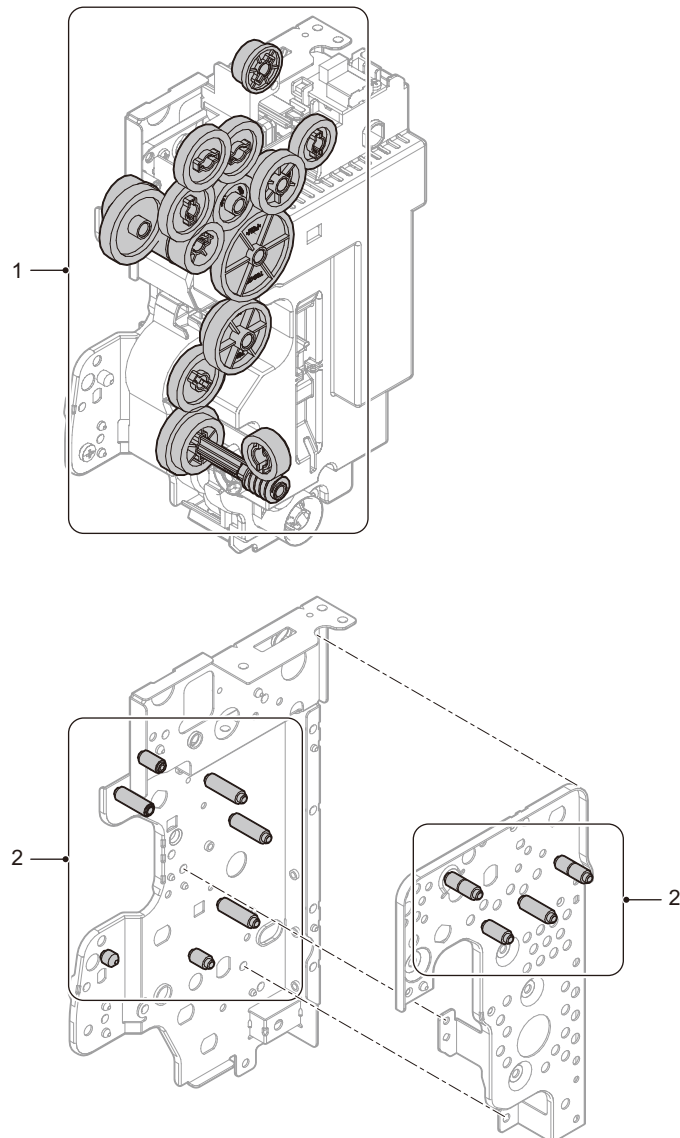
X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Parts name	When calling	75 K	150 K	225 K	300 K	Remark
1	Gears (Grease)	X	X	X	X	X	Apply to the specified area when checking.
2	Shaft earth section (conduction grease)	X	X	X	X	X	Apply to the specified area when checking. (UKOG-0012QSZZ)
3	Belts	X	X	X	X	X	
4	Sensors	X	X	X	X	X	

Main drive section



Delivery drive section

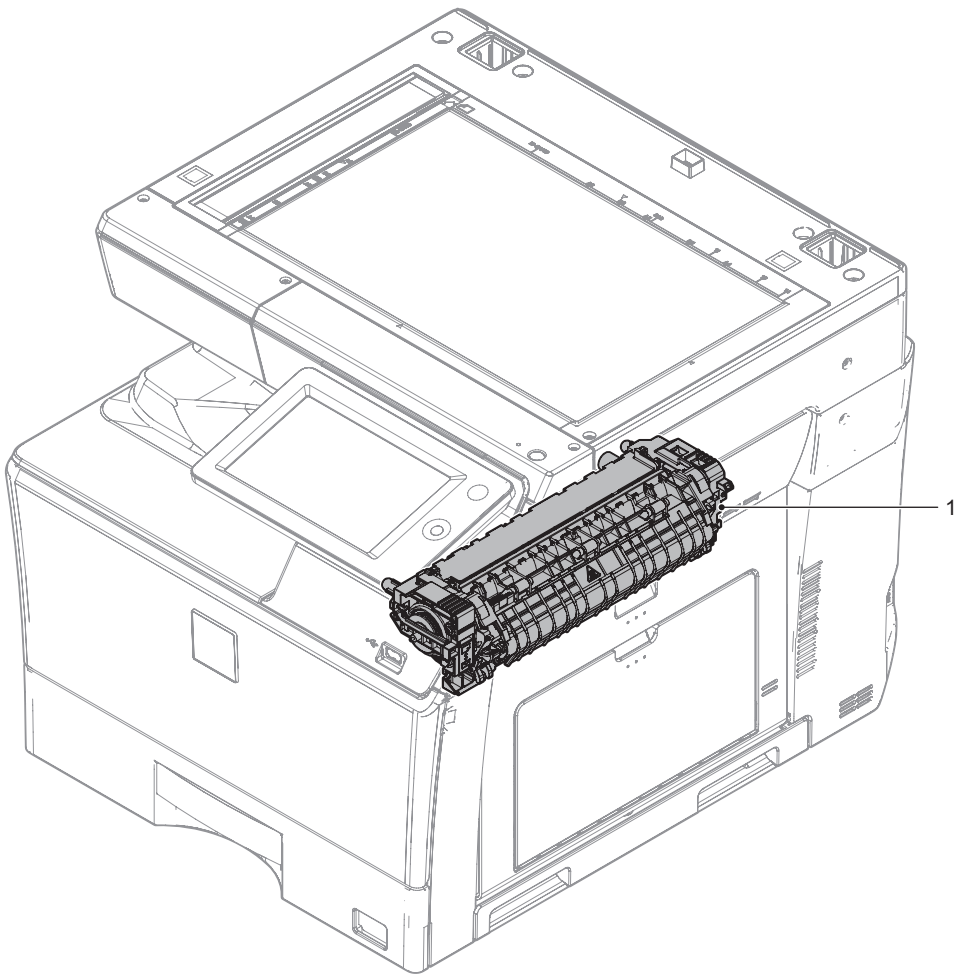


If you need to replace by confirmation, see the section on disassembly and assembly.

K. Fusing section

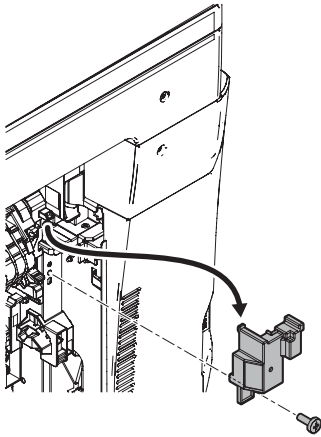
X: Check (Clean, replace, or adjust according to necessity.) O: Clean
▲: Replace △: Adjust ☆: Lubricate

No.	Part name	When calling	75 K	150 K	225 K	300 K	Remark
1	Fusing unit	X	-	▲	-	▲	Replace at 150K or 2 year of use.



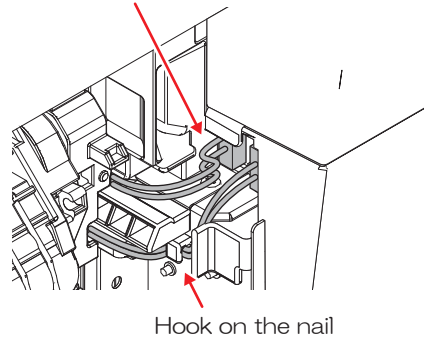
(1) Disassembly of Units

- 1) Open the right door.
- 2) Remove the screw and remove the connector cover.

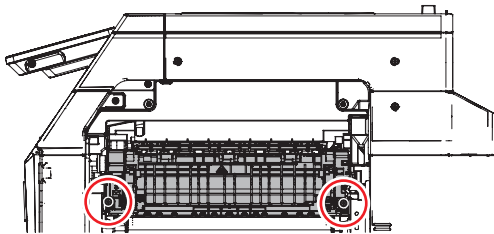
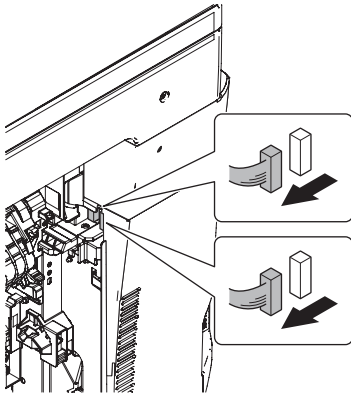


NOTE: When attaching the fixing unit, perform the following line processing.

Push in the harness sagging



- 3) Disconnect the connector and remove the screw, remove the fusing unit.

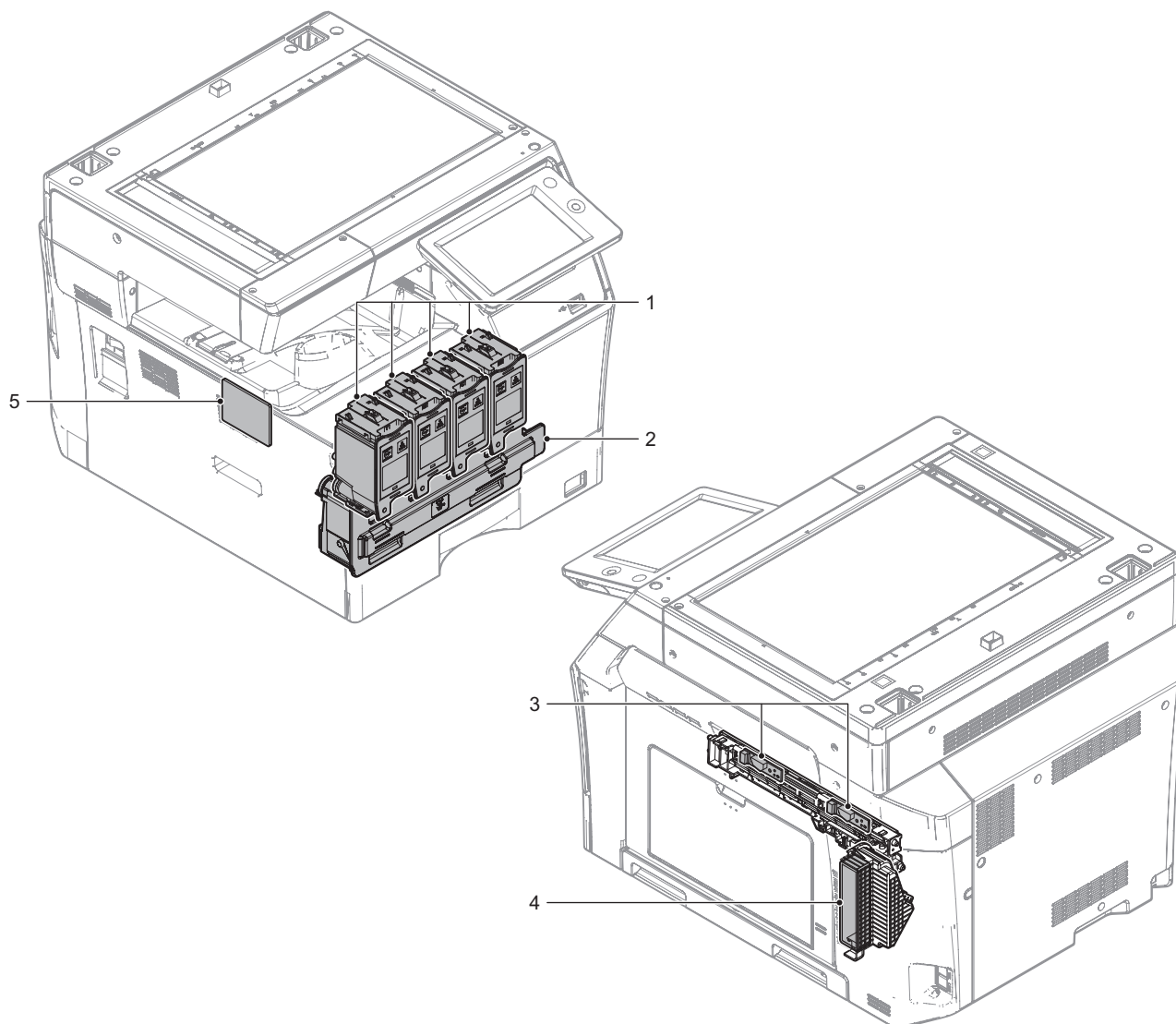


L. Other (Filter) section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Unit name	When calling	45 K	75 K	90 K	135 K	150 K	180 K	225 K	270 K	300 K	Remark
1	Toner cartridge BK	User replacement for every toner empty.										
	Toner cartridge CMY	User replacement for every toner empty.										
2	Toner collection container	Replaced by the user when full is detected.										

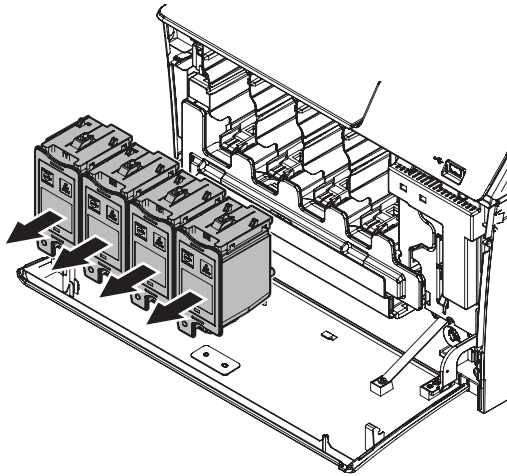
No.	Part name	When calling	75 K	150 K	225 K	300 K	Remark
3	Process registration sensor	X	O	O	O	O	Clean when the Fusing unit and the Drum cartridge is replaced.
4	Ozone filter	X	▲	▲	▲	▲	Replace at 75K
5	Intake filter	X	O	O	O	O	



(1) Disassembly of Units

a. Toner cartridge

- 1) Open the front cabinet.
- 2) Hold the handle of the toner cartridge, and pull it out straight.

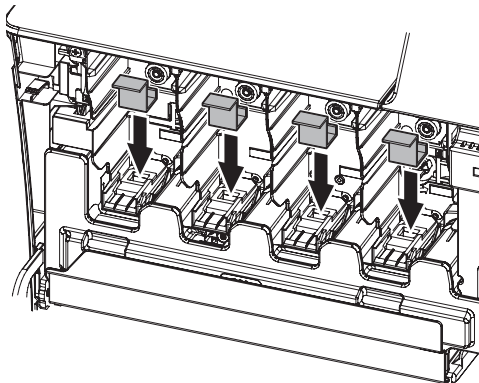


NOTE: Do not install a toner cartridge of a different color.
Be sure to install a toner cartridge of same color.

NOTE: When installing, do not insert with great force.
Push with your hand until it is completely inserted.

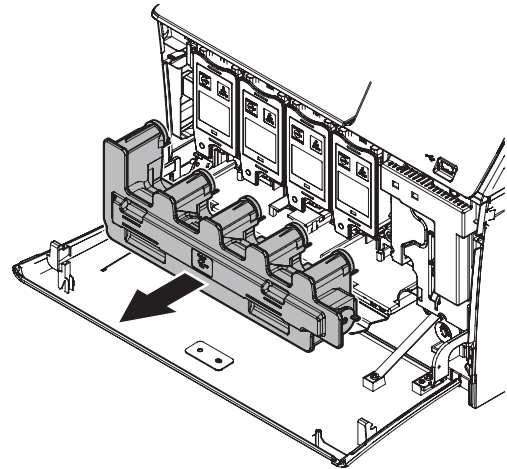
NOTE: When transferring to other place, be sure to remove the toner cartridge.
(The toner cartridges could have clogging symptom.)

NOTE: Regardless of the installation of the toner cartridge,
remove the toner cartridges when transferring the main unit.



b. Toner collection container

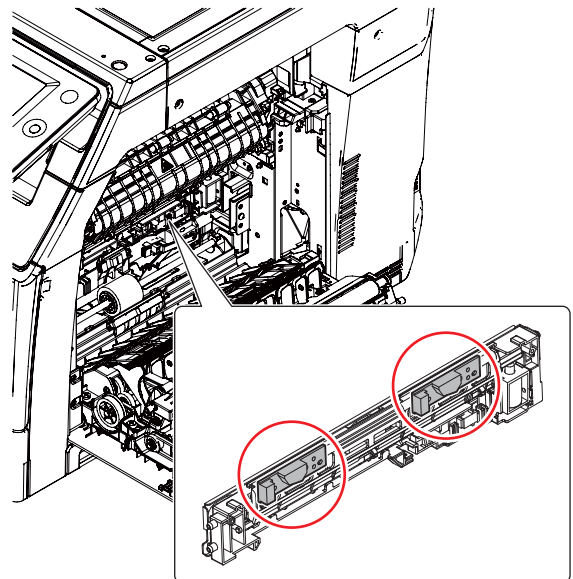
- 1) Pull out the paper tray.
- 2) Open the front cabinet.
- 3) Remove the toner collection container.



(2) Disassembly and assembly of maintenance parts

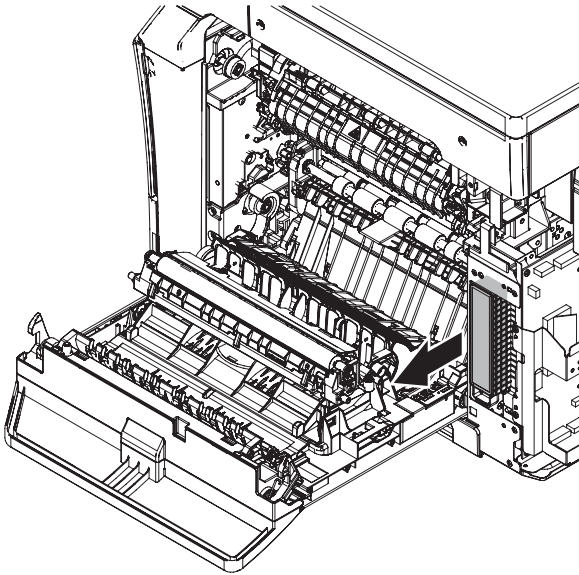
Process registration sensor

- 1) Open the right door.
- 2) Remove the PS unit.
- 3) Clean the process registration sensor.



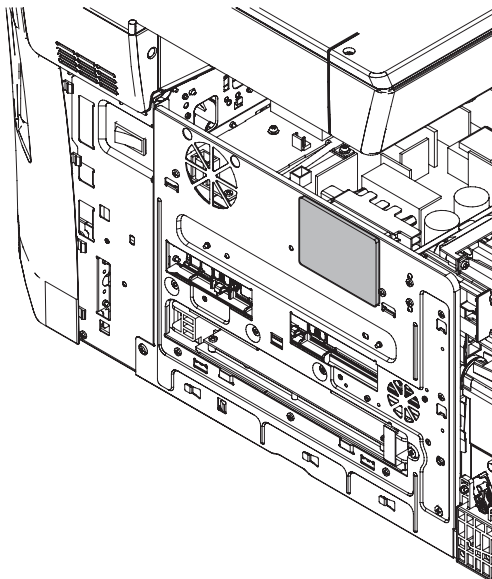
Ozone filter

- 1) Remove the rear cabinet.
- 2) Remove the right cabinet rear upper.
- 3) Open the right door.
- 4) Remove the right cabinet rear.
- 5) Replace the ozone filter.



Intake filter

- 1) Pull out the paper tray.
- 2) Open the front cabinet.
- 3) Remove the left cabinet.
- 4) Remove the paper exit tray.
- 5) Clean the intake filter.

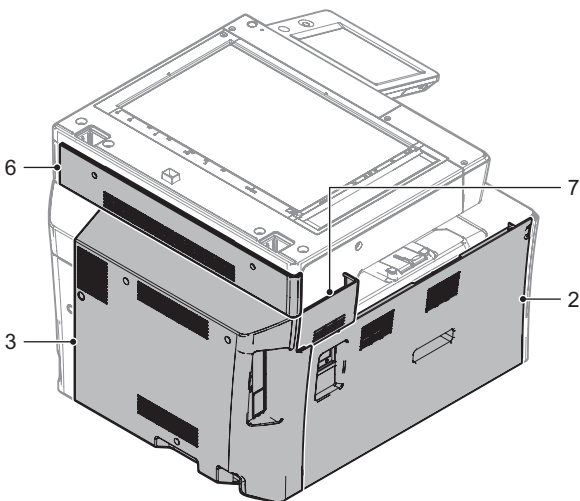
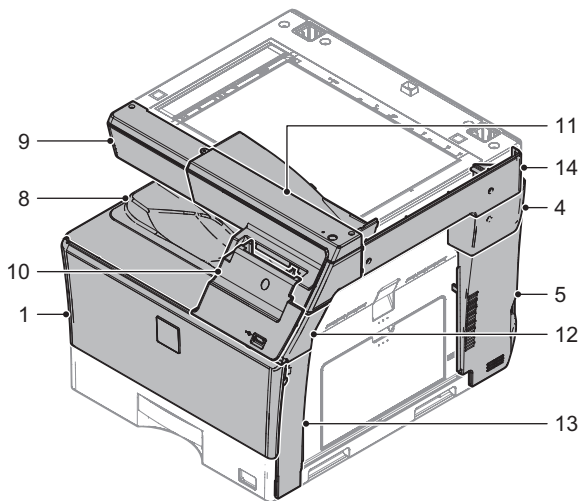


[10] DISASSEMBLY AND ASSEMBLY

1. Disassembly of Units

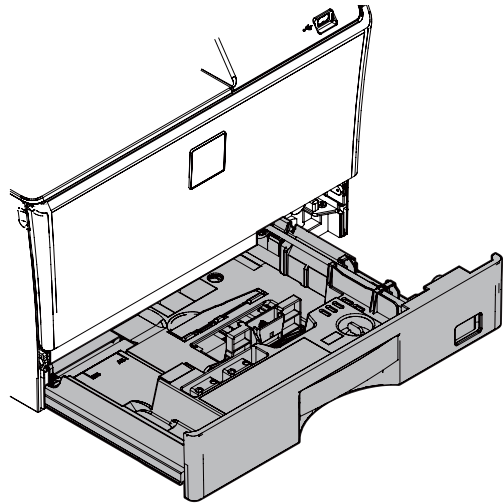
A. External view

No.	Name
1	Front cabinet
2	Left cabinet
3	Rear cabinet
4	Right cabinet rear upper
5	Right cabinet rear
6	Rear cabinet upper
7	Left cabinet upper
8	Paper exit tray
9	Scanner front cabinet left ASSY
10	Front cabinet upper
11	Scanner front cabinet ASSY
12	Right cabinet middle
13	Right cabinet front
14	Scanner right cabinet

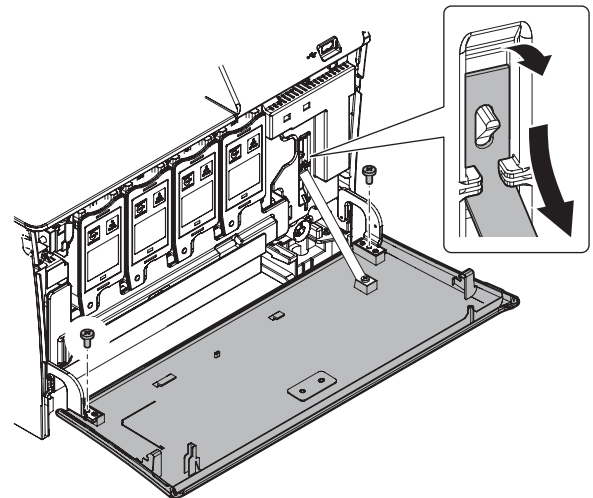


(1) Front cabinet

- 1) Pull out the paper tray.

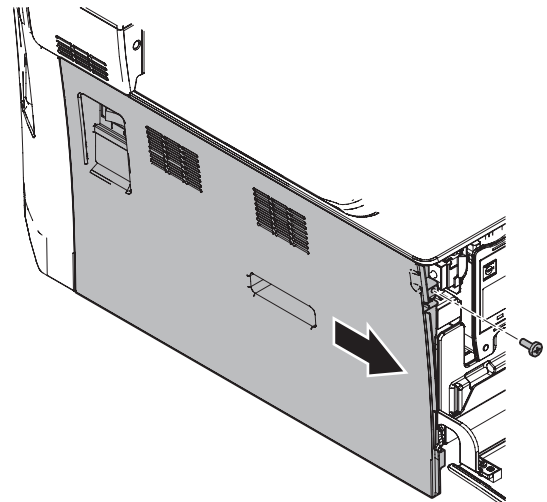


- 2) Open the front cabinet.
- 3) Remove the screw, and remove the band from the guide.

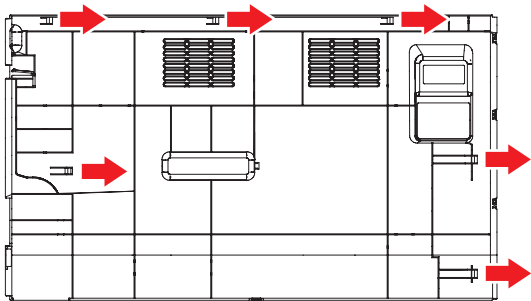


(2) Left cabinet

- 1) Open the cassette.
- 2) Open the front cabinet.
- 3) Remove the screw, and remove the left cabinet.

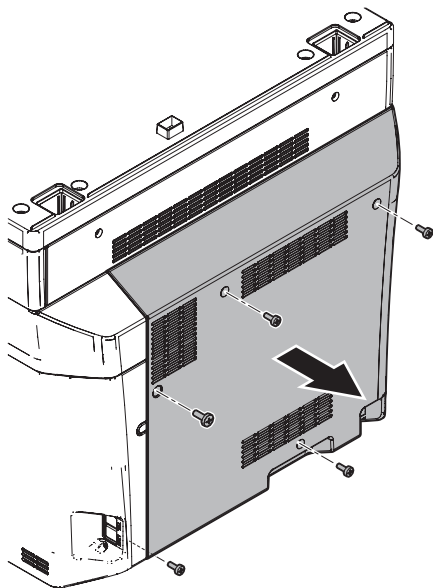


NOTE: Make sure to insert the tabs into the square holes firmly when attaching.

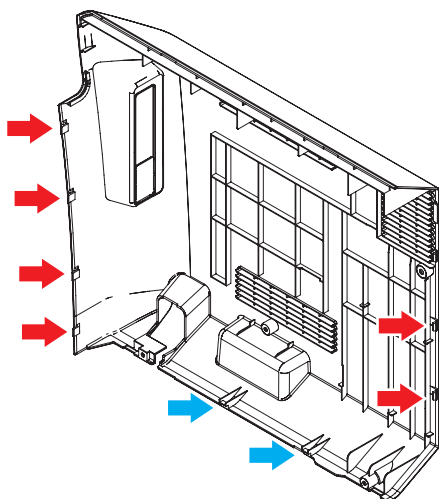


(3) Rear cabinet

- 1) Remove the screws, and remove the rear cabinet.

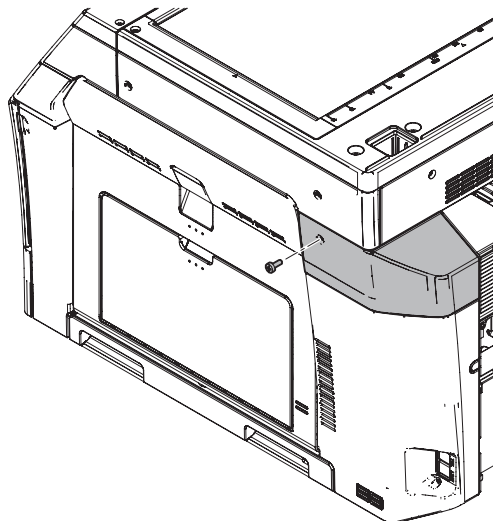


NOTE: Remove the screws, and remove the rear cabinet.

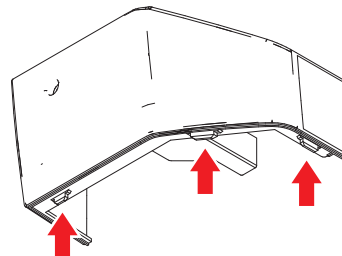


(4) Right cabinet rear upper

- 1) Remove the screws, and remove the right cabinet rear upper.

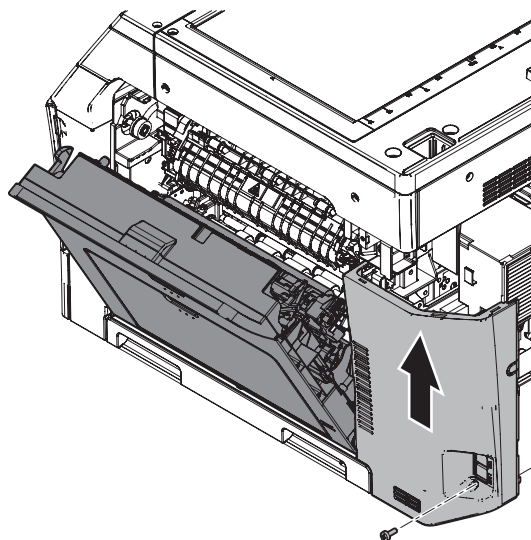


NOTE: Note: Make sure to insert the lower tabs when attaching.

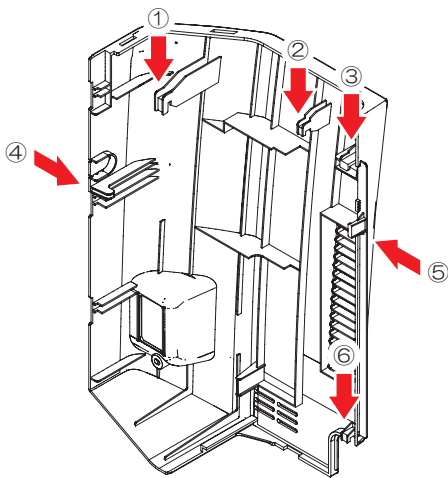


(5) Right cabinet rear

- 1) Open the right door.
- 2) Remove the screw and remove the right cabinet rear.

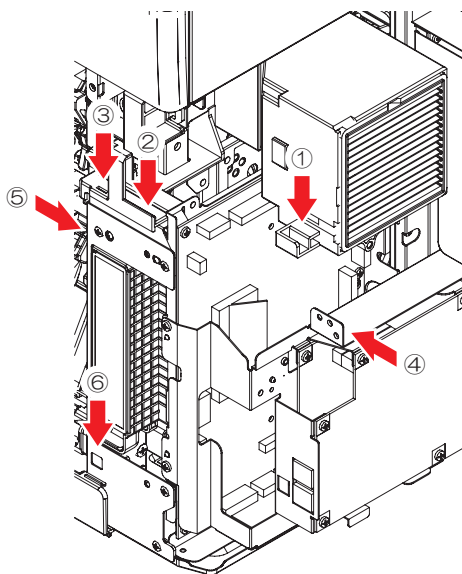
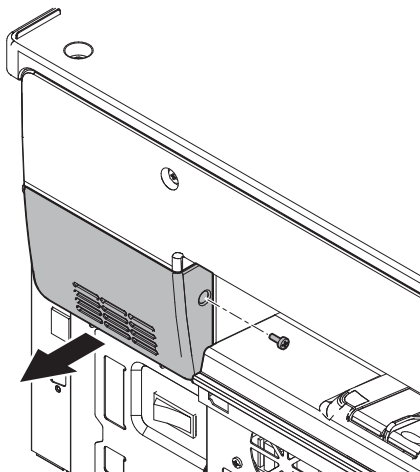


NOTE: Remove the right cabinet rear.



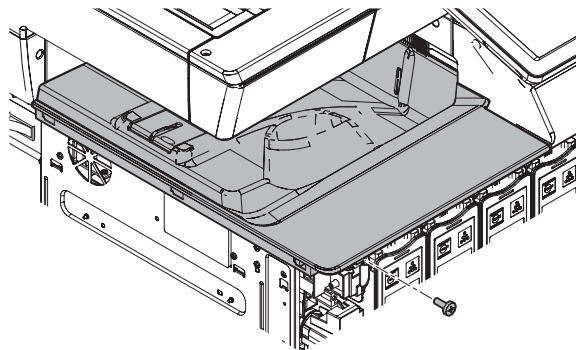
(7) Left cabinet upper

- 1) Remove the screw, and remove the left cabinet upper.



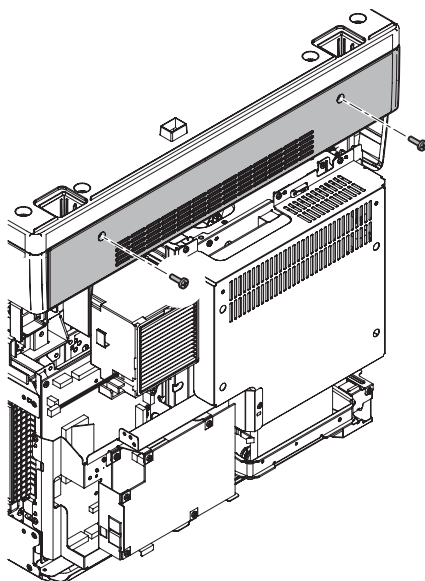
(8) Paper exit tray

- 1) Open the front cabinet.
- 2) Remove the screw, and remove the paper exit tray.



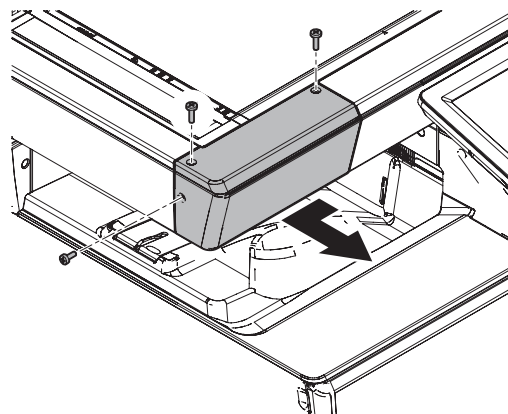
(6) Rear cabinet upper

- 1) Remove the screws, and remove the rear cabinet upper.

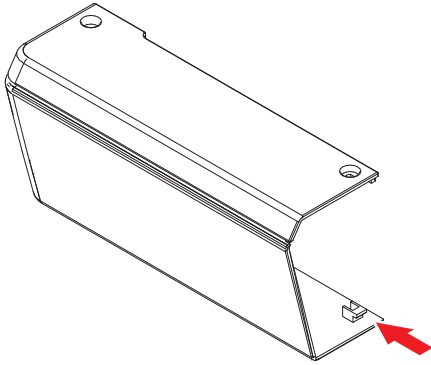


(9) Scanner front cabinet left ASSY

- 1) Remove the screws, and remove the scanner front cabinet left ASSY.

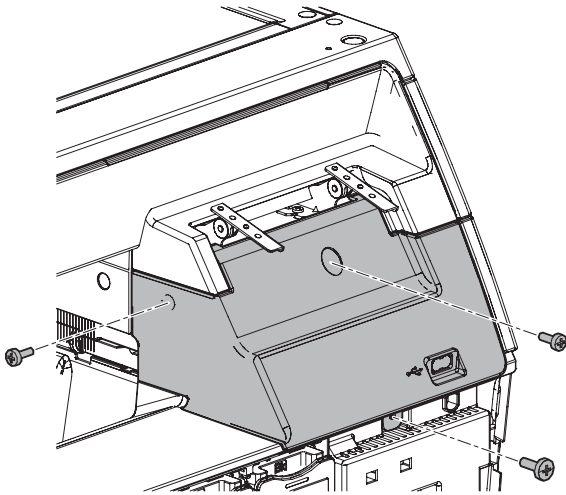


NOTE: Make sure to insert the tab when attaching.

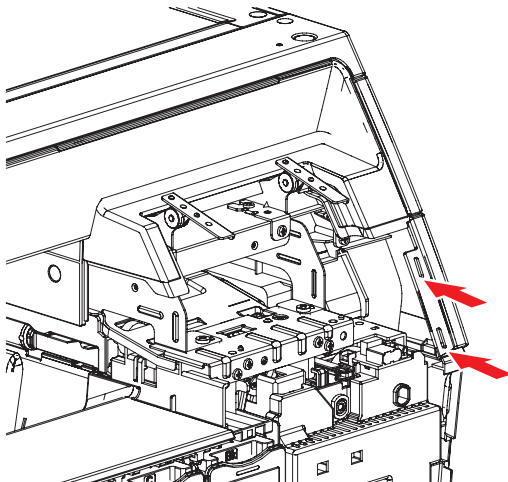


(10) Front cabinet upper

- 1) Remove the operation panel unit.
- 2) Open the Front cabinet.
- 3) Remove the screw, and remove the front cabinet upper.

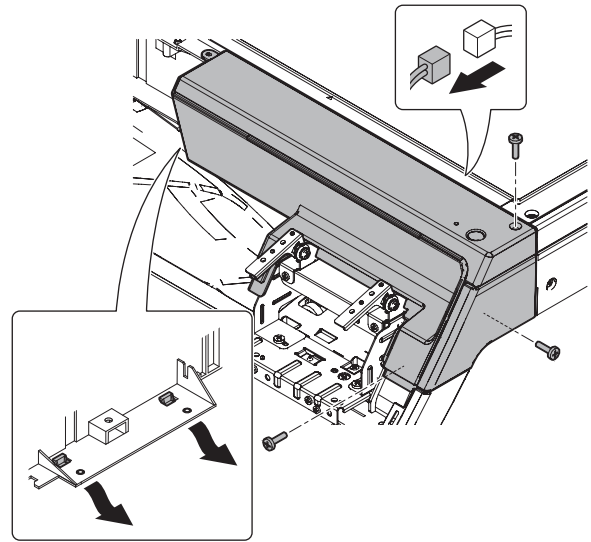


NOTE: Make sure to insert the tabs into the hole of the cabinet when attaching.



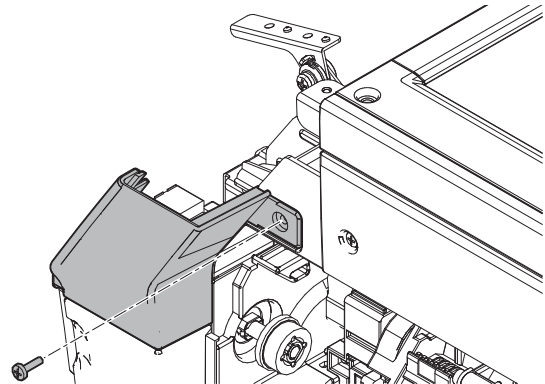
(11) Scanner front cabinet ASSY

- 1) Open the right door.
- 2) Remove the screws, and remove the scanner front cabinet ASSY.
- 3) Disconnect the connector.



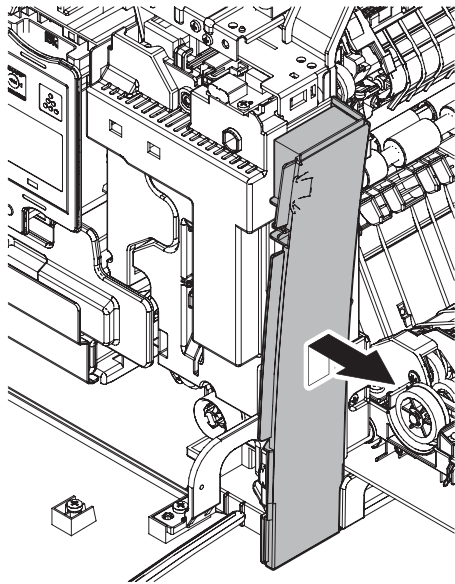
(12) Right cabinet middle

- 1) Open the right door.
- 2) Open the front cabinet.
- 3) Remove the screw, and remove the right cabinet middle.

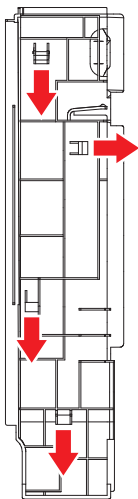


(13) Right cabinet front

- 1) Slide the right cabinet front in the direction of the allow to remove it.

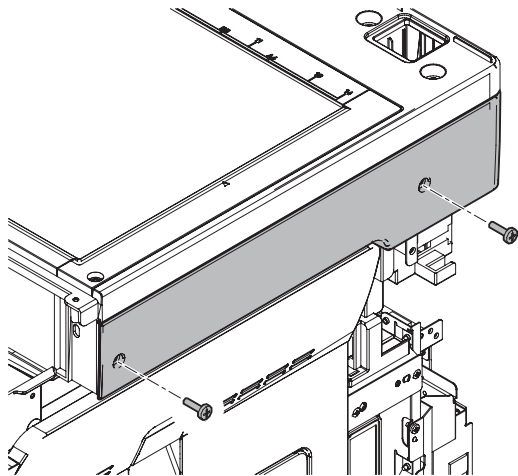


NOTE: Make sure to insert the tabs firmly when attaching.



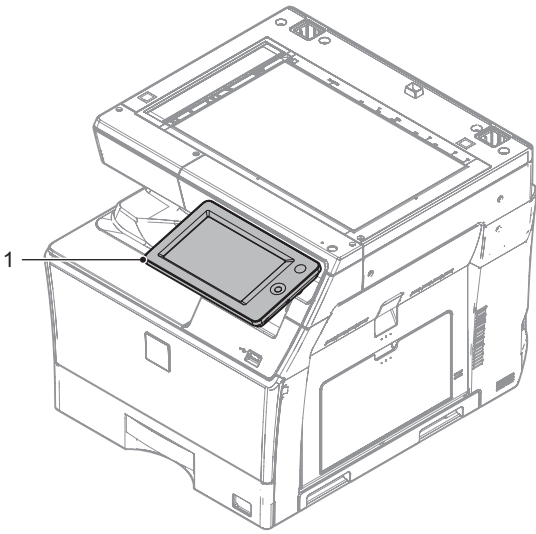
(14) Scanner right cabinet

- 1) Remove the screws, and remove the scanner right cabinet.



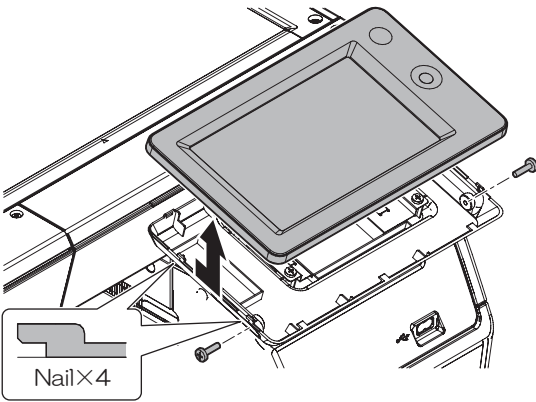
B. Operation pane

No.	Name
1	Operation panel unit

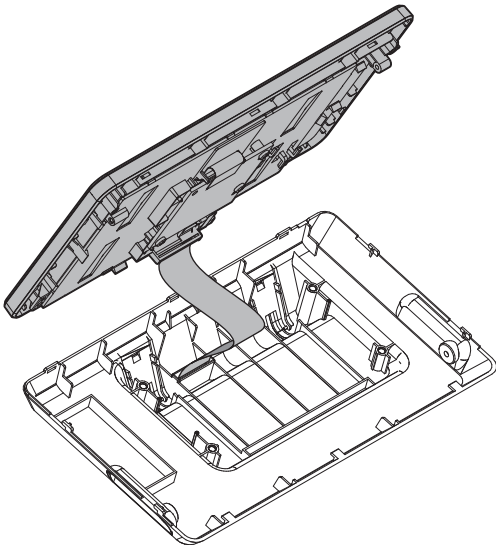


(1) Operation panel

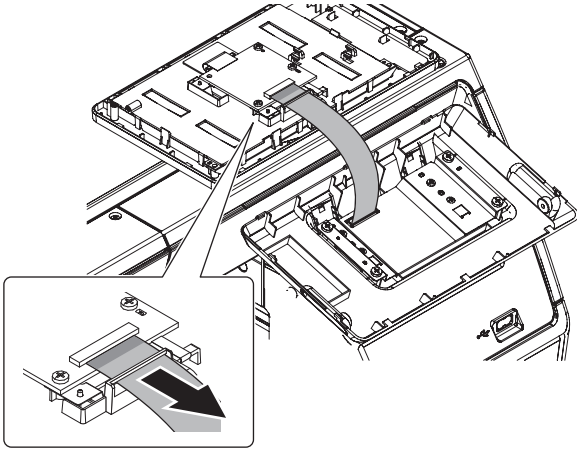
- 1) Remove the screws, remove the operation panel unit and place it on the table glass.



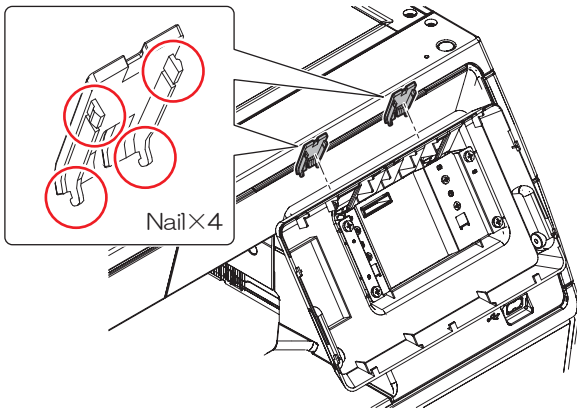
NOTE: Fold the FFC as shown in the figure below.



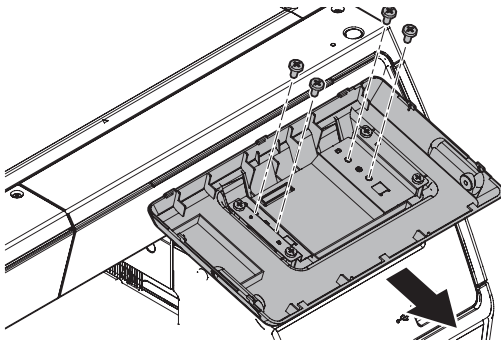
- 2) Unlock the FFC and disconnect the FFC.



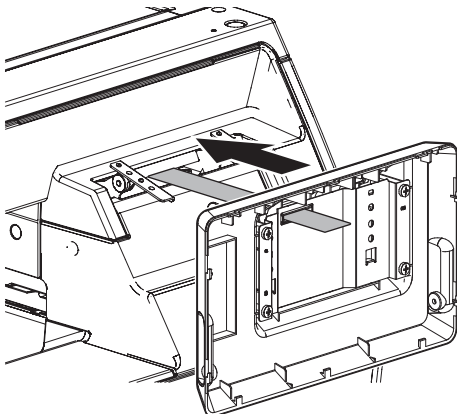
- 3) Lower the operation base plate.
- 4) Remove the hinge cover.



- 5) Raise the operation base plate.
- 6) Remove the operation base plate.



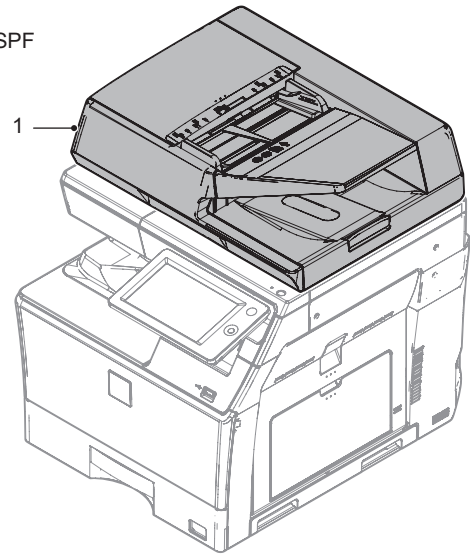
- 7) Pass the FFC through the hole.



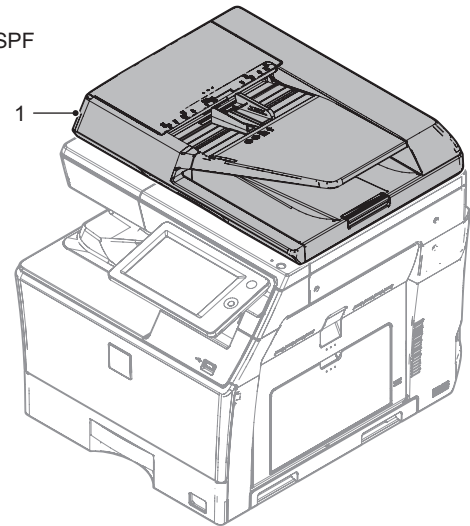
C. DSPF/RSPF

No.	Name
1	DSPF/RSPF

DSPF

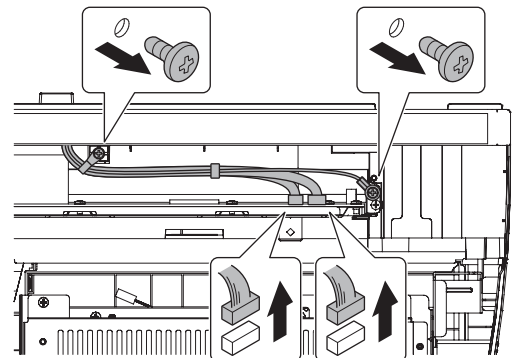


RSPF

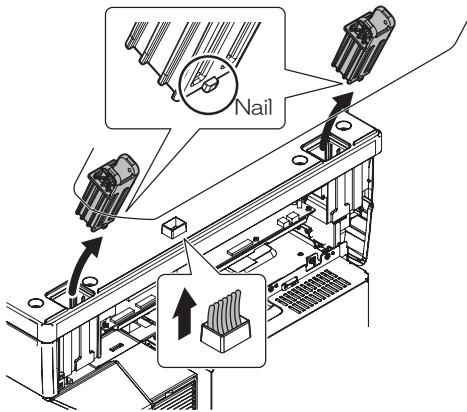


(1) DSPF

- 1) Remove the rear cabinet.
- 2) Remove the rear cabinet upper.
- 3) Remove the screws, disconnect the connector.

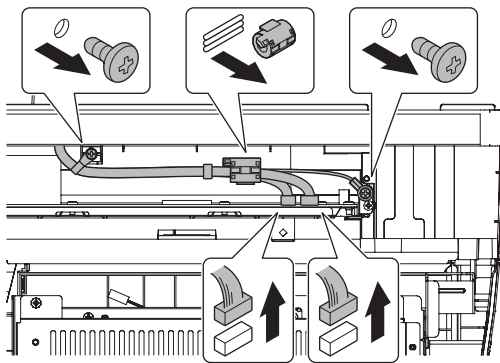


- 4) Pull out the harness from the square hole.
- 5) Remove the RSPF/DSPF.



(2) RSPF

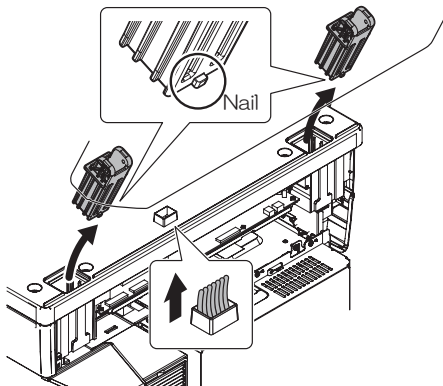
- 1) Remove the rear cabinet.
- 2) Remove the rear cabinet.
- 3) Remove the core.
- 4) Remove the screws, disconnect the connector.



NOTE: When attaching, the core is attached to a harness other than the ground wire.

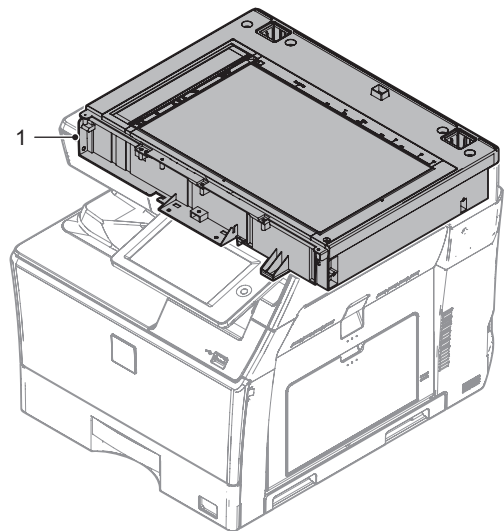


- 5) Pull out the harness from the square hole.
- 6) Remove the RSPF unit.



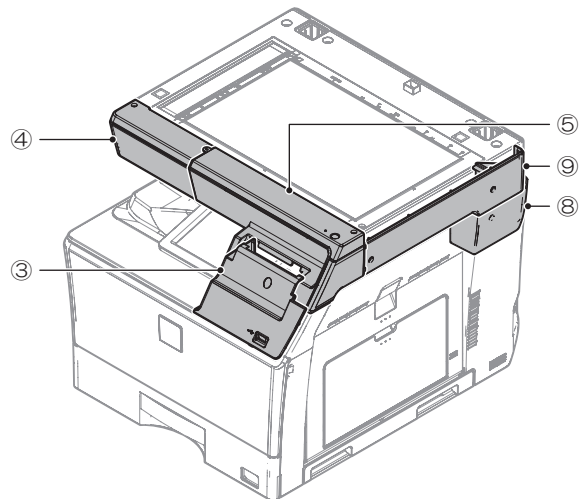
D. Scanner unit

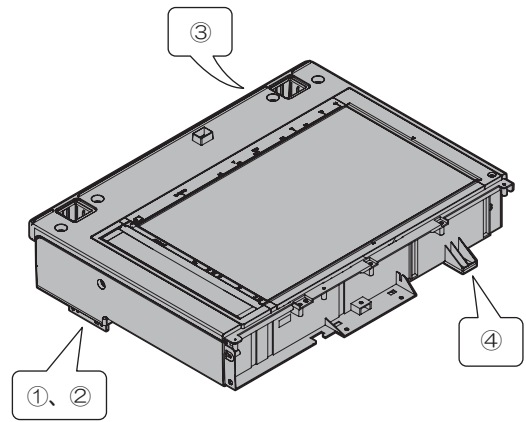
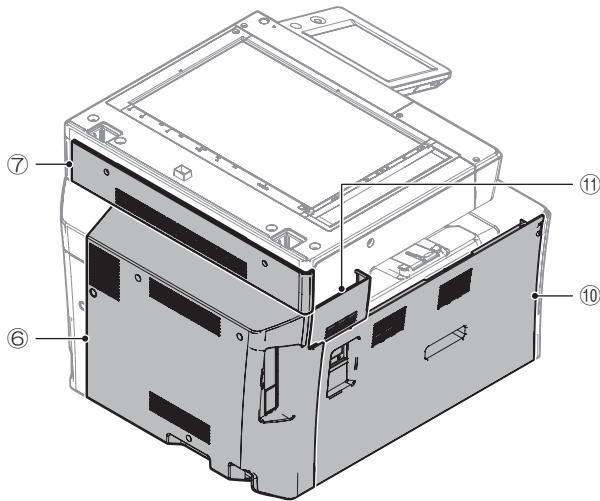
No.	Name
1	Scanner unit



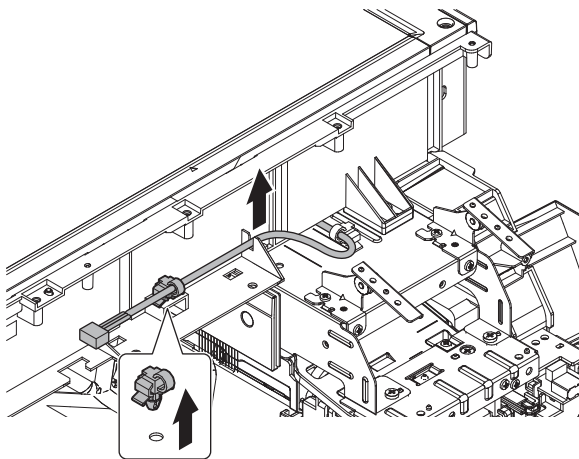
(1) Scanner unit

- 1) Remove the RSPF/DSPF.
- 2) Remove the operation panel.
- 3) Remove the front cabinet upper.
- 4) Remove the scanner front cabinet left ASSY.
- 5) Remove the scanner front cabinet ASSY.
- 6) Remove the right cabinet rear upper.
- 7) Remove the scanner right cabinet.
- 8) Remove the left cabinet.
- 9) Remove the left cabinet upper.



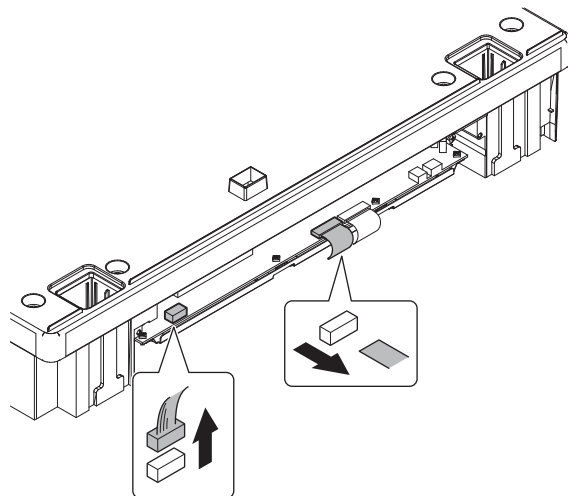
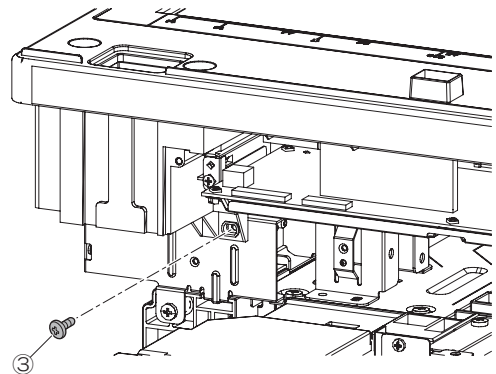
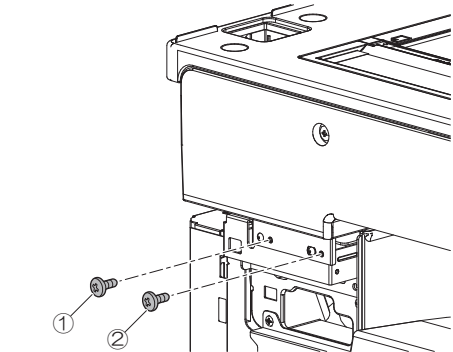


10) Remove the reuse band and remove the harness.



11) Disconnect the connector.

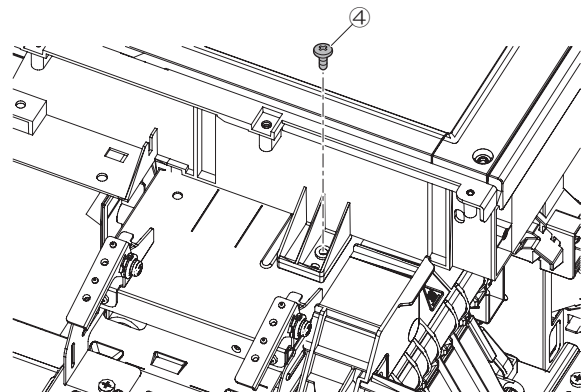
12) Disconnect the FFC.



13) Remove the screws, and remove the scanner unit.

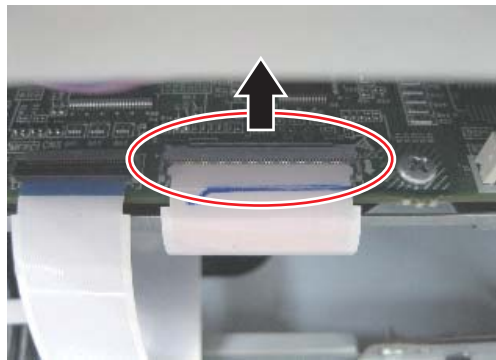
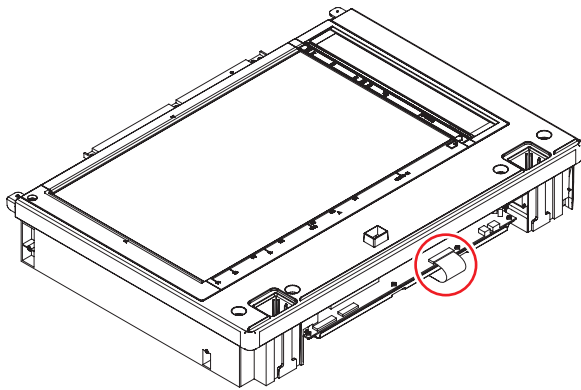
Important

Tighten the screw in the order of (1) - (4).

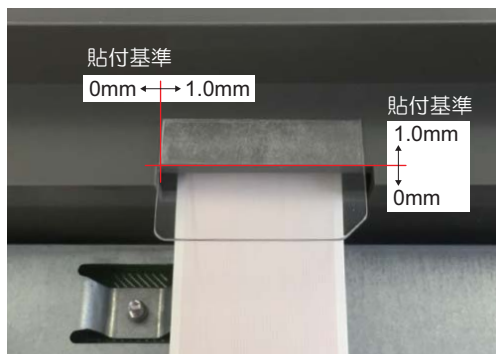
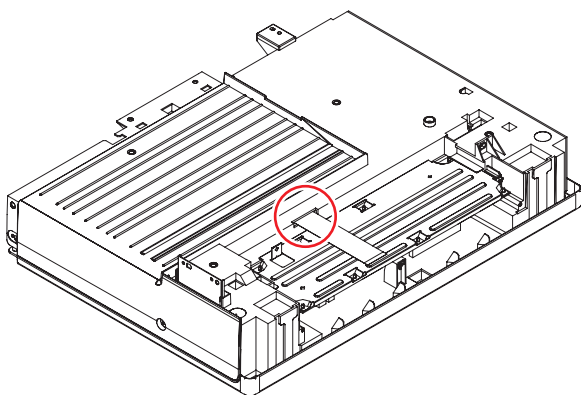


NOTE: When replacing scanner of RSPF model,

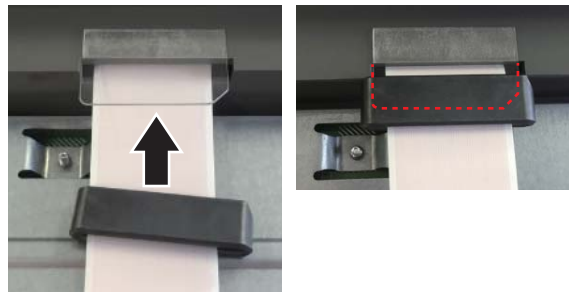
- 1) Unlock the FFC of the new scanner unit and disconnect the FFC.



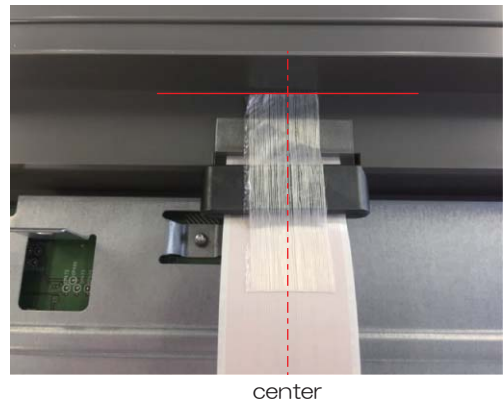
- 2) Turn over the scanner unit and paste the guide sheet.
(Clean the sheet pasting area with alcohol.)



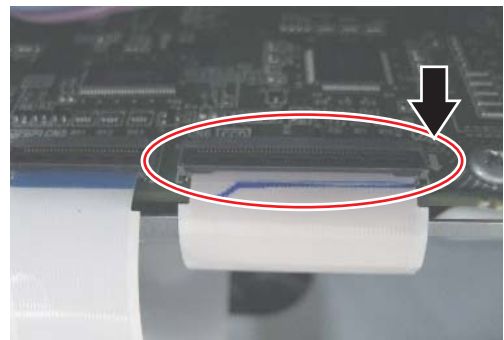
- 3) Attach core to FFC (see picture below).



- 4) Fix the core with tape.

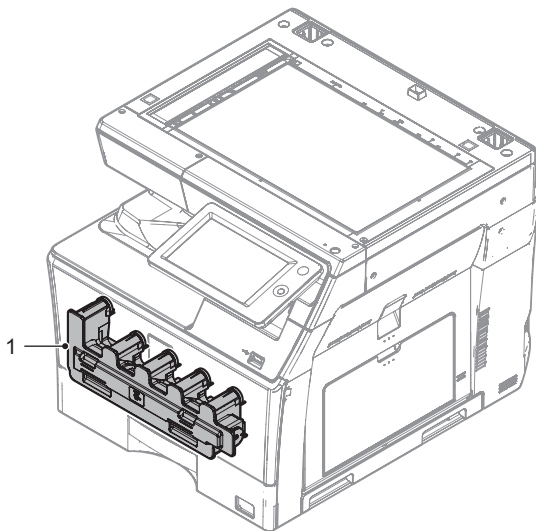


- 5) Attach FFC to SCN cnt PWB and lock.



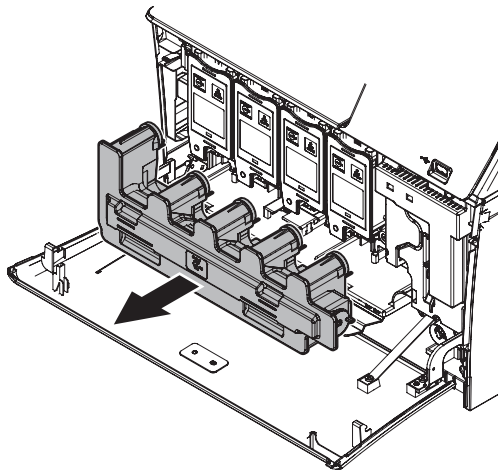
E. Toner collection container

No.	Name
1	Toner collection container



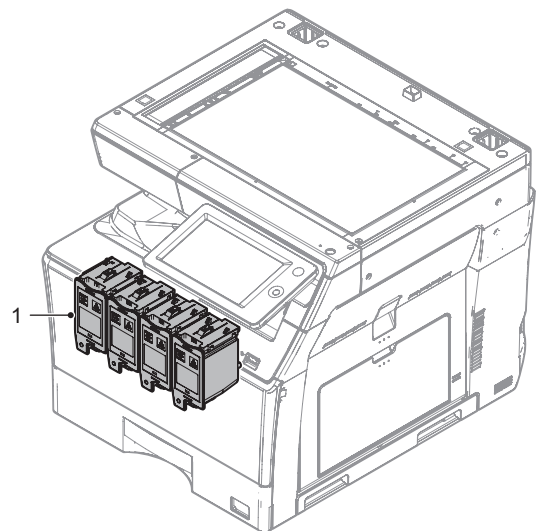
(1) Toner collection container

- 1) Pull out the paper tray.
- 2) Open the front cabinet.
- 3) Remove the toner collection container.



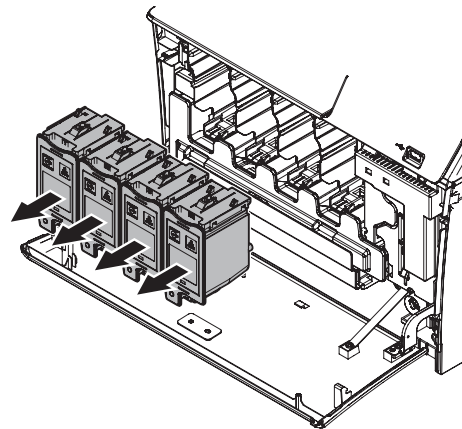
F. Toner supply section

No.	Name
1	Toner cartridge



(1) Toner cartridge

- 1) Open the front cabinet.
- 2) Hold the handle of the toner cartridge, and pull it out straight.

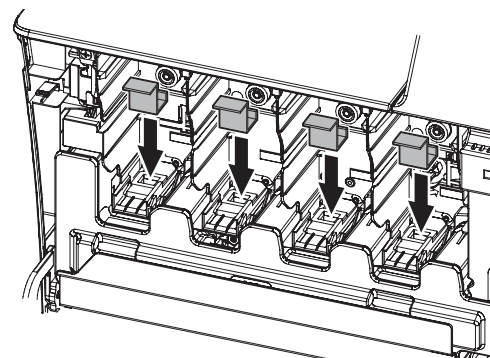


NOTE: Do not install a toner cartridge of a different color.
Be sure to install a toner cartridge of same color.

NOTE: When installing, do not insert with great force.
Push with your hand until it is completely inserted.

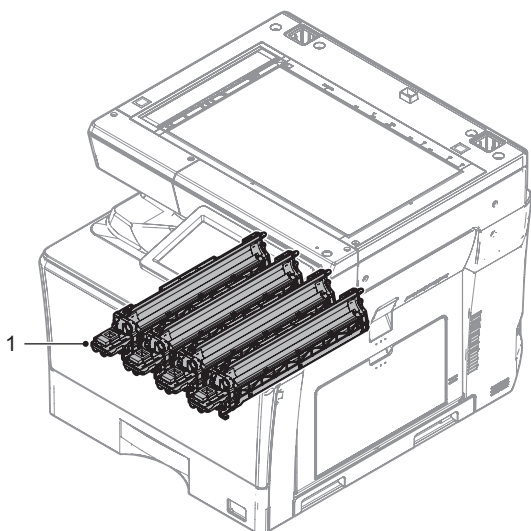
NOTE: When transferring to other place, be sure to remove the toner cartridge.
(The toner cartridges could have clogging symptom.)

NOTE: Regardless of the installation of the toner cartridge,
remove the toner cartridges when transferring the main unit.



G. Developing unit

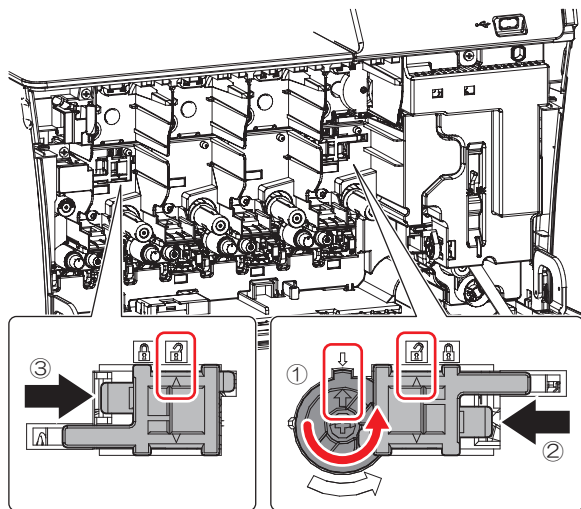
No.	Name
1	Developing unit



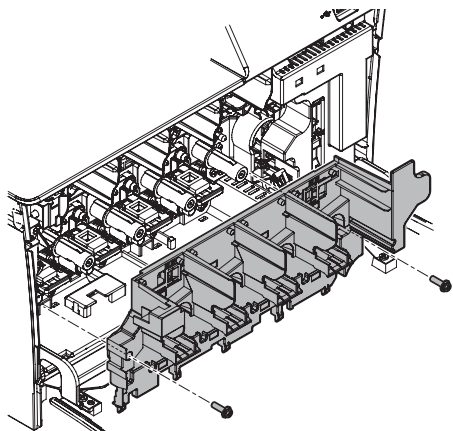
(1) Developing unit

- 1) Remove the toner collection container.
- 2) Remove the toner cartridge.
- 3) Rotate the transfer cam to the release position.
Release the right lock lever and left lock lever.

NOTE: Always turn the transfer cam counterclockwise.

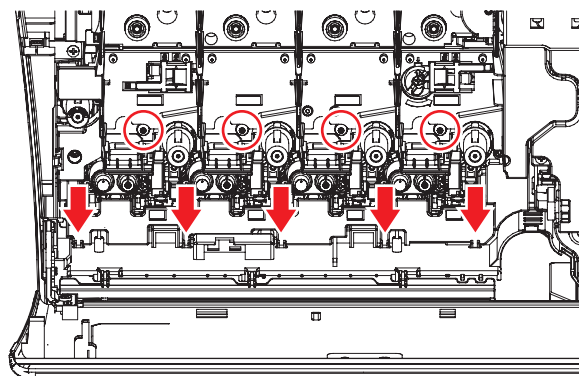


- 4) Remove the screws, and remove the developing unit cover.

