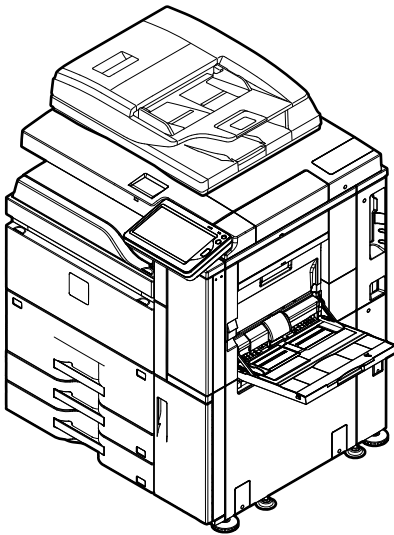


SHARP SERVICE MANUAL

CODE: 00ZMX7580/S2E



DIGITAL FULL COLOR MULTIFUNCTIONAL SYSTEM

MX-6580N
MODEL MX-7580N

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

SHARP CORPORATION

This document has been published to be used
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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 squeeze you hands by the chain, the belt, the gear, and other driving sections.

- Do not leave the machine with the cabinet disassembled.

Do not allow any person other than a serviceman to touch inside the machine. It may cause an electric shock, a burn, or an injury.

- When servicing, do not breathe toner, developer, and ink excessively. Do not get them in the eyes.

If toner, developer, or ink enters your eyes, wash it away with water immediately, and consult a doctor if necessary.

- The machine has got sharp edges inside. Be careful not to damage fingers when servicing.

- Do not throw toner or a toner cartridge in a fire. Otherwise, toner may ignite and burn you.

- When replacing a lithium battery on a PWB, only use the specified replacement battery.

If a battery of different specification is used, it may cause a machine malfunction or breakdown.

- When carrying a unit with PWB or electronic parts installed to it, be sure to put it in an anti-static-electricity bag.

It may otherwise cause a machine breakdown or malfunction.

CAUTION
DOUBLE POLE/NEUTRAL FUSING

2. Warning for servicing

- Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements.

Avoid complex wiring, which may lead to a fire or an electric shock.

It may cause a fire or an electric shock.

- If there is any abnormality such as a smoke or an abnormal smell, interrupt the job and disconnect the power plug.

It may cause a fire or an electric shock.

- Be sure to connect the grounding wire. If an electric leakage occurs without grounding, a fire or an electric shock may result.

To protect the machine and the power unit from lightning, 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 line

It 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.

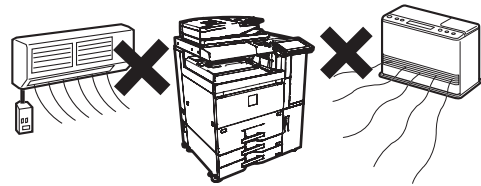
3. Note for installing site

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.**

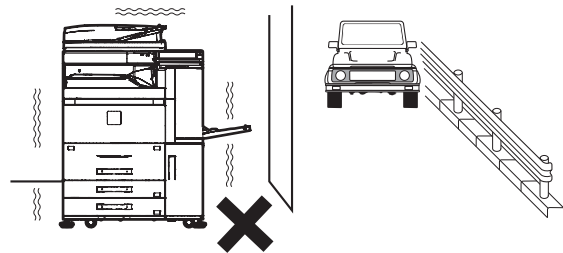
Paper may get damp and form condensation inside the machine, causing paper jam or copy dirt.

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



- **Place of extreme vibrations**

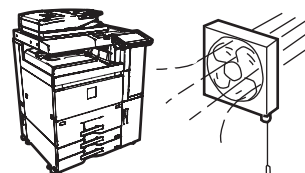
It may cause a breakdown.



- **Poorly ventilated place**

An electrostatic type copier will produce ozone.

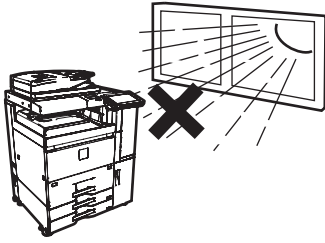
The quantity of ozone produced is designed to a low level so as not to affect human bodies. However, continuous use of such a machine may produce an ozone smell. Install the machine in a well ventilated place.



- **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.

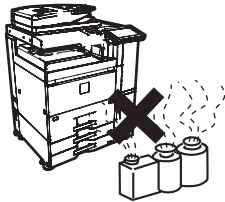


- **Place which is full of organic gases such as ammonium**

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

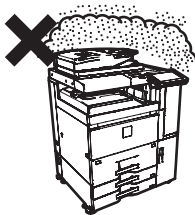
Installation of this machine near a diazo-type copier and blue print machine may result in poor quality output.

* There was a trouble in a place where silicon-series gas or volatile components are generated. Use great care for avoiding this.



- **Place of much dust**

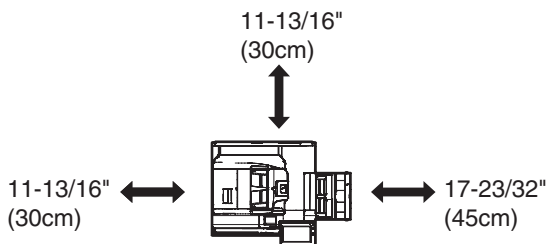
When dust or contaminants enters the machine, it may cause a breakdown or poor quality output.



- **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.

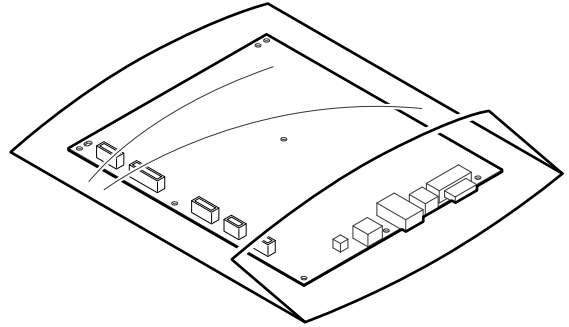
Use an optional desk or an exclusive-use desk.

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

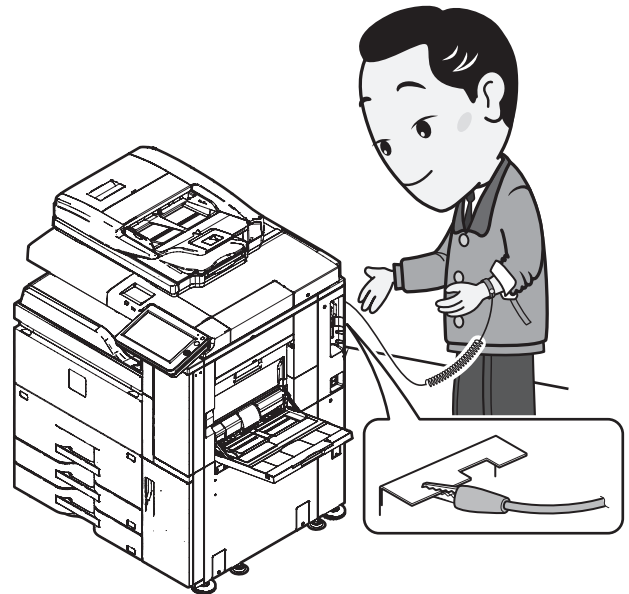
4. Note for handling PWB and electronic parts

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

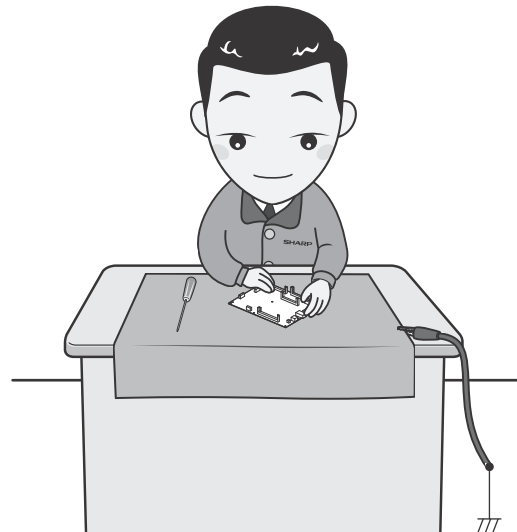
- When in transit or storing, put the parts in an anti-static bag or an anti-static case and do not touch them with bare hands.



- 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 belt.

Developing unit

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

Fusing unit

- Be careful not to attach finger prints or foreign materials on the fusing belt and the pressure roller.

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.

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

Screw kinds and tightening torques

Normal screws, set screws (including step screws)

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

Tapping screws (for iron)

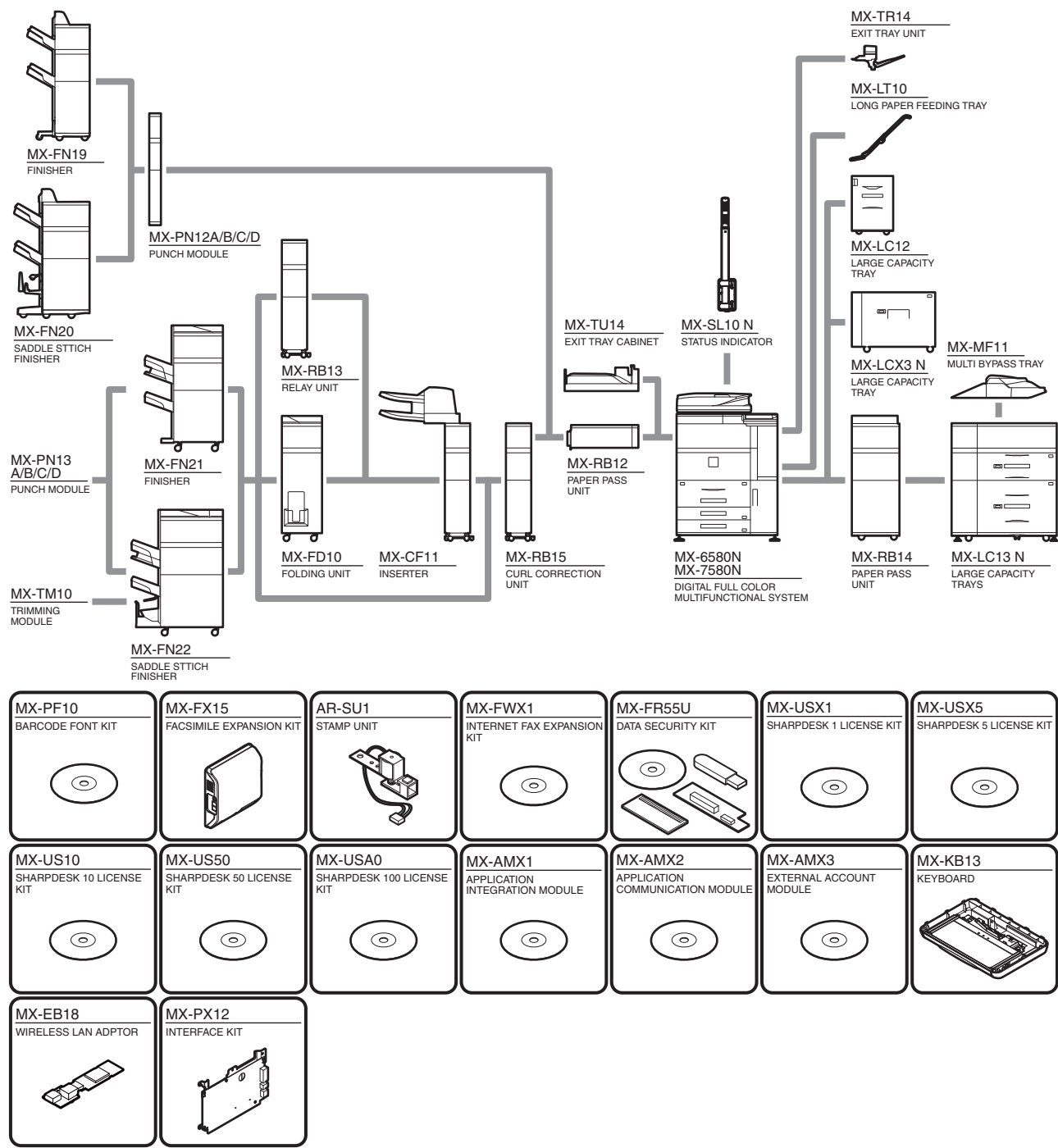
Screw diameter	Material to be fixed	Tightening torque (N·m)	Tightening torque (kgf·cm)	Tightening torque (lbft)
M3	Steel plate (Plate thickness 0.8mm or above)	1.0 - 1.2	10 - 12	0.7 - 0.9
M4	Steel plate (Plate thickness 0.8mm or above)	1.6 - 1.8	16 - 18	1.2 - 1.3
M3	Steel plate (Plate thickness less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

Tapping screw (for plastic)

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

[1] PRODUCT OUTLINE

1. System diagram



2. Option list

	Model name	Name	MX-6580N MX-7580N	Remarks
Paper Feed System	MX-LC12	LARGE CAPACITY TRAY	OPT	A4
	MX-LCX3 N	LARGE CAPACITY TRAY	OPT	A3
	MX-LC13 N	LARGE CAPACITY TRAYS	OPT	
	MX-RB14	PAPER PASS UNIT	OPT	For large capacity trays
	MX-MF11	MULTI BYPASS TRAY	OPT	For large capacity trays
	—	MULTI BYPASS TRAY	STD	
Paper Exit System	MX-LT10	LONG PAPER FEEDING TRAY	OPT	
	MX-TR14	EXIT TRAY UNIT	OPT	
	MX-TU14	EXIT TRAY CABINET	OPT	
	MX-RB12	PAPER PASS UNIT	OPT	
	MX-RB13	RELAY UNIT	OPT	For 100 sheets binding
	MX-FN19	FINISHER	OPT	50 sheets binding
	MX-FN20	SADDLE STITCH FINISHER	OPT	50 sheets binding
	MX-PN12A	PUNCH MODULE	OPT	For MX-FN19/FN20
	MX-PN12B		OPT	
	MX-PN12C		OPT	
	MX-PN12D		OPT	
	MX-FN21	FINISHER	OPT	100 sheets binding
	MX-FN22	SADDLE STITCH FINISHER	OPT	100 sheets binding
	MX-PN13A	PUNCH MODULE	OPT	For MX-FN21/FN22
	MX-PN13B		OPT	
	MX-PN13C		OPT	
	MX-PN13D		OPT	
	MX-TM10	TRIMMING MODULE	OPT	For 100 sheets binding saddle
	MX-CF11	INSERTER	OPT	
	MX-RB15	CURL CORRECTION UNIT	OPT	
Printer Expansion	—	PS3 EXPANSION KIT	STD	
	MX-PF10	BARCODE FONT KIT	OPT	
	—	DIRECT PRINT EXPANSION KIT	STD	
Image Send Expansion	MX-FX15	FACSIMILE EXPANSION KIT	OPT	
	AR-SU1	STAMP UNIT	OPT	
	MX-FWX1	INTERNET FAX EXPANSION KIT	OPT	
Authentication / Security	MX-FR55U	DATA SECURITY KIT	OPT	
Application / Solution	MX-USX1	SHARPDESK 1 LICENSE KIT	OPT	
	MX-USX5	SHARPDESK 5 LICENSE KIT	OPT	
	MX-US10	SHARPDESK 10 LICENSE KIT	OPT	
	MX-US50	SHARPDESK 50 LICENSE KIT	OPT	
	MX-USA0	SHARPDESK 100 LICENSE KIT	OPT	
	MX-AMX1	APPLICATION INTEGRATION MODULE	OPT	
	MX-AMX2	APPLICATION COMMUNICATION MODULE	STD/OPT	*
Other	MX-AMX3	EXTERNAL ACCOUNT MODULE	STD/OPT	*
	MX-EB18	WIRELESS LAN ADAPTOR	STD/OPT	*
	MX-KB13	KEYBOARD	STD/OPT	*
	MX-SL10 N	STATUS INDICATOR	OPT	
	MX-PX12	INTERFACE KIT	OPT	

STD: Standard equipment

OPT: Installable option

*: Option in some area

[2] SPECIFICATIONS

1. Basic specifications

A. Engine Specification

Photo-conductor kind	OPC (Diameter: Black: ϕ 50mm Color (Y/M/C): ϕ 50mm x3 lines)
Copying method	Electronic photo (Laser)
Developing system	Dry, 2-component magnetic brush development
Charging system	Charged saw-tooth method
Transfer system	Intermediate/secondary transfer belt
Separation system	Natural separation method * Sub separation claw is equipped.
Cleaning system	Counter blade
Fusing system	Belt method
Waste toner disposal	No toner recycling system / Waste toner bottle system
Toner supply during operation	Enabled
Outer Color	Pastel white, natural wave design

B. Engine speed (ppm)

(1) Tray 1 - 4, LCC, LCT

Plain Paper

Paper	75cpm machine	65cpm machine
13x19.2	34	31
A3W	34	32
A3/11" x 17"/8K	36	33
B4/8.5" x 14"/8.5" x 13"/8.5" x 13.4"/8.5" x 13.5"	41	37
A4/B5/16K	75	65
8.5" x 11"	75	65
A4R/8.5" x 11"/R/B5R/7.25" x 10.5"/R/16KR	47	43
A5R/5.5" x 8.5"/R	47	43
SRA3	35	31
SRA4	57	52
A4W	56	51

Heavy Paper 1/2

Paper	75cpm machine	65cpm machine
13x19.2	21	21
A4/B5/16K/A5R/8.5" x 11"/5.5" x 8.5"/R	38	38
A4R/8.5" x 11"/R/16KR/B5R/7.25" x 10.5"/R	31	31
A3/B4/8K/8.5" x 14"/8.5" x 13.5"/8.5" x 13.4"/8.5" x 13"/11" x 17"	23	23
A3W	22	22
SRA3	22	22
SRA4	37	37
A4W	37	37
OHP film (A4/8.5x11")	38	38
OHP film (A4R/8.5x11"/R)	31	31

Heavy Paper 3/4

Paper	75cpm machine	65cpm machine
13x19.2	16	16
A4/B5/16K/A5R/8.5" x 11"/5.5" x 8.5"/R	30	30
A4R/8.5" x 11"/R/16KR/B5R/7.25" x 10.5"/R	24	24
A3/B4/8K/8.5" x 14"/8.5" x 13.5"/8.5" x 13.4"/8.5" x 13"/11" x 17"	18	18
A3W	17	17
SRA3	17	17
SRA4	29	29
A4W	29	29

(2) Multi Bypass

Plain Paper

Paper	75cpm machine		65cpm machine	
	Monochrome	Color	Monochrome	Color
13x19.2	32	29	29	26
A3W	33	30	31	26
A3/11" x 17"/8K	35	31	32	27
B4/8.5" x 14"/8.5" x 13"/8.5" x 13.4"/8.5" x 13.5"	39	35	36	31
A4R/8.5" x 11"/R/B5R/7.25" x 10.5"/R/16KR	45	45	42	40
A5R/5.5" x 8.5"/R	45	45	42	42
B5	75	62	65	55
A4/16K	75	59	65	53
8.5" x 11"	75	59	65	53
Extra	32	29	29	26
SRA3	34	30	31	26
SRA4	54	53	49	48
A4W	53	52	49	48

Heavy Paper 1/2

Paper	75cpm machine		65cpm machine	
	Monochrome	Color	Monochrome	Color
Envelope *1	25	21	25	21
A4/16K/B5/A5R/8.5" x 11"/5.5" x 8.5"/R	36	33	36	33
A4R/8.5" x 11"/R/B5R/7.25" x 10.5"/R/16KR	29	27	29	27
A3/B4/8K/8.5" x 14"/8.5" x 13"/8.5" x 13.4"/8.5" x 13.5"/11" x 17"	22	19	22	19
13x19.2	20	17	20	17
A3W	21	18	21	18
Extra	20	17	20	17
SRA3	21	18	21	18
SRA4	35	32	35	32
A4W	35	32	35	32
OHP (A4/8.5" x 11")	36	33	36	33
OHP (A4R/8.5" x 11"/R)	29	27	29	27

Heavy Paper 3/4

Paper	75cpm machine		65cpm machine	
	Monochrome	Color	Monochrome	Color
A4/16K/B5/A5R/8.5" x 11"/5.5" x 8.5"/R	28	25	28	25
A4R/8.5" x 11"/R/B5R/7.25" x 10.5"/R/16KR	23	20	23	20
A3/B4/8K/8.5" x 14"/8.5" x 13"/8.5" x 13.4"/8.5" x 13.5"/11" x 17"	17	14	17	14
A3W	16	13	16	13
Extra	15	12	15	12
13x19.2	15	12	15	12
SRA3	16	13	16	13
SRA4	28	24	28	24
A4W	27	24	27	24

*1: Envelope : Monarch, Com-10, DL, C5,

C. Printable area

A3 Wide *	297 x 420mm	13x19	319x480mm
SRA3	297 x 420mm	12" x 18" *	297 x 432mm
A3	293 x 412mm	11" x 17"	275 x 424mm
B4	253 x 356mm	8.5" x 14"	212 x 348mm
SRA4	297 x 210mm	8.5" x 13.5"	212 x 335mm
A4	206 x 289mm	8.5" x 13.4"	212 x 332mm
B5	178 x 249mm	8.5" x 13"	212 x 322mm
A5	144 x 202mm	Executive	180 x 259mm
Postcard	96 x 140mm	8.5" x 11"	212 x 271mm
8K	266 x 382mm	5.5" x 8.5"	136 x 208mm
16K	191 x 262mm		
Custom	Min: 86mm x 133mm / Max: 310mm x 1292mm		

Void area Image loss	Lead edge: 4mm ± 1mm
	Rear edge: 2mm or more, and 5mm or less Total of the lead edge and the rear edge: 8mm or less FR total: 4mm ± 2mm or less

* When printing 13x19/A3W/12" x 18" size, the full print and trim mark print of A3/11" x 17" size can be made by the PCL/PS drivers.

* Must conform to long scale paper up to 1,300mm.

D. Engine resolution

Resolution *1	Copy	Writing 600 x 600dpi 9,600 (equivalent) x 600dpi 1200x1200dpi (for monochrome)
	Print	Writing 600 x 600dpi 1,200 x 1,200dpi 9,600 (equivalent) x 600dpi
Gradation *2 (256 levels)	Copy	Writing 600 x 600dpi, 4bit 9,600 (equivalent) x 600dpi
	Print	Writing PCL: 600 x 600dpi, 1bit 600 x 600dpi, 4bit 9,600 (equivalent) x 600dpi 1,200 x 1,200dpi, 1bit PS: 600 x 600dpi, 1bit 600 x 600dpi, 4bit 9,600 (equivalent) x 600dpi 1,200 x 1,200dpi, 1bit

*1: Resolution: 600dpi (default)

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

E. Scanner section

(1) Resolution/Gradation

Scanning Resolution (dpi)		Monochrome	Color
	Platen	600 x 600dpi (default) 600 x 400dpi	600 x 600dpi
	DSPF	600 x 600dpi 600 x 400dpi (default)	600 x 600dpi
Exposure lamp	White LED		
Reading gradation	10bit		
Output gradation	BW: 1bit Gray scale: 8bit Full Color: each color RGB 8bit		

(2) Document table

Type	Document table fixed system (Flat bed)
Scanning area	297 x 432mm
Original standard position	Left top reference
Detection	Yes
Detection size	Automatic detection (One type of detection unit to be switched for software destination)
Dehumidifying heater (Scanner section)	Supplied as a service parts

F. Document feeder

(1) DSPF

Type	DSPF (Duplex single pass feeder)	
Scan speed	Monochrome (A4/8.5" x 11")	Color (A4/8.5" x 11")
Copy	Single: 80-sheet/min. (600 x 400dpi, 8bit) 53-sheet/min. (600 x 600dpi, 8bit) Double: 160-page/min. (600 x 400dpi, 8bit) 106-page/min. (600 x 600dpi, 8bit)	Single: 53-sheet/min. (600 x 600dpi, 8bit) Double: 106-page/min. (600 x 600dpi, 8bit)
FAX	Single: 100-sheet/min. (200x200dpi, 1bit) Double: 200-page/min. (200x200dpi, 1bit)	NA

Internet FAX	Single: 100-sheet/min. (200 x 200dpi, 1bit) Double: 200-page/min. (200 x 200dpi, 1bit)	NA
Scanner	Single: 100-sheet/min. (200 x 200dpi/ 300x300dpi, 1bit) Double: 200-page/min. (200 x 200dpi/ 300x300dpi, 1bit)	Single: 100-sheet/min. (200x200dpi/ 300x300dpi, 8bit) Double: 200-page/min. (200x200dpi/ 300x300dpi, 8bit)
Original setup direction	Upward standard (1 to N feeding standard)	
Original standard position	Center standard (Rear one-side standard for random feeding)	
Original transport method	Sheet-through method	
Original size	Standard size Inch-1: 11" x 17", 8.5" x 14", 8.5" x 11", 8.5" x 11"R, 5.5" x 8.5", A3, A4 Inch-2: 11" x 17", 8.5" x 13", 8.5" x 11", 8.5" x 11"R, 5.5" x 8.5", A3, A4 Inch-3: 11" x 17", 8.5" x 13.4", 8.5" x 11", 8.5" x 11"R, 5.5" x 8.5", A3, A4 AB-1: 11" x 17", 8.5" x 14", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5 AB-2: 11" x 17", 8.5" x 13", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5 AB-3: 11" x 17", 8.5" x 13", 8.5" x 11", A3, B4, A4, A4R, A5, 8K, 16K, 16KR AB-4: 11" x 17", 8.5" x 13.4", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5 AB-5: 11" x 17", 8.5" x 13.5", 8.5" x 11", A3, B4, A4, A4R, B5, B5R, A5 Long paper 1000 mm (Monochrome binary only)	
Mix paper feed (Same series, same width paper)	Enabled	
Random feeding (feeding of different types / different widths)	Enabled Only the following combinations of 2 size types are allowed: A3 and B4; B4 and A4R; A4 and B5; B5 and A5; and 11-inch and 8.5-inch. AMS available.	
Original copy weight	Single: Thin paper: 9 - 13 lb bond (35 - 49 g/m ²) Plain paper: 13 - 32 lb bond (50 - 128 g/m ²) * Thin paper mode (46-sheet/min. (600 x 400dpi), 36-sheet/min. (600 x 600dpi) (A4, 8.5" x 11")) is set up for the thin paper. Duplex: 13 - 32 lb bond (50 - 128 g/m ²)	
Max. loading capacity of documents	Max. 150 sheets (20lbs Bond, 80g/m ²), or Max. height: 50/64 inch, 19.5mm or less	
Un-acceptable originals for feeding.	OHP, second original paper, tracing paper, carbon paper, thermal paper, paper with wrinkles, folds, or breakage, pasted paper, cutout document, document printed with ink ribbon, documents with perforation other than 2- or 3-holes (Perforated document by punch unit is allowed.)	
Detection	Yes	
Paper detection size	Auto detection (Refer to "Original size")	
Paper feeding direction	Right hand feeding	
Finish stamp	Option	

G. Paper feed section

(1) Basic specifications

Type	Standard	4-stage paper feed tray (Tandem LCC + 2 tray) + Multi bypass tray
	Full option	4-stage paper feed tray (Tandem LCC + 2 tray) + 2-stage LCT + Multi bypass tray for LCT
Dehumidifying heater		Service parts

Tray		Tray 1 (LCC left side)	Tray 2 (LCC right side)	Tray 3	Tray 4	Multi bypass tray
Paper capacity	Plain paper (80g/m ²)	1,200 sheets	800 sheets	500 sheets	500 sheets	100 sheets
Paper size		Refer to "Size of paper which can be fed".				
Paper size detection		No		Refer to "Paper size detection table".		
Paper type settings		Refer to "Size of paper which can be fed".				
Changing of paper size		User/Service man selection *		User selection		
Cassette handle		Normal grasp/reverse grasp support (With the lock mechanism)				
Default Paper Size	Inch series	8.5" x 11"	8.5" x 11"	Shipped with the max. paper guide width.		—
Setting	AB series	A4	A4			—
Paper remaining quantity detection		Paper empty, 100%/33%/6%	Paper empty, 100%/50%/9%	Paper empty, 100%/67%/33%		Only detection of paper empty
Paper size display		Yes				

*: A4/8.5" x 11" can be selected by the user. B5 size is selected by the serviceman.

(2) Extra paper capacity

Paper type	Tray 4	Multi bypass tray
Postcard	NA	20 sheets
Envelope	NA	20 sheets
OHP	40 sheets	20 sheets
Heavy paper	80 sheets	20 sheets
Tab paper	40 sheets	20 sheets
Glossy paper	NA	1 sheet
Others	1 sheet	1 sheet

(3) Size of paper which can be fed

Paper feed section		Tray 1 (Tandem left)	Tray 2 (Tandem right)	Tray 3	Tray 4	Multi bypass tray
Minimum weight		60g/m ²	60g/m ²	60g/m ²	60g/m ²	55g/m ²
Maximum weight		105g/m ²	105g/m ²	220g/m ²	220g/m ²	300g/m ²
Paper type	Thin paper	No	No	No	No	Yes
	Plain paper	Yes	Yes	Yes	Yes	Yes
	Recycled paper	Yes	Yes	Yes	Yes	Yes
	Color paper	Yes	Yes	Yes	Yes	Yes
	Letter head	Yes	Yes	Yes	Yes	Yes
	Pre printed	Yes	Yes	Yes	Yes	Yes
	Pre Punched	Yes	Yes	Yes	Yes	Yes
	Heavy paper 1 106 - 176g/m ²	No	No	Yes	Yes	Yes
	Heavy paper 2 177 - 220g/m ²	No	No	Yes	Yes	Yes
	Heavy paper 3 221 - 256g/m ²	No	No	No	No	Yes
	Heavy paper 4 257 - 300g/m ²	No	No	No	No	Yes
	Embossed paper	No	No	No	Yes	Yes
	Tab paper*2	No	No	No	Yes	Yes
	OHP Transparency	No	No	No	Yes	Yes
	Label	No	No	No	Yes	Yes
	Grossy paper	No	No	No	No	Yes
	User settings 1 - 9	Yes	Yes	Yes	Yes	Yes

Paper feed section			Tray 1 (Tandem left)	Tray 2 (Tandem right)	Tray 3	Tray 4	Multi bypass tray
Paper size	13 x 19	330 x 483	No	No	No	No	Yes
	12" x 18" (A3W)	305 x 457	No	No	Yes	Yes	Yes
	Ledger (11" x 17")	279 x 432	No	No	Yes	Yes	Yes
	Legal (8.5" x 14")	216 x 356	No	No	Yes	Yes	Yes
	Asian legal (8.5" x 13.5")	216 x 343	No	No	Yes	Yes	Yes
	Mexican legal (8.5" x 13.4")	216 x 340	No	No	Yes	Yes	Yes
	Foolscap (8.5" x 13")	216 x 330	No	No	Yes	Yes	Yes
	Letter (8.5" x 11")	279 x 216	Yes	Yes	Yes	Yes	Yes
	Letter R (8.5" x 11"R)	216 x 279	No	No	Yes	Yes	Yes
	Invoice R (5.5" x 8.5"R)	140 x 216	No	No	No	Yes	Yes
	Executive R (7.25" x 10.5"R)	184 x 266	No	No	Yes	Yes	Yes
	9 x 12 (A4W)	305 x 229	No	No	Yes	Yes	Yes
	A3	297 x 420	No	No	Yes	Yes	Yes
	B4	257 x 364	No	No	Yes	Yes	Yes
	A4	297 x 210	Yes	Yes	Yes	Yes	Yes
	A4-R	210 x 297	No	No	Yes	Yes	Yes
	B5	257 x 182	Yes *1	No	Yes	Yes	Yes
	B5-R	182 x 257	No	No	Yes	Yes	Yes
	A5-R	148 x 210	No	No	No	Yes	Yes
	SRA3	320 x 450	No	No	No	No	Yes
	SRA4	320 x 225	No	No	No	No	Yes
	8K	270 x 390	No	No	Yes	Yes	Yes
	16K	270 x 195	No	No	Yes	Yes	Yes
	16K-R	195 x 270	No	No	Yes	Yes	Yes
	Monarch	98 x 191	No	No	No	No	Yes
	COM10	105 x 241	No	No	No	No	Yes
	DL	110 x 220	No	No	No	No	Yes
	C5	229 x 162	No	No	No	No	Yes
	Special - Custom size		No	No	No	Yes	Yes
	Custom range	Min X (sub scan)	No	No	No	148mm/ 5.875inch	140mm/5.5inch
		Max X (sub scan)	No	No	No	457mm/18inch	488mm/ 19.2inch
		Min Y (main scan)	No	No	No	100mm/4inch	90mm/ 3.625inch
		Max Y (main scan)	No	No	No	305mm/12inch	330mm/ 13inch
	Special - Uncertain paper size		No	No	No	No	Yes
	Long size paper	Width: 90 - 305 Length: 489 - 1300	No	No	No	No	Yes

*1: B5 size is available only for Japan, AB-series overseas, and Asia dealers.