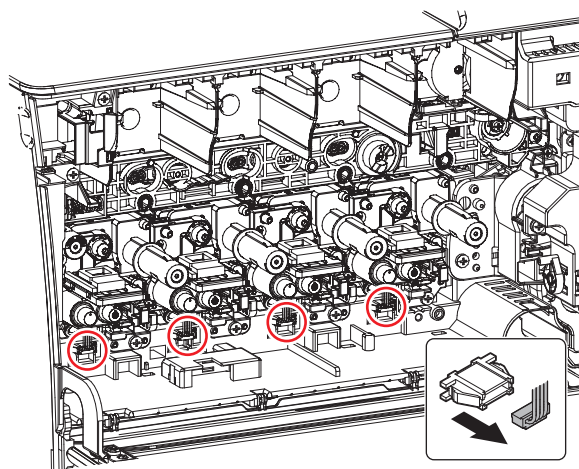


When attaching the developing unit cover, insert the lower tabs into the hole on the machine side.

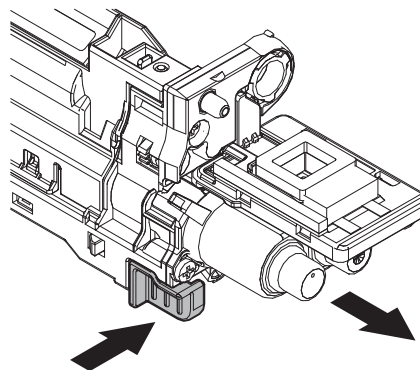
and mount it according to the bearing part(4 places) of the drum unit.



- 5) Disconnect the developing unit connector.



- 6) Pull out the developing unit while pressing the lever.



Important

When pushing in the developing unit, put your hand beneath the unit and slide it horizontally along the guide.

Important

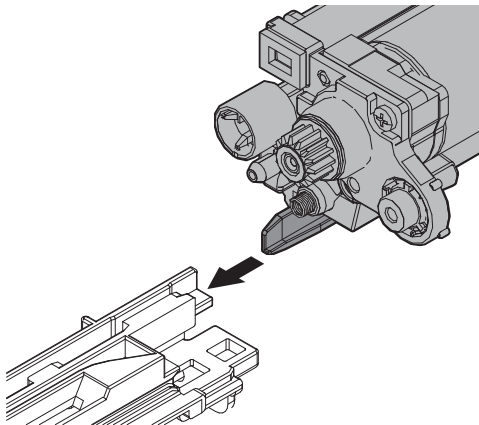
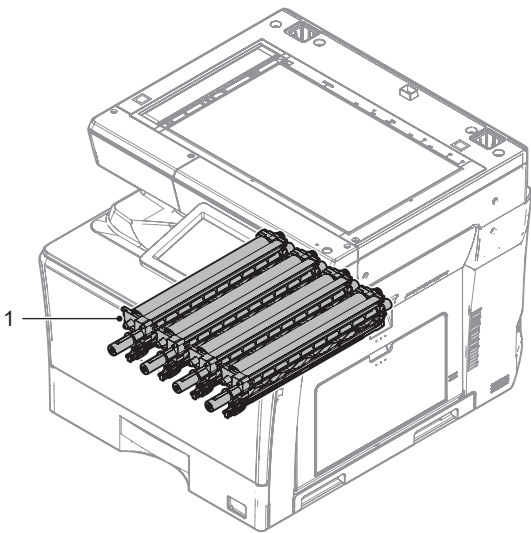
When pushing in the developing unit, connect the connector of the developing unit firmly.

H. Drum unit

No.	Name
1	Drum unit

Important

When pushing in the drum unit, put your hand beneath the unit and slide it horizontally along the guide on the right side. At the time, be careful not to touch the OPC drum surface.

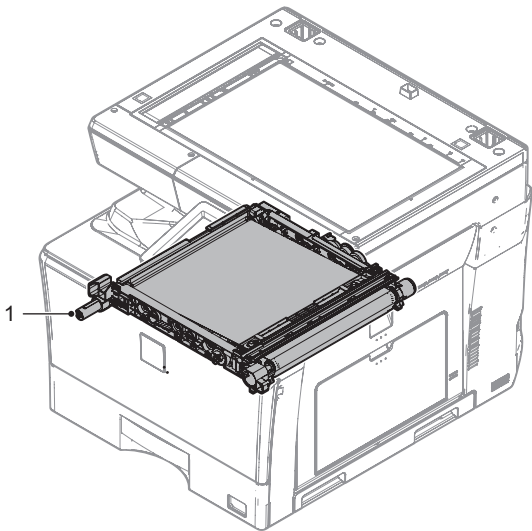
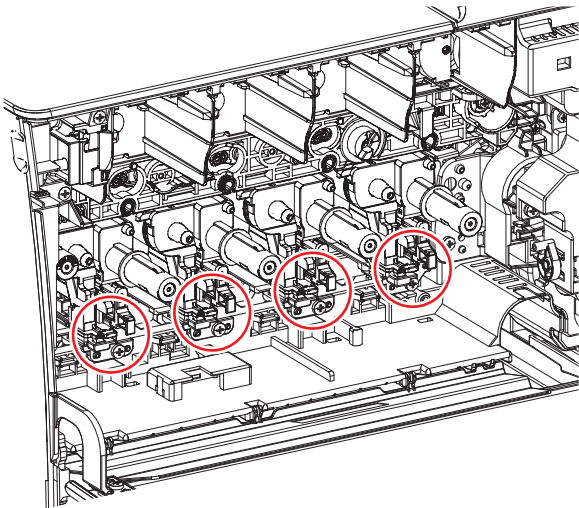


I. Primary transfer unit

No.	Name
1	Primary transfer unit

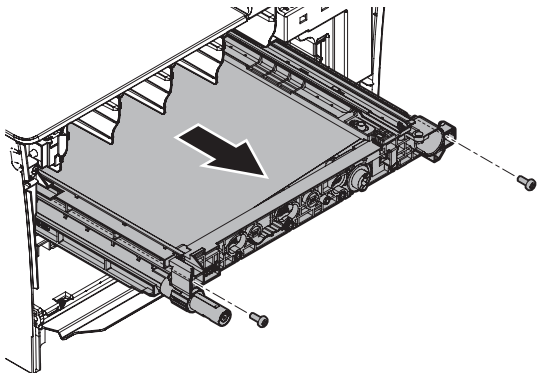
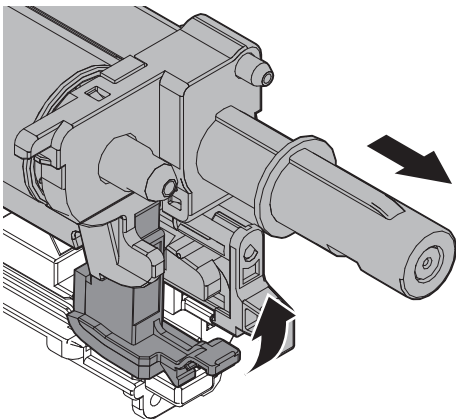
(1) Drum unit

- 1) Remove the toner collection container.
- 2) Remove the developing unit.
- 3) Lift up the lever and pull out the drum unit.

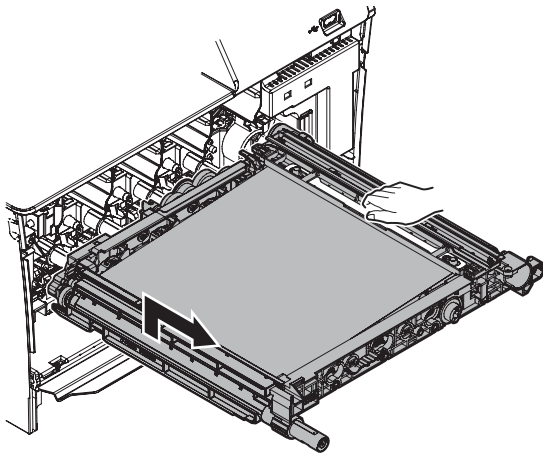


(1) Primary transfer unit

- 1) Remove the toner collection container.
- 2) Open the right door.
- 3) Remove the screws and pull out the primary transfer unit it stops.



- 4) While holding the handle of primary transfer unit, lift the unit left to unlock and remove it.

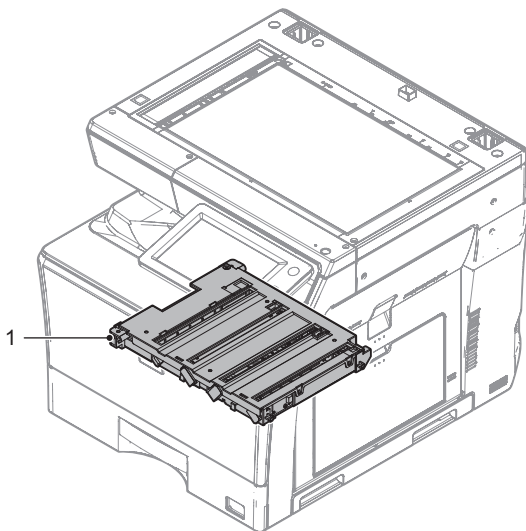


Important

Be careful not to attach other foreign material on the transfer belt.

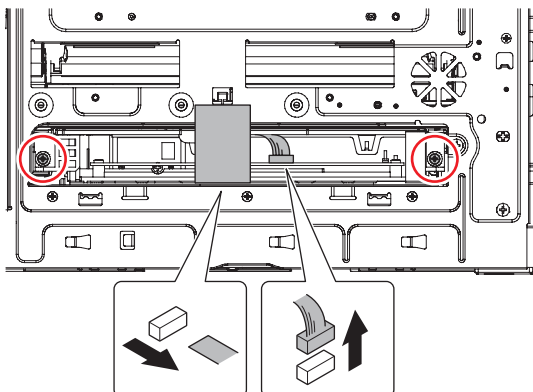
J. LSU

No.	Name
1	LSU unit

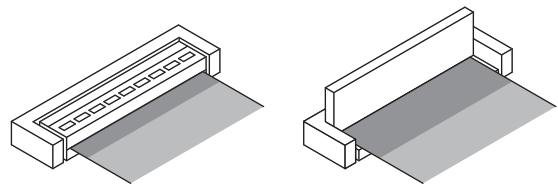


(1) LSU unit

- 1) Remove the left cabinet.
 - 2) Remove the screws and Pull out the LSU unit and remove the FFC and the harness by referring the following procedures.
- * Remove the FFC by releasing the lock of the FFC connector.



When the connection part of the connector is lifted up as shown in the figure, the connector is unlocked.

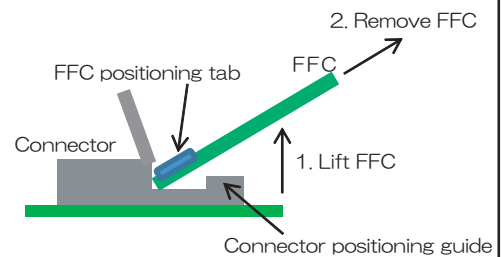


Locked state

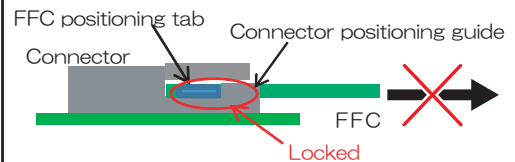
Unlocked state

It is necessary to remove the FFC after the FFC is lifted up ,pulled out obliquely upward and the tab is removed from the connection part..If the FFC is forced to remove, the FFC and the connector could be broken.

OK : Remove FFC obliquely

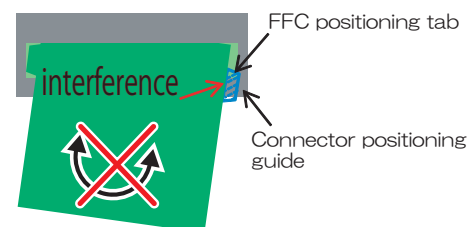


NG : Do not remove the FFC in the transverse

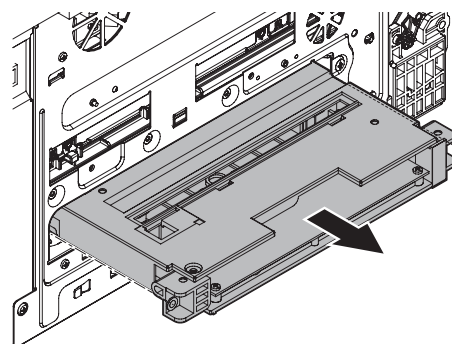


NG : Do not remove the FFC while rotating

<Top view>



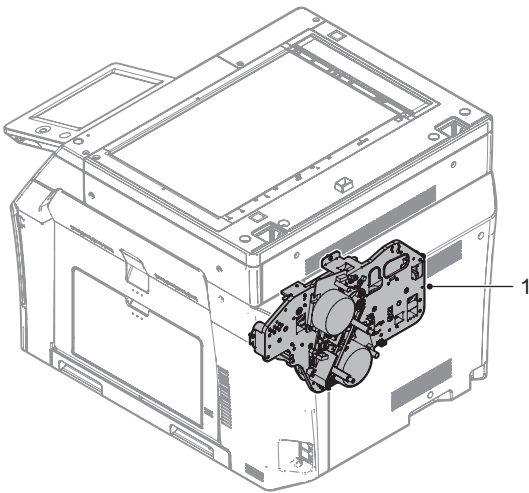
- 3) Remove the LSU unit.



K. Main drive unit

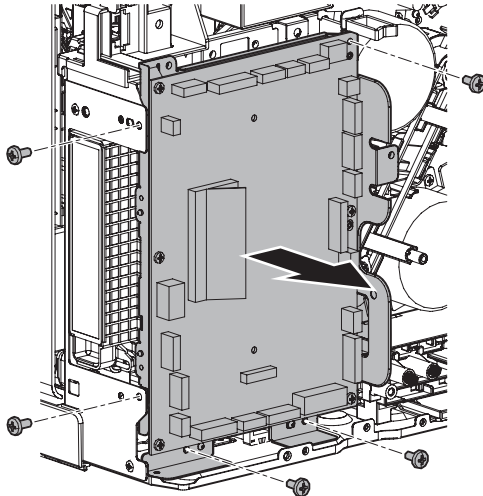
(Prevention of detachment of M3 plate in MC contact holder.)

No.	Name
1	Main drive unit

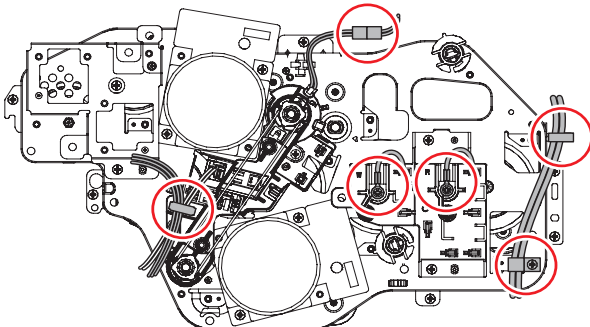


(1) Main drive unit

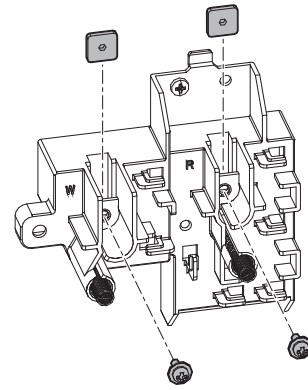
- 1) Remove the rear cabinet, rear cabinet upper, scanner right cabinet, right cabinet rear upper, right cabinet rear.
- 2) Remove the FAX unit.
- 3) Remove the MFPC PWB unit.
- 4) Remove the HV PWB.
- 5) Remove the screws and remove the PCU PWB unit.



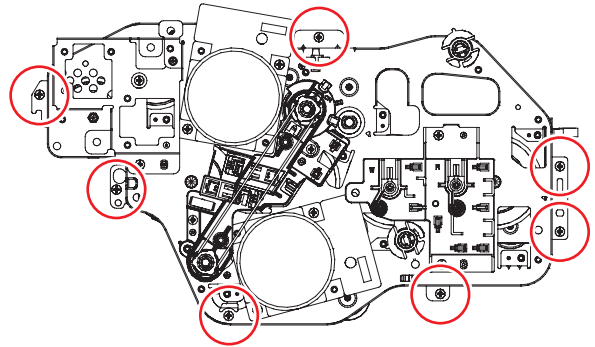
- 6) Disconnect the connector, harness and remove the screws of the round terminal part.



Tighten the screw of the round terminal part temporarily to the original position after detaching the harness.



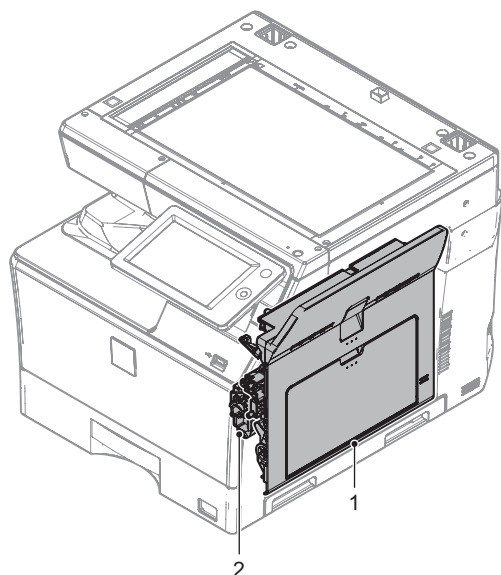
- 7) Remove the screws and remove the main drive unit.



NOTE: When attaching the main drive unit, remove the drum cartridge and developer cartridge
(Prevention of contact load during attaching)

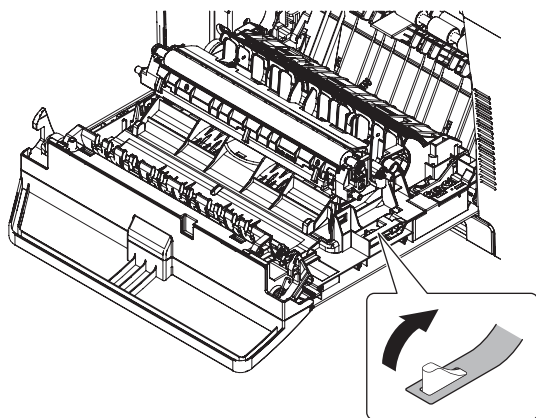
L. Paper transfer section

No.	Name
1	Right door unit
2	PS unit

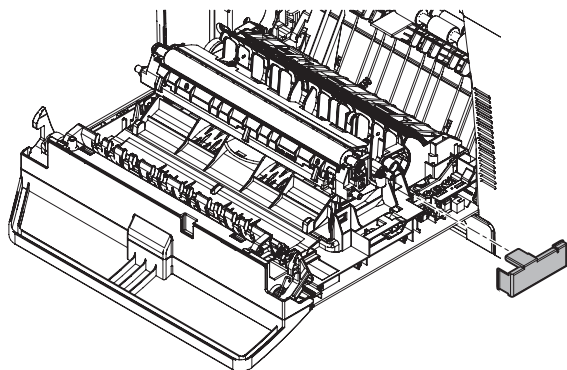


(1) Right door unit

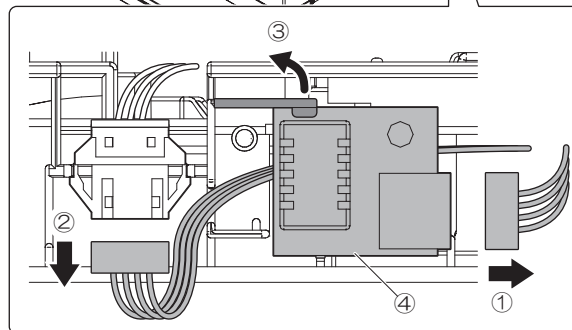
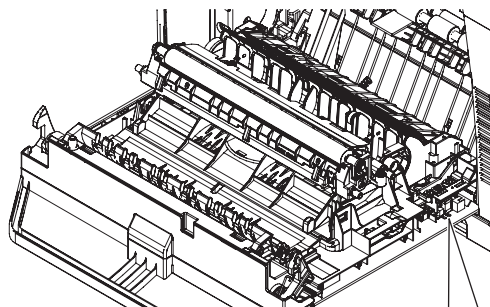
- 1) Open the right door unit.
- 2) Remove the band from the guide.



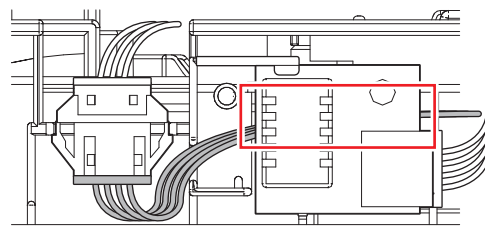
- 3) Remove the cover.



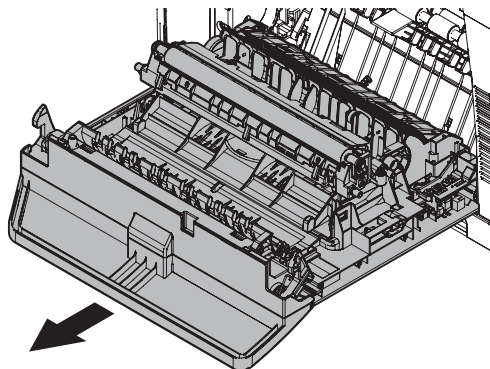
- 4) Disconnect the connector and the harness.



Pass the harness through therear side of the sensor PWB when attaching.

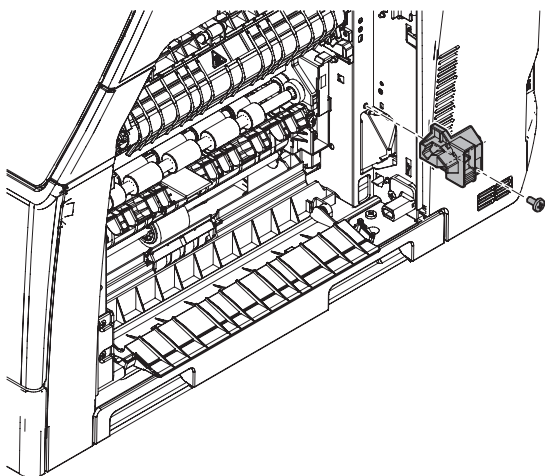


- 5) Remove the right door unit.

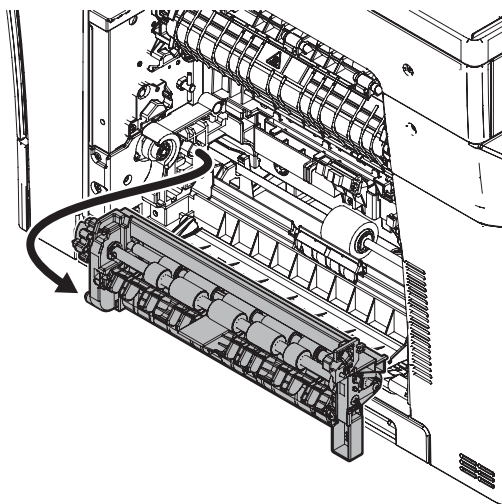
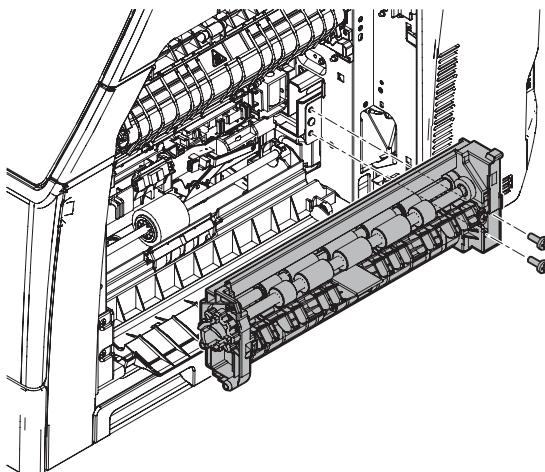


(2) PS unit

- 1) Open the right door unit.
- 2) Remove the screw and remove 2nd transfer positioning holder lower R.

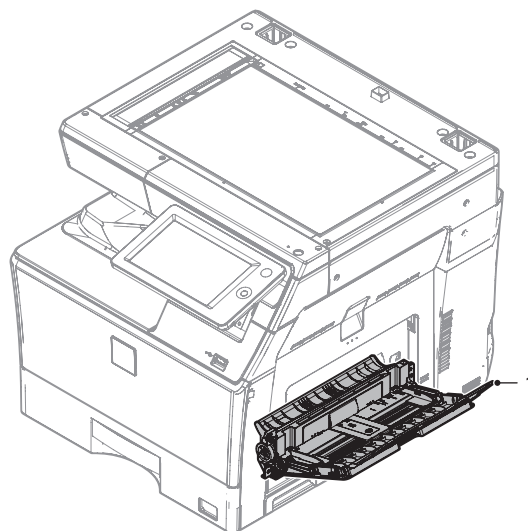


- 3) Remove the screws and remove the PS unit.



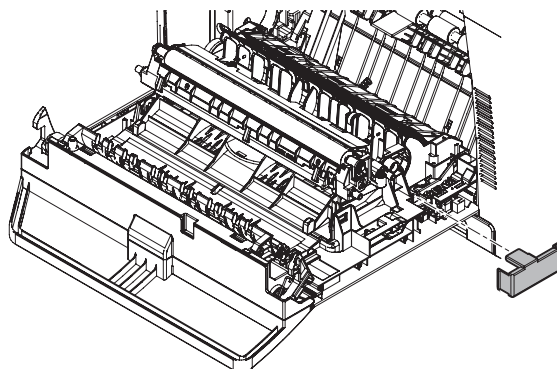
M. Manual paper feed unit

No.	Name
1	Manual paper feed unit

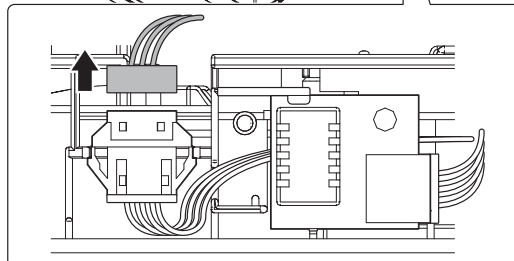
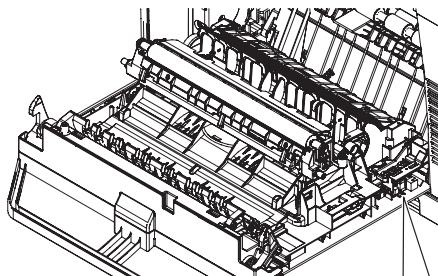


(1) Manual paper feed unit

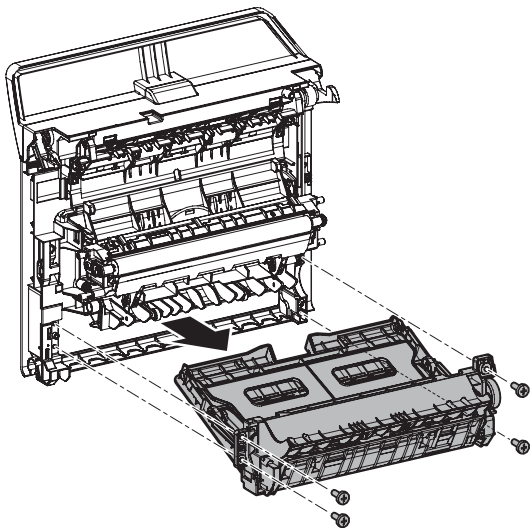
- 1) Open the right door unit.
- 2) Remove the cover.



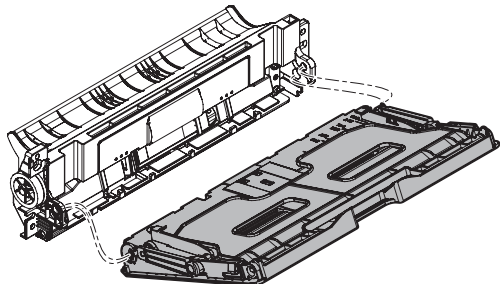
- 3) Disconnect the connector.



4) Remove the screw and remove the manual paper feed unit.

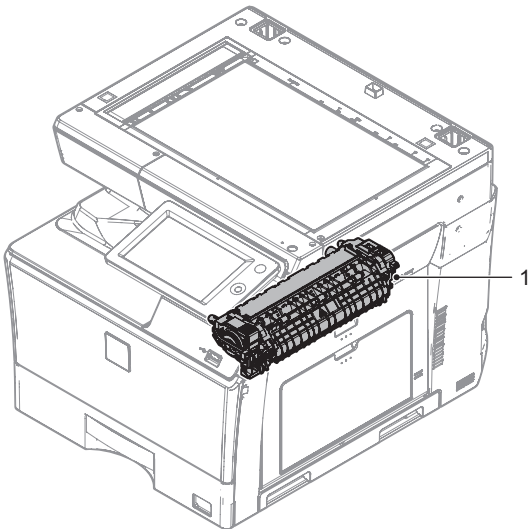


5) Remove the connecting parts of the manual paper feed tray and remove it.



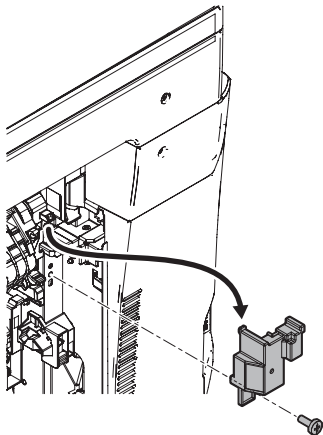
N. Fusing unit

No.	Name
1	Fusing unit



(1) Fusing unit

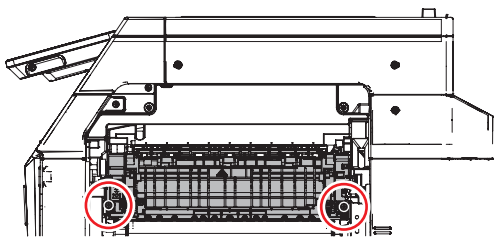
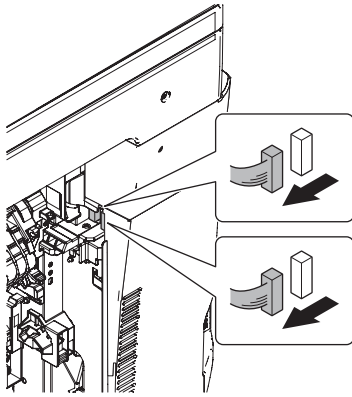
- 1) Open the right door unit.
- 2) Remove the screw and remove the connector cover.



- 3) Disconnect the connector and remove the screw, remove the fusing unit.

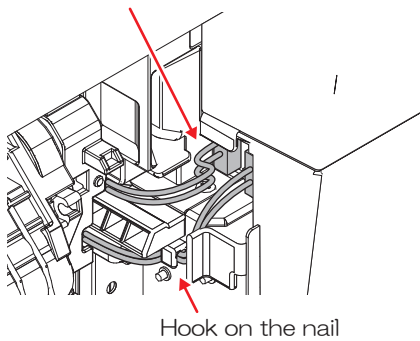
O. Second transfer unit

No.	Name
1	Second transfer unit

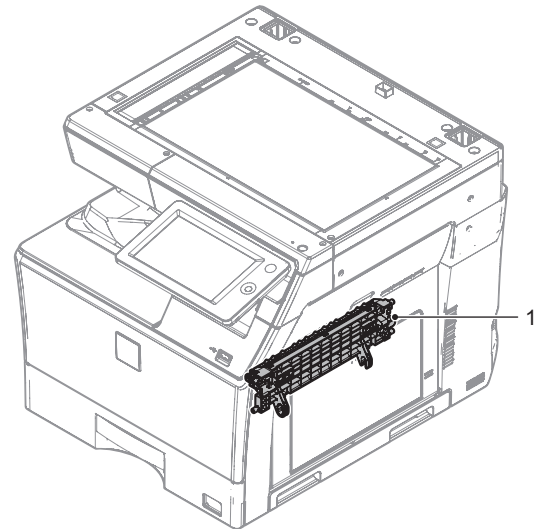


NOTE: When attaching the fusing unit, perform the following line processing.

Push in the harness sagging

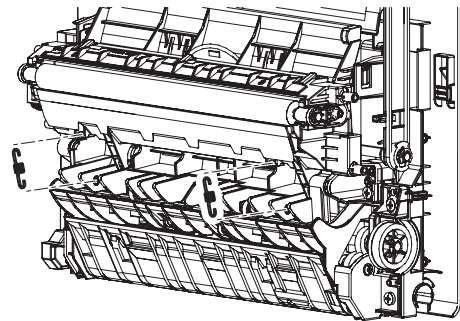


Hook on the nail

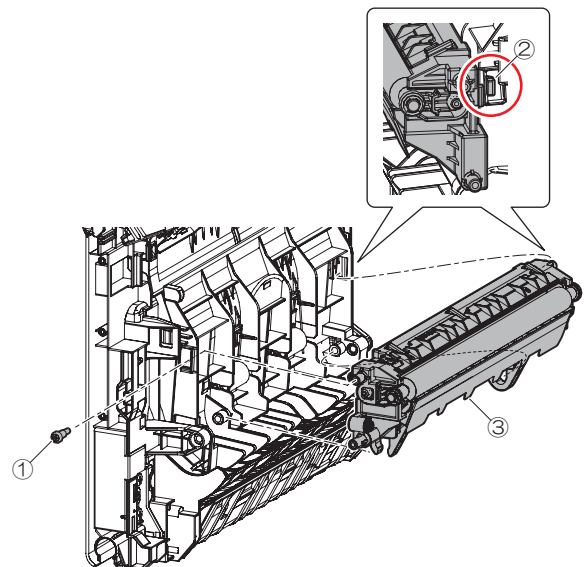


(1) Second transfer unit

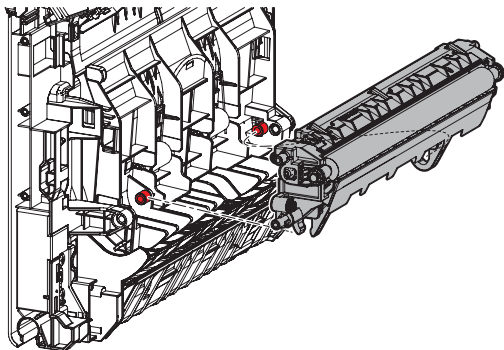
- 1) Open the right door.
- 2) Remove the springs.



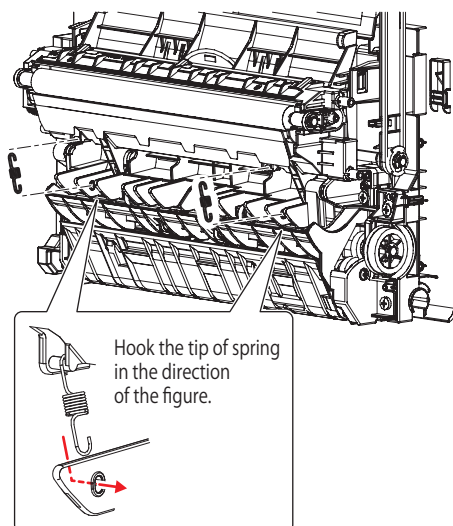
- 3) Remove the step screw at rear side, and push the tab at the front side, and remove the 2nd transfer unit.



When attaching the Second transfer unit, attach the unit to the positioning boss on the right door side.

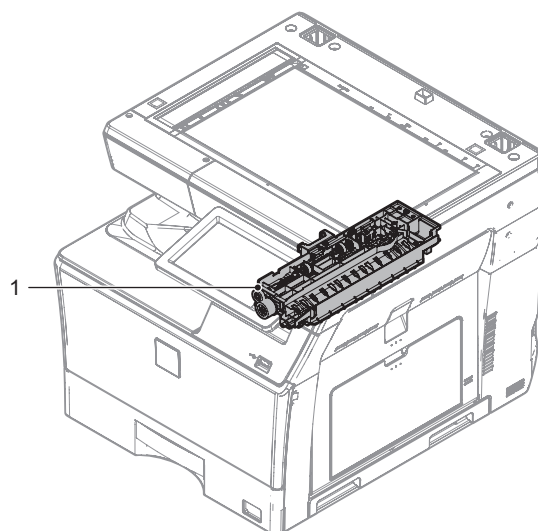


Be careful with the mounting direction of the spring when Attaching.



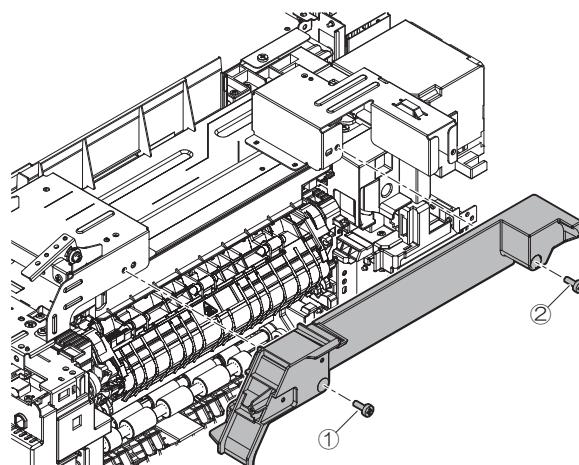
P. Paper exit unit

No.	Name
1	Paper exit unit

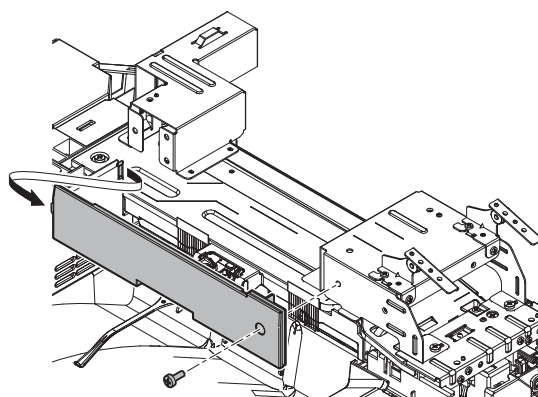


(1) Paper exit unit

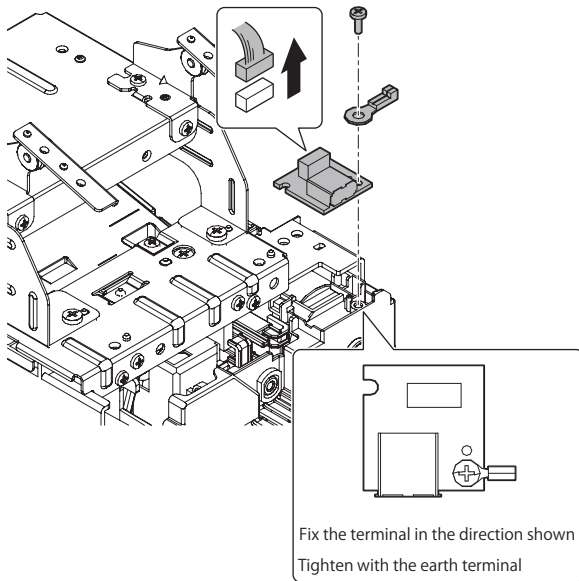
- 1) Remove the DSPF/RSPF.
- 2) Remove the Operation panel unit.
- 3) Remove the scanner unit.
- 4) Remove the screws and remove the paper exit upper cover.



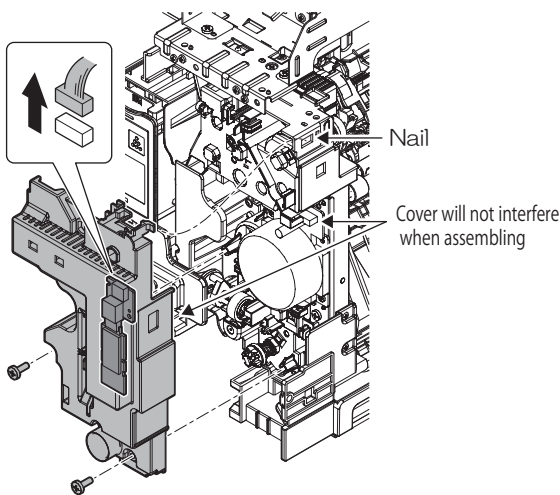
- 5) Remove the screw and remove the paper exit tray upper.



6) Remove the screw and remove the connector and the earth wire.



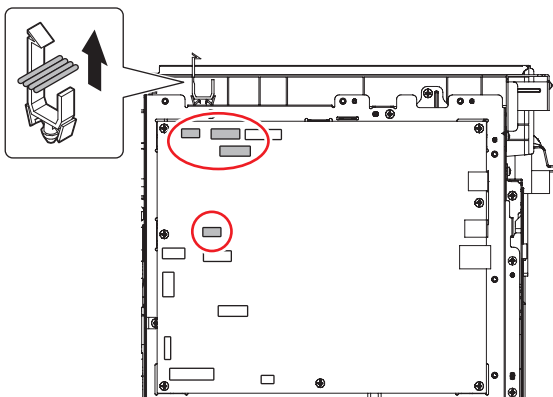
7) Remove the screws and remove the inner cover.
Remove the harness and disconnect the connector on the USB CN PWB.



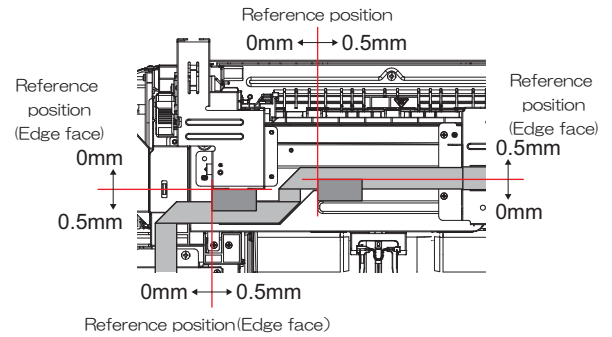
8) Remove the FAX unit.

9) Remove the MFPC PWB shield plate.

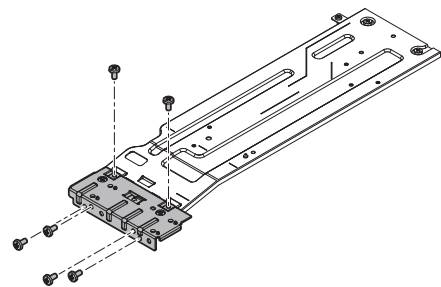
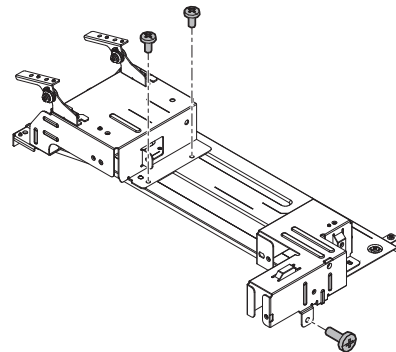
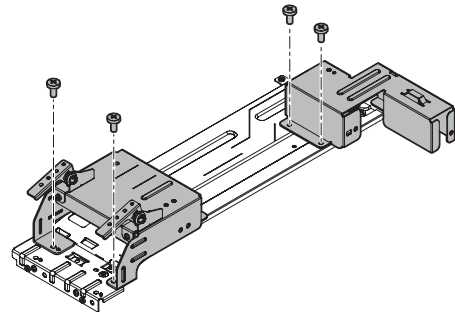
10) Disconnect the connector on the MFPC PWB and remove the harness from the clump.
Remove the FFC.



11) Peel off FFC fixing tape.



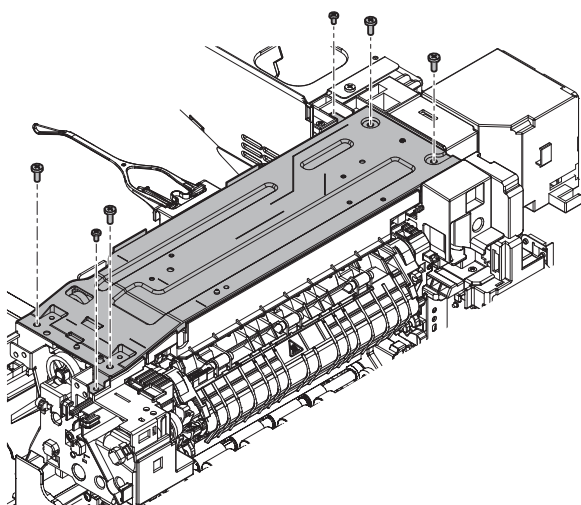
12) Remove the screws and remove the scanner right front plate and the scanner right rear plate and the operation panel reinforcement plate.



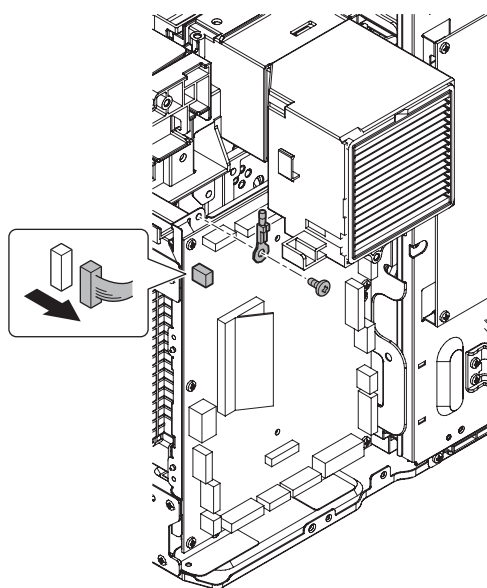
(With the harness attached)



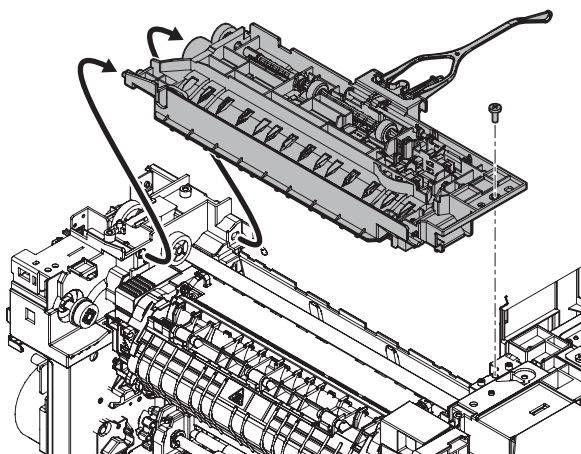
13) Remove the screws and remove the scanner stay.



14) Remove the screw and the earth terminal.
Disconnect the connector and the harness.

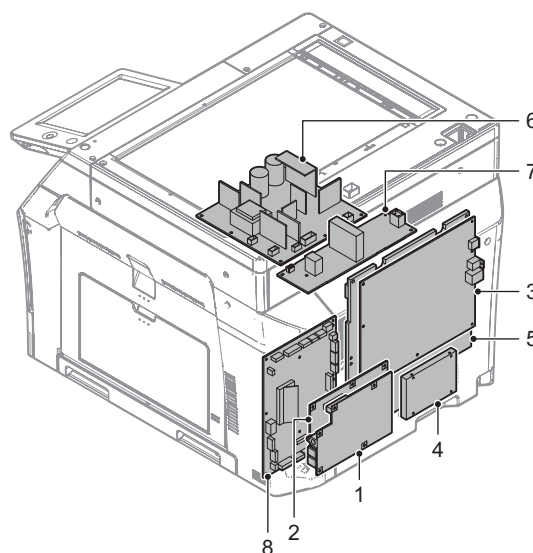


15) Remove the screw and the paper exit unit.
When assembling, insert the protrusion into the positioning hole (2 places).



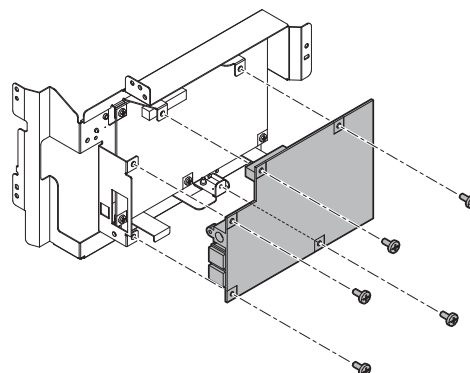
Q. PWB

No.	Name
1	LIU PWB
2	FAX main PWB
3	MFPC PWB
4	HDD
5	HV PWB
6	DC PWB
7	ACHL PWB
8	PCU PWB



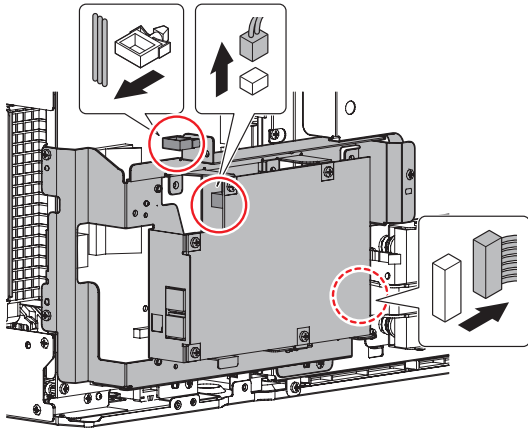
(1) LIU PWB

- 1) Remove the rear cabinet.
- 2) Remove the right cabinet rear upper.
- 3) Remove the right cabinet rear.
- 4) Remove the screws and remove the LIU PWB.

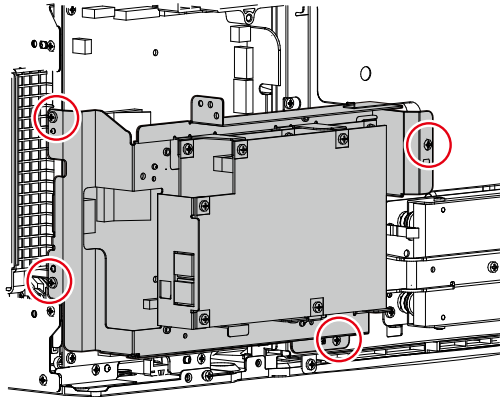


(2) FAX main PWB

- 1) Remove the harness from the clamp and disconnect the connector.

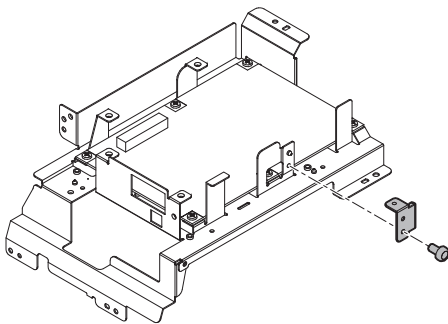


2) Remove the screws and remove the FAX unit.

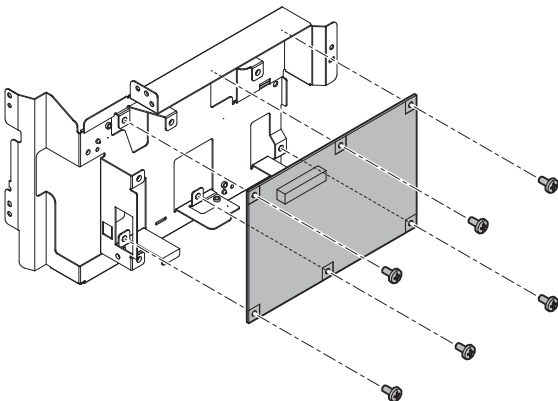


3) Remove the LIU PWB.

4) Remove the screw and remove the PWB mounting plate.

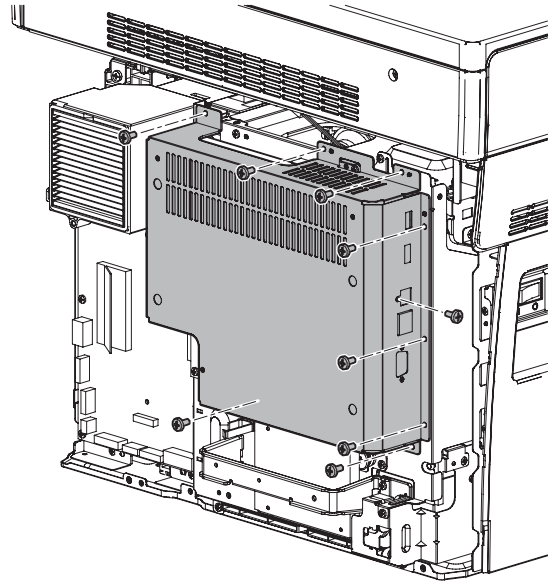


5) Remove the screws and remove the FAM main PWB.

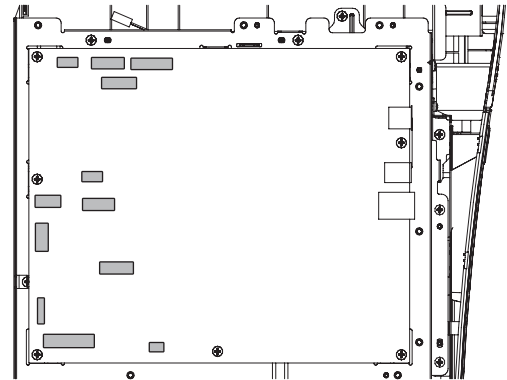


(3) MFPC PWB

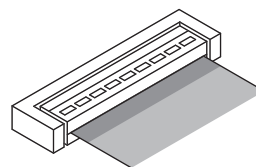
- 1) Remove the rear cabinet.
- 2) Remove the right cabinet rear upper.
- 3) Remove the right cabinet rear.
- 4) Remove the FAX unit.
- 5) Remove the screws and remove the MFPC PWB shield plate.



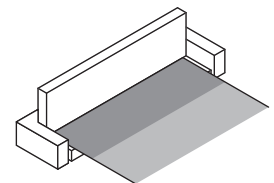
6) Disconnect the harness and the FFC.



When the connection part of the connector is lifted up, as shown in the figure, the connector is unlocked.



Locked state

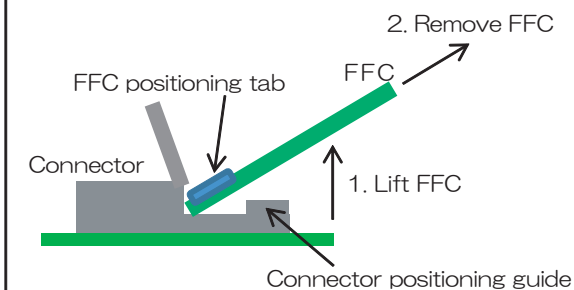


Unlocked state

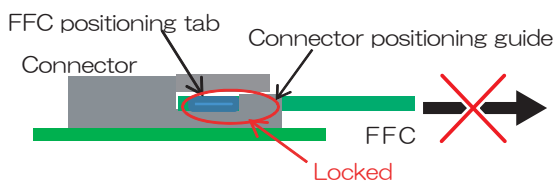
It is necessary to remove the FFC after the FFC is lifted up, pulled out obliquely upward and the tab is removed from the connection part.

If the FFC is forced to remove, the FFC and the connector could be broken.

OK : Remove FFC obliquely

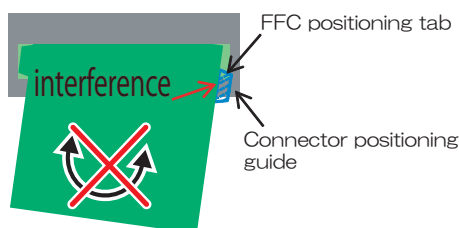


NG : Do not remove the FFC in the transverse

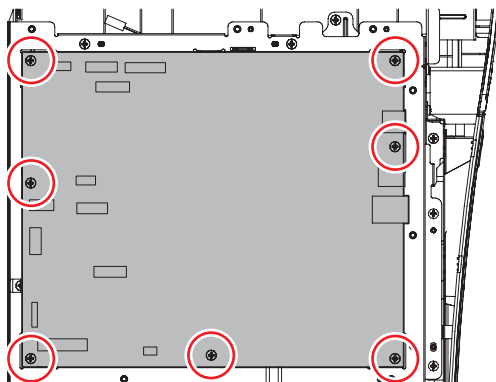


NG : Do not remove the FFC while rotating

<Top view>

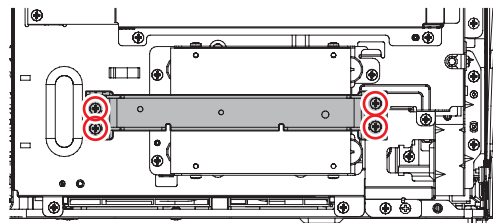


7) Remove the screws and remove the MFPC PWB.

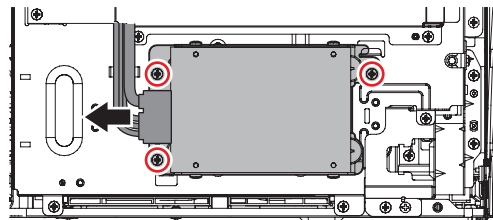


(4) HDD

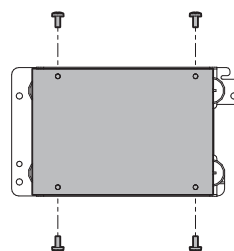
- 1) Remove the rear cabinet.
- 2) Remove the right cabinet rear upper.
- 3) Remove the right cabinet rear.
- 4) Remove the FAX unit.
- 5) Remove the screws and remove the Rear cabinet reinforce plate.



6) Disconnect the connector, remove the screws and remove the HDD unit.

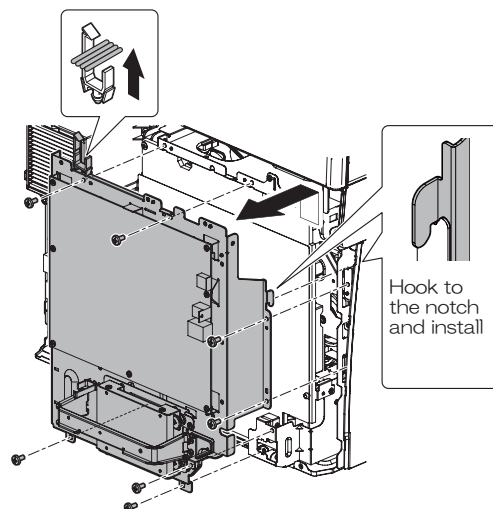


7) Remove the HDD from the HDD fixing plate.

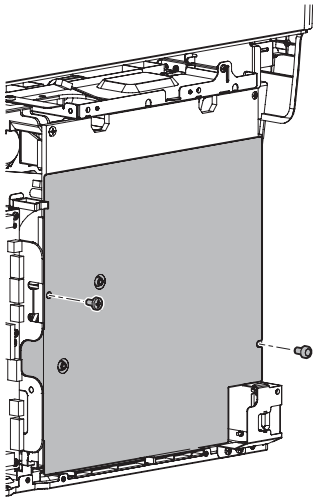


(5) HV PWB

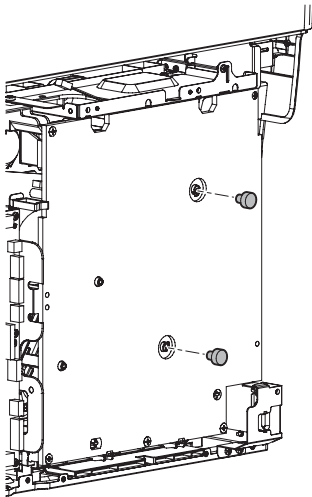
- 1) Remove the rear cabinet.
- 2) Remove the right cabinet rear upper.
- 3) Remove the right cabinet rear.
- 4) Remove the FAX unit.
- 5) Remove the screws and remove the MFPC PWB shield plate.
- 6) Disconnect the connector and the FFC.
- 7) Remove the screws and remove the MFPC PWB fixing plate.



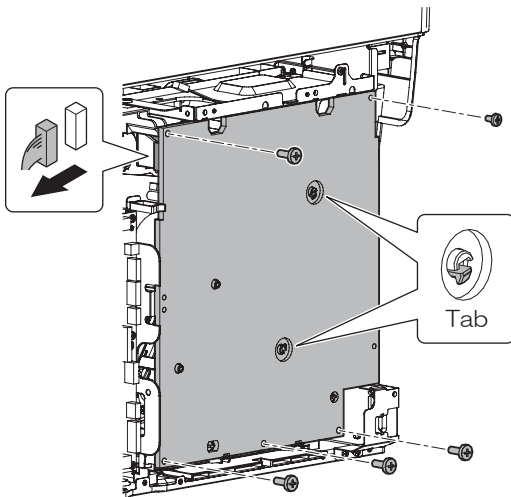
- 8) Remove the screws and remove the PWB protect sheet.



- 9) Remove the High voltage PWB fixer.

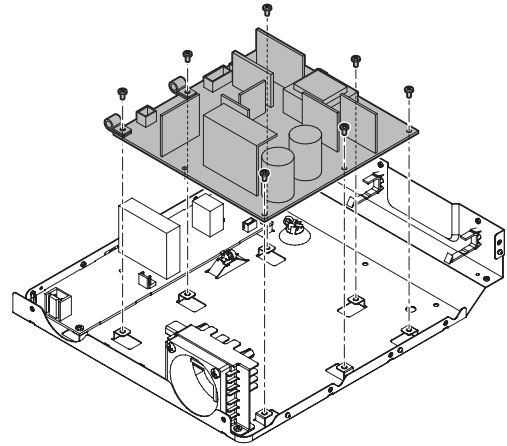


- 10) Remove the screws and disconnect the connector, remove the tabs (2 place) and remove the HV PWB.



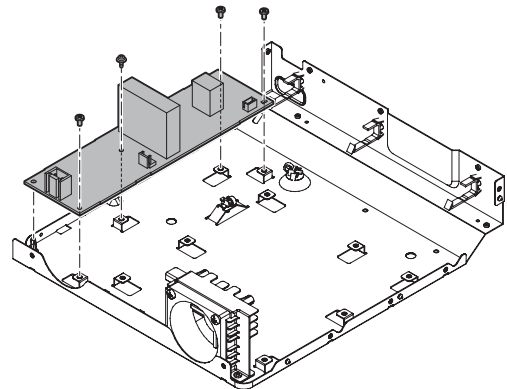
(6) DC power supply unit

- 1) Pull out the paper tray.
- 2) Open the front cabinet.
- 3) Remove the left cabinet.
- 4) Remove the paper exit tray.
- 5) Disconnect the harness and connector, remove the screws and remove the DS power supply unit.



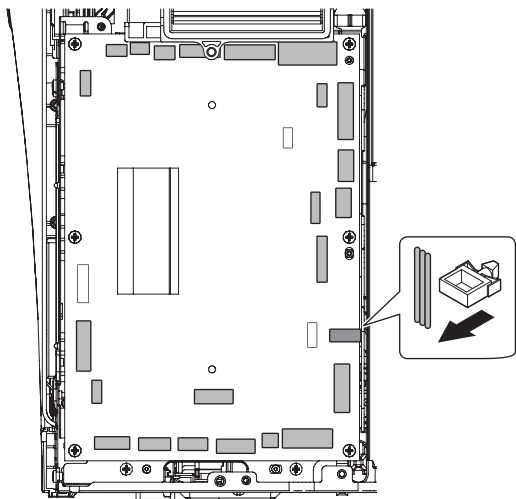
(7) ACHL PWB

- 1) Disconnect the harness and the connector, remove the screws and remove the ACHL PWB.

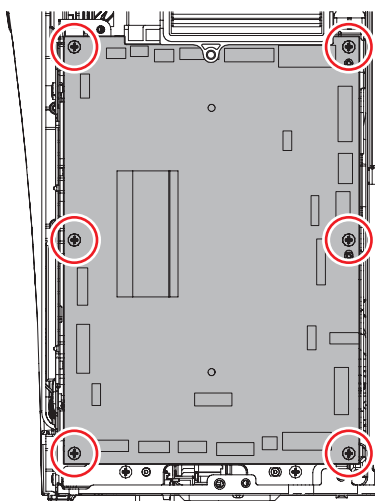


(8) PCU PWB

- 1) Remove the rear cabinet.
- 2) Remove the right cabinet rear upper.
- 3) Remove the right cabinet rear.
- 4) Remove the FAX unit.
- 5) Disconnect the connector and remove the harness from the clamp.



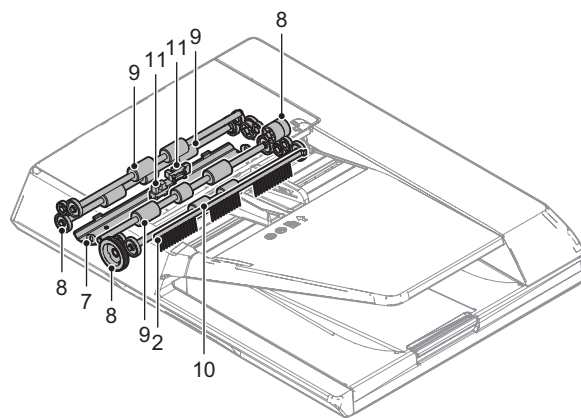
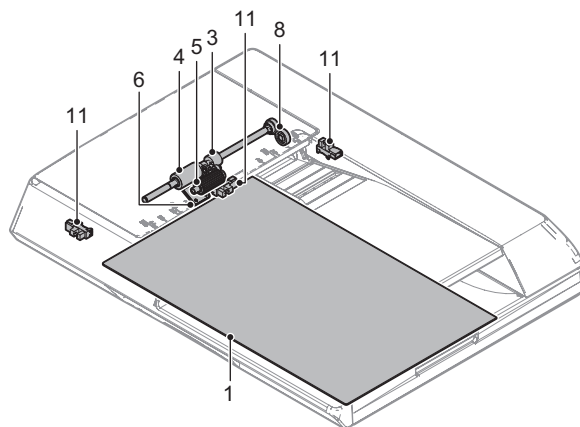
- 6) Remove the screws and remove the PCU PWB.



2. Disassembly and assembly of each unit

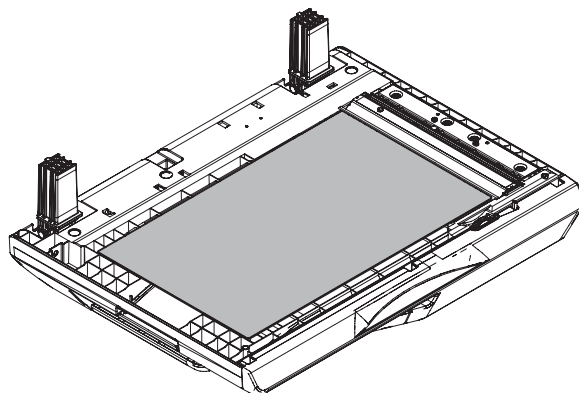
A. RSPF unit

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	Transport rollers
10	Paper exit roller
11	Sensors



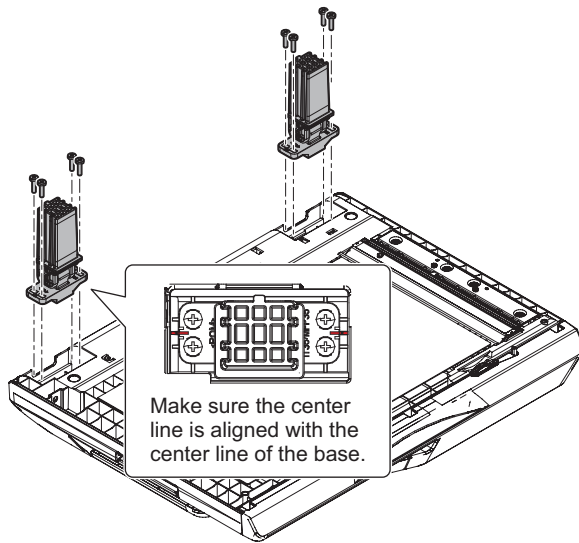
(1) OC mat

- 1) Clean the OC mat.

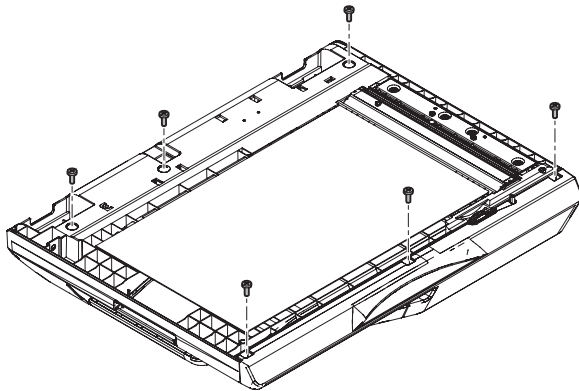


(2) Discharge brush

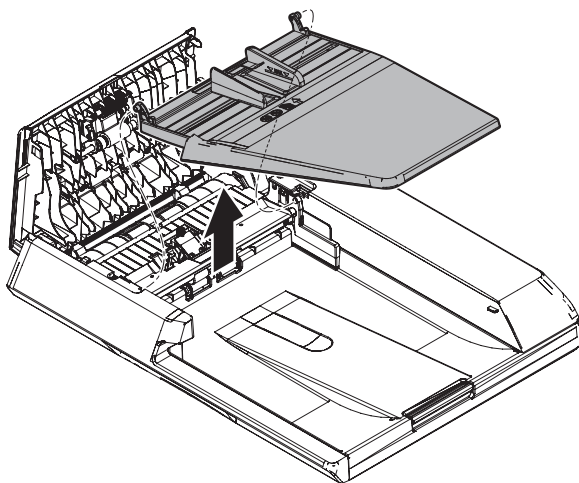
- 1) Remove the hinge.



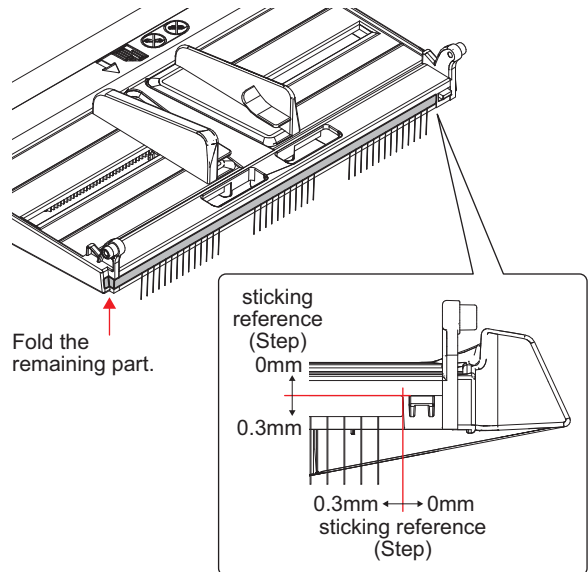
- 2) Remove the screw.



- 3) Open the upper cover and remove the document tray.

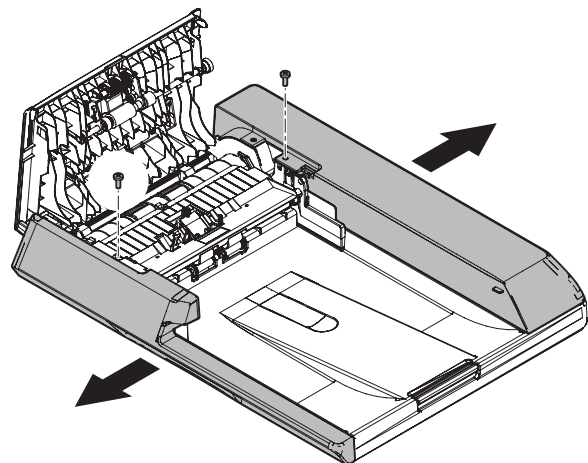


- 4) Remove the discharge brush.