*2: Supported tab width for tab paper is as follows: A4 tab width: 12 - 20mm, 8.5" x 11" tab width: 6.1 - 17mm

H. Paper exit section

(1) Exit Capacity

Exit location	Center (option)	Right side (option)
Exit Capacity	250 sheets (A4/8.5" x 11": 80g/m ²)	100 sheets (A4/8.5" x 11": 80g/m ²)

(2) Size of paper which can be discharged

Paper exit section			Duplex	Main unit center tray	Right exit tray
Minimum weight			60g/m ²	55g/m ²	55g/m ²
Maximum weight			300g/m ²	300g/m ²	256g/m ²
Paper type	Thin paper		No	Yes	Yes
	Plain paper		Yes	Yes	Yes
	Recycled paper		Yes	Yes	Yes
	Color paper		Yes	Yes	Yes
	Letter head		Yes	Yes	Yes
	Pre printed		Yes	Yes	Yes
	Pre Punched		Yes	Yes	Yes
	Heavy paper 1 106 - 176g/m ²		Yes	Yes	Yes
	Heavy paper 2 177 - 220g/m ²		Yes	Yes	Yes
	Heavy paper 3 221 - 256g/m ²		Yes	Yes	Yes
	Heavy paper 4 257 - 300g/m ²		Yes	Yes	No
	Embossed paper		Yes	Yes	Yes
	Tab paper*1		No	Yes	No
	OHP Transparency		No	Yes	Yes
	Label		No	Yes	Yes
Paper size	Grossy paper		Yes	Yes	Yes
	User settings 1 - 9		Yes	Yes	Yes
	13 x 19	330 x 483	Yes	Yes	Yes
	12" x 18" (A3W)	305 x 457	Yes	Yes	Yes
	Ledger (11" x 17")	279 x 432	Yes	Yes	Yes
	Legal (8.5" x 14")	216 x 356	Yes	Yes	Yes
	Asian legal (8.5" x 13.5")	216 x 343	Yes	Yes	Yes
	Mexican legal (8.5" x 13.4")	216 x 340	Yes	Yes	Yes
	Foolscap (8.5" x 13")	216 x 330	Yes	Yes	Yes
	Letter (8.5" x 11")	279 x 216	Yes	Yes	Yes
	Letter R (8.5" x 11"R)	216 x 279	Yes	Yes	Yes
	Invoice R (5.5" x 8.5"R)	140 x 216	Yes	Yes	Yes
	Executive R (7.25" x 10.5"R)	184 x 266	Yes	Yes	Yes
	9 x 12 (A4W)	305 x 229	Yes	Yes	Yes
	A3	297 x 420	Yes	Yes	Yes
	B4	257 x 364	Yes	Yes	Yes
	A4	297 x 210	Yes	Yes	Yes
	A4-R	210 x 297	Yes	Yes	Yes
	B5	257 x 182	Yes	Yes	Yes
	B5-R	182 x 257	Yes	Yes	Yes
	A5-R	148 x 210	Yes	Yes	Yes
	SRA3	320 x 450	Yes	Yes	Yes
	SRA4	320 x 225	Yes	Yes	Yes
	8K	270 x 390	Yes	Yes	Yes
	16K	270 x 195	Yes	Yes	Yes
	16K-R	195 x 270	Yes	Yes	Yes
	Monarch	98 x 191	No	Yes	No
	COM10	105 x 241	No	Yes	No
	DL	110 x 220	No	Yes	No
	C5	229 x 162	No	Yes	No
	Special - Custom size		Yes	Yes	Yes
	Custom range	Min X (sub scan)	140 (5.5)	140 (5.5)	140 (5.5)
		Max X (sub scan)	488 (19.2)	488 (19.2)	488 (19.2)
		Min Y (main scan)	90 (3.625)	90 (3.625)	90 (3.625)
		Max Y (main scan)	330 (13)	330 (13)	330 (13)
	Special - Uncertain paper size		No	Yes	Yes
	Long size paper		No	Yes	No
	Width: 90 - 305 Length: 489 - 1300		No	Yes	No

*1: Supported tab width for tab paper is as follows: A4 tab width: 12 - 20mm, 8.5" x 11" tab width: 6.1 - 17mm

I. Operation panel

Size	10.1 inch
Type	Dot matrix LCD, touch panel
Display dot number	1,024 x 600 dots (WSVGA)
LCD back-light	LED lamp back-light system

J. Controller board

CPU	ARM11: 600MHz ARM9: 400MHz (Energy save mode: 75MHz)
SOC	Intel Atom E3845 1.91GHz
Interface	
Ethernet	1port
Interface	10Base-T, 100Base-TX, 1000Base-T
Support Protocol	TCP/IP (IPv4, IPv6), IPX/SPX, EtherTalk
USB 2.0 (high speed) (host)*1	2port (Front 1+ rear 1) * Simultaneous use of the front/rear ports is enable.
USB 2.0 (high speed) (device)	1port
USB-HUB (host)	Internal: 4port • For Front USB Port • For Rear USB Port • For IC card reader • For Keyboard
ACRE expansion I/F	Yes
Video I/F (for EFI connection)	Yes
Serial I/F (for coin vendor)	1port
Memory slot	1 slot

*1: The USB port will be able to be disabled by the Sim.

K. Memory/Hard disk

ICU main	ICU sub	mSATA SSD	ICU PWB	ICU PWB	SOC	HDD*1
16MB	2MB	16GB	1GB	1GB	4GB	1TB

*1: HDD capacity depends on procurement and sourcing status.

L. Warm-up time

	Main power SW
Warm-up time *1	55sec or less
Pre heat	Yes
Jam recovery time *2	45sec. or less

*1: Result may change depending on conditions.

*2: Conditions: Leave the machine for 60 sec. after door open, standard condition, Polygon stops.

2. Copy functions

A. First copy time

Engine	75cpm machine		65cpm machine	
	Monochrome	Color	Monochrome	Color
Platen	3.7 sec.	5.1 sec.	4.0 sec.	5.6 sec.
DSPF	6.3 sec.	8.8 sec.	6.5 sec.	9.2 sec.

B. Job Speed

Engine	75cpm machine		65cpm machine	
	Monochrome	Color	Monochrome	Color
S to S	75cpm (100%)	53cpm (70.7%)	65cpm (100%)	53cpm (81.5%)

C. Job Effectiveness

BLI Standard (DSPF)

Engine	75cpm machine		65cpm machine	
	Monochrome	Color	Monochrome	Color
S to S	66cpm (88.0%)	59cpm (78.7%)	58cpm (89.2%)	53cpm (81.5%)
S to D	60cpm (82.7%)	58cpm (77.3%)	56cpm (86.2%)	51cpm (78.5%)
D to D	68cpm (90.7%)	68cpm (90.7%)	61cpm (93.8%)	59cpm (90.8%)

* S to S: 10 pages of A4 / 8.5" x 11" document and 5 copies

* S to D: 10 pages of A4 / 8.5" x 11" document and 5 copies

* D to D: 10 pages (20 sides) of A4 / 8.5" x 11" document and 5 copies

3. Printer function

A. Printer driver supported OS

OS		Custom PCL6	Custom PCL5c	PS	PPD	PC-Fax	TWAIN
Windows	Vista	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Vista (x 64)	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2008	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2008 (x 64)	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 7	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 7 (x 64)	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 8.1	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 8.1 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2012 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2012 R2 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 10	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Windows 10 x 64	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
Mac	X 10.6 - 10.12	No	No	CD-ROM	No	No	No

B. PDL emulation/Font

PDL (Command)	Installed font	Option font
PCL5c / PCL6 compatibility	STD European outline font = 80 styles Line printer font (BMP) = 1 style	Barcode font = 28 styles
Postscript 3	STD European outline font = 139 styles	—

4. FAX function

A. Transmission method

Transmission time	Less than 2 sec (Super G3) Less than 6 sec (G3 ECM)
Compression/ expansion system	MH, MR, MMR, JBIG (Fixed to ECM for MMR or JBIG.)
Modem speed	33.6kbps → 2.4kbps automatic fallback
Resolution	8 x 3.85 line/mm, 8 x 7.7 line/mm, 8 x 15.4 line/mm, 16 x 15.4 line/mm (Standard memory is used for transmit/receive.)
Intercommunication	G3/Super G3: Standard (V.34, V.17, V.33, V.29, V.27ter)
Communication line	Public switched telephone network (PSTN), Private branch exchange (PBX), F-net SEGA: R-key for PBX setting
ECM	Yes

B. Number of Support Line

Standard	1 line
Expansion	Not provided

C. Transmission Mode

DSPF/OC transmission switching	Yes (Switching during the reading is feasible (When Preview and Job build mode))
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D. Image Quality/Image Process

Half tone reproduction	Equivalent to 256 levels
Exposure adjustment	Auto / Manual (5 steps)
FAX quality selection	Standard (8 x 3.85 line/mm (203.2 x 97.8dpi)) Fine (8 x 7.7 line/mm (203.2 x 195.6dpi)) Super Fine (8 x 15.4 line/mm (203.2 x 391dpi)) Ultra Fine (16 x 15.4 line/mm (406.4 x 391dpi)) Half-tone (Combination with normal character is invalid.)

E. Record Size

Max. record width	293mm
Record size	(AB series) A3, B4, A4, A4R, B5, B5R, A5R (Inch series) 11 x 17, 8.5 x 13, 8.5 x 14, 8.5 x 11, 8.5 x 11R, 8.5 x 5.5R

- * If the document length exceeds A3 size, it is divided and printed.
- * For printing the list, A5R and 8.5 x 5.5R cannot be used.

F. Dial

Manual dialing	To be entered by 10-key, # key, * key
Re-dialing	The previous 50 items (max.) can be saved, and one of them can be selected. Individual call is available.
Individual dialing	6000 items including the group dialing items
Group dialing	500 items including the individual dialing items
Program dialing	48 items + preset 1 item
Chain dialing	Max. 64 digits including individual dialing, 10-key dialing, and pause.
Dial search	Alphabet order search, User index groups
Quick search	Yes
LDAP search	Yes
Sub address	Yes
Password	Yes
Memory box registration	Yes

- * LDAP: Lightweight Directory Access protocol

G. Memory for Transmit/Receive

FAX transmission data	HDD
FAX reception data	HDD

H. Function

Transmit function	Calling function	Yes Requires the frequency setting for each destination.
	PBX function	Germany, France only
	Memory transmit	Yes (Definable destinations: 94 destinations)
	On-hook	Yes
	Quick online transmit	Yes
	Direct transmit	Yes
	Manual transmit	Yes
	Auto re-call mode	Yes
	Time indication function	Yes
	Sequential broadcasting function	Yes
	F code interface broadcasting indication function	Yes Only one interface station can be specified.
	F code interface broadcasting function	Yes
	F code confidential send function	Yes
	Polling	Yes Even with another company machine
	Sequential polling function	Yes Even with another company machine
	F-code polling	Yes
	Bulletin board	Yes
	F code bulletin board function	Yes
	Auto reduction transmit	Yes A3 → B4, A3 → A4, B4 → A4
	Rotation transmit	Yes Counterclockwise rotation of 90 degrees
	Duplex transmit	Yes
	Document transmit from OC function	Yes
	Long length original transmit	Only when DSPF is used. Transmission is enable up to 1000mm.
	Mixed documents function	Only when DSPF is used.
	Zoom transmit	Yes
	2 in 1 transmit	Yes
	Card shot transmit	Only when transmitting from OC
	Thin paper scan function	Available except for duplex scan
	Edge erase transmit function	Yes Only for the fixed sizes
	Job build	Yes
	Page division transmit	Yes
	Cover	No
	Index	No
	Transmit message adding function	No
Receive function	Auto receive	Yes
	Manual receive	Yes
	DRD call function	Distinctive Ring Detection North America: Standard, Pattern 1 – 5 Australia/New Zealand/Hong Kong: ON/OFF (TEL/FAX)
	Memory receive	Yes
	Transfer function	Yes Number of registration: 1 item
	Specified receive function	Yes (Number of registration) Rejection numbers: Max.50 items

Receive function	Receive data print condition function	Yes
	Receive data staple setting/ Copy number setting	Yes
	Rotation receive	Yes Output by clockwise rotation of 90 degrees
	Divided receive	Yes Divided print is not made in duplex mode.
	Duplex receive	Yes
	F-code confidential receive	Yes
	Print hold	Yes
	Document Admin	Yes
	Inbound Routing	Yes
	Sender registration function	Yes
	Sender print function	Yes
	On-hook dialing function	Yes
	Retransmit function	Yes
	Pause function	Yes Pause time is 1 – 15 sec.
	Sound volume setting function	Yes
	Tone pulse select function	Tone, Pulse, Auto (North America/Taiwan) * For the other destinations, set with the soft switch.
	External phone connection	Yes
	Memory remaining capacity check function	Yes Only the integral part is displayed.
	Back up	Yes
	Registered data read/write function	Yes
	Report/List	Yes
Special function	Destination check function	Yes
	Broadcasting destination display function	Yes
	Transmit job change function	Yes
	Save-energy function	Yes
	Line monitor display function	Yes
	FAST	Yes Facsimile Automated Service Technology
	Time adjust function	Yes Summer time ON/OFF
	PC-FAX	Yes
	Color mode	No
	Sender registration function	Yes Number of registration: 1 for standard sender name and address. And 18 sender names can be registered.
	Default destination setting	No
	Unauthorized scan prevention function	Yes
	Filing-each-page function	No
	Re-operation function	Yes
	User account function	Yes Max. 200 items additionally to the default
	Counter function	Yes

5. Image send function

A. System environment

Copier memory (Local memory)	Printer memory (System Memory)
512MB (Standard)	1GB (Standard)

B. Image send function (Push send from the main unit)

(1) Support image

Mode	Compression method/ Compression rate (Color scanner)
Fax	MH, MR, MMR, JBIG
Scanner	Black-White (Binary): Non-compression, MH, MMR Color (Gray scale): JPEG (High/Middle/ Low), Black Letter Emphasis, High compression

(2) Specification of Addresses

Mode	Image send
Address specification	Specification by individual/group/ direct address entry. Selection from LDAP server Entry from externally-connected keyboard
Number of individual address key registration	Total (number of key): Maximum 2000
Number of group (1 key) address registration	Number of Group (1 key) address registration: maximum 500 Number of Group key registration: 6000 (Total address number included in 2000 key)
Program	48 items + preset 1 item (Group/ Individual)
Direct entry of addresses	Entry by option keyboard (MX-KB13) or soft keyboard
Chain dial	Yes (pause key) (Fax only)
Resend	Call up nearest 50 addresses. (Except for Desktop, USB memory, Broadcast, Shared folder, FTP.)
Destination confirmation	Yes
Shortcut for address selection (quick key)	Use the 10-key to call up registered numbers of addresses.
Disable registering destination from operation panel	Yes
Disable registering destination on web page	Yes
Disable [Resend] on Fax/Image send mode	Yes
Disable selection from address book	Yes
Disable direct entry transmission	Yes
Disable broadcast transmission	Yes
Disable PC-Fax/Internet Fax sending	Yes

(3) Specification of Multiple Addresses

Mode	Image send
Broadcast	Yes (500 destinations)
Request of serial transmission	Yes

* Broadcast transmission is allowed. (Monochrome only)

(4) Transmission function

Mode	Image send
Memory transmission	Yes (Max. 94 destinations)
Scaled transmission	Enable only from a fixed-form size to a fixed-form size
Long original transmission	Yes Maximum of 1000mm (single side only/black-white binary only)
Restriction on transmission size	No
Stamp	No
Large capacity original mode	Yes
Scanning of thin paper	Yes
Mixed originals feeder	Yes (Random + MIX)
Preview	Yes
Side erase	Yes
Original count	Yes

Mode	FAX
On-hook	Yes
Quick online transmission	Yes
Direct transmission	Yes (Switching: Memory transmission ↔ Direct transmission)
Manual transmission setting	No
Automatically-reduced transmission	Yes
Rotated transmission	Yes
Recall mode	Error Yes Busy Yes Yes
Default date sender transmission	Yes (ON/OFF only)
Fax destination confirmation (Preventing mistransmission)	Yes

(5) Reception function

Mode	FAX
Automatic reception	Yes
Manual reception	Yes Switching from manual reception to automatic reception. (Allowed only for France and Japan)
Memory reception	Yes
Fixed size reduced reception	Yes
Specified size scaled reception	No
Rotated reception	Yes
Setting of received data print condition	Equal size print (partition not allowed) Equal size print (partition allowed) Equal or reduced size print
2-sided reception	Condition setting through system setting
2-in-1 reception	No
Automatic reduction setting upon receiving A3	Yes
Automatic reduction setting upon receiving letter	Yes (Other than North America and Inch destinations)
Reception from a specific number not allowed, or allowed. (Allow/Reject)	Specified numbers only (50 numbers /20 digits)
External phone connection remote	Yes
Confidential reception (Sharp mode)	No
Received data bypass output	Yes
Index printing	No
Transfer function upon disabling of output.	Yes (1 receiver (of transfer) registration)
Internet Fax/Fax to e-mail (Transfer of Internet Fax/Fax reception data to e-mail, inbound routing)	Yes
Exit tray setting	Yes
Insertion of job separator sheet	No

Mode	FAX
Staple function of received data	Yes
Auto wake up print	Yes
Received data print hold *1	Yes
Color toner print when black toner runs out.	No

*1: This function saves all received data in memory and starts out put after password entry. (Confidential reception is excluded.) Setting only on the receiver side.

(6) Other Functions

Mode	Image send
Time specification	Yes
Page partition transmission	Yes
Card shot	Yes (Ratio: 63 - 400%)
Forward data transmission/reception (Document Admin)	Yes Data transmission by PC-Fax/ PC-Internet Fax is allowed, too.

Mode	FAX
Polling reception	Yes
Bulletin board transmission	Yes Up to 100 registrations allowed with bulletin board, confidential and relay broadcast all combined. (Free area: 1 registration) Setting of the number of transmission: 1/no limit.
Sender print	Yes
Sender selection	Yes
Date print	Yes (Date can be expressed alternatively)
Polling protection function	Yes
Page connection	No
Confidential transmission	Yes (F code method)
Relay broadcast instructions	Yes (F code method)
Relay broadcast transmission (Fax to e-mail/Internet Fax/ Fax (F-code))	Yes
2 in 1	Yes

(7) Record Size

Mode	FAX
Maximum record width	293mm
Record size	A3 – A5/11 x 17 – 5.5 x 8.5

(8) Registration-related settings

Mode	Image send
Individual/group *1 E-mail FTP Desktop SMB Fax	2000 destinations Use of LDAP allowed Up to 500 registered addresses for each group dial. Registered name in 36 characters Fax only Individual dial receiver number registration: within 64 digits for receiver number + sub-address + passcode (including "/").
Address book registration from Resend screen	Yes
Program	Registration of addresses (individual/group), settings (density, image quality, resolution, original) and special functions in one set is allowed. (48 + preset 1)
Quick key (short cut registration) *2	Yes (0001 – 2000)
Readout/read-in of data registered in other models	Yes (by the address book conversion utility)
Import/export of address book	Yes (By storage backup)

Mode	FAX
Number of memory boxes	Registration of bulletin board/confidential/relay broadcast is allowed up to 100. Registration name: 18 characters
Number of sender registration	Only one set (40 characters) of sender information can be registered, and Internet FAX addresses or FAX number are registered in the name part.
Number of sender selection registration	Total: 40 characters (Sender selection: In addition to default, 18 registrations allowed)
Registration of polling approval number	10 numbers/20 digits
Registration of Fax system number (Sharp mode)	No
Registration of Fax polling approval ID number (Sharp mode)	No
Fax relay ID registration (Sharp mode)	No

*1: Since scan/Internet Fax/Fax uses the common address book, the number of addresses allowed for registration is the sum total of all modes.

*2: Quick key is the function to select an address based on the registered number of each address within the book for address selection. Users should be able to select a quick key number.

(9) Telephone functions

Mode	FAX
On-hook function	Yes
Hold	No
Setting of pause time	Yes (1 – 15 seconds)
Telephone transmission during power outage	No (External telephone transmission allowed)
Tone pulse switching	Tone, Pulse, Auto (North America/Taiwan) * For the other destinations, set with the soft switch.

(10) Sound settings

Mode	Item	Scanner	Internet Fax/ Direct SMTP	Fax
On-hook sound	Sound volume setting	N/A	N/A	Yes *1 *2
Sound volume for calling	Sound volume setting	N/A	N/A	Yes *1 *6
Ring tone	Sound volume setting	N/A	N/A	N/A
Line monitor sound	Sound volume setting	N/A	N/A	Yes *1 *6
Reception sound	Sound volume setting	N/A	Yes *1	No
Reception finish sound	Sound volume setting	N/A	N/A	Yes *1 *6
	Sound pattern	N/A	N/A	Yes *1 *3
	Time setting for communication ending sound	N/A	N/A	Yes *1 *4
Transmission finish sound	Sound volume setting	N/A	N/A	Yes *1 *6
	Sound pattern	N/A	N/A	Yes *1 *3
	Time setting for communication ending sound	N/A	N/A	Yes *1 *4
Transmission and reception error sound	Sound volume setting	N/A	N/A	Yes *1 *6
	Sound pattern	N/A	N/A	Yes *1 *3
	Time setting for communication ending sound	N/A	N/A	Yes *1 *5
Communication error sound	Sound volume setting	N/A	Yes *1	No
Sound setting for end of original reading (image send)	Sound volume setting	Yes *1	Yes *1	Yes *1

*1: Setup by system setting.

*2: 9 steps without mute

*3: PATTERN 1/2/3/4.

Different sound should be selectable for each of reception/transmission success/transmission and reception error.

*4: 5 steps of 2.0 - 4.0 seconds.

*5: 2 steps setting by very 0.3 or 0.7 second.

*6: 10 steps (including no sound).

(11) Others

Mode	FAX
PC-FAX	Yes
FAST	No
Network FAST	No
Distinctive ring detection	Setting for each destination

6. Report/list function

A. User Authority

Type	Support
Total Count	Yes
Device Count	Yes
All Custom Setting List	Yes
Printer Test Page	SPDL Symbol Set List
	SPDL Internal Font List
	PCL5 Extended Font List
	PS Font List
	Kanji Font List
	NIC Page
Sending Address List	Individual List
	Group List
	Memory Box List
	All Sending Address List
Document Filing User / Folder List	

B. Administrator Authority

Type	Support
Administrator Settings List	Copy
	Print
	Fax/Image send
	Document filing
	Security
	Common
	All Administrator Settings List
Image Sending Activity Report	Image Sending Activity Report (Scan)
	Image Sending Activity Report (Internet Fax)
	Image Sending Activity Report (Fax)
Anti Junk	Anti Junk Fax Number List
	Allow/Reject Mail and Domain Name List
Data Receive/Forward List	Inbound Routing List
	Document Admin List
Web Settings List	
Metadata Set List	
User Information Print	All User Information Print
	User List
	List of Number of Pages Used
	Page Limit Group List
	Authority Group List
	Favorite Operation Group List

C. Other List Print Functions

Type	Support
List 2-sided print	Yes
Changing settings Log	Yes

1 : '17/Apr.

7. Power consumption

A. Power consumption

The full configuration can be operated with the rated power source.

1

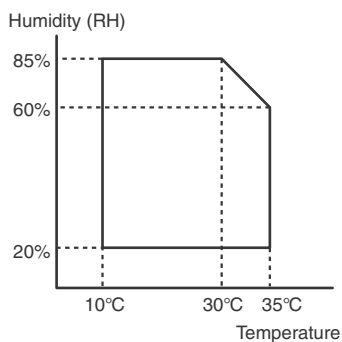
	200 V (North America, etc.)	200 V (Europe, etc.)
Maximum rated power Consumption*1	2880W	3840W
Moving time to pre-heat mode	1 minutes (default)	15 minutes (default)
Recovery time from pre-heat mode	30 sec.	
Moving time to sleep mode	15 minutes (default)	45 minutes (Europe)
	* Printer mode: 10sec. (default)	

*1: Power switch ON, dehumidity heater OFF

8. Dimensions and Weight

Outer dimension (Included operation panel)	W845 x D844 x H1221mm (Operation panel default position) W845 x D831 x H1221mm (When the operation panel is put down.)
Footprint	W845 x D765mm
Dimension occupied by the machine (When the bypass tray is extended)	W1245 x D844mm (When the bypass tray is extended/ Operation panel default position)
Weight Main Unit (including photoreceptor / not including consumables)	211kg

9. Ambient conditions



[3] CONSUMABLE PARTS

1. Supply system table

A. North America, Central America, South America

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner cartridge (Black)	Toner cartridge (Black) x 1	65K	MX-62NT-BA	10	* Life: A4/Letter size at area coverage 5% (Reference: 54.2K for A4/Letter 6%)
Toner cartridge (Cyan)	Toner cartridge (Cyan) x 1	40K	MX-62NT-CA	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Magenta)	Toner cartridge (Magenta) x 1	40K	MX-62NT-MA	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Yellow)	Toner cartridge (Yellow) x 1	40K	MX-62NT-YA	10	* Life: A4/Letter size at area coverage 5%
Developer (Black)	Developer (Black) x 1	600K	MX-62NV-BA	10	
Developer (Cyan/Magenta/Yellow (3 colors/set))	Developer (Cyan/Magenta/Yellow (3 colors/set)) x 1	400K	MX-62NV-SA	5	
Drum	OPC drum x 1	300K (Black) 200K (Color)	MX-62NR-SA	10	

B. Europe, Australia, New Zealand

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner cartridge (Black)	Toner cartridge (Black) x 1	65K	MX-62GT-BA	10	* Life: A4/Letter size at area coverage 5% (Reference: 54.2K for A4/Letter 6%)
Toner cartridge (Cyan)	Toner cartridge (Cyan) x 1	40K	MX-62GT-CB	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Magenta)	Toner cartridge (Magenta) x 1	40K	MX-62GT-MB	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Yellow)	Toner cartridge (Yellow) x 1	40K	MX-62GT-YB	10	* Life: A4/Letter size at area coverage 5%
Developer (Black)	Developer (Black) x 1	600K	MX-62GV-BA	10	
Developer (Cyan/Magenta/Yellow (3 colors/set))	Developer (Cyan/Magenta/Yellow (3 colors/set)) x 1	400K	MX-62GV-SB	5	
Drum	OPC drum x 1	300K (Black) 200K (Color)	MX-62GR-SA	10	

C. Asia, Hong Kong

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner cartridge (Black)	Toner cartridge (Black) x 1	65K	MX-62AT-BA	10	* Life: A4/Letter size at area coverage 5% (Reference: 54.2K for A4/Letter 6%)
Toner cartridge (Cyan)	Toner cartridge (Cyan) x 1	40K	MX-62AT-CA	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Magenta)	Toner cartridge (Magenta) x 1	40K	MX-62AT-MA	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Yellow)	Toner cartridge (Yellow) x 1	40K	MX-62AT-YA	10	* Life: A4/Letter size at area coverage 5%
Developer (Black)	Developer (Black) x 1	600K	MX-62AV-BA	10	
Developer (Cyan/Magenta/Yellow (3 colors/set))	Developer (Cyan/Magenta/Yellow (3 colors/set)) x 1	400K	MX-62AV-SA	5	
Drum	OPC drum x 1	300K (Black) 200K (Color)	MX-62AR-SA	10	

D. Middle East, Taiwan, Africa, Philippines

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner cartridge (Black)	Toner cartridge (Black) x 1	65K	MX-62FT-BA	10	* Life: A4/Letter size at area coverage 5% (Reference: 54.2K for A4/Letter 6%)
Toner cartridge (Cyan)	Toner cartridge (Cyan) x 1	40K	MX-62FT-CA	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Magenta)	Toner cartridge (Magenta) x 1	40K	MX-62FT-MA	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Yellow)	Toner cartridge (Yellow) x 1	40K	MX-62FT-YA	10	* Life: A4/Letter size at area coverage 5%
Developer (Black)	Developer (Black) x 1	600K	MX-62FV-BA	10	
Developer (Cyan/Magenta/Yellow (3 colors/set))	Developer (Cyan/Magenta/Yellow (3 colors/set)) x 1	400K	MX-62FV-SA	5	
Drum	OPC drum x 1	300K (Black) 200K (Color)	MX-62FR-SA	10	

2. Maintenance parts list

A. North America/Central and South America

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing belt kit	MX-751FB	Fusing belt x 1	300K	10	
		Meandering suppress collar x 2			
		Washer x 2			
Fusing roller kit	MX-751HK	Fusing roller x 1	300K	10	
		Fusing roller BRG x 2			
		Heating roller x 1			
		Heating roller BRG x 2			
		Insulation bush x 2			
Pressure roller kit	MX-620LH	Pressure roller x 1	300K	10	
		Pressure roller gear x 1			
		Pressure roller BRG x 2			
		Lower separation pawl x 4			
		Lower separation pawl SP x 4			
Web cleaning kit	MX-620WB	Web roller x 1	300K	10	
		Web guide shaft x 1			
		Web pressure roller x 1			
		Web pressure roller bearing x 2			
Primary transfer belt kit	MX-620B1	Primary transfer belt x 1	300K	10	
		Transfer separation pawl x 1			
Primary transfer blade kit	MX-751TL	Primary transfer blade x 1	300K	10	
Primary transfer CL roller kit	MX-751C1	Primary transfer CL roller x 1	300K	10	
PTC kit	MX-620CU	Charger wire x 1	300K	10	
		PTC cleaner x 1			
		PTC cleaner B x 1			
Secondary transfer belt kit	MX-620B2	Secondary transfer belt x 1	300K	10	
Secondary transfer blade kit	MX-620TG	Secondary transfer blade x 1	300K	10	
PS paper dust removing unit	MX-620PD	PS paper dust removing unit x 1	300K	10	
DV filter kit	MX-751FK	Filter folder unit x 1	Black: 300K	10	
			Color: 200K	10	
Filter kit	MX-620FL	Ozone filter x 2	300K	10	
		Toner filter x 2			
		Deodorant filter x 1			
Toner collection container	MX-700HB	Toner collection container unit x 1	100K *1	5	Each color A4 5% coverage 45% color ratio
Main charger kit	MX-751MK	Main charger unit x 1	Black: 300K Color: 200K	10	
		Drum cleaning blade x 1			
Staple cartridge	AR-SC2	Staple cartridge x 3	5000 times x 3	20	
Staple cartridge	AR-SC3	Staple cartridge x 3	2000 times x 3	40	
Staple cartridge	MX-SCX1	Staple cartridge x 3	5000 times x 3	20	
Staple cartridge	MX-SCX2	Staple cartridge x 3	5000 times x 3	12	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge x 2	-	20	
Primary transfer belt unit	MX-751U1	Primary transfer belt unit (For servicing rotation) x 1	-	1	
Secondary transfer belt unit	MX-751U2	Secondary transfer belt unit (For servicing rotation) x 1	-	1	
Fusing unit	MX-751FU	Fusing unit (For servicing rotation) x 1	-	1	

*1: The life of the toner collection container is 100K (which varies depending on the print contents, the paper sizes, the paper kinds, the use conditions, and the number of continuous printing) with the color ratio of 30% (Monochrome : Color = 7 : 3) and A4 size 5% coverage.

B. Europe

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing belt kit	MX-751FB	Fusing belt x 1	300K	10	
		Meandering suppress collar x 2			
		Washer x 2			
Fusing roller kit	MX-751HK	Fusing roller x 1	300K	10	
		Fusing roller BRG x 2			
		Heating roller x 1			
		Heating roller BRG x 2			
		Insulation bush x 2			
Pressure roller kit	MX-750LH	Pressure roller x 1	300K	10	
		Pressure roller gear x 1			
		Pressure roller BRG x 2			
		Lower separation pawl x 5			
		Lower separation pawl SP x 5			
		24T gear x 1			
Web cleaning kit	MX-620WB	Web roller x 1	300K	10	
		Web guide shaft x 1			
		Web pressure roller x 1			
		Web pressure roller bearing x 2			
Primary transfer belt kit	MX-620B1	Primary transfer belt x 1	300K	10	
		Transfer separation pawl x 1			
Primary transfer blade kit	MX-751TL	Primary transfer blade x 1	300K	10	
PTC kit	MX-620CU	Charger wire x 1	300K	10	
		PTC cleaner x 1			
		PTC cleaner B x 1			
Secondary transfer belt kit	MX-620B2	Secondary transfer belt x 1	300K	10	
Secondary transfer blade kit	MX-620TG	Secondary transfer blade x 1	300K	10	
Primary transfer CL roller kit	MX-751C1	Primary transfer CL roller x 1	300K	10	
PS paper dust removing unit	MX-620PD	PS paper dust removing unit x 1	300K	10	
DV filter kit	MX-751FK	Filter folder unit x 1	Black: 300K	10	
			Color: 200K	10	
Filter kit	MX-751FL	Ozone filter x 2	300K	10	
		Toner filter x 2			
		UFP filter x 2			
		VOC filter x 2			
Toner collection container	MX-700HB	Toner collection container x 1	100K *1	5	Each color A4 5% coverage 45% color ratio
Main charger kit	MX-751MK	Main charger unit x 1	Black: 300K	10	
		Drum cleaning blade x 1	Color: 200K		
Staple cartridge	AR-SC2	Staple cartridge x 3	5000 times x 3	20	
Staple cartridge	AR-SC3	Staple cartridge x 3	2000 times x 3	40	
Staple cartridge	MX-SCX1	Staple cartridge x 3	5000 times x 3	20	
Staple cartridge	MX-SCX2	Staple cartridge x 3	5000 times x 3	12	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge x 2	-	20	
Primary transfer belt unit	MX-751U1	Primary transfer belt unit (For servicing rotation) x 1	-	1	
Secondary transfer belt unit	MX-751U2	Secondary transfer belt unit (For servicing rotation) x 1	-	1	
Fusing unit	MX-752FU	Fusing unit (For servicing rotation) x 1	-	1	

*1: The life of the toner collection container is 100K (which varies depending on the print contents, the paper sizes, the paper kinds, the use conditions, and the number of continuous printing) with the color ratio of 30% (Monochrome : Color = 7 : 3) and A4 size 5% coverage.

C. Australia/New Zealand/Asia/Middle East

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing belt kit	MX-751FB	Fusing belt x 1	300K	10	
		Meandering suppress collar x 2			
		Washer x 2			
Fusing roller kit	MX-751HK	Fusing roller x 1	300K	10	
		Fusing roller BRG x 2			
		Heating roller x 1			
		Heating roller BRG x 2			
		Insulation bush x 2			
Pressure roller kit	MX-620LH	Pressure roller x 1	300K	10	
		Pressure roller gear x 1			
		Pressure roller BRG x 2			
		Lower separation pawl x 4			
		Lower separation pawl SP x 4			
Web cleaning kit	MX-620WB	Web roller x 1	300K	10	
		Web guide shaft x 1			
		Web pressure roller x 1			
		Web pressure roller bearing x 2			
Primary transfer belt kit	MX-620B1	Primary transfer belt x 1	300K	10	
		Transfer separation pawl x 1			
Primary transfer blade kit	MX-751TL	Primary transfer blade x 1	300K	10	
Primary transfer CL roller kit	MX-751C1	Primary transfer CL roller x 1	300K	10	
PTC kit	MX-620CU	Charger wire x 1	300K	10	
		PTC cleaner x 1			
		PTC cleaner B x 1			
Secondary transfer belt kit	MX-620B2	Secondary transfer belt x 1	300K	10	
Secondary transfer blade kit	MX-620TG	Secondary transfer blade x 1	300K	10	
PS paper dust removing unit	MX-620PD	PS paper dust removing unit x 1	300K	10	
DV filter kit	MX-751FK	Filter folder unit x 1	Black: 300K	10	
			Color: 200K	10	
Filter kit	MX-620FL	Ozone filter x 2	300K	10	
		Toner filter x 2			
		Deodorant filter x 1			
Toner collection container	MX-700HB	Toner collection container x 1	100K *1	5	Each color A4 5% coverage 30% color ratio (Monochrome : Color = 7 : 3) Usage environmental conditions Standard environmental conditions: Room temperature: 20 - 25 °C Humidity: 65 +/- 5 %RH
Main charger kit	MX-751MK	Main charger unit x 1	Black: 300K Color: 200K	10	
		Drum cleaning blade x 1			
Staple cartridge	AR-SC2	Staple cartridge x 3	5000 times x 3	20	
Staple cartridge	AR-SC3	Staple cartridge x 3	2000 times x 3	40	
Staple cartridge	MX-SCX1	Staple cartridge x 3	5000 times x 3	20	
Staple cartridge	MX-SCX2	Staple cartridge x 3	5000 times x 3	12	
Finish stamp cartridge	AR-SV1	Finish stamp cartridge x 2	-	20	
Primary transfer belt unit	MX-751U1	Primary transfer belt unit (For servicing rotation) x 1	-	1	
Secondary transfer belt unit	MX-751U2	Secondary transfer belt unit (For servicing rotation) x 1	-	1	
Fusing unit	MX-752FU	Fusing unit (For servicing rotation) x 1	-	1	

*1: The life of the toner collection container is 100K (which varies depending on the print contents, the paper sizes, the paper kinds, the use conditions, and the number of continuous printing) with the color ratio of 30% (Monochrome : Color = 7 : 3) and A4 size 5% coverage.

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.

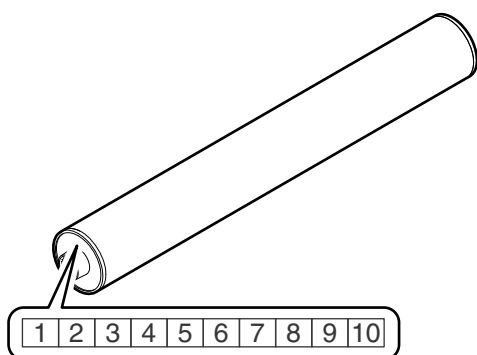
Therefore, the developer/drum consuming level cannot be determined only by the copy/print quantity. When, therefore, the rpm reaches the specified amount, it is judged as life end.

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

	Developer/drum counter		Developer/drum rpm	
	B/W	Full color	B/W	Full color
Drum	300K	200K	1000K rotations	1000K rotations
Developer	600K	400K	2000K rotations	2000K rotations

4. Production number identification

A. OPC drum

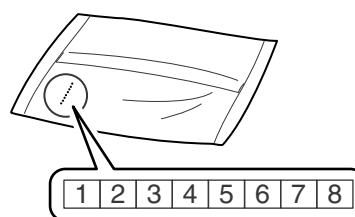


The lot number is comprised of 10 digits. Each digit indicates the content as follows.

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

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

B. Developer



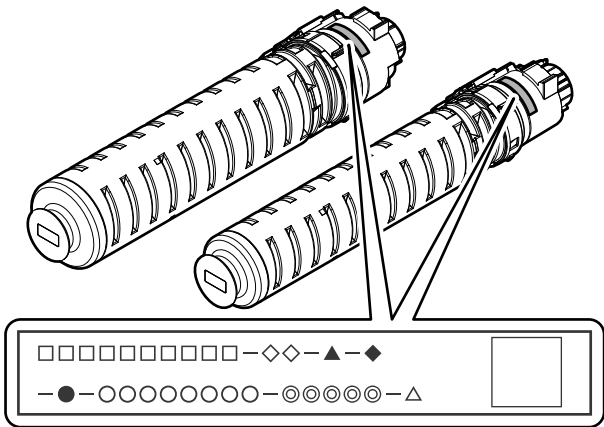
The lot number is 8 digits in length. Each digit indicates the content as follows.

The number is printed on the developer bag. (For BK, at the right lower side of the front. For CI, at the right lower side of the back.)

- 1: Alphabet
Indicates the production factory.
- 2: Number
Indicates the production year.
- 3/4: Number
Indicates the production month.
- 5/6: Number
Indicates the production day.
- 7: Hyphen
- 8: Number
Indicates the production lot.

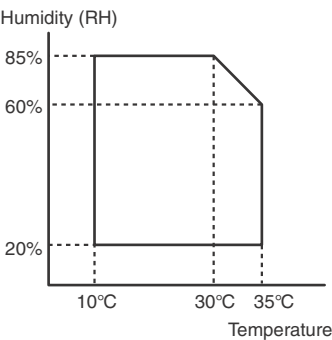
C. Toner cartridge

The label indicating the management number is attached to the bottom 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

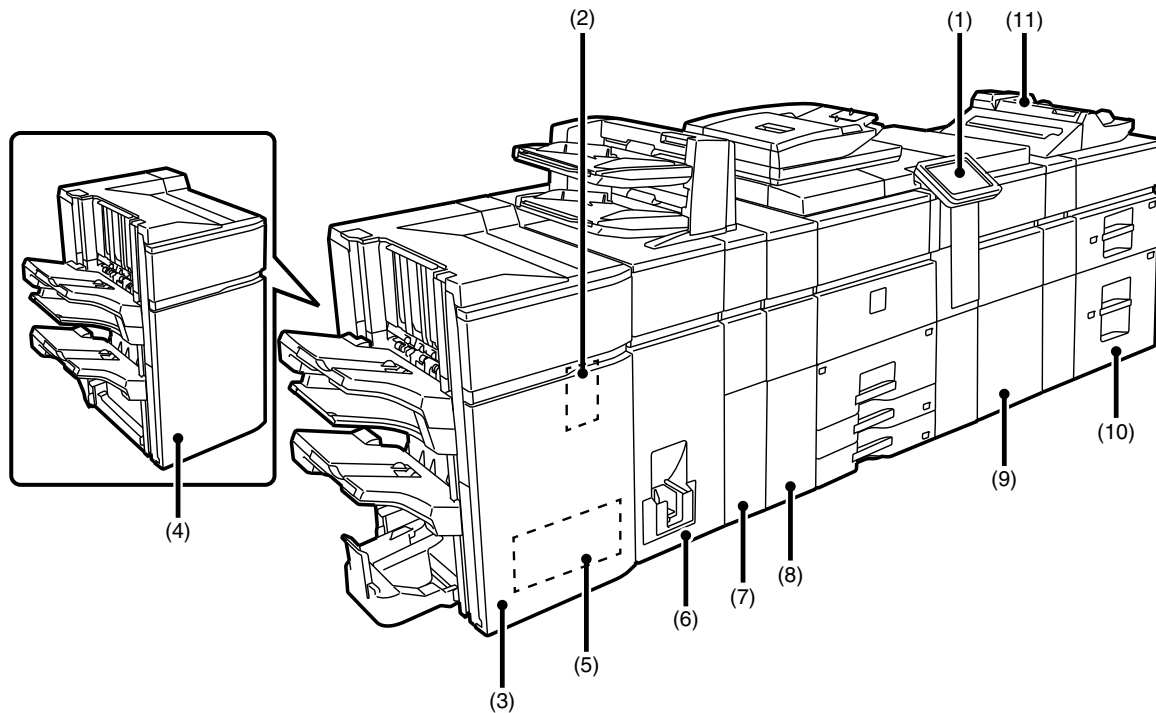
5. Environmental conditions



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

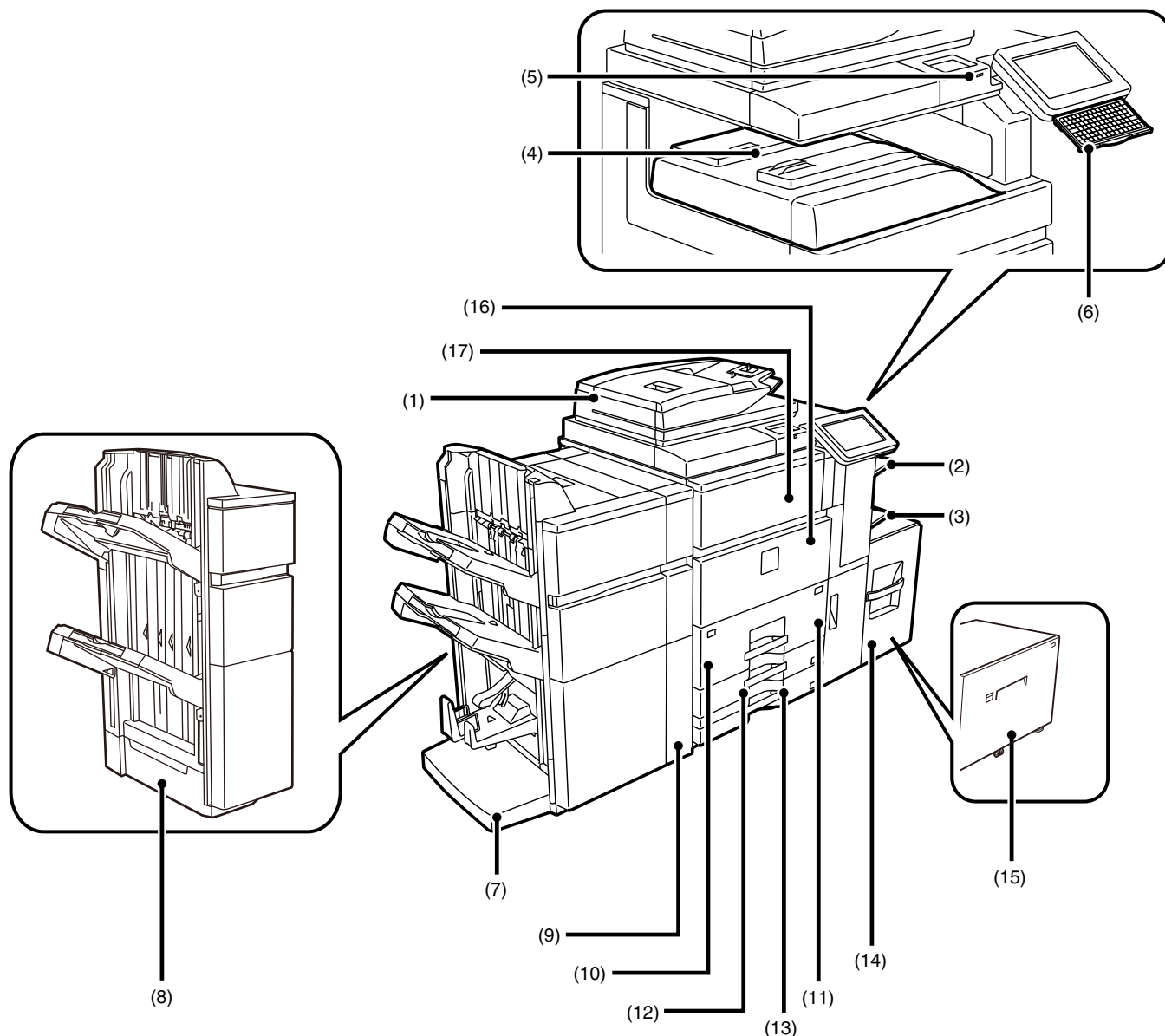
[4] EXTERNAL VIEW AND INTERNAL STRUCTURE

1. External view



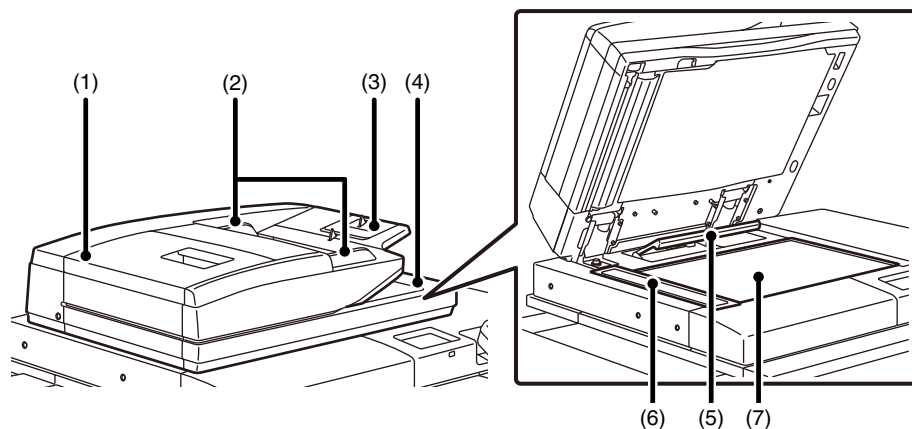
No.	Name	Function/Operation
1	Operation panel	This is used to select functions and enter the number of copies.
2	Punch module *	This is used to punch holes in output. Requires the finisher (large stacker) or the saddle stitch finisher (large stacker).
3	Saddle stitch finisher (100-sheet stapling) *	This can be used to staple output. The saddle stitch function for folding and stapling output and the fold function for folding output in half are also available. A punch module can also be installed to punch holes in output.
4	Finisher (100-sheet stapling) *	This can be used to staple output. A punch module can also be installed to punch holes in output.
5	Trimming module *	When center stapling is executed, the extended section can be cut.
6	Folding unit *	When outputting different paper sizes such as A3 and A4, the larger size paper can be Z-folded to align with the smaller size paper.
7	Inserter *	The cover paper and the inserted paper inserted to the printed paper can be set. By the off-line finish function, paper can be directly sent to the finisher or the saddle finisher, executing stapling, punching, and folding.
8	Curl correction unit *	Corrects curl of printed paper properly.
9	Paper pass unit *	Feeds paper to the main machine.
10	Large capacity trays *	This holds paper. The capacity of each tray is max. 2,750 sheets.
11	Bypass tray *	In manual paper feed, paper is manually inserted into this tray. When setting A4R or 8-1/2" x 11"R or greater, extend the auxiliary guide.

*: Peripheral device.



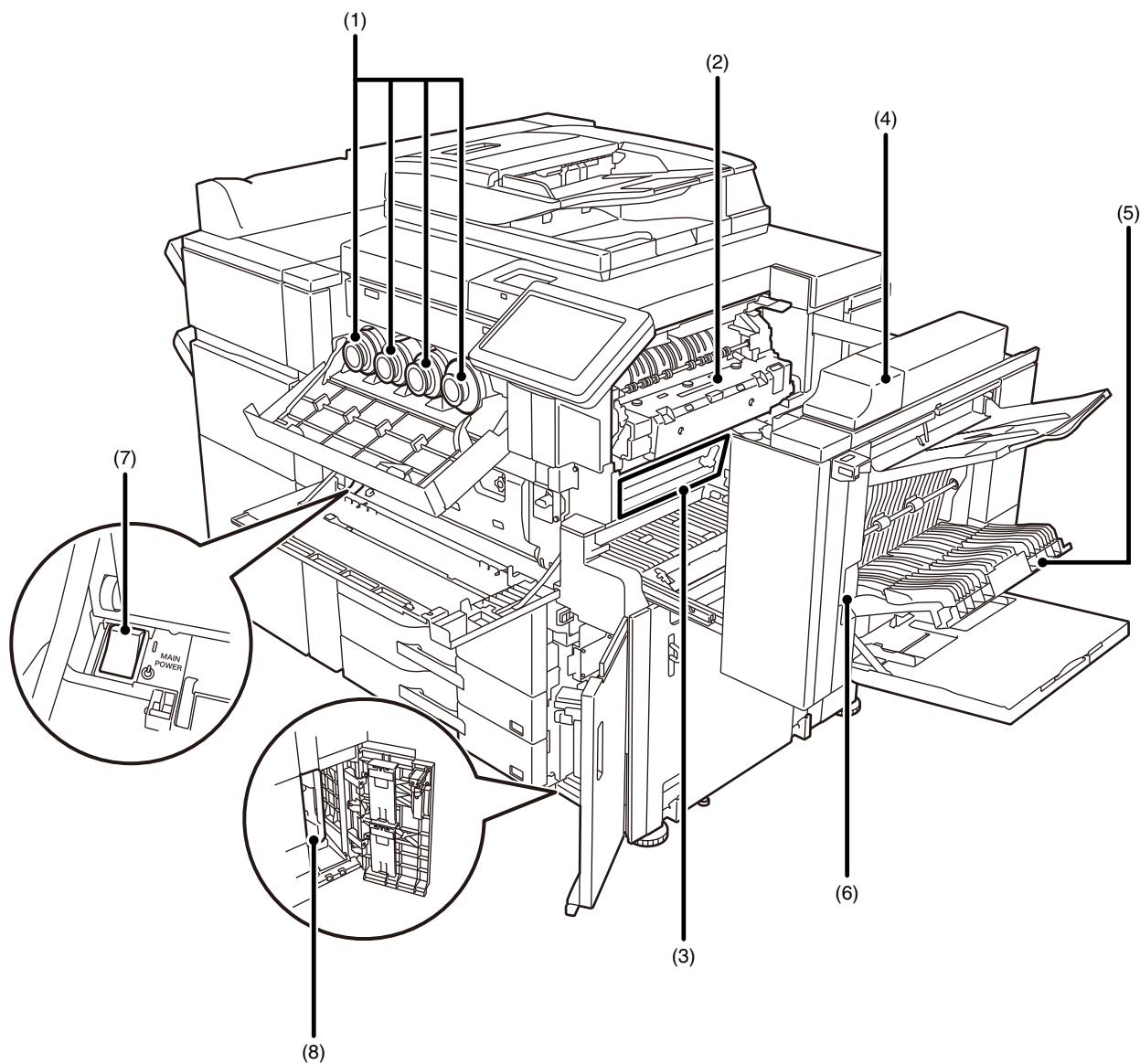
No.	Name	Function/Operation
1	Automatic document feeder	This automatically feeds and scans multiple originals. Both sides of 2-sided originals can be automatically scanned.
2	Right tray *	When installed, output can be delivered to this tray.
3	Bypass tray (Standard for some destinations) *	In manual paper feed, paper is manually inserted into this tray. When setting A4R or 8-1/2" x 11"R or greater, extend the auxiliary guide.
4	Output tray (center tray)	Output is delivered to this tray.
5	USB connector (A type)	Supports USB 2.0 (Hi-Speed). This is used to connect a USB device such as USB memory to the machine. For the USB cable, use a shielded cable.
6	Keyboard *	This is a keyboard that is incorporated into the machine. When not used, it can be stored under the operation panel.
7	Saddle stitch finisher (50-sheet stapling) *	This can be used to staple output. The saddle stitch function for folding and stapling output and the fold function for folding output in half are also available.
8	Finisher (50-sheet stapling) *	This can be used to staple output. A punch module can also be installed to punch holes in output.
9	Punch module *	This is used to punch holes in output. Requires the finisher (large stacker) or the saddle stitch finisher (large stacker).
10	Tray 1 (left side)	This holds paper. Up to 1300 sheets of paper can be loaded.
11	Tray 2 (right side)	This holds paper. Up to 900 sheets of paper can be loaded.
12	Tray 3	This holds paper.
13	Tray 4	This holds paper.
14	Tray 5 (when a large capacity tray (MX-LC12) is installed) *	The capacity is max. 4,000 sheets of B5, A4, or 8.5" x 11".
15	Tray 5 (when a large capacity tray (MX-LCX3N) is installed) *	This holds paper. 8-1/2" x 11" to 12" x 18" (B5 to A3W) paper can be loaded. Up to 3500 sheets of paper can be loaded.
16	Front cover (lower) *	Open this cover when turning ON/OFF the main power switch, cleaning the main charger of the OPC drum, or cleaning the writing unit.
17	Toner cover	Open this cover when replacing the toner cartridge or processing a paper jam in the relay unit.

*: Peripheral device.



No.	Name	function/Operation
1	Document feeder cover	Open this cover to remove an original misfeed or clean the paper feed roller.
2	Original guides	Set this guide to the original width to scan the original properly.
3	Document feeder tray	Place originals in this tray. 1-sided originals must be placed face up.
4	Original exit tray	Originals are delivered to this tray after scanning.
5	Original size detector	Detects the size of documents set on the document table (glass surface).
6	Scanning area	Originals placed in the document feeder tray are scanned here.
7	Document glass	Use this to scan a book or other thick original that cannot be fed through the automatic document feeder.

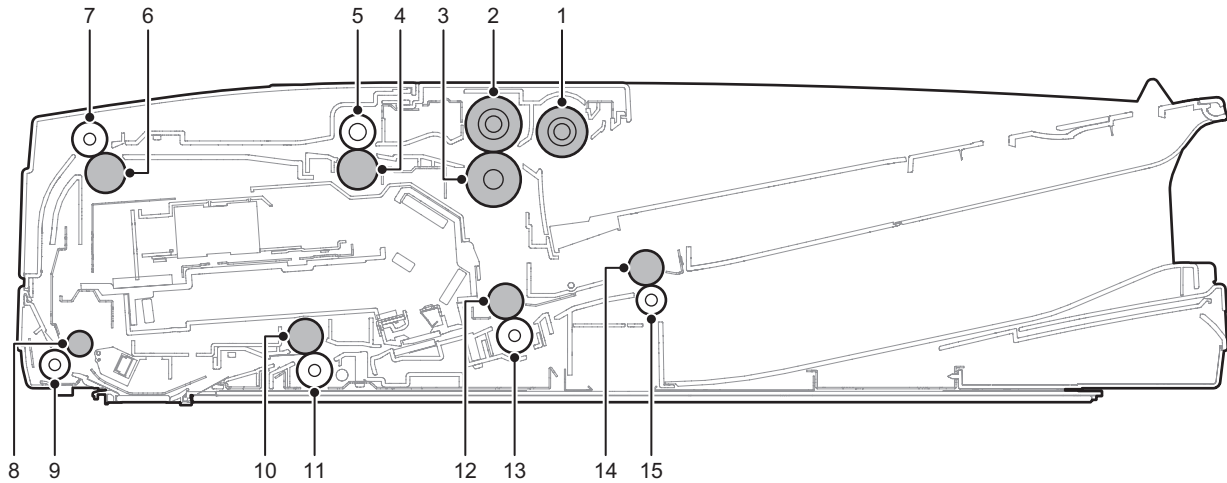
2. Internal structure



No.	Name	Function/Operation
1	Toner cartridges	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	Fusing unit	Heat is applied here to fuse the transferred image onto the paper.
3	Transfer belt	During full color printing, the toner images of each of the four colors on each of the photoconductive drums are combined together on the transfer belt. During black and white printing, only the black toner image is transferred onto the transfer belt.
4	Right side cover	Open this cover to remove a paper misfeed.
5	Paper reversing section cover	This is used when 2-sided printing is performed. Open this cover to remove a paper misfeed.
6	Right side cover release lever	To remove a paper misfeed, pull and hold this lever up to open the right side cover.
7	Main power switch	This is used to power on the machine. When using the fax or Internet fax functions, keep this switch in the "on" position.
8	Waste toner box	This collects excess toner that remains after printing.

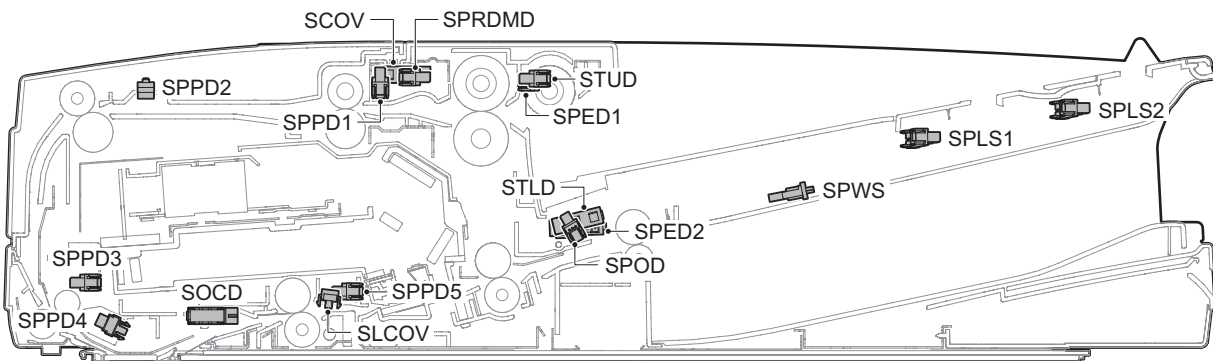
3. DSPF

A. Rollers



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

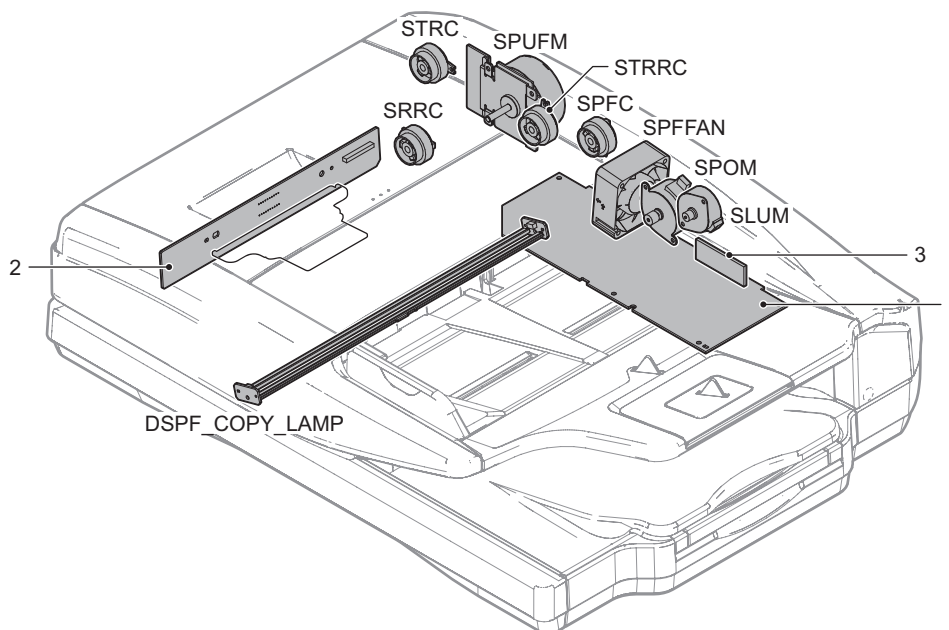
B. Sensors and switches



Signal name	Name	Type	Function/Operation
SCOV	Upper door open/close sensor	Transmission type	Detects open/close of the upper door
SLCOV	Lower door open/close sensor	Micro switch	Detects open/close of the lower door
SOCD	DSPF open/close sensor	Transmission type	Detects open/close of the DSPF unit
SPED1	Document empty sensor	Transmission type	Detects document empty in the document feed tray
SPED2	Document empty sensor	Transmission type	Detects document empty in the document feed tray
SPLS1	Document length detection short sensor	Transmission type	Detects the document length of the document feed tray upper
SPLS2	Document length detection long sensor	Transmission type	Detects the document length of the document feed tray upper

Signal name	Name	Type	Function/Operation
SPOD	Document exit sensor	Transmission type	Detects document exit of the document
SPPD1	Document pass sensor 1	Transmission type	Detects pass of the document
SPPD2	Document pass sensor 2	Reflection type	Detects pass of the document
SPPD3	Document pass sensor 3	Transmission type	Detects pass of the document
SPPD4	Document pass sensor 4	Transmission type	Detects pass of the document
SPPD5	Document pass sensor 5	Transmission type	Detects pass of the document
SPRDM	Document random sensor	Transmission type	Detects the document size in random document feed
SPWS	Document width sensor	Volume type resistor	Detects the document width of the document feed tray upper
STLD	Document feed tray lower limit sensor	Transmission type	Detects the lower limit of the document feed tray
STUD	Document feed tray upper limit sensor	Transmission type	Detects the upper limit of the document feed tray

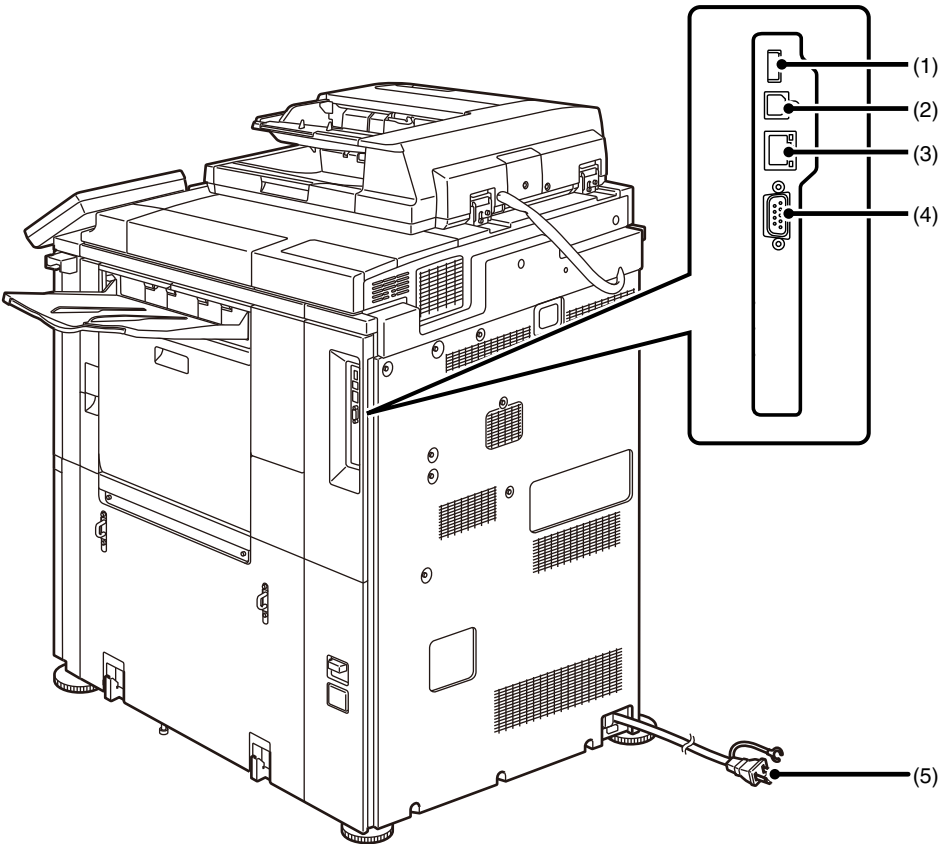
C. Drive motors, clutches, PWB's, and lamps



Signal name	Name	Type	Function/Operation
DSPF_COPY_LAMP	Scanner lamp (DSPF)	LED	Radiates light onto a document for the CCD to scan the document image.
SLUM	Document feed tray lift motor (DSPF)	Stepping motor	Lifts the document feed tray.
SPFC	Paper feed clutch (DSPF)	Electromagnetic clutch	Turns ON/OFF the document feed section roller.
SPFFAN	DSPF cooling fan	DC brushless motor	Cools the motors and the clutches in the DSPF section.
SPOM	Document exit motor (DSPF)	Stepping motor	Drives the document exit roller.
SPUFM	Transport motor	DC brushless motor	Drives the transport roller.
SRRC	Registration roller clutch (DSPF)	Electromagnetic clutch	Turns ON/OFF the registration roller.
STRC	Transport roller 2 clutch (DSPF)	Electromagnetic clutch	Turns ON/OFF the transport roller 2.
STRRC	Transport roller 1 clutch (DSPF)	Electromagnetic clutch	Turns ON/OFF the transport roller 1.

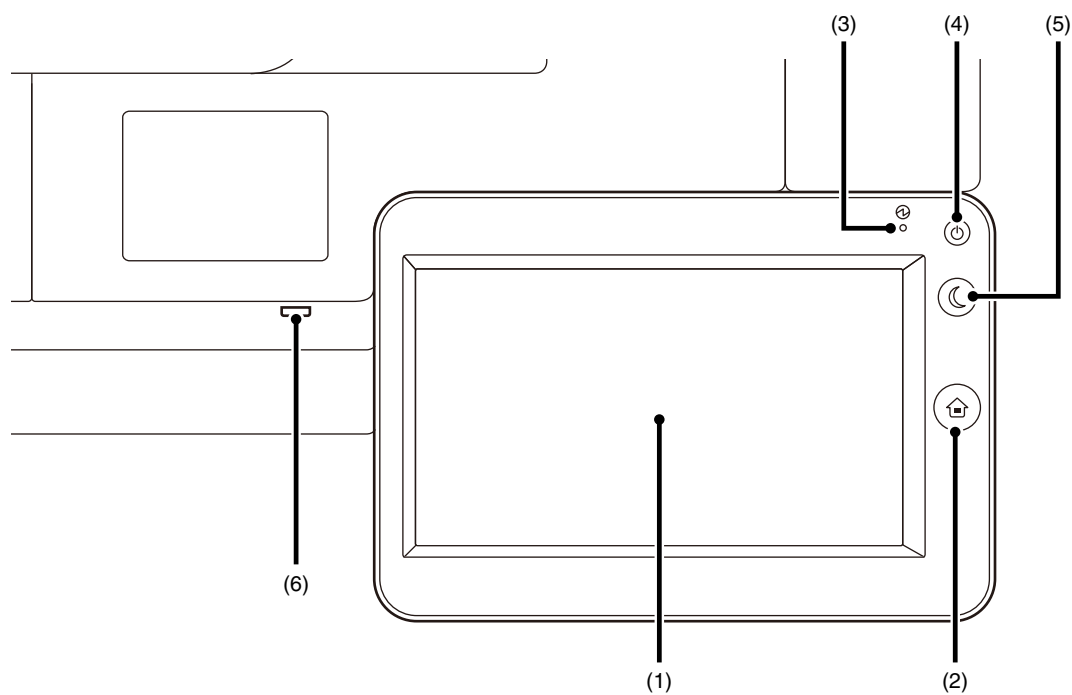
No.	Name	Function/Operation
1	DSPF cnt PWB	Controls the image data process and all the DSPF.
2	CCD PWB (DSPF)	Scans document images and performs A/D conversion of the scanning signal.
3	DSPF Flash PWB	Stores the DSPF program data.