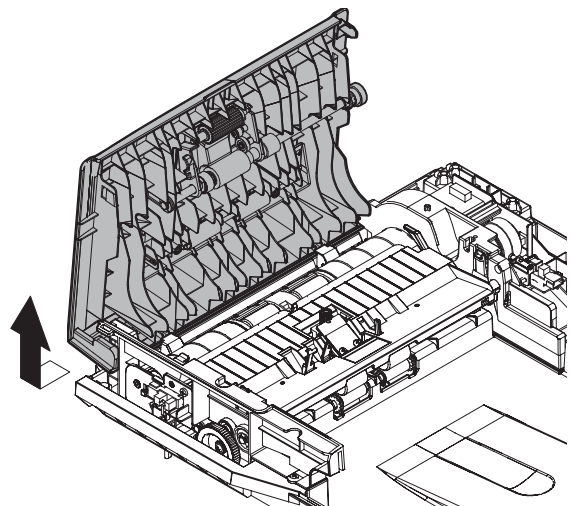


(3) Torque limiter (for pickup)

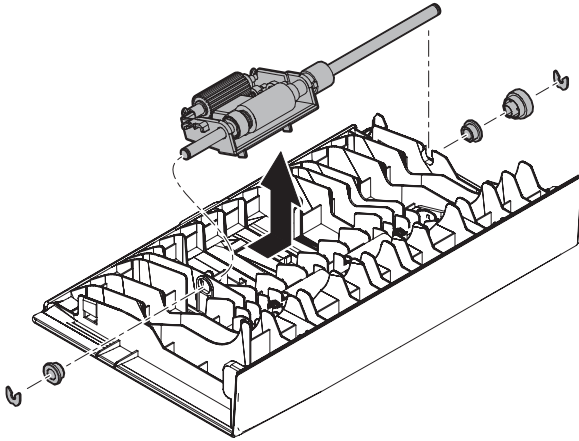
- 1) Remove the front cabinet and rear cabinet.



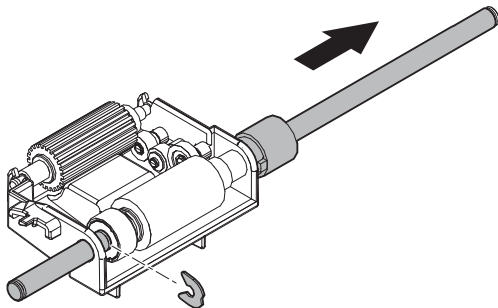
- 2) Remove the upper cover.



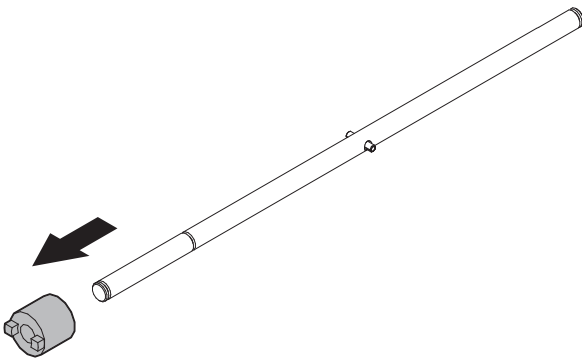
- 3) Remove the e-ring, the gear, the bearing and the pickup assembly.



- 4) Remove the e-ring and the shaft.

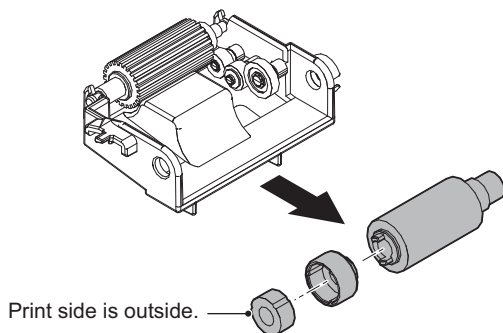


- 5) Remove the torque limiter (for pickup).



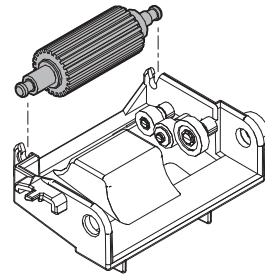
(4) Paper feed roller

- 1) Remove the flywheel and the paper feed roller.

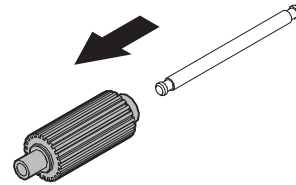


(5) Paper pickup roller

- 1) Remove the paper pickup roller assembly.

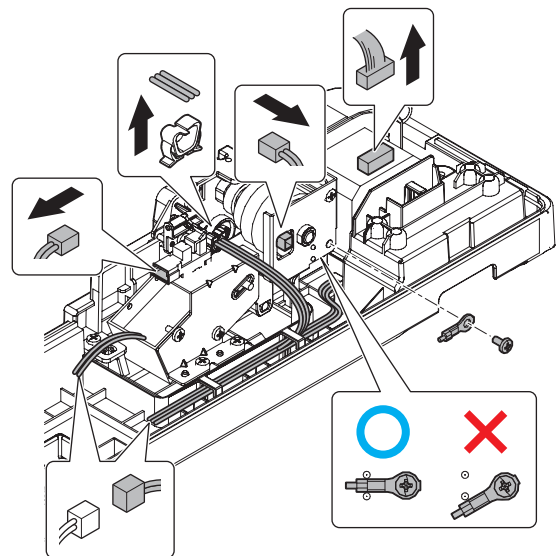


- 2) Remove the paper pickup roller.

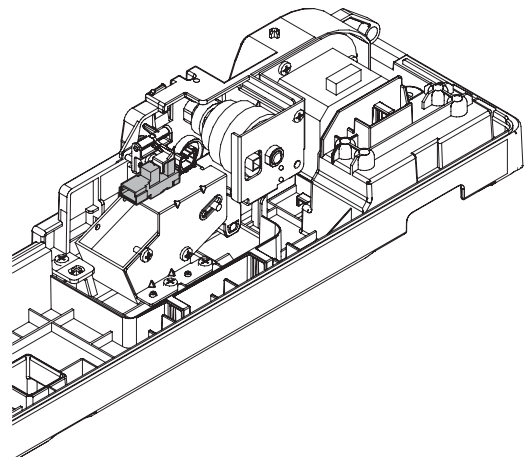


(6) Separation sheet

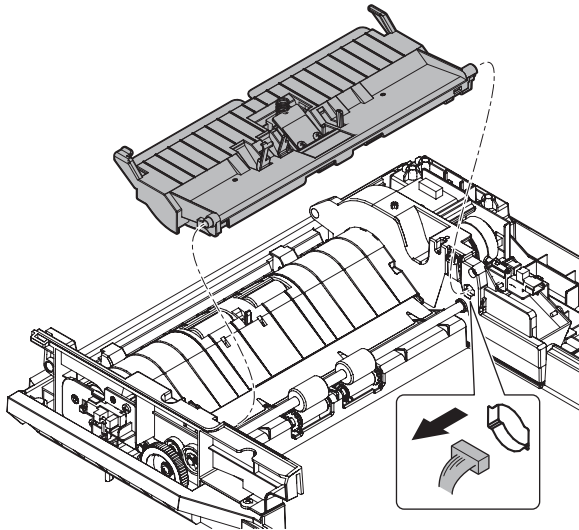
- 1) Disconnect connector and ground wire.



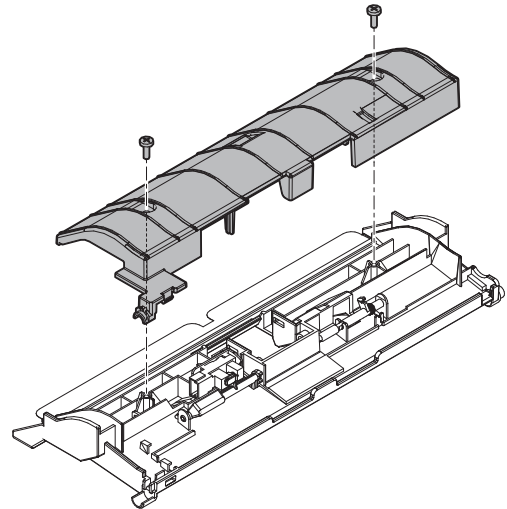
- 2) Check the sensor.



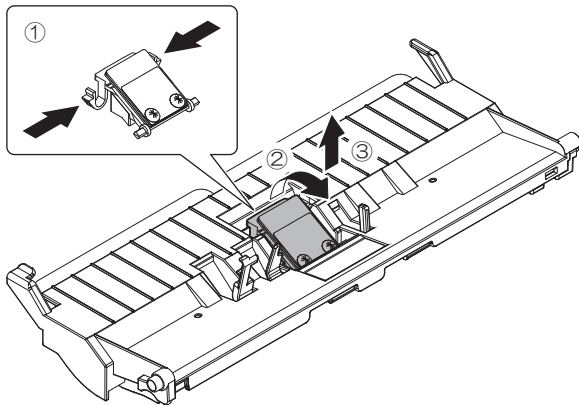
3) Remove the front module.



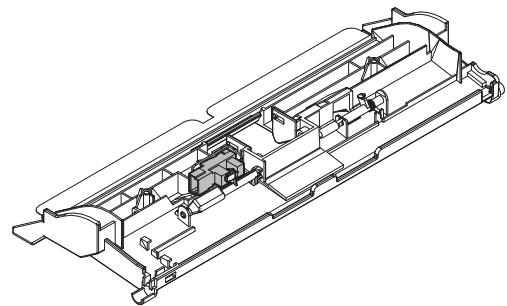
6) Remove the front cover.



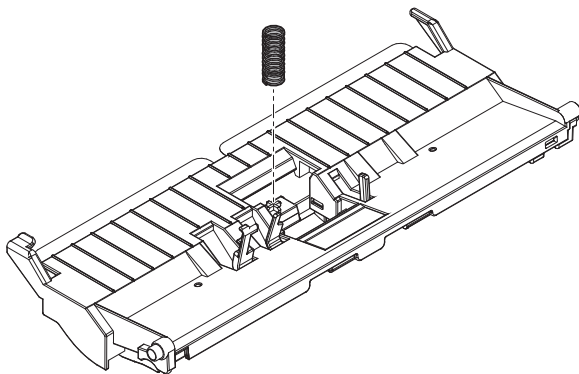
4) Remove the pad assembly.



7) Check the sensor.

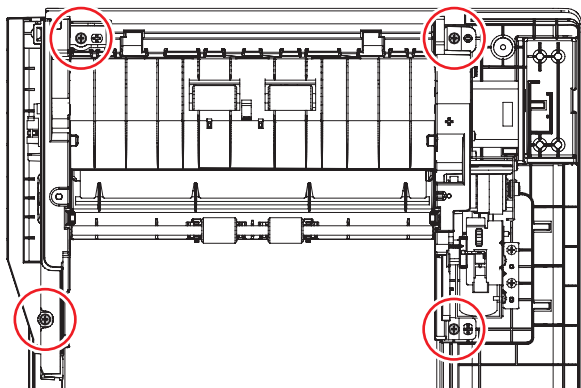


5) Remove the spring.

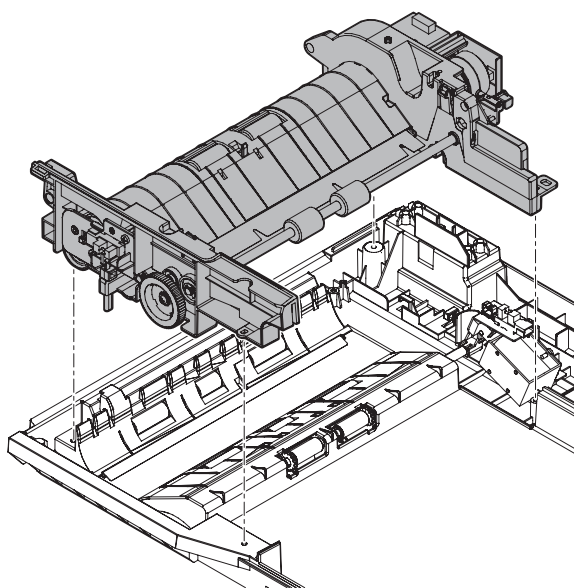


(7) Scan plate

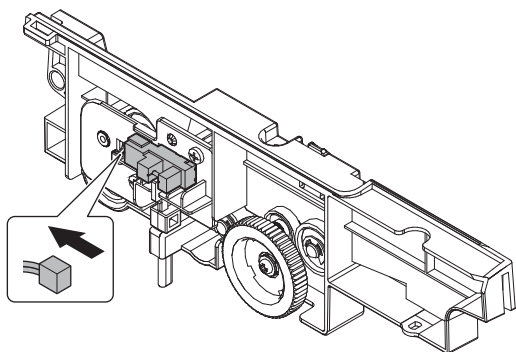
- 1) Remove the screw.



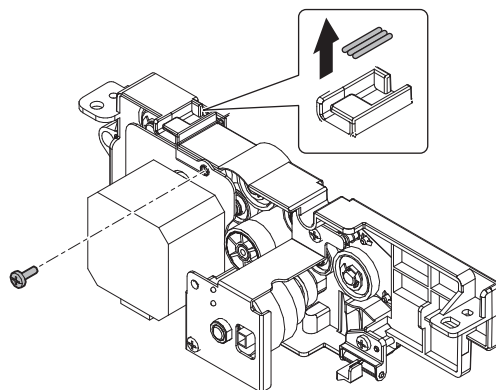
- 2) Remove the frame assembly.



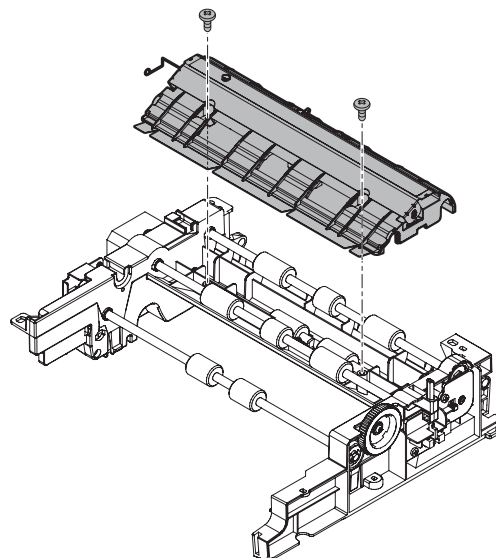
- 3) Disconnect the connector and check the sensor.



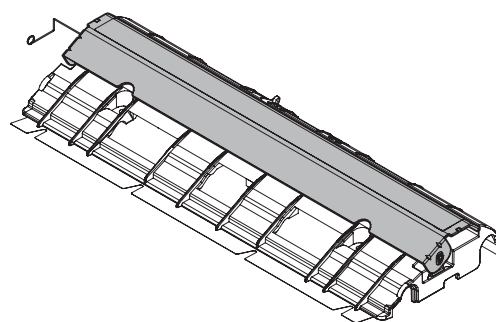
- 4) Remove the screw and remove the harness from the rib.



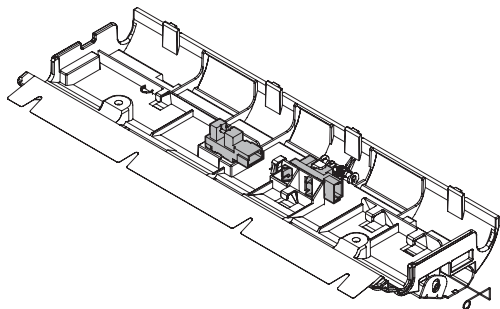
- 5) Remove the lower module.



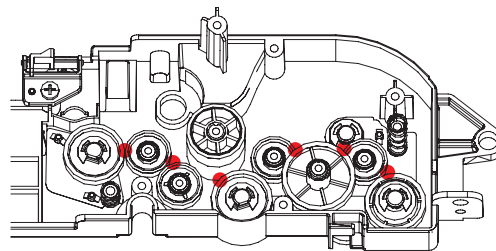
- 6) Clean the scan plate.



7) Check the sensor.



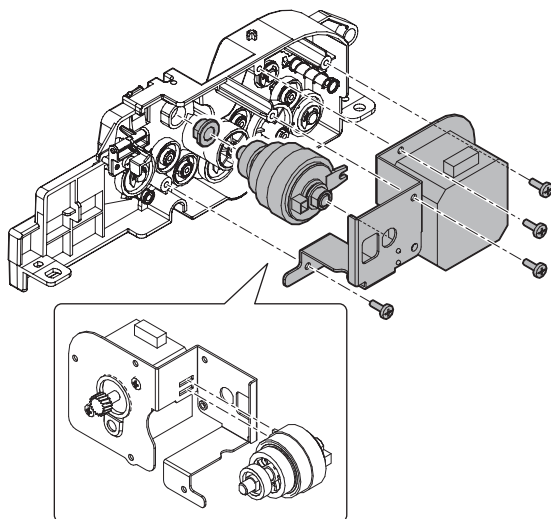
3) Apply grease to the specified position as needed.



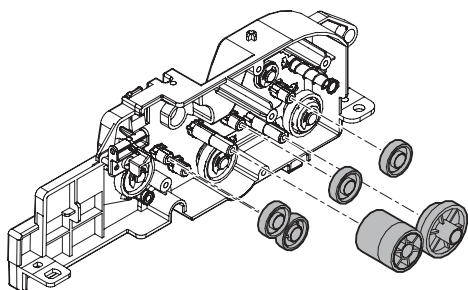
Grease
UKOG-0307FCZZ

(8) Gears

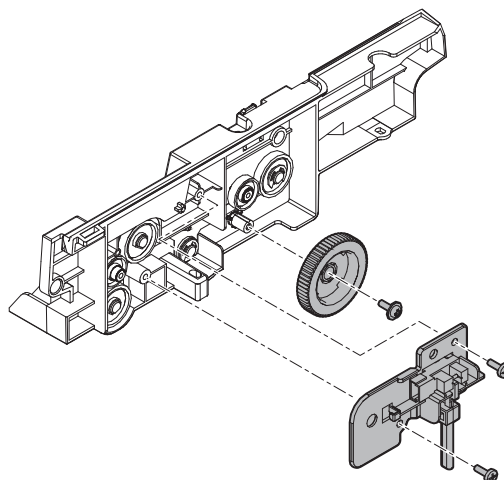
1) Remove the motor and clutch.



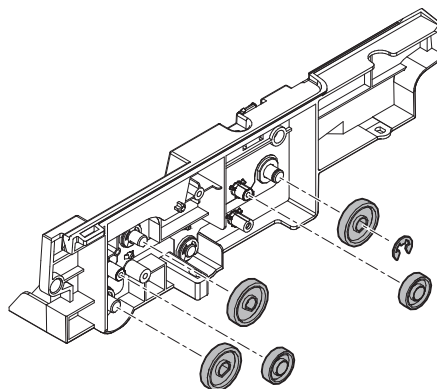
2) Remove the gear.



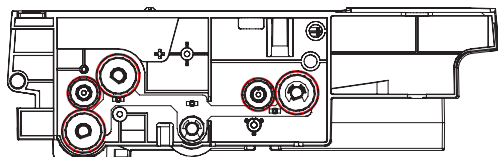
4) Remove the gear and the bracket.



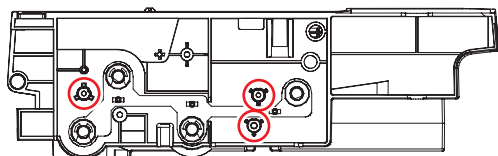
5) Remove the e-ring and the screw.



6) Apply grease to the specified position as needed.

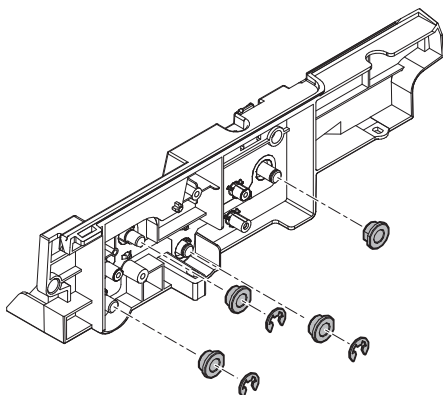


Grease
UKOG-0307FCZZ

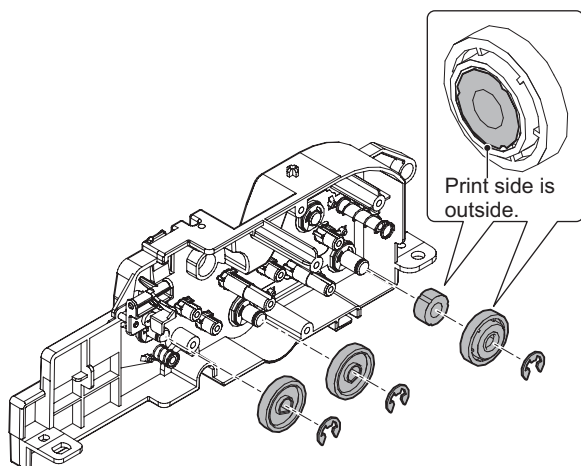


Grease
UKOG-0307FCZZ

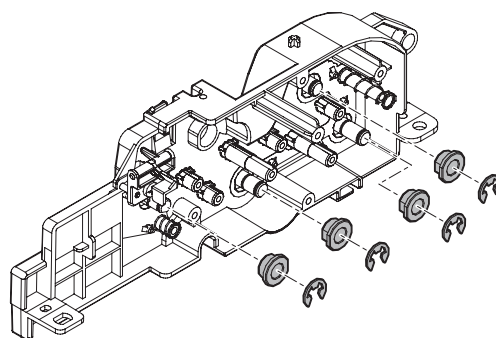
7) Remove the e-ring and bearing.



8) Remove the e-ring and the gear.



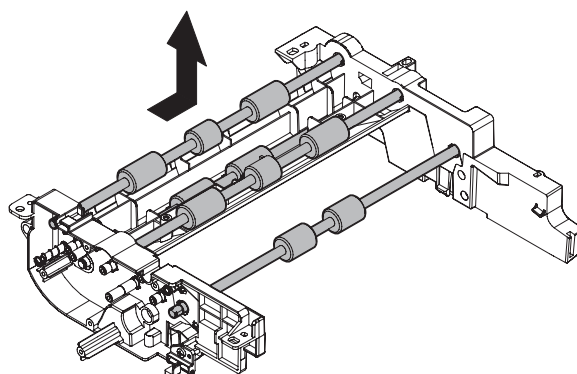
9) Remove the e-ring and bearing.



(9) Transport rollers

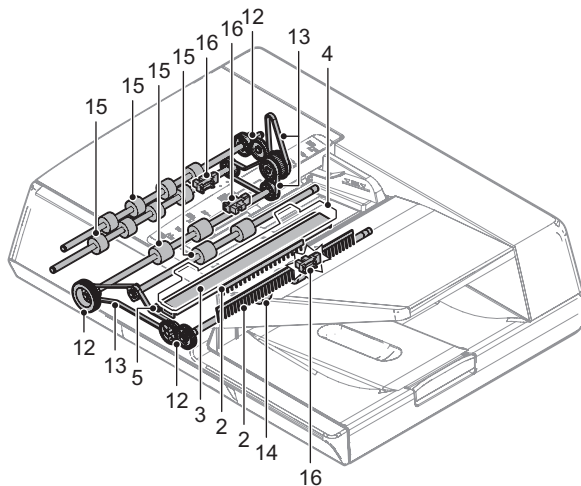
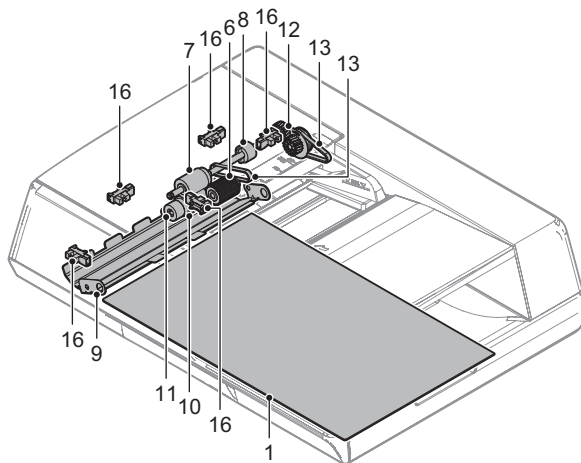
(10) Paper exit roller

1) Remove the transport rollers and the paper exit roller.



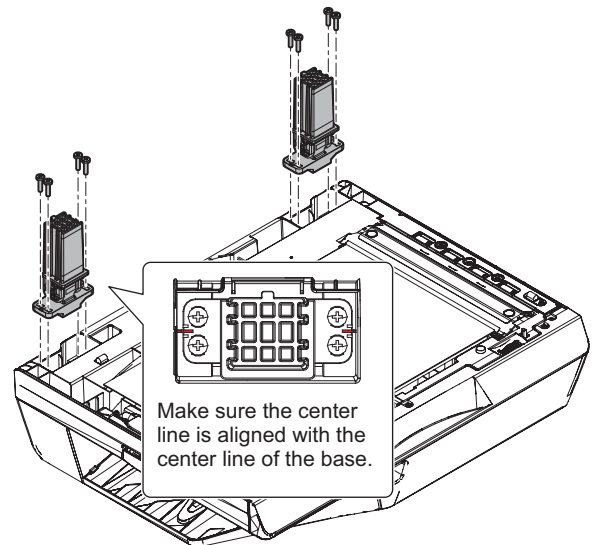
B. DSPF unit

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

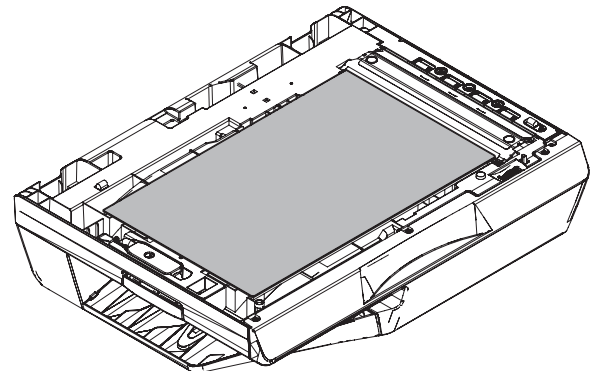


(1) OC mat

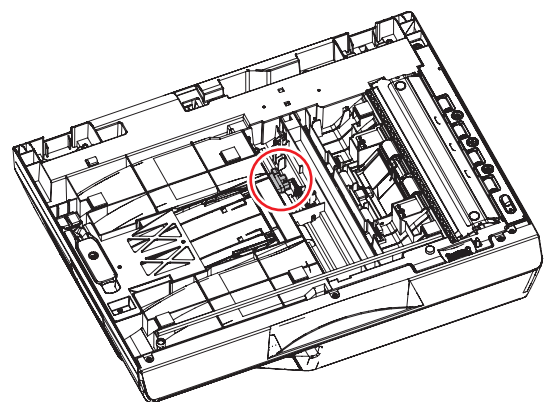
- 1) Remove the hinge assembly.



- 2) Clean the OC mat.

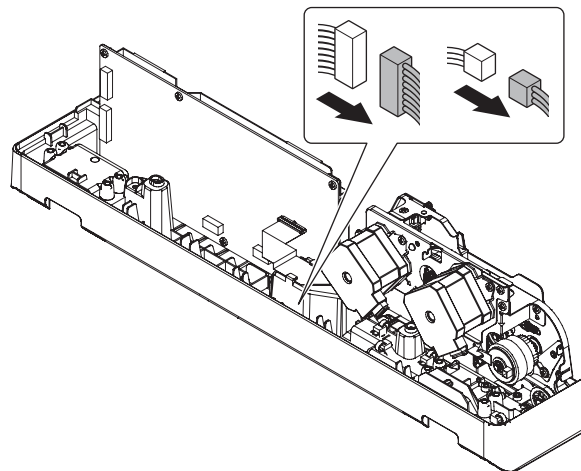
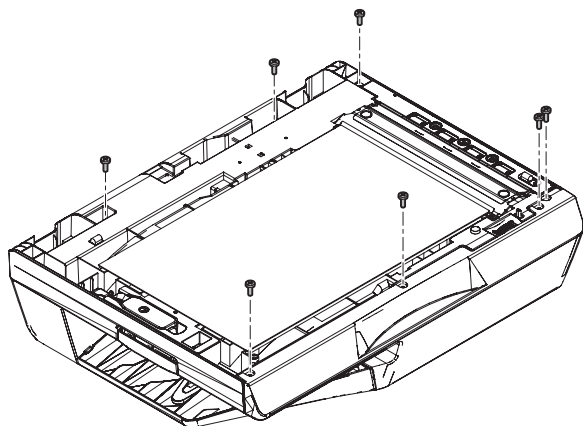


- 3) Remove the OC mat and check the sensor.

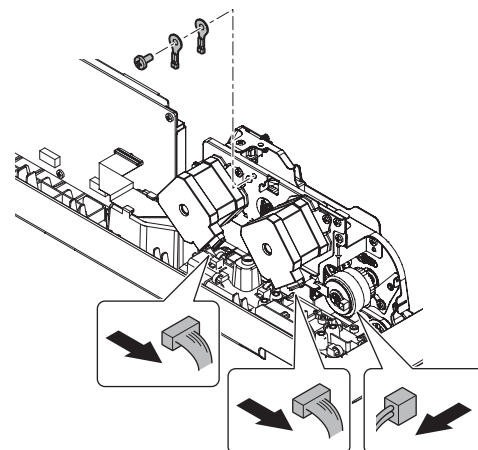
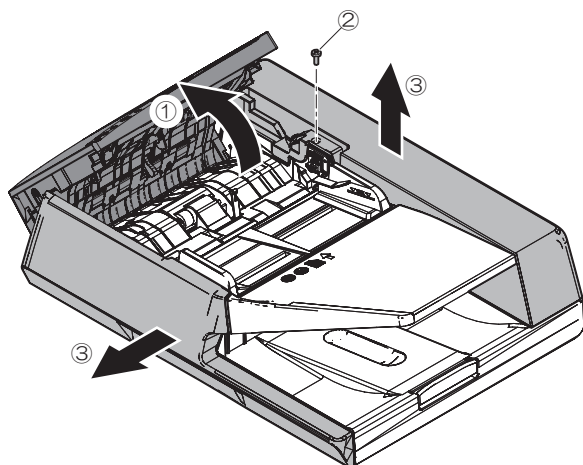


(2) Discharge brush

- 1) Remove the screws.

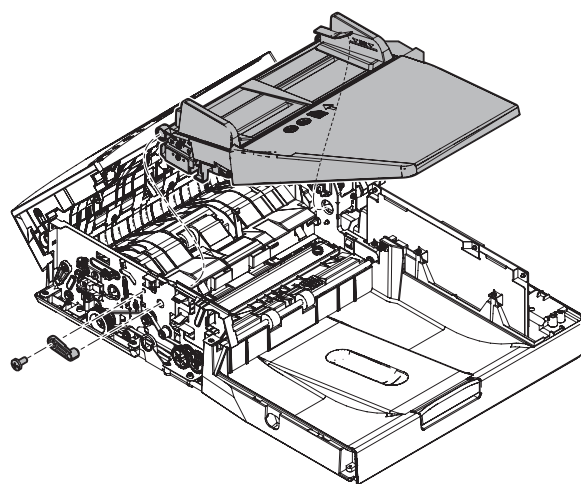
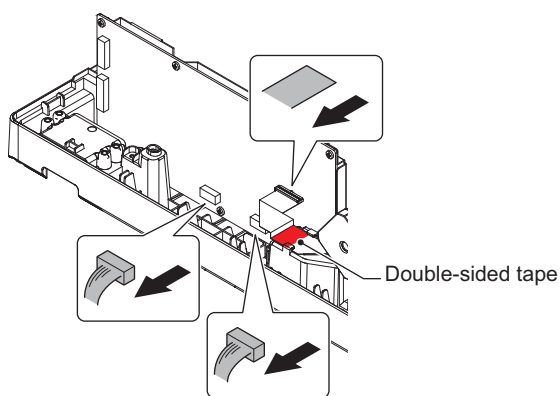


- 2) Open the top cover and remove the screw then, remove the right protection cabinet and the left protection cabinet.

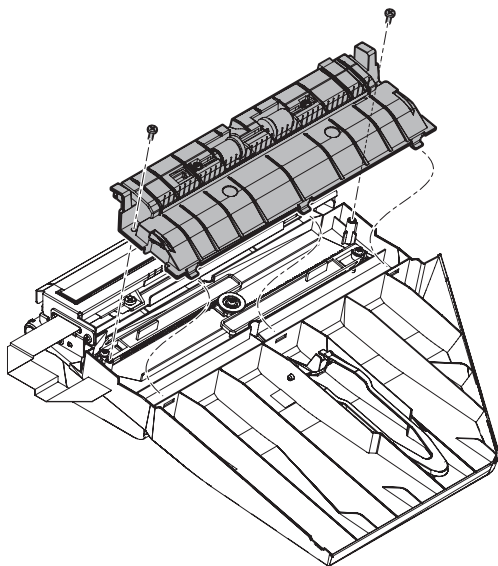


- 4) Remove the screw and the plastic hinge then, remove the input tray assembly.

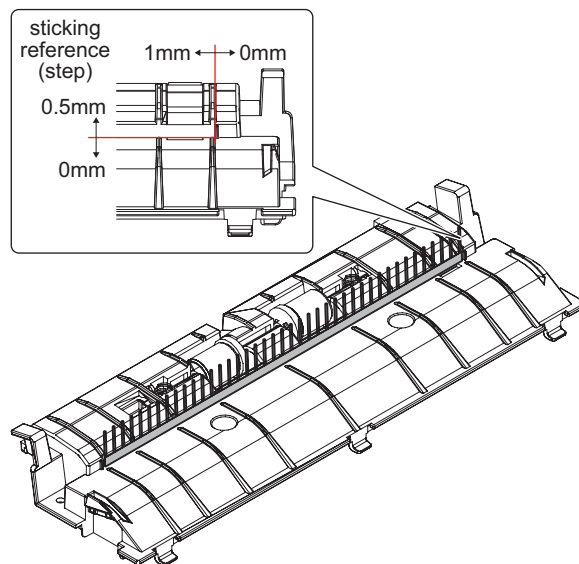
- 3) Disconnect the connector, the FFC and the ground wire.



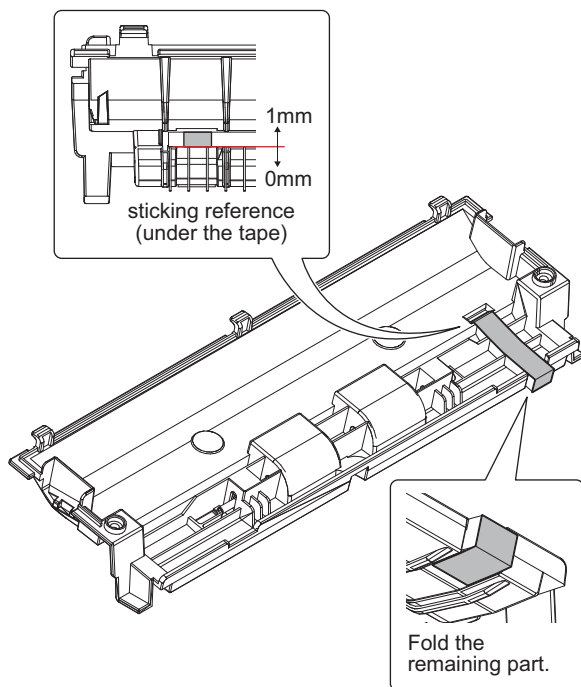
5) Remove the lower cover assembly.



7) Remove the discharge brush.

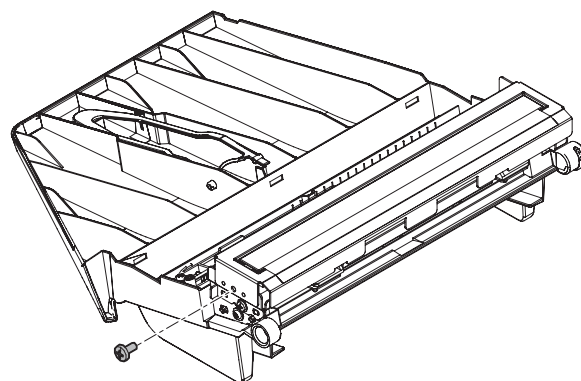


6) Remove the ground tape.

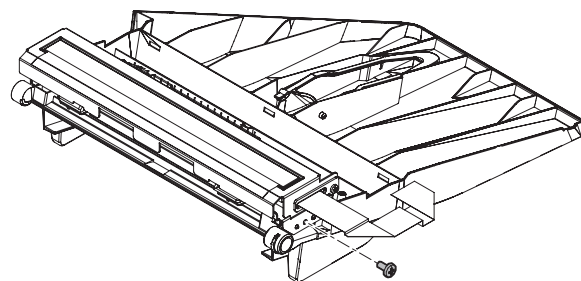


(3) No.2 scanning section, scanning glass

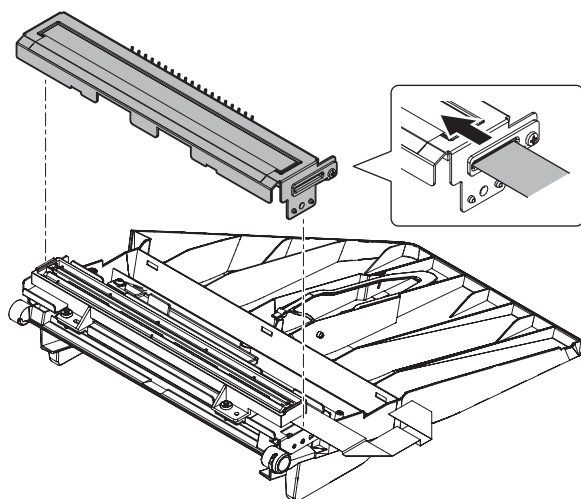
1) Remove the screw.



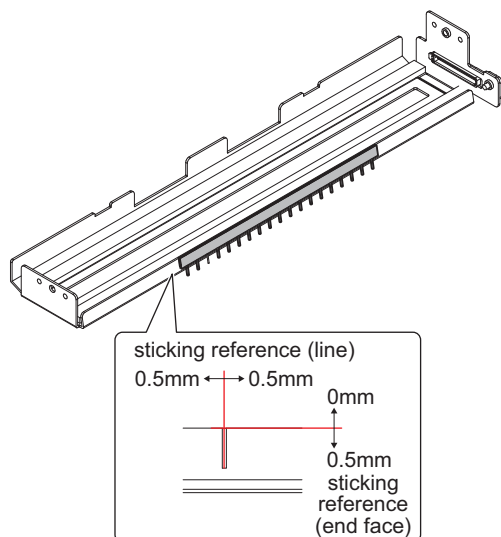
2) Remove the screw.



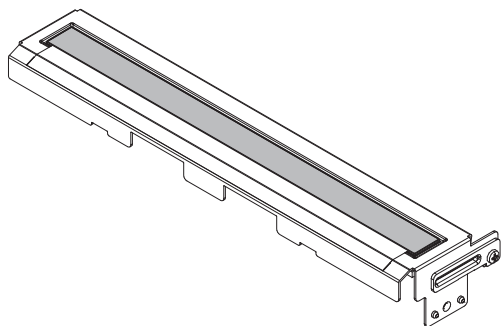
- 3) Remove the CIS paper guide.



- 4) Remove the discharge brush.

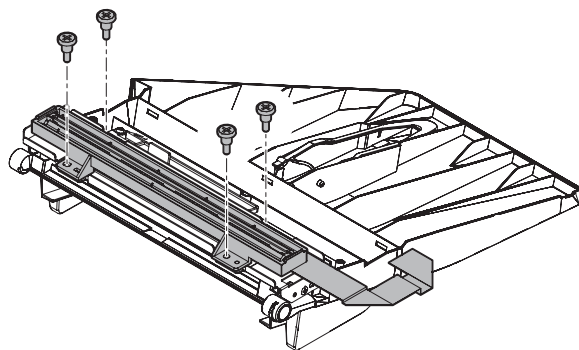


- 5) Clean the no.2 scanning section, scanning glass.

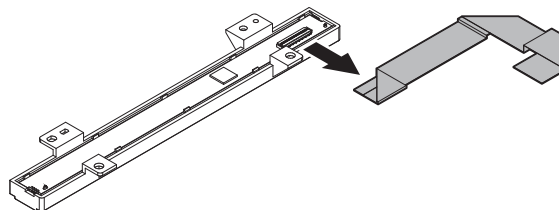


(4) CIS unit

- 1) Remove the CIS unit.

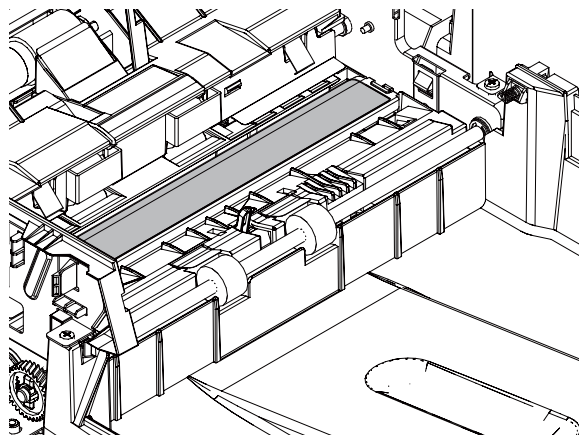


- 2) Remove the FFC.



(5) No.2 scanning section, white reference glass

- 1) Clean the no.2 scanning section, white reference glass.

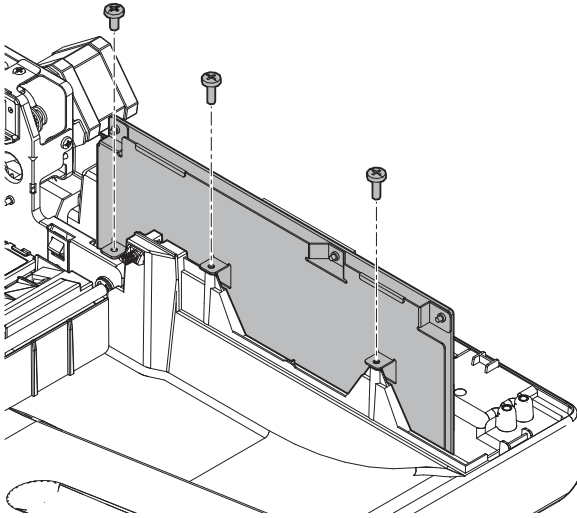


(6) Paper pickup roller

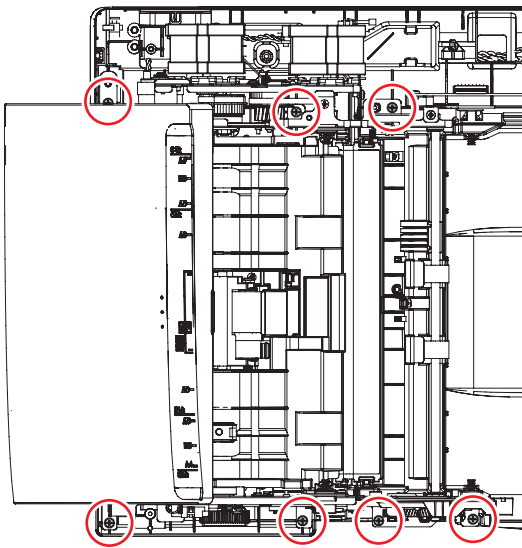
(7) Paper feed roller

(8) Torque limiter (for pickup)

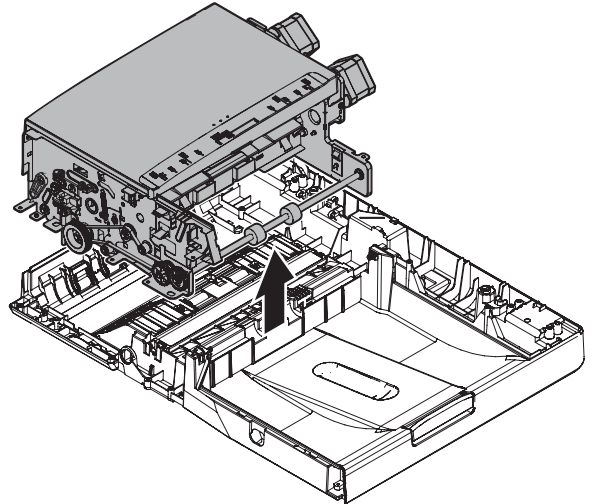
- 1) Remove the DSPF CNT PWB fix plate unit.



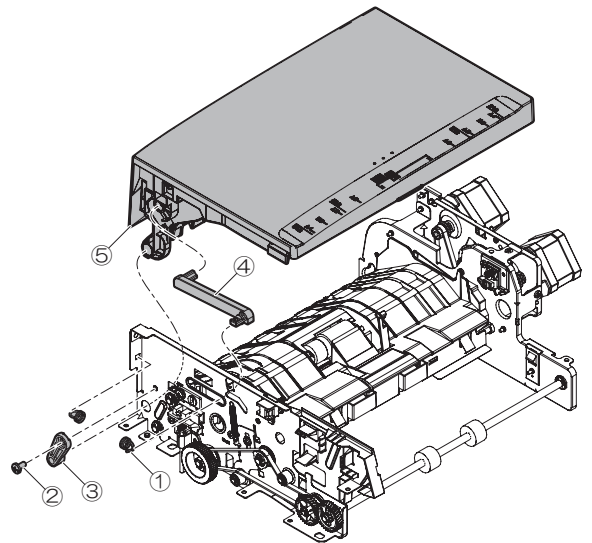
- 2) Remove the screws.



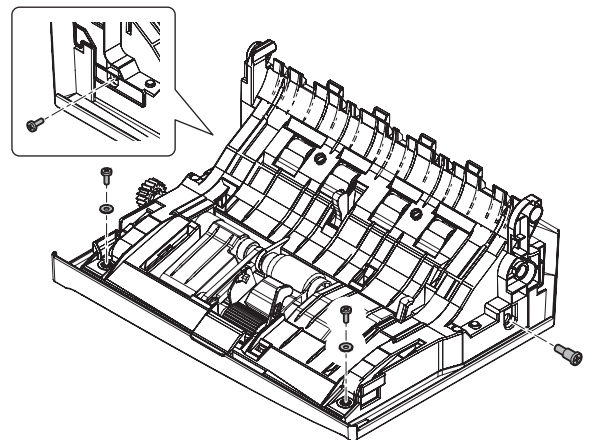
- 3) Remove the drive unit.



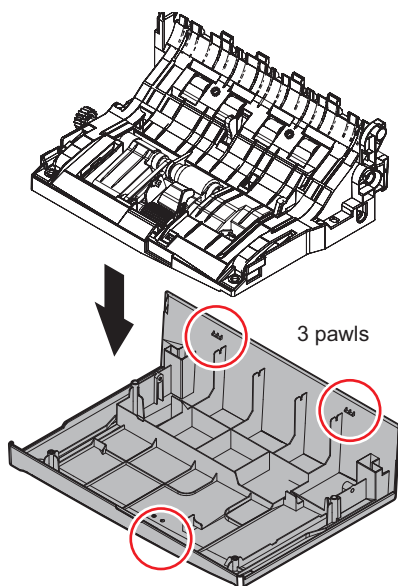
- 4) Remove the screw and the hinge then, remove the arm and the top cover assembly.



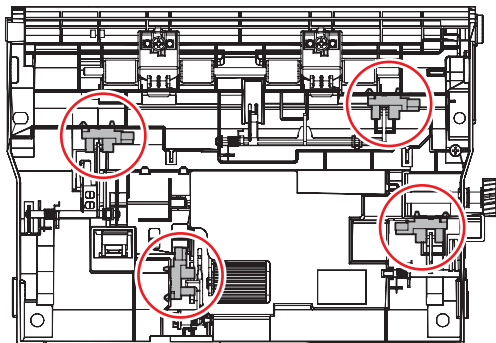
- 5) Remove the screws, the washers and the step screw.



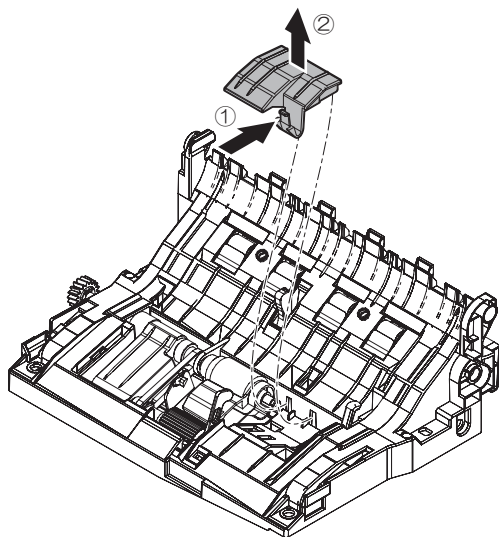
6) Remove the top cover.



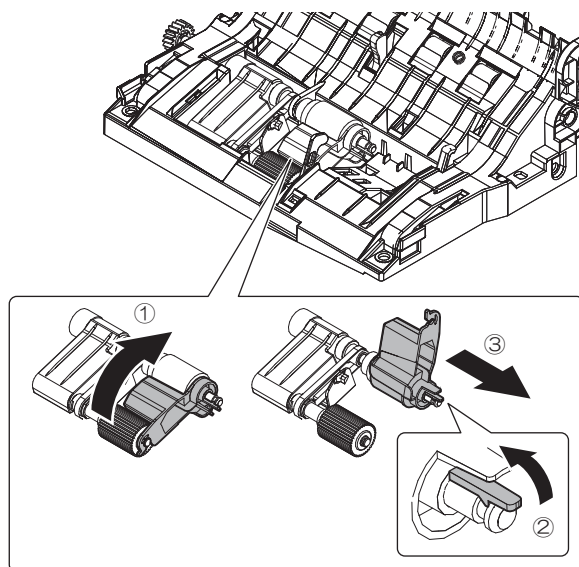
7) Check the sensors.



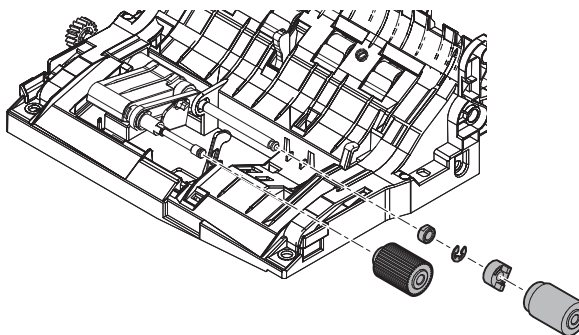
8) Remove the cover.



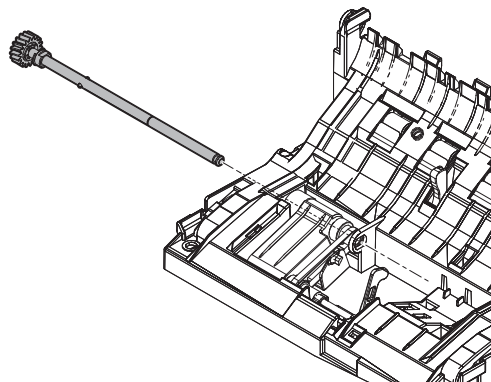
9) Remove the paper arm.



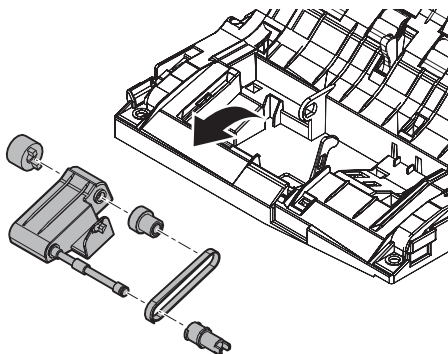
10) Remove the paper pickup roller, the paper feed roller, the 1 way coupling, the e-ring and the bearing.



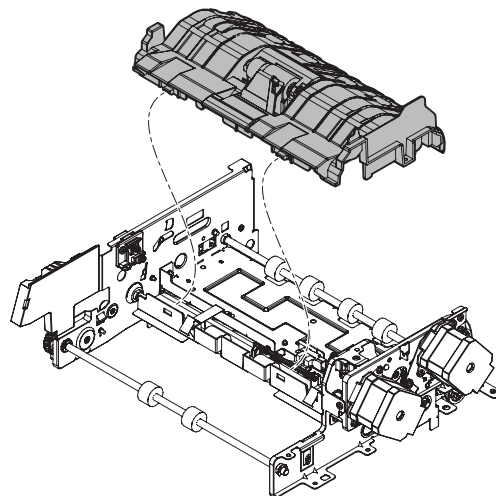
11) Remove the shaft assembly.



12) Remove the pulleys, the belt and the torque limiter (for pickup).

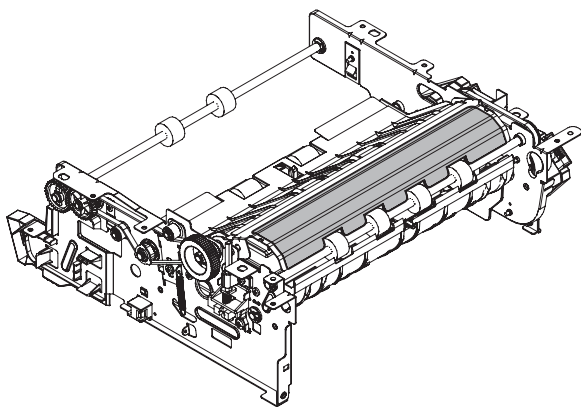


2) Remove the separation unit.

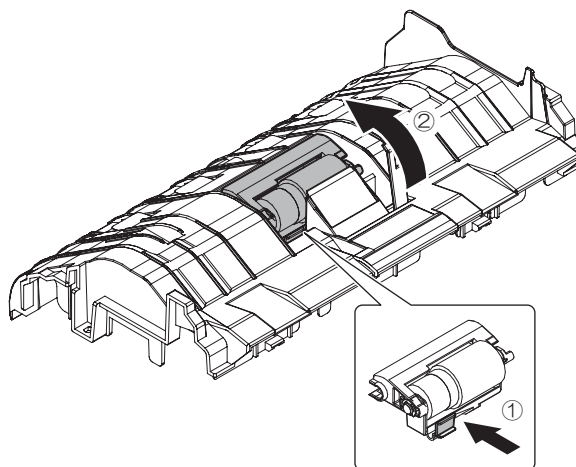


(9) No.1 scanning plate

1) Clean the no.1 scanning plate.



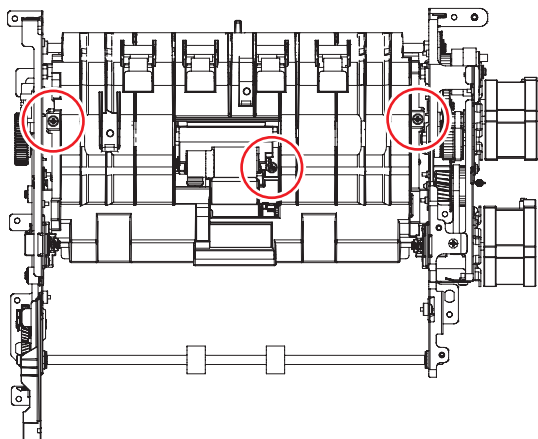
3) Rise the separator assembly.



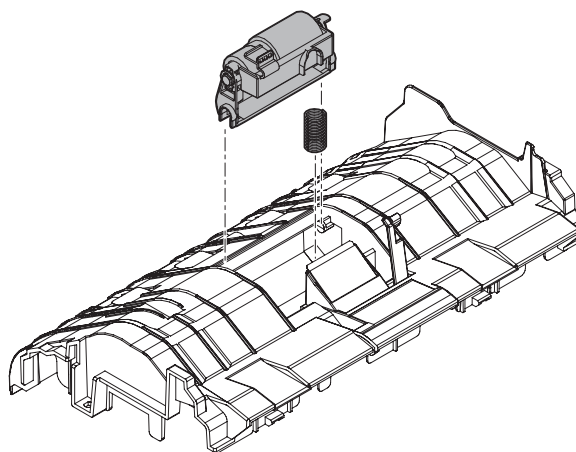
(10) Separation roller

(11) Torque limiter SPF (for separation)

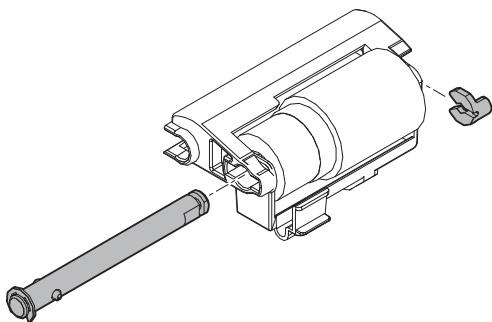
1) Remove the screws.



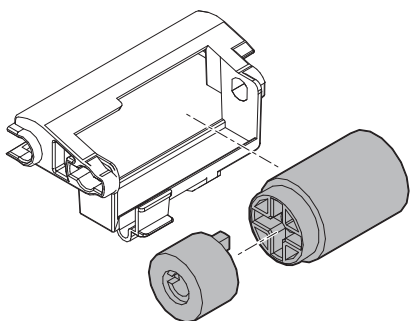
4) Remove the separator assembly and the spring.



- 5) Remove the e-ring and the shaft assembly.



- 6) Remove the separation roller and the torque limiter SPF (for separation).



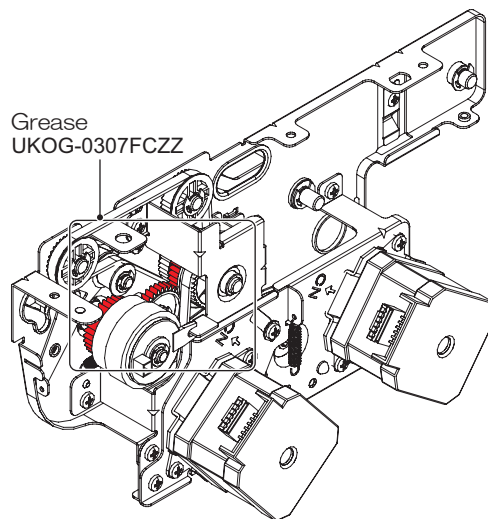
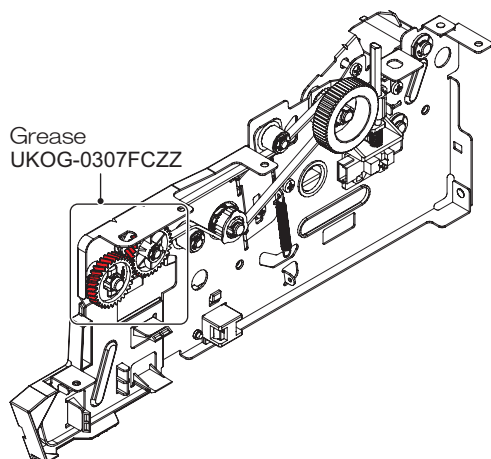
(12) Gears

(13) belts

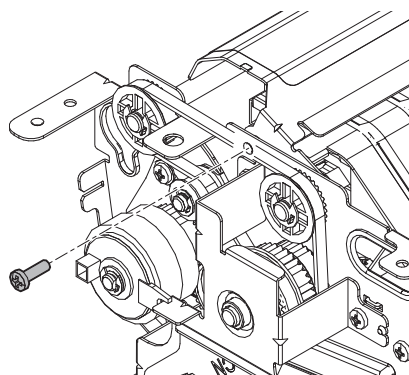
- 1) Apply grease to the specified position as needed.

Important

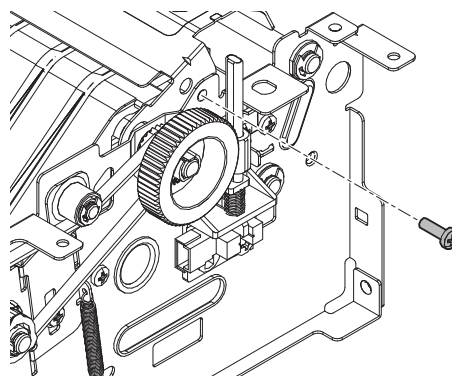
Be careful not to apply grease on the belt.



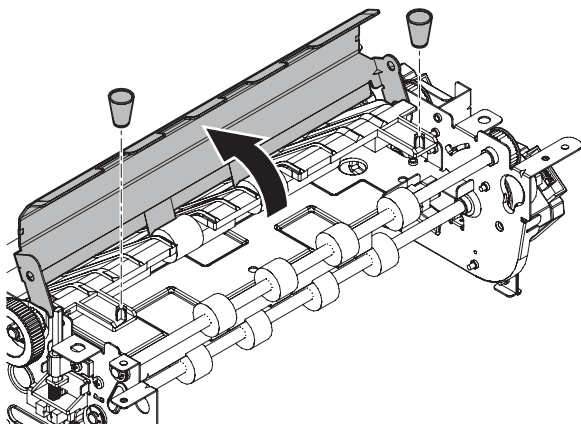
- 2) Remove the screw.



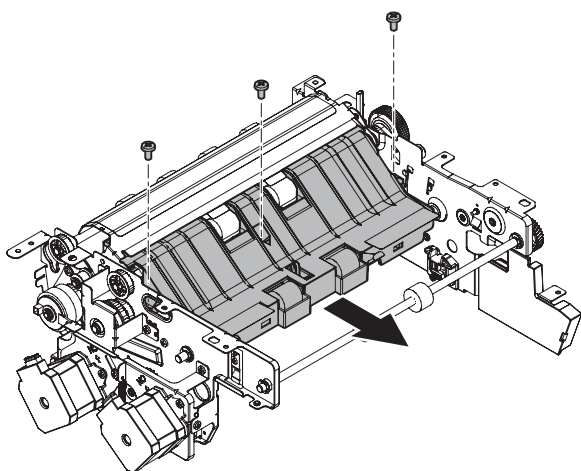
- 3) Remove the screw.



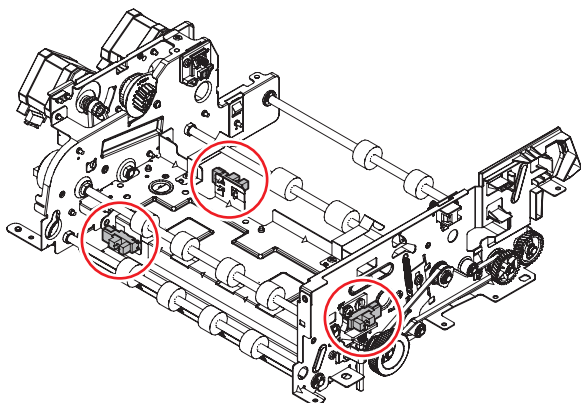
4) Open the no.1 scanning plate then, remove the springs.



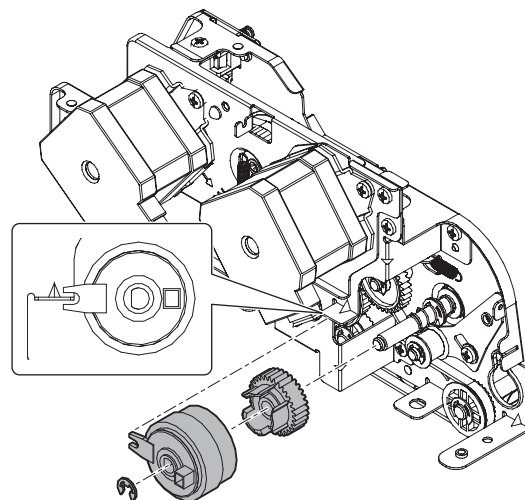
5) Remove the screws and remove the paper guide.



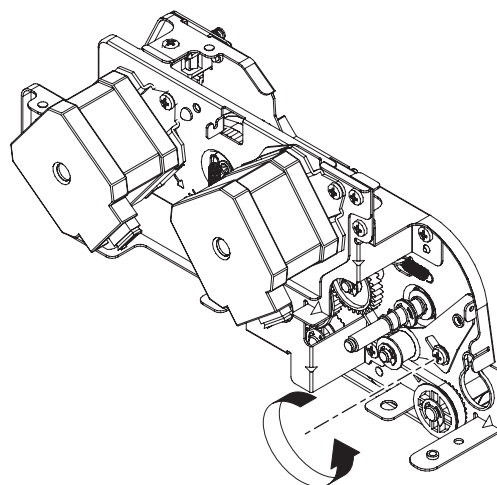
6) Check the sensors.



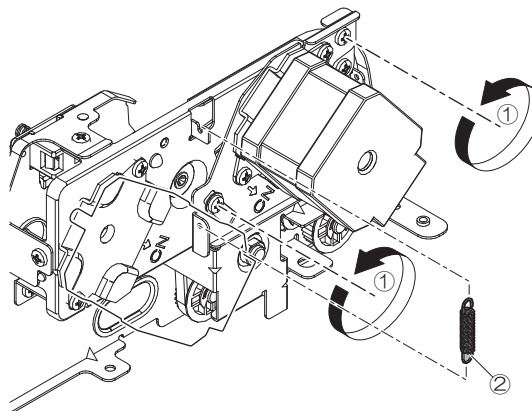
7) Remove the e-ring, the clutch and the gear.



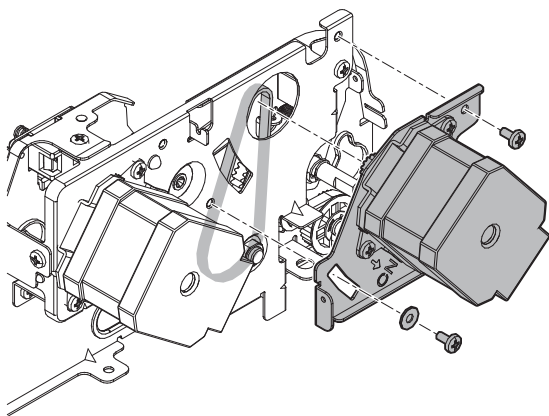
8) Loosen the screw.



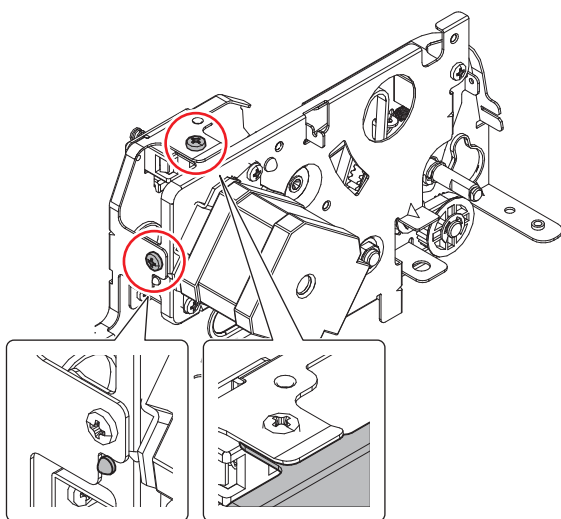
9) Loosen the screws then, remove the spring.



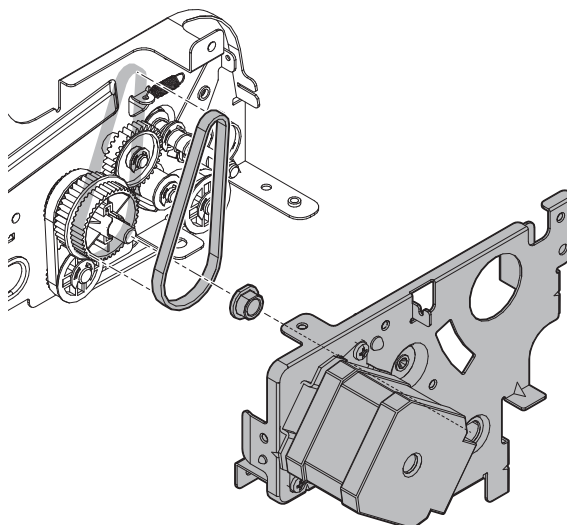
10) Remove the screws, the washer and the motor assembly.



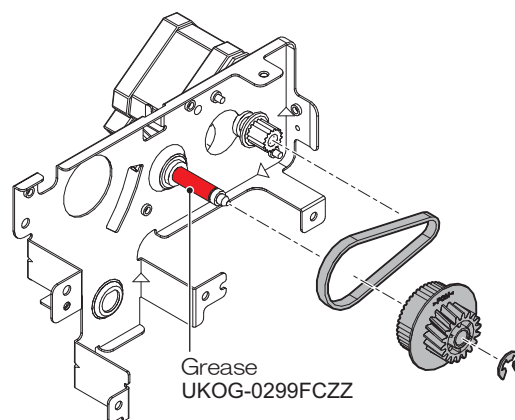
11) Remove the screws.



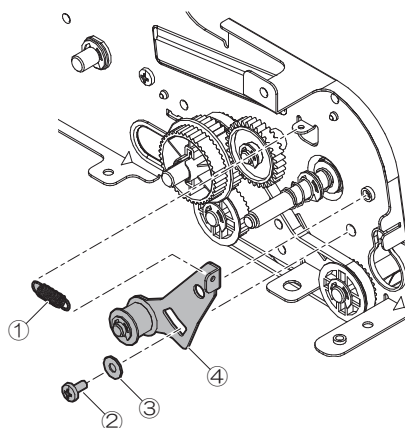
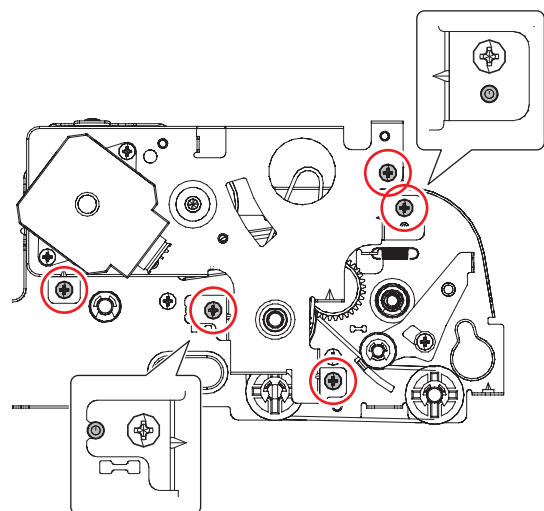
12) Remove the motor assembly, the bearing and the belt.



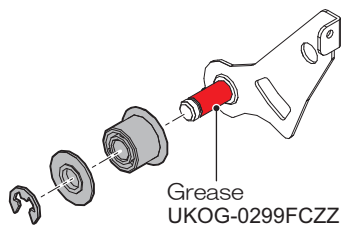
13) Remove the e-ring and the belt.



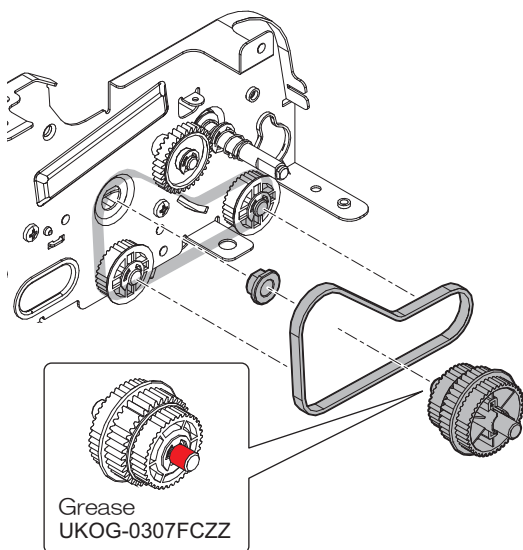
14) Remove the spring, the screw, the washer and the tension adjustment plate.



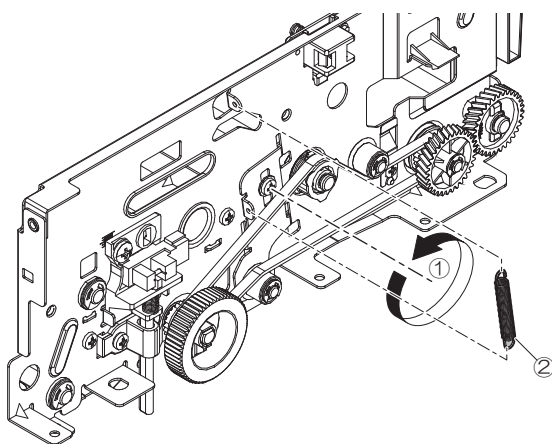
15) Remove the e-ring, the gasket and the pulley.



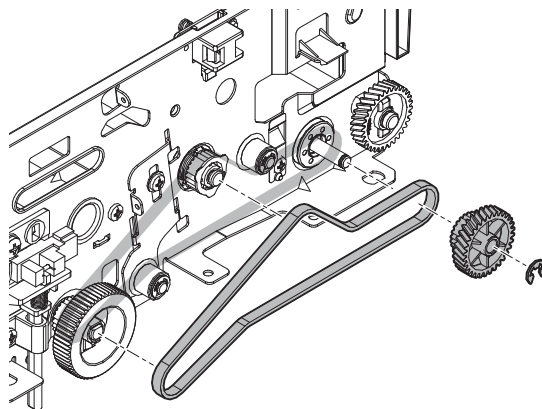
16) Remove the gear, the belt and the bearing.



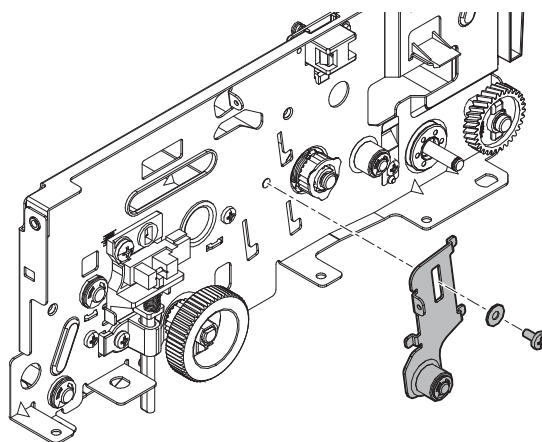
17) Remove the spring.



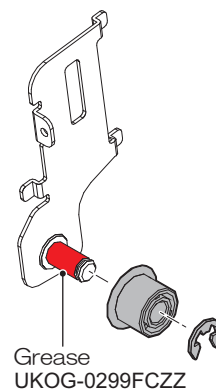
18) Remove the e-ring, the gear and the belt.



19) Remove the screw, the washer and the tension adjustment plate.

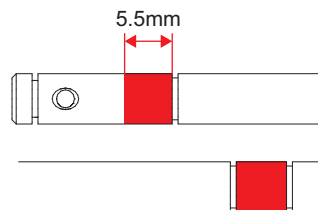
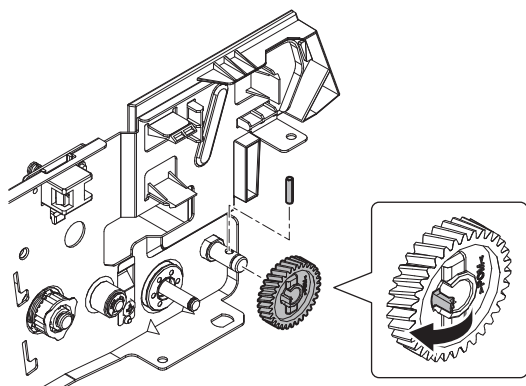


20) Remove the e-ring and the pulley.



(14) Paper exit roller

- 1) Remove the gear and the pin.

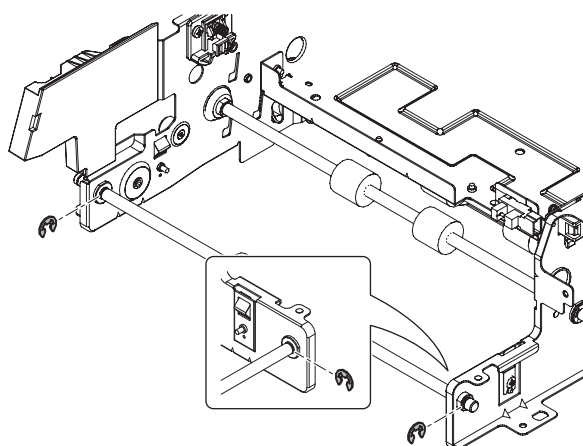


Grease
UKOG-0307FCZZ

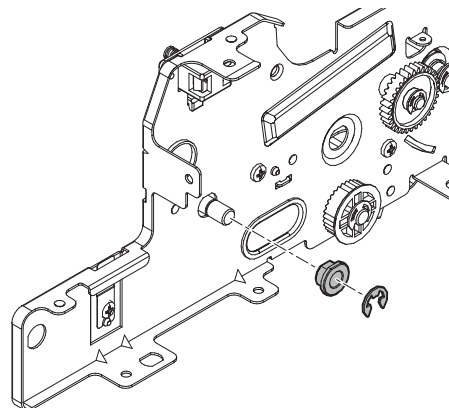
(15) Transfer rollers

- 1) Remove the e-ring and the bearing.

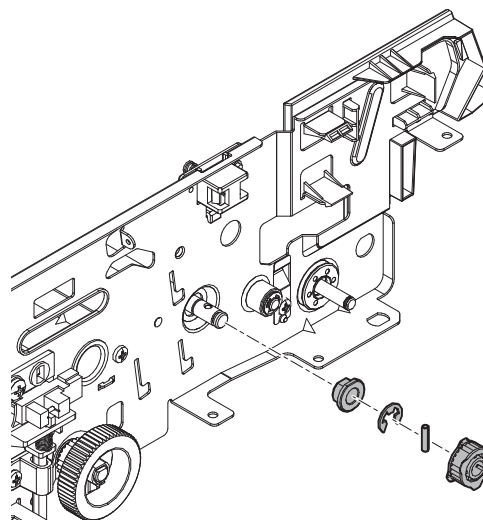
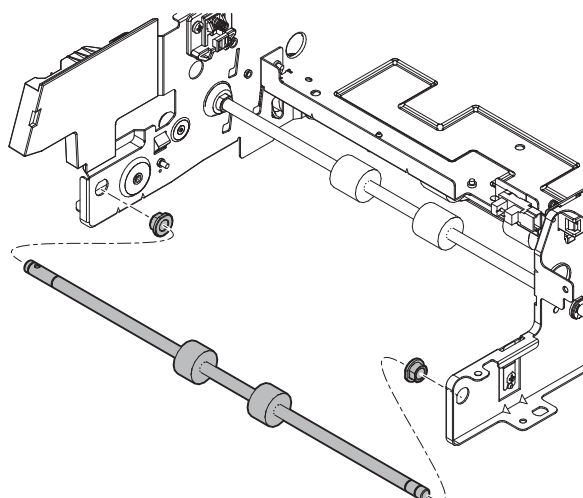
- 2) Remove the e-rings.



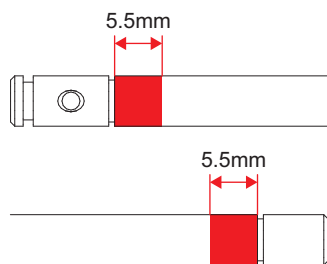
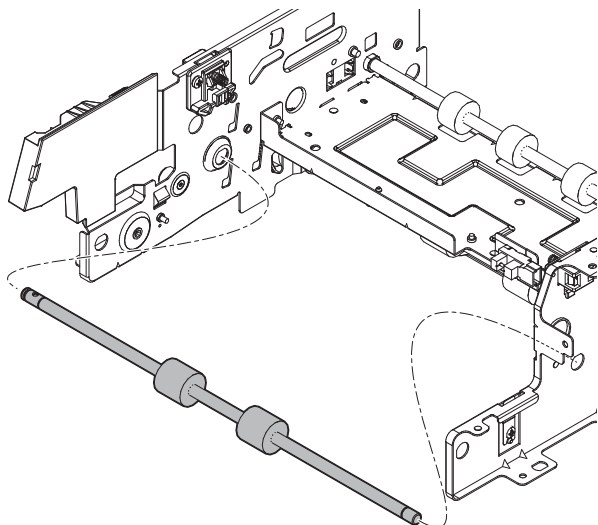
- 2) Remove the gear, the pin, the e-ring and the bearing.



- 3) Remove the bearing and the paper exit roller.

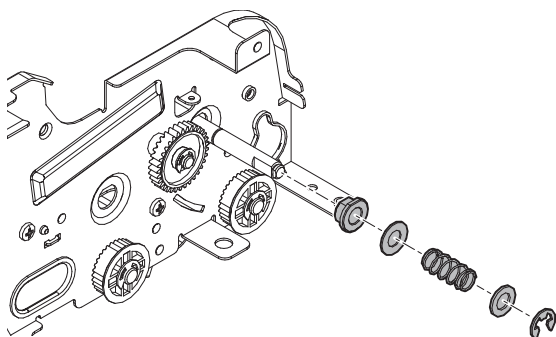


- 3) Remove the transfer roller.

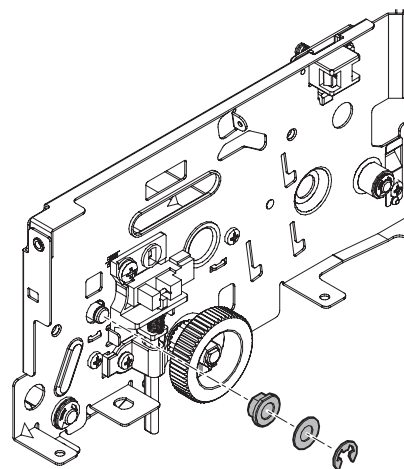


Grease
UKOG-0307FCZZ

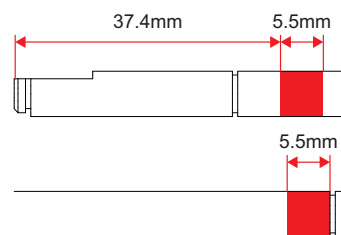
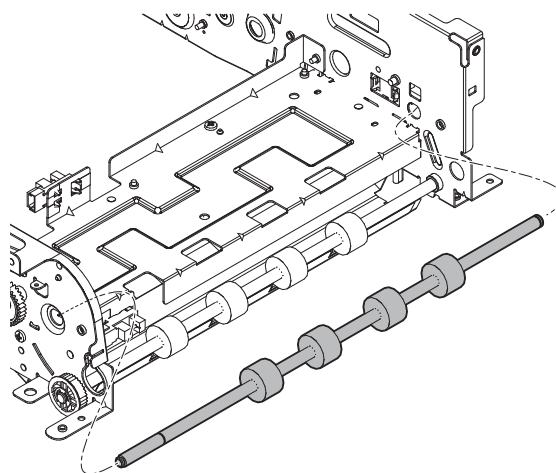
- 4) Remove the e-ring, the washer, the spring, the washer and the bearing.



- 5) Remove the e-ring, the washer and the bearing.

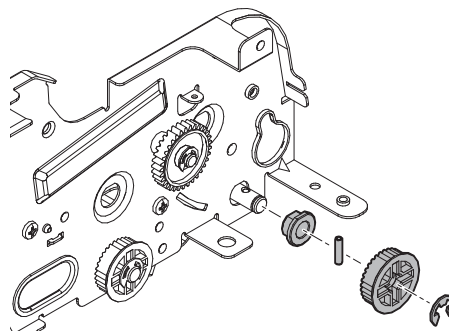


- 6) Remove the transfer roller.

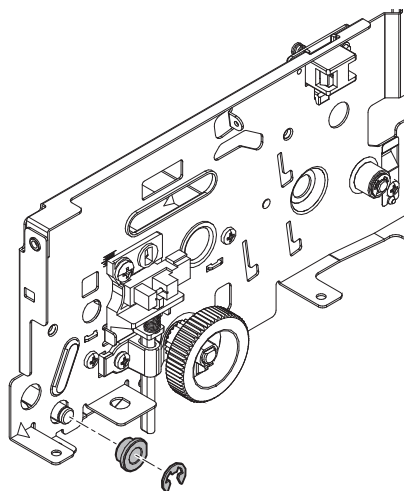


Grease
UKOG-0307FCZZ

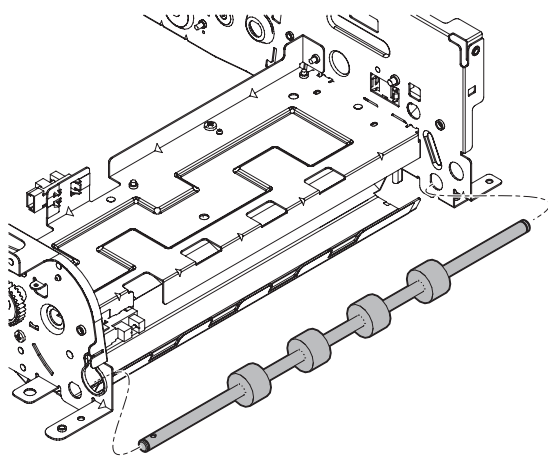
- 7) Remove the e-ring, the gear, the pin and the bearing.



8) Remove the e-ring and the bearing.



9) Remove the transfer roller.



8.9mm 5.5mm

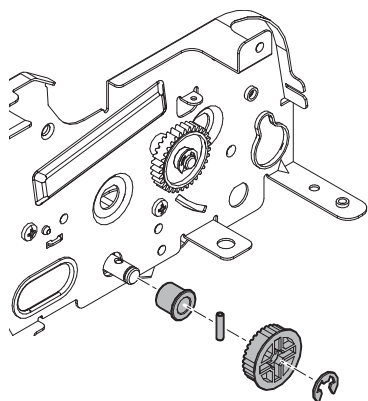


5.5mm

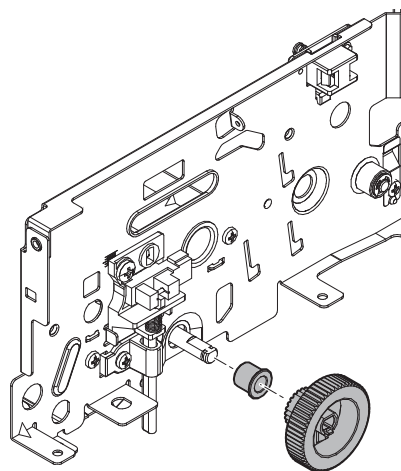


Grease
UKOG-0307FCZZ

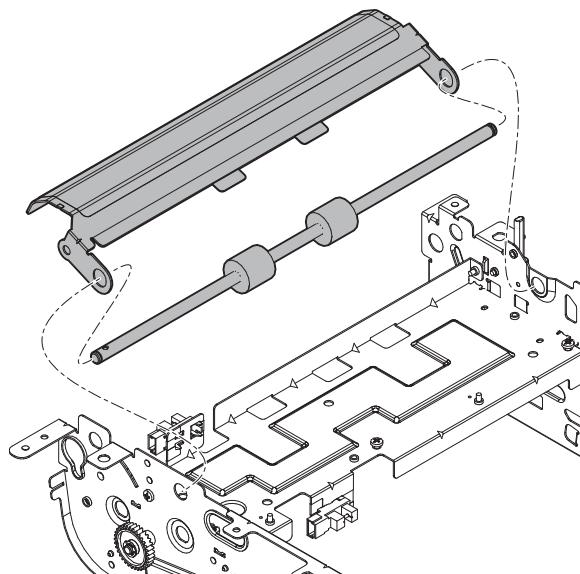
10) Remove the e-ring, the gear, the pin and the bearing.



11) Remove the gear and the bearing.



12) Remove the no.1 scanning plate and the transfer roller.



9.3mm 5.5mm

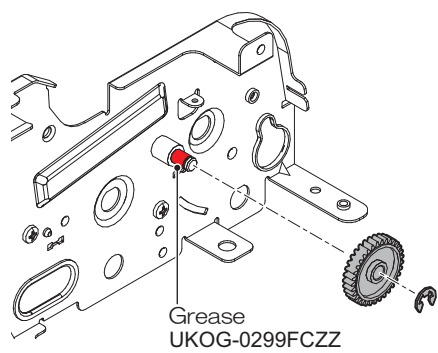


5.5mm 16.2mm



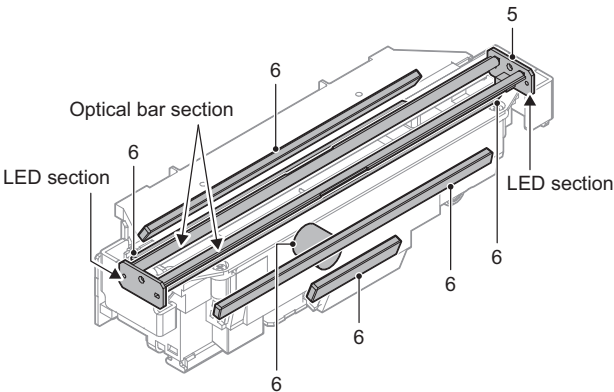
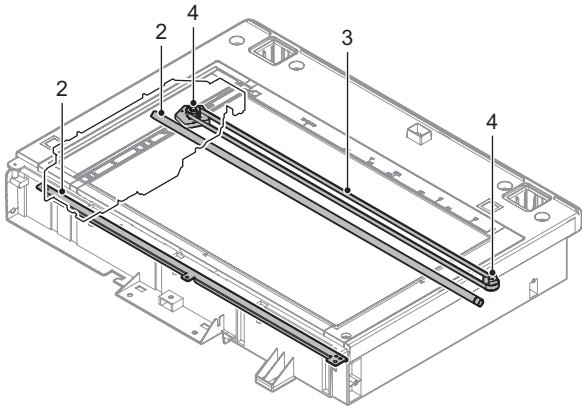
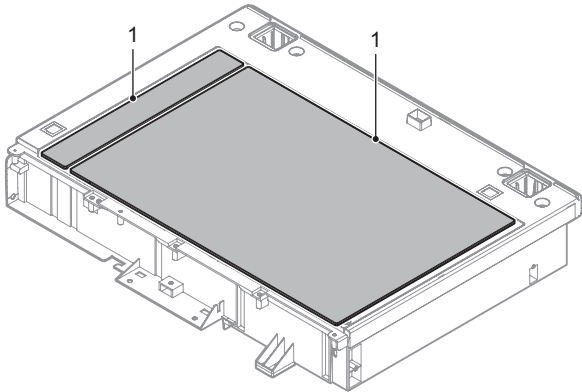
Grease
UKOG-0307FCZZ

13) Remove the e-ring and the gear.



C. Scanner unit

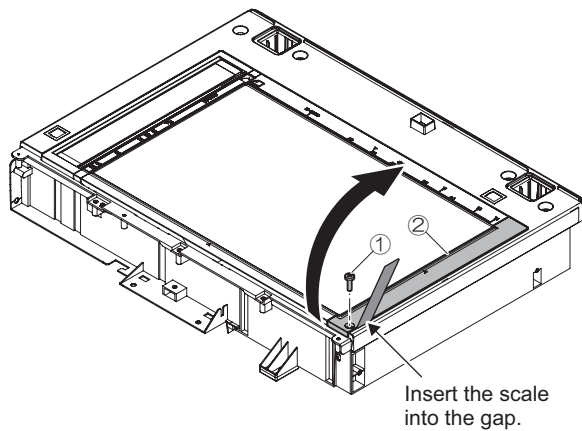
Part No.	Part name
1	Table glass, SPF glass
2	Shaft, rail (grease)
3	Drive belt
4	Drive gear, pulley
5	Scanner lamp
6	Mirror, lens (Inside the carriage)



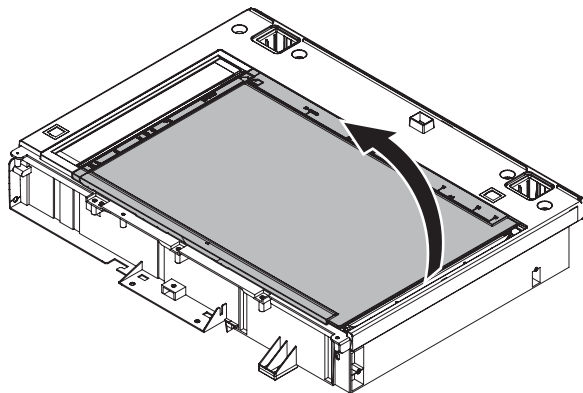
(1) Table glass, SPF glass

- 1) Remove the screw and the table glass holder.

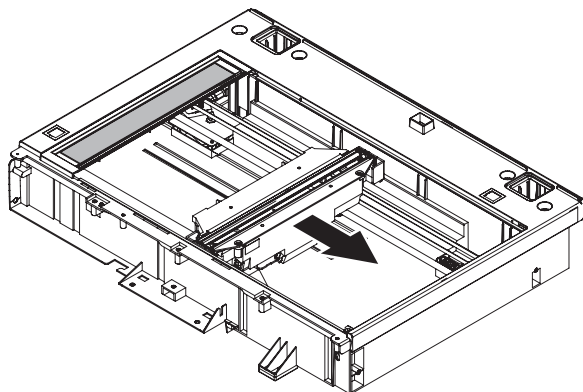
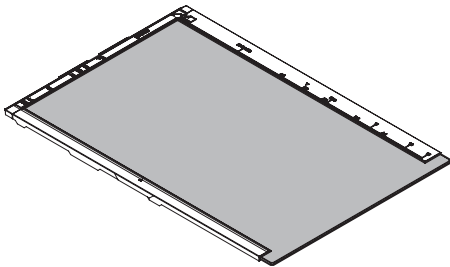
NOTE: When removing the table glass holder, pay attention to double sided tape. Reuse double sided tape.



- 2) Remove the table glass.



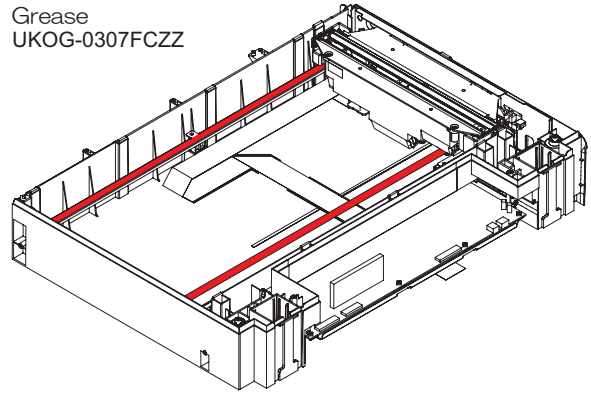
- 3) Clean the table glass and the SPF glass.



(2) Shaft, rail (grease)

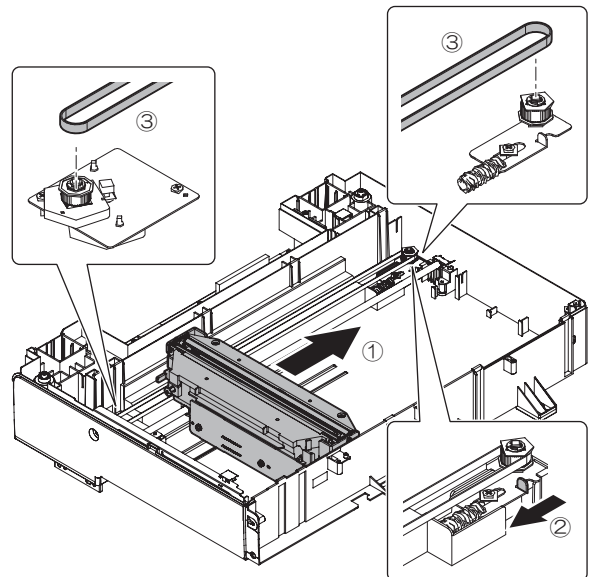
- 1) Apply grease to the specified position when checking.

Grease
UKOG-0307FCZZ



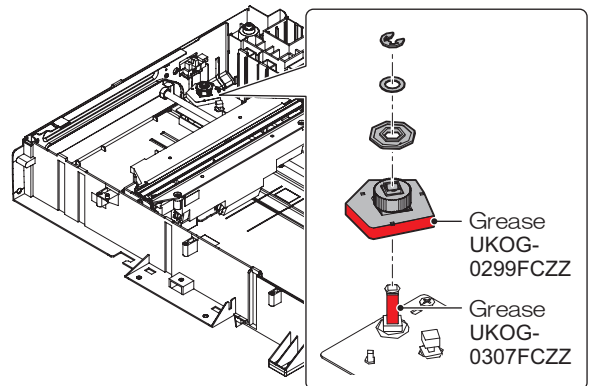
(3) Drive belt

- 1) Remove the drive belt.

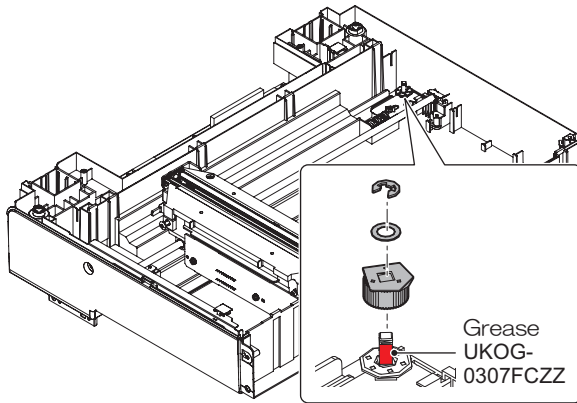


(4) Drive gear, pulley

- 1) Remove the drive gear.



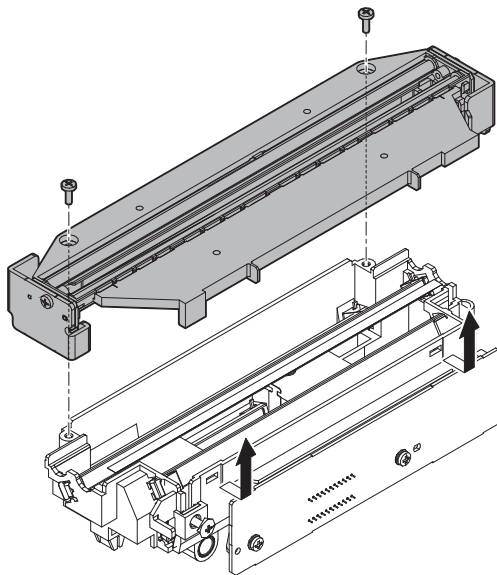
- 2) Remove the pulley.



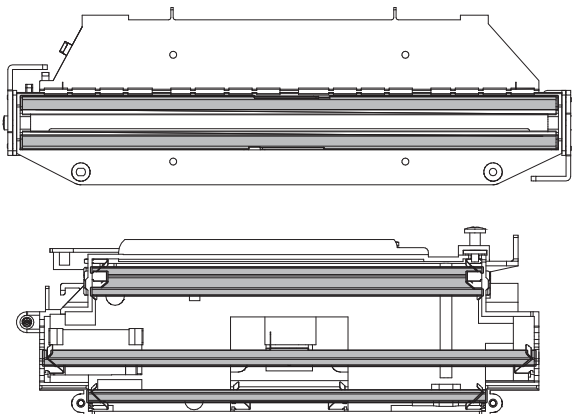
(5) Scanner lamp

(6) Mirror, lens (Inside the carriage)

- 1) Remove the LED PWB plate.

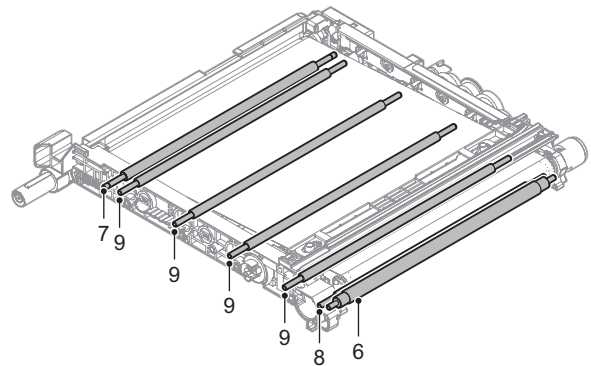
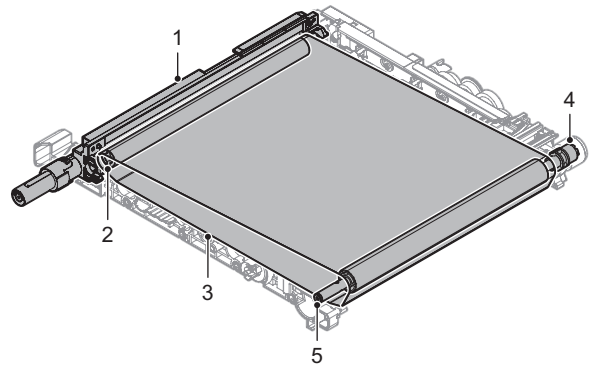


- 2) Clean the scanner lamp, the mirror and the lens.



D. Primary transfer unit

No.	Name
1	Primary transfer cleaner unit
2	Primary transfer tension roller
3	Primary transfer belt
4	Primary transfer drive gear
5	Primary transfer drive roller
6	Transfer front roller
7	Y support roller
8	Opposing roller
9	Primary transfer roller

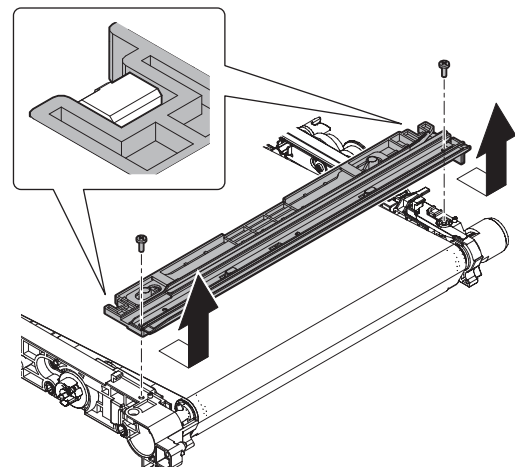


(1) Primary transfer cleaner unit

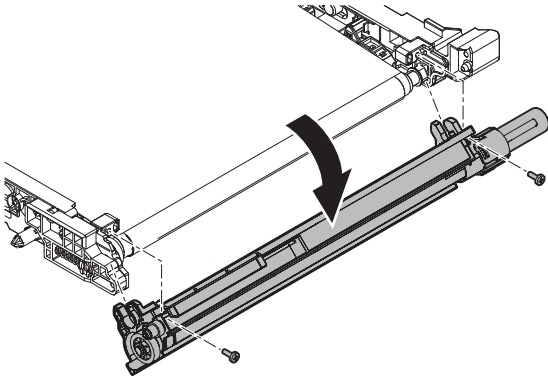
(2) Primary transfer tension roller

(3) Primary transfer belt

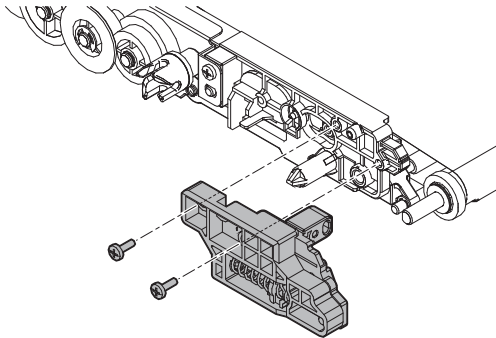
- 1) Remove the screws and remove the transfer unit guide rail. (Slide the hook and remove it.)



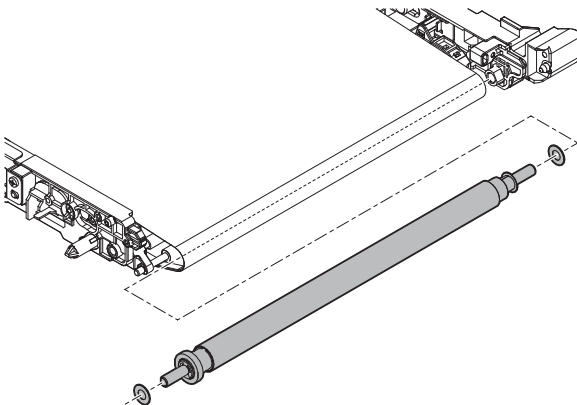
2) Remove the screws and remove the cleaner unit.



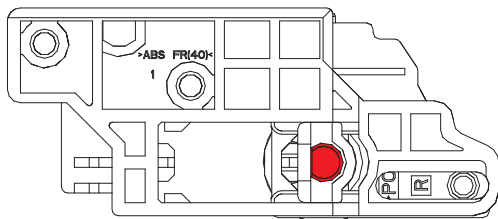
3) Remove the screws and remove the tension roller bearing holder assembly.



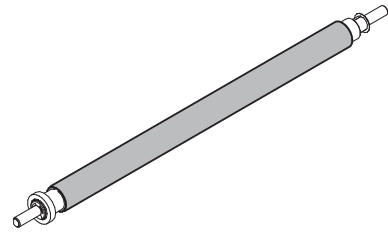
4) Remove the transfer tension roller Assembly.



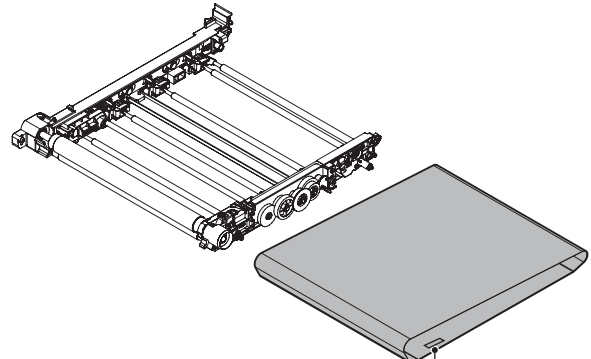
NOTE: When attaching, fit the D shape of transfer tension roller end portion to the D shape of the bearing holder.



5) Clean the primary transfer tension roller with alcohol.



6) Pull out the primary transfer belt slowly.

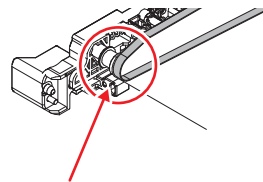


When attaching the belt, place the lot number on the edge of the belt on rear side.

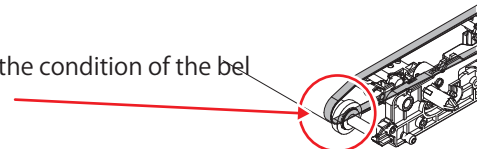
LOT number

Important

When attaching the belt, Make sure that the beat of the belt does not ride on the roller.



Check the condition of the bel



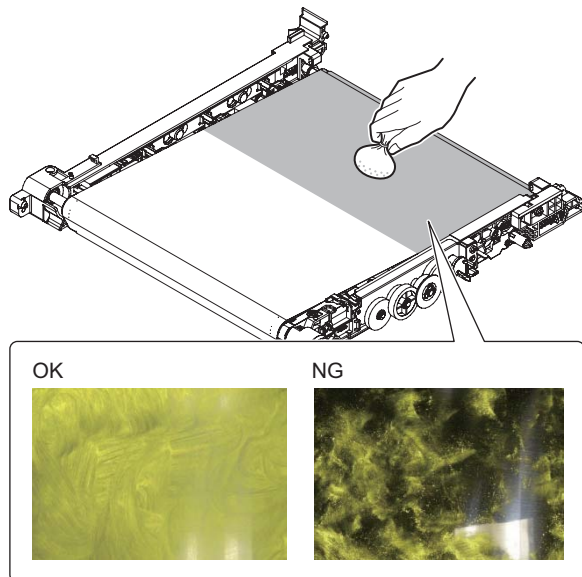
OK

NG

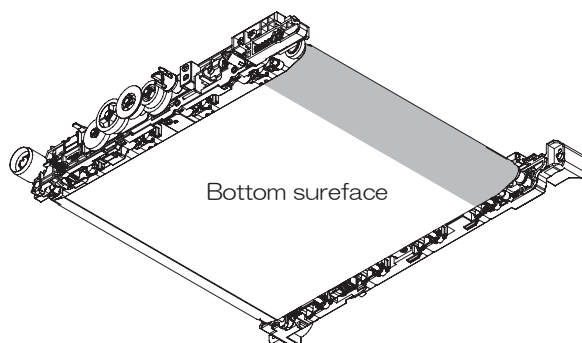
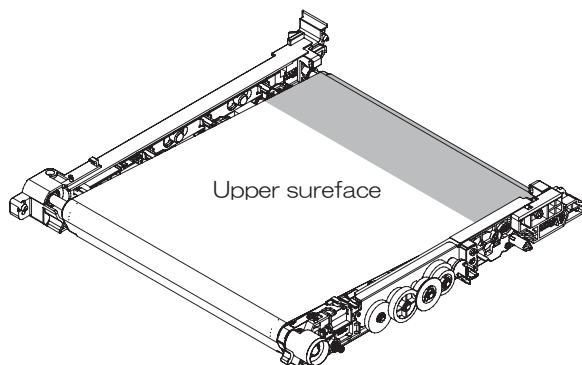


NOTE: Follow the steps below after replacing the primary transfer belt.

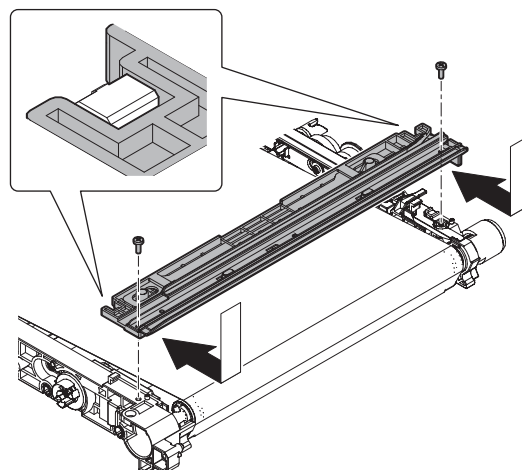
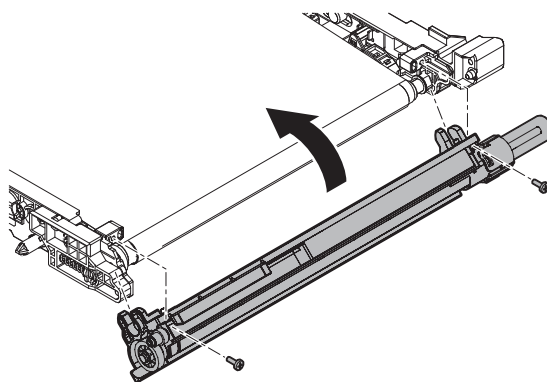
- a) Apply Y powder (CKOG-0345DS51) in a quarter surface of the primary transfer belt with primary transfer cleaner unit being removed.



- b) Turn the transfer belt and move the Y powder application part as shown in the figure.



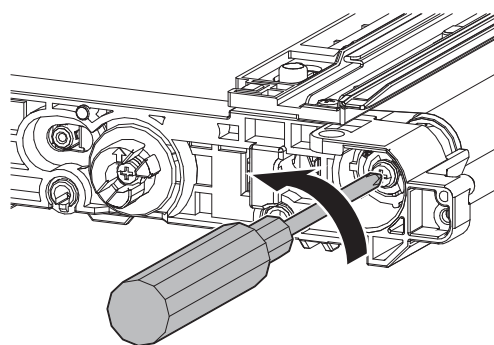
- c) Attach the cleaner unit and the unit guide rail with screws.



- d) Manually rotate the primary transfer belt drive roller using a screwdriver and remove the powder applied on the primary transfer belt.

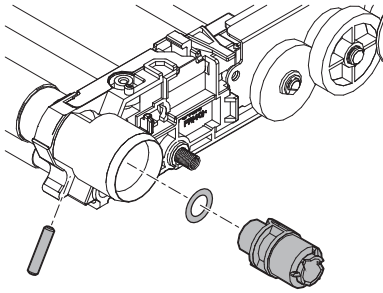
Important

**Confirm proper rotation direction.
Never rotate in inverse.**

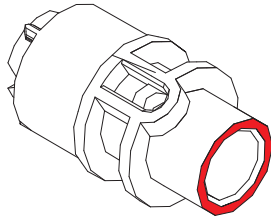


(4) Primary transfer belt drive gear

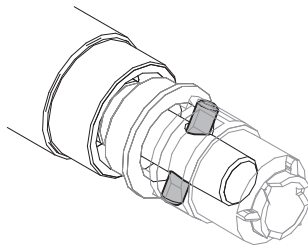
- 1) Pull out the pin and remove the primary transfer belt drive gear.



NOTE: When replacing the primary transfer belt drive gear, apply grease (UKOG-0299FCZZ) to the gear side.

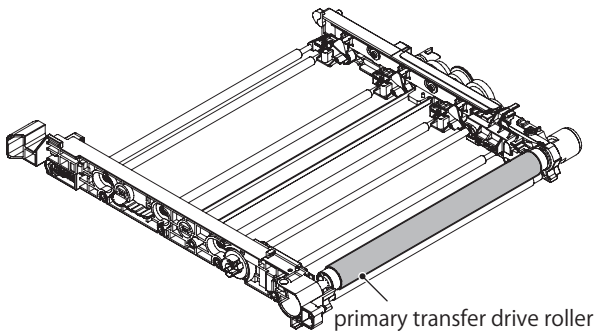


The pin make the length equal.



(5) Primary transfer drive roller

- 1) Clean the primary transfer drive roller with alcohol.

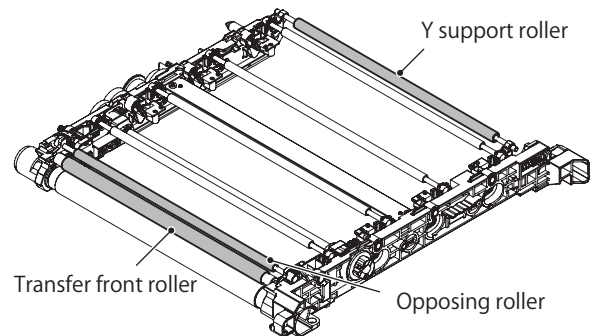


(6) Transfer front roller

(7) Y support roller

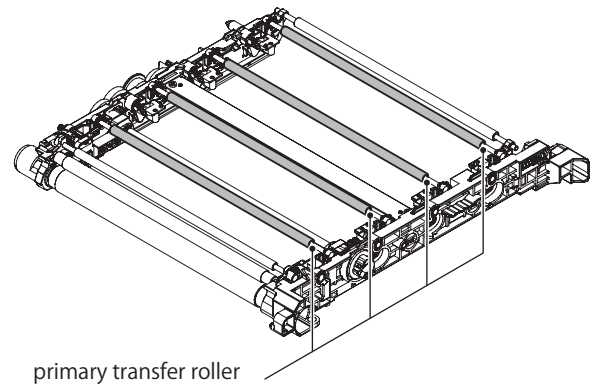
(8) Opposing roller

- 1) Clean the pre-transfer roller, y auxiliary roller, opposing roller with alcohol.

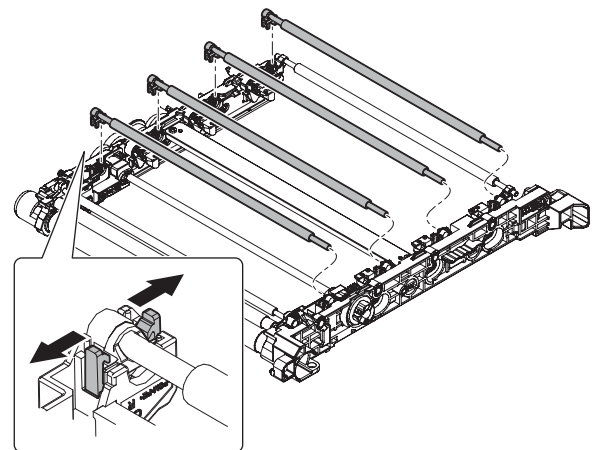


(9) Primary transfer roller

- 1) Clean the primary transfer roller with alcohol.

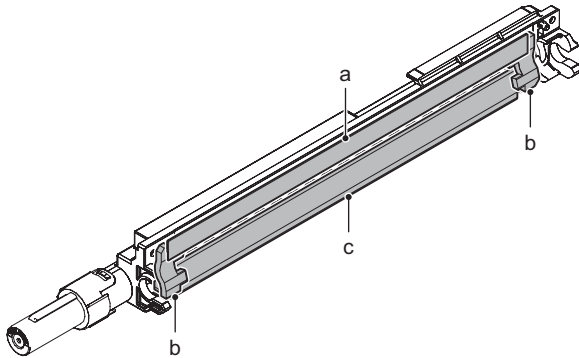


- 2) Push the nail and remove the bearing part, and remove the primary transfer roller.



(10) Primary transfer cleaner unit

No.	Name
a	Transfer sub blade
b	Transfer side seal F/R
c	Transfer CL blade



a. Transfer sub blade

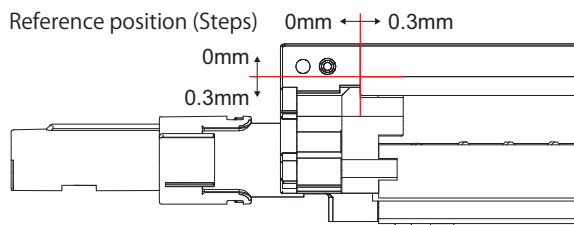
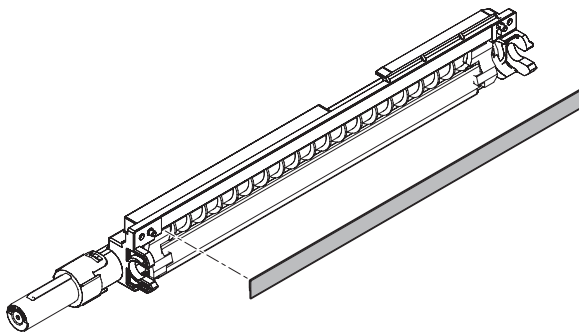
- 1) Remove the transfer sub blade.

Important

Before replacing the transfer sub blade, affix the blade based on the reference position.

Important

Before affixing new transfer sub blade, make sure to remove any foreign material and remaining adhesive from affixing surface completely.



b. Transfer side seal F/R

- 1) Remove the transfer side seal F/R.

Important

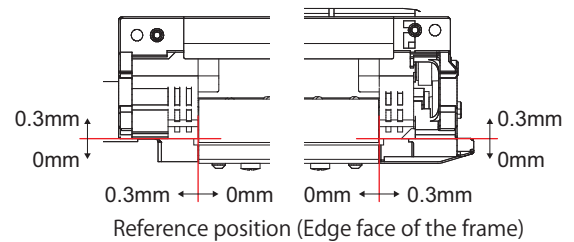
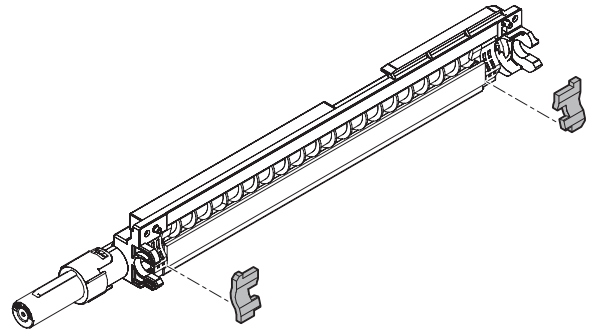
When replacing the transfer side seals F/R, affix the seals based on the reference position.

Important

Do not place any part of the seals on top of the blade.

Important

Before affixing new transfer side seals F/R, make sure to remove any foreign material and remaining adhesive from affixing surface completely.

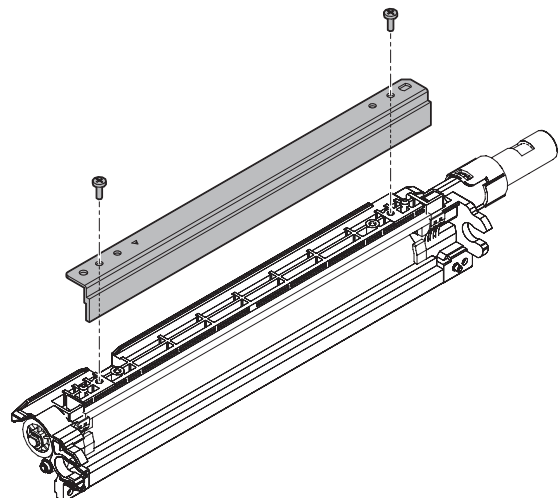


c. Transfer CL blade

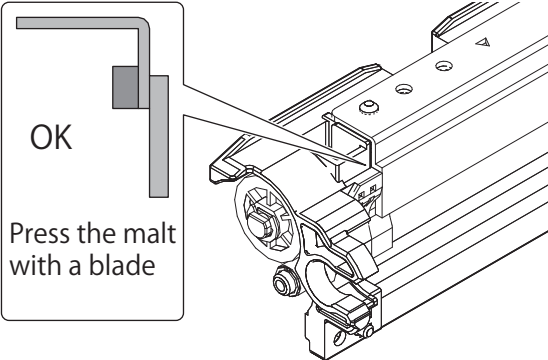
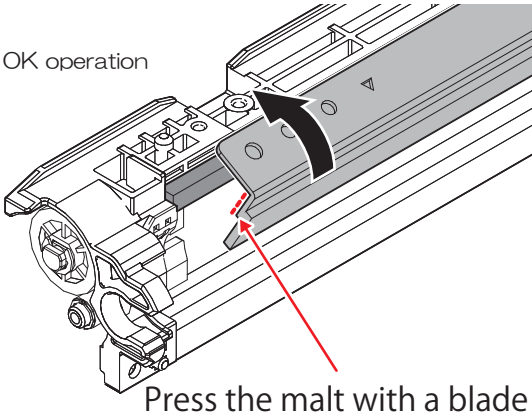
- 1) Remove the screws and remove the transfer CL blade.

Important

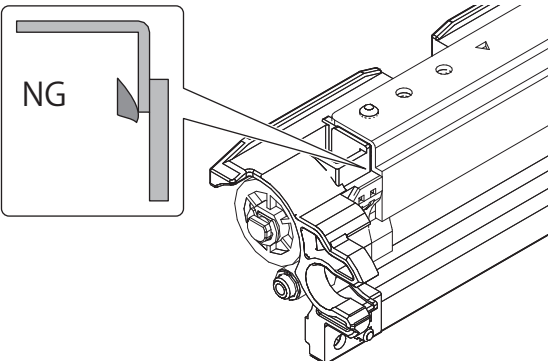
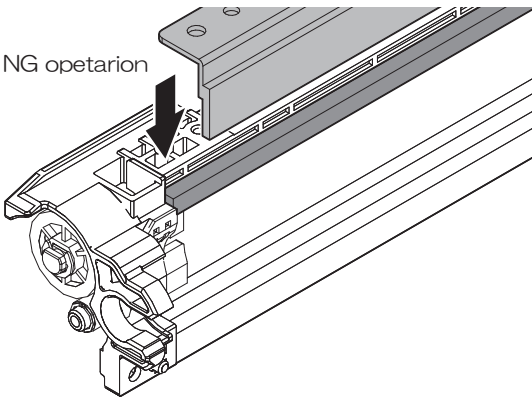
Do not touch the edge of the blade.



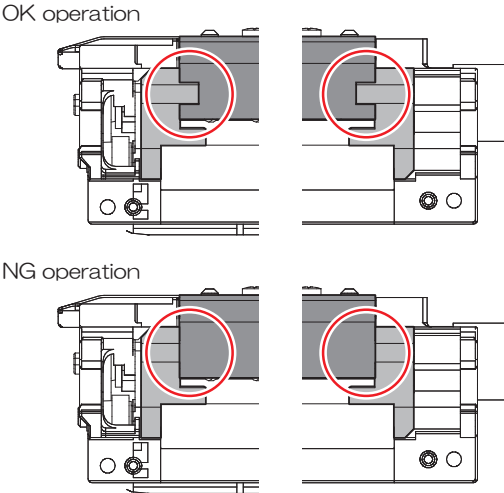
NOTE: When attaching the blade,



As assembled from the side of the malt as shown by the arrow in the figure below, malt can not be held down by sheet metal parts, so NG.

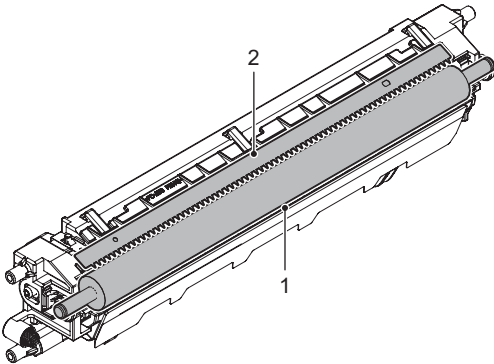


When attaching the blade, place the blade under the side seal convex portion.



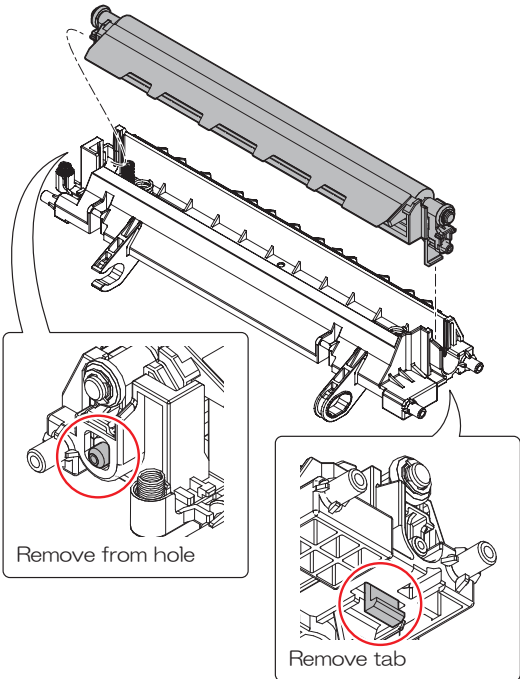
E. Second transfer roller unit

No.	Name
1	Second transfer roller
2	Second transfer separation electrode plate

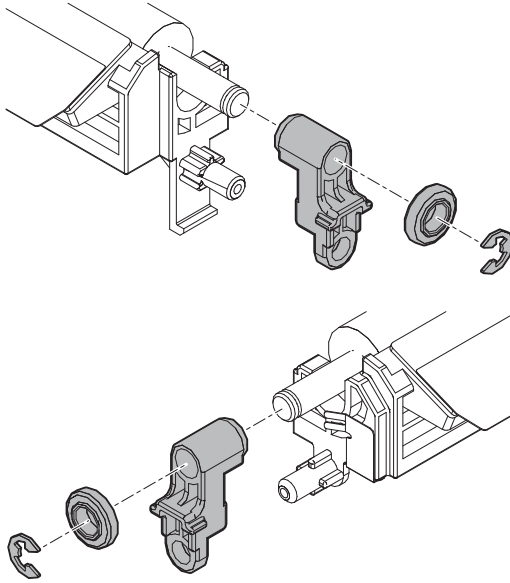


(1) Second transfer roller

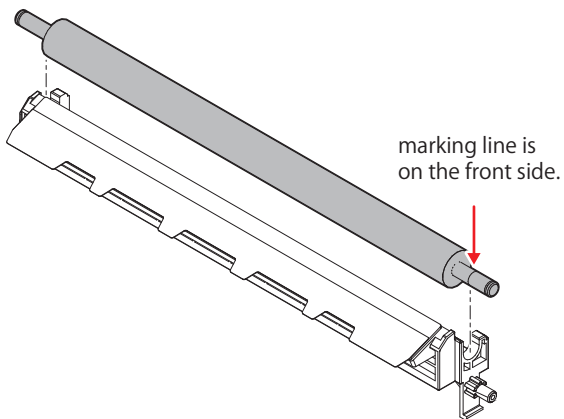
- 1) Push the tab and remove the 2nd transfer roller frame.



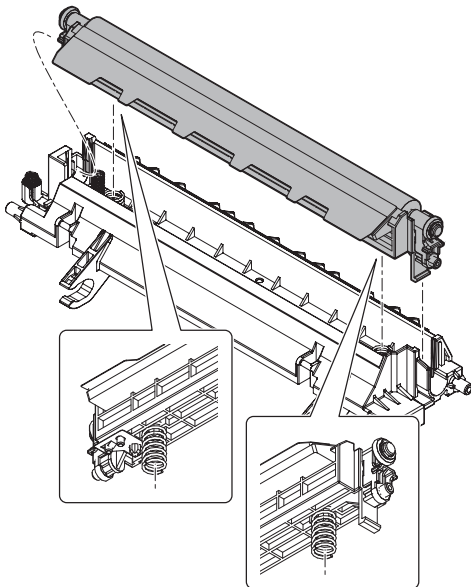
- 2) Remove the E-ring the roller collar, the roller shaft bearing and remove the 2nd transfer roller.



NOTE: When attaching, place the marking line side of the roller on the F side

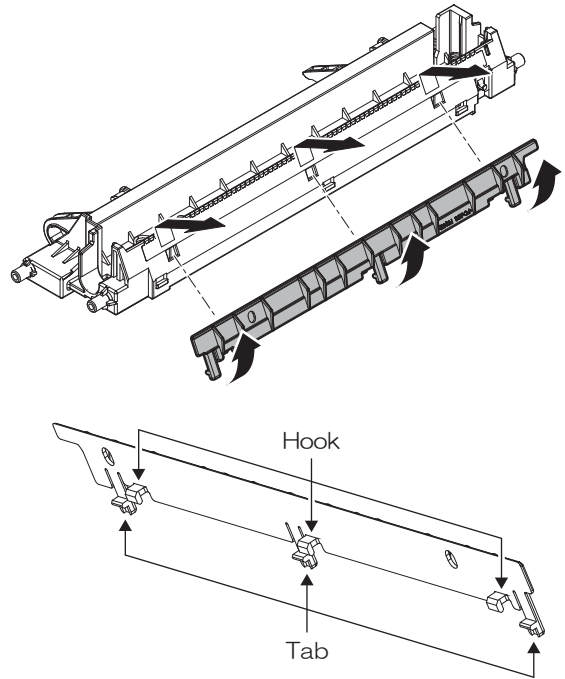


Make sure that the spring is inserted in the boss portion of the frame.

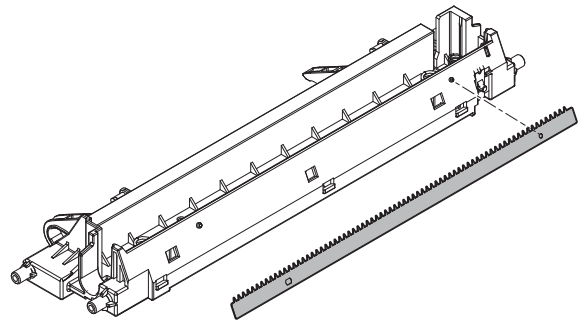


(2) Second transfer separate electrode plate

- 1) Remove the tabs and remove the separation electrode holder. When attaching, confirm that the hooks and tabs are securely engaged.



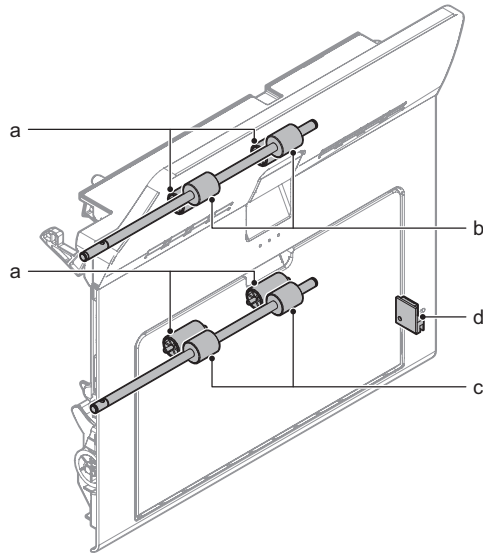
- 2) Remove the second transfer separation electrode plate. When attaching, install from the R side.



F. Paper transport unit

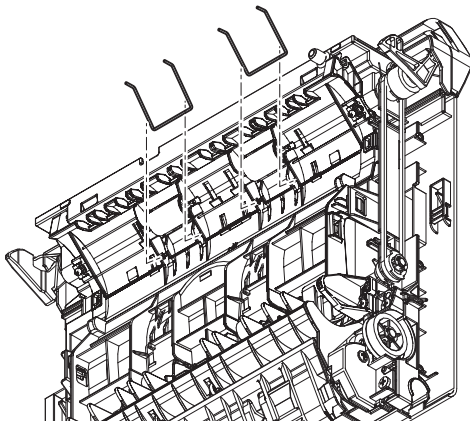
(1) Right door unit

No.	Name
a	Transport roller (idle)
b	Right door paper enter roller (drive)
c	Right door paper exit roller (drive)
d	Temperature/humidity sensor

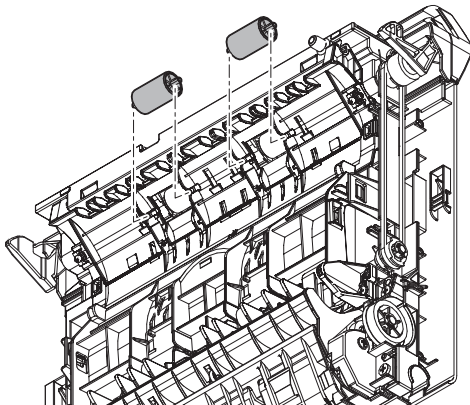


a. Transport roller (idle)

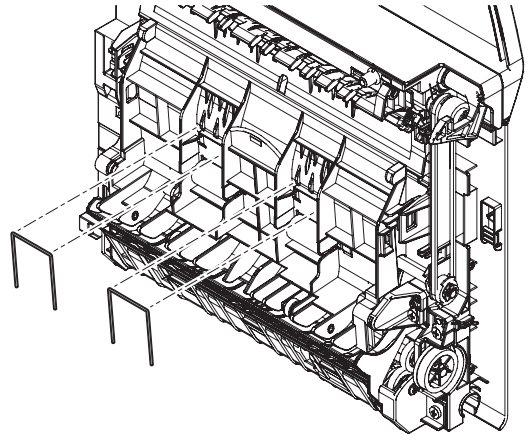
- 1) Open the right door unit.
- 2) Remove the second transfer unit.
- 3) Remove the right door idle roller pressure spring.



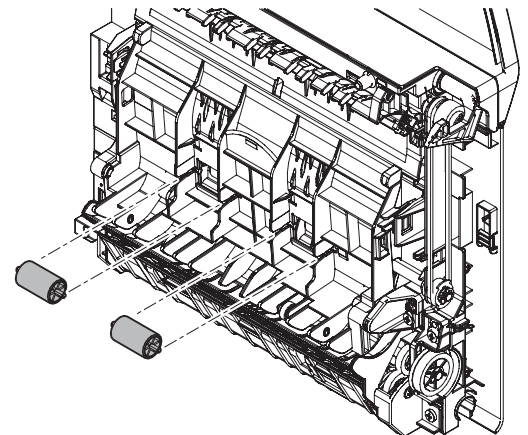
- 4) Remove the transport roller (idle).



- 5) Remove the paper exit roller pressure spring.



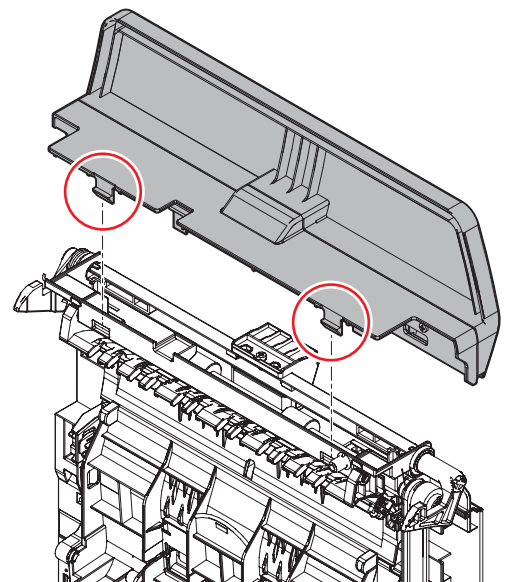
- 6) Remove the transport roller (idle).



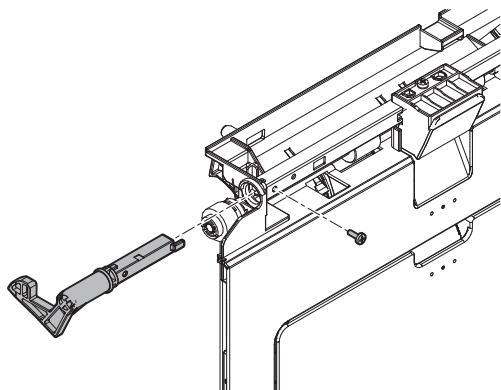
b. Right door paper enter roller

c. Right door paper exit roller

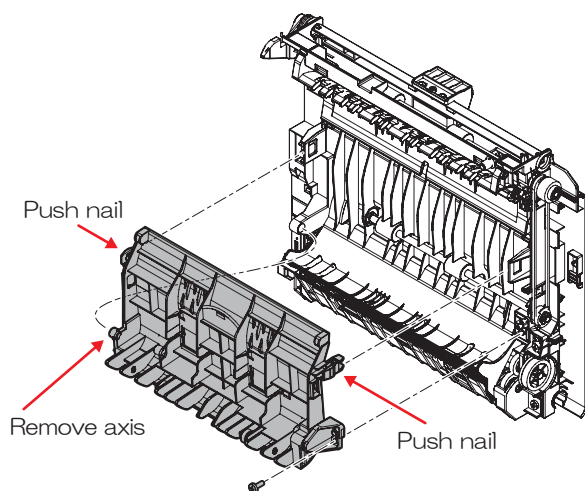
- 1) Open the right door unit.
- 2) Push the nails and remove the ADU upper cover.



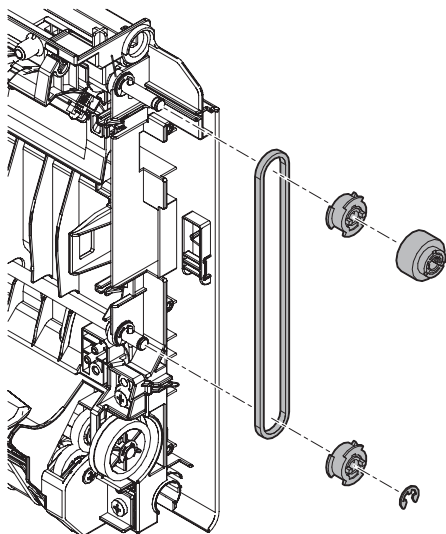
3) Remove the screw, the right door lock pawl R.



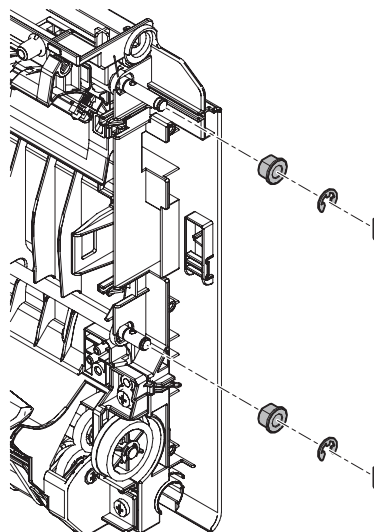
4) Remove the screw, remove the right door open/close paper guide fixing plate and the right door open/close paper guide assembly.



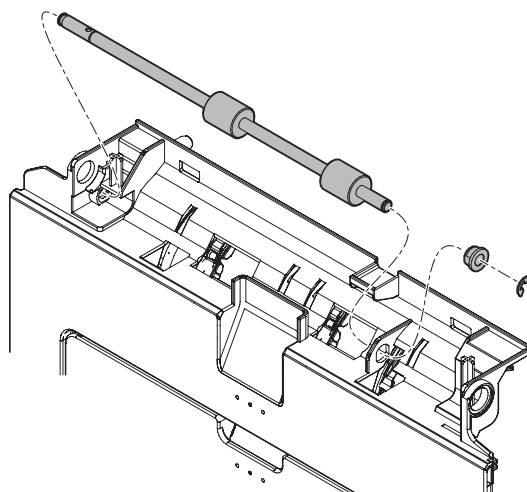
5) Remove the E-ring, 25P pulley and remove the belt.



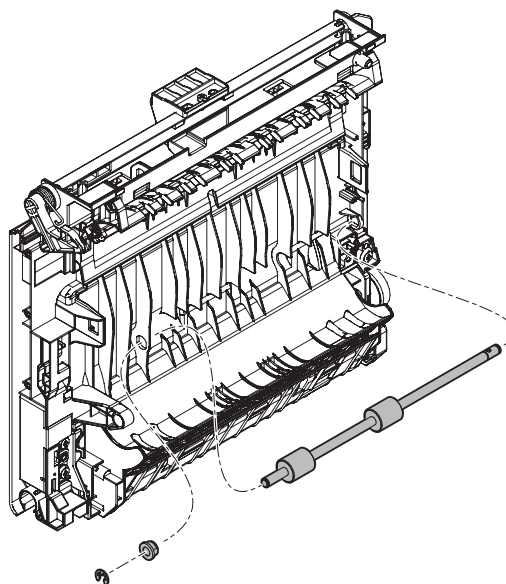
6) Remove the E-rings, pins and bearings.



7) Remove the E-ring, bearing and remove the right door paper enter roller.

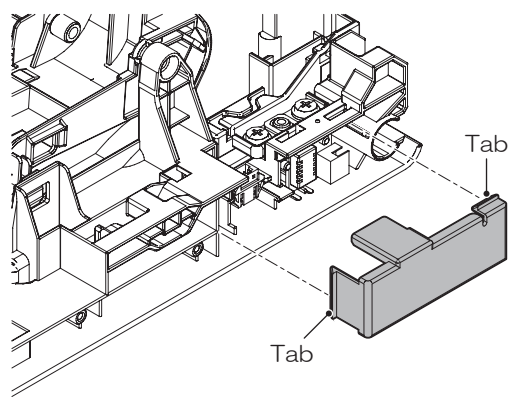


8) Remove the E-ring, bearing and remove the right door paper exit roller.

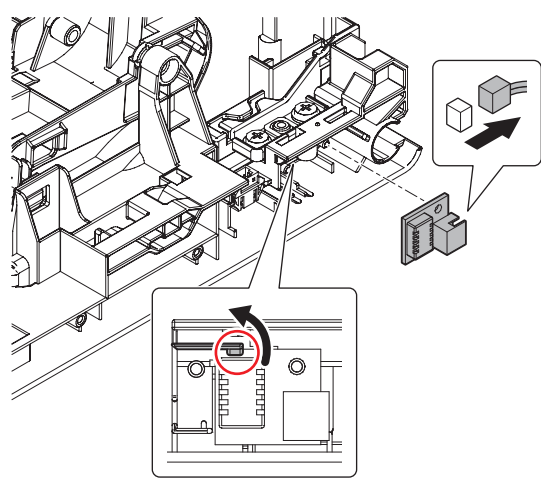


d. Temperature/humidity sensor

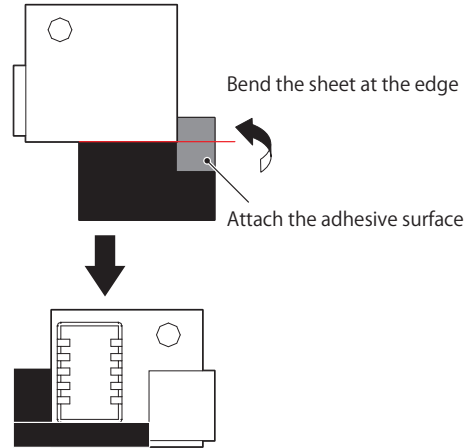
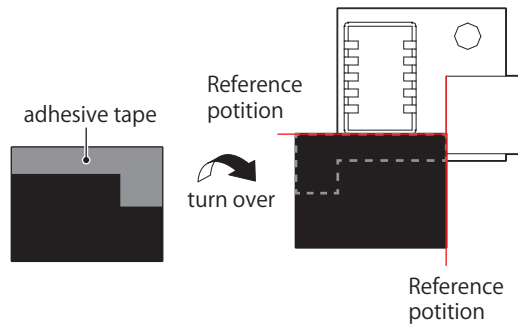
- 1) Push the tabs and remove the sensor holder.



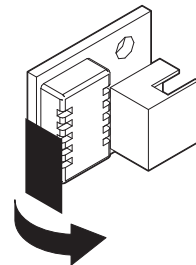
- 2) Disconnect the connector, push the tab and remove the temperature/humidity sensor.



When replacing the sensor, attach the protective sheet in the following way.
Clean the affixing surface with alcohol.