4. Connectors



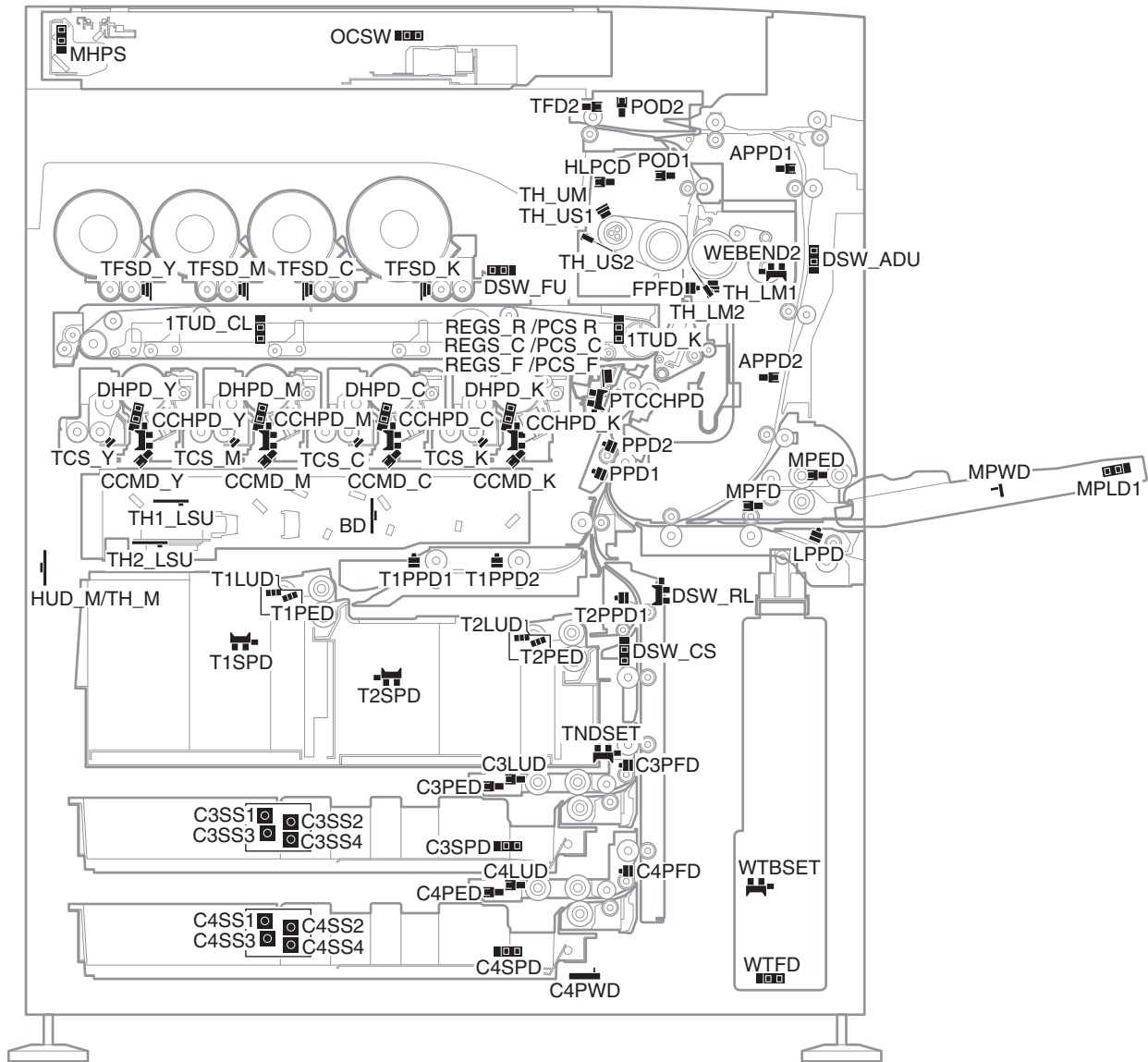
No.	Name	function/Operation
1	USB connector (A type)	Used to connect a USB device such as a USB memory device to the machine. Supports USB 2.0 (Hi-Speed)
2	USB connector (B type)	Can not be used
3	LAN connector	Connect the LAN cable to this connector when the machine is used on a network. For the LAN cable, use a shielded type cable.
4	Service-only connector	This connector is for use only by service technicians. Connecting a cable to this connector may cause the machine to malfunction. Important note for service technicians: The cable connected to the service connector must be less than 118" (3 m) in length.
5	Power plug	

5. Operation panel



No.	Name	Function/Operation
1	Touch panel	Messages and keys appear in the touch panel display. Touch the displayed keys to perform a variety of operations. When a key is touched, a beep sounds and the selected item is highlighted. This provides confirmation as you perform an operation.
2	[HOME] key / indicator	Touch this key to display the home screen. Frequently used settings can be registered in the home screen to enable quick and easy operation of the machine.
3	Main power indicator	This lights up when the machine's main power switch is in the "on" position.
4	[POWER] key	Use this key to turn the machine power on and off.
5	[POWER SAVE] key / indicator	Use this key to put the machine into auto power shut-off mode to save energy. The [POWER SAVE] key blinks when the machine is in auto power shut-off mode.
6	USB connector (A type)	Supports USB 2.0 (Hi-Speed). This is used to connect a USB device such as USB memory to the machine.

6. Sensors and detectors

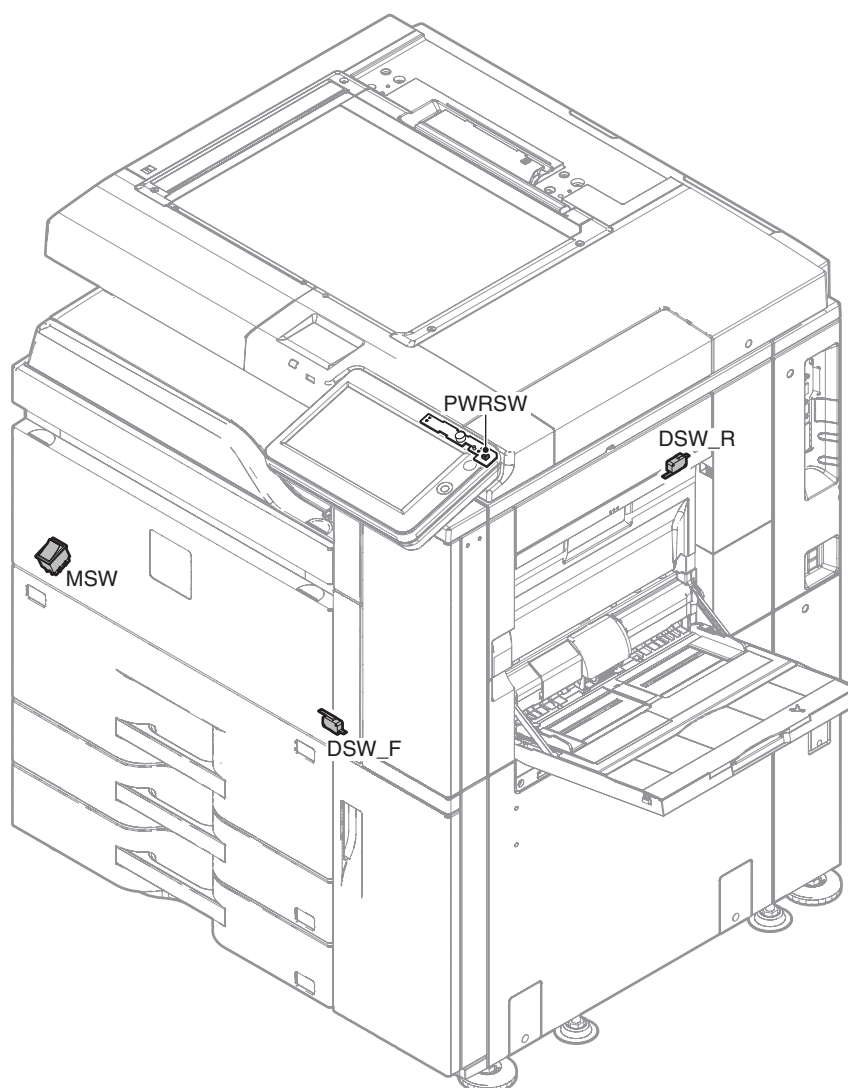


Signal name	Name	Type	Function/Operation
1TUD_CL	Transfer mode detector (CL)	Light transmission	Detects separation of the transfer belt and the transfer mode. (Detection is made by combination of 1TUD_CL/1TUD_K signals.)
1TUD_K	Transfer mode detector (BK)	Light transmission	Detects separation of the transfer belt and the transfer mode. (1TUD_BK) (Detection is made by combination of 1TUD_CL/1TUD_K signals.)
APPD1	ADU paper pass detector 1	Light transmission	Detects paper entry in the ADU section.
APPD2	ADU paper pass detector 2	Light transmission	Detects paper pass in the transport roller 21.
BD	Laser beam sensor	Pin diode	Detects laser beams.
C3LUD	Paper upper limit detector (Paper feed tray 3)	Light transmission	Detects the upper limit lift position of paper in the paper feed tray.
C3PED	Paper empty detector (Paper feed tray 3)	Light transmission	Detects paper.
C3PFD	Paper pass sensor (Paper feed tray 3)	Light reflection	Detects paper pass in the paper transport section of the paper feed tray 3.
C3SPD	Paper remaining quantity detector (Paper feed tray 3)	Light transmission	Detects the paper remaining quantity.
C3SS1 - 4	Paper size detector (Paper feed tray 4)	Tact switch	Detects the paper size. Detects open/close of the paper feed tray.
C4LUD	Paper upper limit detector (Paper feed tray 4)	Light transmission	Detects the upper limit lift position of paper in the paper feed tray.
C4PED	Paper empty detector (Paper feed tray 4)	Light transmission	Detects paper.
C4PFD	Paper pass sensor (Paper feed tray 4)	Light reflection	Detects paper pass in the paper transport section of the paper feed tray 4.
C4PWD	Paper width sensor (Paper feed tray 4)	Resistance volume	Detects the paper width.
C4SPD	Paper remaining quantity detector (Paper feed tray 4)	Light transmission	Detects the paper remaining quantity.

Signal name	Name	Type	Function/Operation
C4SS1 - 4	Paper feed tray size detector (Paper feed tray 4)	Tact switch	Detects the paper size. Detects open/close of the paper feed tray.
CCHPD_C	MC cleaner HP sensor (C)	Light transmission	Detects the MC cleaner home position. (CCHP_C)
CCHPD_K	MC cleaner HP sensor (K)	Light transmission	Detects the MC cleaner home position. (CCHP_K)
CCHPD_M	MC cleaner HP sensor (M)	Light transmission	Detects the MC cleaner home position. (CCHP_M)
CCHPD_Y	MC cleaner HP sensor (Y)	Light transmission	Detects the MC cleaner home position. (CCHP_Y)
CCMD_C	MC cleaner shift sensor (C)	Light transmission	Detects the shift distance of the MC cleaner.
CCMD_K	MC cleaner shift sensor (K)	Light transmission	Detects the shift distance of the MC cleaner.
CCMD_M	MC cleaner shift sensor (M)	Light transmission	Detects the shift distance of the MC cleaner.
CCMD_Y	MC cleaner shift sensor (Y)	Light transmission	Detects the shift distance of the MC cleaner.
DHPD_C	Drum phase sensor (C)	Light transmission	Detects rotation and the phase of the OPC drum (C).
DHPD_K	Drum phase sensor (K)	Light transmission	Detects rotation and the phase of the OPC drum (K).
DHPD_M	Drum phase sensor (M)	Light transmission	Detects rotation and the phase of the OPC drum (M).
DHPD_Y	Drum phase sensor (Y)	Light transmission	Detects rotation and the phase of the OPC drum (Y).
DSW_ADU	ADU open/close detector	Light transmission	Detects open/close of the ADU section.
DSW_CS	Transport cover open/close detector	Light transmission	Detects open/close of the transport cover.
DSW_FU	Front door upper open/close detector	Light transmission	Detects open/close of the front door upper.
DSW_RL	Right lower door open/close detector	Light transmission	Detects open/close of the right lower door.
FPFD	Fusing front paper pass detector	Light reflection	Detects paper pass in front of the fusing section.
HLPD	Fusing pressure detector	Light transmission	Detects the fusing pressure state.
HUD_M/TH_M	Temperature/humidity sensor	Temperature/humidity sensor	Detects the temperature and the humidity. (For the process control)
LPPD	LCC transport detector	Light reflection	Detects paper transport from the LCC.
MHPS	Scanner home position sensor	Light transmission	Detects the scanner home position.
MPED	Paper empty detector (Manual paper feed tray)	Light transmission	Detects paper.
MPFD	Paper feed detector (Manual paper feed)	Light transmission	Detects paper pass in the manual paper feed section.
MPLD1	Paper length detector (Manual paper feed tray)	Light transmission	Detects the paper length.
MPWD	Paper width sensor (Manual paper feed tray)	Resistance volume	Detects the paper width.
OCSW	Document size detection trigger sensor	Light transmission	Generates the document size detection trigger signal.
POD1	Fusing paper exit detector	Light transmission	Detects paper pass in the fusing section.
POD2	Left paper exit detector	Light transmission	Detects paper exit to the left direction.
PPD1	Registration pre-detection	Light reflection	Detects the paper timing before registration.
PPD2	Registration sensor	Light reflection	Detects the paper registration timing.
PTCCHPD	PTC cleaner home position sensor	Light transmission	Detects the PTC cleaner home position. (PTCHP)
REGS_C/ PCS_C	Image registration/Density sensor (C)	Light reflection	Detects image color shift. Detects the toner patch density.
REGS_F/ PCS_F	Image registration/Density sensor (F)	Light reflection	Detects image color shift. Detects the toner patch density.
REGS_R/ PCS_R	Image registration/Density sensor (R)	Light reflection	Detects image color shift. Detects the toner patch density.
T1LUD	Paper upper limit detector (Paper feed tray 1)	Light transmission	Detects the upper limit lift position of paper in the paper feed tray.
T1PED	Paper empty detector (Paper feed tray 1)	Light transmission	Detects paper.
T1PPD1	Paper pass sensor (Paper feed tray 1)	Light reflection	Detects paper pass in the paper transport section of the paper feed tray 1.
T1PPD2	Paper pass sensor (Paper feed tray 1)	Light reflection	Detects paper pass in the paper transport section of the paper feed tray 1.
T1SPD	Paper remaining quantity detector (Paper feed tray 1)	Light transmission	Detects the paper remaining quantity.
T2LUD	Paper upper limit detector (Paper feed tray 2)	Light transmission	Detects the upper limit lift position of paper in the paper feed tray.
T2PED	Paper empty detector (Paper feed tray 2)	Light transmission	Detects paper.
T2PPD1	Paper pass sensor (Paper feed tray 2)	Light reflection	Detects paper pass in the paper transport section of the paper feed tray 2.
T2SPD	Paper remaining quantity detector (Paper feed tray 2)	Light transmission	Detects the paper remaining quantity.
TCS_C	Toner density sensor (C)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (C).
TCS_K	Toner density sensor (K)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (K).
TCS_M	Toner density sensor (M)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (M).
TCS_Y	Toner density sensor (Y)	Magnetic sensor	Detects toner supply from the toner cartridge. Detects the toner density (Y).
TFD2	Paper exit full detector (Center paper exit tray)	Light transmission	Detects paper full in the center paper exit tray.
TFSD_C	Toner remaining quantity sensor (C)	Piezoelectric sensor	Detects the remaining quantity of toner in the toner hopper.
TFSD_K	Toner remaining quantity sensor (K)	Piezoelectric sensor	Detects the remaining quantity of toner in the toner hopper.
TFSD_M	Toner remaining quantity sensor (M)	Piezoelectric sensor	Detects the remaining quantity of toner in the toner hopper.
TFSD_Y	Toner remaining quantity sensor (Y)	Piezoelectric sensor	Detects the remaining quantity of toner in the toner hopper.

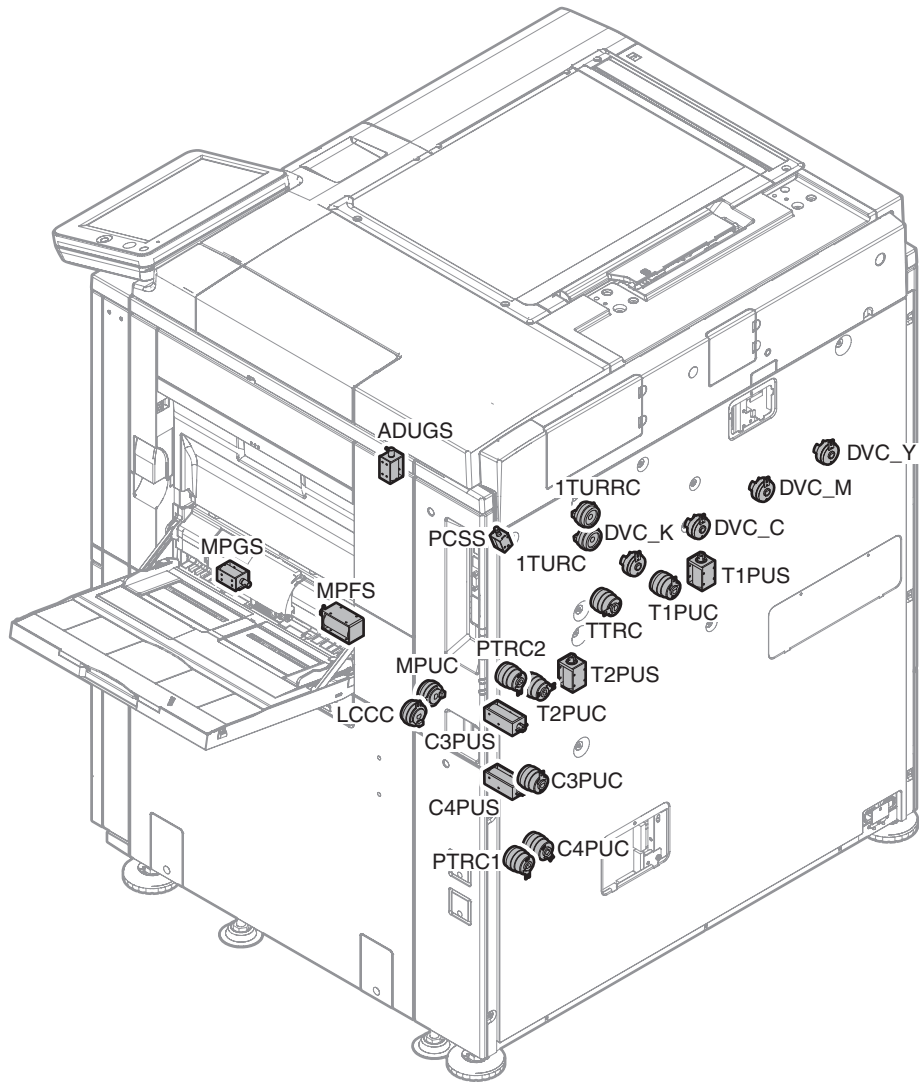
Signal name	Name	Type	Function/Operation
TH_LM1	Fusing temperature sensor 1 (Fusing roller B)	Non-contact thermistor	Detects the center surface temperature of the fusing roller B.
TH_LM2	Fusing temperature sensor 2 (Fusing roller B)	Contact-type thermistor	Detects the edge surface temperature of the fusing roller B.
TH_UM	Main fusing temperature sensor (Fusing belt)	Non-contact thermistor	Detects the center surface temperature of the fusing belt.
TH_US1	Sub fusing temperature sensor (Fusing belt)	Non-contact thermistor	Detects the edge surface temperature of the fusing belt.
TH_US2	Fusing temperature sensor (Fusing belt)	Contact-type thermistor	Detects the edge surface temperature of the fusing belt.
TH1_LSU	LSU thermistor 1	Thermistor	Detects the temperature in the LSU.
TH2_LSU	LSU thermistor 2	Thermistor	Detects the temperature in the LSU.
TNDSET	Open/close detector (Paper feed tray 1, 2)	Light transmission	Detects open/close of the paper feed trays 1 and 2.
WEBEND2	Web end detector 2	Light transmission	Detects web end.
WTBSET	Waste toner bottle detector	Light transmission	Detects installation of the waste toner bottle.
WTFD	Waste toner full detector	Light transmission	Detects full of waste toner.

7. Switches



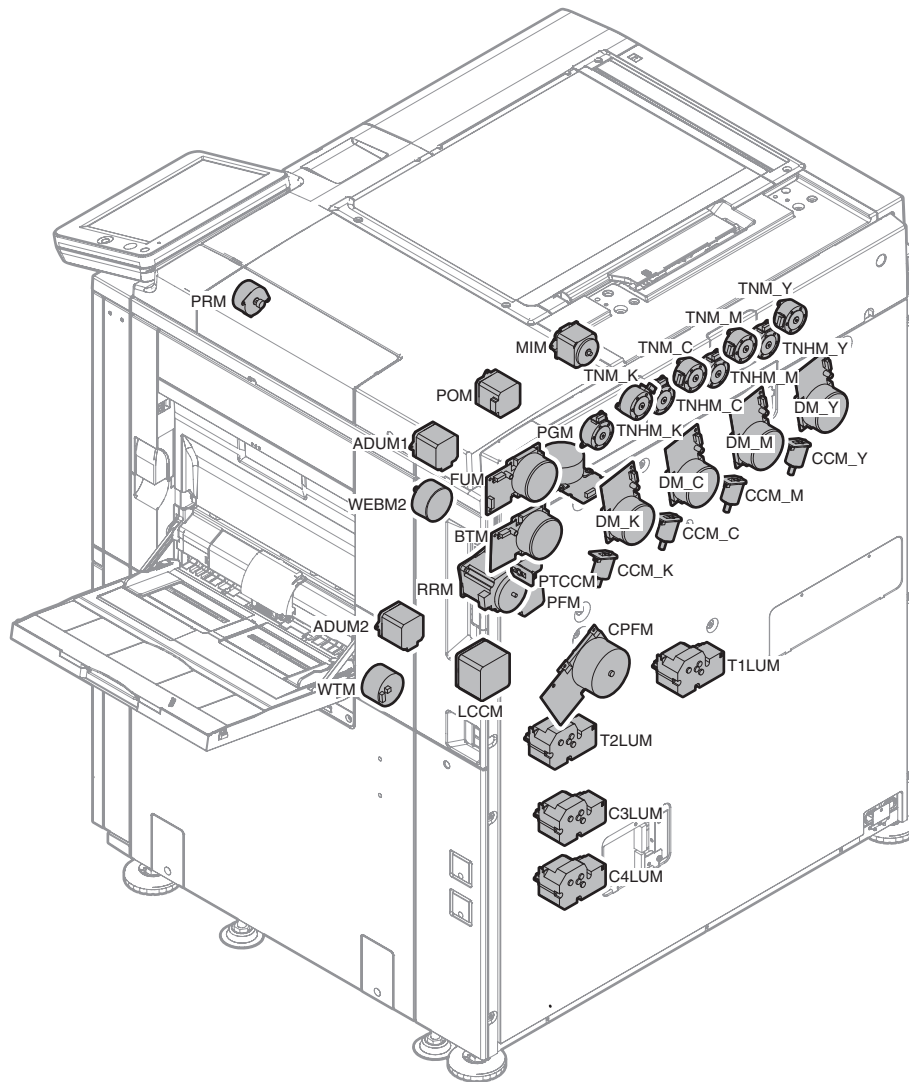
Signal name	Name	Type	Function/Operation
DSW_F	Front door open/close switch	Micro switch	Detects open/close of the front door. Opens/closes the power lines of the fusing section, the motor, and the LSU laser. (DSW_FL)
DSW_R	Right door open/close switch	Micro switch	Detects open/close of the right door. Opens/closes the power lines of the fusing section, the motor, and the LSU laser.
MSW	Main power switch	Seesaw switch	Turns ON/OFF the main power.
PWRSW	Operation panel power switch	Push switch	Turns ON/OFF the power on the secondary side.

8. Clutches and solenoids



Signal name	Name	Type	Function/Operation
1TURC	Transfer mode select clutch (Forward rotation)	Electromagnetic clutch	Turns ON/OFF of the transfer mode select cam forward rotation.
1TURRC	Transfer mode select clutch (Reverse rotation)	Electromagnetic clutch	Turns ON/OFF of the transfer mode select cam reverse rotation.
ADUGS	ADU gate solenoid	Electromagnetic solenoid	Selects the paper exit gate (ADU gate).
C3PUC	Paper feed clutch (Paper feed tray 3)	Electromagnetic clutch	Turns ON/OFF the paper feed section roller.
C3PUS	Paper feed solenoid (Paper feed tray 3)	Electromagnetic solenoid	Lifts the paper pickup roller.
C4PUC	Paper feed clutch (Paper feed tray 4)	Electromagnetic clutch	Turns ON/OFF the paper feed section roller.
C4PUS	Paper feed solenoid (Paper feed tray 4)	Electromagnetic solenoid	Lifts the paper pickup roller.
DVC_C	DV clutch (C)	Electromagnetic clutch	Turns ON/OFF the DV unit drive.
DVC_K	DV clutch (K)	Electromagnetic clutch	Turns ON/OFF the DV unit drive.
DVC_M	DV clutch (M)	Electromagnetic clutch	Turns ON/OFF the DV unit drive.
DVC_Y	DV clutch (Y)	Electromagnetic clutch	Turns ON/OFF the DV unit drive.
LCCC	LCC transport clutch	Electromagnetic clutch	Turns ON/OFF the roller in the paper entry section from the LCC and the transport roller in the manual paper feed section.
MPFS	Paper pickup solenoid (Manual paper feed)	Electromagnetic solenoid	Lifts the paper pickup roller.
MPGS	Paper feed gate solenoid (Manual paper feed)	Electromagnetic solenoid	Opens/closes the manual paper feed gate.
MPUC	Paper feed clutch (Manual paper feed)	Electromagnetic clutch	Turns ON/OFF the paper feed section roller.
PCSS	Image density sensor shutter solenoid	Electromagnetic solenoid	Opens/closes the shutter for the image density sensor.
PTRC1	Paper vertical transport clutch (Lower)	Electromagnetic clutch	Turns ON/OFF the transport roller in the lower section of the vertical paper transport section.
PTRC2	Paper vertical transport clutch (Upper)	Electromagnetic clutch	Turns ON/OFF the transport roller in the upper section of the vertical paper transport section.
T1PUC	Paper feed clutch (Paper feed tray 1)	Electromagnetic clutch	Turns ON/OFF the paper feed section roller.
T1PUS	Paper feed solenoid (Paper feed tray 1)	Electromagnetic solenoid	Lifts the paper pickup roller.
T2PUC	Paper feed clutch (Paper feed tray 2)	Electromagnetic clutch	Turns ON/OFF the paper feed section roller.
T2PUS	Paper feed solenoid (Paper feed tray 2)	Electromagnetic solenoid	Lifts the paper pickup roller.
TTRC	Transport clutch (Paper feed tray 1, 2)	Electromagnetic clutch	Turns ON/OFF the transport roller of the paper feed tray 1.

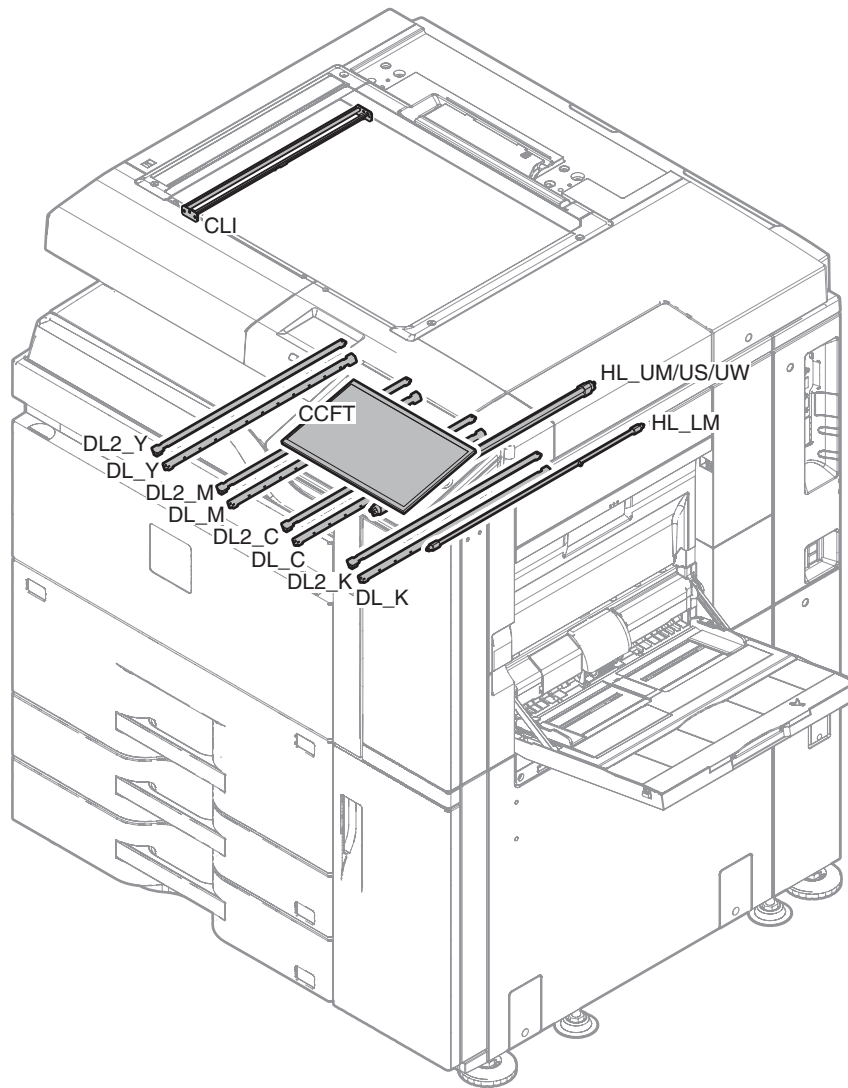
9. Drive motors



Signal name	Name	Type	Function/Operation
ADUM1	ADU motor 1	Stepping motor	Drives the ADU and the transport roller in the right paper exit section.
ADUM2	ADU motor 2	Stepping motor	Drives the transport roller in the ADU section.
BTM	Transfer motor	DC brushless motor	Drives the transfer section.
C3LUM	Paper tray lift motor (Paper feed tray 3)	DC brush motor	Lifts the paper feed tray.
C4LUM	Paper tray lift motor (Paper feed tray 4)	DC brush motor	Lifts the paper feed tray.
CCM_C	MC cleaning motor (C)	DC micro motor	Slides the MC cleaner.
CCM_K	MC cleaning motor (K)	DC micro motor	Slides the MC cleaner.
CCM_M	MC cleaning motor (M)	DC micro motor	Slides the MC cleaner.
CCM_Y	MC cleaning motor (Y)	DC micro motor	Slides the MC cleaner.
CPFM	Paper feed motor	DC brushless motor	Drives the paper feed section.
DM_C	Drum motor C	DC brushless motor	Drives the OPC unit and the DV unit.
DM_K	Drum motor K	DC brushless motor	Drives the OPC unit and the DV unit.
DM_M	Drum motor M	DC brushless motor	Drives the OPC unit and the DV unit.
DM_Y	Drum motor Y	DC brushless motor	Drives the OPC unit and the DV unit.
FUM	Fusing motor	DC brushless motor	Drives the fusing section.
LCCM	LCC paper entry motor	Stepping motor	LCC transport motor
MIM	Scanner motor	Stepping motor	Drives the scanner unit. (scan, return operations)
PGM	Polygon motor	DC brushless motor	Drives the LSU polygon mirror.
POM	Paper exit motor	Stepping motor	Drives the roller in the paper exit section.
PRM	Fusing pressure control motor	Stepping motor	Controls ON/OFF of the fusing pressure.
PTCCM	PTC cleaning motor	DC micro motor	Slides the PTC cleaner.
RRM	Registration motor	Stepping motor	Drives the registration roller. (Controls the timing of the transfer image for the paper.)
T1LUM	Paper tray lift motor (Paper feed tray 1)	DC brush motor	Lifts the paper feed tray.
T2LUM	Paper tray lift motor (Paper feed tray 2)	DC brush motor	Lifts the paper feed tray.
TNHM_C	Tone hopper motor (C)	Stepping motor	Sends toner to the DV unit.

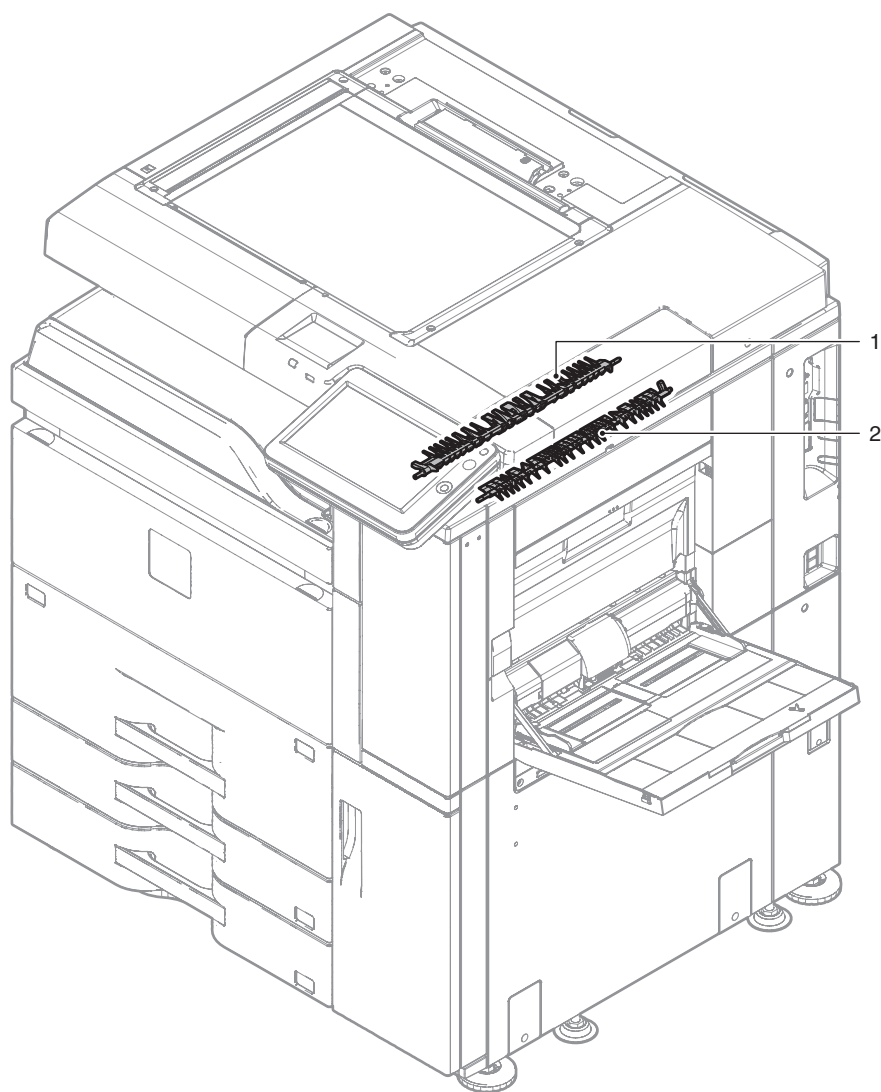
Signal name	Name	Type	Function/Operation
TNHM_K	Tone hopper motor (K)	Stepping motor	Sends toner to the DV unit.
TNHM_M	Tone hopper motor (M)	Stepping motor	Sends toner to the DV unit.
TNHM_Y	Tone hopper motor (Y)	Stepping motor	Sends toner to the DV unit.
TNM_C	Toner motor (C)	Stepping motor	Sends toner to the toner hopper.
TNM_K	Toner motor (K)	Stepping motor	Sends toner to the toner hopper.
TNM_M	Toner motor (M)	Stepping motor	Sends toner to the toner hopper.
TNM_Y	Toner motor (Y)	Stepping motor	Sends toner to the toner hopper.
WEBM2	Web motor	Synchronous motor	Winds the fusing web sheet.
WTM	Waste toner motor	DC brushless motor	Transport waste toner.