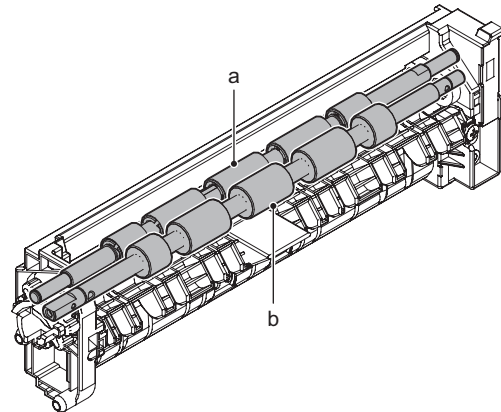


When attaching, bend the protective sheet and insert it



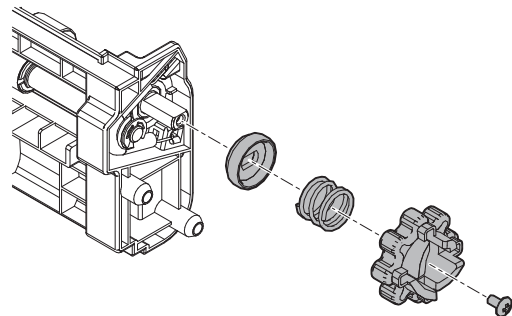
(2) PS unit

No.	Name
a	PS idle roller
b	PS roller

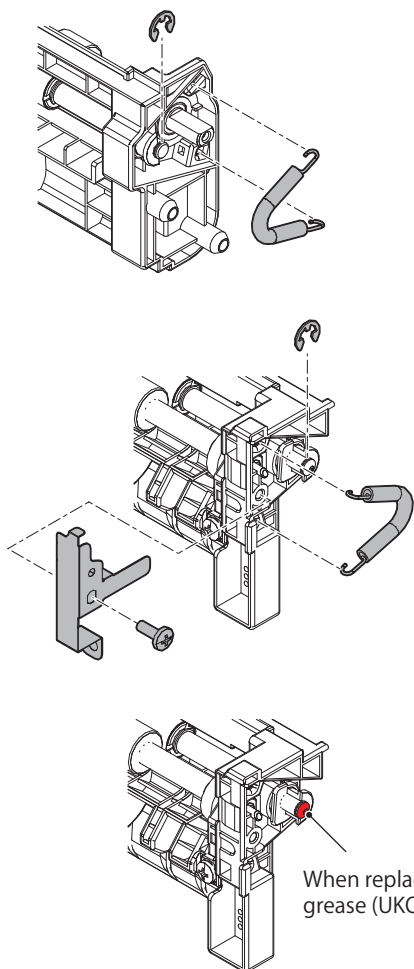


a. PS idle roller

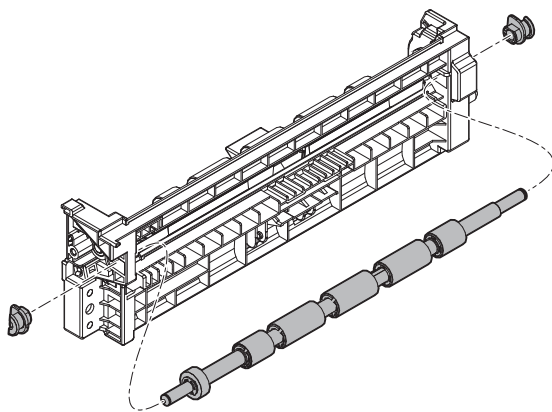
- 1) Remove the screw and remove the PS JAM release knob, PS brake spring, PS brake holder.



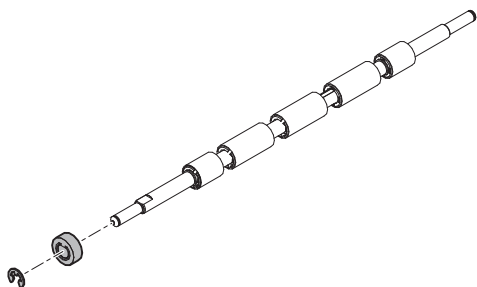
- 2) Remove the E-ring, PS pressure spring.
Remove the screw and remove the PS earth plate.



- 3) Remove the PS bearing and remove the PS idle roller assembly.

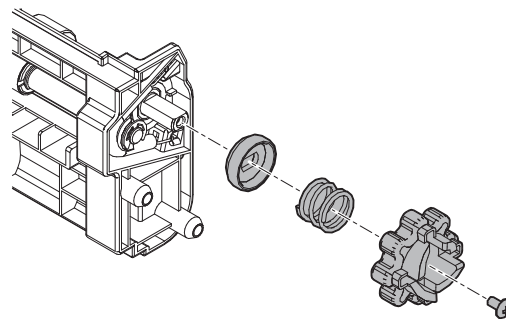


- 4) Remove the E-ring and remove the PS idle gear.

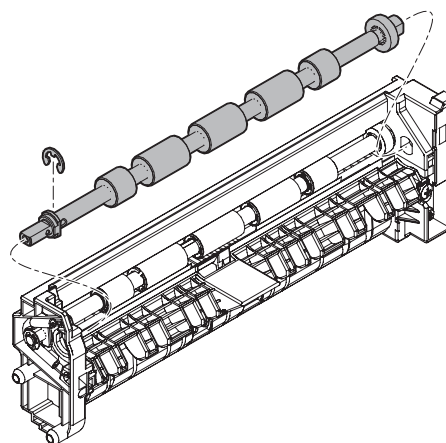


b. PS roller

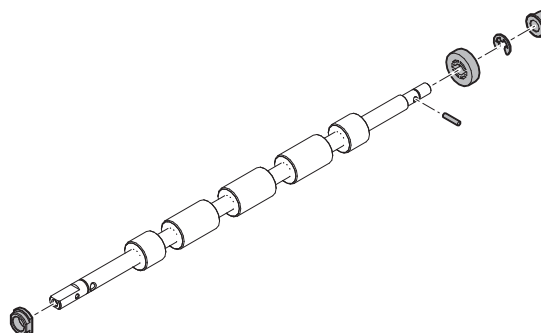
- 1) Remove the screw and remove the PS JAM release knob, PS brake spring, PS brake holder.



- 2) Remove the E-ring and remove the PS roller Assembly.

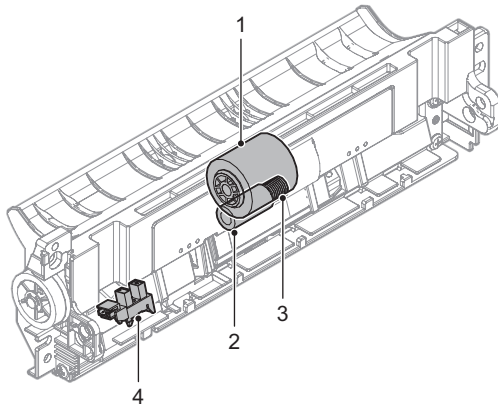


- 3) Remove the bearing, the E-ring and remove the gear, the pin.



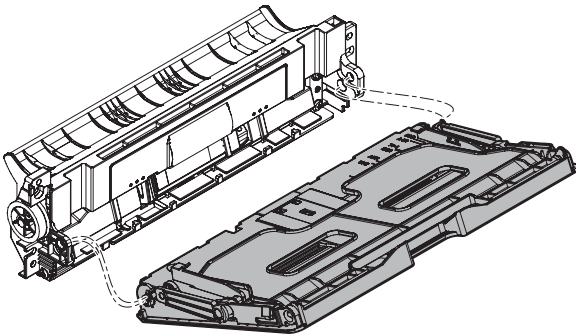
G. Manual paper feed section

No.	Name
1	Paper feed roller
2	Separation roller
3	Torque limiter
4	Paper empty sensor (manual paper feed)

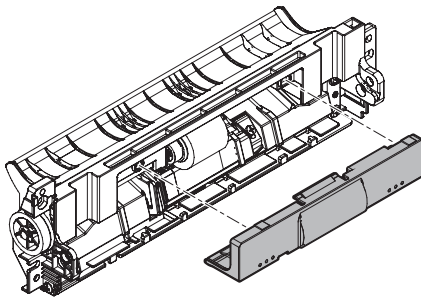


(1) Paper feed roller

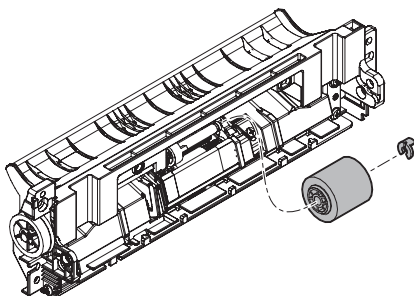
- 1) Push the tab and remove the manual paper feed unit.



- 2) Remove the cover.



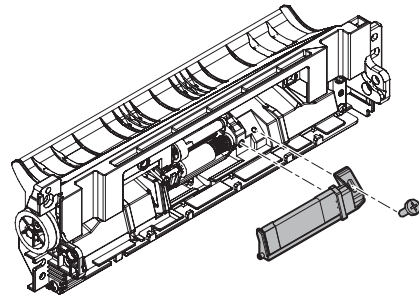
- 3) Remove the E-ring and remove the paper feed roller.



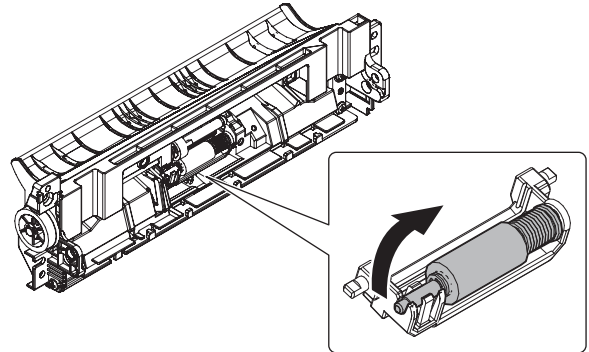
(2) Separation roller

(3) Torque limiter

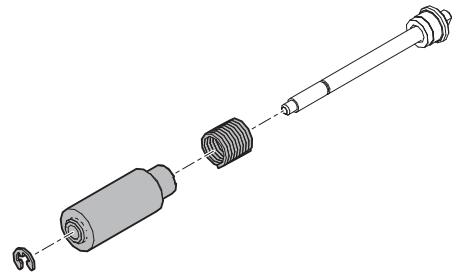
- 1) Remove the cover.



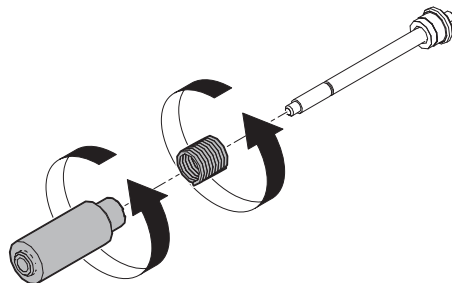
- 2) Remove the separation roller assembly.

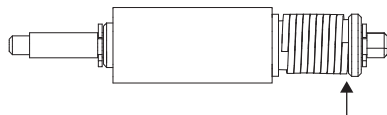


- 3) Remove the E-ring and remove the separation roller and the torque limiter.



When attaching, the torque limiter and the roller are inserted while rotating in the counterclockwise direction.

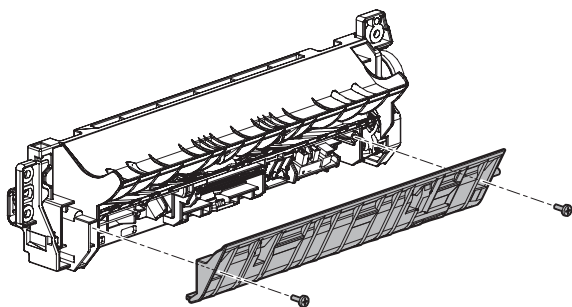




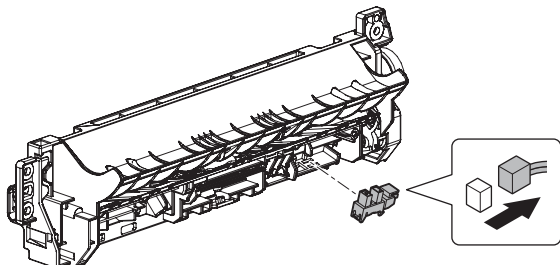
Rotate and insert until the spring comes into close contact

(4) Paper empty sensor (Manual paper feed)

- 1) Remove the screws and remove the MF lower paper guide.

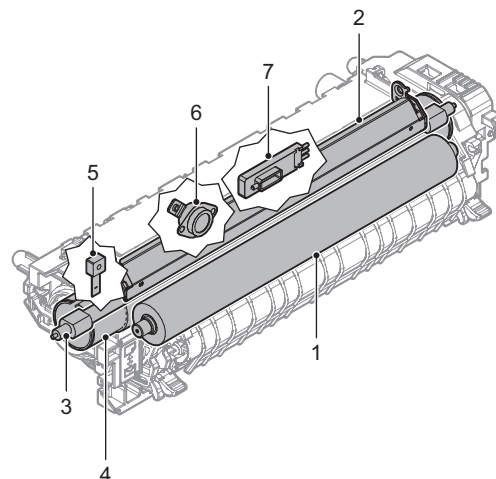


- 2) Disconnect the connector and remove the paper empty sensor.



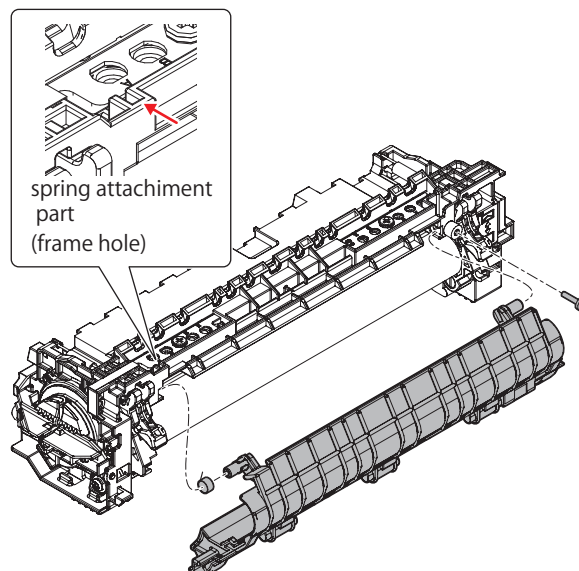
H. Fusing unit

No.	Name
1	Pressure roller
2	Fusing rear upper separation plate
3	Heater lamp
4	Fusing roller
5	Sub thermistor
6	Thermostat
7	Non contact thermistor

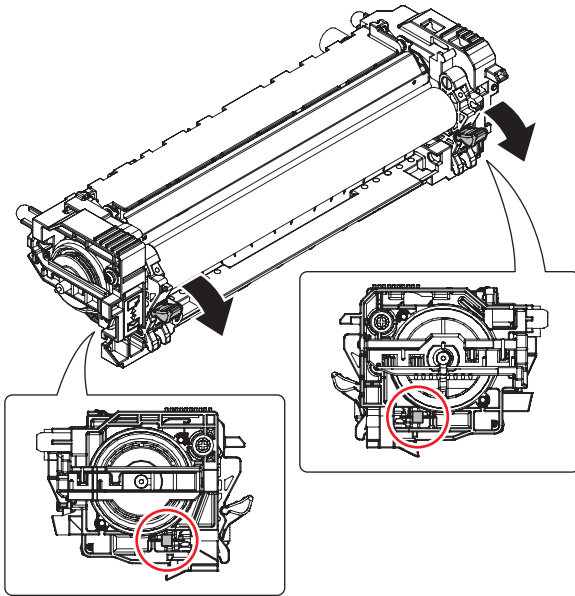


(1) Pressure roller

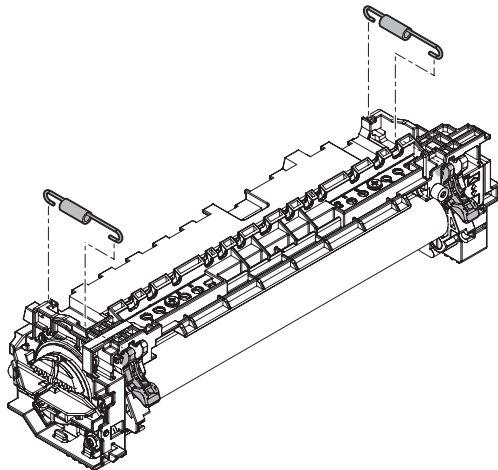
- 1) Remove the screw and remove the rear under paper guide and the spring.



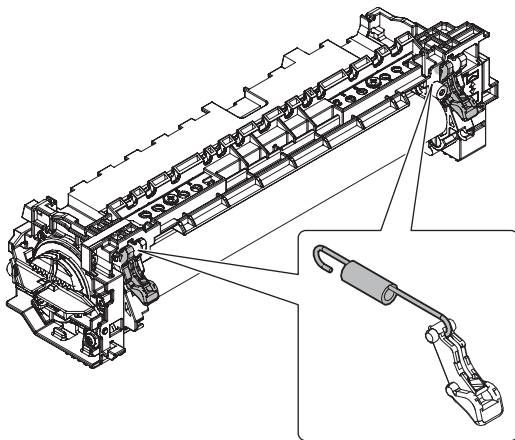
- 2) Pull down the pressure lever and remove the sub-pressure spring.



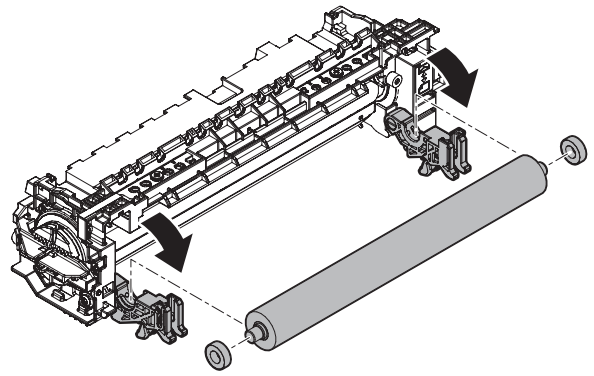
- 3) Remove the pressure spring.



When attaching, install the spring as shown below.(Spring is passed through the inside of the frame).



- 4) Open the pressure lever and remove the pressure roller and the bearings.

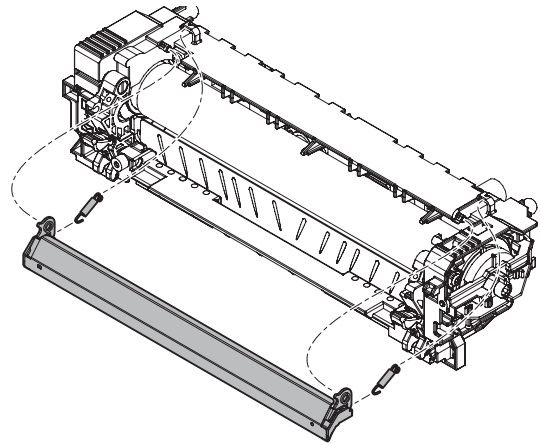


When replacing, apply grease (UKOG-0235FCZZ).



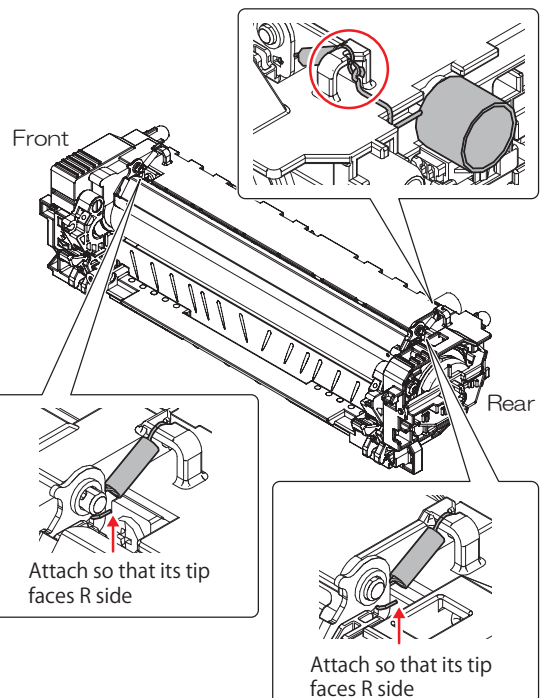
(2) Fusing rear upper separation plate

- 1) Remove the spring and the separation plate



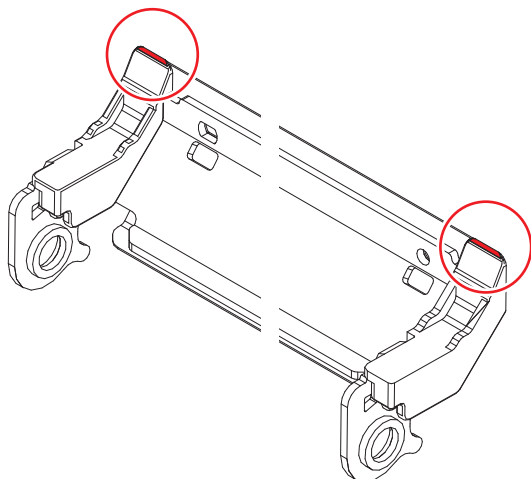
When attaching, install the spring as shown below.

On the R side, attach the spring tip hook to the fusing earth spring



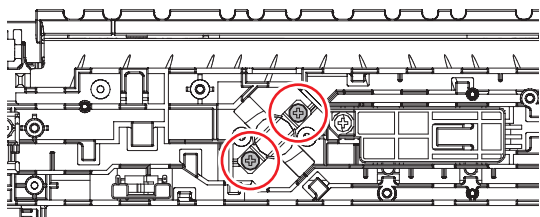
When replacing the separation plate holder, apply silicon oil (UKOG-0323FCZ1).

Confirm that silicone oil is not adhering to others.



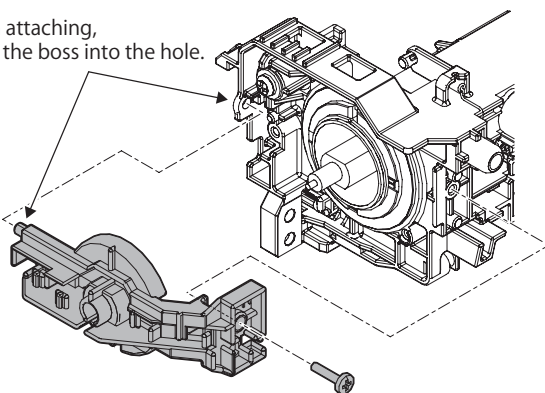
(3) Heater lamp

- 1) Remove the screws.

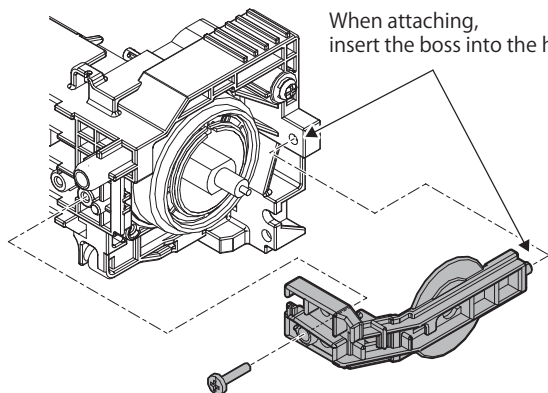


- 2) Remove the screw and remove the fusing lamp holder.

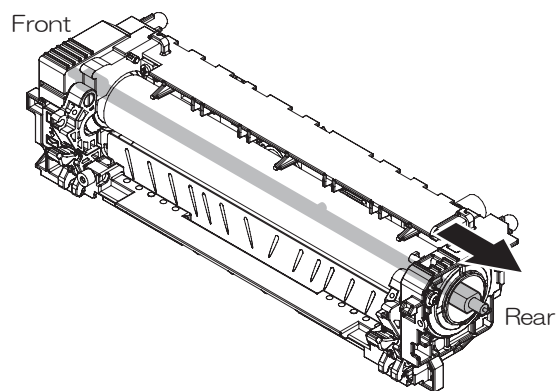
When attaching,
insert the boss into the hole.



When attaching,
insert the boss into the hole.

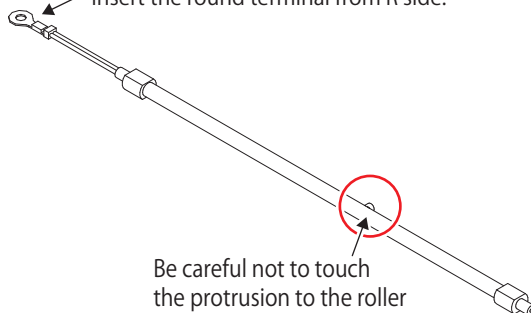


- 3) Remove the heater lamp. (Pull out R side.)

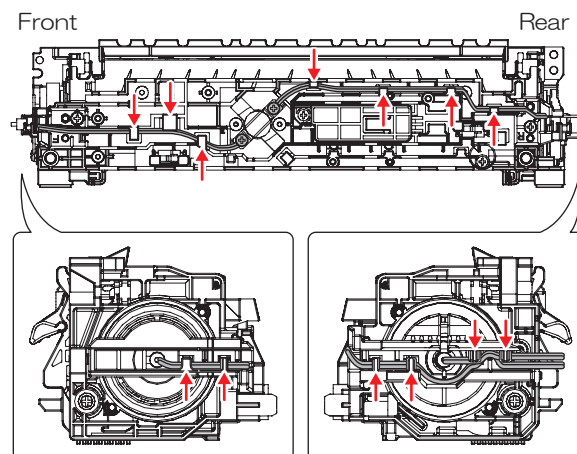


when attaching,

Insert the round terminal from R side.

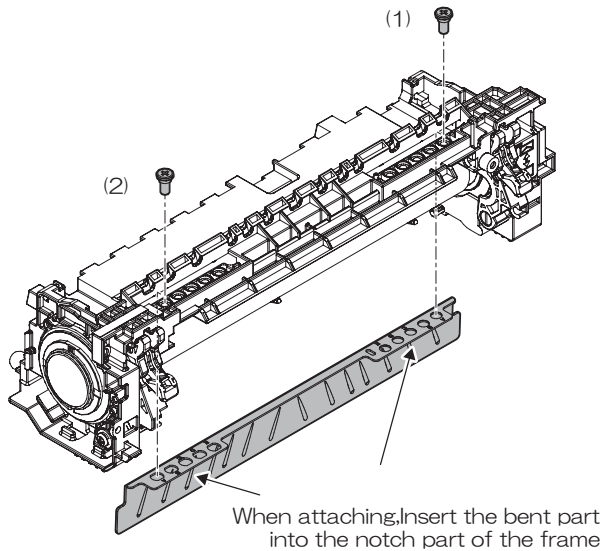


Fit the lamp harness into the rib of the fusing frame.

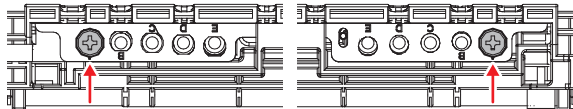


(4) Fusing roller

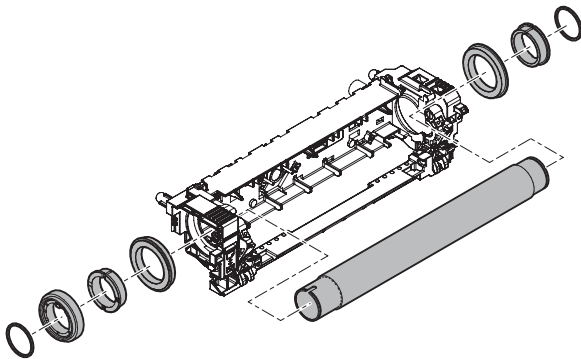
- 1) Remove the screw and remove the fusing paper enter guide.



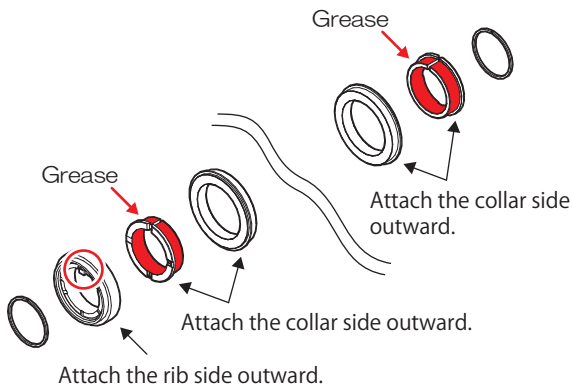
The step screws should be hand-tightened to the position of A.



- 2) Remove the stopper, the insulation bush, the bearing, the drive gear and the fusing roller.

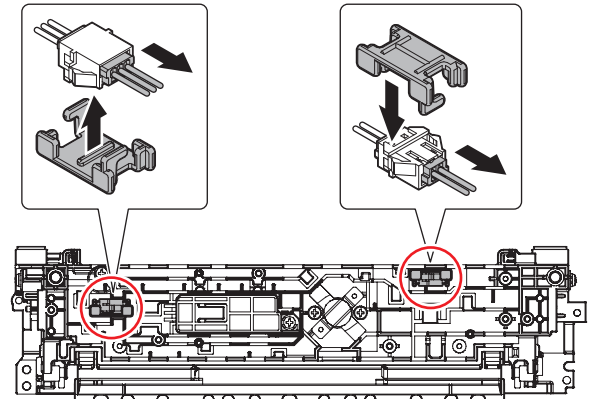


When replacing, apply grease (UKOG-0235FCZZ) to the insulation bush.

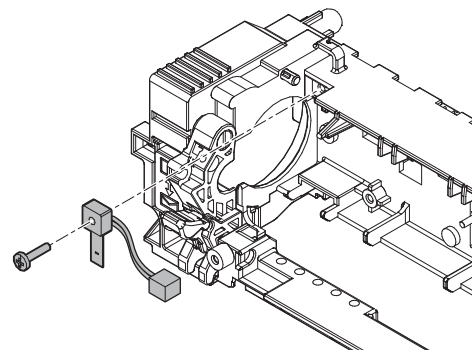


(5) Sub-thermistor

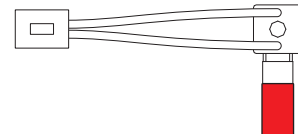
- 1) Remove the connector folder and disconnect the connector.



- 2) Disconnect the connector and remove the screw, the sub thermistor.

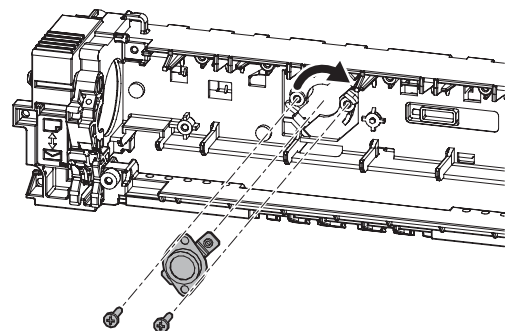


When replacing, apply silicon oil (UKOG-0323FCZ1).



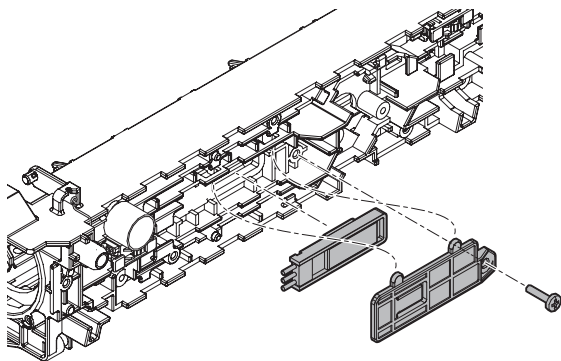
(6) Thermostat

- 1) Remove the screws and turn the thermistor 90 ° (clockwise) to remove it.



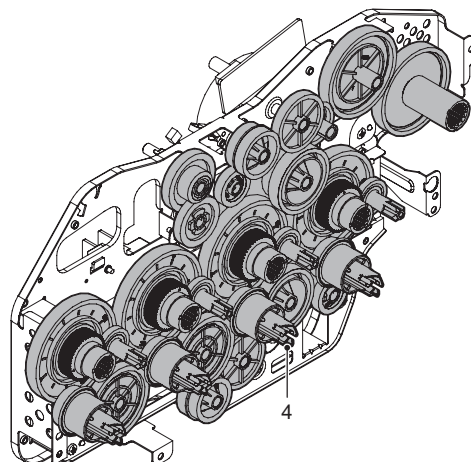
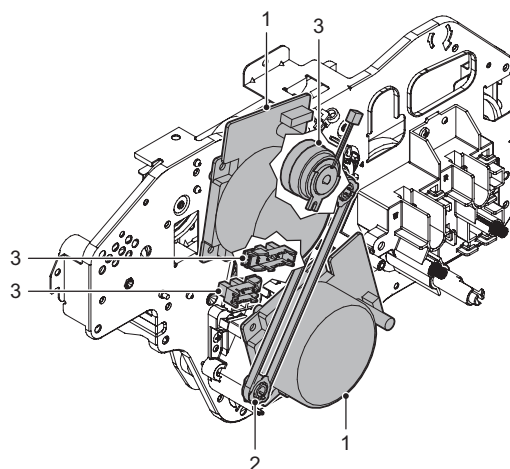
(7) Non-contact thermistor

- 1) Remove the screw, the thermistor cover and disconnect the connector and remove the non-contact thermistor.



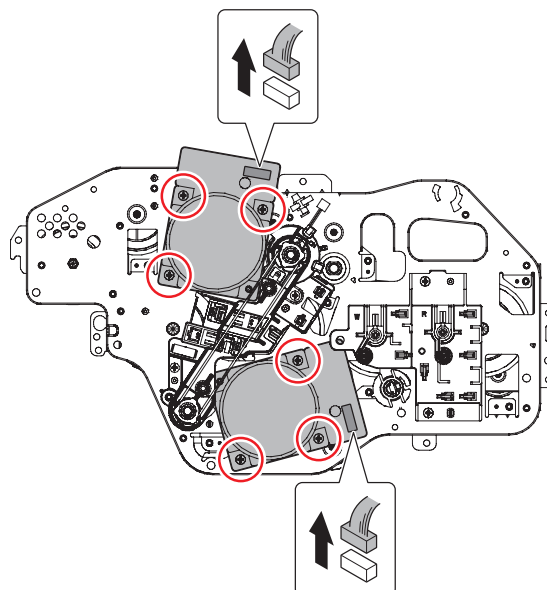
I. Drive unit

No.	Name
1	Motor
2	Drive pulley, belt
3	OPC drum rotation sensor, clutch
4	Coupling, gears



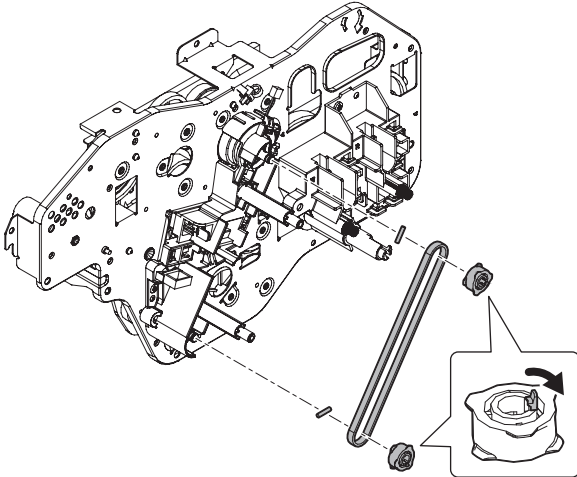
(1) Motor

- 1) Disconnect the connector and remove the screws and the drum motors.

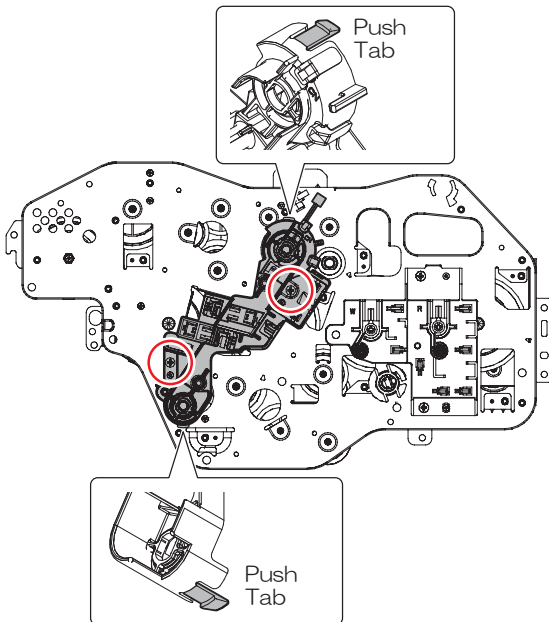


(2) Drive pulley, belt

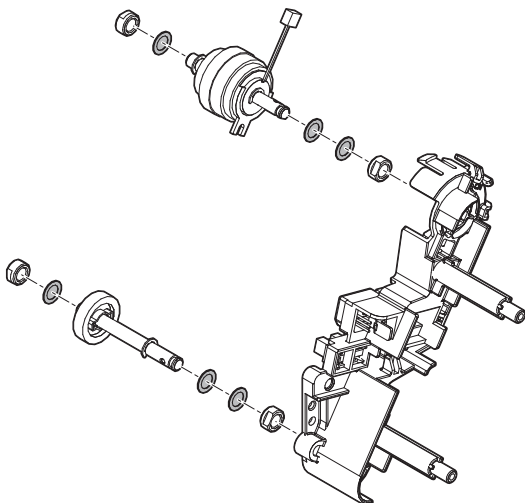
- 1) Push the tab and remove the drive pulley and the belt and the pin.



- 2) Remove the screws and push the tabs and remove the DV drive holder.

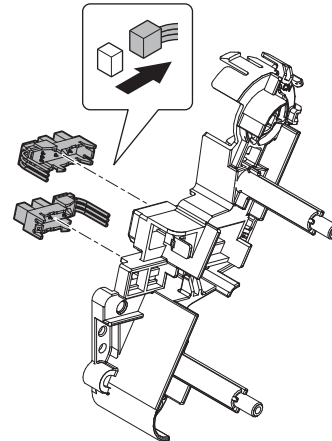


Spacer position

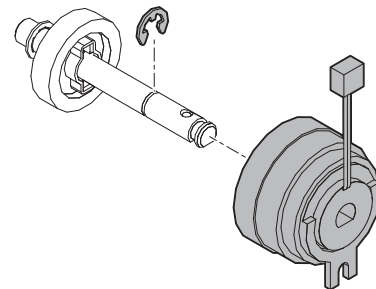


(3) OPC drum rotation sensor

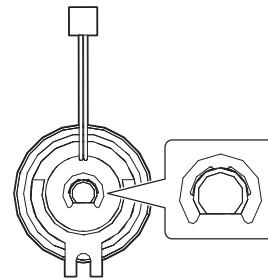
- 1) Disconnect the connector and push the tab and remove the sensors.



- 2) Remove the E-ring and the clutch.

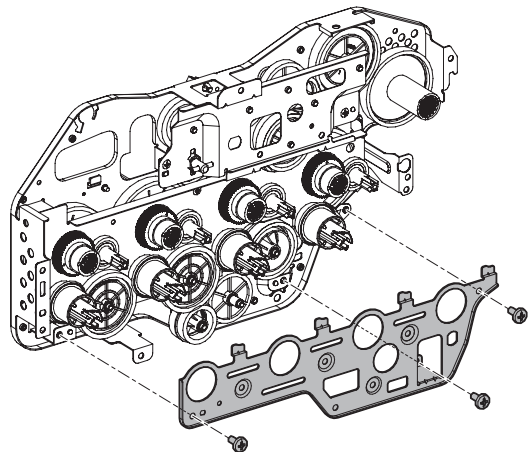


When attaching, be careful of the D shape position of the E ring and shaft.

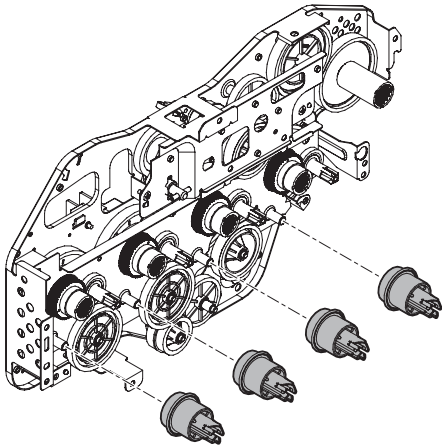


(4) Coupling, gears

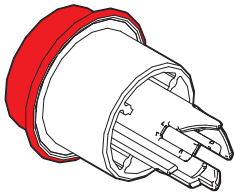
- 1) Remove the screws and DV support plate.



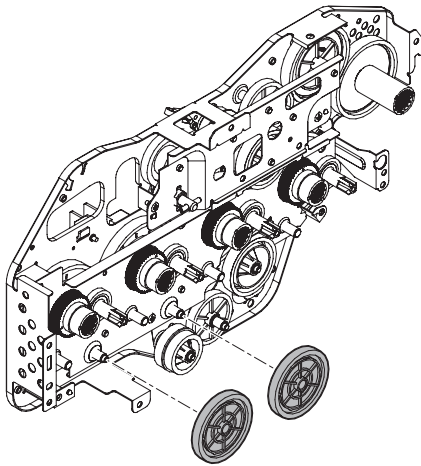
- 2) Remove the DV couplings.



When replacing the gears, apply grease (UKOG-0307FCZZ) to the DV coupling as shown below.

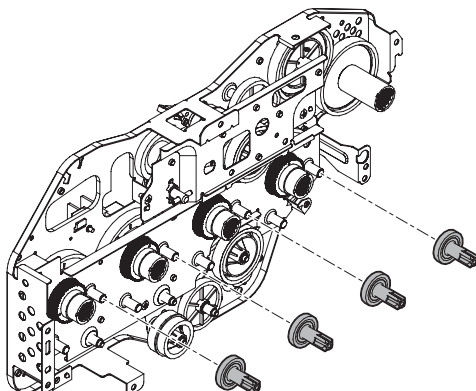


- 3) Remove the 59T gear.



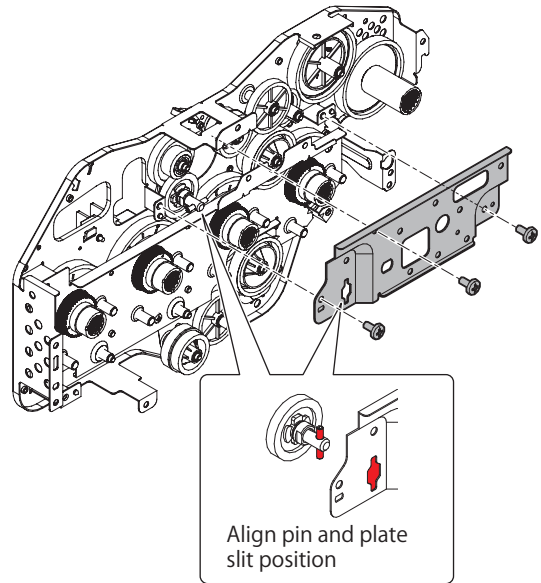
When replacing the gears, apply grease (UKOG-0307FCZZ) on the gear face.

- 4) Remove the waste toner coupling gear.

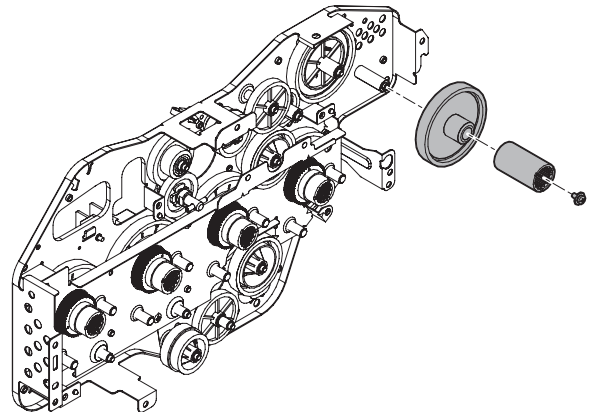


When replacing the gears, apply grease (UKOG-0307FCZZ) on the gear face.

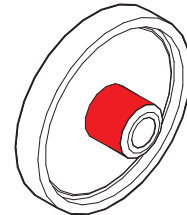
- 5) Remove the screws and remove the belt gear support plate.



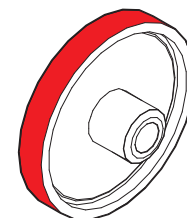
- 6) Remove the screw and remove the belt coupling JNT, the belt drive gear 96/16T.



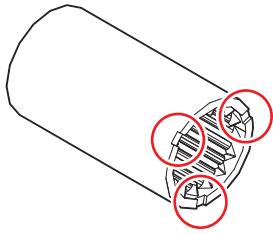
When replacing, apply grease (UKOG-0013QSZZ) to small gear tooth surface.



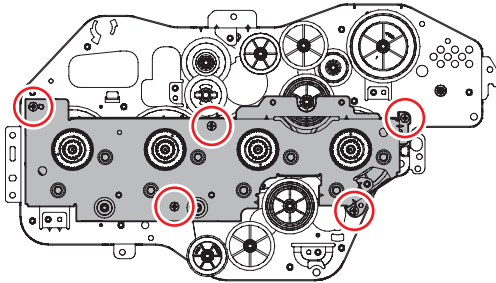
When replacing, apply grease (UKOG-0607FCZZ) to large gear tooth surface.



Attach the recess so that it faces forward.

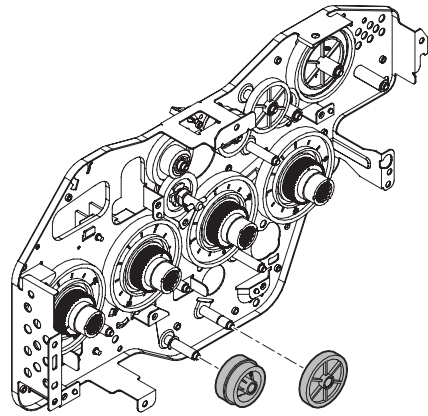
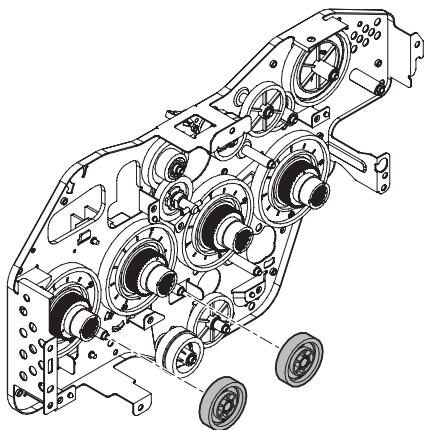
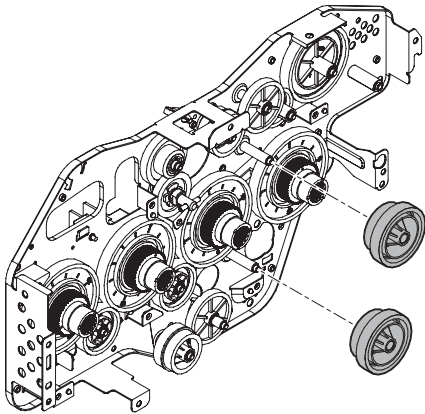


- 7) Remove the screws and remove the gear support plate.

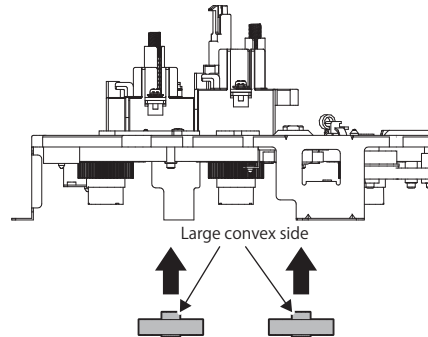


When replacing, apply grease (UKOG-0307FCZZ) on the axis.

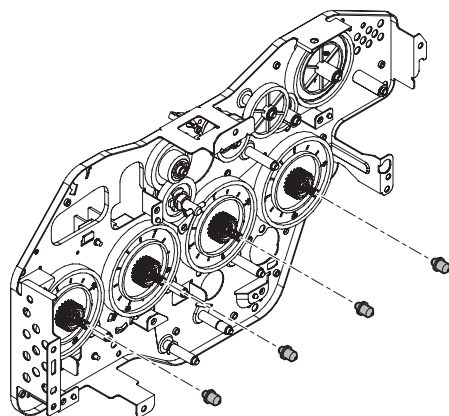
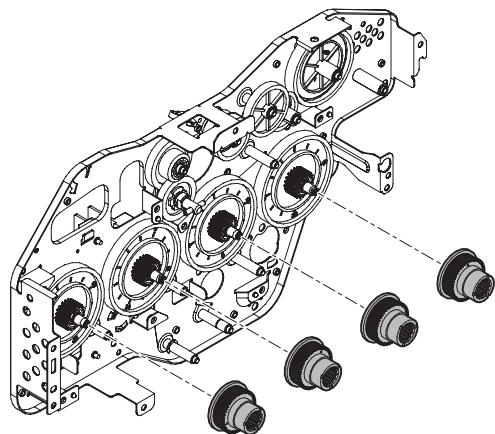
- 8) Remove the drum reduction gear 72/58T.
Remove the drum idle gear 58T.
Remove the DV drive gear 63T.
Remove the DV reduction gear 52/34T.

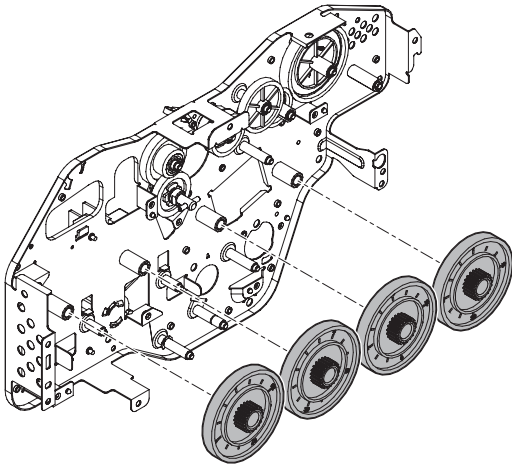
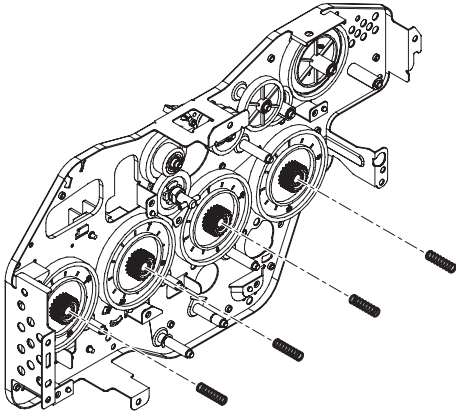


CAUTION: Drum idle gear 58T mounting direction



- 9) Remove the DR coupling, DR earth shaft, DR earth spring, Drum drive gear 113/20T.



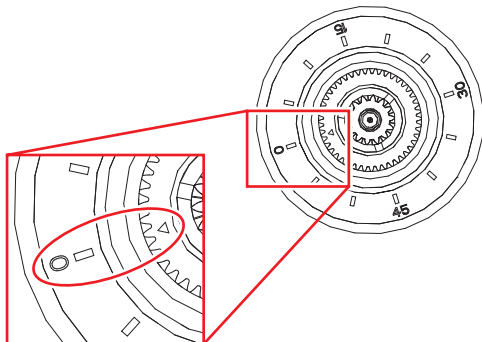


When replacing the DR earth shaft or the DR earth spring, apply conductivity grease (UKOG-0012QSZZ) to the DR earth shaft and both end of the spring.

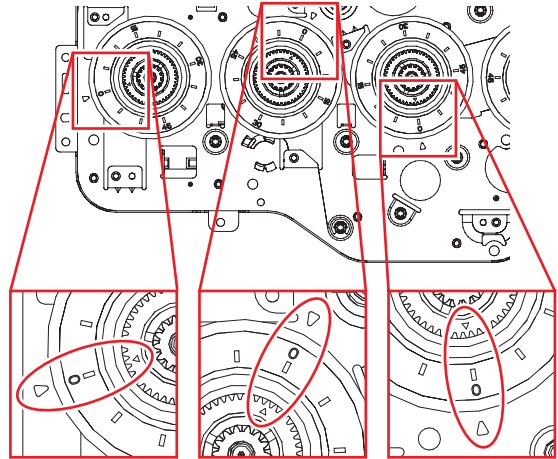


Important

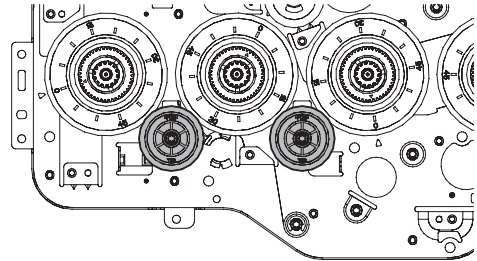
When assembling the DR coupling and the drum drive gear, Align the position of the DR coupling stamp "▲" with the drum drive gear stamp "O".



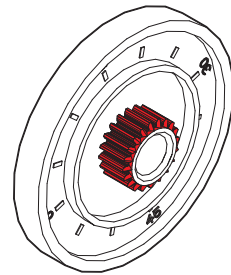
When attaching the color coupling,
Align the position of the drum drive gear stamp "O" with the triangular hole of the frame.



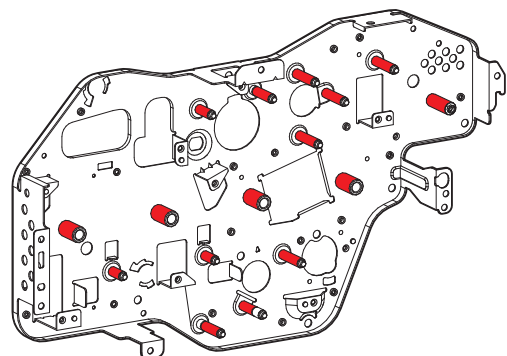
In the above alignment state, attach the drum idle gear 58T.
(Assemble so that the position does not shift.)



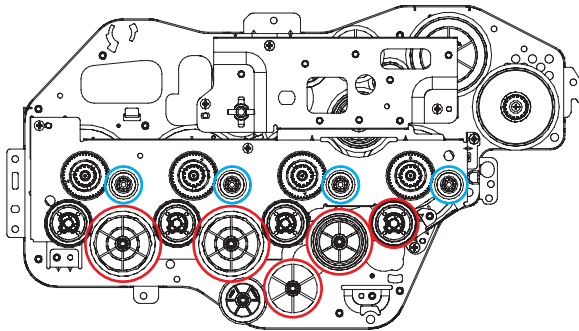
When replacing the DR coupling and drum drive gear 113/20T,
Apply grease (UKOG-0013QSZZ) to the joint part.



When replacing the drive frame, apply grease (UKOG-0307FCZZ)
to the axis.

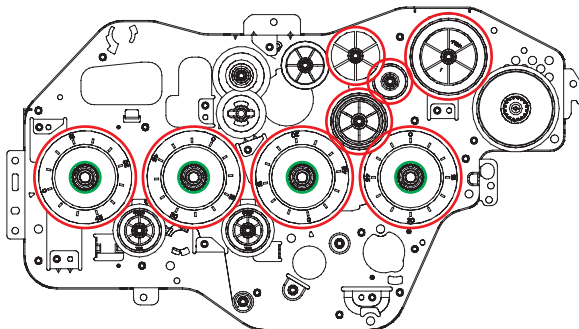


When replacing the gears, apply grease.



■ UKOG-0307FCZZ

■ UKOG-0299FCZZ

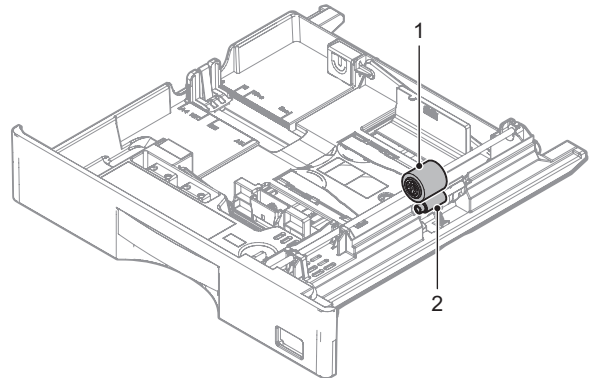


■ UKOG-0307FCZZ

■ UKOG-0013QSZZ

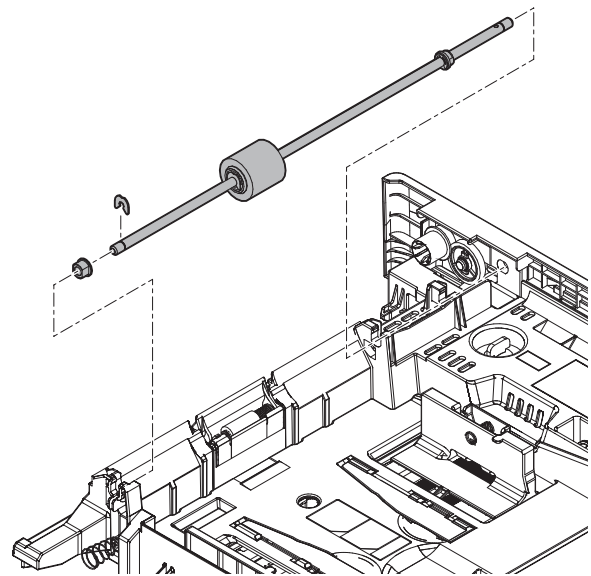
J. Paper feed tray

No.	Name
1	Paper feed roller
2	Separation roller

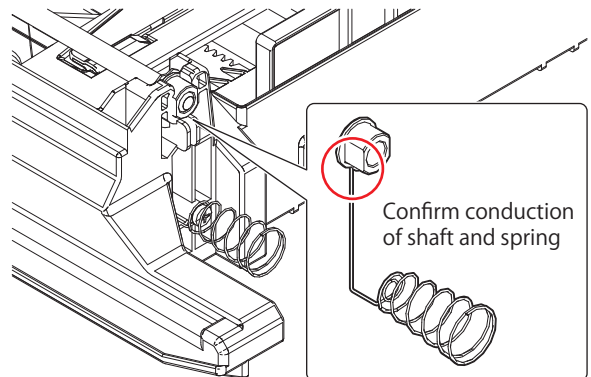


(1) Paper feed roller

- 1) Remove the paper feed tray.
- 2) Remove the E-ring and slide the bearing and remove the paper feed roller Assembly.

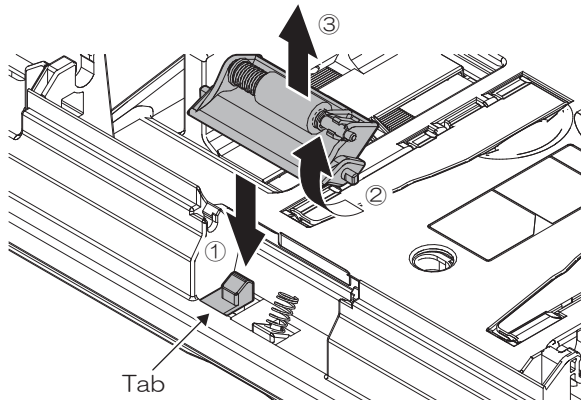


When attaching, contact the earth sprint and the bearing.

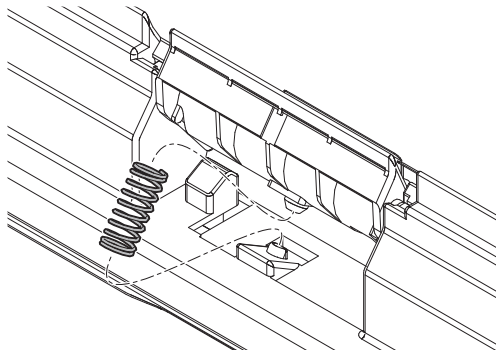


(2) Separation roller

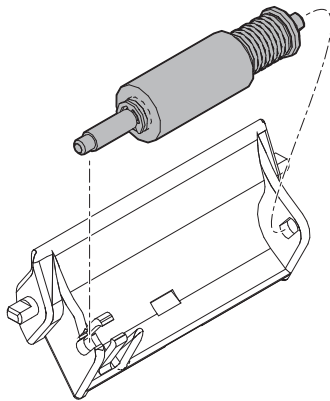
- 1) Push the tab and remove the separation roller assembly.



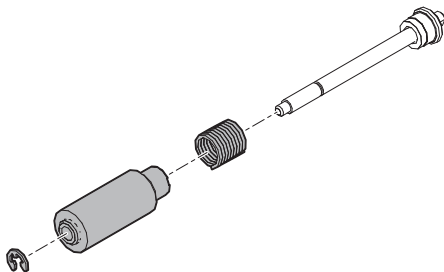
When attaching, insert the spring into the boss.



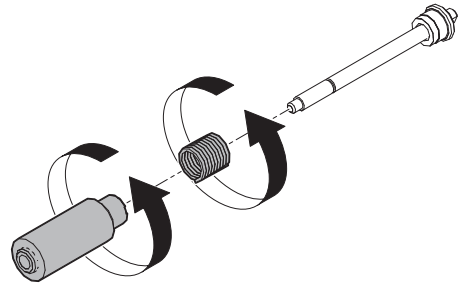
- 2) Remove the separation roller assembly.



- 3) Remove the E-ring and remove the separation roller and the torque limiter.



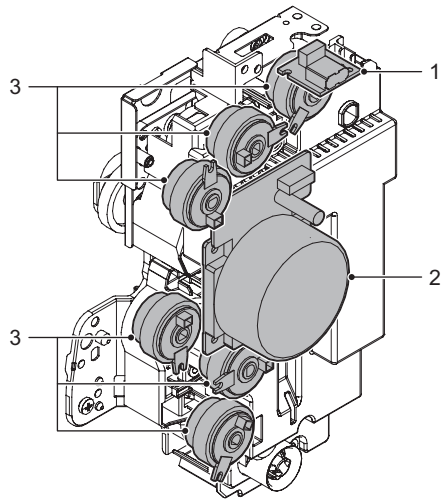
When attaching, the torque limiter and the roller are inserted while rotating in the counterclockwise direction.



Rotate and insert until the spring comes into close contact

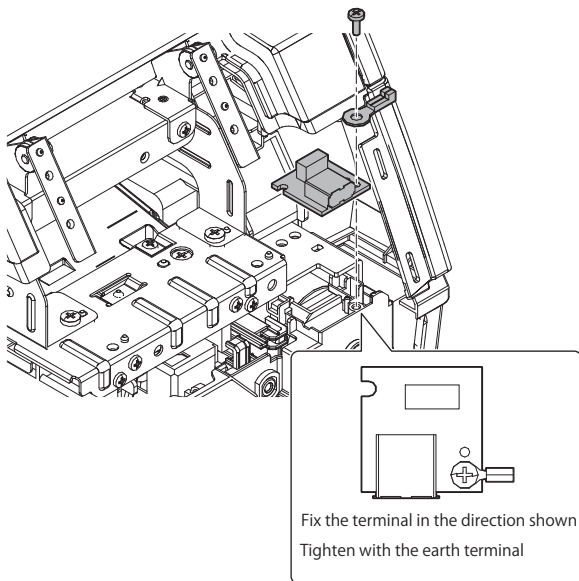
K. Transport drive section

No.	Name
1	USB I/F PWB
2	Main motor
3	Clutch

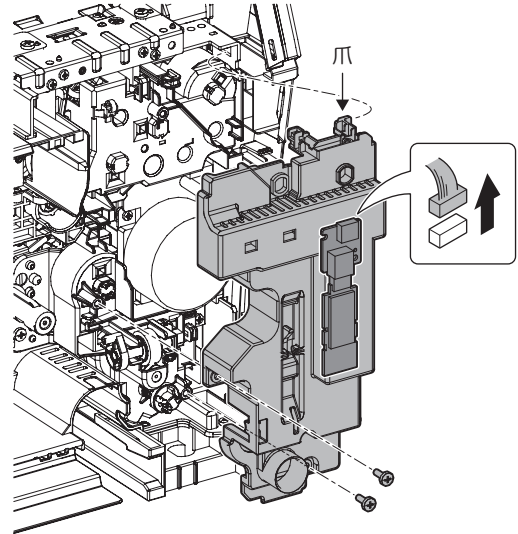


(1) USB I/F PWB

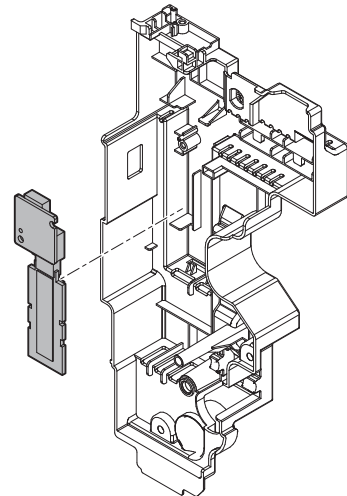
- 1) Pull out the paper tray.
- 2) Remove the toner cartridge, toner collection container, and remove the developing unit cover.
- 3) Remove the front cabinet upper.
- 4) Remove the screw and remove the USB I/F PWB.



- 5) Remove the screws and disconnect the connector and remove the inner cover.

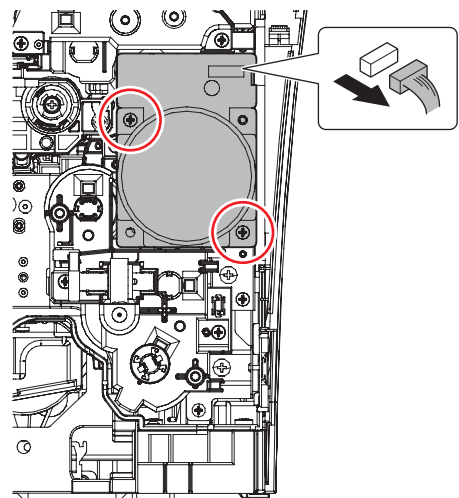


- 6) Remove the USB CN PWB and Wireless LAN adapter.



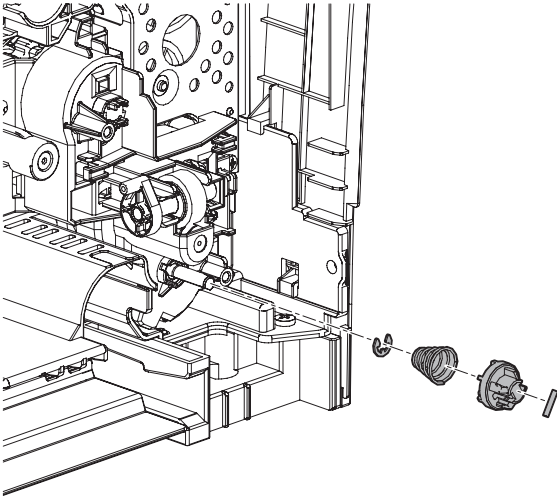
(2) Main motor

- 1) Disconnect the connector, Remove the screws and remove the main motor.

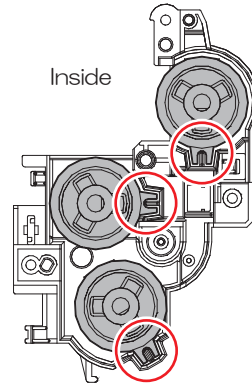


(3) Clutch

- 1) Remove the spring pin and remove the paper feed joint coupling, the spring and the E-ring.

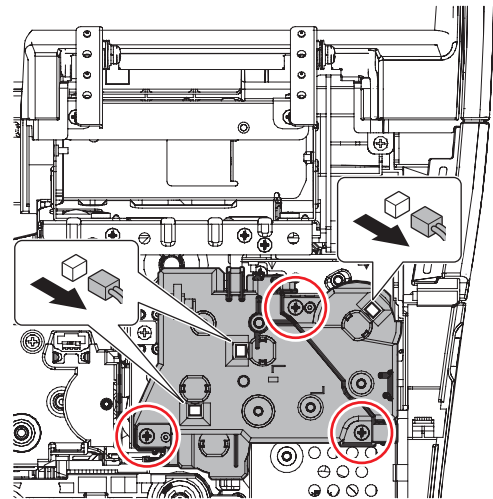
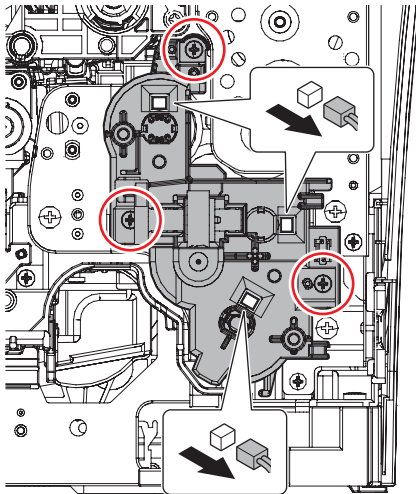


When attaching, adjust the stopper position of the clutch to the rib position of the cover.



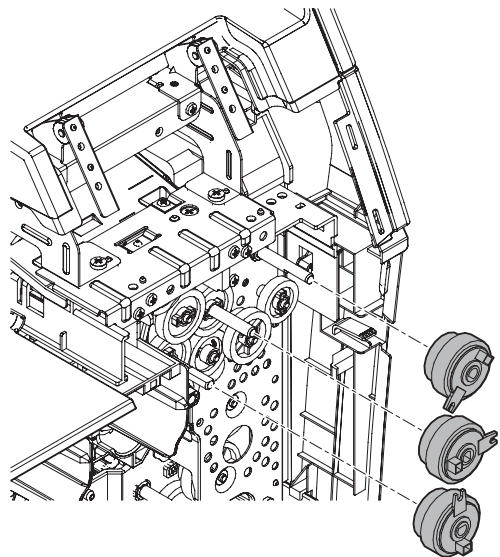
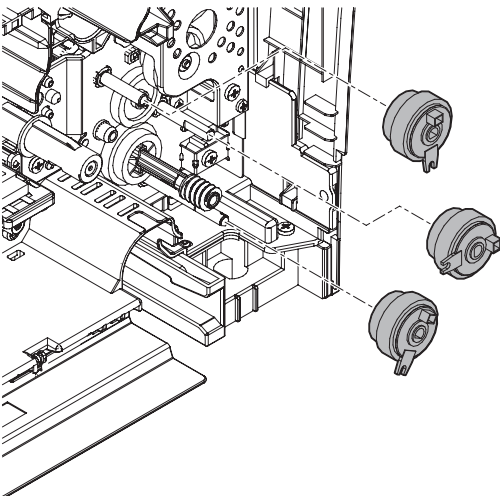
- 4) Disconnect the connector and remove the screws and the delivery drive frame.

- 2) Disconnect the connector and remove the screws and the paper feeding drive frame.

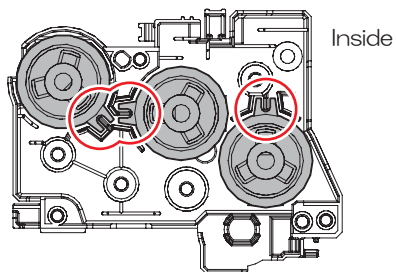


- 5) Remove the ADU clutch, the paper exit clutch, the paper exit reverse clutch.

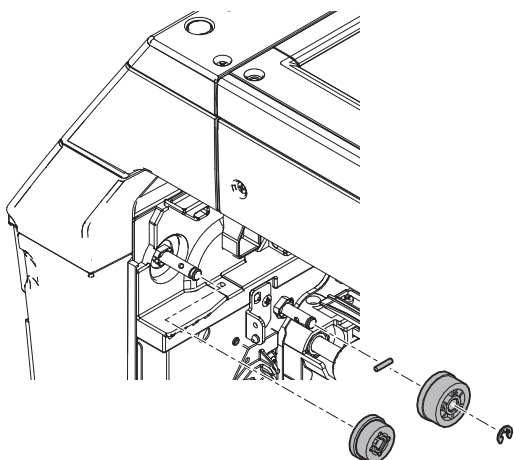
- 3) Remove the PS clutch, manual paper feed clutch, paper feed clutch.