10. Lamps



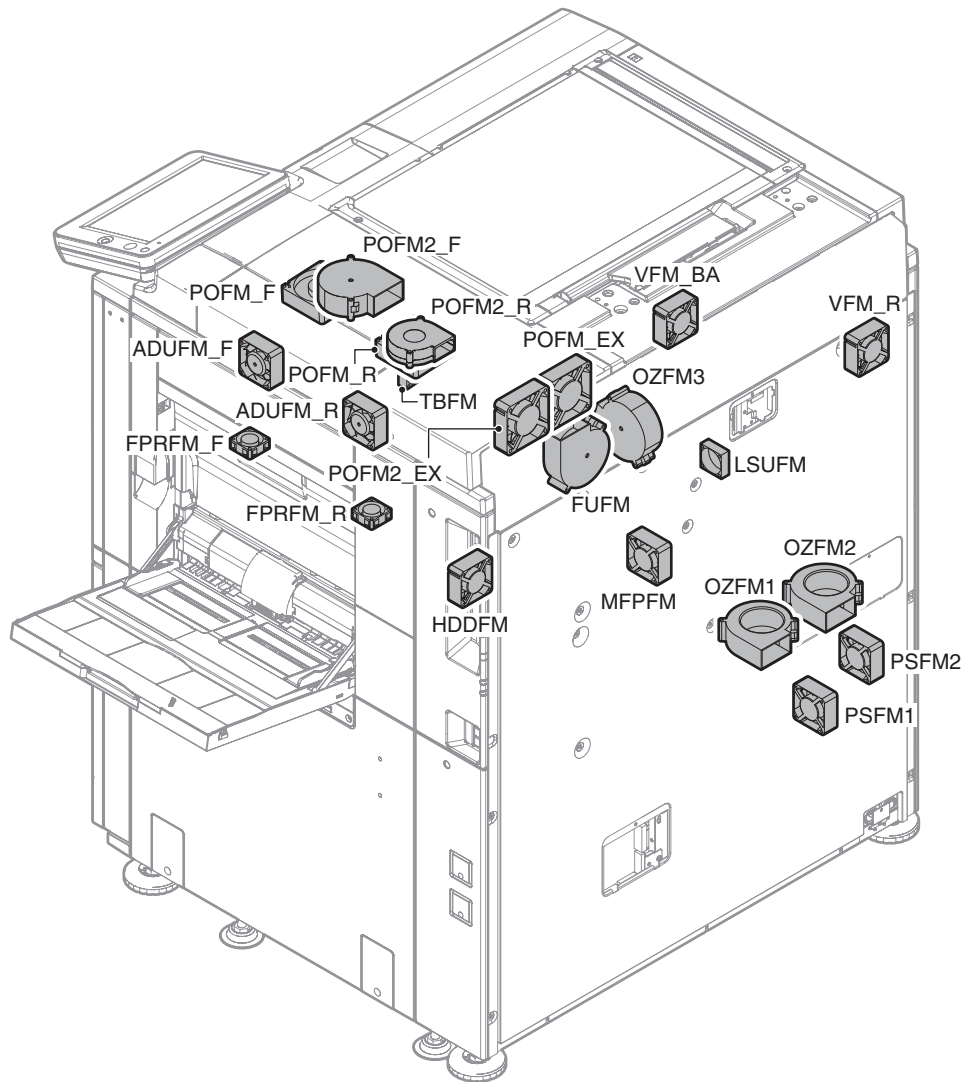
Signal name	Name	Type	Function/Operation
CCFT	LCD backlight	LED	Backlight for LCD.
CLI	Scanner lamp	LED	Radiates light onto a document for the CCD to scan the document image.
DL_C	Discharge lamp 1 (C)	LED	Discharges electric charges on the OPC drum.
DL_K	Discharge lamp 1 (K)	LED	Discharges electric charges on the OPC drum.
DL_M	Discharge lamp 1 (M)	LED	Discharges electric charges on the OPC drum.
DL_Y	Discharge lamp 1 (Y)	LED	Discharges electric charges on the OPC drum.
DL2_C	Discharge lamp 2 (C)	LED	Discharges electric charges on the OPC drum immediately after transfer operation.
DL2_K	Discharge lamp 2 (K)	LED	Discharges electric charges on the OPC drum immediately after transfer operation.
DL2_M	Discharge lamp 2 (M)	LED	Discharges electric charges on the OPC drum immediately after transfer operation.
DL2_Y	Discharge lamp 2 (Y)	LED	Discharges electric charges on the OPC drum immediately after transfer operation.
HL_LM	Heater lamp (B)	Halogen lamp	Heats the fusing roller (B).
HL_UM/US/UW	Heater lamp (F)	Halogen lamp	Heats the fusing roller (F1) and the fusing belt.

11. Gates



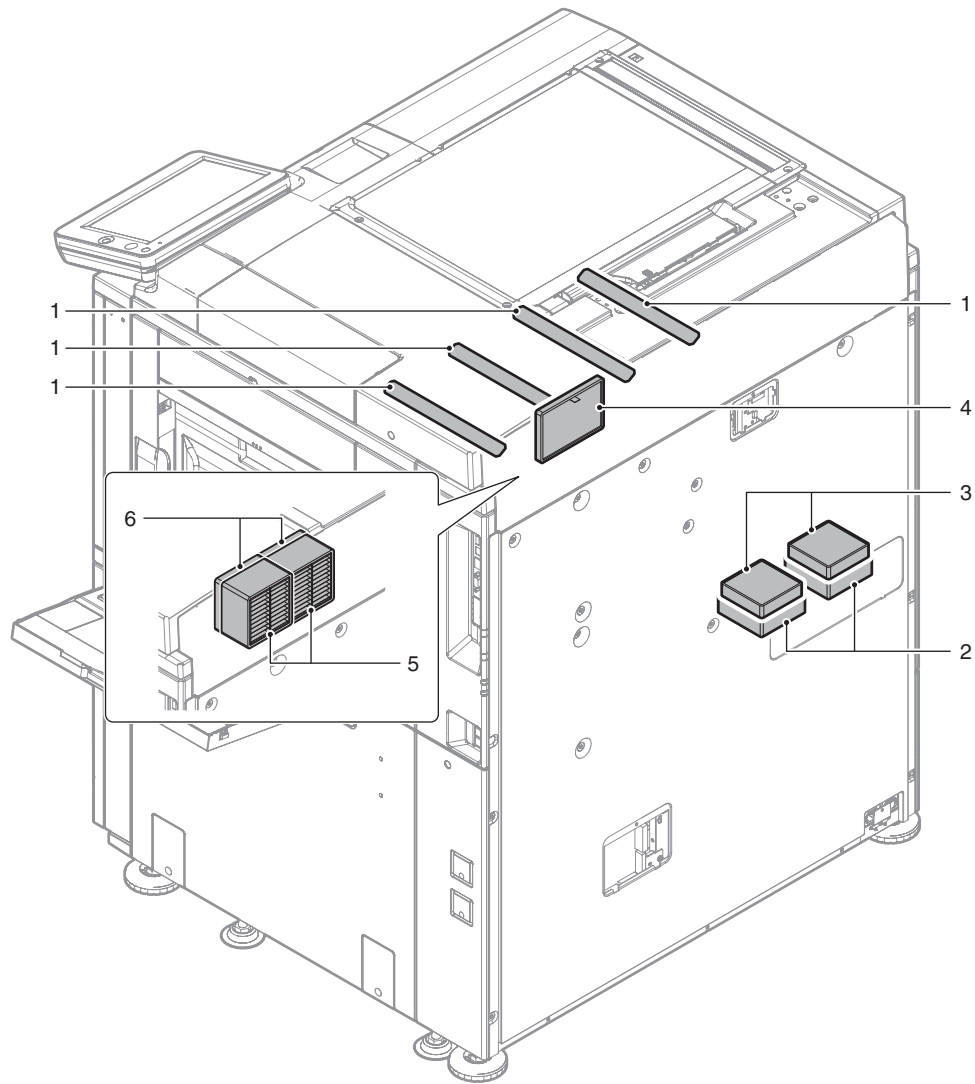
No.	Name	Function/Operation
1	Reverse gate	Discharges paper to the right tray or selects the switch-back transport route to the ADU section.
2	Paper exit gate (ADU gate)	Selects the paper path: to transport paper to the ADU section or to the right tray.

12. Fans



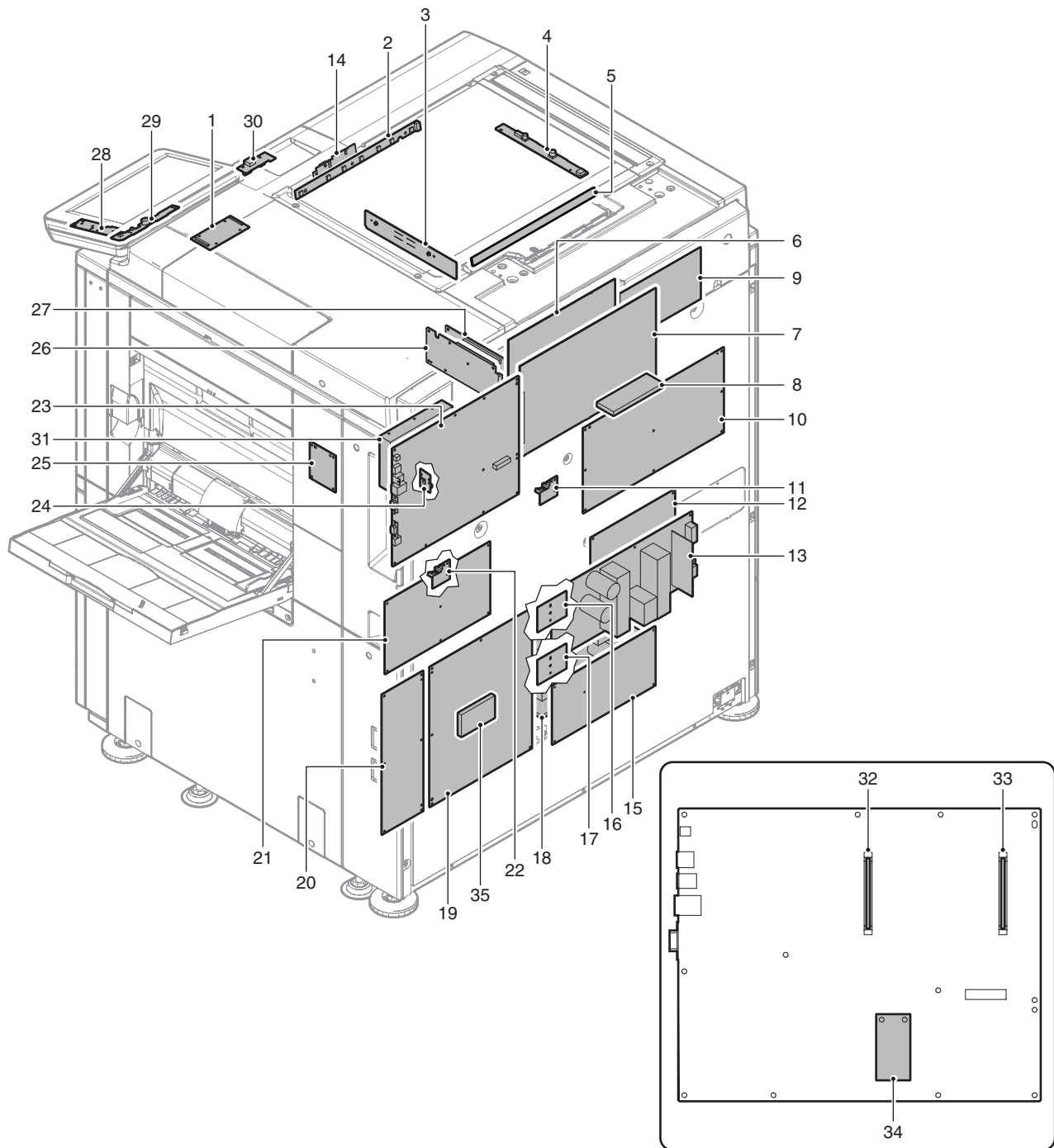
Signal name	Name	Function/Operation
ADUFM_F	ADU cooling fan (F)	Cools the ADU paper transport section.
ADUFM_R	ADU cooling fan (R)	Cools the ADU paper transport section.
FPRFM_F	Fusing cooling fan (F)	Cools the fusing section and the paper exit section.
FPRFM_R	Fusing cooling fan (R)	Cools the fusing section and the paper exit section.
FUFM	Fusing cooling fan	Cools the fusing section.
HDDFM	HDD cooling fan	Cools the HDD.
LSUFM	LSU cooling fan	Cools the LSU.
MFPFM	MFP cooling fan	Cools the surrounding of the MFP PWB.
OZFM1	Ozone fan motor 1	Discharges ozone generated in the process section.
OZFM2	Ozone fan motor 2	Discharges ozone generated in the process section.
OZFM3	Ozone fan motor 3	Discharges ozone generated in the process section.
POFM_EX	Paper exit cooling fan	Cools the fusing section and the paper exit section.
POFM_F	Paper exit cooling fan (F)	Cools the fusing section and the paper exit section.
POFM_R	Paper exit cooling fan (R)	Cools the fusing section and the paper exit section.
POFM2_EX	Paper exit cooling fan2	Cools the fusing section and the paper exit section. (For Europe)
POFM2_F	Paper exit cooling fan2 (F)	Cools the fusing section and the paper exit section. (For Europe)
POFM2_R	Paper exit cooling fan2 (R)	Cools the fusing section and the paper exit section. (For Europe)
PSFM1	Power cooling fan 1	Cools the power unit.
PSFM2	Power cooling fan 2	Cools the power unit.
TBFM	Toner bottle cooling fan motor	Toner cooling fan motor
VFM_BA	Machine ventilation fan BA	Ventilates air in the machine. (For Europe)
VFM_R	Machine ventilation fan	Ventilates air in the machine.

13. Filter



No.	Name	Function/Operation
1	Toner filter	Prevents toner from splashing from the DV unit.
2	Ozone filter	Absorbs ozone generated in the image process section.
3	Toner filter	Absorbs floating toner in the image process section.
4	Deodorant filter	Absorbs odor generated in the fusing section.
5	UFP filter	Absorbs ultrafine particle. (For Europe)
6	VOC filter	Absorbs ultrafine particle. (For Europe)

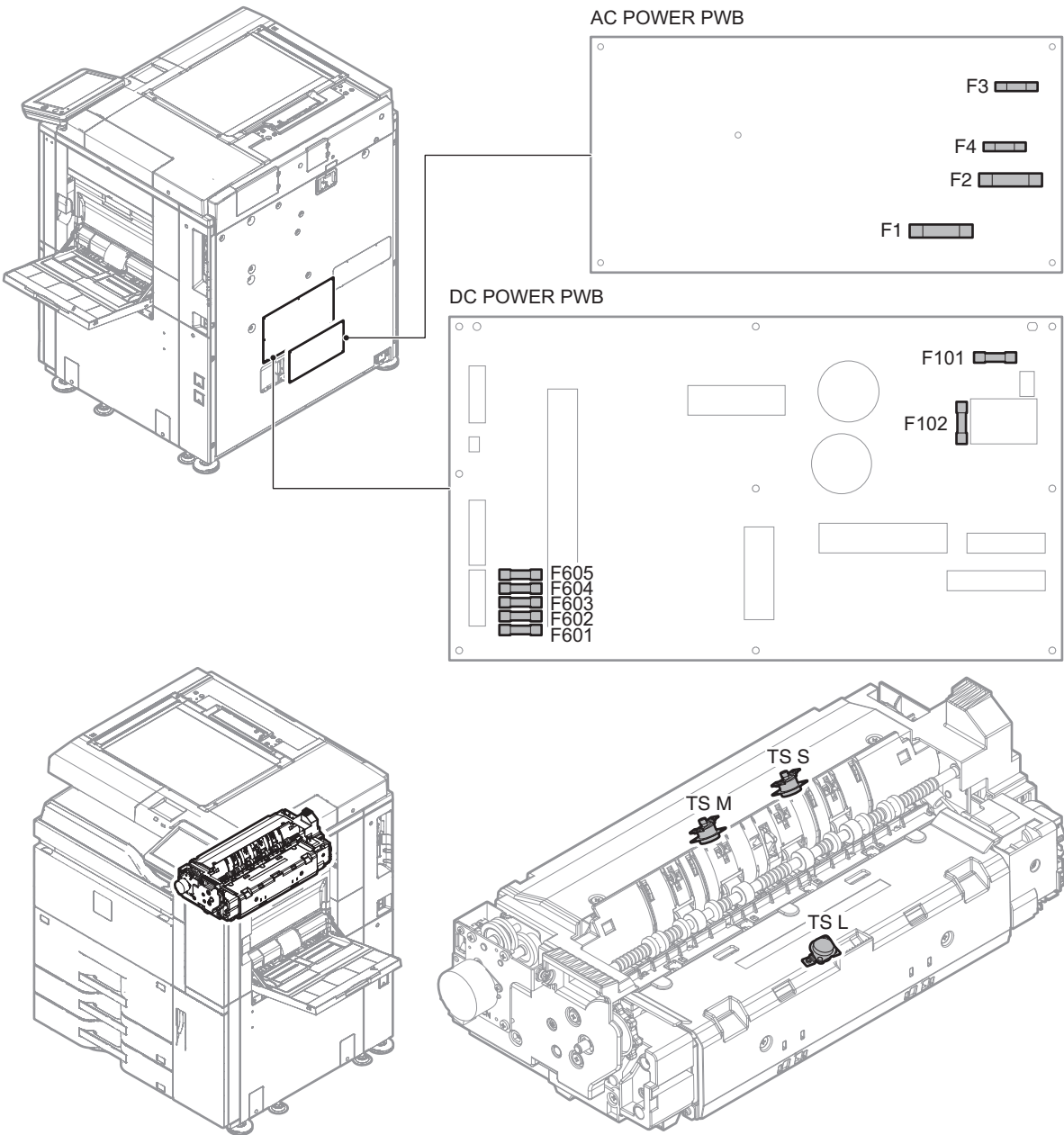
14. PWB/Memory device



No.	Name	Function/Operation
1	LVDS PWB	Converts the display data signal to the LCD display signal.
2	Document size detection PWB (Light receiving)	Outputs the document size detection signal.
3	CCD PWB	Scans document images and performs A/D conversion of the scanning signal.
4	Scanner lamp drive PWB	Drives the scanner lamp.
5	Document size detection PWB (Light emitting)	Drives the LED for the document size detection.
6	HL control PWB	Drives the heater lamp.
7	SCN Mother PWB	Process image data, controls the overall scanner, and controls the operation section. Interfaces the MFP PWB and the operation PWB, the PCU PWB, the LSU PWB, and the FAX unit.
8	SCN Flash PWB	Stores the SCN program data
9	TC1 PWB (High voltage TC1 PWB)	Generates the primary transfer voltage.
10	MC PWB (High voltage MC PWB)	Generates the main charger voltage and the DV bias voltage.
11	Paper feed tray detection PWB (Paper feed tray 1)	Opens/closes the paper feed tray and detects paper.
12	SUB AC POWER PWB	Controls the power of the heater lamp drive circuit. AC cord 2 power monitor signal (FW signal output). (Only in the 2-power plug system models)

No.	Name	Function/Operation
13	SUB DC POWER PWB	Supplies power for the Option, MFP and Scanner.
14	Wireless LAN PWB	Connect the network by the wireless LAN.
15	AC power PWB	Controls the primary side power.
16	Paper size detection PWB (Paper feed tray 3)	Detects the paper size.
17	Paper size detection PWB (Paper feed tray 4)	Detects the paper size.
18	MAIN DC POWER PWB	Supplies the power for the machine.
19	PCU PWB	Controls the engine section.
20	Driver PWB	Drives the motors.
21	TC2 PWB (High voltage TC2 PWB)	Generates the secondary transfer voltage.
22	Paper feed tray detection PWB (Paper feed tray 2)	Opens/closes the paper feed tray and detects paper.
23	MFP control PWB	Controls image data (compression, decompression, and filing), and controls the whole machine.
24	BD PWB	Detects laser and outputs the synchronous signal.
25	Right door interface PWB	Interfaces the signals of the sensors in the paper transport section.
26	LD PWB	Drives the laser diode and controls the power.
27	LSUcnt PWB	Controls the LSU.
28	HOME KEY PWB	Outputs the return home and power saving key signal.
29	POWER SW PWB	Indicates power on/off and outputs the power on/off key signal.
30	USB I/F PWB	USB interface
31	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.
32	Flash PWB1	Stores ASIC1 program data.
33	Flash PWB2	Stores ASIC2 program data.
34	mSATA SSD	Stores MFP PWB program data, snapshot, e-manual data and log data.
35	PCU Flash PWB	Stores the PCU program data.

15. Fuses and thermostats



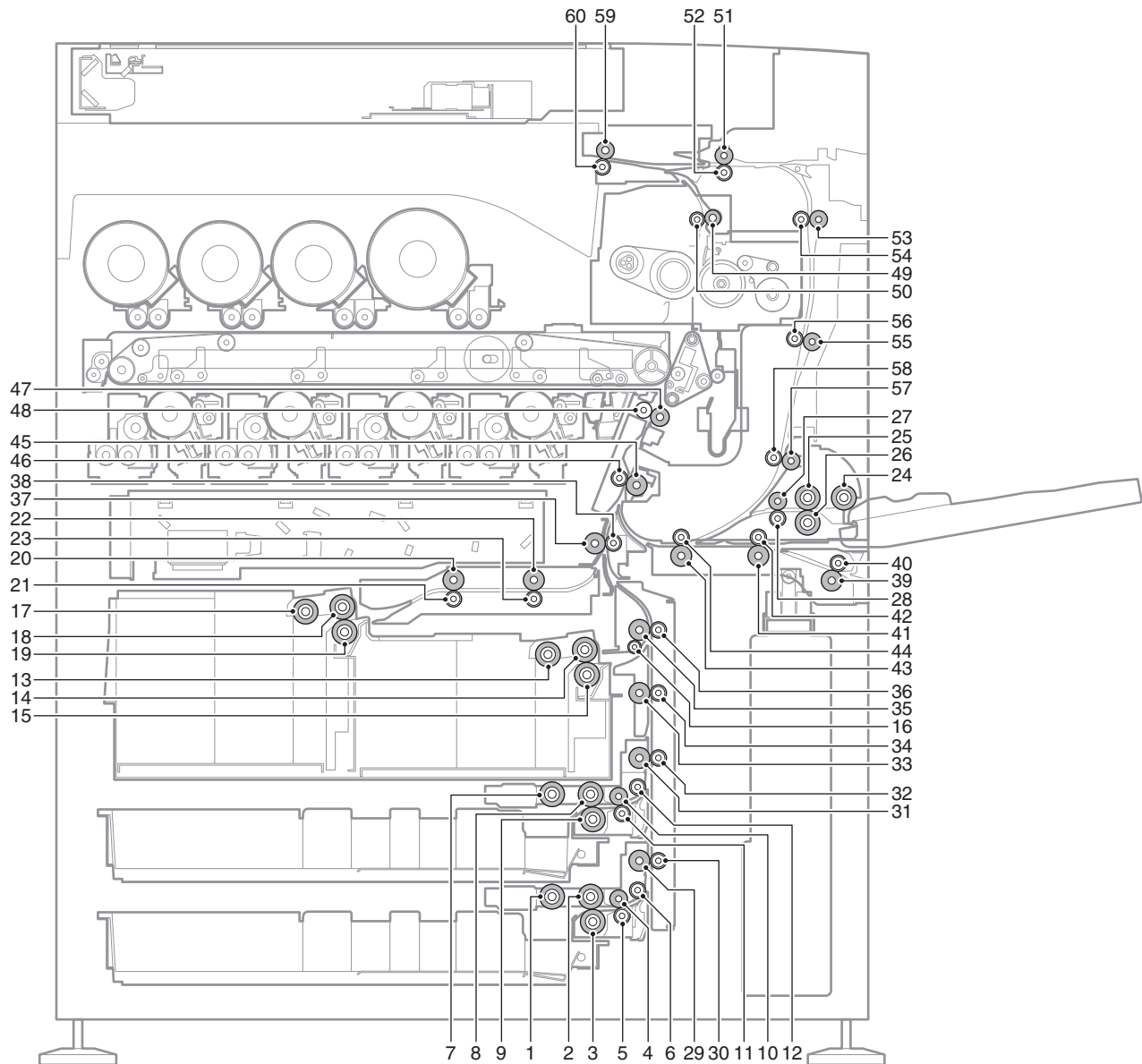
Fuses

Signal name	Name	Type		Location
		200V series (North America)	200V series (Other than North America)	
F1	Fuse	20A 250V	T10AH 250V	AC POWER PWB
F2	Fuse	–	T10AH 250V	AC POWER PWB
F3	Fuse	T2AH 250V	T2AH 250V	AC POWER PWB
F4	Fuse	–	T2AH 250V	AC POWER PWB
F101	Fuse	12A 250V		DC Power PWB
F102	Fuse	2A 250V		DC Power PWB
F601	Fuse	6.3A 250V		DC Power PWB
F602	Fuse	6.3A 250V		DC Power PWB
F603	Fuse	6.3A 250V		DC Power PWB
F604	Fuse	6.3A 250V		DC Power PWB
F605	Fuse	6.3A 250V		DC Power PWB

Thermostats

Signal name	Name	Type	Function/Operation
TS L	Thermostat L	Mechanical thermostat	Shuts down the heater lamp (HL_LM) circuit when the fusing section is overheated.
TS M	Thermostat M	Mechanical thermostat	Shuts down the heater lamp (HL_UM/HL_UW) circuit when the fusing section is overheated.
TS S	Thermostat S	Mechanical thermostat	Shuts down the heater lamp (HL_US) circuit when the fusing section is overheated.

16. Rollers



No.	Name	Function/Operation
1	Paper pickup roller (Paper feed tray 4)	Feeds paper to the paper feed roller.
2	Paper feed roller (Paper feed tray 4)	Feeds paper to the paper transport section.
3	Separation roller (Paper feed tray 4)	Separates paper to prevent double-feeding.
4	Transport roller 1 (Drive)	Transports paper fed from the paper feed tray to the transport roller 2.
5	Transport roller 1 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
6	Transport roller 2	Transports paper to the transport roller 9.
7	Paper pickup roller (Paper feed tray 3)	Feeds paper to the paper feed roller.
8	Paper feed roller (Paper feed tray 3)	Feeds paper to the paper transport section.
9	Separation roller (Paper feed tray 3)	Separates paper to prevent double-feeding.
10	Transport roller 3 (Drive)	Transports paper fed from the paper feed tray to the transport roller 4.
11	Transport roller 3 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
12	Transport roller 4	Transports paper to the transport roller 10.
13	Paper pickup roller (Paper feed tray 2)	Feeds paper to the paper feed roller.
14	Paper feed roller (Paper feed tray 2)	Feeds paper to the paper transport section.
15	Separation roller (Paper feed tray 2)	Separates paper to prevent double-feeding.
16	Transport roller 5	Transports paper to the transport roller 12.
17	Paper pickup roller (Paper feed tray 1)	Feeds paper to the paper feed roller.
18	Paper feed roller (Paper feed tray 1)	Feeds paper to the paper transport section.
19	Separation roller (Paper feed tray 1)	Separates paper to prevent double-feeding.
20	Transport roller 6 (Drive)	Transports paper fed from the paper feed tray to the transport roller 7.

No.	Name	Function/Operation
21	Transport roller 6 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
22	Transport roller 7 (Drive)	Transports paper to the transport roller 13.
23	Transport roller 7 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
24	Paper pickup roller (Manual paper feed tray)	Feeds paper to the paper feed roller.
25	Paper feed roller (Manual paper feed tray)	Feeds paper to the paper transport section.
26	Separation roller (Manual paper feed tray)	Separates paper to prevent double-feeding.
27	Transport roller 8 (Drive)	Transport paper fed from the manual paper feed tray to the transport roller 16.
28	Transport roller 8 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
29	Transport roller 9 (Drive)	Transports paper to the transport roller 10.
30	Transport roller 9 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
31	Transport roller 10 (Drive)	Transports paper to the transport roller 11.
32	Transport roller 10 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
33	Transport roller 11 (Drive)	Transports paper to the transport roller 12.
34	Transport roller 11 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
35	Transport roller 12 (Drive)	Transports paper to the transport roller 13.
36	Transport roller 12 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
37	Transport roller 13 (Drive)	Transports paper to the transport roller 17.
38	Transport roller 13 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
39	Transport roller 14 (Drive)	Transports paper fed from the LCC to the transport roller 15.
40	Transport roller 14 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
41	Transport roller 15 (Drive)	Transports paper to the transport roller 16.
42	Transport roller 15 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
43	Transport roller 16 (Drive)	Transports paper to the transport roller 17.
44	Transport roller 16 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
45	Transport roller 17 (Drive)	Transports paper to the registration roller.
46	Transport roller 17 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
47	Registration roller (Drive)	Transports paper to the transfer section. Controls the transport timing of paper and adjusts the relative position between images and paper.
48	Registration roller (Idle)	Apply a pressure to paper and the registration roller to provide the transport power of the transport roller to paper.
49	Transport roller 18 (Drive)	Transports paper to the paper exit section.
50	Transport roller 18 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
51	Transport roller 19 (Drive)	Transports paper to the right paper exit section or the ADU section.
52	Transport roller 19 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
53	Transport roller 20 (Drive)	Transports paper to the transport roller 21.
54	Transport roller 20 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
55	Transport roller 21 (Drive)	Transports paper to the transport roller 22.
56	Transport roller 21 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
57	Transport roller 22 (Drive)	Transports paper to the transport roller 16.
58	Transport roller 22 (Idle)	Apply a pressure to paper and the transport roller to provide the transport power of the transport roller to paper.
59	Paper exit roller 1 (Drive)	Discharges paper to the left side.
60	Paper exit roller 1 (Idle)	Apply a pressure to paper and the paper exit roller to provide the transport power of the paper exit roller to paper.

[5] ADJUSTMENTS AND SETTINGS

1. General

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

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

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

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

2. Adjustment item list

Job No	Adjustment item list			Simulation
ADJ 1	Adjust the developing unit	1A	Adjust the developing doctor gap	
		1B	Adjust the developing roller main pole position	
		1C	Toner density control reference value setting	25-2
ADJ 2	High voltage adjustment	2A	Adjust the main charger grid voltage	8-2
		2B	Adjust the developing bias voltage	8-1
		2C	Transfer current/voltage adjustment	8-6
ADJ 3	Print engine image distortion adjustment / OPC drum phase adjustment / Color registration adjustment (Print engine section)	3A	Print engine image distortion adjustment (Manual adjustment) / OPC drum phase adjustment (Automatic adjustment) / Color registration adjustment (Automatic adjustment)	50-22
		3B	Print engine image skew (LSU skew) adjustment (Manual adjustment) (No need to adjust normally)	50-20
		3C	Color registration offset adjustment (No need to adjust normally)	50-20
ADJ 4	Scan image distortion adjustment (Document table mode)	4A	Scanner (reading) unit parallelism adjustment	
		4B	Scan image (main scanning direction) distortion adjustment	
		4C	Scan image distortion adjustment (Whole scanner unit)	
ADJ 5	Scanner image skew adjustment (DSPF mode)	5A	DSPF parallelism adjustment	
		5B	DSPF skew adjustment (Front surface mode)	64-2
		5C	DSPF skew adjustment (Back surface mode)	64-2
ADJ 6	Scan image focus adjustment	6A	Image focus adjustment (Document table mode/DSPF front surface mode)	48-1
		6B	Image focus adjustment (DSPF back surface mode)	
ADJ 7/ SET 1	Color balance/density adjustment		Note before execution of the image quality adjustment	
			Copy image quality check	
			Printer image quality check	
		7A	Scanner calibration (CCD calibration)	63-3 (63-5)
		SET 1	Color balance adjustment target setup	63-7/8/11
			Printer color balance adjustment target setup	67-26/27/28
		7B	Copy/Printer color balance and density adjustment (Automatic adjustment) (Basic adjustment)	46-74
		7C	Copy quality adjustment (Basic adjustment)	46-24
			Copy color balance and density adjustment (Automatic adjustment)	46-21
		7D	Copy / Image send / FAX image quality adjustment (Individual adjustment)	46-1
			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)	46-2
			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)	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 (for each monochrome copy mode) (No need to adjust normally)	46-19
			Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)	46-32
			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)	46-63
			Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally)	46-27
			Color copy, text, line image reproduction adjustment (edge gamma, density adjustment) (Text, Map mode) (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)	46-60
			Color (Copy/Scan) mode sharpness adjustment (No need to adjust normally)	

Job No	Adjustment item list					Simulation
ADJ 7/ SET1	Color balance/density adjustment	7D	Copy / Image send / FAX image quality adjustment (Individual adjustment)	7D (12)	Copy high density image density reproduction setting (Normally unnecessary to the setting change)	46-23
				7D (13)	Copy color balance adjustment (Single color copy mode) (No need to adjust normally)	46-25
				7D (14)	DSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)	46-9
				7D (15)	Copy gamma, color balance adjustment for each dither (Automatic adjustment)	46-54
				7D (16)	Dropout color adjustment (Normally not required)	46-55
				7D (17)	Watermark adjustment (Normally not required)	46-66
		7E	Printer image quality adjustment (Basic adjustment)	7E (1)	Printer color balance adjustment (Automatic adjustment)	67-24
				7E (2)	Printer color balance adjustment (Manual adjustment)	67-25
		7F	Printer image quality adjustment (Individual adjustment)	7F (1)	Printer density adjustment (Low density section density adjustment) (No need to adjust normally)	67-36
				7F (2)	Printer high density image density reproduction setting (Supporting the high density section tone gap) (No need to adjust normally)	67-34
				7F (3)	Printer gamma adjustment for each dither (Automatic adjustment) (No need to adjust normally)	67-54
ADJ 8	Manual paper feed tray paper size (width) sensor adjustment					40-2
ADJ 9	DSPF tray paper size (width) sensor adjustment					53-6
ADJ 10	Document size detection adjustment	10A	Adjust the sensitivity of the original size sensor			41-2
ADJ 11	Touch panel coordinate setting					65-1
ADJ 12	Fusing paper guide position adjustment					
ADJ 13	Print image manual magnification ratio, area, position adjustment (Manual adjustment)	13A	Print image manual magnification ratio adjustment (Main scanning direction) (Print engine)			50-10
		13B	Print image manual area adjustment (Main scanning direction, sub scanning direction) (Print engine)			50-10 / 50-1
		13C	Print image manual position adjustment (Main scanning direction, sub scanning direction) (Print engine) (Each paper feed tray)			50-10
ADJ 14	Scan image magnification ratio adjustment (Manual adjustment)	14A	Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (Document table mode)			48-1
		14B	Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (Document table mode)			48-1
		14C	Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (DSPF mode)			48-1
		14D	Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (DSPF mode)			48-1
ADJ 15	Scan image off-center adjustment (Manual adjustment)	15A	Scan image off-center adjustment (Manual adjustment) (Document table mode)			50-12
		15B	Scan image off-center adjustment (Manual adjustment) (DSPF mode)			50-12 / 50-6
ADJ 16	Copy image position and image loss adjustment (Manual adjustment)	16A	Copy image position, image loss, and void area adjustment (Manual adjustment) (Document table mode)			50-1
		16B	Image scanning position adjustment (Manual adjustment) (DSPF mode)			53-8
		16C	Copy image position, image loss, void area adjustment (Manual adjustment) (DSPF mode)			50-6
ADJ 17	Finisher and punch unit adjustments (alignment, punch hole position, staple position)					3-10
ADJ 18	DSPF CCD calibration	18A	Shading adjustment (Calibration) (DSPF mode)			63-2
		18B	CCD gamma adjustment (CCD calibration) (DSPF mode)			63-3
ADJ 19	DSPF back surface color balance exposure adjustment (Manual adjustment)					46-9
ADJ 20	FR density variation correction	20A	FR density uniformity auto correction (32 point adjustment for all colors)			61-11
		20B	FR density uniformity visual inspection (CMYK 5 point adjustment or CMYK 32point adjustment)			61-12

3. Details of adjustment

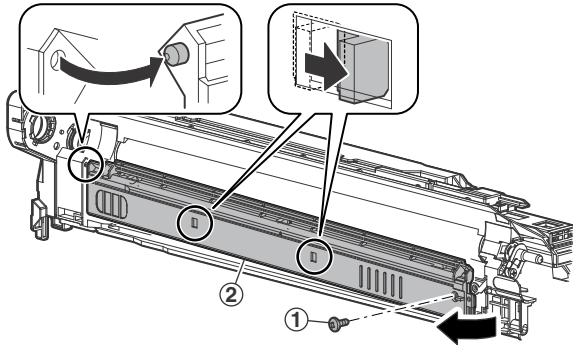
ADJ 1 Adjust the developing unit

1-A Adjust the developing doctor gap

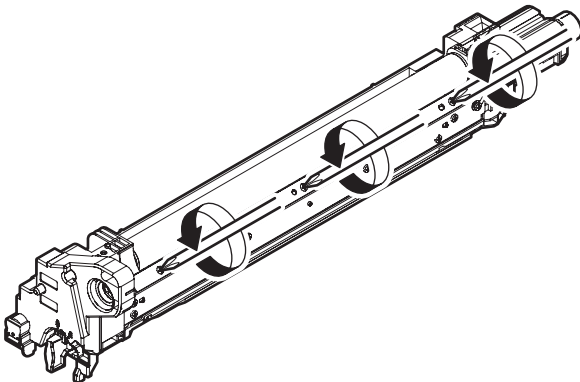
This adjustment must be performed in the following cases:

- * The developing unit has been disassembled.
- * When the print image density is low.
- * When there is a blur on the print image.
- * When there is unevenness in the print image density.
- * The toner is excessively dispersed.

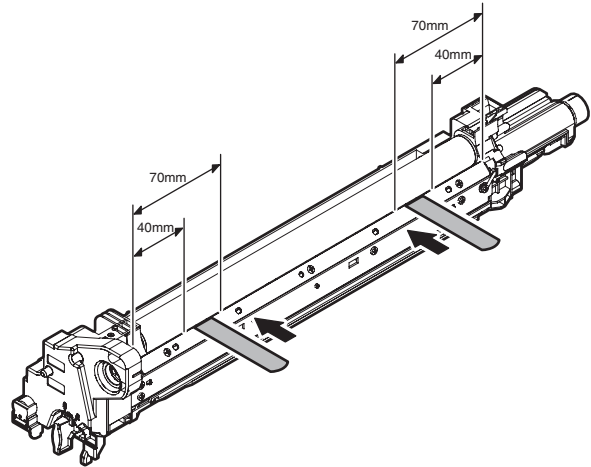
- 1) Remove the developing unit from the main unit, and remove the developing unit upper cover and the developing doctor cover.



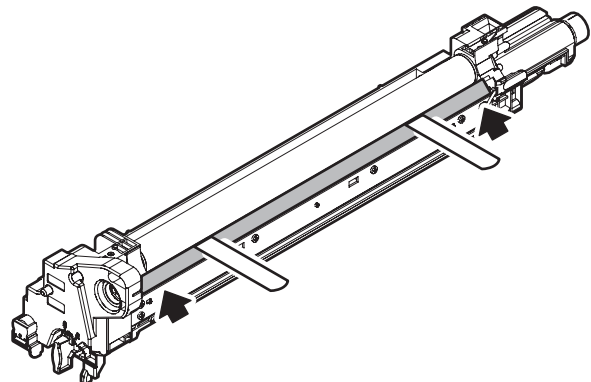
- 2) Loosen the developing doctor fixing screw.



- 3) Insert a thickness gauge of 0.70mm in between 40mm - 70mm from the edge of the developing doctor.

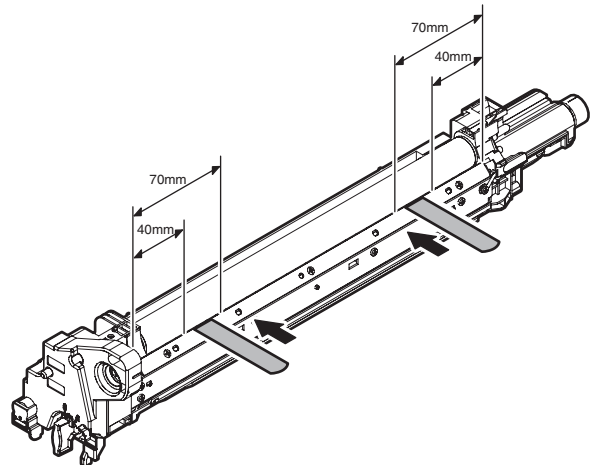


- 4) Push the developing doctor in the arrow direction, and tighten the fixing screw of the developing doctor. (Perform the similar procedure for the front frame and the rear frame.)



- 5) Check that the doctor gaps at two positions in 40mm - 70mm from the both sides of the developing doctor are in the range of 0.70 +/- 0.05mm.

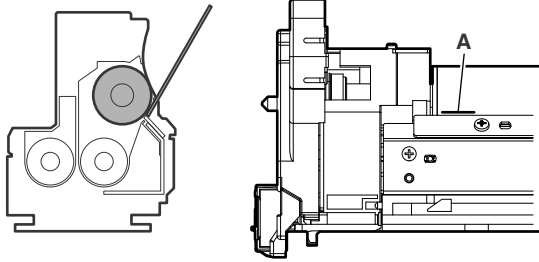
* When inserting a thickness gauge, be careful not to scratch the developing doctor and the developing roller.



Note for use of a thickness gauge

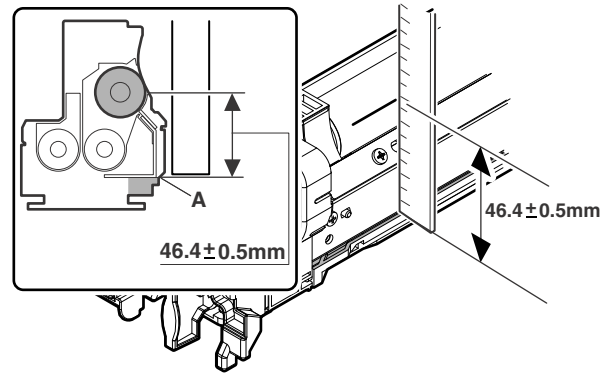
- Do not insert the gauge diagonally.
- The gauge must pass freely.
- The advisable point of measurement is the MIN point of the MG roller oscillation.

Marked point (A) on the drive side (left side) of the MG roller.



- 5) Measure the distance between the marking position and position A of the developing unit frame, and check that it is $46.4 \pm 0.5\text{mm}$.

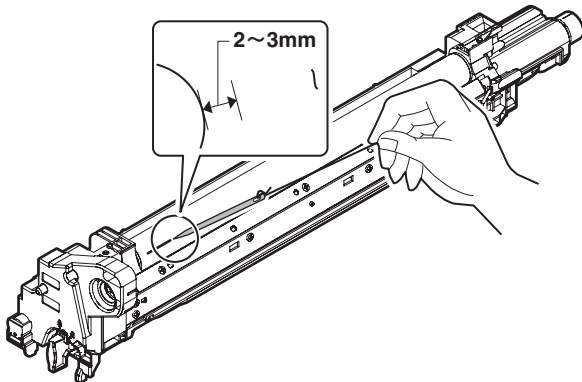
If the distance is not within the above range, adjust the developing roller main pole position in the following procedures.



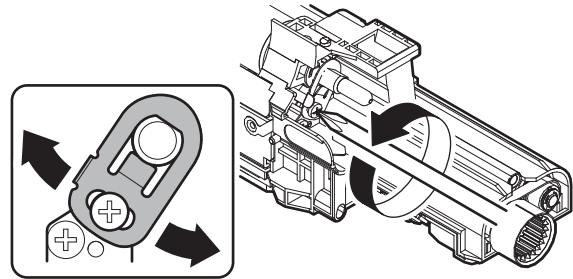
1-B Adjust the developing roller main pole position

This adjustment must be performed in the following cases:

- * The developing unit has been disassembled.
 - * When the print image density is low.
 - * When there is a blur on the print image.
 - * When there is unevenness in the print image density.
 - * The toner is excessively dispersed.
- 1) Remove the developing doctor cover, and place the developing unit on a flat surface.
 - 2) Attach a piece of string to a sewing needle or pin.
 - 3) Hold the thread and bring the needle near the developing roller. (Do not use a paper clip because too heavy. It will not provide a correct position.)
 - 4) Mark the developing roller surface on the extension line of the needle with the needle at 2 - 3mm from the developing roller surface. (Never touch the needle tip with the developing roller.)



- 6) Loosen the fixing screw of the developing roller main pole adjustment plate in the rear side of the developing unit, and move the adjustment plate in the arrow direction to adjust.



Repeat procedures 3) - 6) until the developing roller main pole position comes to the specified range.

- 7) After completion of the adjustment of the developing roller main pole position, fix the developing roller main pole adjustment plate with the fixing screw.

1-C Toner density control reference value setting

This adjustment must be performed in the following cases:

- * When developer is replaced.

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

- 1) With the front cabinet open, enter SIM25-2.
- 2) Close the front cabinet.
- 3) Select a developing unit to be adjusted.
- 4) When [EXECUTE] key is pressed, it is highlighted. The developing roller rotates, and the toner density sensor detects toner density, and the output value is displayed.

The above operation is executed for 3 minutes, and the average value of the toner density sensor detection level is set (saved) as the reference toner density control value.

When the reference toner density control adjustment operation is completed, [EXECUTE] key returns to normal from highlight. This makes known about whether the adjustment operation is completed or not.

The above operation is executed each of the lower speed mode and the middle speed mode, and the reference toner density control value is set for each of them.

CAUTION: If the operation is interrupted within 3 minutes, the adjustment result is not reflected.

When [EXECUTE] key is pressed during rotation, the operation is stopped and [EXECUTE] key returns to the normal display.

If [EE-EU], [EE-EL], or [EE-EG] is displayed, setting of the reference toner density control value is not completed normally.

Error display	Error name	Detail of error
EE-EL	EL abnormality	Sensor output level: 0.99V or below. If not, Control voltage: 8.0V or above.
EE-EU	EU abnormality	Sensor output level: 2.28V or above. If not, Control voltage: 2.0V or below.
EE-EC	EC abnormality	Sensor output level: other than 1.65V +/- 0.04V

CAUTION: When replacing developer, always replace all the three colors of Yellow, Magenta, and Cyan.

If only one color is replaced, color balance may be adversely affected. Black developer can be replaced individually.

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

CAUTION: During execution of this adjustment, do not insert the toner cartridge.

CAUTION: When SIM25-2 is executed with a toner cartridge inserted, "Toner Check" is displayed to disable the execution button. In this case, remove the toner cartridge and execute SIM25-2 again.

ADJ 2 High voltage adjustment

2-A Adjust the main charger grid voltage

This adjustment must be performed in the following cases:

- * When the MC 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.

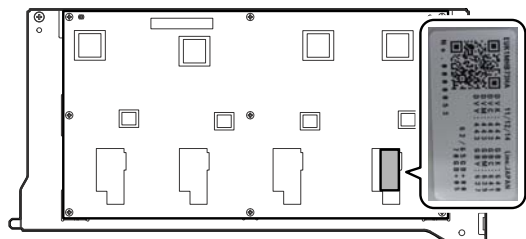
- 1) Enter the SIM 8-2 mode.
- 2) Select an output mode to be adjusted with the mode key and the scroll key.
- 3) Enter the adjustment value (specified value) of the middle speed mode and press [OK] key.

Item/Display (mode)			Content	Setting range	Default value	
					65cpm machine	75cpm machine
MID DLE	A	MIDDLE SPEED GB_K	K charging/grid bias set value at middle speed	150-950	-620V ±5V	-625V ±5V
	B	MIDDLE SPEED GB_C	C charging/grid bias set value at middle speed	150-950	-620V ±5V	-625V ±5V
	C	MIDDLE SPEED GB_M	M charging/grid bias set value at middle speed	150-950	-620V ±5V	-625V ±5V
	D	MIDDLE SPEED GB_Y	Y charging/grid bias set value at middle speed	150-950	-620V ±5V	-625V ±5V
LOW	A	LOW1 SPEED GB_K	K charging/grid bias set value at low speed 1	150-950	-608V ±5V	-608V ±5V
	B	LOW1 SPEED GB_C	C charging/grid bias set value at low speed 1	150-950	-608V ±5V	-608V ±5V
	C	LOW1 SPEED GB_M	M charging/grid bias set value at low speed 1	150-950	-608V ±5V	-608V ±5V
	D	LOW1 SPEED GB_Y	Y charging/grid bias set value at low speed 1	150-950	-608V ±5V	-608V ±5V
	E	LOW2 SPEED GB_K	K charging/grid bias set value at low speed 2	150-950	-604V ±5V	-604V ±5V
	F	LOW2 SPEED GB_C	C charging/grid bias set value at low speed 2	150-950	-604V ±5V	-604V ±5V
	G	LOW2 SPEED GB_M	M charging/grid bias set value at low speed 2	150-950	-604V ±5V	-604V ±5V
	H	LOW2 SPEED GB_Y	Y charging/grid bias set value at low speed 2	150-950	-604V ±5V	-604V ±5V

Remark:

Normally when the default value is set, the specified voltage is outputted.

The adjustment value of each color mode is specified on the label attached to the MC high voltage power PWB. Enter that value.



GBK:XXX GBC:XXX GBM:XXX GBY:XXX

The default values specified for each model must be changed as follows:

65cpm machine: + 0

75cpm machine: + 5

When [EXECUTE] key is pressed, the voltage entered in the procedure 3) is outputted for 30 sec and the set value is saved.

When [EXECUTE] key is pressed again, the output is stopped.

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

Since the adjustment value label is attached on the MC high voltage PWB, the PWB must be removed in order to check the adjustment value.

This is a troublesome procedure. Therefore, it is advisable to put down the adjustment value in advance.

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

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

2-B Adjust the developing bias voltage

This adjustment must be performed in the following cases:

- * When the MC 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 to be adjusted with the mode key and the scroll key.
 - 3) Enter the adjustment value (specified value) of the middle speed mode and press [OK] key.

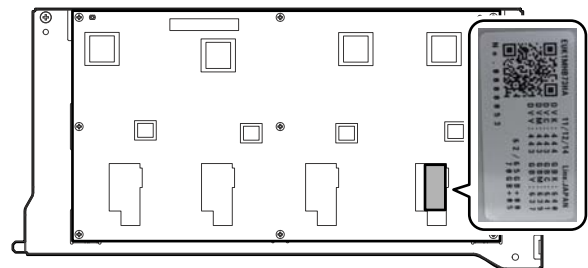
Item/Display (mode)		Content	Setting range	Default value	
				65cpm machine	75cpm machine
MIDDLE	A	MIDDLE SPEED DVB_K	K developing bias set value at middle speed	0-600	-450V ±5V
	B	MIDDLE SPEED DVB_C	C developing bias set value at middle speed	0-600	-450V ±5V
	C	MIDDLE SPEED DVB_M	M developing bias set value at middle speed	0-600	-450V ±5V
	D	MIDDLE SPEED DVB_Y	Y developing bias set value at middle speed	0-600	-450V ±5V

Item/Display (mode)			Content	Setting range	Default value	
					65cpm machine	75cpm machine
LOW	A	LOW1 SPEED DVB_K	K developing bias set value at low speed 1	0-600	-450V ±5V	-450V ±5V
	B	LOW1 SPEED DVB_C	C developing bias set value at low speed 1	0-600	-450V ±5V	-450V ±5V
	C	LOW1 SPEED DVB_M	M developing bias set value at low speed 1	0-600	-450V ±5V	-450V ±5V
	D	LOW1 SPEED DVB_Y	Y developing bias set value at low speed 1	0-600	-450V ±5V	-450V ±5V
	E	LOW2 SPEED DVB_K	K developing bias set value at low speed 2	0-600	-450V ±5V	-450V ±5V
	F	LOW2 SPEED DVB_C	C developing bias set value at low speed 2	0-600	-450V ±5V	-450V ±5V
	G	LOW2 SPEED DVB_M	M developing bias set value at low speed 2	0-600	-450V ±5V	-450V ±5V
	H	LOW2 SPEED DVB_Y	Y developing bias set value at low speed 2	0-600	-450V ±5V	-450V ±5V

Remark:

Normally when the default value is set, the specified voltage is outputted.

The adjustment value of each color mode is specified on the label attached to the MC high voltage power PWB. Enter that value.



DVK:XXX DVC:XXX DVM:XXX DVY:XXX

When [EXECUTE] key is pressed, the voltage entered in the procedure 3) is outputted for 30 sec and the set value is saved.

When [EXECUTE] key is pressed again, the output is stopped.

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

Since the adjustment value label is attached on the MC high voltage PWB, the PWB must be removed in order to check the adjustment value.

This is a troublesome procedure. Therefore, it is advisable to put down the adjustment value in advance.

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

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

2-C Transfer current/voltage adjustment

This adjustment must be performed in the following cases:

- * When the primary transfer high voltage power PWB or Secondary transfer 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 8-6 mode.
- 2) Select a mode to be adjusted with the scroll key.
- 3) Enter an adjustment value (specified value) and press [OK] key.

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

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

Item/Display		Content				Setting range	Default value
A	TC1 LOW 1 CL K	Primary transfer bias reference value	Color	K	Low speed 1	0 - 255	95
B	TC1 LOW 2 CL K				Low speed 2	0 - 255	91
C	TC1 MIDDLE CL K				Middle speed	0 - 255	99
D	TC1 LOW 1 CL C			C	Low speed 1	0 - 255	95
E	TC1 LOW 2 CL C				Low speed 2	0 - 255	91
F	TC1 MIDDLE CL C				Middle speed	0 - 255	99
G	TC1 LOW 1 CL M			M	Low speed 1	0 - 255	95
H	TC1 LOW 2 CL M				Low speed 2	0 - 255	91
I	TC1 MIDDLE CL M				Middle speed	0 - 255	99
J	TC1 LOW 1 CL Y			Y	Low speed 1	0 - 255	95
K	TC1 LOW 2 CL Y				Low speed 2	0 - 255	91
L	TC1 MIDDLE CL Y				Middle speed	0 - 255	99
M	TC1 LOW 1 BW K		Black and white	K	Low speed 1	0 - 255	95
N	TC1 LOW 2 BW K				Low speed 2	0 - 255	91
O	TC1 MIDDLE BW K				Middle speed	0 - 255	99
P	TC2 PLAIN CL SPX	Secondary transfer bias reference value	Color	Standard paper 1	Front surface	0 - 255	145
Q	TC2 PLAIN CL DPX				Back surface	0 - 255	145
R	TC2 PLAIN BW SPX		Black and white	Standard paper 1	Front surface	0 - 255	138
S	TC2 PLAIN BW DPX				Back surface	0 - 255	138
T	TC2 PLAIN2 CL SPX		Color	Standard paper 2	Front surface	0 - 255	145
U	TC2 PLAIN2 CL DPX				Back surface	0 - 255	145
V	TC2 PLAIN2 BW SPX		Black and white	Standard paper 2	Front surface	0 - 255	138
W	TC2 PLAIN2 BW DPX				Back surface	0 - 255	138
X	TC2 HEAVY1 CL SPX		Color	Heavy paper 1 <Low speed 1>	Front surface	0 - 255	110
Y	TC2 HEAVY1 CL DPX				Back surface	0 - 255	103
Z	TC2 HEAVY1 BW SPX		Black and white	Heavy paper 1 <Low speed 1>	Front surface	0 - 255	110
AA	TC2 HEAVY1 BW DPX				Back surface	0 - 255	103
AB	TC2 HEAVY2 CL SPX		Color	Heavy paper 2 <Low speed 1>	Front surface	0 - 255	110
AC	TC2 HEAVY2 CL DPX				Back surface	0 - 255	103
AD	TC2 HEAVY2 BW SPX		Black and white	Heavy paper 2 <Low speed 1>	Front surface	0 - 255	110
AE	TC2 HEAVY2 BW DPX				Back surface	0 - 255	103
AF	TC2 HEAVY3 CL SPX		Color	Heavy paper 3 <Low speed 2>	Front surface	0 - 255	96
AG	TC2 HEAVY3 CL DPX				Back surface	0 - 255	87
AH	TC2 HEAVY3 BW SPX		Black and white	Heavy paper 3 <Low speed 2>	Front surface	0 - 255	96
AI	TC2 HEAVY3 BW DPX				Back surface	0 - 255	87
AJ	TC2 HEAVY4 CL SPX		Color	Heavy paper 4 <Low speed 2>	Front surface	0 - 255	96
AK	TC2 HEAVY4 CL DPX				Back surface	0 - 255	87
AL	TC2 HEAVY4 BW SPX		Black and white	Heavy paper 4 <Low speed 2>	Front surface	0 - 255	96
AM	TC2 HEAVY4 BW DPX				Back surface	0 - 255	87
AN	TC2 OHP CL		Color	OHP <Low speed 1>	Front surface	0 - 255	110
AO	TC2 OHP BW				Back surface	0 - 255	110
AP	TC2 ENVELOPE CL		Black and white	Envelope <Low speed 1>	Front surface	0 - 255	83
AQ	TC2 ENVELOPE BW				Back surface	0 - 255	83
AR	TC2 THIN CL		Color	Thin paper <Middle speed>	Front surface	0 - 255	138
AS	TC2 THIN BW				Back surface	0 - 255	138
AT	TC2 GLOSSY PAPER CL		Black and white	Glossy paper <Low speed 1>	Front surface	0 - 255	110
AU	TC2 GLOSSY PAPER BW				Back surface	0 - 255	110
AV	TC2 EMBOSS CL		Color	Embossed paper <Low speed 2>	Front surface	0 - 255	96
AW	TC2 EMBOSS BW				Back surface	0 - 255	80
AX	TC2 LABEL CL		Black and white	Label paper <Low speed 1>	Front surface	0 - 255	110
AY	TC2 LABEL BW				Back surface	0 - 255	110
AZ	TC2 FRONT EDGE LOW1 SPX	Secondary transfer front edge bias reference value	In low speed 1 print		Front surface	0 - 255	145
BA	TC2 FRONT EDGE LOW1 DPX				Back surface	0 - 255	145
BB	TC2 FRONT EDGE LOW2 SPX		In low speed 2 print		Front surface	0 - 255	145
BC	TC2 FRONT EDGE LOW2 DPX				Back surface	0 - 255	145
BD	TC2 FRONT EDGE MIDDLE SPX		In middle speed print		Front surface	0 - 255	145
BE	TC2 FRONT EDGE MIDDLE DPX				Back surface	0 - 255	145

Item/Display		Content			Setting range	Default value
BF	TC2 BACKEND LOW1 SPX	Secondary transfer rear edge bias reference value	In low speed 1 print	Front surface	0 - 255	69
BG	TC2 BACKEND LOW1 DPX			Back surface	0 - 255	69
BH	TC2 BACKEND LOW2 SPX		In low speed 2 print	Front surface	0 - 255	69
BI	TC2 BACKEND LOW2 DPX			Back surface	0 - 255	69
BJ	TC2 BACKEND MIDDLE SPX		In middle speed print	Front surface	0 - 255	69
BK	TC2 BACKEND MIDDLE DPX			Back surface	0 - 255	69
BL	TC2 CLEANING MINUS LOW 1	Secondary transfer cleaning negative bias reference value	In low speed 1 print		0 - 255	76
BM	TC2 CLEANING MINUS LOW 2		In low speed 2 print		0 - 255	76
BN	TC2 CLEANING MINUS MIDDLE		In middle speed print		0 - 255	76
BO	TC2 INTERVAL LOW 1	Bias reference value between papers	In low speed 1 print		0 - 255	72
BP	TC2 INTERVAL LOW 2		In low speed 2 print		0 - 255	72
BQ	TC2 INTERVAL MIDDLE		In middle speed print		0 - 255	72
BR	TC2 COUNTER LOW 1	Counter bias reference value	In low speed 1 print		0 - 255	72
BS	TC2 COUNTER LOW 2		In low speed 2 print		0 - 255	72
BT	TC2 COUNTER MIDDLE		In middle speed print		0 - 255	72
BU	PTC LOW 1 CL	PTC current reference value	Color	Low speed 1	0 - 255	119
BV	PTC LOW 2 CL			Low speed 2	0 - 255	119
BW	PTC MIDDLE CL			Middle speed	0 - 255	119
BX	PTC LOW 1 BW		Black and white	Low speed 1	0 - 255	119
BY	PTC LOW 2 BW			Low speed 2	0 - 255	119
BZ	PTC MIDDLE BW			Middle speed	0 - 255	119
CA	PTC EMBOSS		Both	Low speed 2	0 - 255	187
CB	CASE VOLT LOW 1 CL	PTC case voltage reference value	Color	Low speed 1	0 - 255	0
CC	CASE VOLT LOW 2 CL			Low speed 2	0 - 255	0
CD	CASE VOLT MIDDLE CL			Middle speed	0 - 255	0
CE	CASE VOLT LOW 1 BW		Black and white	Low speed 1	0 - 255	0
CF	CASE VOLT LOW 2 BW			Low speed 2	0 - 255	0
CG	CASE VOLT MIDDLE BW			Middle speed	0 - 255	0
CH	CASE VOLT EMBOSS		Both	Low speed 2	0 - 255	0
CI	TC2 DRIVEROLL LOW 1 CL	Secondary transfer drive roller bias reference value	Color	Low speed 1	0 - 255	98
CJ	TC2 DRIVEROLL LOW 2 CL			Low speed 2	0 - 255	98
CK	TC2 DRIVEROLL MIDDLE CL			Middle speed	0 - 255	98
CL	TC2 DRIVEROLL LOW 1 BW		Black and white	Low speed 1	0 - 255	98
CM	TC2 DRIVEROLL LOW 2 BW			Low speed 2	0 - 255	98
CN	TC2 DRIVEROLL MIDDLE BW			Middle speed	0 - 255	98

ADJ 3 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 [ADJ13A] Print engine image magnification ratio adjustment (BK) (main scanning direction) is performed.
- * U2 trouble has occurred.
- * When the PCU PWB is replaced.
- * When EEPROM on the PCU 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.

3-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.

[EXECUTE] key is highlighted and the image registration automatic adjustment is started. (It takes about 15 sec to complete the adjustment.)

- 3) When the adjustment is completed, [EXECUTE] key returns to the normal display, and the value of the adjustment result is displayed.

The current skew level for each color is displayed on the SKEW display section.

AUTO ADJUSTMENT OF REGISTRATION AND DRUM POSITION					
	MAIN F	MAIN R	SUB	SKEW	PHASE
C	102.5(+ 2.5)	102.5(+ 2.5)	102.5(+ 2.5)	L 5.5(NG)	8(1)
M	115.5(+ 15.5)	115.5(+ 15.5)	115.5(+ 15.5)	R 2.5(NG)	
Y	130.8(+ 30.8)	130.8(+ 30.8)	130.8(+ 30.8)	R 1.5(OK)	
				ALL ROTATE R 1.5(OK)	
					EXECUTE

Display/Item	Content	Display	NOTE
MAIN F	C Registration adjustment value main scanning direction (Cyan laser writing position F side)	1.0 - 399.0	Same item with SIM50-20. * However, the adjustment accuracy is in the unit of +/-0.1dot.
	M Registration adjustment value main scanning direction (Magenta laser writing position F side)	1.0 - 399.0	
	Y Registration adjustment value main scanning direction (Yellow laser writing position F side)	1.0 - 399.0	
MAIN R	C Registration adjustment value main scanning direction (Cyan laser writing position R side)	1.0 - 399.0	
	M Registration adjustment value main scanning direction (Magenta laser writing position R side)	1.0 - 399.0	
	Y Registration adjustment value main scanning direction (Yellow laser writing position R side)	1.0 - 399.0	
SUB	C Registration adjustment value sub scanning direction (Cyan drum - Black drum)	1.0 - 399.0	
	M Registration adjustment value sub scanning direction (Magenta drum - Black drum)	1.0 - 399.0	
	Y Registration adjustment value sub scanning direction (Yellow drum - Black drum)	1.0 - 399.0	
SKEW	C Print skew amount calculation result (Cyan)	L99.9 - R99.9	If the value is positive (+), "L" is displayed at the head of the value. If negative (-), "R" is displayed. If the value is in the range of -5.0 - +5.0, "(OK)" is displayed at the bottom of the value. In the other cases, "(NG)" is displayed.
	M Print skew amount calculation result (Magenta)	L99.9 - R99.9	
	Y Print skew amount calculation result (Yellow)	L99.9 - R99.9	
ALL_ROTATE	Print skew amount calculation result (Overall)	L99.9 - R99.9	If the value is positive (+), "L" is displayed at the head of the value. If negative (-), "R" is displayed. If the value is in the range of -3.6 - +3.6, "(OK)" is displayed at the bottom of the value. In the other cases, "(NG)" is displayed.
START	Modulation control start position (): Previous value	0 - 359	
AMP1	Modulation control amplitude (): Previous value	0 - 15	
AMP2	Modulation control amplitude (): Previous value	0 - 15	

- 4) Write down the displayed skew level.

Meaning of the skew level value and the adjustment procedure

- * If "OK" is displayed for all items of SKEW ALL_ROTATE, C, M, and Y, there is no need to perform the adjustment.
- * When "R" is displayed at the head of the value, turn the LSU skew adjustment screw clockwise.

- * When "L" is displayed at the head of the value, turn the LSU skew adjustment screw counterclockwise.

- * The turning amount of the adjustment screw corresponds to each adjustment value. "ALL_ROTATE", C, M, and Y indicate numbers of clicks.

The display value is rounded at the decimal point.

* "ALL_ROTATES" shows the number of rotations of adjustments for all the adjustment screws. "C, M, and Y (SKEW)" shows the number of adjustment click steps for each adjustment screw of C, M, and Y.

Contents in ()

MIAN, SUB: Difference from the previous adjustment value of image registration.

Example:

If 105 for this time and 103 for the previous time, it is displayed as 105.0 (+2.0).

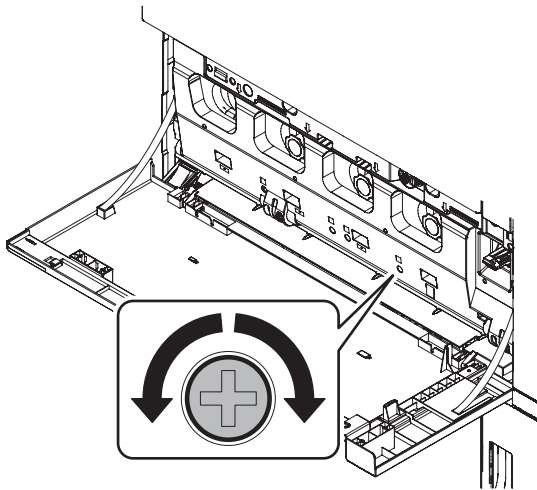
SKEW, ALL_ROTATE: Judgment of the LSU skew adjustment result. OK or NG.

PHASE: OPC drum phase adjustment value of the previous time

- 5) If the display of ALL_ROTATE is NG, turn all the LSU skew adjustment screws to adjust, and perform the procedures 2) to 4).

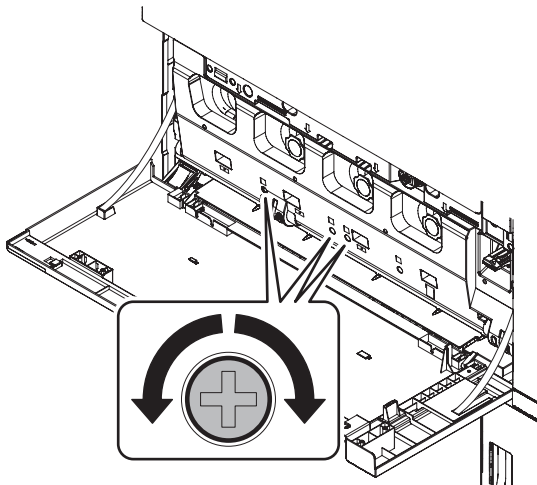
Repeat the procedures 2) to 5) until the display of ALL_ROTATE becomes OK. If the display of ALL_ROTATE is OK, go to the procedure 6).

For the adjustment, turn the skew adjustment screw with the front cover open.



- 6) Repeat the procedures 2) to 4) again, and check to confirm that C, M, and Y (SKEW) are OK.