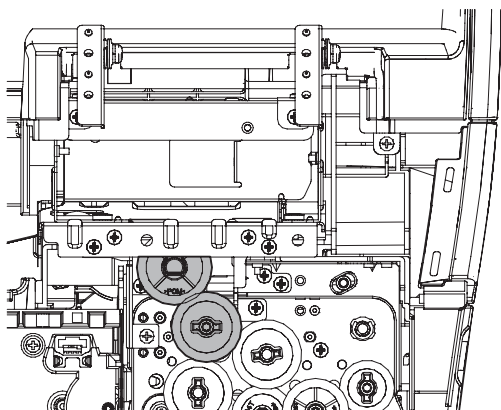
When attaching, adjust the stopper position of the clutch to the rib position of the cover.



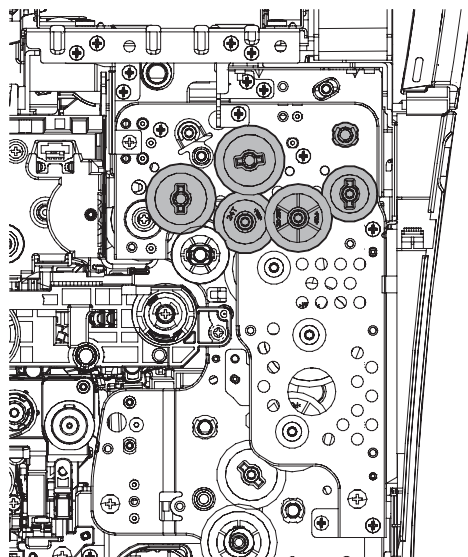
- 6) Open the right door unit.
- 7) Remove the fusing unit.
- 8) Push the tab and remove the joint gear.
Remove the E-ring and the fusing gear 21T. (Also remove the pin.)



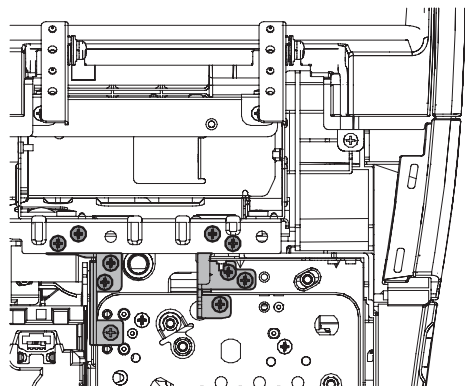
- 9) Remove the gear.



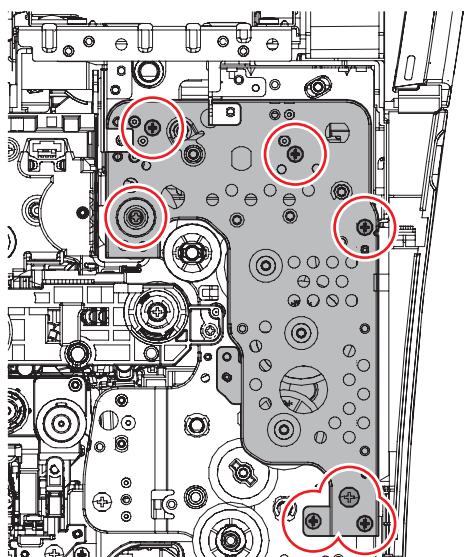
- 10) Remove the gears.



- 11) Remove the screws and remove the tilt mounting plate L, tilt mounting plate R.

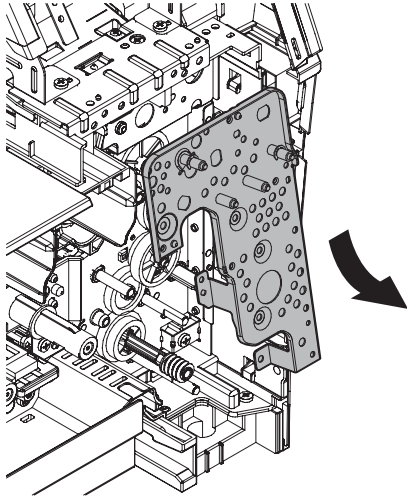


- 12) Remove the screws and remove the transport drive plate.

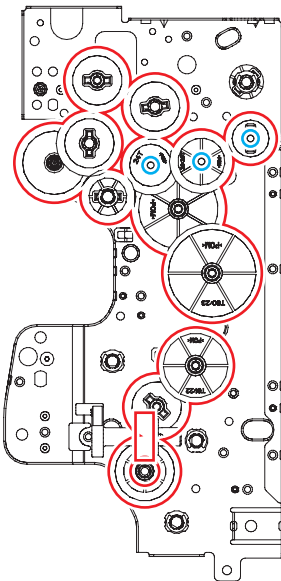


L. Operation panel

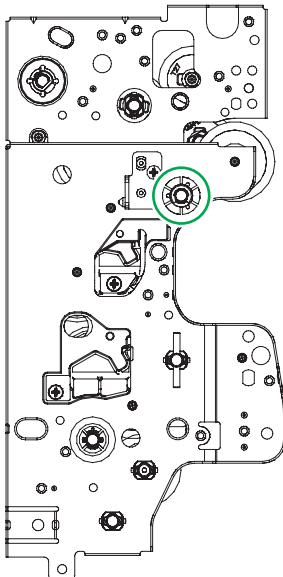
No.	Name
1	LCD I/F PWB
2	LCD
3	Touch panel
4	HM-KEY PWB



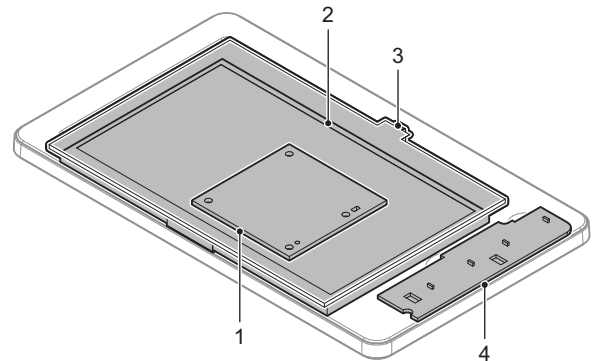
When replacing the gears, apply predetermined grease.



■ UKOG-0299FCZZ
■ SHAFT
UKOG-0013QSZZ

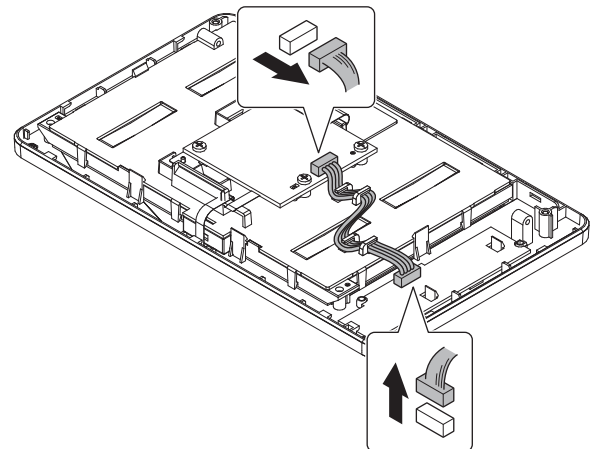


■ UKOG-0235FCZZ

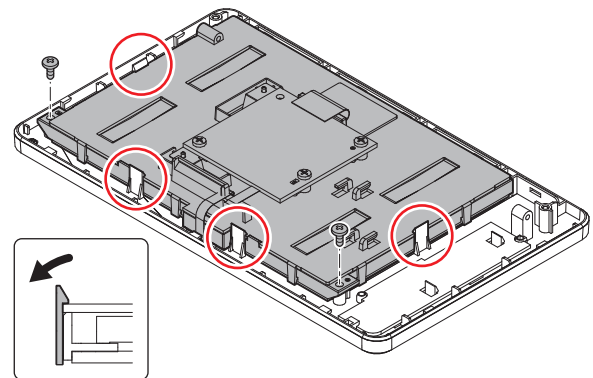


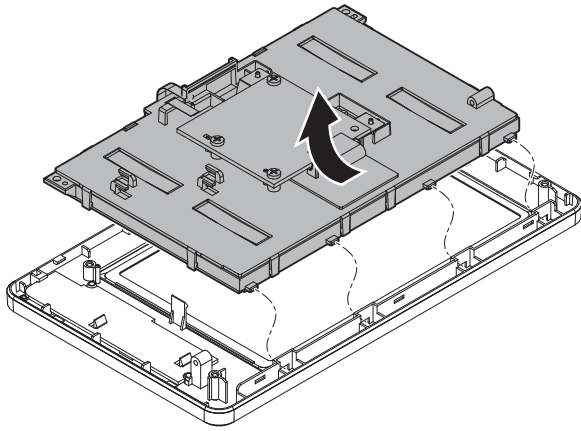
(1) LCD I/F PWB

- 1) Disconnect the connector.

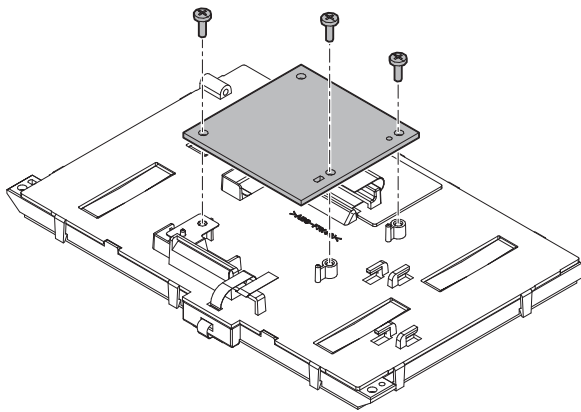


- 2) Remove the screw and push the tab and remove the LCD holder unit.

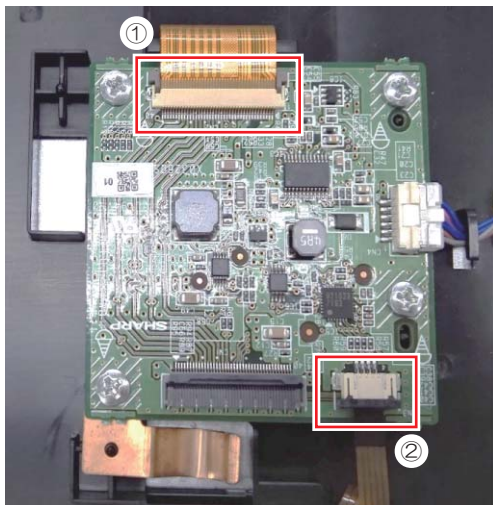




- 3) Disconnect the FFC and remove the screws and remove the LCD I/F PWB.

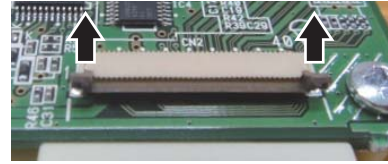


When removing and attaching the FFC, pay attention to unlocked state and locked state.



(a)

Raise the tab. (unlock position)



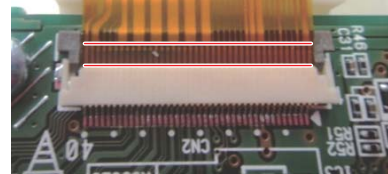
Insert the FFC.



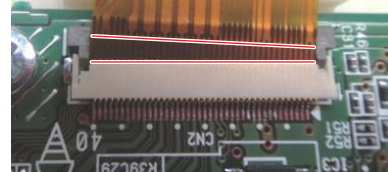
Lower the tab. (lock position)



OK

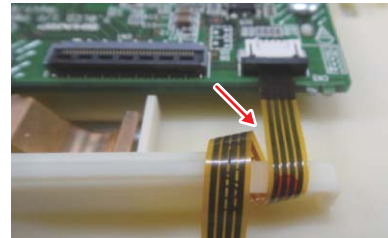


NG

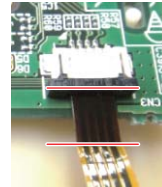


(b)

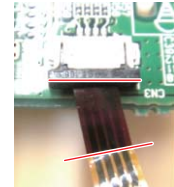
Winding FFC around the cabinet.



OK

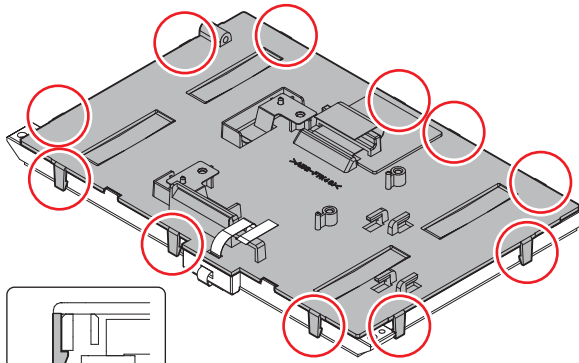


NG

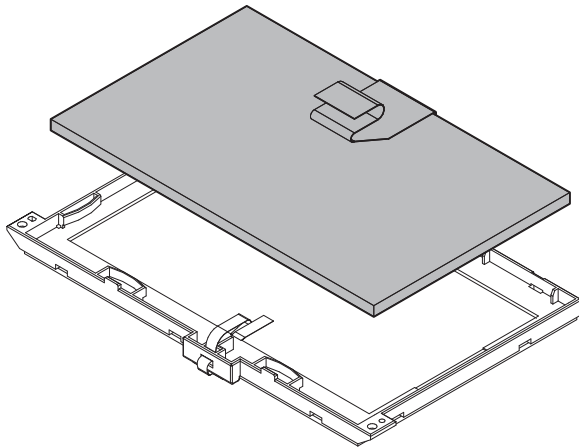


(2) LCD

- 1) Winding FFC around the cabinet.

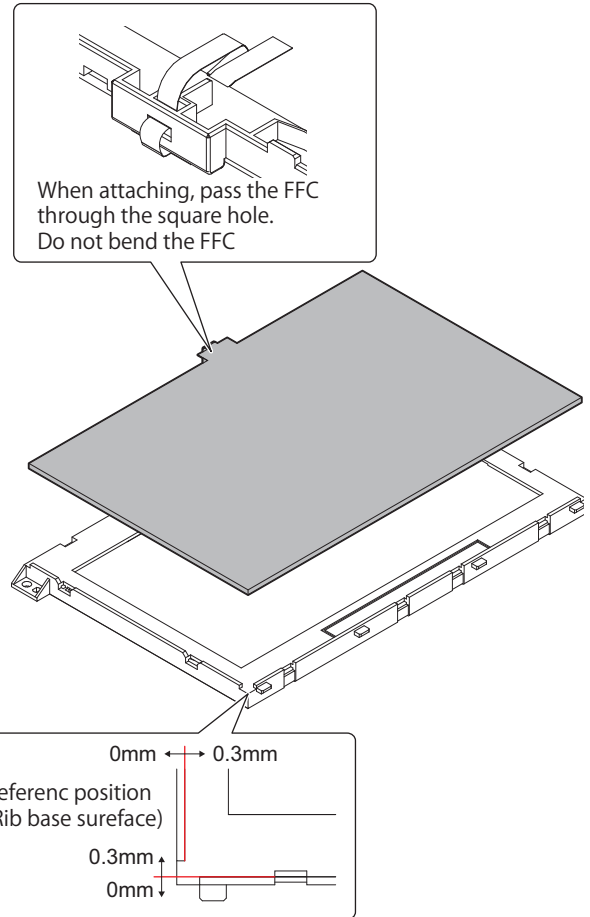


- 2) Remove the LCD.

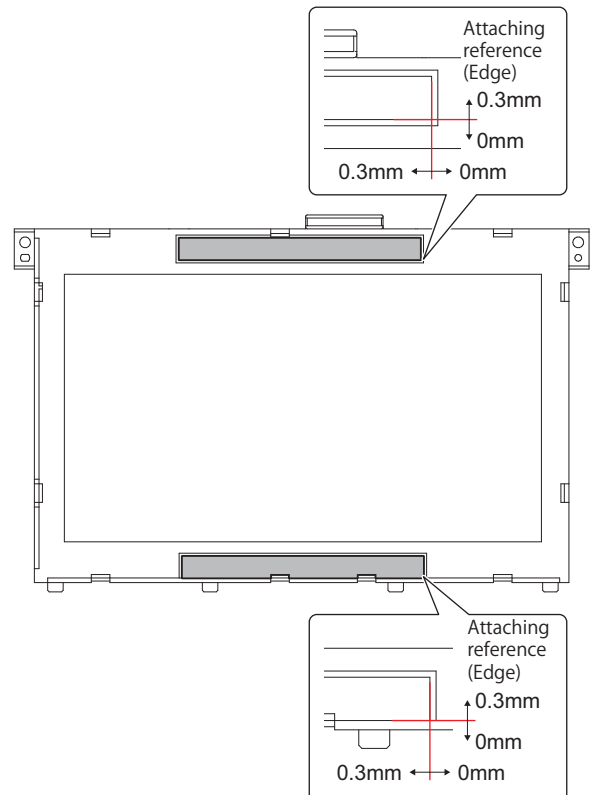


(3) Touch panel

- 1) Remove the touch panel.

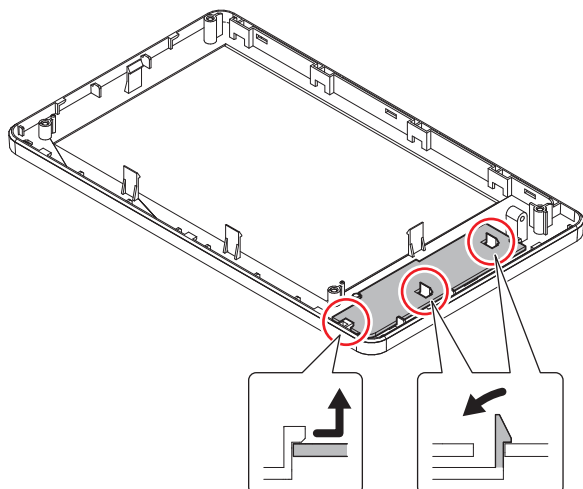


- 2) Remove the sheet.



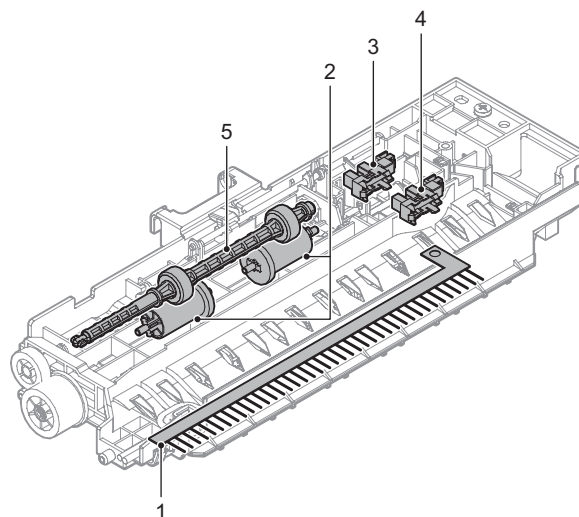
(4) HM-KEY PWB

- 1) Push the tab and remove the HM-KEY PWB.



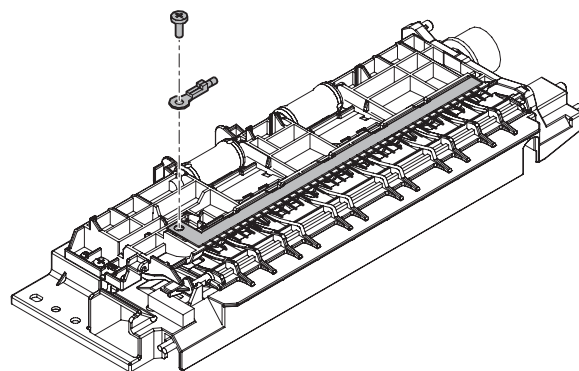
M. Paper exit unit

No.	Name
1	Discharge blush
2	Paper exit roller (Idle)
3	Paper exit full detector
4	Paper exit detector
5	Paper exit roller (Drive)

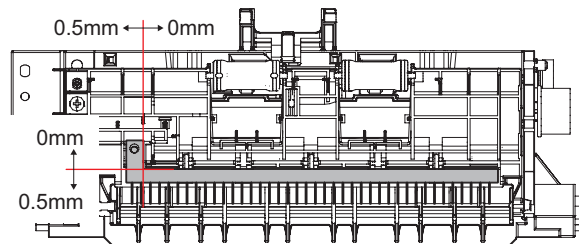


(1) Discharge blush

- 1) Remove the screw and remove the discharge blush.

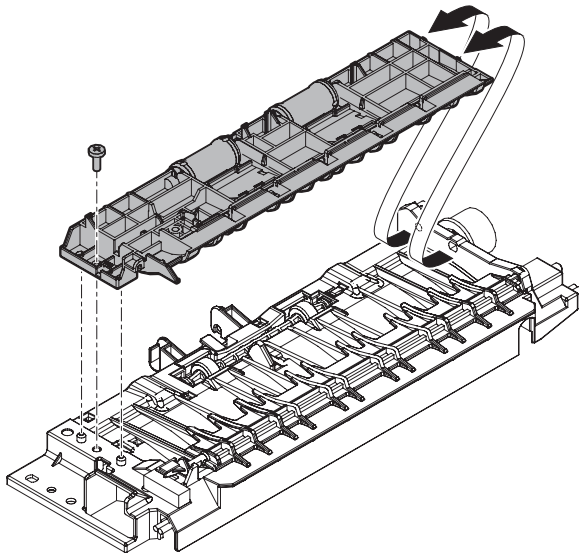


Attaching reference (Corner edge)

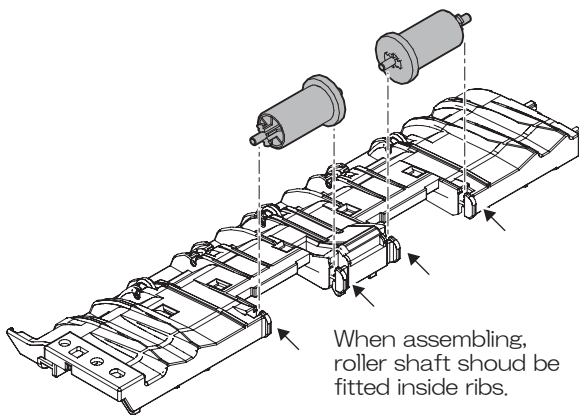


(2) Paper exit roller (Idle)

- 1) Remove the screw and remove the paper exit lower paper guide Assembly.



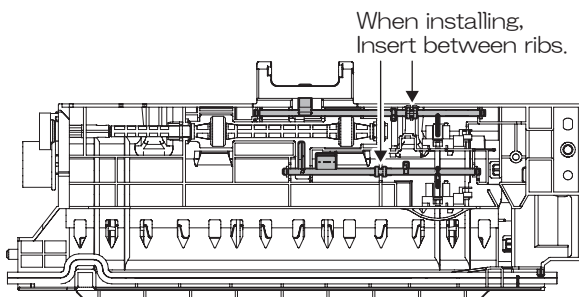
- 2) Remove the paper exit idle roller from the spring.



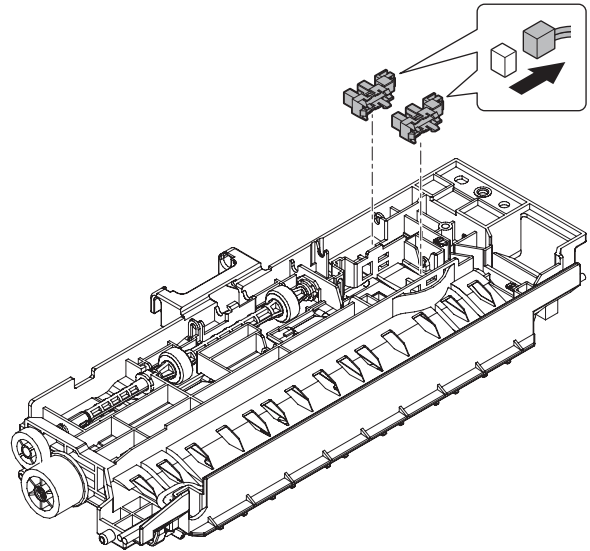
(3) Paper exit full detect sensor

(4) Paper exit detect sensor

- 1) Remove the full detector lever and the fusing rear actuator.

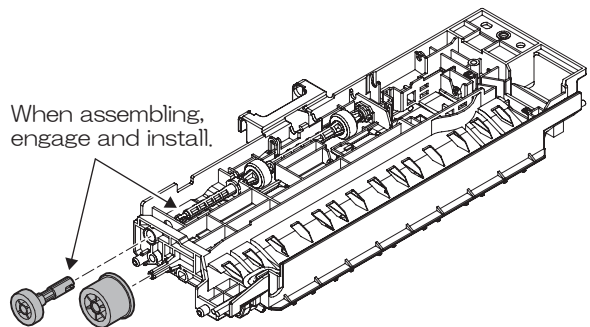


- 2) Disconnect the connector and remove the paper exit full sensor and paper exit detect sensor.

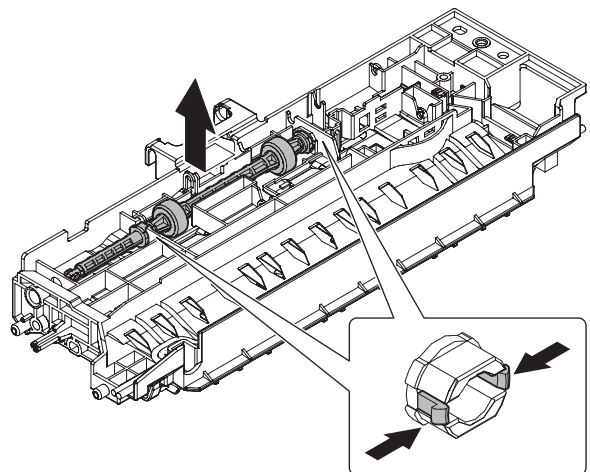


(5) Paper exit roller (Drive)

- 1) Remove the delivery middle gear (23T) and the delivery gear (18T).



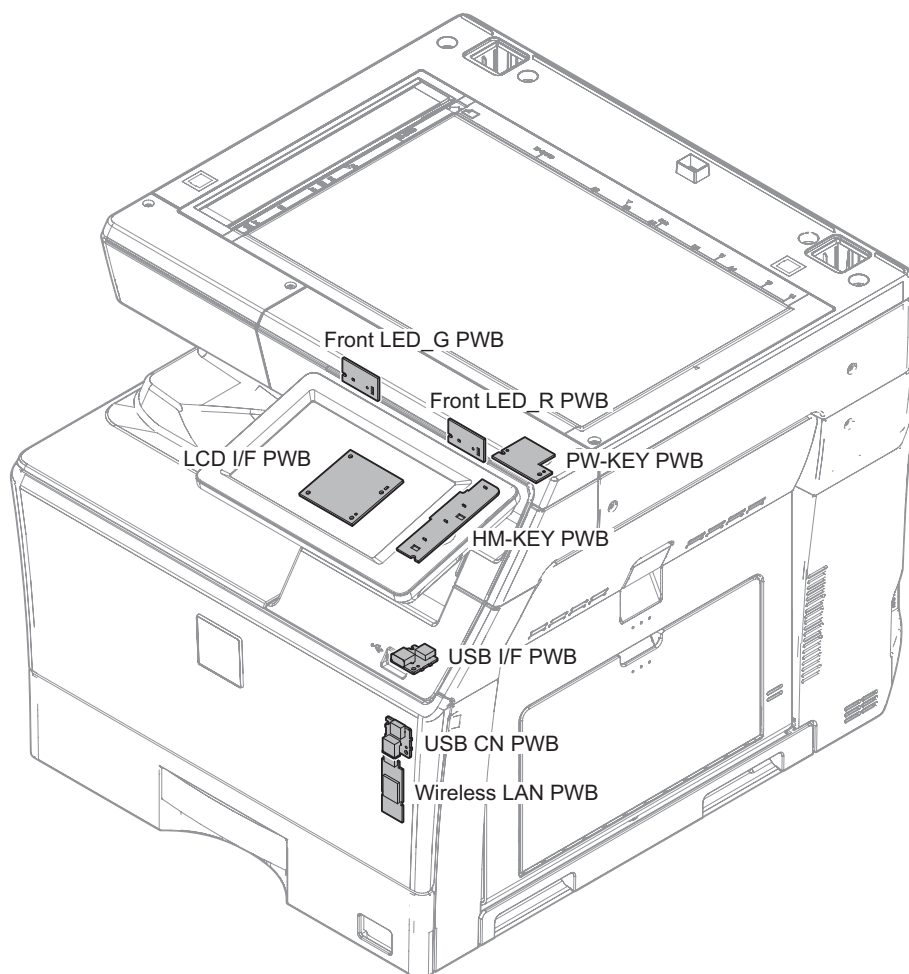
- 2) Push the nail and remove the bearing. Slide to remove the paper exit roller.



[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 MFP PWB.
7	USB I/F PWB	USB Interface
8	Wireless LAN PWB	This PWB makes a wireless network connection.

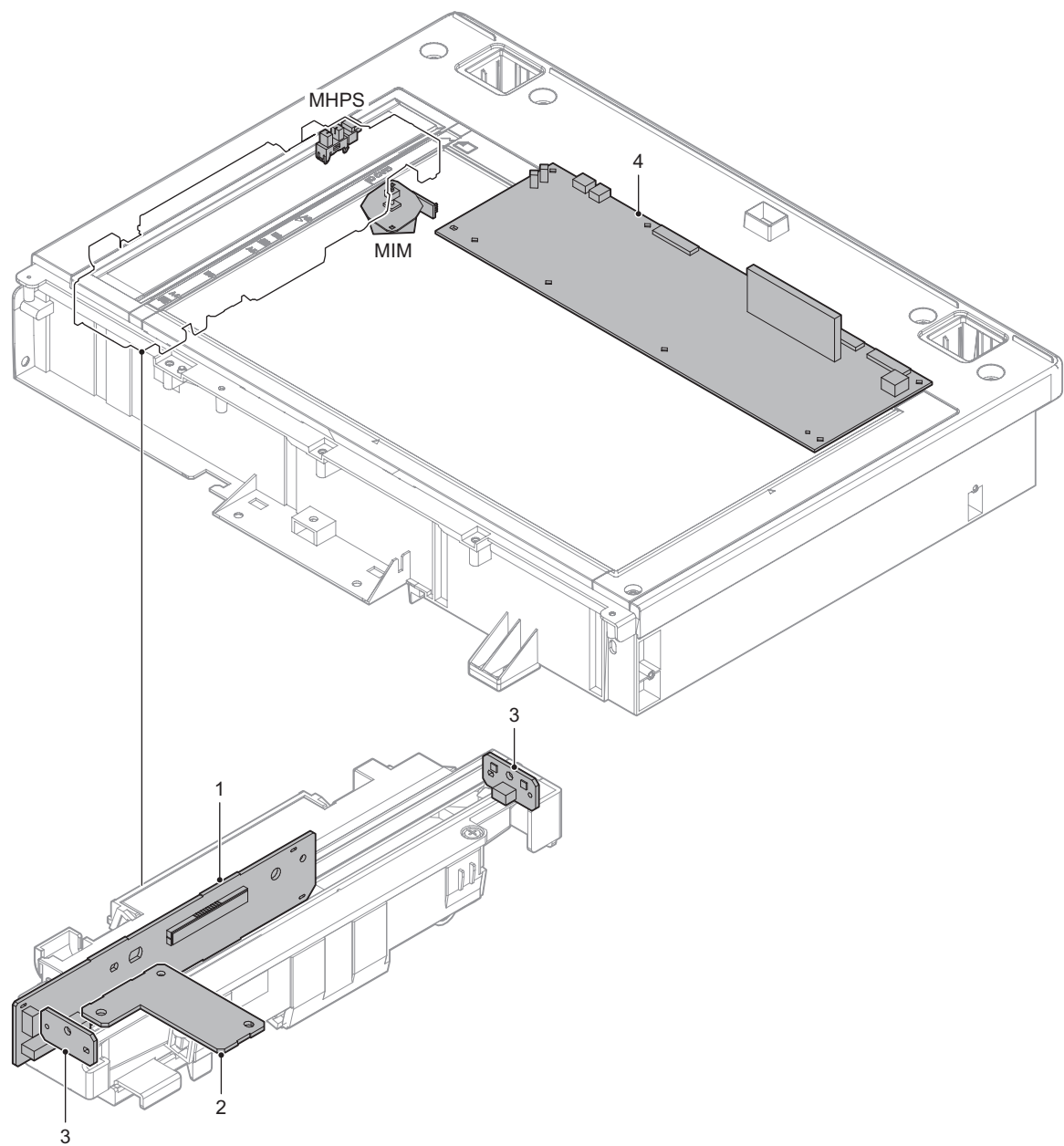
B. Operational descriptions

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

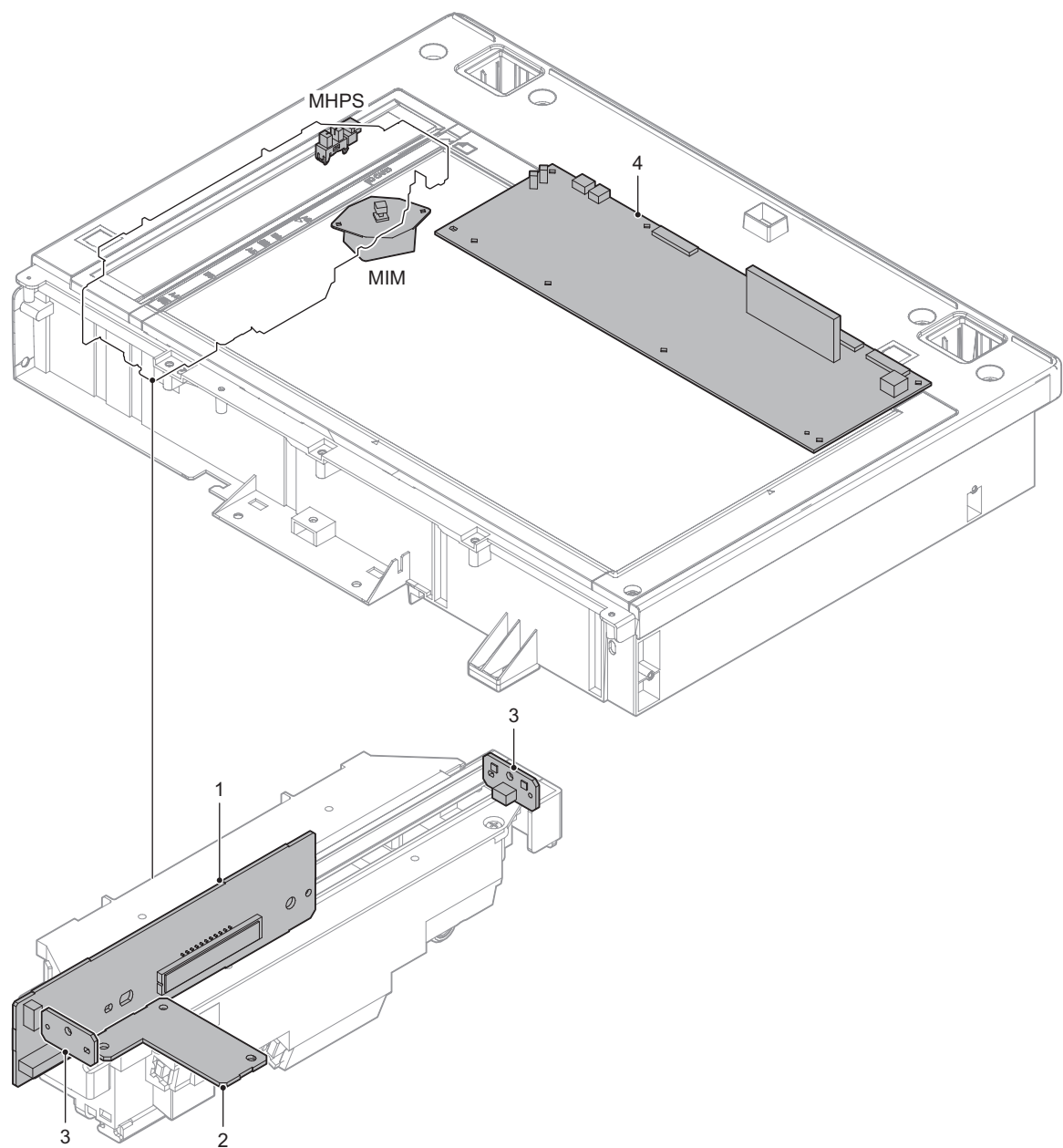
A. Mechanism relation diagram

RSPF model



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	Drives the scanner lamp.
3	LED PWB	Based PWB with scanner light source LED.
4	SCN-cnt PWB	This PWB controls image data.



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4	SCN-cnt PWB	This PWB controls image data.

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.

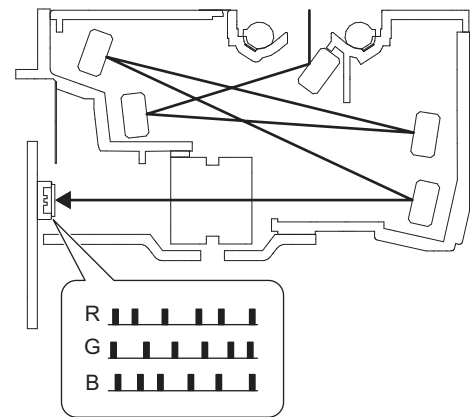
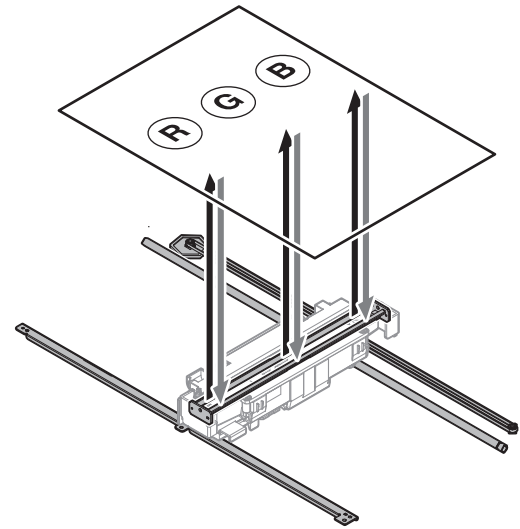
The CCD element is apparently seen as one unit, but it includes the three kinds of elements (R, G, B).

The CCD element scans the document in the main scanning direction.

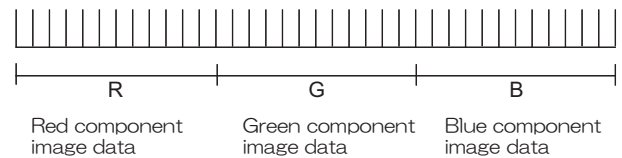
Scanning in the sub scanning direction is made by shifting the scanner unit with the scanner motor.

The document images are optically reduced by the lens and reflected to the CCD.

The scan resolution is 600 dpi.

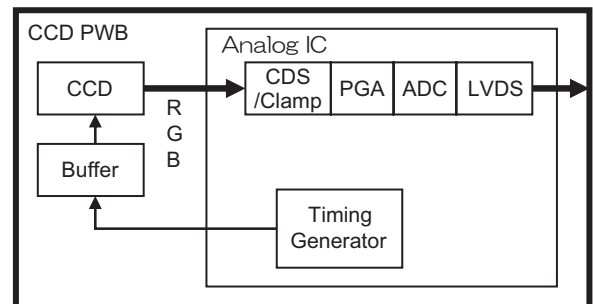


(Image data for 1 line)



d. Image signal A/D conversion

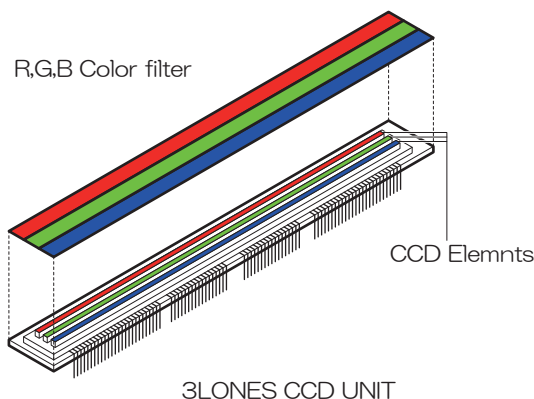
- 1) The image signal (analog) for each of R, G, and B is converted into 10bit digital signal by the A/D converter. Each color pixel has 10bit information.
- 2) The 10bit digital image signals of R, G, B from CCD PWB are converted into 8bit and sent to the SCN CNT PWB.



e. Zooming operation

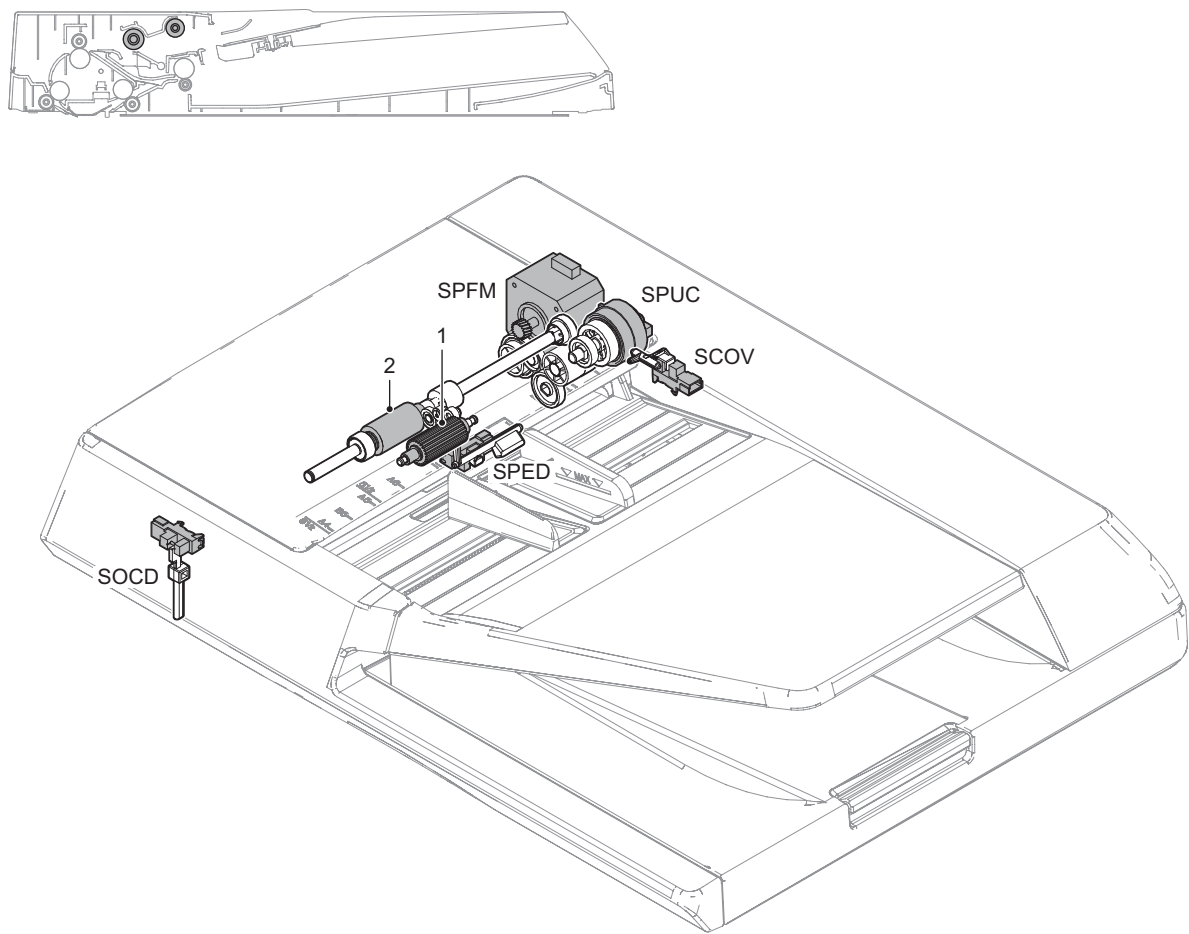
Zooming in the sub scanning direction is performed by changing the scanning speed in the sub scanning direction.

Zooming in the main scanning direction is not made optically, but performed by the image process technology (software).



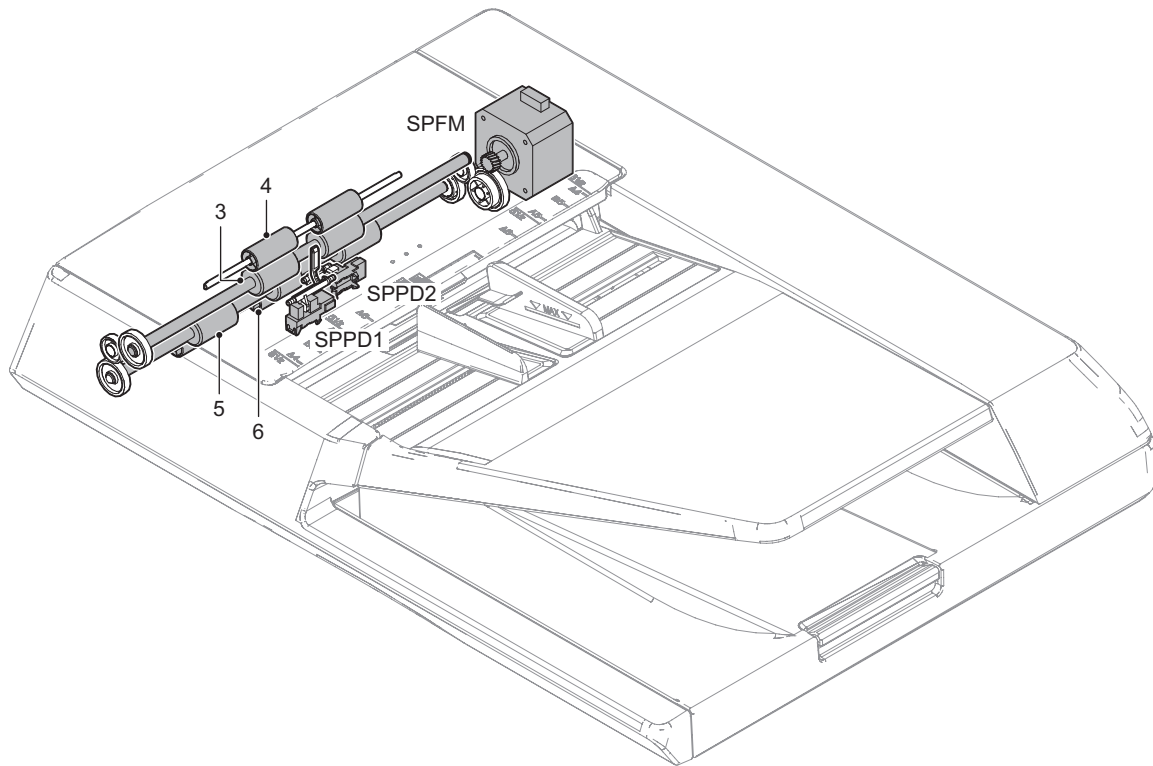
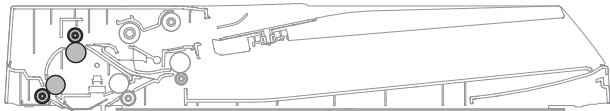
3. RSPF section

A. Mechanism relation diagram



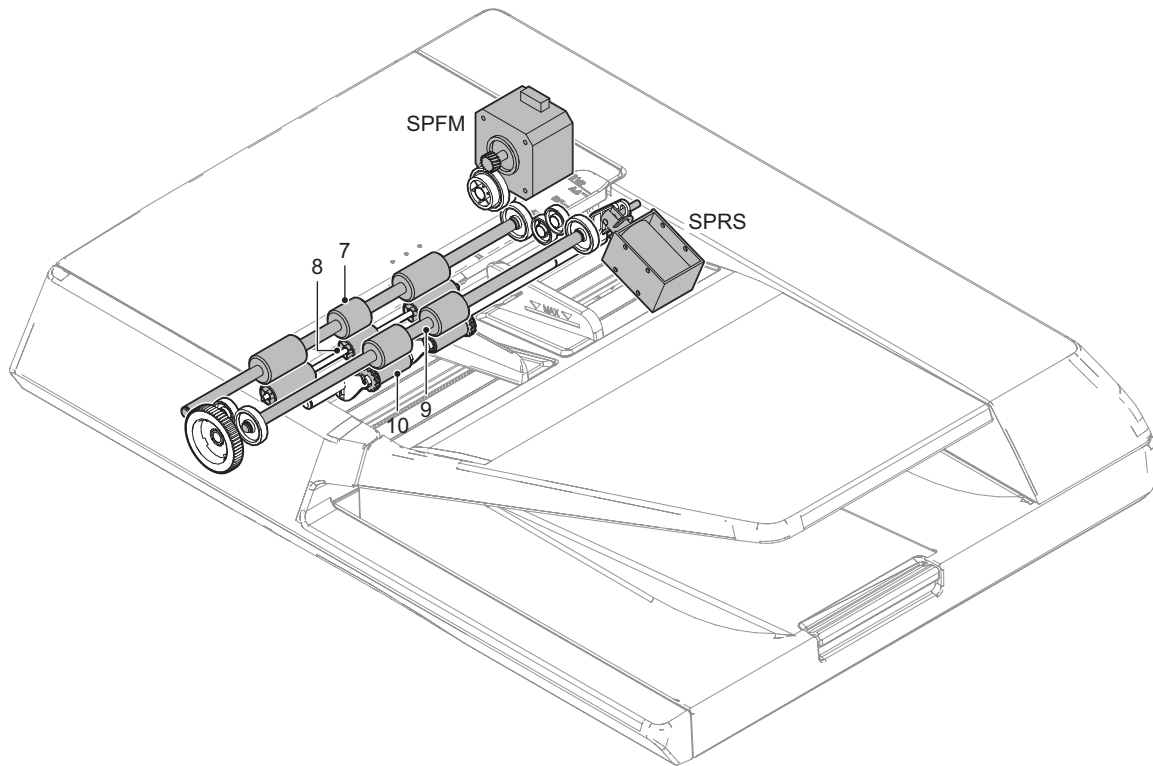
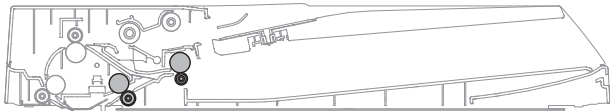
Signal name	Name	Function and Operation
SCOV	RSPF cover open/close sensor	Detects open/close of the RSPF cover
SOCD	RSPF UNIT open/close sensor	Detects open/close of the RSPF unit
SPED	Document tray empty sensor	Detects document empty in the RSPF paper feed tray
SPFM	RSPF transport motor	Transports a 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

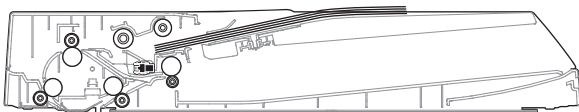
The fed document is passed through the registration roller and transport roller 1 to the document

scanning section, where images are scanned.

Then the document is passed through transport roller 2 to the paper exit roller.

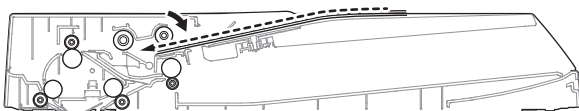
The rollers (the registration roller, transport rollers 1 and 2, the paper exit roller) in the transport section are driven by the transport motor.

- 1) Document set (Document empty sensor ON)

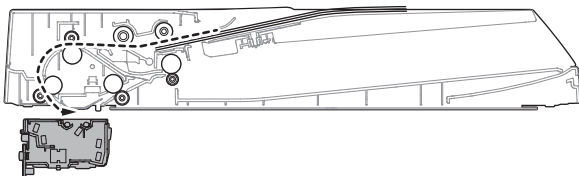


- 2) Paper feed start (1st sheet)

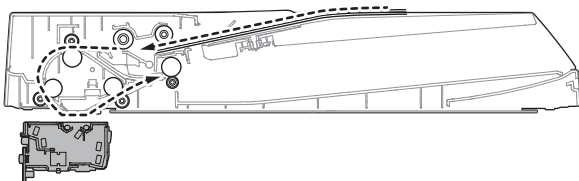
The pick-up roller descends. (The transport motor is booted. And the paper feed clutch is ON.)



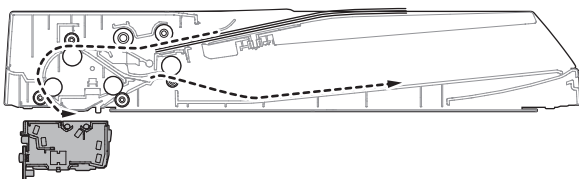
- 3) Scanning start (1st sheet)



- 4) Paper feed start (2nd sheet)



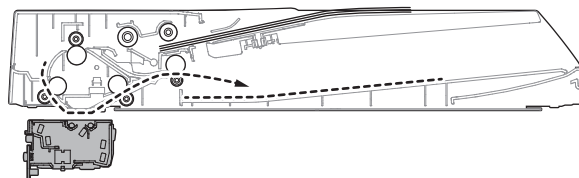
- 5) Scanning start (2nd sheet)



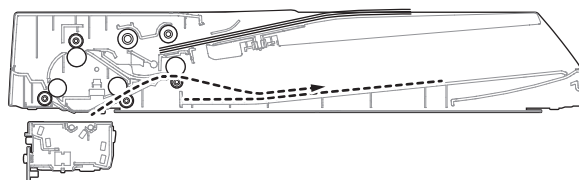
- 2) Paper feed start (1st sheet)

Pick-up roller descending

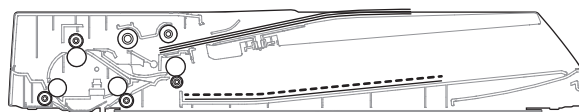
- 6) Paper exit complete (1st sheet)



- 7) Scanning complete (2nd sheet)

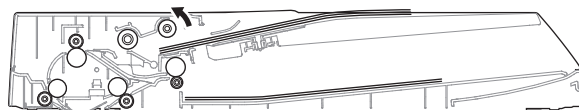


- 8) Paper exit complete (2nd sheet)



- 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 SPDP2 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.

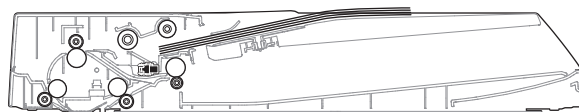
To reset the page order of the documents, the following operations are made which are triggered by the detection of the rear edge of the document.

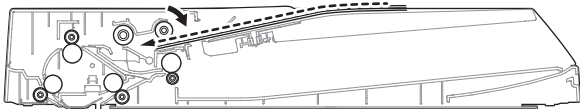
That is, when the rear edge of the document passes the reverse gate, the transport motor is reversed.

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.

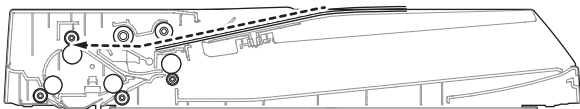
Then the transport motor is rotated normally to transport the document to the paper exit section and discharge it.

- 1) Document set (Document empty sensor ON)

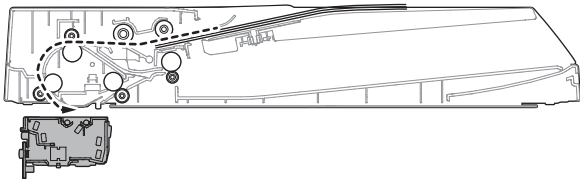




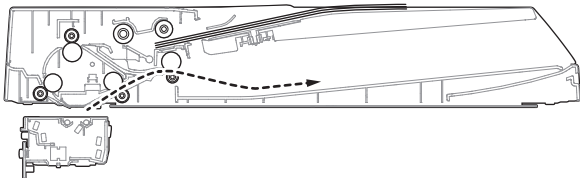
3) Registration operation (1st sheet, front surface)



4) Scanning start (1st sheet, front surface)



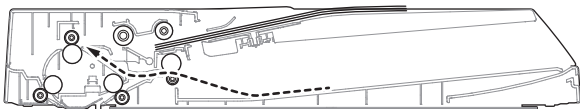
5) Scanning complete (1st sheet, front surface)



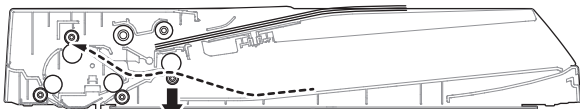
6) After passing through the inverse gate, reversing is started.



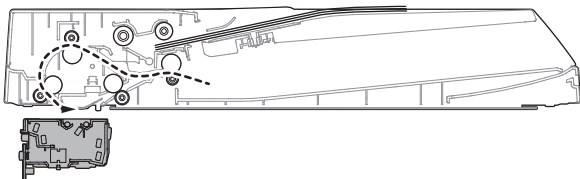
7) After reversing, registration operation is executed.



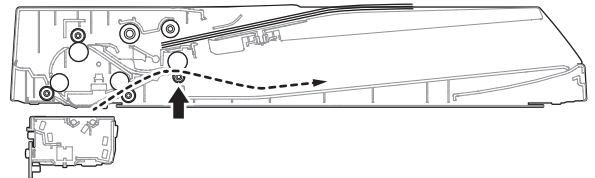
8) Motor start (forward rotation), the solenoid ON, the reverse follower roller pressure is released.



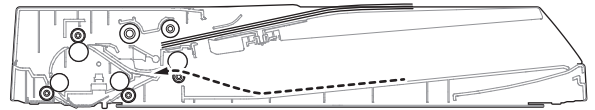
9) Scanning start (First sheet, back surface)



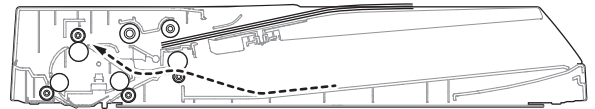
10) After completion of scanning, the solenoid OFF, the reverse follower roller is pressed.



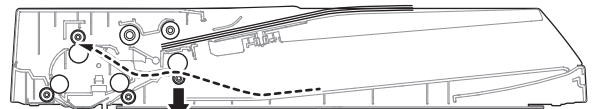
11) After passing through the inverse gate, reversing is started.



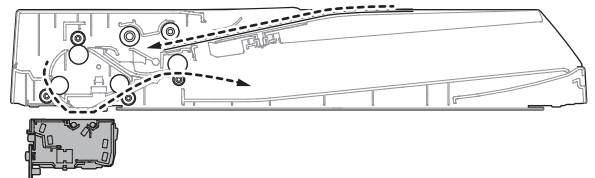
12) After reversing, registration operation is executed.



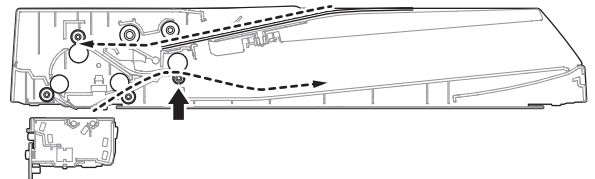
13) Motor start (forward rotation), the solenoid ON, the reverse follower roller pressure is released.



14) Scanning start (Second sheet)

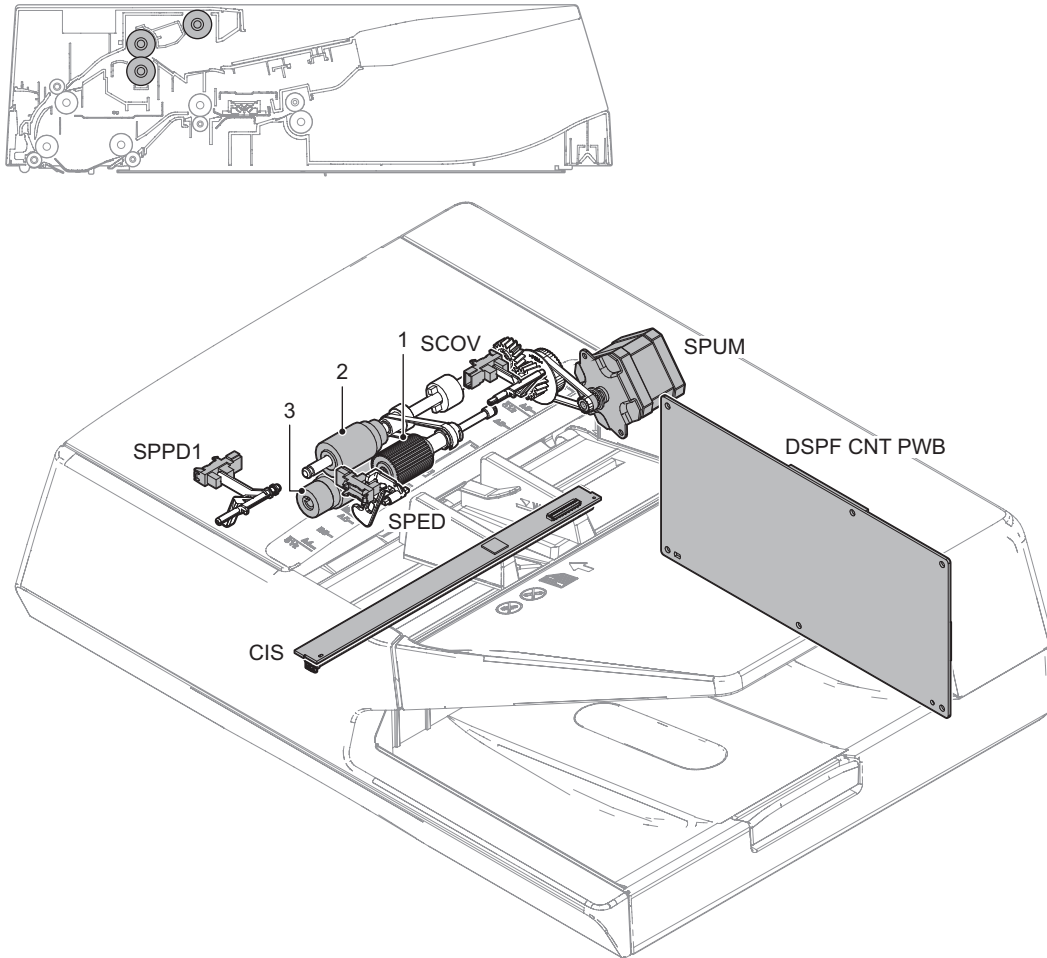


15) After passing the scanning section, the reverse follower roller is pressed.



4. DSPF section

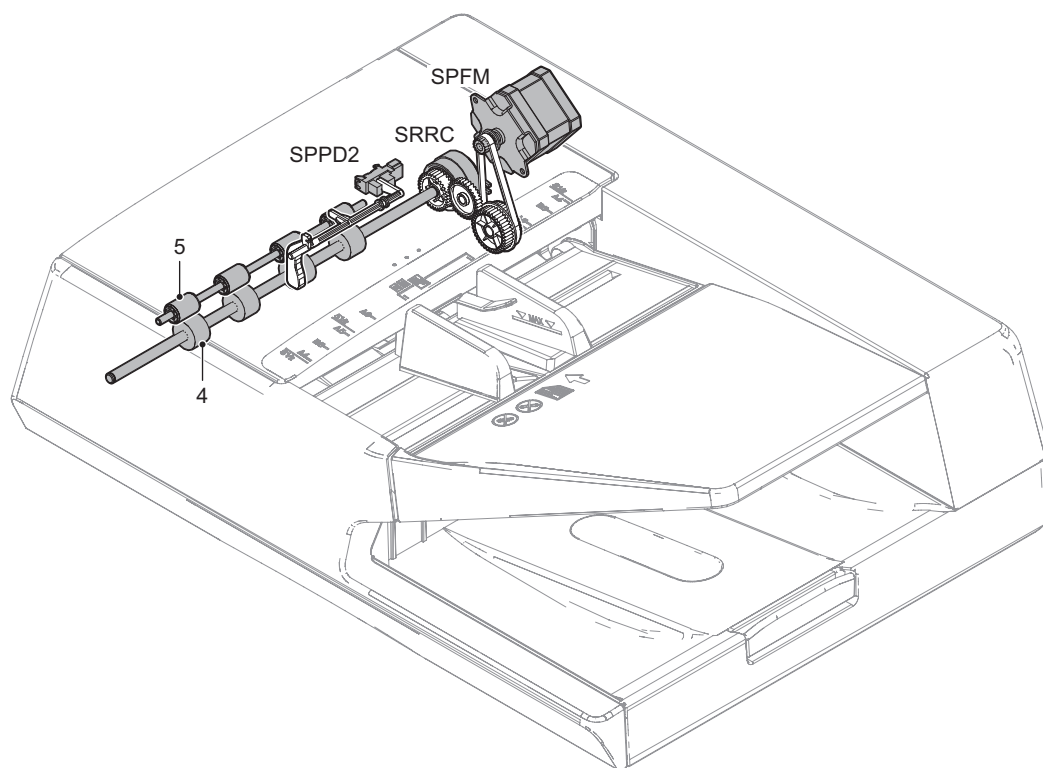
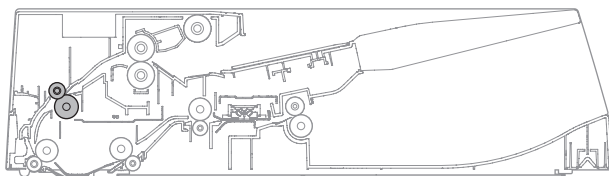
A. Mechanism relation diagram



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

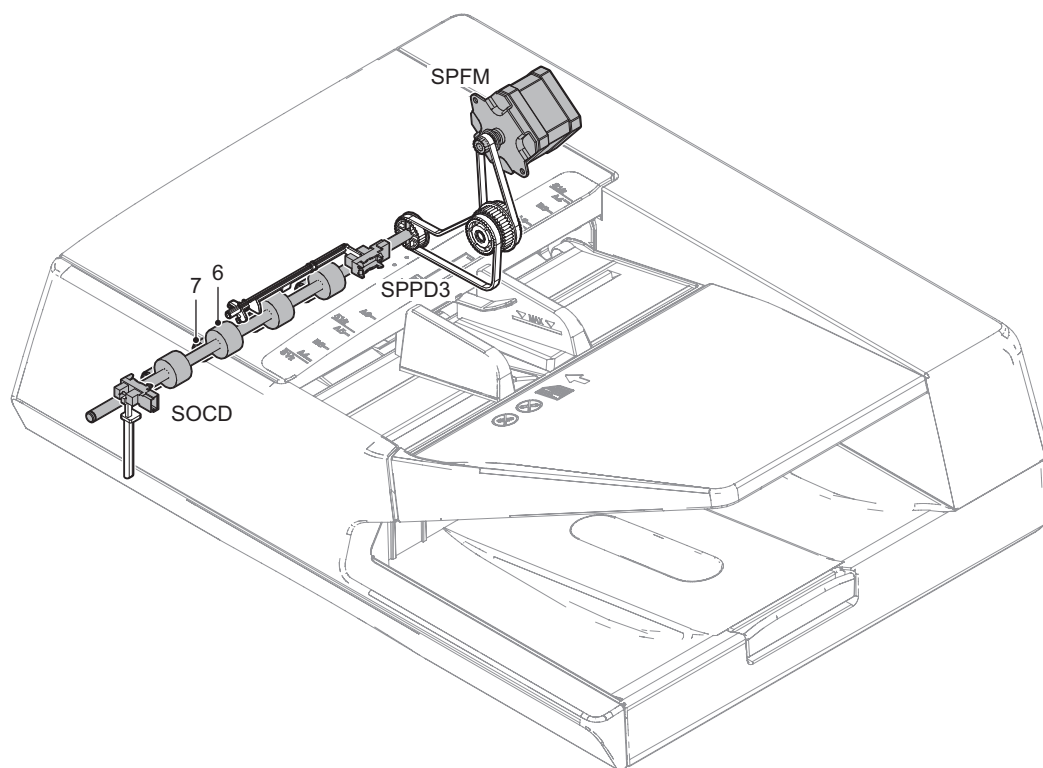
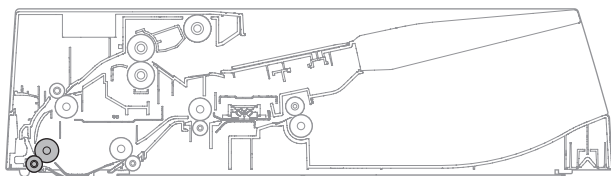
Name	Function and Operation
CIS	Scan the image of the original and perform A/D conversion of the read signal
DSPF CNT PWB	Perform the image processing of image data and control the whole DSPF

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.



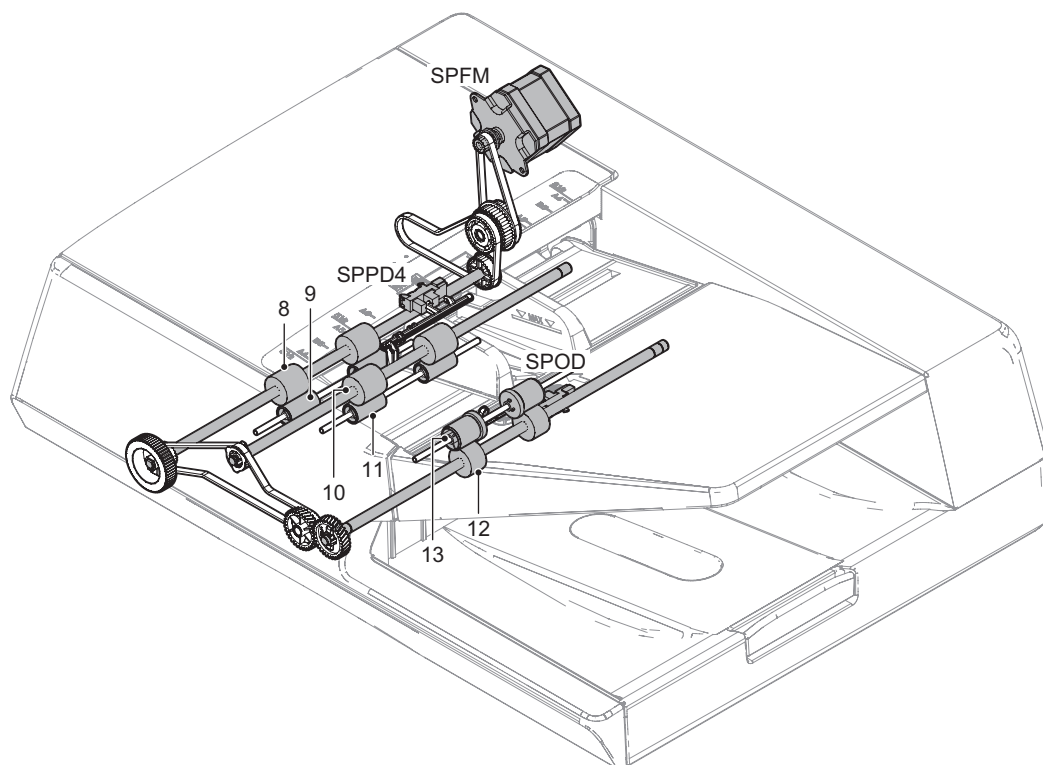
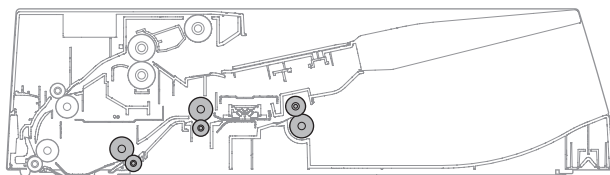
Signal name	Name	Function and Operation
SPFM	DSPF transport motor	Transports a document
SPPD2	Document pass sensor 2	Detects pass of the document
SRRC	Registration roller clutch	Controls ON/OFF of registration roller

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

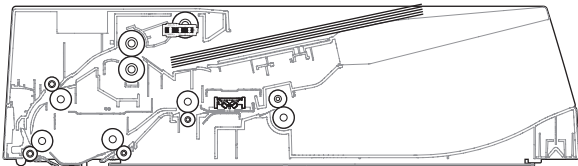
No.	Name	Function and Operation
8	Transport roller 2 (Drive)	Transports a document transported from the document scanning section to the transport roller 3.
9	Transport roller 2 (Idle)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller tot the 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

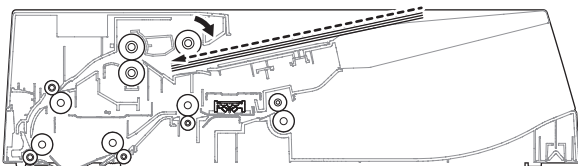
(1) Paper feed and transport operations

a. Single face scanning

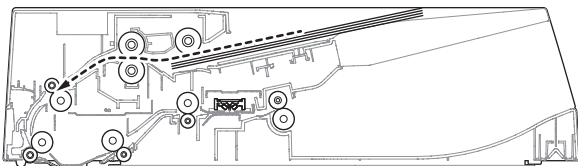
- 1) Document set (Document empty sensor ON)



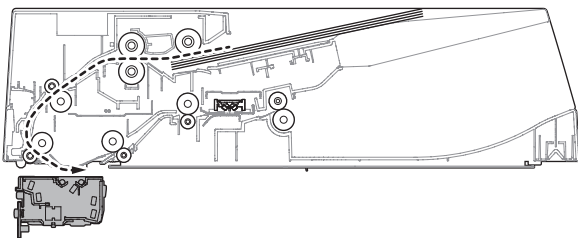
- 2) Paper feed start (1st sheet)
The pick-up roller descends. (The paper feed motor is booted.)
(The transport motor is booted simultaneously.)