If any of them is NG, turn the LSU skew adjustment screw of the corresponding color to adjust.



CAUTION: 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.

When an abnormality occurs, "ERROR" is displayed.

In this case, check each drive section and the process section.

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

* ADJ3B

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

* ADJ3C

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 "200" 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 ADJ3C.)

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

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

If a more accurate adjustment than the automatic adjustment ADJ3A 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 mode.
- 2) Select the paper feed tray with A3 (11" x 17") paper in it, and press [EXECUTE] 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).

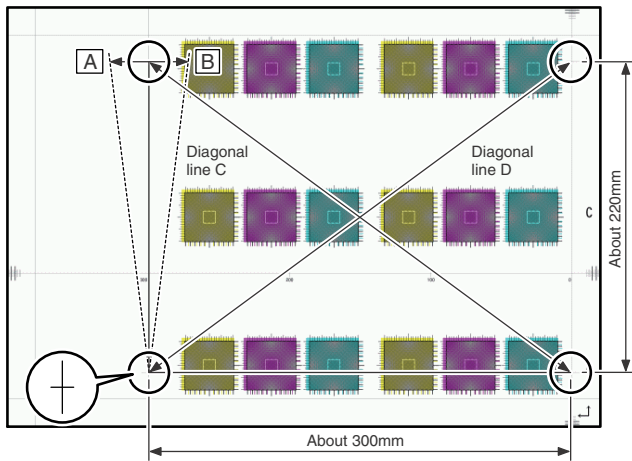
Method 1

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 A3 or 11" x 17" paper sides.

CAUTION: 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

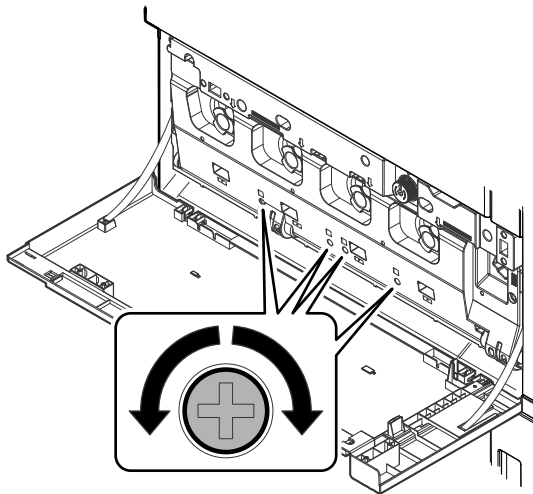
Fit the side of A3 or 11" x 17" paper to the long side of the rectangle print pattern.

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, and turn the four LSU image skew adjustment screws in the same direction by the same degree.



(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).

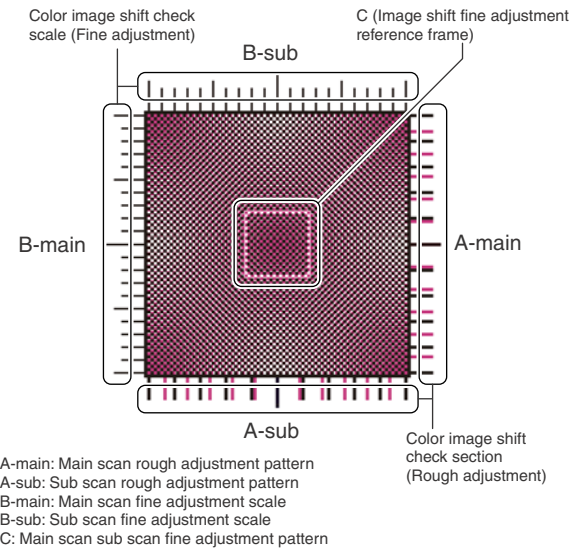
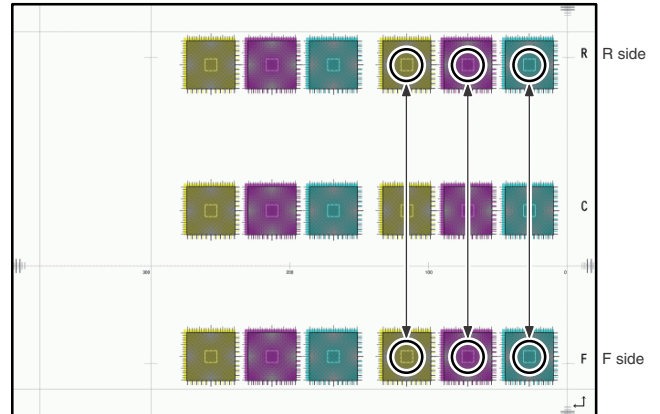
After completion of the black image skew adjustment, go to the procedure 7).

- 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 are in the same condition.

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.

3-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 (ADJ3A).

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.

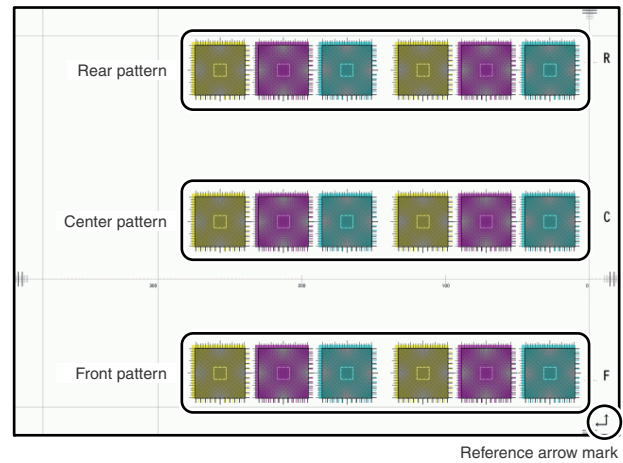
* ADJ3A or ADJ3B image skew adjustment (LSU unit)

[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 A3 (11" x 17") paper in it.
 - 3) Press [EXECUTE] key.
- The color image registration check pattern is printed.



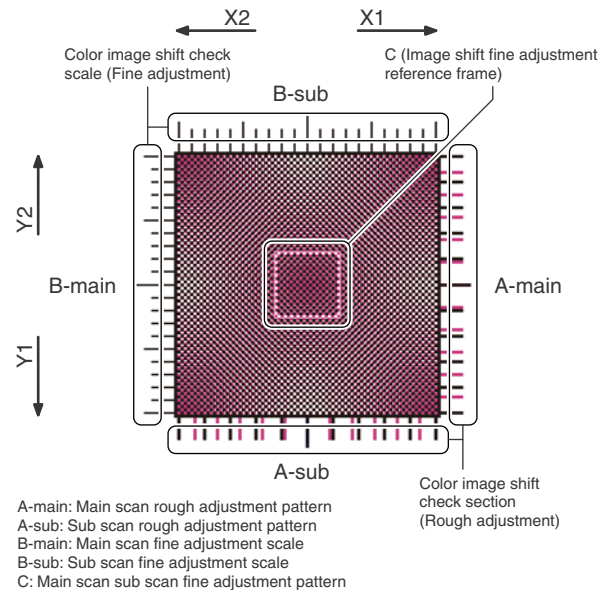
- 4) Check the color image registration.

There are 6 color image registration patterns in total; two on each of the F side, the R side, and the center. 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.

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 18 check patterns.

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/2 (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.)

CAUTION: 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.

Display/Item		Content	Adjustment value range	Default value
A	CYAN (FRONT)	Image registration adjustment value (Main scanning direction) (Cyan) (F side)	1 - 399	200
B	CYAN (REAR)	Image registration adjustment value (Main scanning direction) (Cyan) (R side)	1 - 399	200
C	MAGENTA (FRONT)	Image registration adjustment value (Main scanning direction) (Magenta) (F side)	1 - 399	200
D	MAGENTA (REAR)	Image registration adjustment value (Main scanning direction) (Magenta) (R side)	1 - 399	200
E	YELLOW (FRONT)	Image registration adjustment value (Main scanning direction) (Yellow) (F side)	1 - 399	200
F	YELLOW (REAR)	Image registration adjustment value (Main scanning direction) (Yellow) (R side)	1 - 399	200
G	CYAN (SUB)	Image registration adjustment value (Sub scanning direction) (Cyan)	1 - 399	200
H	MAGENTA (SUB)	Image registration adjustment value (Sub scanning direction) (Magenta)	1 - 399	200
I	YELLOW (SUB)	Image registration adjustment value (Sub scanning direction) (Yellow)	1 - 399	200
J	OFFSET CF	Image registration offset adjustment value (Main scanning direction) (Cyan) (F side)	1 - 99	50
K	OFFSET CR	Image registration offset adjustment value (Main scanning direction) (Cyan) (R side)	1 - 99	50
L	OFFSET MF	Image registration offset adjustment value (Main scanning direction) (Magenta) (F side)	1 - 99	50
M	OFFSET MR	Image registration offset adjustment value (Main scanning direction) (Magenta) (R side)	1 - 99	50
N	OFFSET YF	Image registration offset adjustment value (Main scanning direction) (Yellow) (F side)	1 - 99	50
O	OFFSET YR	Image registration offset adjustment value (Main scanning direction) (Yellow) (R side)	1 - 99	50
P	OFFSET CS	Image registration offset adjustment value (Sub scanning direction) (Cyan)	1 - 99	50
Q	OFFSET MS	Image registration offset adjustment value (Sub scanning direction) (Magenta)	1 - 99	50
R	OFFSET YS	Image registration offset adjustment value (Sub scanning direction) (Yellow)	1 - 99	50

ADJ 4 Scan image distortion adjustment (Document table mode)

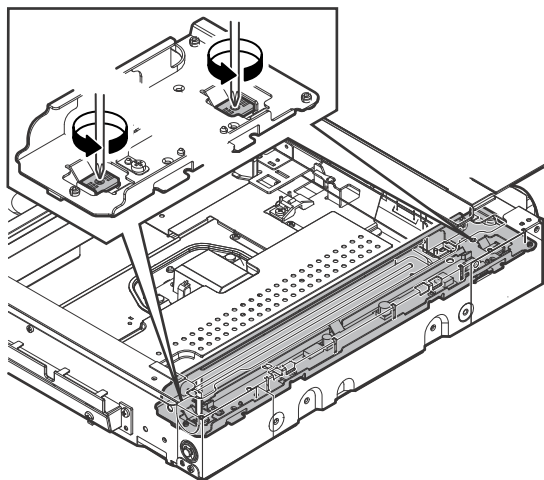
This adjustment must be performed in the following cases:

- * When the scanner (reading) section is disassembled.
- * When the copy image is distorted.

4-A Scanner (reading) unit parallelism adjustment

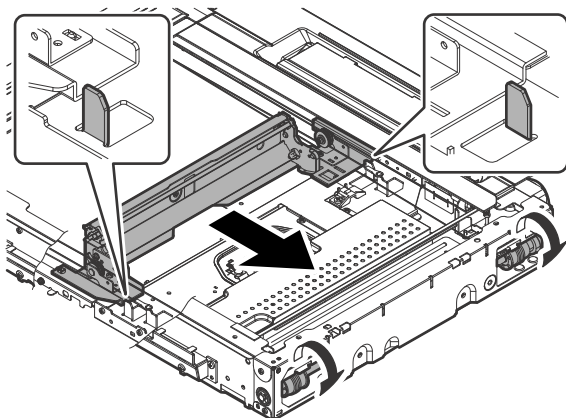
Before execution of this adjustment, remove the document table glass.

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



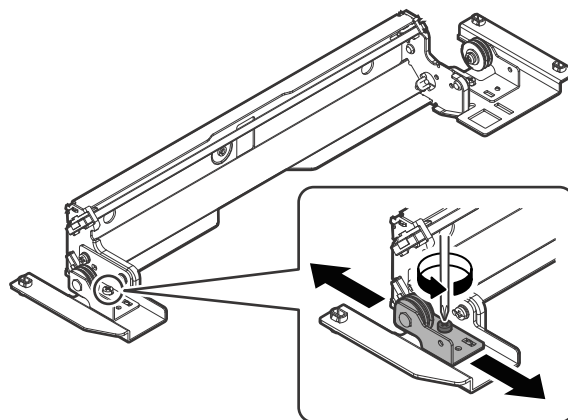
- 2) Turn the scanner drive pulley manually and shift the scanner unit B to bring it into contact with the stopper.

When the scanner unit B is in contact with the two stoppers on the front and the rear frames simultaneously, the parallelism is proper.

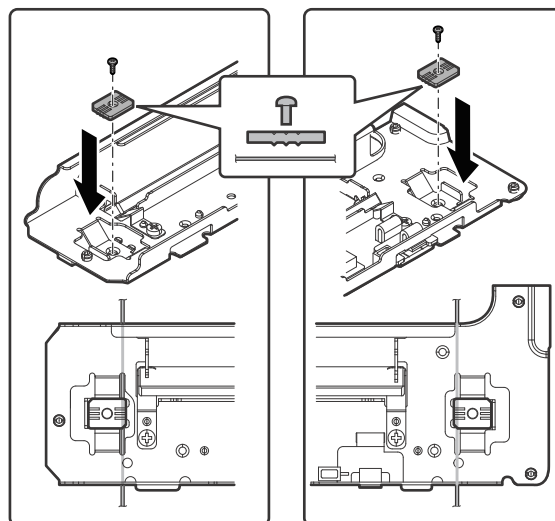


If this requirement is not met, do the following steps.

- 3) Loosen the fixing screw of the pulley angle on the front frame side of the scanner unit B.

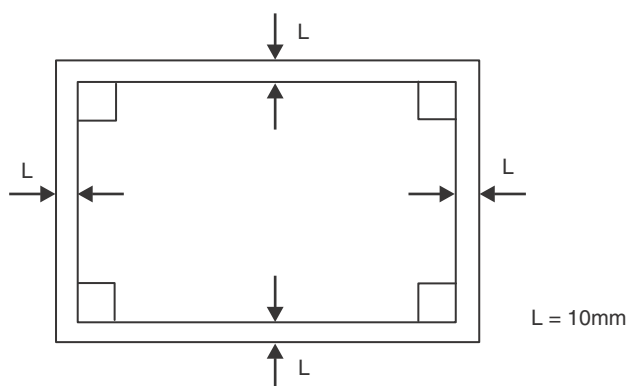


- 4) Adjust the position of the pulley angle on the front frame side of the scanner unit B so that it is in contact with two stoppers on the front and the rear frames simultaneously.
- 5) With the scanner unit B in contact with both stoppers, fit the edge of the scanner unit A with the right edge of the frame, and fix the scanner unit A with the fixing screw.

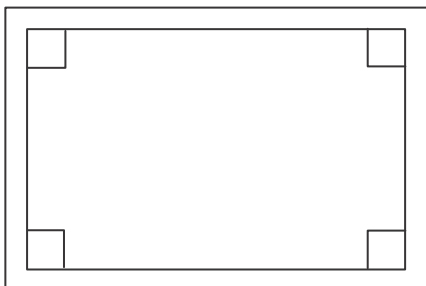


4-B Scan image (main scanning direction) distortion adjustment

- 1) Make a test chart on A3 (11" x 17") paper as shown below.
(Draw a rectangular with four right angles.)

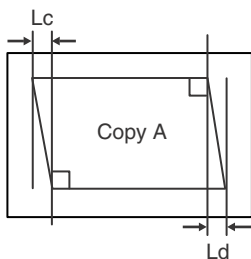


- 2) Set the test chart prepared in the procedure 1) on the document table, and make a copy on A3 (11" x 17") paper.
- 3) Check for distortion in the main scanning direction.
If the four angles of the rectangle of the copy image are right angles, it is judged that there is no distortion. (The work is completed.)



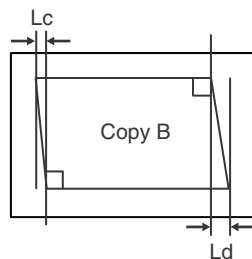
If there is any distortion in the main scanning direction, perform the following procedure.

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



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

$$Lc = Ld$$



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

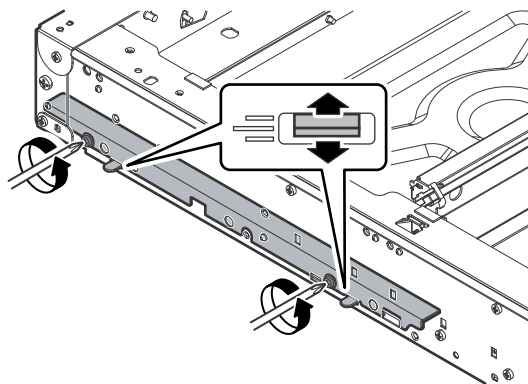
$$Lc \neq Ld$$

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

If the above condition is satisfied, go to the procedure 6).

If not, perform the following procedures.

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



Remove the lower cabinet of the operation panel. Loosen the scanner rail fixing screw to change the balance between the right and the left heights of the scanner rail.

Repeat the procedures 2) - 5) until the difference between the image distortions (distortion balance) is deleted.

- 6) Without changing the balance of the scanner rail on the front frame side, change the overall height.
- 7) Set the test chart prepared in the procedure 1) on the document table, and make a copy on A3 (11" x 17") paper. Check that the distortion in the main scanning direction is within the specified range.

Repeat the procedures 6) and 7) until the distortion in the main scanning direction is in the specified range.

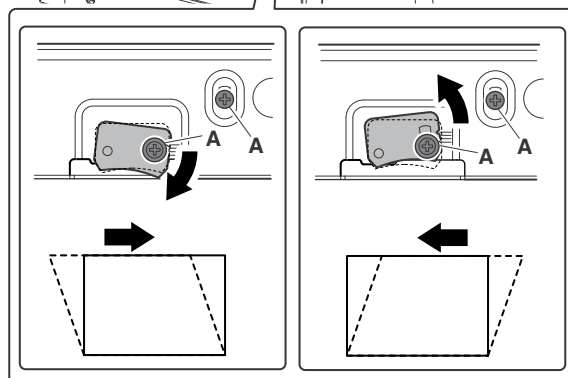
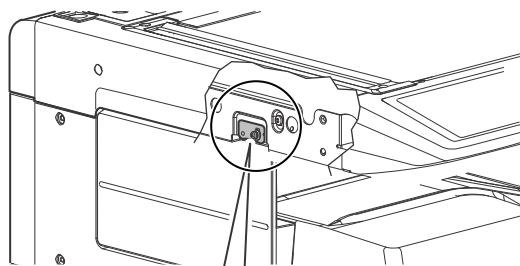
If the distortion in the sub scanning direction cannot be deleted with the above procedures, perform ADJ4C Scan image distortion adjustment (whole scanner unit).

4-C Scan image distortion adjustment (Whole scanner unit)

This adjustment is executed when scan image distortion cannot be adjusted with ADJ4A and ADJ4B related to the scan image distortion adjustment.

Change the upper and lower positions of the scanner unit distortion adjustment plate on the right edge of the scanner unit so that the scan image distortion is minimized. By adjusting the distortion of the whole scanner unit, the scan image distortion is adjusted.

- 1) Loosen the fixing screw (A).
- 2) Adjust the scanner unit distortion adjustment plate.



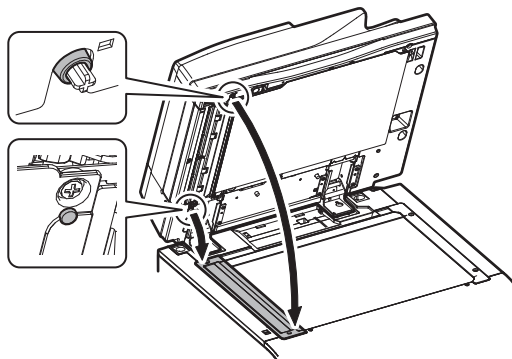
ADJ 5 Scanner image skew adjustment (DSPF mode)

5-A DSPF parallelism adjustment

This adjustment must be performed in the following cases:

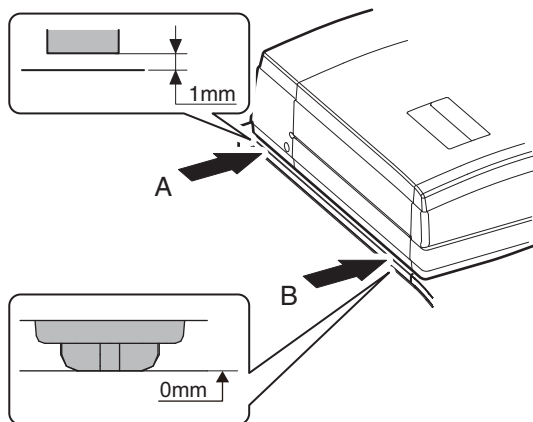
- * The DSPF section has been disassembled.
- * The DSPF unit has been replaced.
- * When a DSPF JAM is generated.
- * When a skew is generated in the document feed operation.
- * When there is a distortion (skew) in the scan image in the DSPF unit.

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

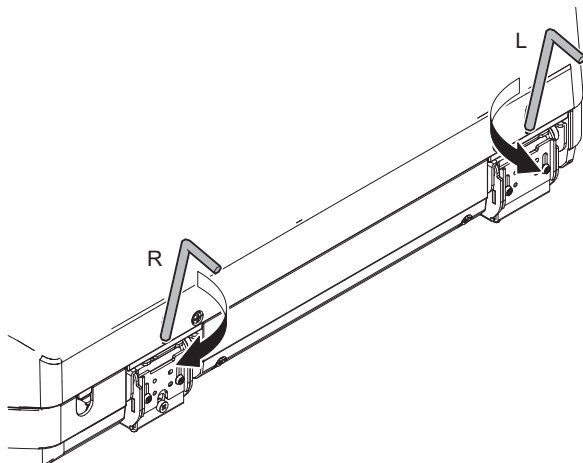


- 2) Visually check to insure that the clearance A is 1mm or less and the clearance B is 0mm (in contact).

If the above requirement is not met, do step 3).



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

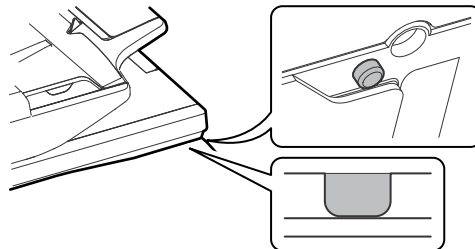


When the front frame side is higher (there is a clearance in B): Turn the height adjustment screw R of the DSPF rear frame clockwise.

When the rear frame side is higher (clearance A is more than 1mm): Turn the height adjustment screw L of the DSPF rear frame counterclockwise.

Repeat steps 2) to 3) until an acceptable result is obtained.

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



5-B DSPF skew adjustment (Front surface mode)

This adjustment must be performed in the following cases:

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

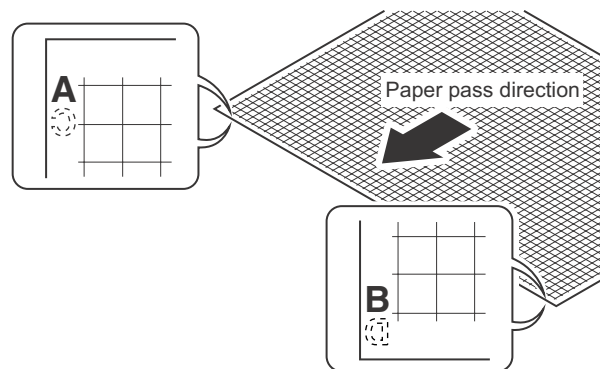
- 1) Make an adjustment chart.

Print the self print pattern (grid pattern) of SIM64-2 in the duplex print mode.

SIM64-2 set value

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.



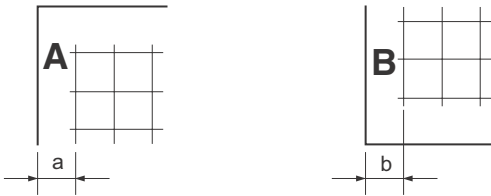
- 2) Copy the adjustment chart (created in step 1) to A3 (11" x 17") paper in DSPF duplex mode, and then check the image for skews (Set in the DSPF feed tray so that the mark on the adjustment chart is at the edge).

- Check with one of the following methods.

[Check Method 1]

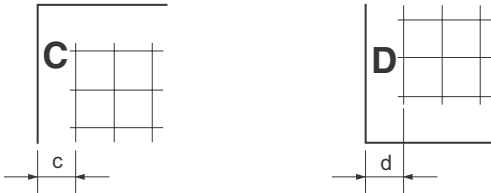
(Front side)

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



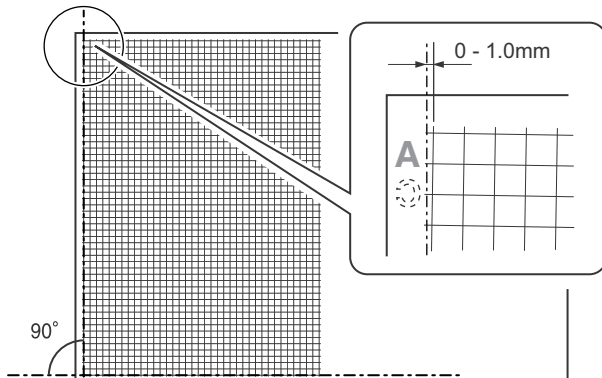
(Back side)

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



[Check Method 2]

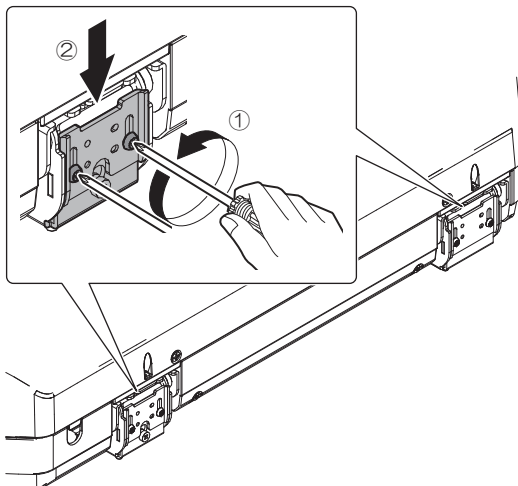
Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0mm.



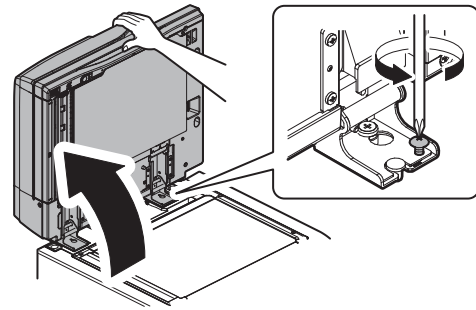
If the front surface copy image is as shown above and the back surface copy is not as shown above, go to the step 3) of "ADJ5C DSPF skew adjustment (Back surface mode)."

If the above requirement is not met for the paper's front side, then do step 3).

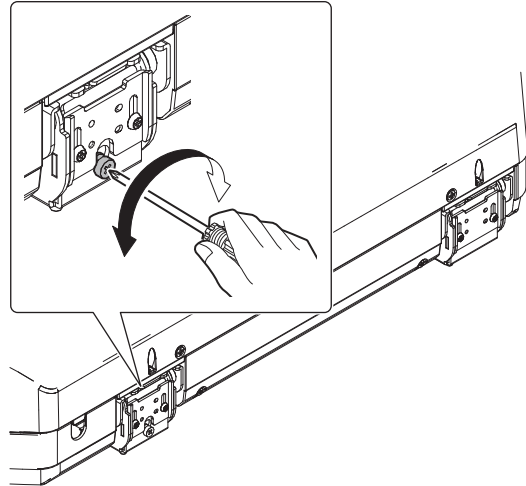
- 3) Loosen the hinge screws and lower the two attachments.



- 4) Open the DSPF and loosen the screw.



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



[When the main scanning direction print line is shifted to the left]

If $a < b$, then turn counterclockwise the DSPF skew adjusting screw.

[When the main scanning direction print line is shifted to the right]

If $a > b$, then turn clockwise the DSPF skew adjusting screw.

Repeat steps 2) to 5) until an acceptable result is obtained.

5-C DSPF skew adjustment (Back surface mode)

This adjustment must be performed in the following cases:

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

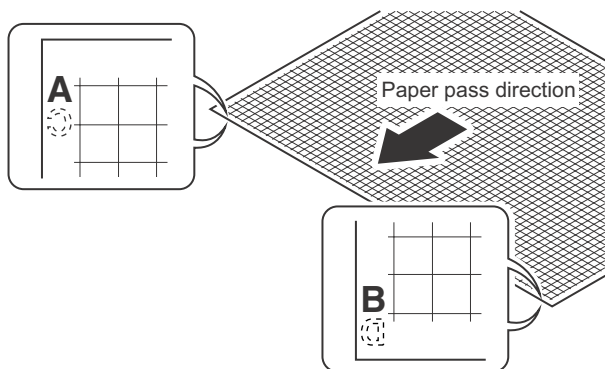
- 1) Make an adjustment chart.

Print the self print pattern (grid pattern) of SIM64-2 in the duplex print mode.

SIM64-2 set value

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.



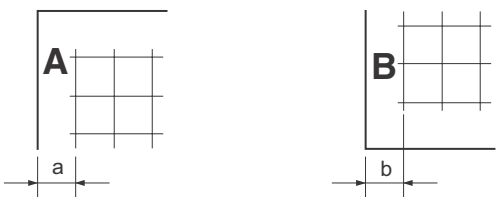
- 2) Copy the adjustment chart (created in step 1) to A3 (11" x 17") paper in DSPF duplex mode, and then check the image for skews (Set in the DSPF feed tray so that the mark on the adjustment chart is at the edge).

- Check with one of the following methods.

[Check Method 1]

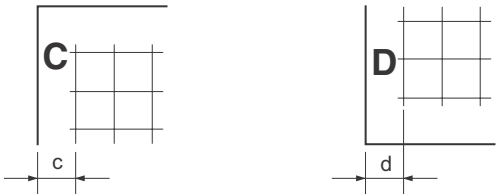
(Front side)

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



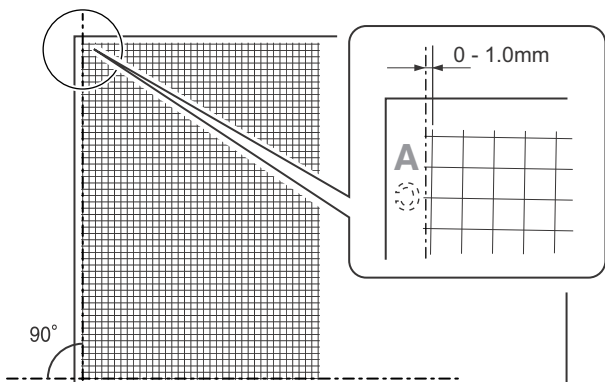
(Back side)

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



[Check Method 2]

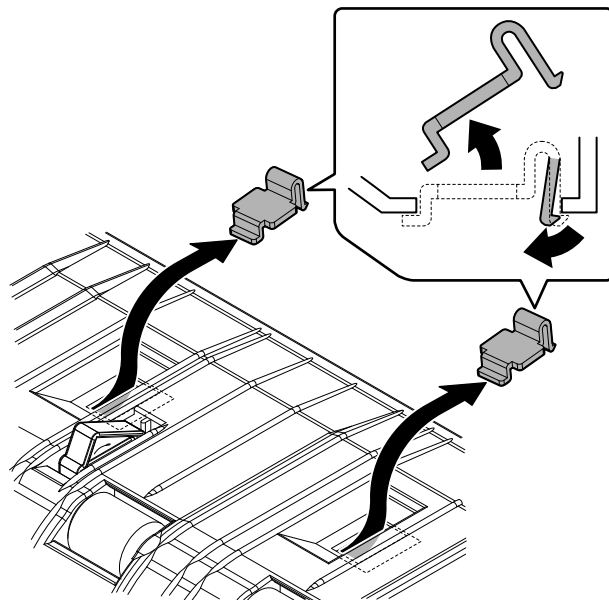
Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0mm.



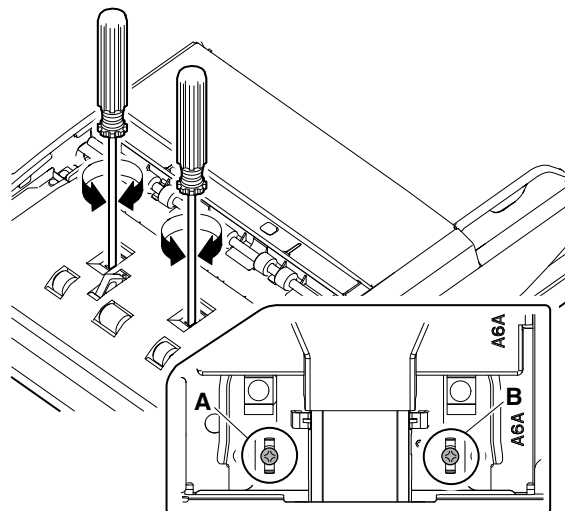
If the back surface copy image is as shown above and the front surface copy is not as shown above, go to the step 3) of "ADJ5B DSPF skew adjustment (Front surface mode)."

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

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



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



[When the main scanning direction print line is shifted to the left]

If $c < d$, turn the DSPF skew adjustment screw A counterclockwise, or turn the adjustment screw B clockwise.

[When the main scanning direction print line is shifted to the right]

If $c > d$, turn the DSPF skew adjustment screw A clockwise, or turn the adjustment screw B counterclockwise.

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

Repeat steps 2) to 5) until an acceptable result is obtained.

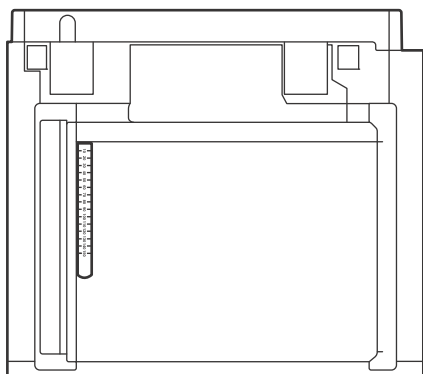
ADJ 6 Scan image focus adjustment

6-A Image focus adjustment (Document table mode/DSPF front surface mode)

This adjustment must be performed in the following cases:

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

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

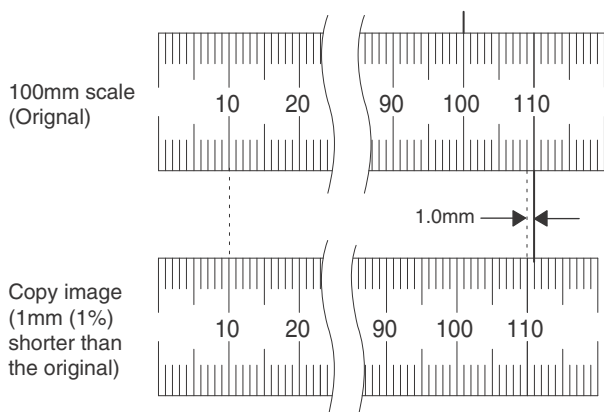


- 4) Make a normal copy on A4 paper.
Go to the copy mode, and make a copy.
- 5) Compare the copied image of the scale and the actual scale length in terms of length.
- 6) Obtain the copy magnification ratio correction ratio in the main scanning direction from the following formula.