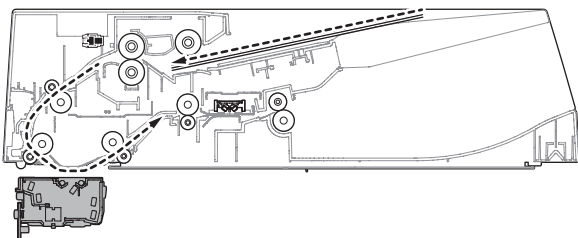
- 3) Resist operation (1st sheet)
(Resist clutch ON)
(When a certain time passes after turning ON the resist clutch, the paper feed motor is turned OFF.)



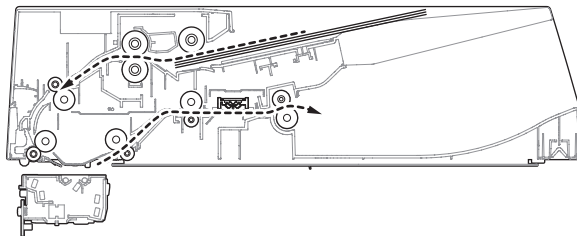
- 4) Scanning start (1st sheet)



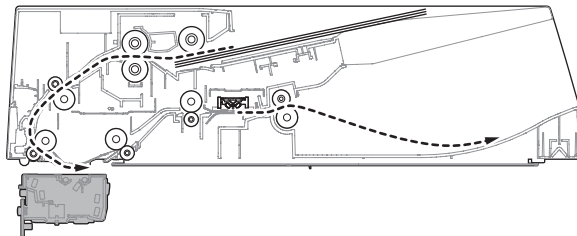
- 5) Paper feed start (2nd sheet)
• When the SPPD 1 sensor responds to a document, "SPPD 1 off" and "OPM interval elapsed from the start of previous document feed", next paper feed start.
• When the SPPD 1 sensor does not respond, when "SPPD 2 off" and "OPM interval has elapsed from the start of previous original feed", next paper feed start.



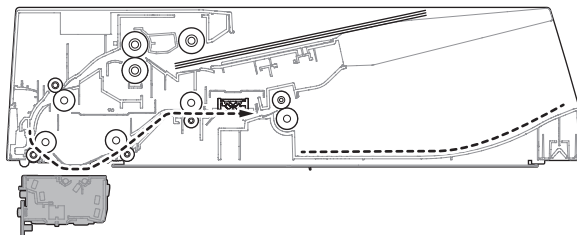
- 6) Scanning complete (1st sheet)/Resist operation (2nd sheet)
(When a certain time passes after turning ON the resist clutch, the paper feed motor is turned OFF.)



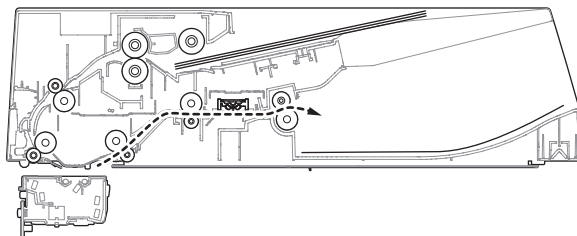
- 7) Scanning start (2nd sheet)



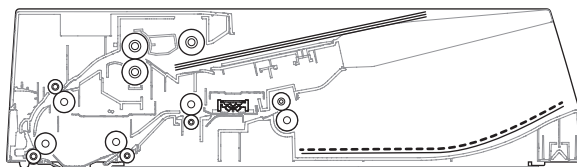
- 8) Paper exit complete (1st sheet)



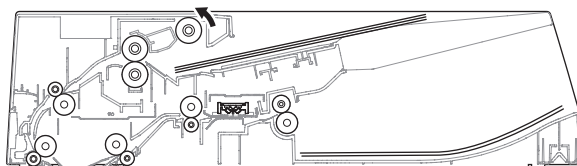
- 9) Scanning complete (2nd sheet)



- 10) Paper exit complete (2nd sheet)

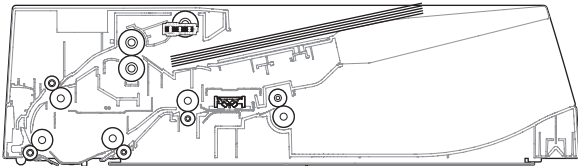


- 11) Pick-up roller lifting up
(After completion of a job, the paper feed motor is rotated reversely at a low speed for a certain time to lift the pickup roller.)

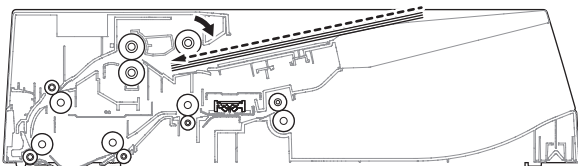


b. Duplex scanning

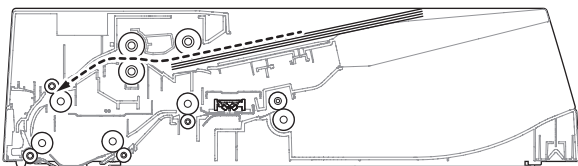
- 1) Document set (Document empty sensor ON)



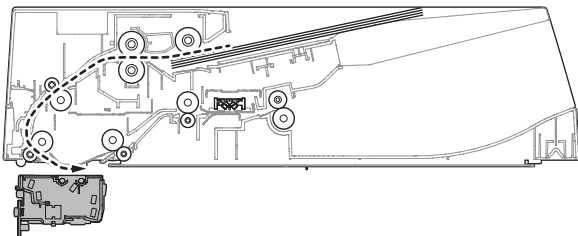
- 2) Paper feed start (1st sheet)
Pick-up roller descending



- 3) Resist operation (1st sheet)

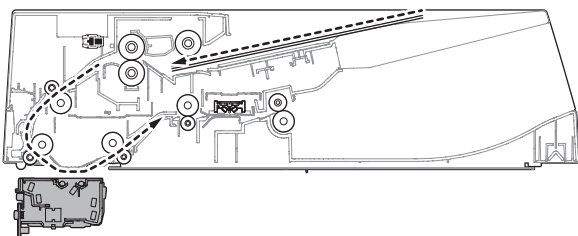


- 4) Scanning start (1st sheet, front surface)

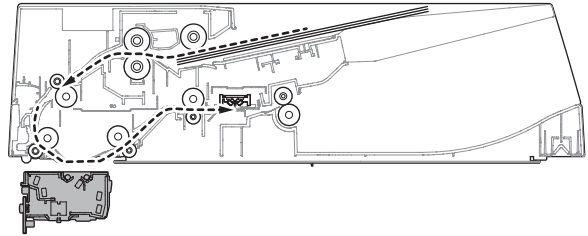


- 5) Paper feed start (2nd sheet)

- 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.

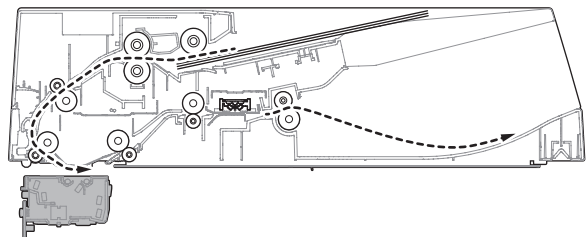


- 6) Scanning start (1st sheet, back surface)/Resist operation (2nd sheet)

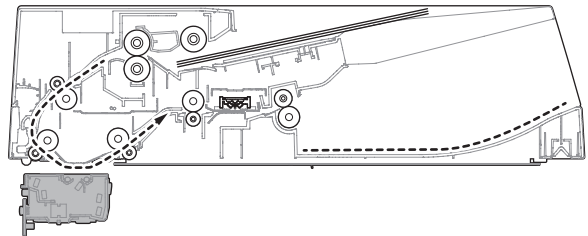


- 7) Scanning complete (1st sheet, back surface)/Scanning start (2nd sheet, front surface)

The next document will be transported / reading start without waiting for the reading completion of the previous original.

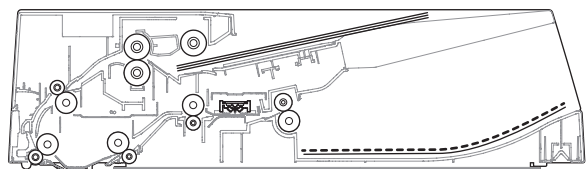


- 8) Paper exit complete (1st sheet)



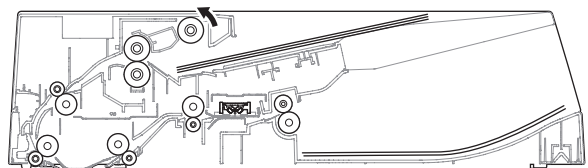
The same operations are performed hereinafter.

- 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.)

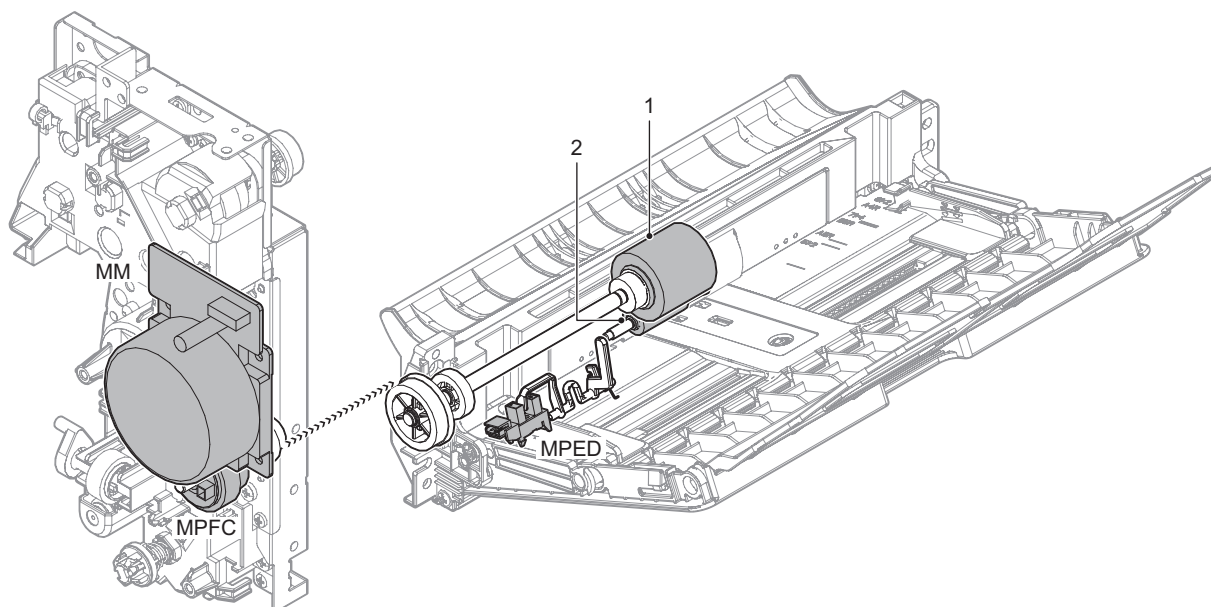


(2) The original scan

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.

5. Manual paper feed section

A. Mechanism relation diagram



Signal name	Name	Function and operation
MM	Main motor	Drives the fusing unit, the paper feed section and Registration sections.
MPED	Manual paper feed empty detector	Detects paper empty. (Manual paper feed tray)
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

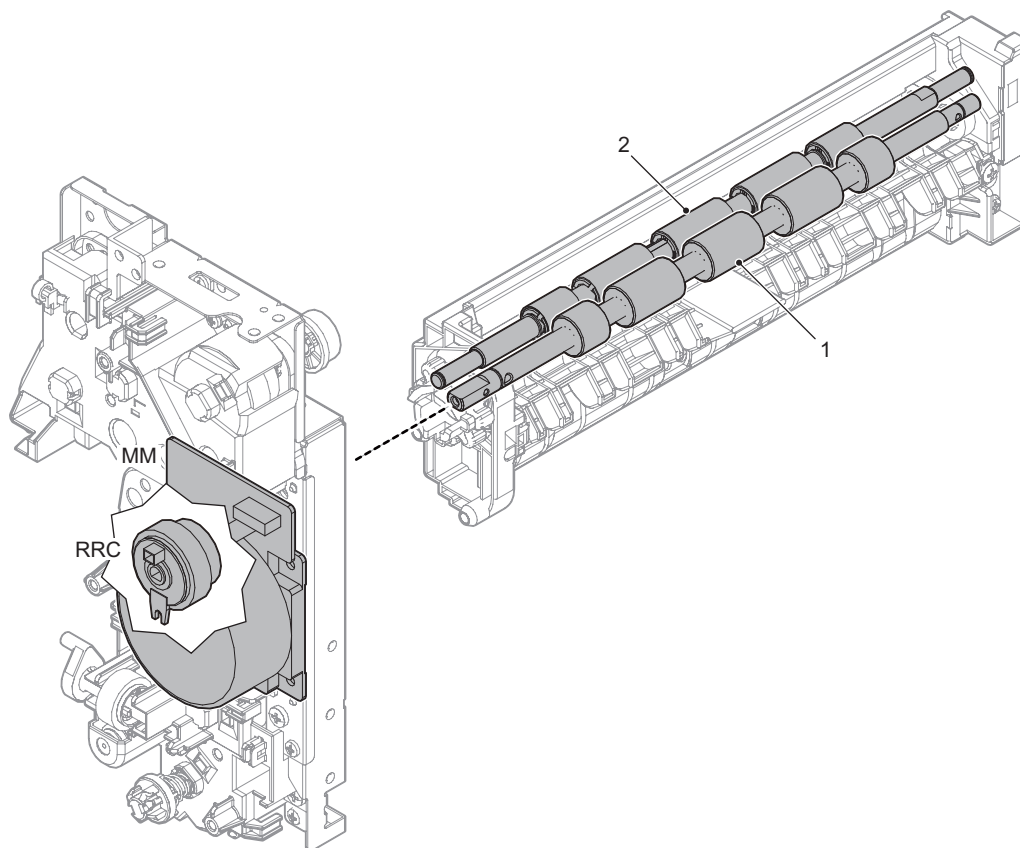
Only the top sheet of paper is fed from the paper stack on the manual bypass tray, the feed roller is pressed against the paper surface and sent to the transport section.

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.

6. Paper registration section

A. Mechanism relation diagram



Signal name	Name	Function and operation
RRC	PS roller clutch	Adjust the driving timing of the registration roller and transmit the fusing motor power to the registration roller.

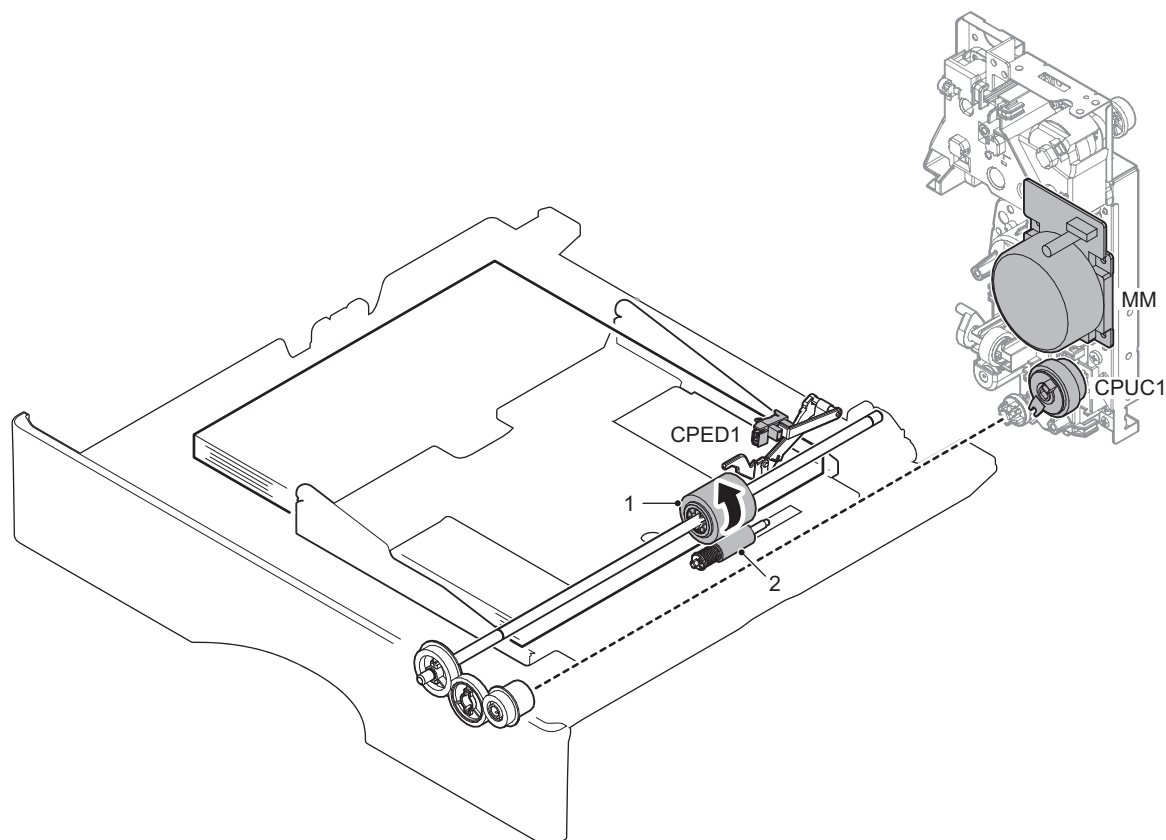
No.	Name	Function and operation
1	PS roller (Drive)	The Resist Roller (Drive) synchronizes the paper timing to the image on the Transfer Belt. A buckle is created to eliminate any skew in the paper. The paper is then driven to the Transfer section where the image is correctly timed for transfer onto the paper.
2	PS roller (Idle)	The Resist Roller (Idle) puts pressure on the back side of the paper allowing the Drive roller to move the paper to the transfer section after proper buckle timing has occurred.

B. Operational description

The resist roller set controls the synchronization of the Image on the Transfer Belt to the Timing of the paper making its way to the Primary and Secondary Transfer section. Start stop movement is controlled by the PS Clutch (RRC). Drive for the Registration roller comes from MM, the Main motor.

7. Paper feed tray section

A. Mechanism relation diagram



Signal name	Name	Function and operation
MM	Main motor	Drives the fusing unit, the paper feed section and Registration sections.
CPUC1	Paper feed clutch (Paper feed tray 1)	ON / OFF control of the paper feed rollers in the paper cassette section are carried out.
CPED1	Paper feed tray 1 paper empty detector	Sensor to detect paper empty in Paper feed tray 1

No.	Name	Function and operation
1	Paper feed roller (Paper feed tray 1)	Paper feed roller feeds the top piece of paper in the cassette to the registration roller set in the machine.
2	Paper separation roller (Paper feed tray 1)	By applying a force in the direction opposite to the feed roller, to prevent double feeding of paper in paper feeding.

B. 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 feed roller by way of a spring under the plate. A constant pressure of the top sheet of paper to the feed 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.

C. Paper size detection operation

This model does not have a function to detect the paper size in the cassette.

The paper size in the cassette is changed on operation panel.

D. Paper pick up operation

The Main motor (MM) is turned ON, and then the paper feed clutch (CPUC1) is turned ON.

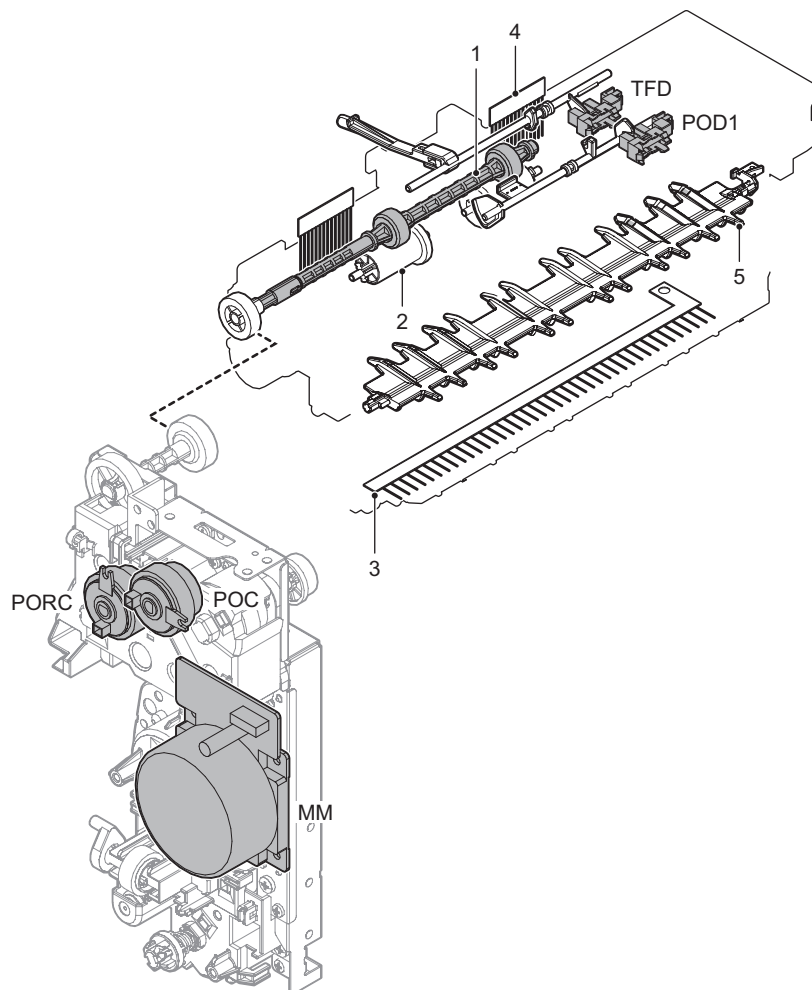
The power of the main motor (MM) is transmitted through the paper feed clutch (CPUC1) to the paper feed roller.

The paper feed roller feeds paper to the paper transport section. At that time, the separation roller rotates to prevent double-feed.

To prevent a double feeding, the separation roller apply counter force to the paper from bottom side.

8. Paper exit section

A. Mechanism relation diagram



Signal name	Name	Function and operation
MM	Main motor	Drives the fusing unit, the paper feed section and Registration sections.
POD1	Paper exit detector 1	Detects paper pass in the paper exit section. Detects a paper jam.
POC	Paper exit clutch	Controls the drive timing of paper exit roller (drive).
PORC	Paper exit reverse clutch	Controls the operation of the paper exit roller when the paper exit roller rotates clockwise.
TFD	Paper exit tray full detector	Detects paper full in the paper exit tray.

No.	Name	Function and operation
1	Paper exit roller (drive)	To exit paper onto the exit tray and perform switch back operations when in duplex mode.
2	Paper exit roller (idle)	To apply pressure to a paper with the paper exit roller (Drive), to give a feeding force of the exit roller to a paper.
3	Discharge Brush1	To discharge static generated in the fusing section.
4	Discharge Brush2	To discharge static generated in the paper exit section.
5	ADU gate	To change the transport direction of switch back paper.

B. Paper exit operation

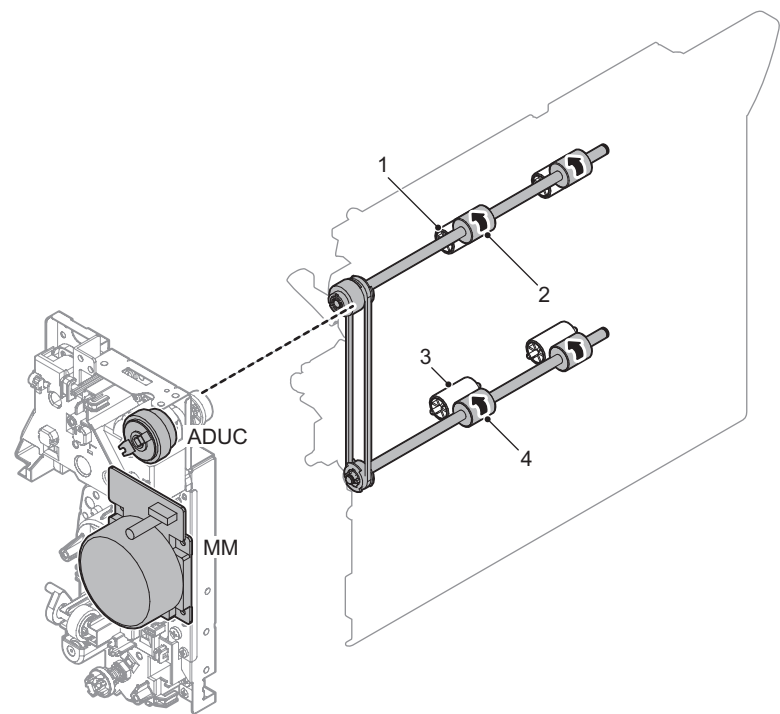
- The main motor drives the paper exit clutch which drives the paper exit roller. The paper exit roller along with pressure from the paper exit idle rollers drive the paper into the paper exit tray.

C. Switchback operation

- In duplex mode, POD1 detects the lead edge of the paper from the fusing section. After a specific amount of time, dependant on paper size, the paper exit clutch is turned off and the paper exit reverse clutch is turned on reversing the direction of the paper into the duplex paper path for transfer of image onto side two of the paper.

9. ADU section

A. Mechanism relation diagram



Signal name	Name	Function and operation
ADUC	ADU transport clutch	Controls ON/OFF of the roller in the ADU section.

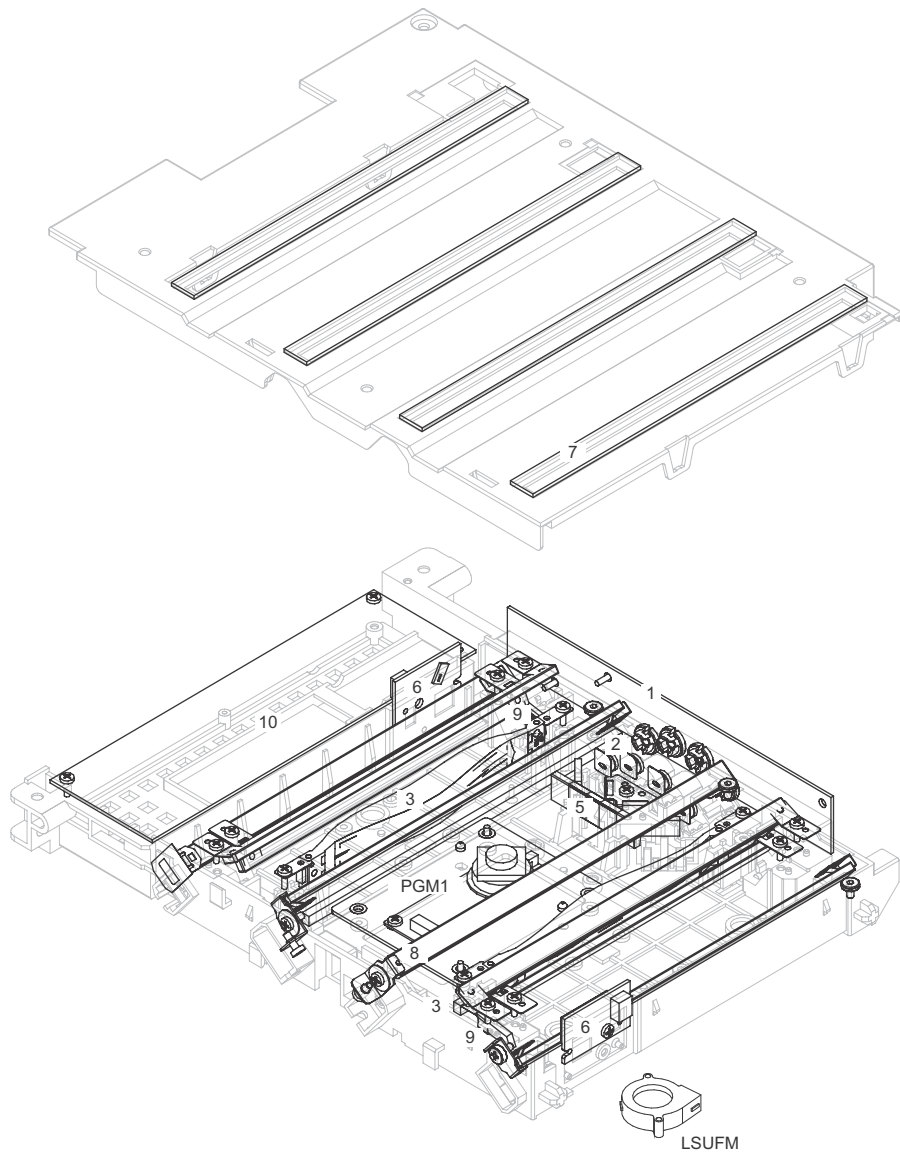
No.	Name	Function and operation
1	Paper transport roller (Idle)	Applies pressure to the back of the paper for drive to the right door paper enter roller.
2	Right door paper enter roller (Drive)	Drive Roller in upper Duplex section that transports paper to the right door paper exit roller.
3	Paper transport roller (Idle)	Applies pressure to the back of the paper for drive to the Registration Rollers.
4	Right door paper exit roller (Drive)	Drive roller to transport paper to the PS Rollers.

B. Operational description

- The paper which comes from fusing section passes the underside of ADU gate guide, and goes to the paper exit section. 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 are driven by the Main motor transporting the paper to the registration section.

10. LSU section

A. Mechanism relation diagram



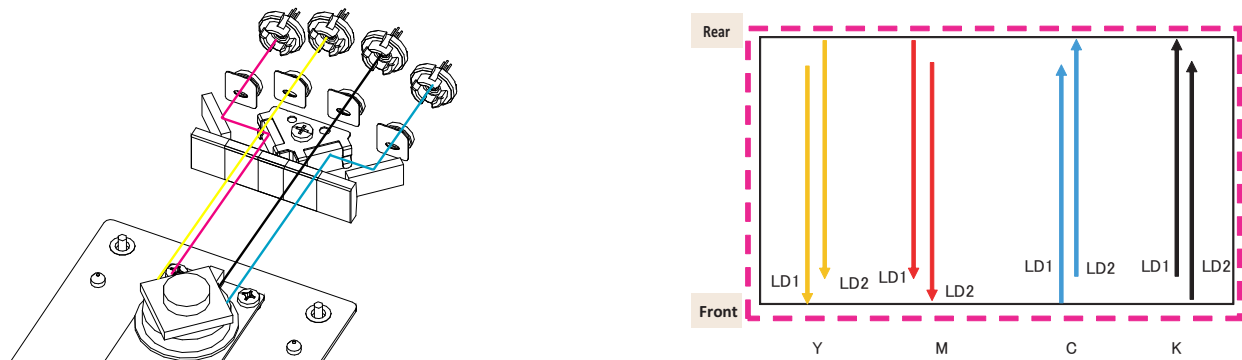
Signal name	Name	Function and operation
LSUFM	LSU fan	Cools the LSU PWB section.
PGM 1	Polygon motor	Rotates at a constant speed to scan laser beams. The polygon mirror motor rotates at a constant speed having four mirrored sides to reflect two laser beams per color.

No.	Name	Function and operation
1	LD PWB	To convert to a laser beam switching data sent from the LSU-PWB. And controlling a laser emission and laser power.
2	Collimator lens	Focuses laser beams.
3	$f\phi$ lens	To equalize main scanning direction laser beam dots distance. (To make laser dot distance of an end and the central part of the OPC drum the same). In addition, to condense a laser beam to BD (beam detector).
4	Mirror	Reflects laser beams to the OPC drum.
5	Incident cylindrical lens	Focuses laser beams.
6	BD PWB	To detect the laser scan timing. (Beam Detection)
7	Filter glass	Prevents dust and toner from entering inside the LSU cavity.
8	Laser skew adjustment plate	Adjusts laser skew in the main scanning direction for the OPC drum.
9	BD mirror	Guides laser beams to the BD (Beam Detector).
10	LSUcnt PWB	To convert the image data sent from MFPC-PWB to switching data and transfer it to LD-PWB.

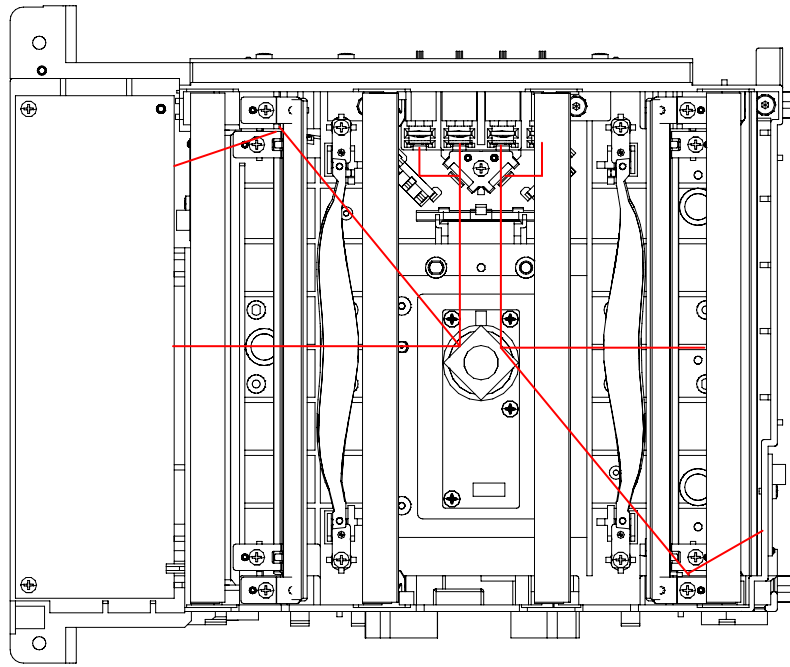
B. Laser scan operation

The image data which sent from MFPC-PWB is converted to switching data in ASIC on LSU-PWB. After this, the switching data is changed to laser beam at LD-PWB. Its laser-beam makes electrostatic latent image on the OPC drum.

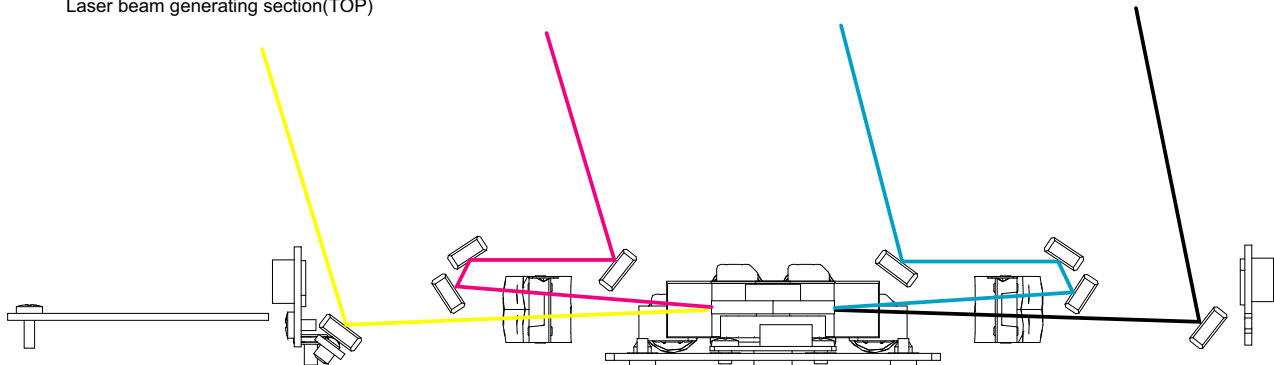
This model adopts 2-laser beam type.



Laser beam generating section(TOP)



Laser beam generating section(TOP)

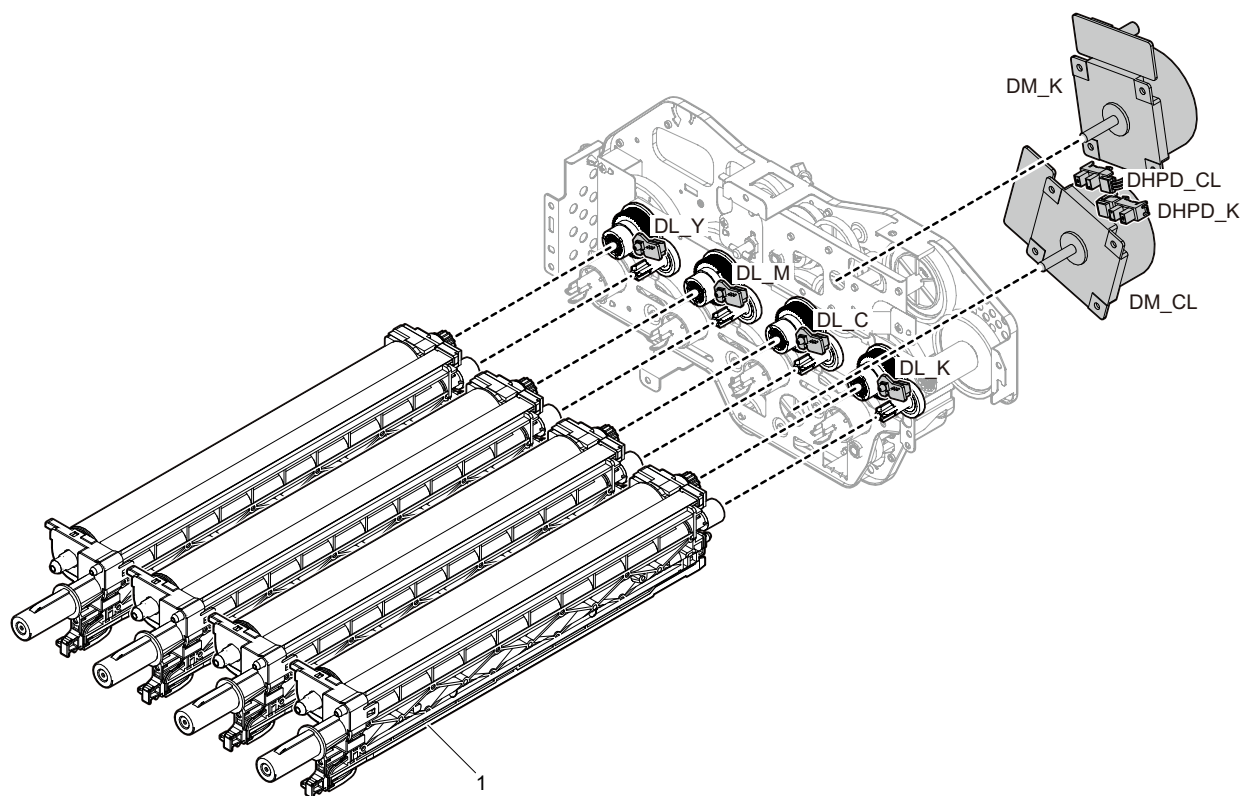


C. LSU specifications

Effective scan width	220mm
Resolution	600dpi
Beam diameter	Main / Sub scan = 50 - 80μm
Laser power	Max. 0.3mw
LD wavelength	780 - 800nm
Number of mirrors	4 surfaces
Rotation speed	32776rpm
2beam/color x4 colors	

11. OPC drum section

A. Mechanism relation diagram



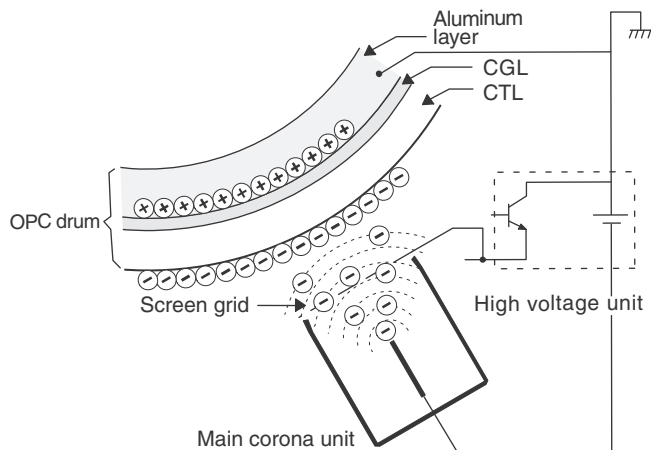
Signal name	Name	Function/Operation
DHPD_CL	OPC drum rotation sensor (CL)	Detects rotation and the phase of the OPC drum (CL).
DHPD_K	OPC drum rotation sensor (BK)	Detects rotation and the phase of the OPC drum (BK).
DL_BK	Discharge lamp (K)	Discharges electric charges on the OPC drum (K).
DL_C	Discharge lamp (C)	Discharges electric charges on the OPC drum (C).
DL_M	Discharge lamp (M)	Discharges electric charges on the OPC drum (M).
DL_Y	Discharge lamp (Y)	Discharges electric charges on the OPC drum (Y).
DM_CL	Main drive CL	Drives the developing/OPC drum section (CL).
DM_BK	Main drive BK	Drives the developing/black OPC drum (BK)/transfer section.

No.	Name	Function/Operation
1	OPC drum cartridge (Y, M, C, K)	Latent electrostatic images are formed.

B. Operational descriptions

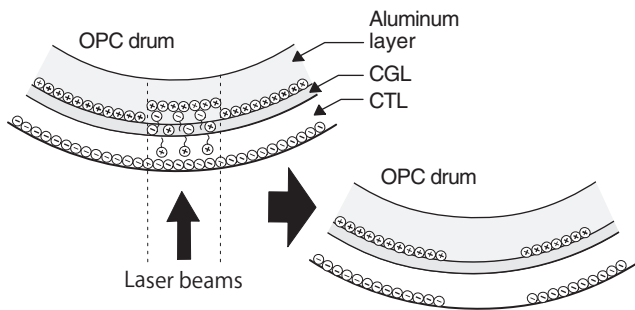
The OPC drum surface is negatively charged by the main charger, then laser image beams are radiated to the OPC drum surface by the laser (writing) unit to form electrostatic latent images.

- 1) The OPC drum surface is negatively charged by the main charger.



The main charger grid is provided with the screen grid. The OPC drum is charged at a voltage virtually same as the voltage applied to the screen grid.

- 2) Laser beams are radiated to the OPC drum surface by the laser (writing) unit to form electrostatic latent images.



When laser beams are radiated onto the CGL of the OPC drum, positive and negative charges are generated.

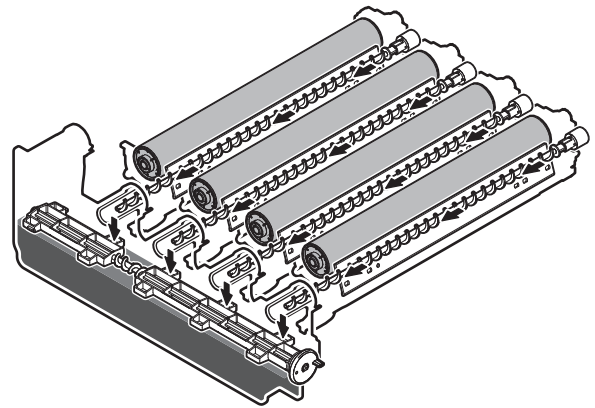
Positive charges generated in CGL are attracted to the negative charges on the OPC drum surface. On the other hand, negative charges are attracted to positive charges in the aluminum layer of the OPC drum.

Therefore, positive charges and negative charges are balanced out on the OPC drum and in the aluminum layer, reducing positive and negative charges to decrease the OPC drum surface voltage. Electric charges remain at a position where laser beam are not radiated.

As a result, latent electrostatic images are formed on the OPC drum surface.

- 3) After transfer operation, remaining toner is removed by the cleaning blade.

Toner removed from the OPC drum surface is transported to the waste toner section by the waste toner transport screw.



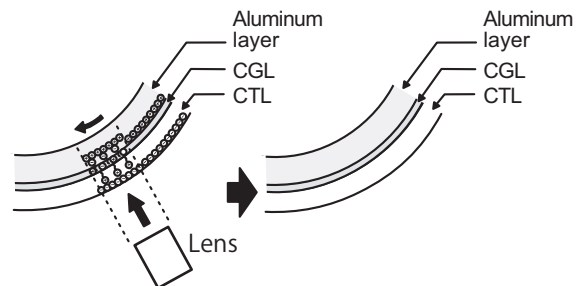
OPC drum rotation control

The OPC drum (K) is driven by the DV motor (DVM_K), and the rotation speed is monitored by the OPC drum rotation sensor (DHPD_K).

The color OPC drums (C, M, and Y) are driven by the DV motor (DVM_CL), and the rotation speed is monitored by the OPC drum rotation sensor (DHPD_CL).

Based on the signals monitored by the two sensors, the rotation speeds of K OPC drum and the color OPC drums and the rotation phase are controlled.

- 4) The whole surface of the OPC drum is discharged.

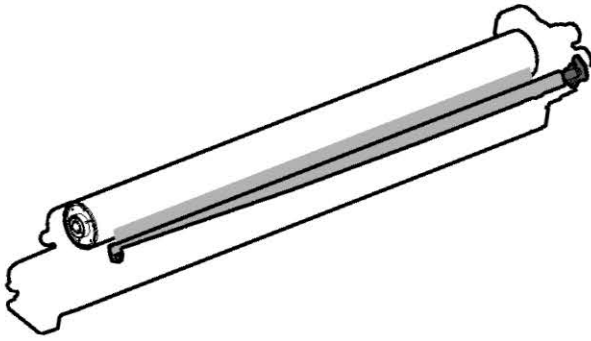


By radiating the discharge lamp light to the discharge lens, light is radiated through the lens to the OPC drum surface.

When the discharge lamp light is radiated to the OPC drum CGL, positive and negative charges are generated.

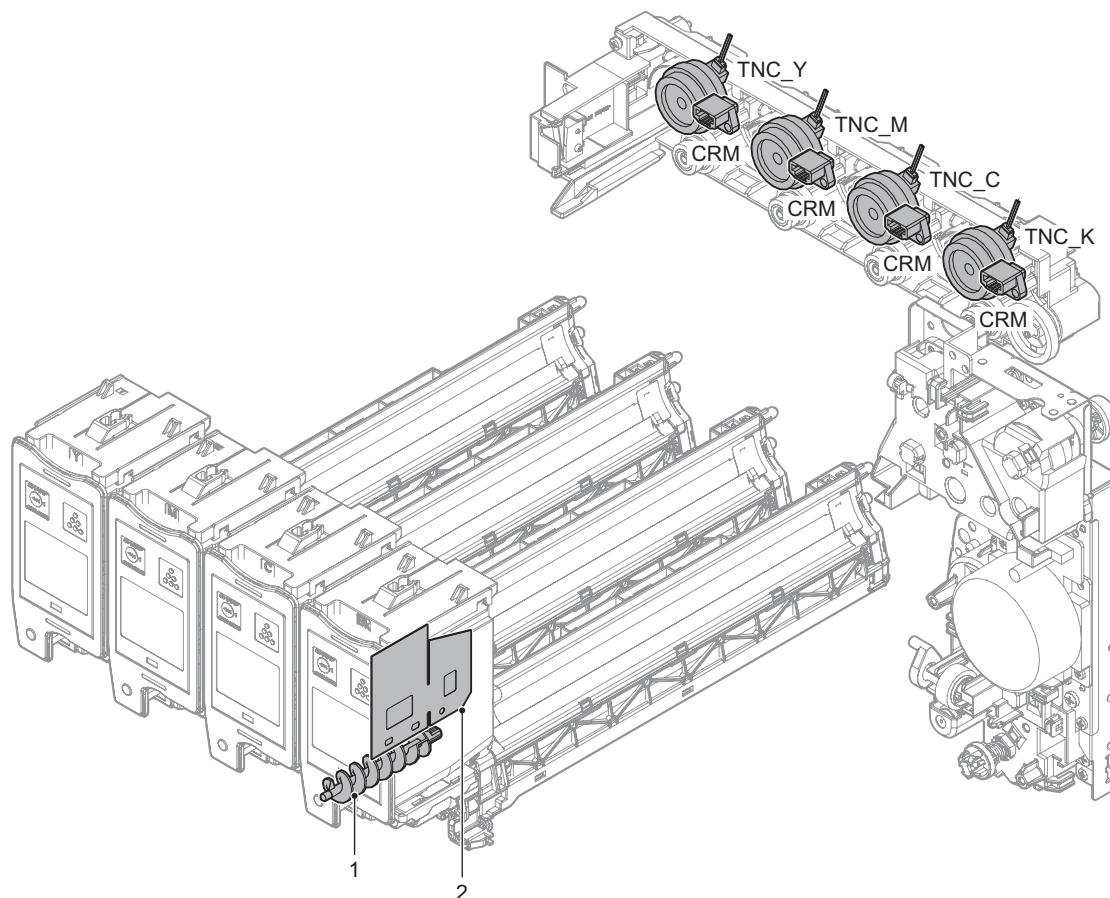
Positive charges generated in CGL are attracted to the negative charges on the OPC drum surface. On the other hand, negative charges are attracted to positive charges in the aluminum layer of the OPC drum.

Therefore, positive and negative charges are balanced out on the OPC drum surface and in the aluminum layer, reducing positive and negative charged to decrease the surface voltage of the OPC drum.



12. Toner supply section

A. Mechanism relation diagram



Signal name	Name	Function and operation
CRM (Y,M,C,K)	Crum	Stores data related to control of the toner cartridge. Detects a new toner cartridge.
TNC Y(Y)	Toner clutch (Y)	Drives the toner transport screw in the toner cartridge to supply toner (Y) to the developer cartridge.
TNC M(M)	Toner clutch (M)	Drives the toner transport screw in the toner cartridge to supply toner (M) to the developer cartridge.
TNC C(C)	Toner clutch (C)	Drives the toner transport screw in the toner cartridge to supply toner (C) to the developer cartridge.
TNC K(K)	Toner clutch (K)	Drives the toner transport screw in the toner cartridge to supply toner (K) to the developer cartridge.

No.	Name	Function and operation
1	Toner transport screw	Transports toner in the toner cartridge.
2	Toner mixing sheet	Mixes toner in the toner cartridge.

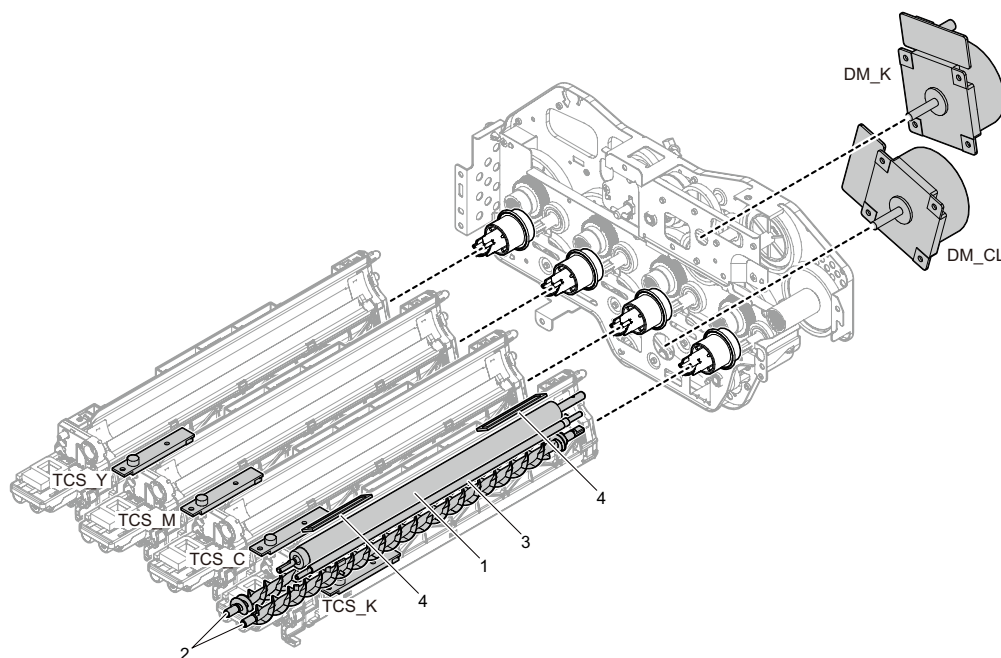
B. Operational descriptions

This model is judging the toner supplying based on the print pixel counts and process control data.

When toner density is judged low, the toner clutch is activated supplying toner, by an auger, from the toner cartridge to the developer unit

13. Developing section

A. Mechanism relation diagram

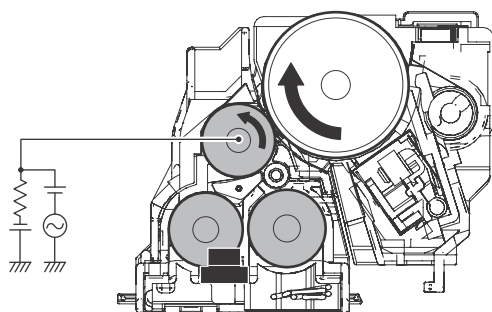


Signal name	Name	Function and operation
DM_CL	Main drive CL	Drives the developing/OPC drum section (CL).
DM_BK	Main drive BK	Drives the developing/black OPC drum (BK)/transfer section.
TCS_C	Toner sensor (C)	Detects toner supply from the toner cartridge. Detects toner density only during Simulation 25-2 Developer Concentration setting (C).
TCS_K	Toner sensor (K)	Detects toner supply from the toner cartridge. Detects toner density only during Simulation 25-2 Developer Concentration setting (K).
TCS_M	Toner sensor (M)	Detects toner supply from the toner cartridge. Detects toner density only during Simulation 25-2 Developer Concentration setting (M).
TCS_Y	Toner sensor (Y)	Detects toner supply from the toner cartridge. Detects toner density only during Simulation 25-2 Developer Concentration setting (Y).

No.	Name	Function and operation
1	Developing roller	Converts electrostatic latent images on the OPC drum into visible images.
2	Mixing roller	Mixes and charges developer and toner.
3	Doctor	Maintains the quantities of toner and developer on the DV roller at constant crush height.
4	Toner filter (K, M, C, Y)	Prevents toner splash and vacuum.

B. Developing operations

Electrostatic latent images formed on the OPC drum surface by the laser (writing) unit (laser image beams) are converted into visible images by toner.



By stirring, toner and carrier are negatively charged by mechanical friction and chemical reaction.

The developing bias voltage (AC component and negative DC component) 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 a higher developing bias.

If the OPC drum is not exposed, the negative potential is higher than the developing bias voltage, and toner is not attracted.

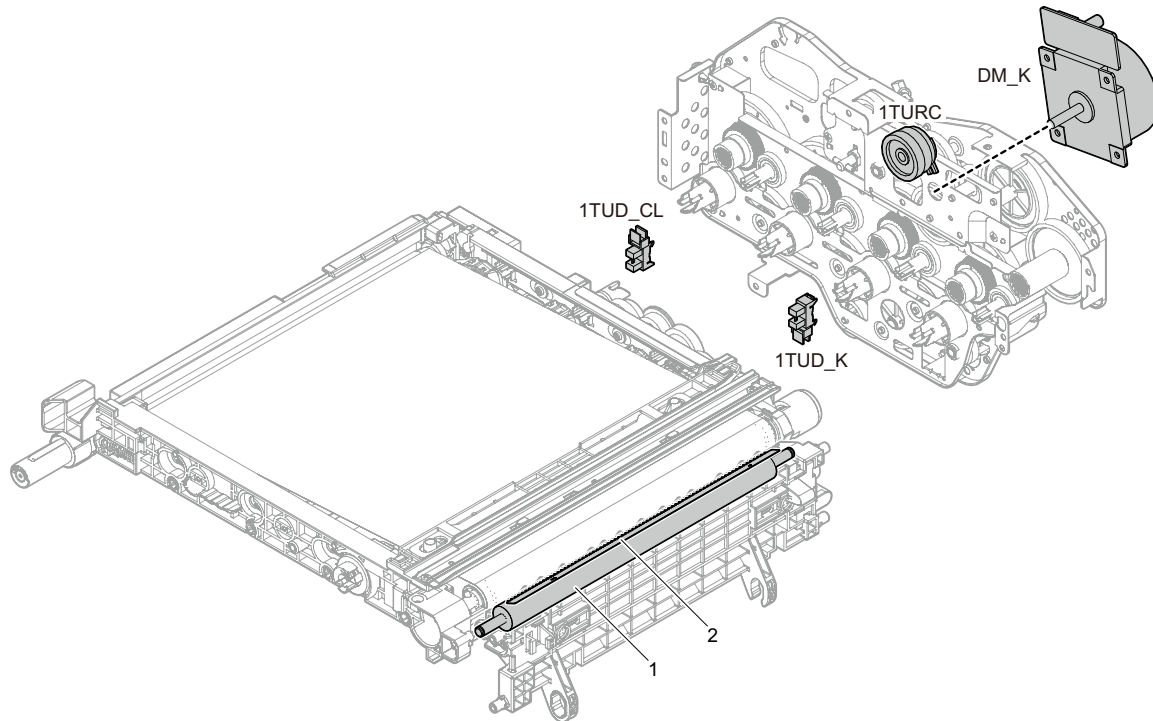
The toner sensor detects the toner supply state from the toner cartridge.

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.

14. Transfer section

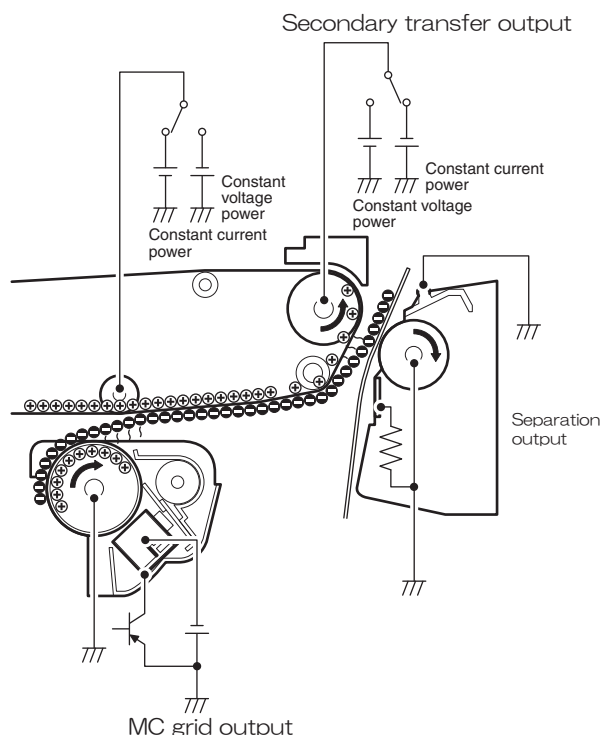
A. Mechanism relation diagram



Signal name	Name	Function and operation
1TUD_K	Primary transfer belt position sensor (BK)	Detects the primary transfer belt position (BK) in combination with the 1TUD_K output.
1TUD_CL	Primary transfer belt position sensor (CL)	Detects the primary transfer belt position (CL) in combination with the 1TUD_CL output.
1TURC	Primary transfer mode select clutch	Transports the developing motor (K) power to the primary transfer mode select cam to select the primary transfer mode. (The primary transfer mode select cam is rotated counterclockwise.)
2TC	Secondary transfer output	Secondary transfer high voltage output
DM_BK	Main drive BK	Drives the developing/black OPC drum (BK)/transfer section.

No.	Name	Function and operation
1	Secondary transfer roller	Transfers toner images on the transfer belt to paper. Connected to GND to flow the secondary transfer high current.
2	Paper separation electrode	Connected to GND to discharge paper which is positively charged after transfer operation.

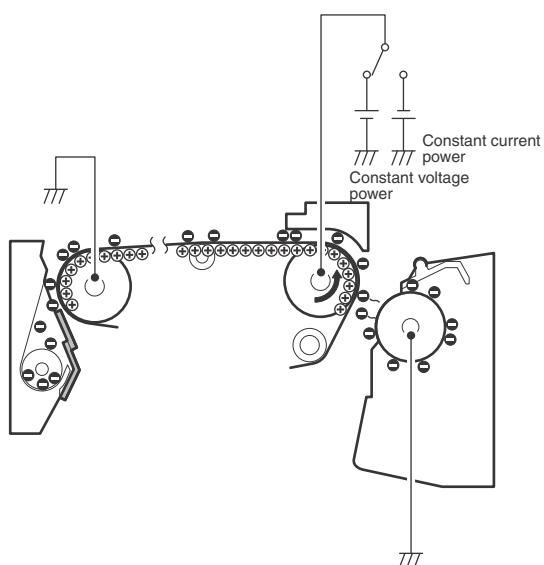
B. Transfer operation



Toner images on the OPC drum are transferred onto the primary transfer belt by applying a high positive voltage to the primary transfer roller. Then, a high transfer voltage is applied to the transfer belt drive roller to transfer toner imaged on paper. The secondary transfer roller is connected to GND to flow the secondary transfer current.

C. Secondary transfer roller cleaning operation

A high positive voltage is applied to the primary transfer belt drive roller to attach unnecessary toner of the primary transfer roller onto the transfer belt. The toner is cleaned with the transfer belt cleaning blade and transported to the waste toner section.

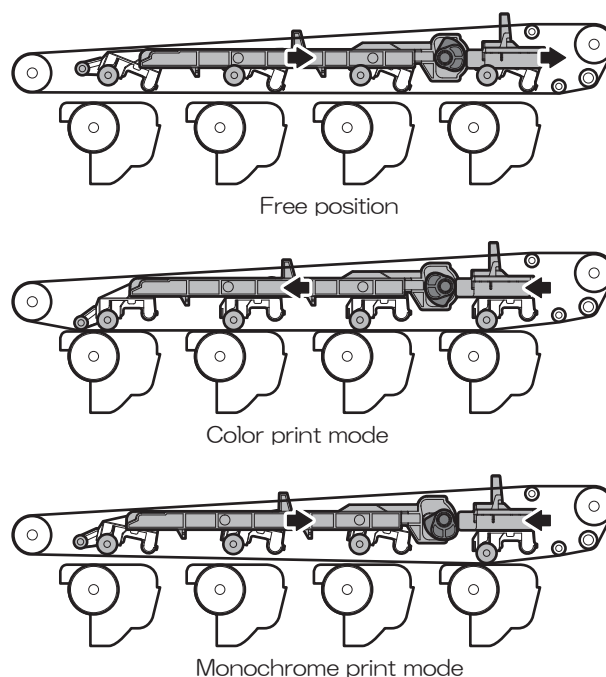


D. Transfer belt mode switch operation

The transfer belt is in the three modes: the free position, the color print mode, and the monochrome print mode.

Free position	The OPC drums are separated from the transfer belt.
Color print mode	All the OPC drums are in close contact with the transfer belt.
Monochrome print mode	The K OPC drum is in close contact with the transfer belt.

The mode is switched by the developing motor (K) and the mode switch clutches (1TURC 1, 1TURC 2). When the roller separation clutch (1TURC) is turned ON, the transfer cam is rotated to shift the primary transfer link and the primary transfer arm in the arrow direction in conjunction with the cam, separating the roller.

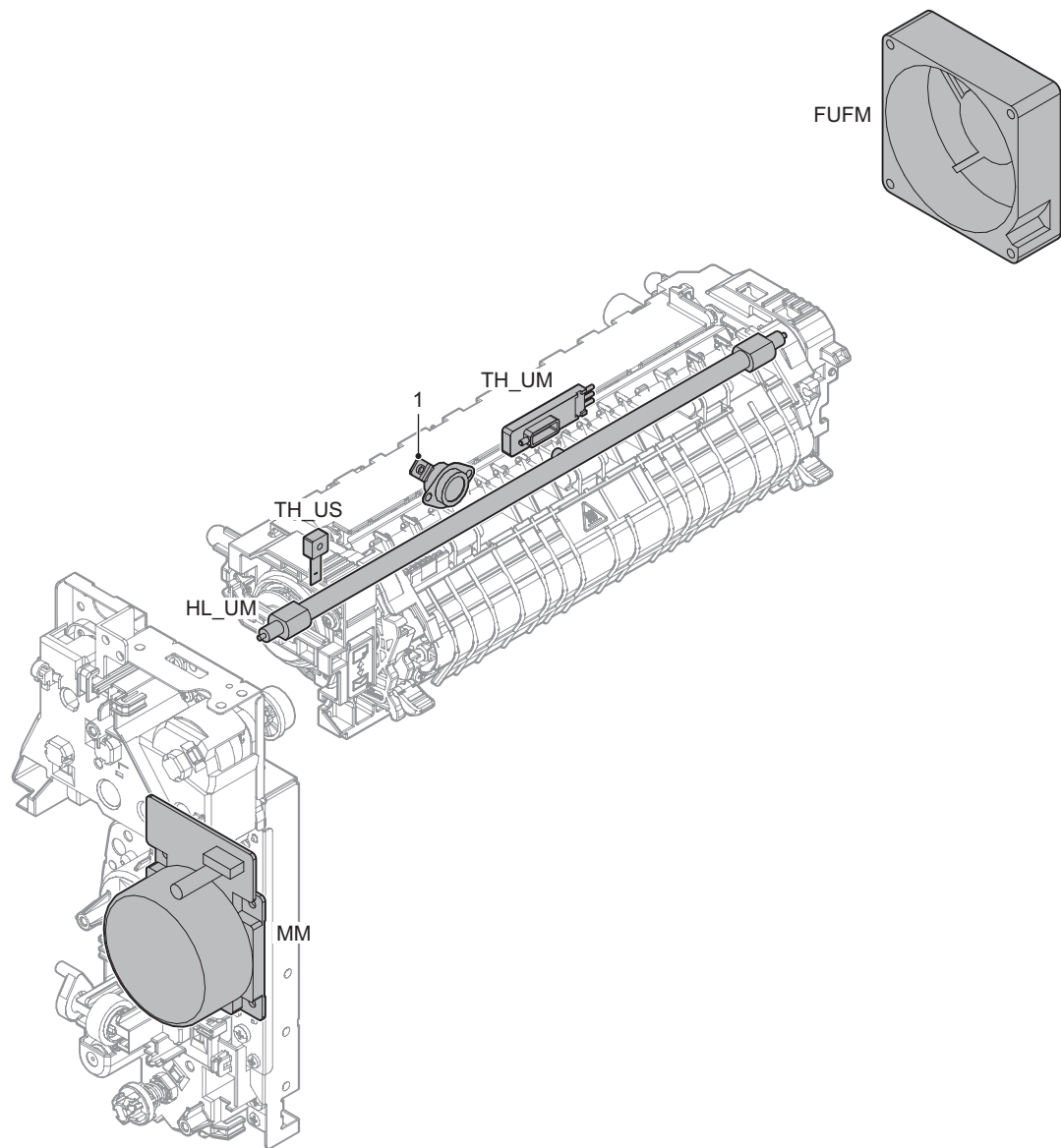


Relationship between the transfer belt mode (state) and the transfer belt mode sensor

Mode (State)	Sensor state	
	1TUD CL	1TUD K
Color print mode: All the OPC drums are in close contact with the transfer belt.	OFF	ON
Free position: All the OPC drums are separated from the transfer belt.	ON	OFF
Monochrome print mode: Only the K OPC drum is in close contact with the transfer belt.	ON	ON

15. Fusing section

A. Mechanism relation diagram

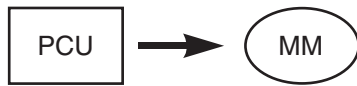


Signal name	Name	Function and operation
FUFM	Fusing cooling fan motor	Cools the fusing unit.
MM	Main motor	Drives the fusing unit.
HL_UM	Heater lamp (HL_UM)	Heats the fusing heat roller.
TH_UM	Thermistor UM	Regulates Heat Roller Temperature at center of the Heat Roller.
TH_US	Thermistor US	Regulates Heat Roller Temperature at the end of the Heat Roller.

No.	Name	Function/Operation
1	Thermostat	Fusing roller overheat protection. Cuts off power supply to heat lamp when over heat condition is determined.

B. Fusing unit drive

The driving of fusing unit is; the driving force is transported to fusing roller, thru the main motor (MM) and connection gears, based on the controlling signal from PCU.



C. Heater lamp drive

The temperature on the fusing roller which detected by fusing thermistor is transferred to PCU.

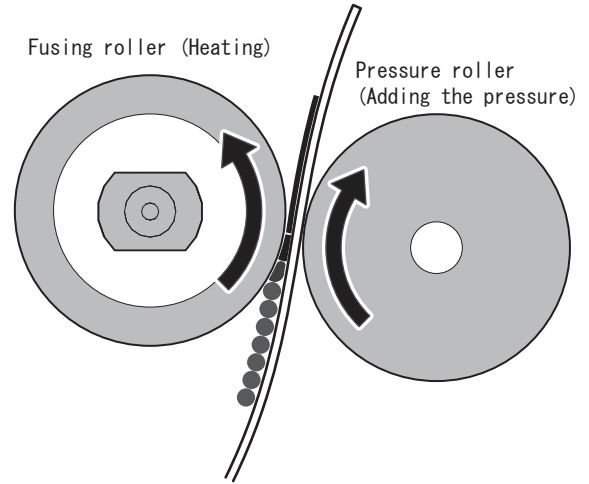
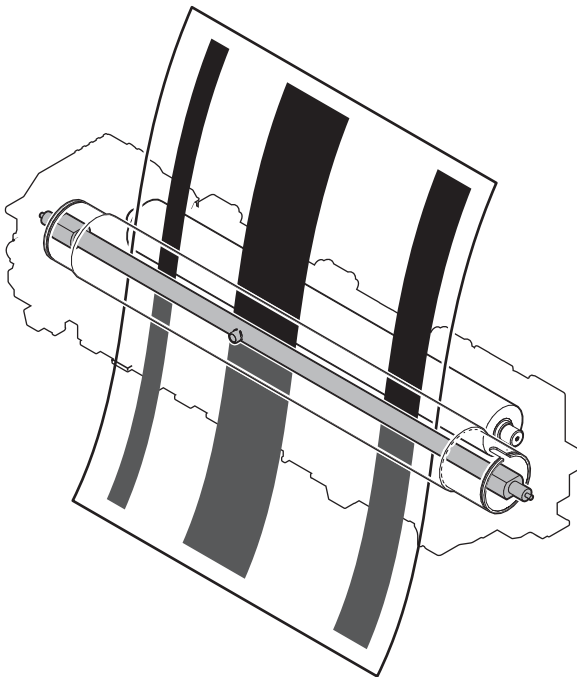
If the above temperature is lower than predetermined one, PCU sends the heater lamp signal to the heater lamp drive circuit in HL-PWB. The power triac in heater lamp drive circuit is turned ON, then AC-power is supplied to heater lamp. Finally the heater lamp is turned ON and fusing roller (heat roller) is heated up. If above temperature is higher than predetermined one, PCU stops send the heater lamp signal to the heater lamp drive circuit in HL-PWB.

In case of abnormal high temperature of fusing roller (heat roller) is occurred, the thermostat becomes OFF condition, physically cuts off the power line of heater lamp.

D. Fusing operation

This model has single heater lamp in the fusing roller (heater roller). The heater lamp heats a fusing roller (heat roller) and then, fixes (adhesion) the toner on the paper.

Due to below reasons, the fusing roller (pressure roller) adopts silicon-rubber as the material.



- 1) To increase the quantity of nip and raise heating capacity for the paper.
- 2) By pressurizing with a flexible roller, the shape of a multilayered toner on the paper is fixed without transforming.
- 3) For the irregularity (for multilayered structure) of the toner, pressure increases uniformly.

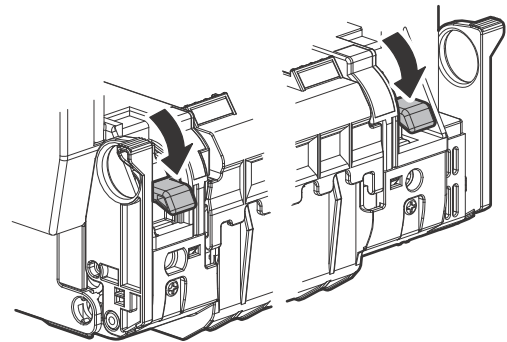
E. Fusing temperature control

The temperature sensor is provided at the center of the fusing roller (heating).

The roller temperature is detected by the thermistor sensor, and the heater lamp is controlled so that the temperature is maintained at the specified level.

F. Manual pressure release

The pressure of the heat roller is reduced by lowering the levers of the fusing unit. When running envelopes and during long periods of machine non use, the levers should be lowered.

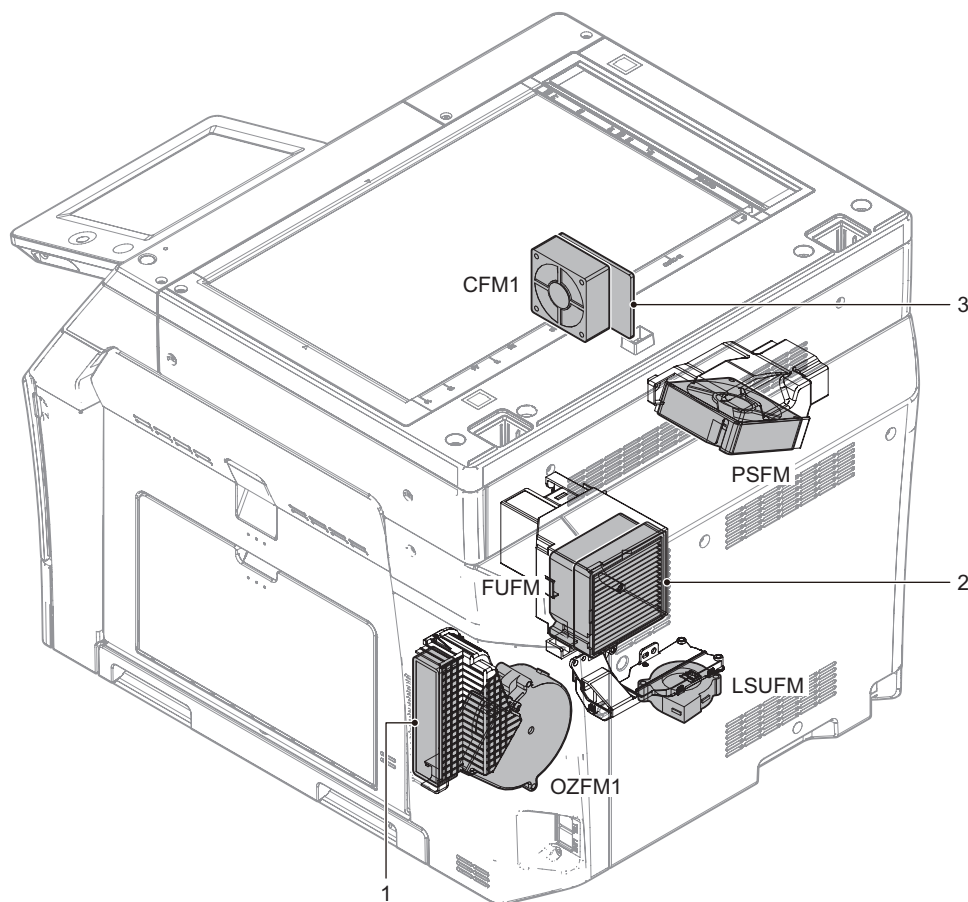


16. Fan/Filter section

This machine is equipped with the following filter, the function of each filter is as shown in the table below.

Signal name	Name	Function and Operation
FUFM	Fusing cooling fan	Prevents heat generated in the fusing section from flowing to the toner cartridge and the paper exit section.
OZFM1	Ozone fan 1	Cools the developing unit and exhausts the ozone from the main charger unit.
PSFM	Power supply cooling fan	Exhaust heat from the power supply unit.
LSUFM	LSU cooling fan	Cools the LSU.
CFM1	Power cooling fan	Cools the power supply.

No.	Name	Function and Operation
1	Ozone filter	Absorb ozone generated in image process section.
2	UFP filter	Absorb UFP generated in the machine (For Europe and Japan only).
3	Intake filter	Prevent the dust from entering inside the machine.



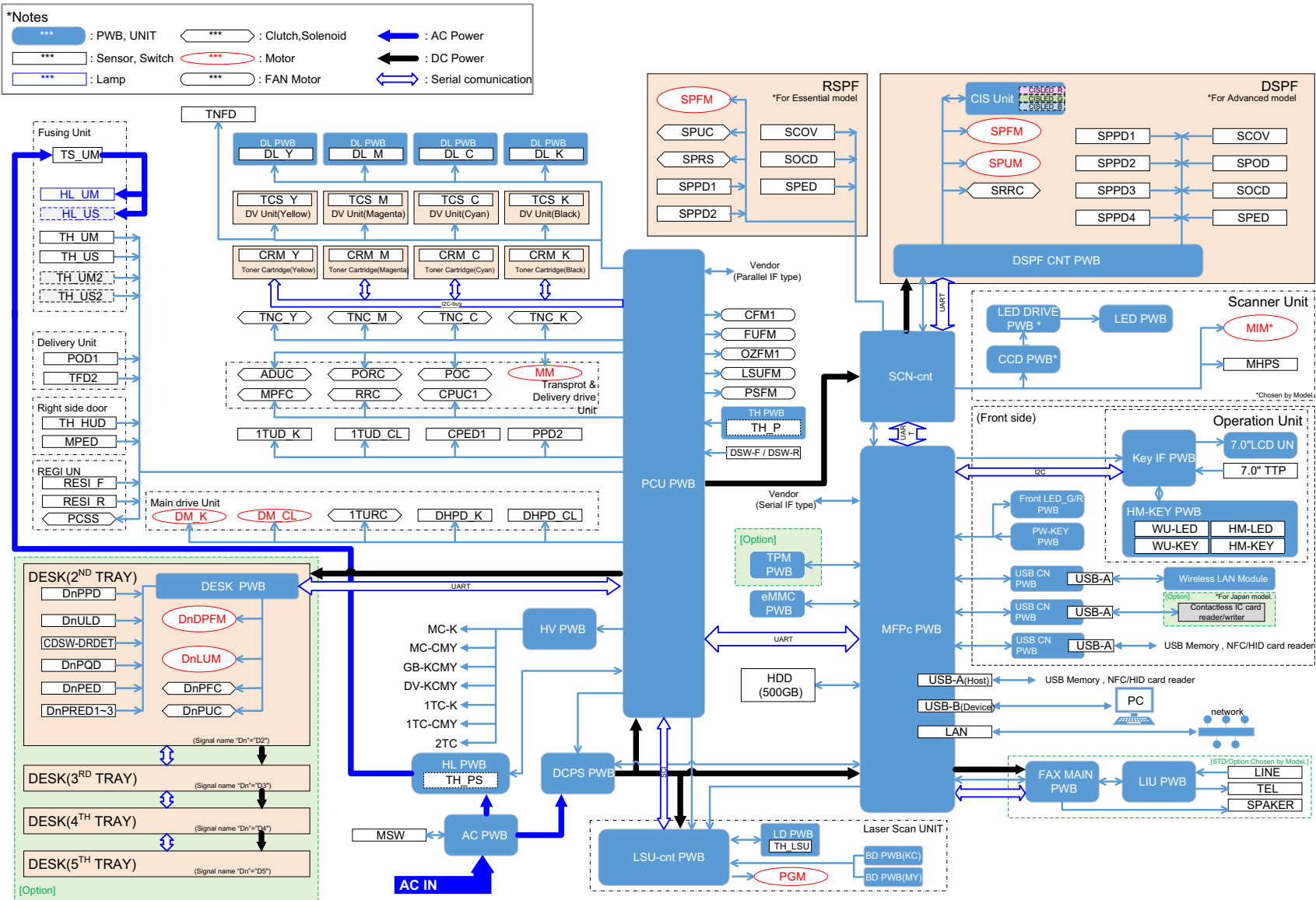
A. Fan motor control

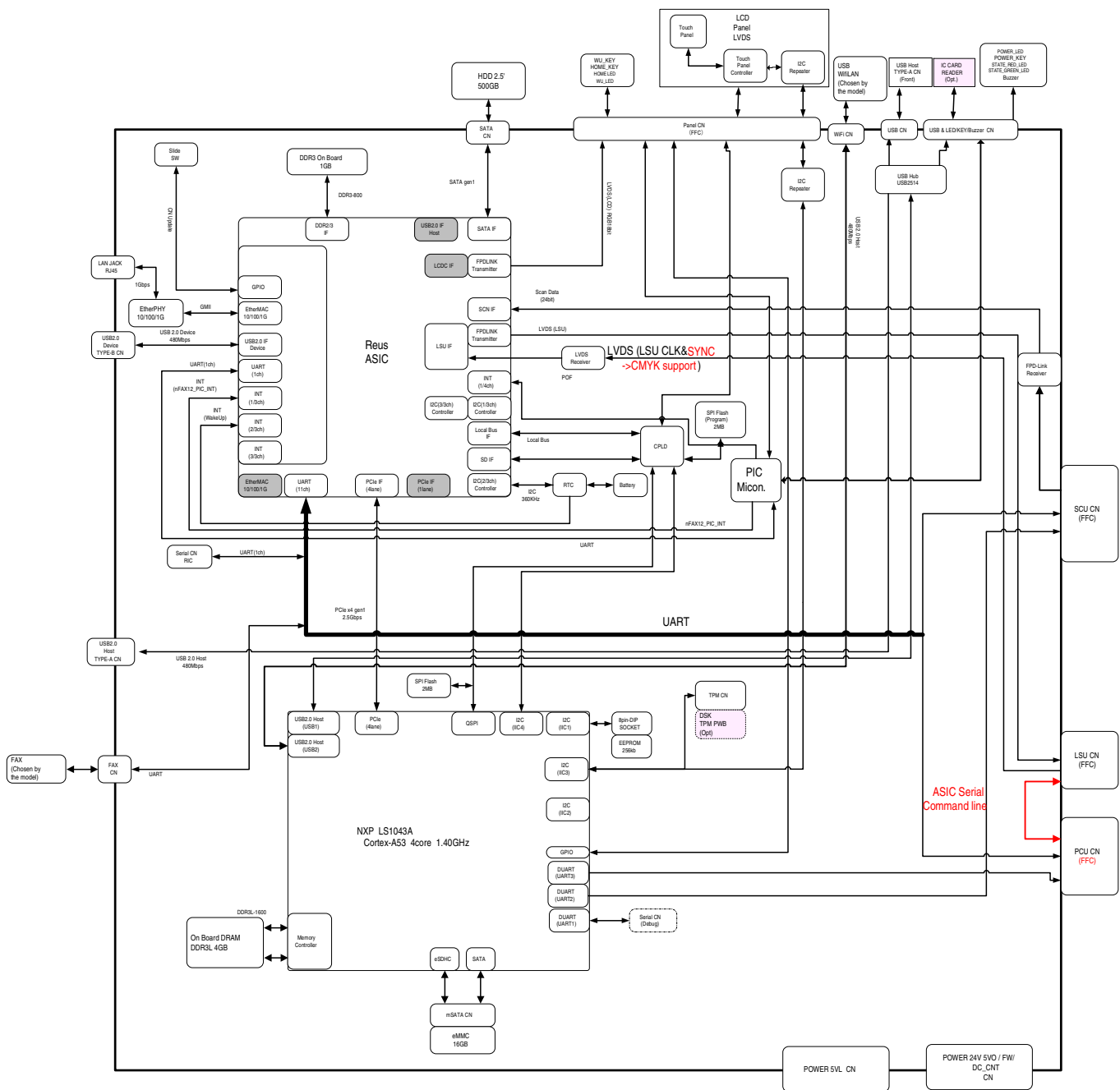
The temperature in the machine is detected by the thermistor. When the temperature in the machine reaches to more than some temperature under the high temperature environment, etc, the FAN exhausts heat by the high speed rotation.

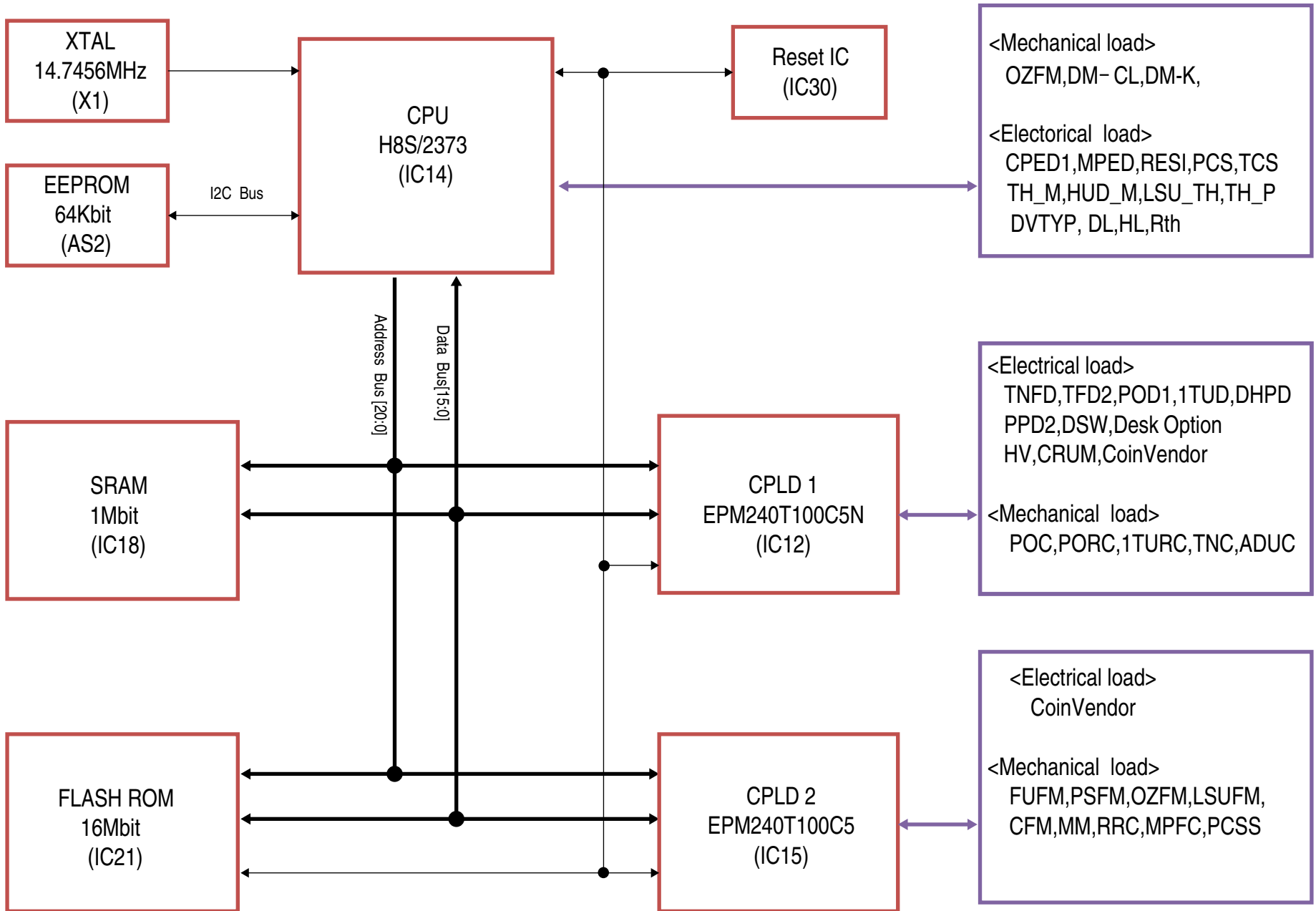
[12] ELECTRICAL SECTION

1. Block Diagram

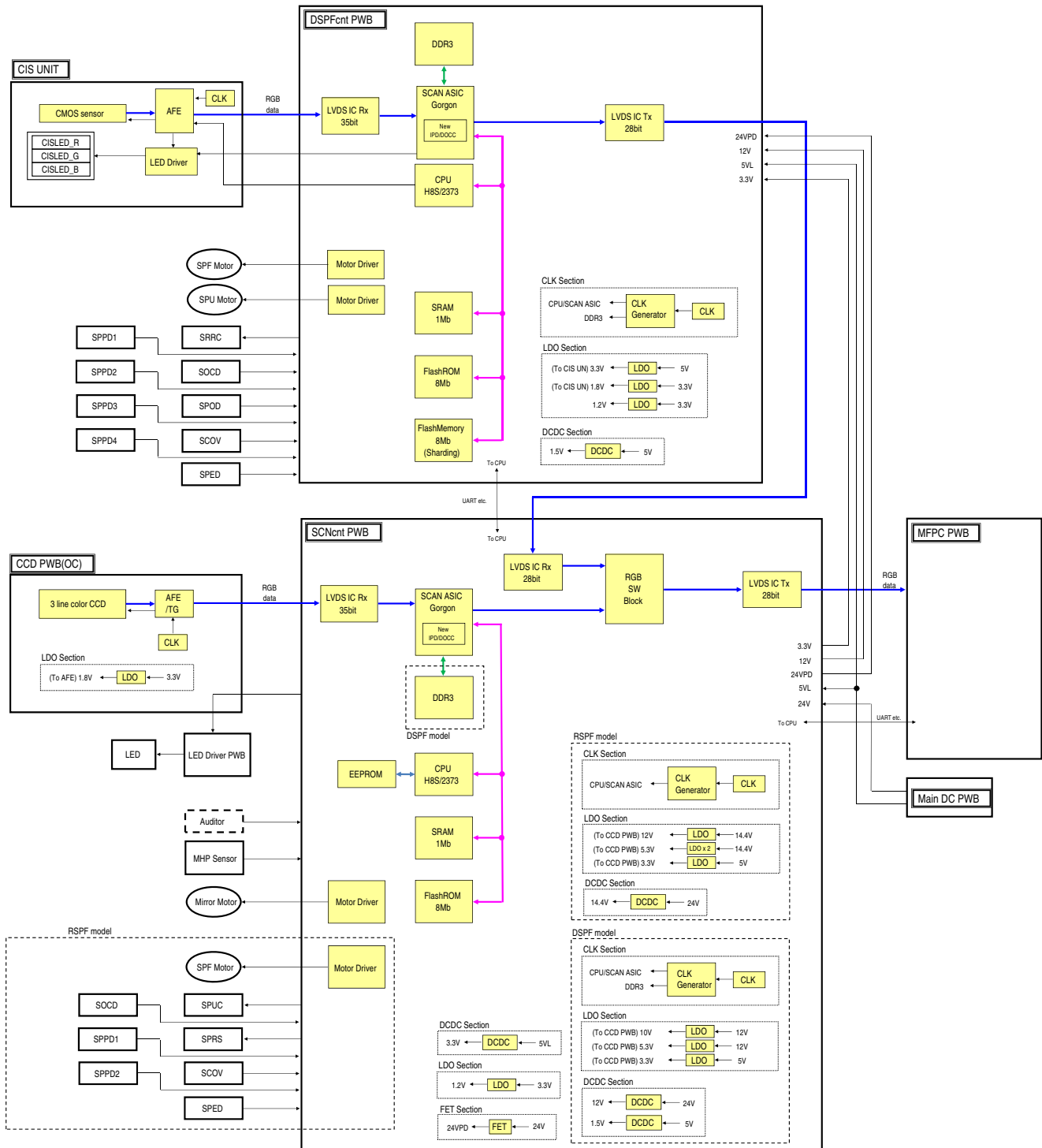
A. System block diagram



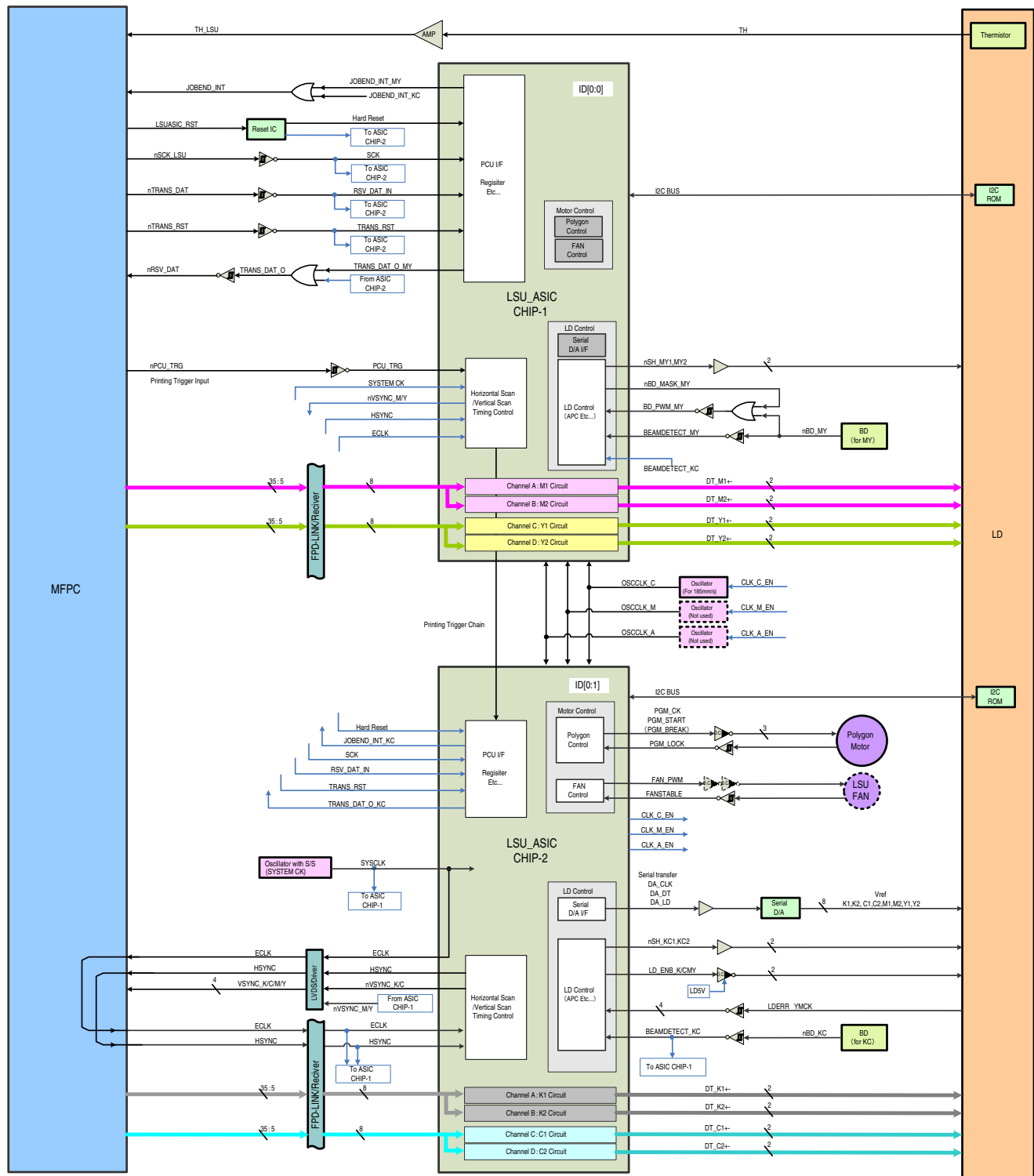


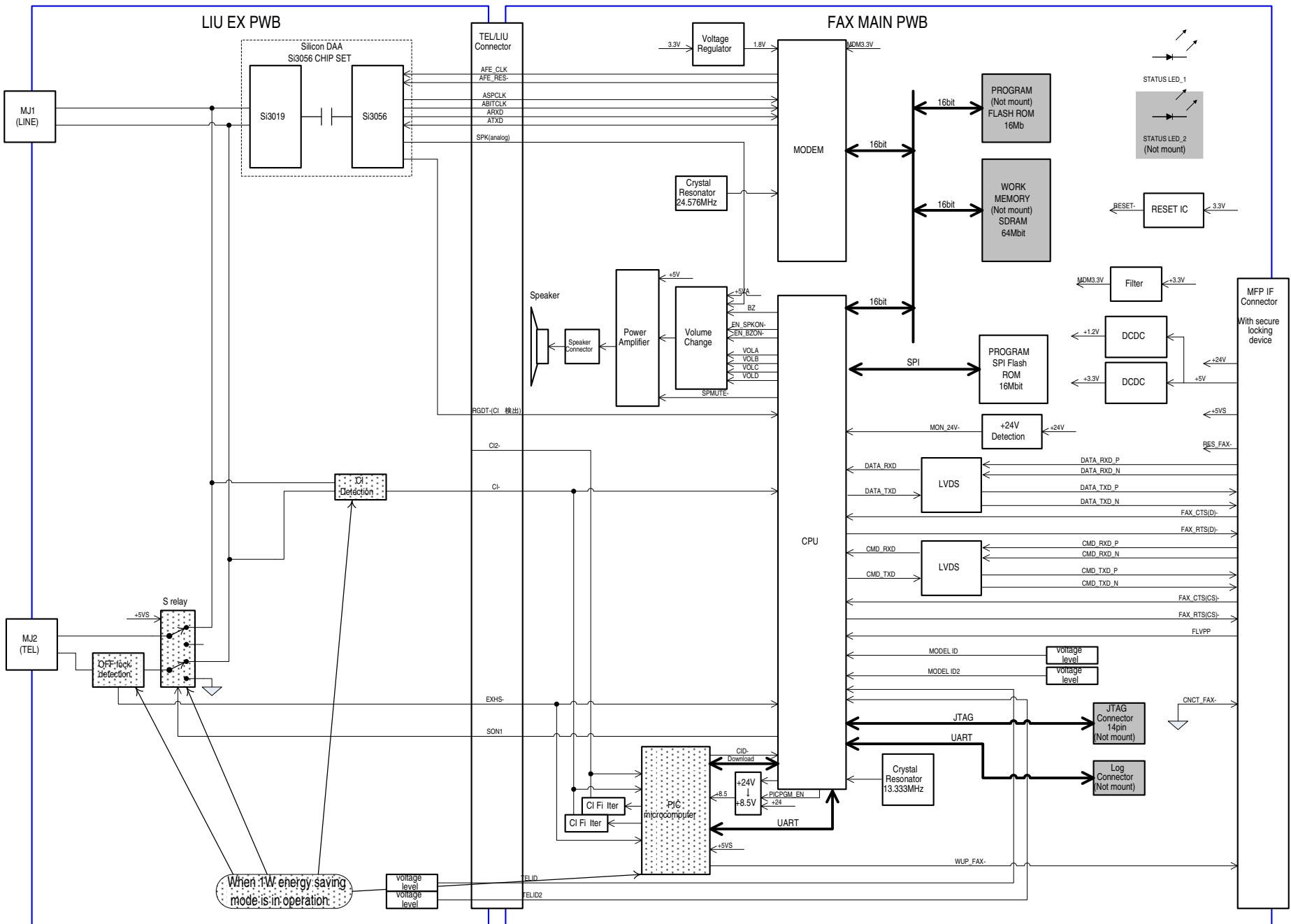


D. Scanner section



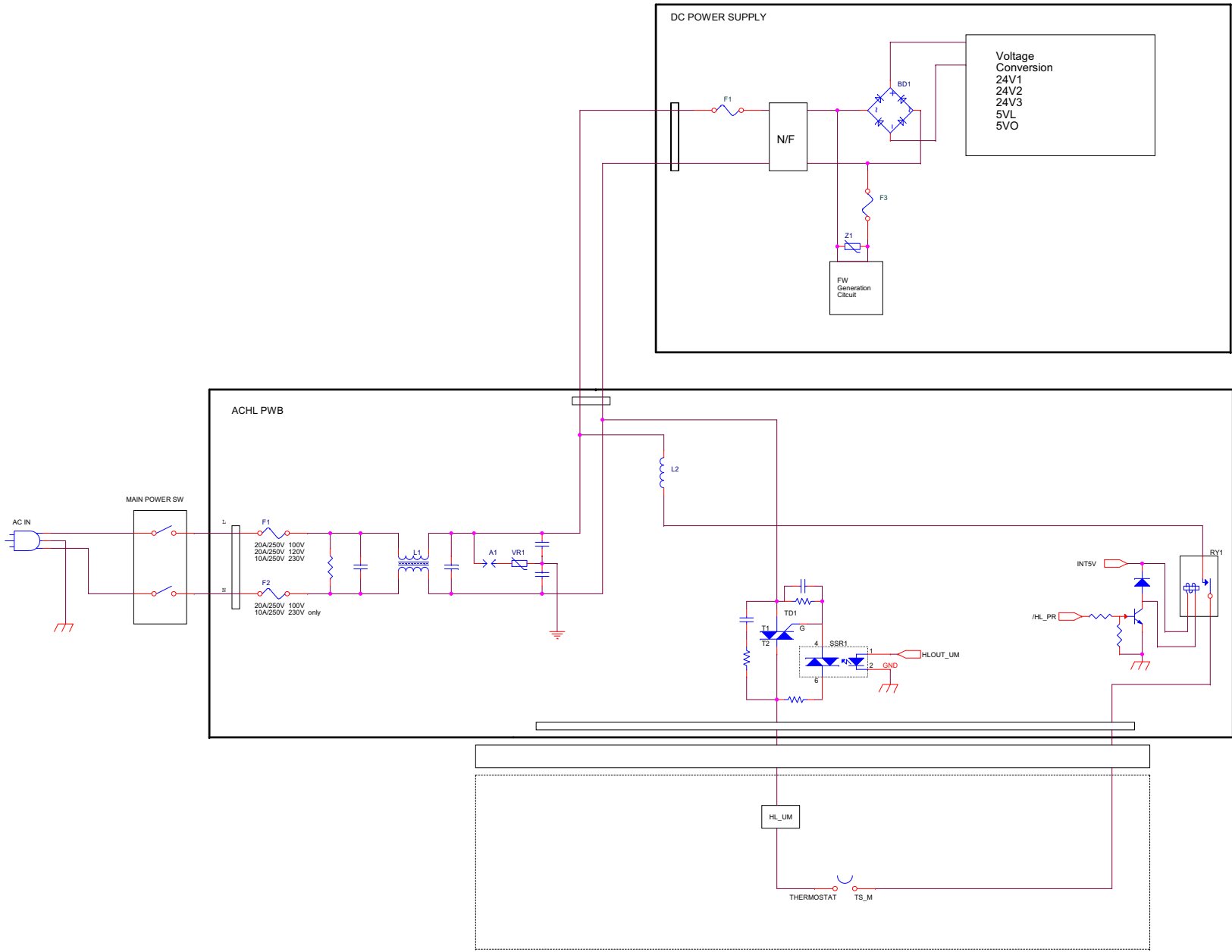
E. LSUcnt PWB





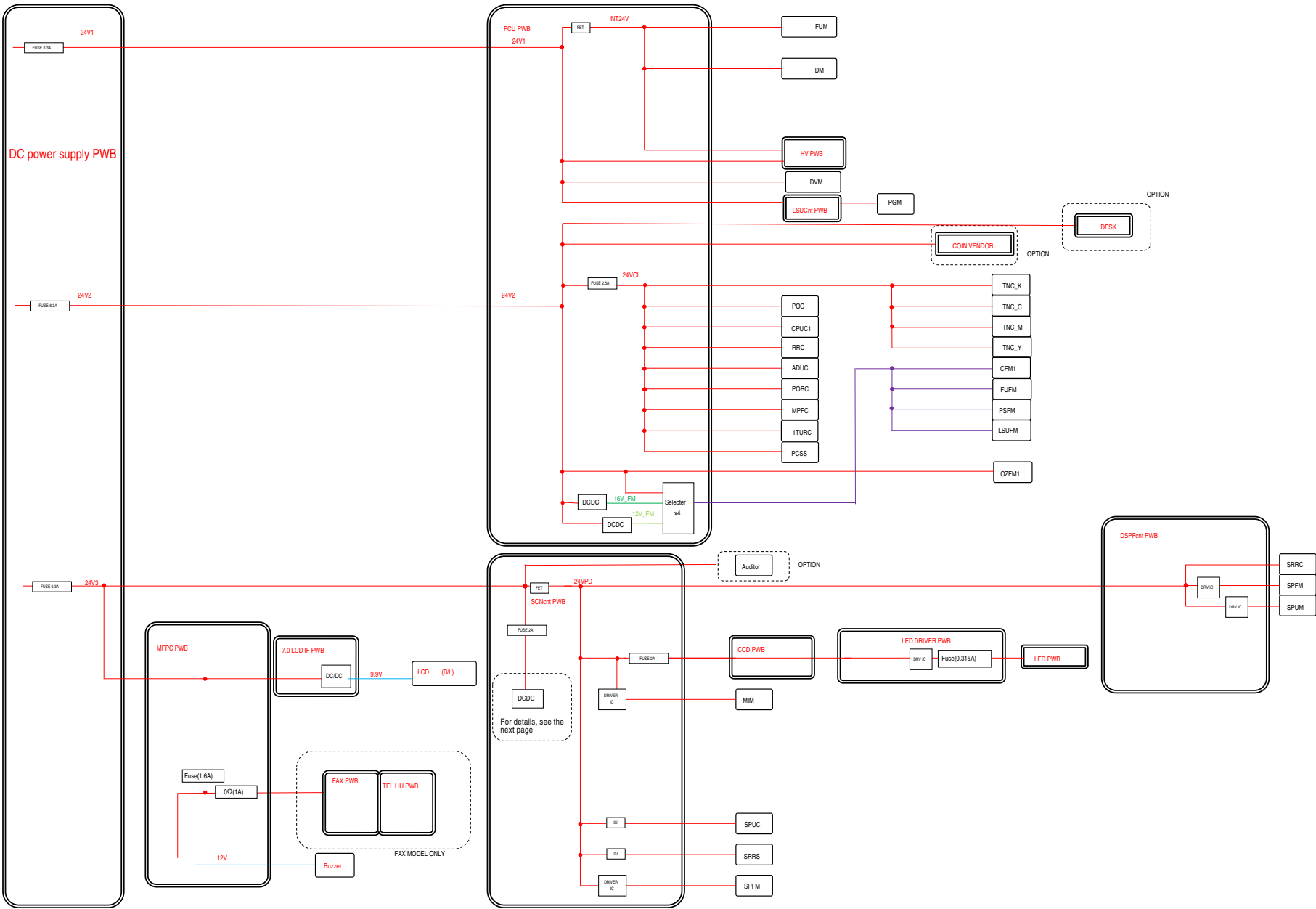
2. Powe line diagram

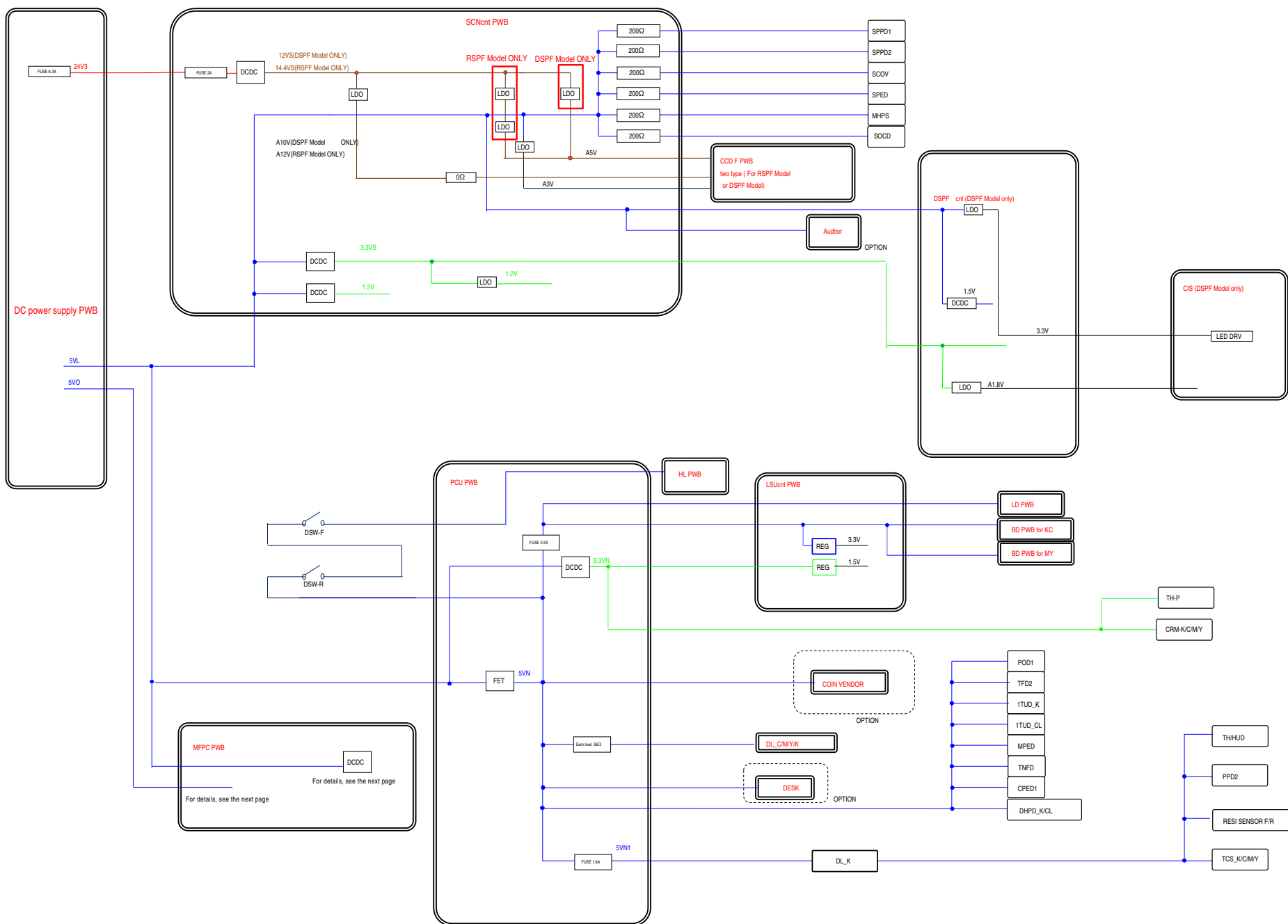
A. AC power line diagram

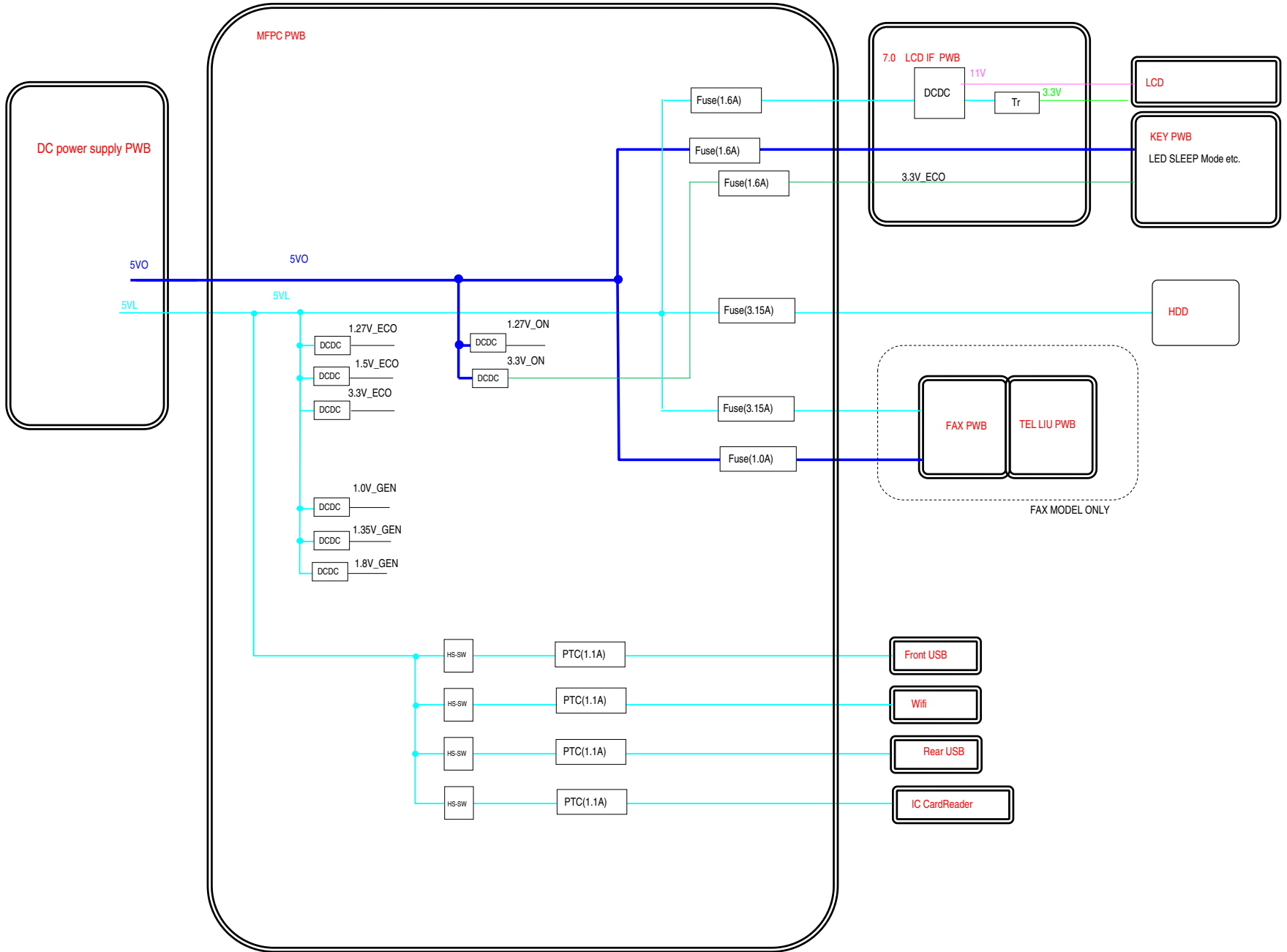


B. DC power system diagram

(1)

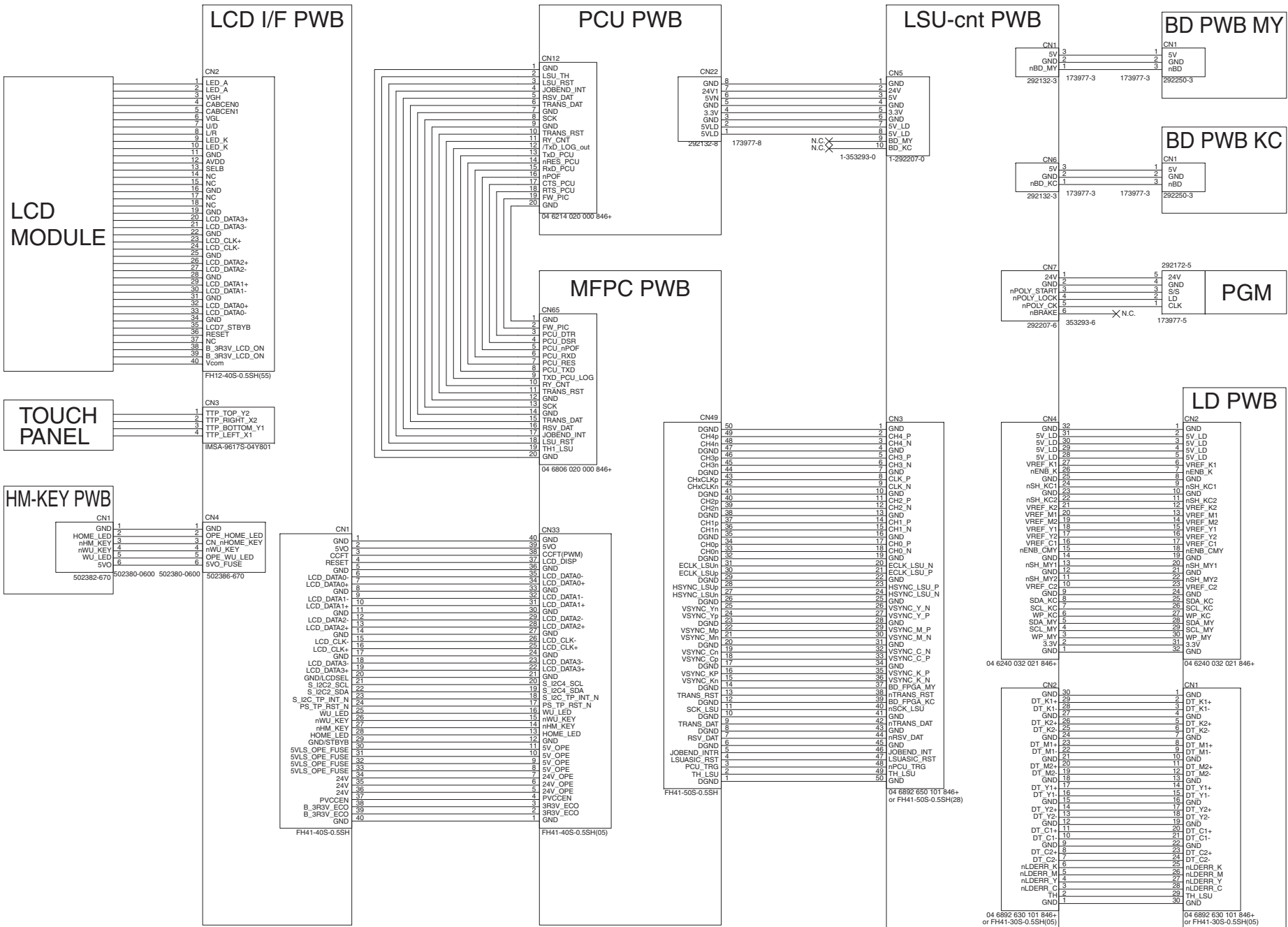


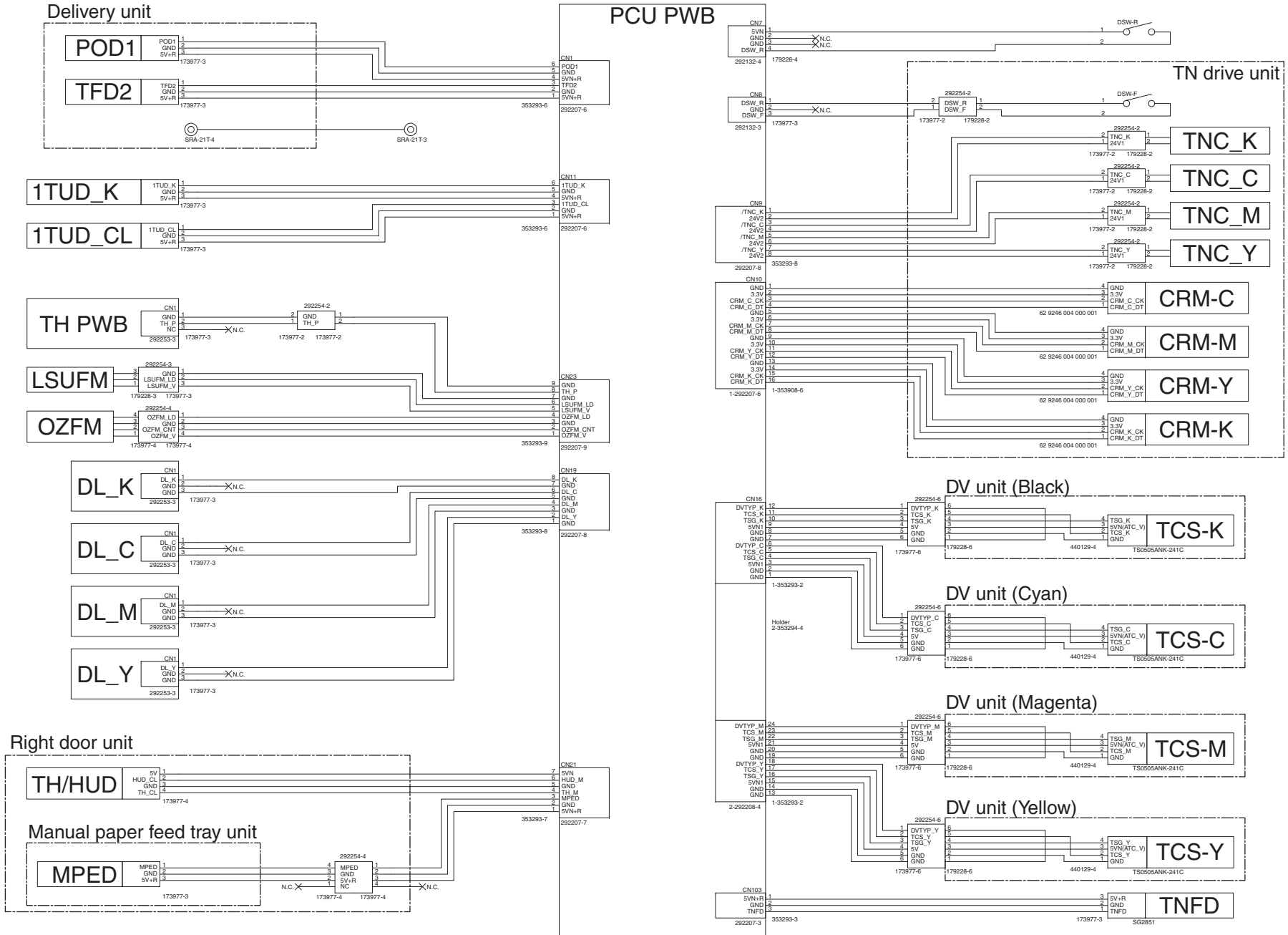


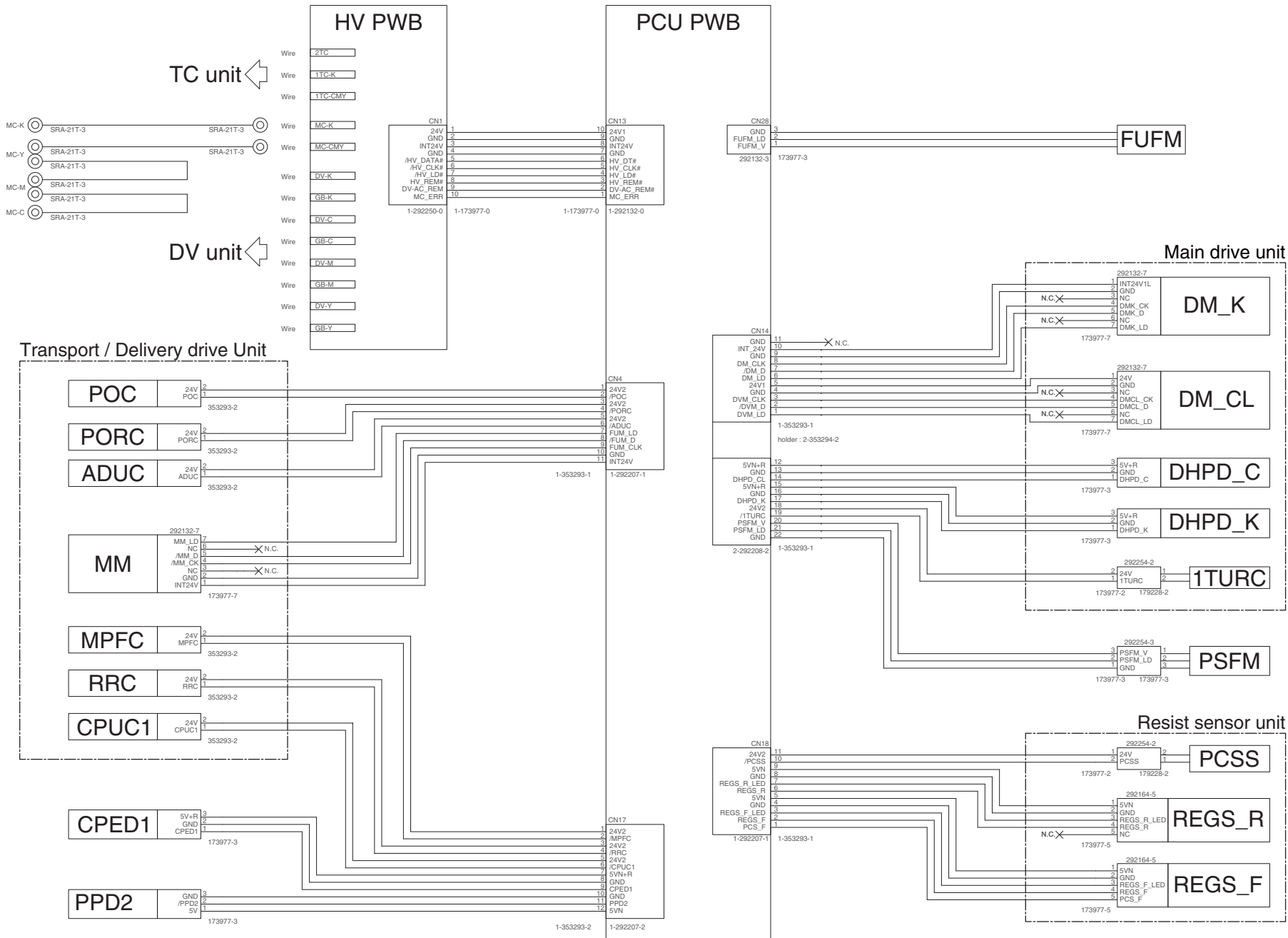


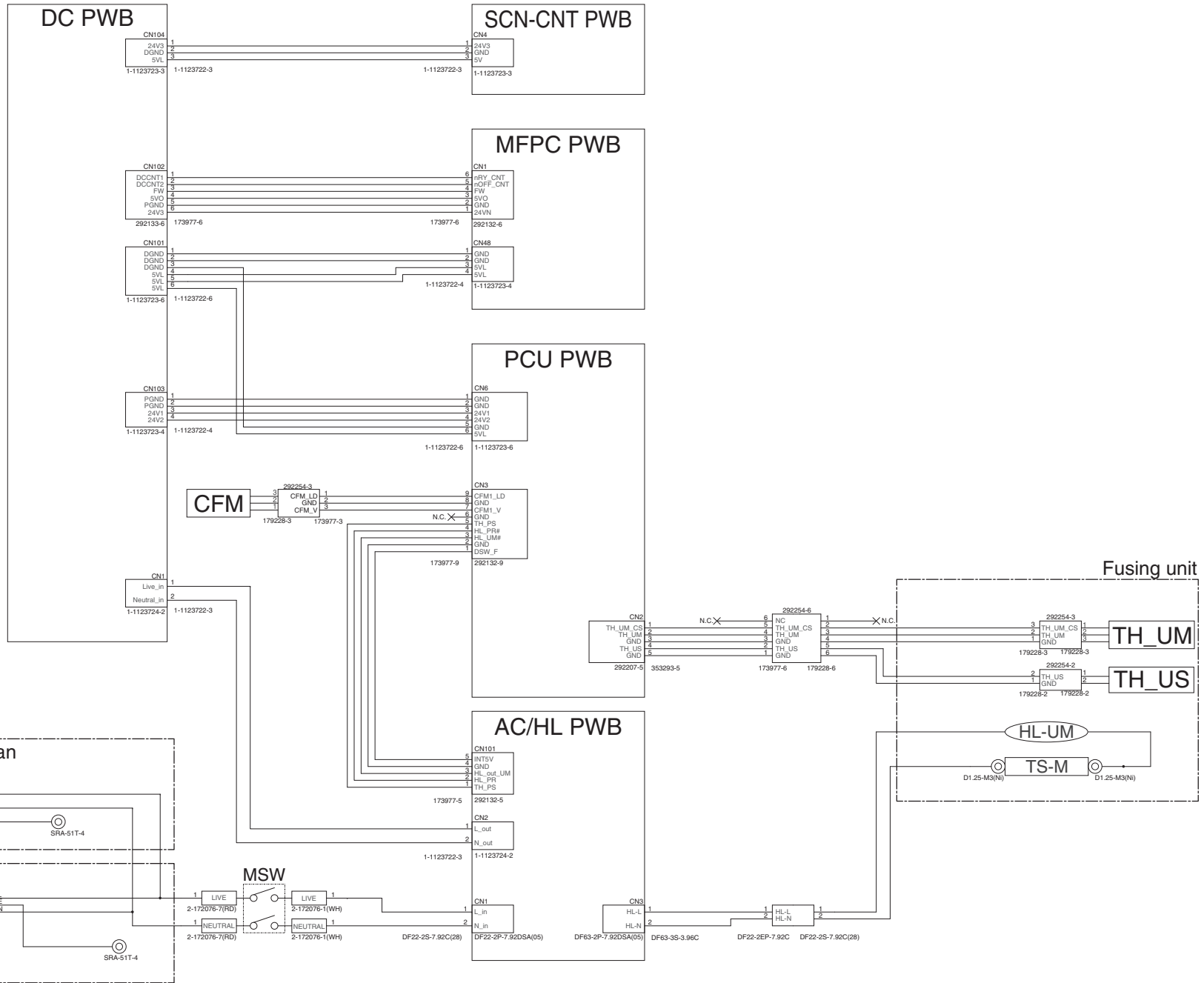
A. MFPC, LSU, FAX, USB





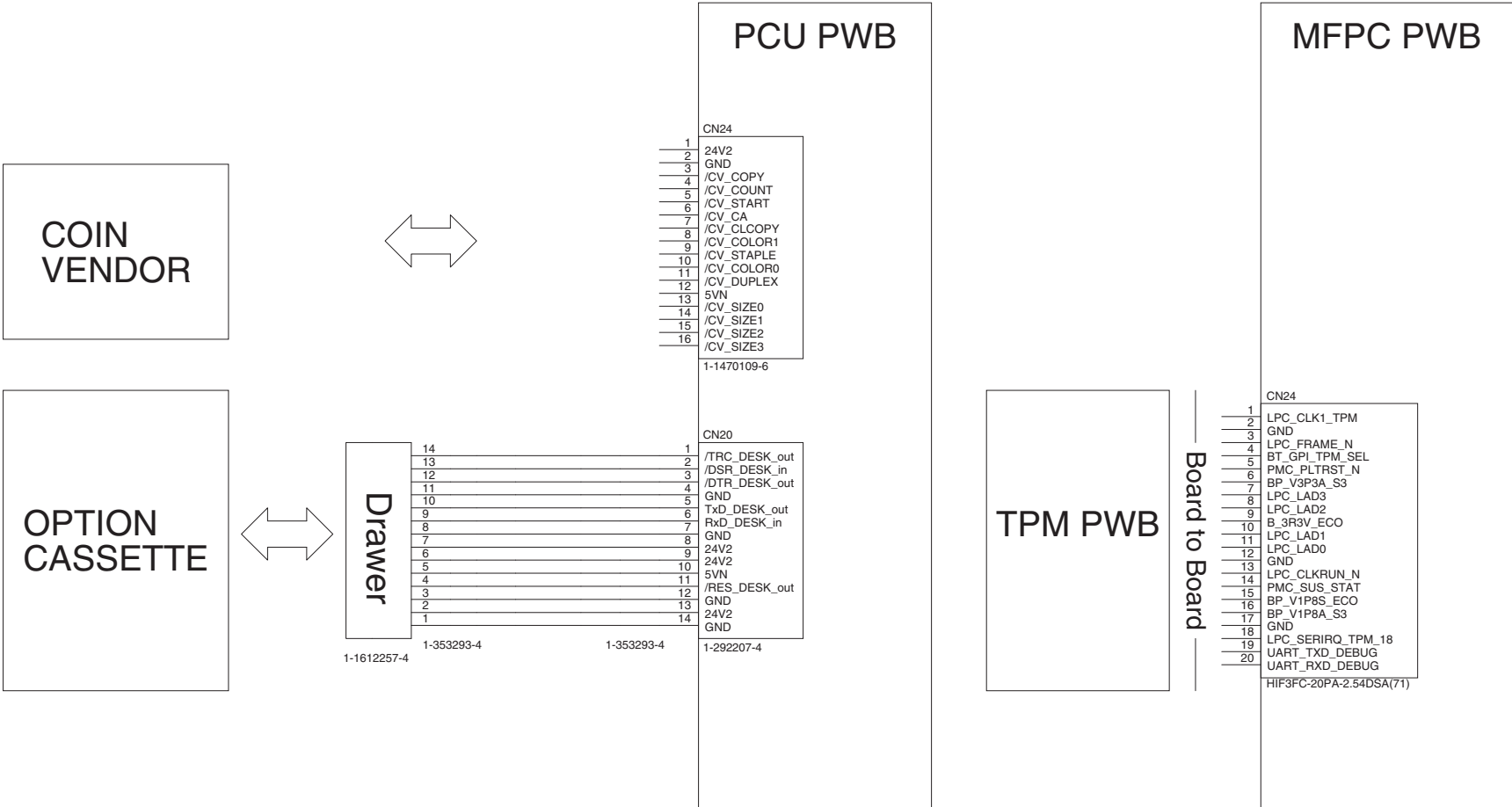












[13] OTHERS

1. TOOL LIST

Name	PARTS CODE	NOTE
Y toner powder	CKOG-0345DS51	Primary transfer belt
Conductive grease (FLOIL GE-676)	UKOG-0012QSZZ	For shaft
Grease (FLOIL GP-501MR)	UKOG-0013QSZZ	Paper feed roller shaft
Grease (MOLYKOTE X5-6020)	UKOG-0158FCZZ	Scanner rail
Gray test chart	UKOG-0162FCZZ	
Grease (JFE552)	UKOG-0235FCZZ	
Grease (HANARL FL-955R)	UKOG-0299FCZZ	
Grease (FLOIL G-313S)	UKOG-0307FCZZ	
Stearic acid powder	UKOG-0312FCZZ	OPC drum
Color copy test chart	UKOG-0326FCZZ / UKOG-0326FC11	
Shading adjustment sheet	UKOG-0020QSZZ	DSPF
Scanner adjustment chart	UKOG-0356FCZZ	

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	Image data (user watermark / stamp)
I-4	Image data	FAX/internet FAX received images
L-2	Not available	System storage data
S-1	Universal	System storage data (for backup)
S-2	Universal	Download font Download color profile User macro Key operation storage data Database system file Custom icon, background data
S-3	Universal	System log
S-4	Universal	Document filing Job log Job log completion list
S-5	Universal	Address book Account management data Paper property registration data Billing account data Cookie file for OSA application
S-6	Universal	Database file
S-7	Universal	Spool area for printer
S-8	Universal	Print release storage data Print release file management information
S-9	Universal	Work area for OCR
S-10	Universal	Work area for application
S-11	Universal	eOSA application file
S-12	Universal	Log data
S-14	Universal	User file (SMB)
S-15	Universal	User data of set value etc which must not be erased when installing the DSK
L-3	Not available	Firmware recovery data

(2) eMMC PWB data contents

No.	File system	Stored data
L-101	Universal	ICU firmware
S-101	Universal	Font Spdl Option font ROM
L-102	Not available	Snapshot image
S-102	Universal	e-manual Watermark OCR dictionary
S-103	Universal	System setting data
S-104	Universal	BPS system 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 and eMMC PWB

(1) SCN MFP PWB replacement procedure (work flow)

Registered user information will not be recovered if SCN MFP PWB is affected by U2-05 trouble.

- 1) Attach EEPROM, eMMC PWB of the SCN MFP PWB onto the new SCN MFP PWB and install it to the main unit.
Ground your body with grounding band during the work.
- 2) U2 trouble occurs, use Sim16 to cancel it.
- 3) Set as follows after rebooting the main unit.
Set the appropriate country code by Sim66-2 (clear software switch related to FAX).

(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.

(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	SIM56-3/ WEB PAGE	Service/ User
12	System setting 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 storage data	Not available	Available	Disable	---	Disable	---	---
19	eOSA application file	Not available	Install application	Disable	---	Disable	Re-install application	Service

(4) Replacement procedures when HDD storage data can be backed up

a. 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 9	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 10	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.)	

(5) Replacement procedures when HDD storage data cannot be backed up due to breakdown

a. 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.

b. 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.

(6) 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.

a. 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 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	Voice data	Available	Available	Disable	---	Enable	SIM49-7	Service
8	Backup data	Not available	Available	Disable	---	Disable	---	---
9	System setting data	Available	Available	Enable	SIM56-2/ Device cloning/ Storage backup	Enable	SIM56-2/ Device cloning/ Storage backup	Service/User
10	FAX/internet FAX received data	Not available	Available	Enable	SIM66-62	Disable	---	---

b. 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. Advanced Settings

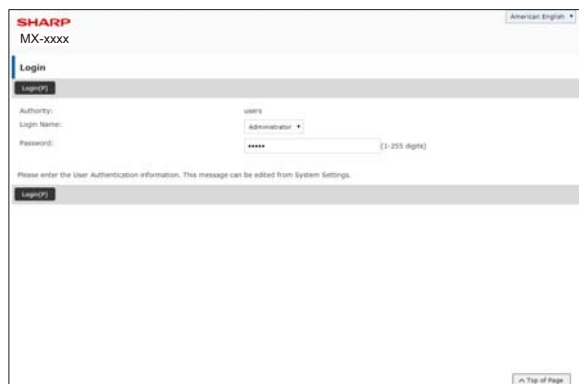
Describing on access procedure to advanced settings and operation.

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.

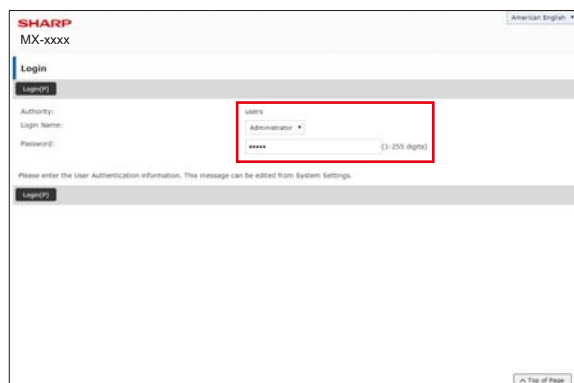
Access to advanced setting screen

- 1) Access the web page of the main machine.

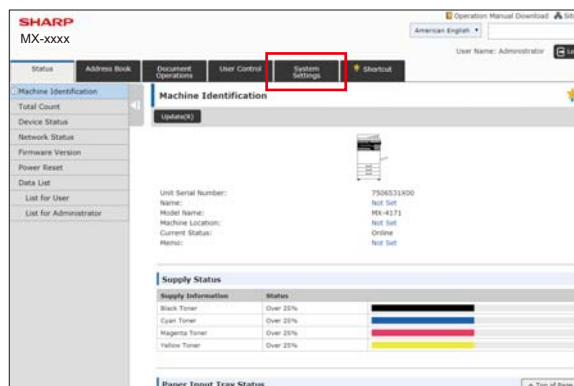


NOTE: Depending on the authentication method, a screen different from the above is displayed.

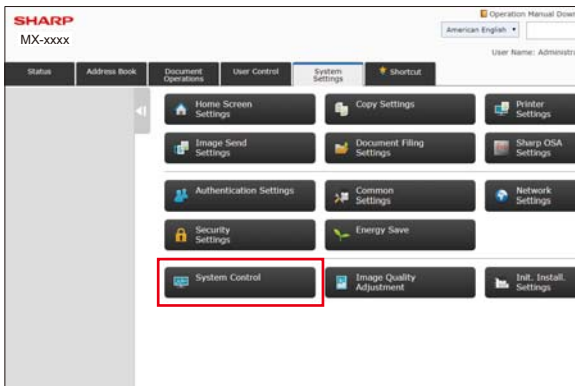
- 2) Log in with administrator privileges.



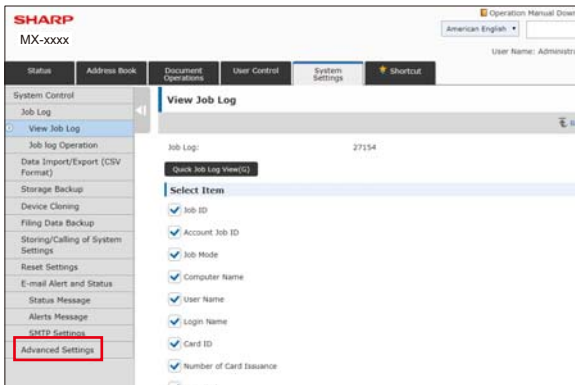
- 3) Select [System settings].



- 4) Select [System Control].

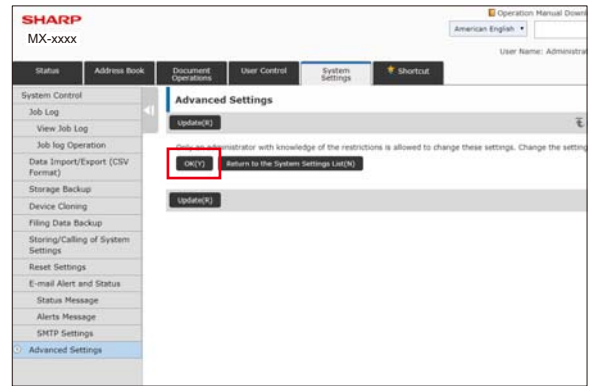


- 5) Select [Advanced settings].
Advanced setting page is displayed.

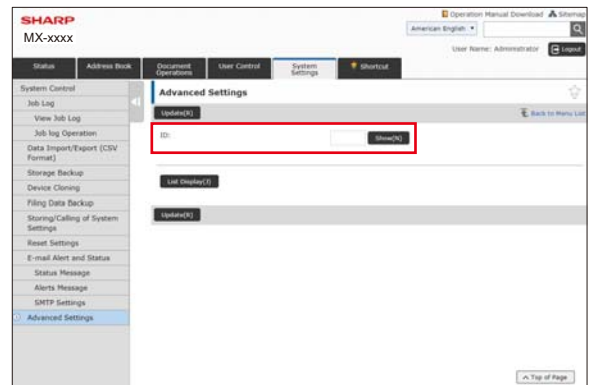


How to use advanced settings

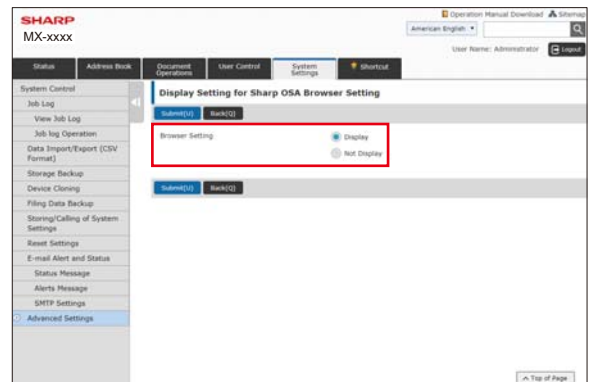
- 1) Select [OK(Y)] on the warning text screen.



- 2) Enter the setting item ID in the ID text box and press [Show(N)].



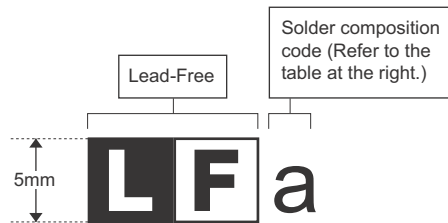
- 3) Change the setting of the target item.



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 MANGANÈSE)
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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