Main scanning direction copy magnification ratio correction ratio = (Original size - Copy image size) / Original size x 100%
(Example)

Compare the scale of 10mm with the scale of 10mm on the copy image.

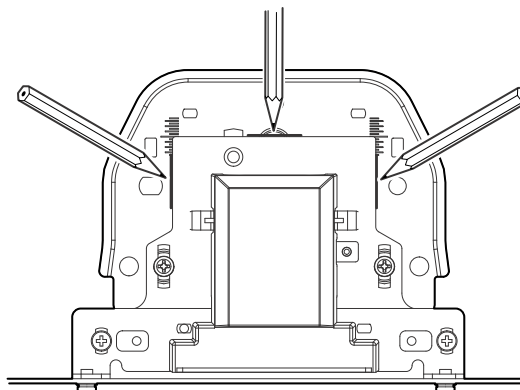
Main scanning direction copy magnification ratio correction ratio = (100 - 99) / 100 x 100 = 1



If the copy magnification ratio is not satisfactory, perform the following procedures.

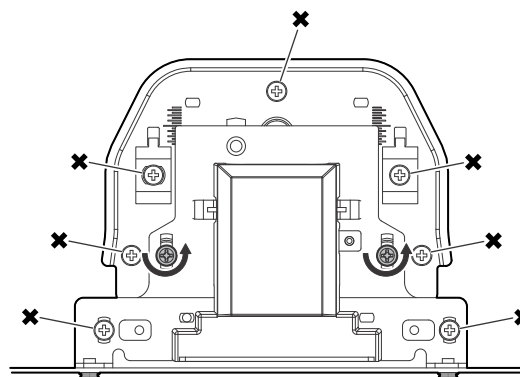
- 7) Remove the document table glass.
- 8) Remove the dark box cover.

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



NOTE: This procedure must be executed also when the CCD unit is replaced.

- 10) Loosen the CCD unit fixing screws.



NOTE: Never loosen the screws marked with X.

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

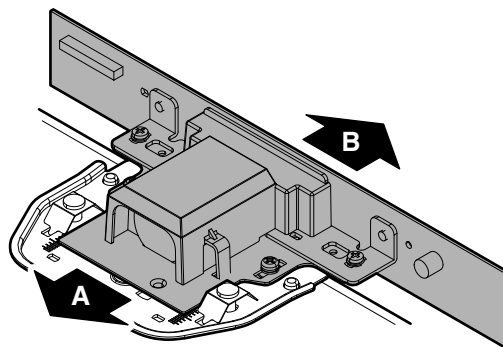
- 11) Slide the CCD unit in the arrow direction (CCD sub scanning direction) to change the installing position.

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

One scale of mark-off line corresponds to 0.2%.

At that time, fix the CCD unit so that it is in parallel with the scale on the front and the rear side of the CCD unit base.

* Fix the CCD unit so that it is in parallel with the line marked in procedure 9).



- 12) Make a copy and check the copy magnification ratio again.

If the copy magnification ratio is not in the range of 100 +/- 0.5%, repeat the procedures of 9) - 11) until the condition is satisfied.

NOTE: By changing the CCD unit fixing position with the simulation 48-1 adjustment value at 50, the copy magnification ratio is adjusted within the specified range (100 +/- 0.5%) and the specified resolution is obtained based on the optical system structure.

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

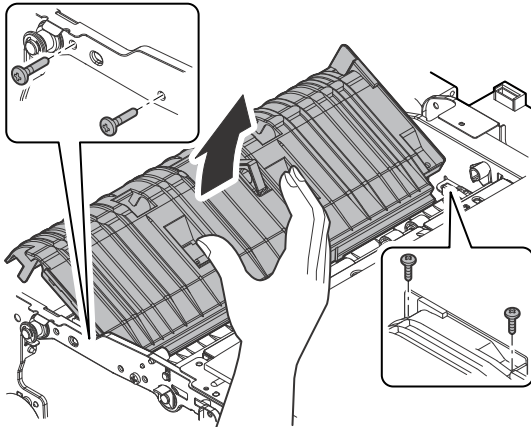
This adjustment must be performed in the following cases:

- * When the DSPF CCD unit is replaced.
- * When the DSPF CCD unit is replaced.
- * When the COPY/SCAN/FAX image focus is not properly adjusted.
- * When the DSPF unit is removed.
- * When the DSPF unit is replaced.

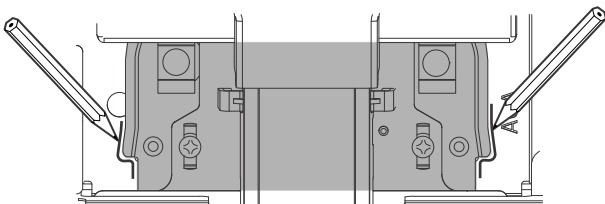
- 1) Make a duplex copy in DSPF mode.
- 2) Make sure that the copied image on the back side of the paper is satisfactorily focused.

If the image is not satisfactorily focused, do the following steps.

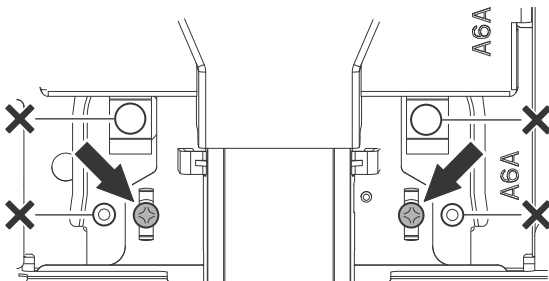
- 3) Open the door. Remove the screws, and remove the transport PG upper.



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



- 5) Loosen the CCD unit fixing screws (4 pcs.).



- * **Never loosen the screws marked with X.**

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

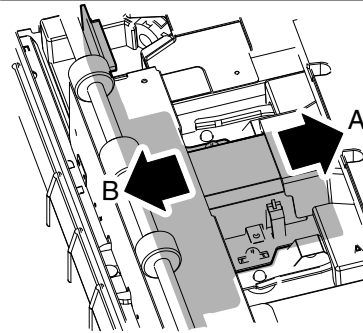
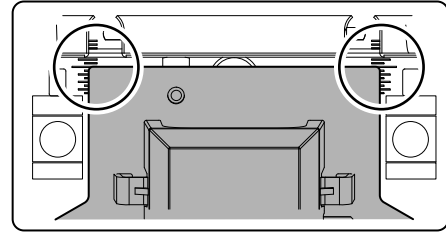
- 6) Slide the CCD unit in the arrow direction (CCD sub scanning direction) to change the installing position.

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

One scale of mark-off line corresponds to 0.2%.

At that time, fix the CCD unit so that it is in parallel with the scale on the front and the rear side of the CCD unit base.

- * Fix the CCD unit so that it is in parallel with the line marked in procedure 4).



- 7) Make a copy and check the copy magnification ratio again. If the copy magnification ratio is not in the range of 100 +/- 0.5%, repeat the procedures of 4) - 6) until the condition is satisfied.

NOTE: By changing the CCD unit fixing position with the simulation 48-1 adjustment value at 50, the copy magnification ratio is adjusted within the specified range (100 +/- 0.5%) and the specified resolution is obtained based on the optical system structure.

ADJ 7 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 3	Print engine image distortion adjustment / OPC drum phase adjustment / Color registration adjustment (Print engine section)	50-20/22

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 1	Adjust the developing unit	ADJ 1A Adjust the developing doctor gap	
		ADJ 1B Adjust the developing roller main pole position	
		ADJ 1C Toner density control reference value setting	25-2
ADJ 2	High voltage adjustment	ADJ 2A Adjust the main charger grid voltage	8-2
		ADJ 2B Adjust the developing bias voltage	8-1
		ADJ 2C Transfer current/voltage adjustment	8-6
ADJ 6	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.

There are following four, major cases.

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

(3) Copy color balance and density check

CAUTION: 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

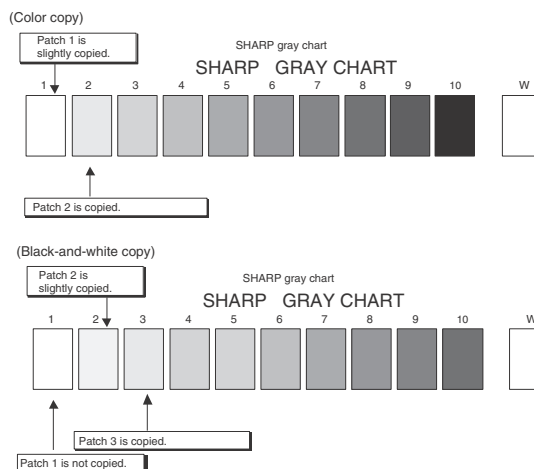
To check the density, use the gray test chart (UKOG-0162FCZZ). Set the copy density level to "Manual 3" in the Text/Printed Photo mode (Manual).

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)

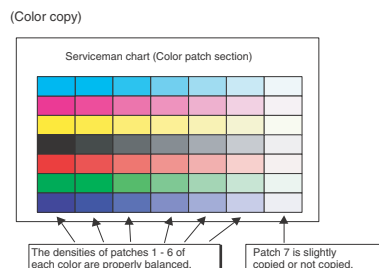
In the copy density check with the gray test chart, check to insure the following conditions.

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



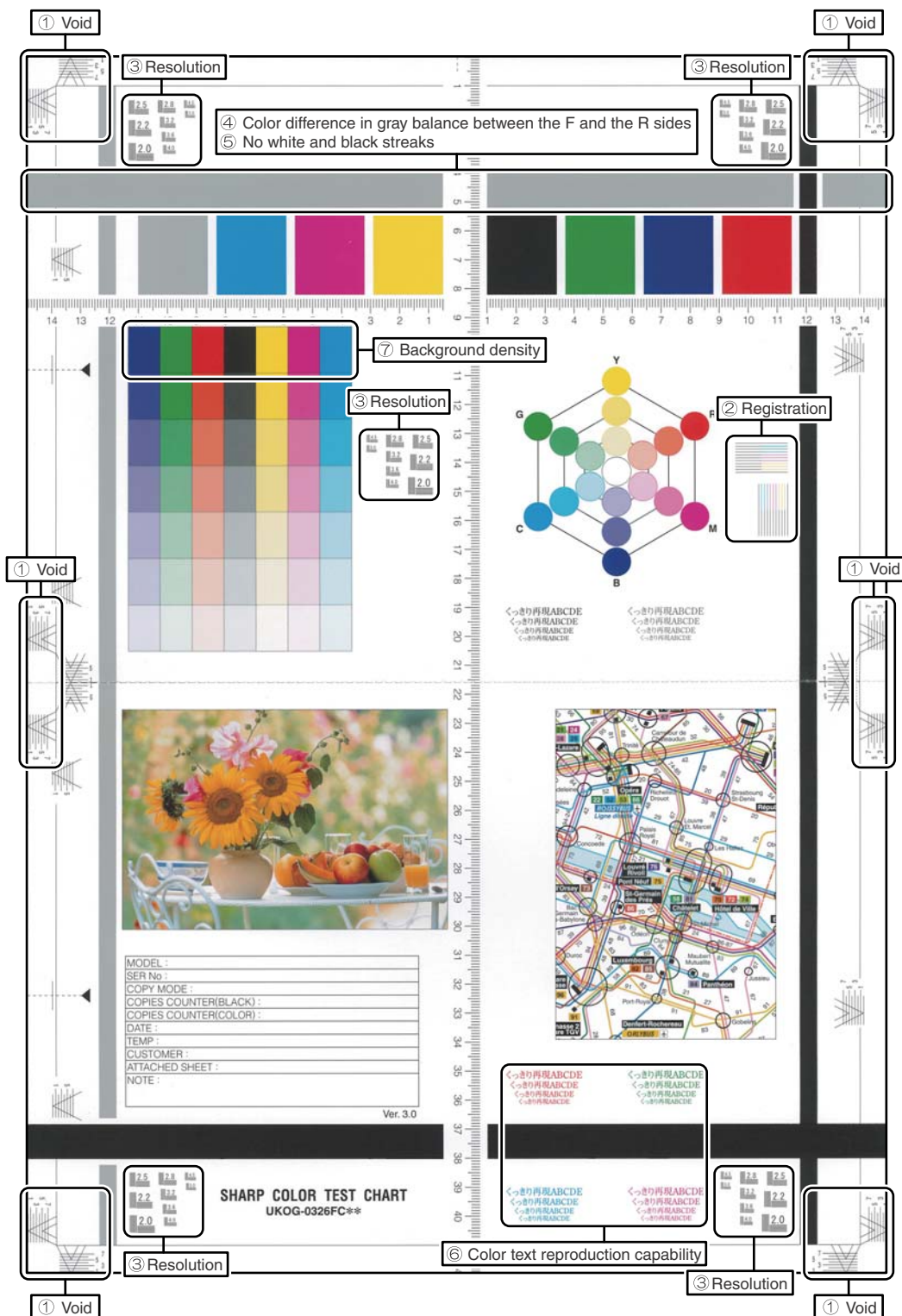
Check with the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11)

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



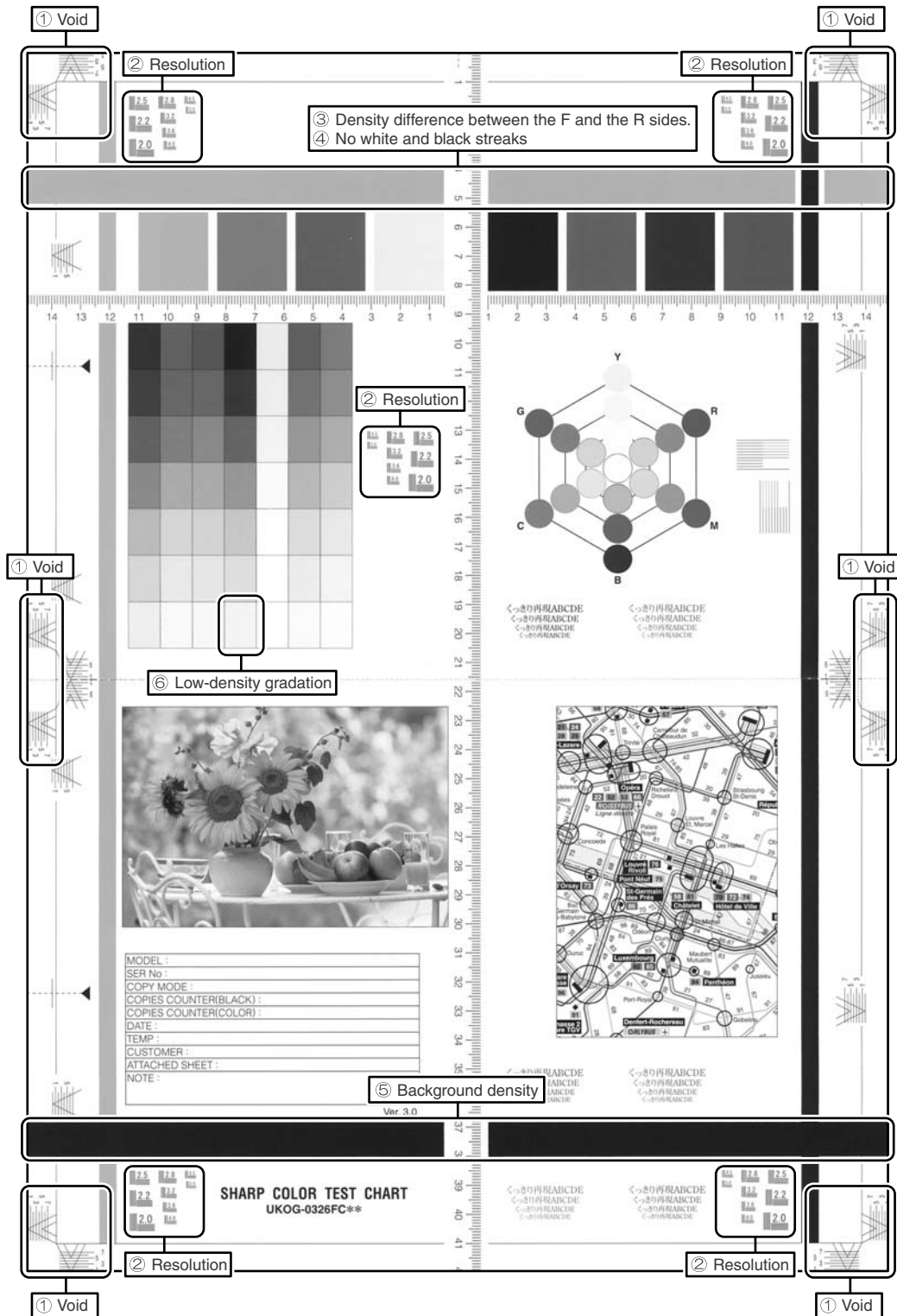
Color copy check items (Check to confirm the following:)

- 1) There are 12 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 (5 points) 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.



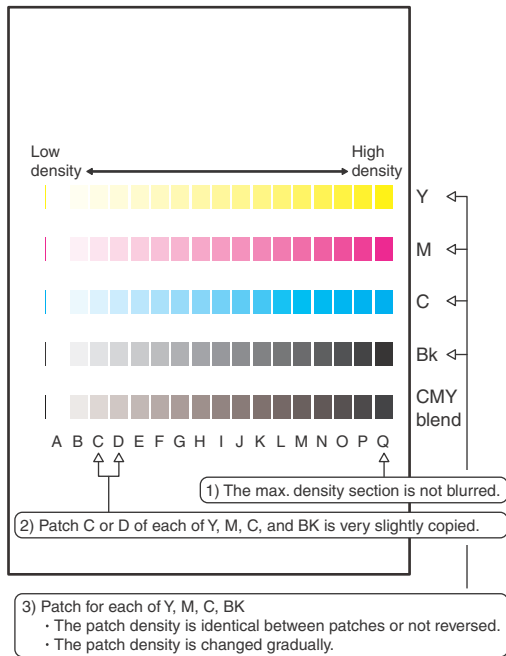
Monochrome copy check items (Check to confirm the following:)

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

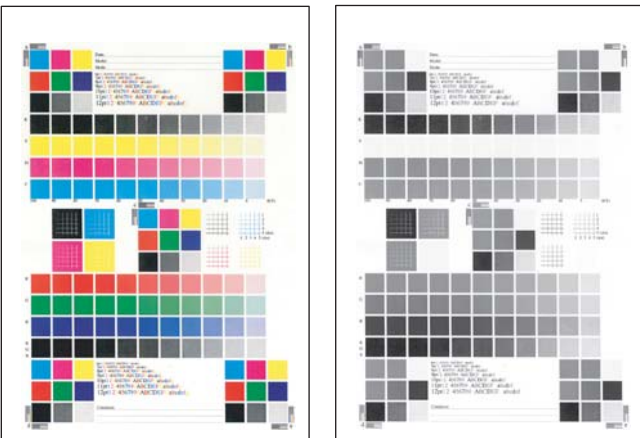
CAUTION: Before checking the copy color balance and the density, be sure to execute the following procedures in advance.

- * 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.

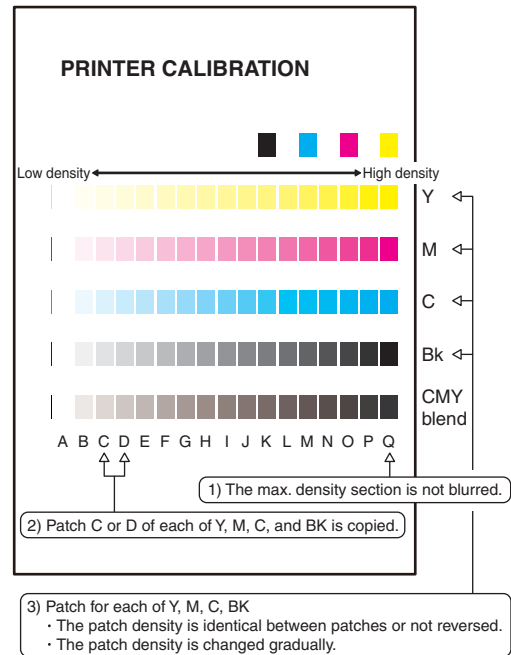
Set each set value to the default and press [EXECUTE] key. The print test pattern is printed.



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.)

7-A Scanner calibration (CCD calibration)

This adjustment must be performed in the following cases:

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

(1) Note before adjustment

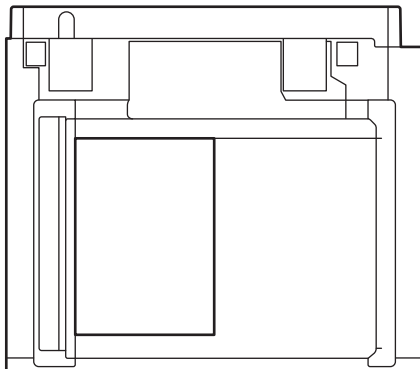
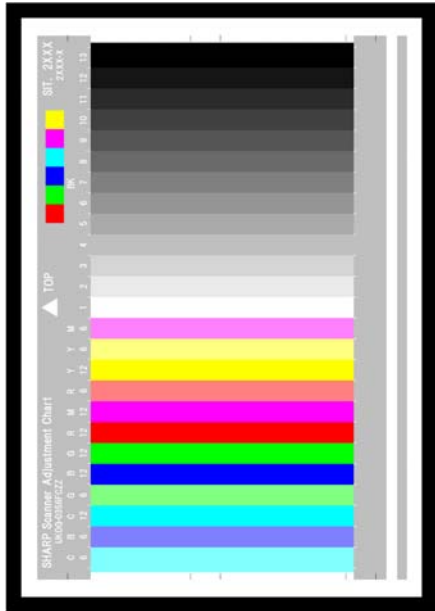
- Check that the table glass, No. 1, 2, 3 mirrors, and the lens surface are free from dirt and dust. (If there is some dust and dirt, wipe and clean with alcohol.)
- Check to confirm that the SIT chart (UKOG-0356FCZZ) are free from dirt and scratches.

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 in order that the arrow mark is placed 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.

- 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.

SET 1 Color balance adjustment target setup

a. General

When the automatic color balance adjustment is executed, a certain color balance (gamma) is used as the target.

There are following three kinds of the target.

- Factory color balance (gamma) target
- Service color balance (gamma) target
- User color balance (gamma) target

In the above three, only the service color balance target can be set to a desired level.

This setting is required in the following cases.

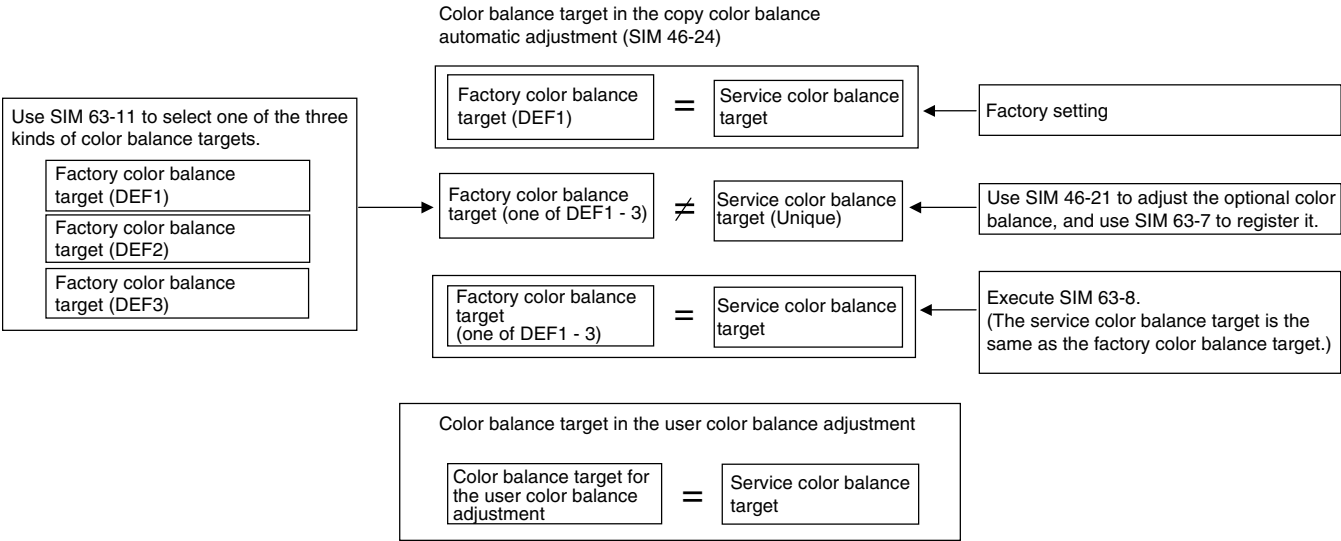
- * When the color balance and density adjustments are executed manually (SIM46-21) (SIM67-25)
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.
- * When the EEPROM on the MFP PWB is replaced.
- * The scanner control PWB has been replaced.
- * The EEPROM on the scanner control PWB has been replaced.
- * When the user requests for customizing the color balance.
- * When the service color balance target gamma is judged as improper.

SET 1A Copy color balance adjustment target setup

Each color balance target for the copy color balance adjustment

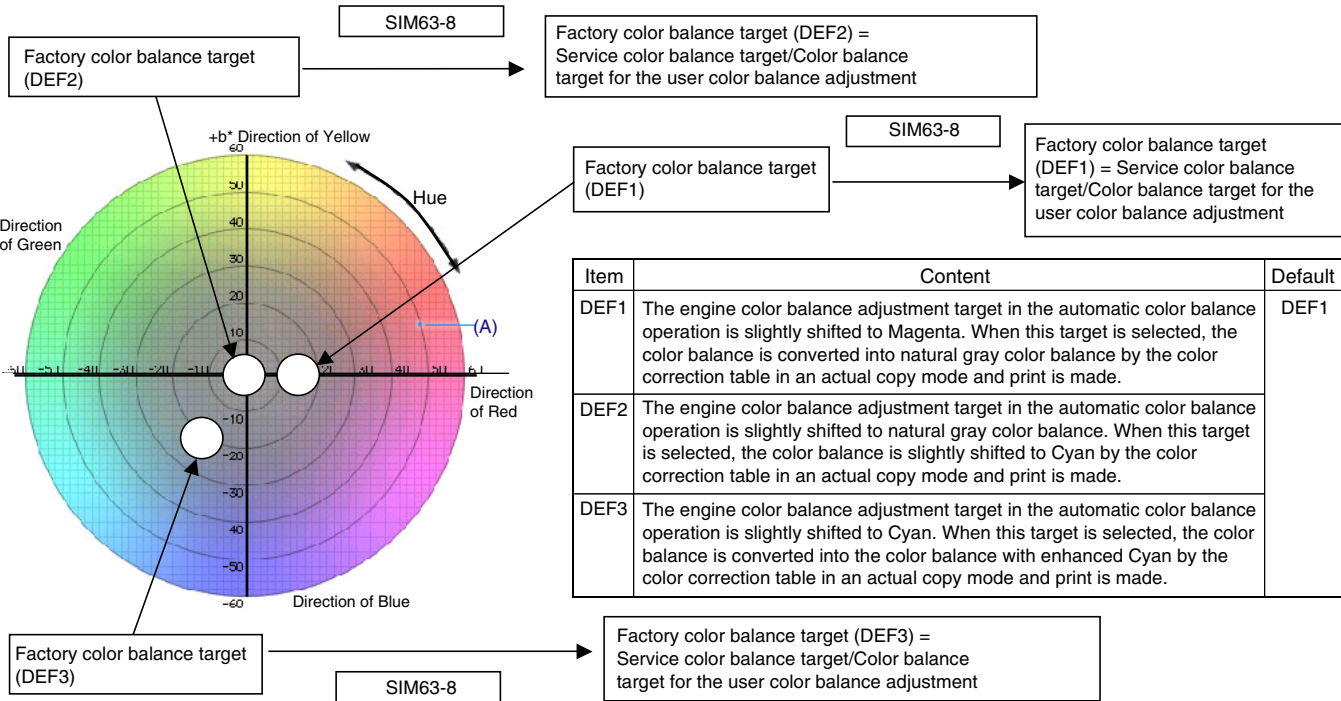
Type		Descriptions
A	Factory color balance (gamma) target	There are three kinds of the color balance target, and each of them is specified according to the machine design. Use SIM 63-11 to select one of them as the factory target. The default setting (factory setting) is the color balance (DEF1) which emphasizes color reproduction.
B	Service color balance (gamma) target	<p>This target is used when the user requests to customize the color balance to user's desired level. In advance, the user's unique color balance must be registered as the service color balance target. The above registration (setting) is made by the serviceman with SIM 46-21 to adjust the color balance and with SIM 63-7 to register it.</p> <p>This color balance target is used when the user executes the color balance adjustment. When, therefore, the service color balance target is changed, the color balance target of the user's color balance adjustment is also changed.</p> <p>When, however, SIM 63-8 is executed, the color balance is set to the factory color balance target set with SIM 63-11. The default setting (factory setting) of the color balance is same as the factory color balance target. (Emphasized on color reproduction (DEF1))</p> <p>If the user does not request for customizing the color balance, be sure to use SIM 63-8 to set the color balance to the factory color balance target.</p>
C	User color balance (gamma) target	Same color balance as the service color balance (gamma) target When the service color balance target is changed, this color balance target is also changed accordingly.

Relationship between the factory target and the service target and the color balance target for the user color balance adjustment in the copy color balance adjustment (Automatic adjustment) (SIM 46-74/46-24)



Factory target in the copy color balance adjustment (SIM 46-74/46-24)

By use of SIM 63-11, one of the following color balances can be set as the factory color balance target. Each of the three color balances cannot be changed. (Fixed)



Service color balance target in the copy color balance adjustment ((Automatic adjustment) SIM 46-74/46-24).

For the service color balance target, an optional color balance can be adjusted with SIM 46-21 and registered with SIM 63-7. When, however, SIM 63-8 is executed, the color balance is set to the same balance as the factory color balance target set with SIM 63-11.

Color balance target in the user color balance adjustment

This color balance is same as the service color balance target in the copy color balance adjustment (Automatic adjustment) (SIM 46-74/46-24). When, therefore, the service color balance target is changed, this target is also changed accordingly.

Meaning of the service color balance target gamma data and the purpose of registration

This procedure must be executed only when the color balance is customized with SIM 46-21.

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

After completion of the customized color balance adjustment (Manual) with SIM 46-21 according to the user's request, use SIM 63-7 to register the service color balance target data by using adjustment pattern that was printed in this mode.

CAUTION: In this case, be sure to use A4 or 11" x 8.5" paper for printing the adjustment pattern by SIM 46-21.

By this procedure, the service color balance target is revised.

It is recommended to keep the printed adjustment pattern created with SIM 46-21. This adjustment pattern can be used to register the same color balance target to another machine.

It is also useful to register the service color balance target data. Do not fold it and keep it under the circumstances which protect it from discoloration and dirt.

The service color balance target data is registered immediately after the color balance adjustment (Manual) with SIM 46-21.

If a considerable time has passed after completion of the color balance adjustment (Manual) with SIM 46-21, the color balance of the adjustment pattern at the time of adjustment differs from the color balance of the adjustment pattern printed after a considerable time. Never use such a pattern for the adjustment.

The accuracy of the service color balance target data can be judged as follows.

When result of the color balance adjustment (Auto) with selecting the service color balance target in SIM 46-74/46-24 is unsatisfactory or abnormal.

In that case, the registered service target data for the color balance adjustment (Auto) may be improper.

This may be caused when an improper or abnormal color balance adjustment pattern was used to register the service color balance target data for the color balance adjustment with SIM 63-7.

The color balance adjustment pattern used in registration was made and printed by the color balance adjustment (Manual) with SIM 46-21. This procedure may have been executed erroneously

a. Setting procedure

(Setting procedure of an optional color balance (gamma) as the service color balance target)

- 1) Use SIM 46-21 (Copy color balance adjustment (manual adjustment) mode) to print two sheets of the color patch image (adjustment pattern).

CAUTION: In this case, be sure to use A4 or 11" x 8.5" paper for printing the adjustment pattern by SIM 46-21.

If the color balance is shifted from the standard, an adjustment is required. If not, an adjustment is not required. When an optional color balance is requested by the user, make an adjustment.

- 2) Enter the SIM 63-7 mode.
- 3) Press [SETUP] key.
- 4) Set the color patch image (adjustment pattern) correctly adjusted and printed in the copy color balance adjustment (Manual adjustment) (SIM 46-21) (ADJ7C (2)) on the document table.

The color patch image (adjustment pattern) printed with SIM 64-7 can be used instead. In this case, however, check that the printed pattern is normal.

(When the color patch image (adjustment pattern) is printed by SIM 64-7, set the item B (PROC ADJ) to "0 (YES)" and press [EXECUTE] key to print.)

A color patch image (adjustment pattern) printed by another machine can be used.

Set the pattern so that the light density side is on the left side. Place 5 sheets of white paper on the color patch image (adjustment pattern).

If the color balance could not be adjusted satisfactorily with SIM 46-21 (Color balance adjustment (Manual)), do not execute SIM 63-7 to register the service color balance target data.

- 5) Press [EXECUTE] key.

The color patch image (adjustment pattern) is read.

- 6) Press [REPEAT] key, set the second color patch image (adjustment pattern), and execute the procedure 5) again.

The color balance (gamma) target set level of each color (KCMY) can be checked with K/C/M/Y keys.

Check that the set level is increased in the sequence of B - P (MAX). If there is no variation or variation is reversed, it is judged as abnormal.

In case of an abnormality, repair the problem and try again.

- 7) Press [OK] key.

The color balance (gamma) of the color patch image (adjustment pattern) used in the procedure 5) is set as the service target.

(Procedures to set the service color balance target and the color balance target for the user color balance adjustment to the same color balance as the factory color balance target)

CAUTION: This procedure must not be executed when the copy color balance was adjusted with SIM 46-21 to a unique color balance requested by the user and it was registered as the service color balance target with SIM 63-7.

When the factory color balance target is changed with SIM 63-11, be sure to execute this procedure.

- 1) Enter the SIM 63-8 mode.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

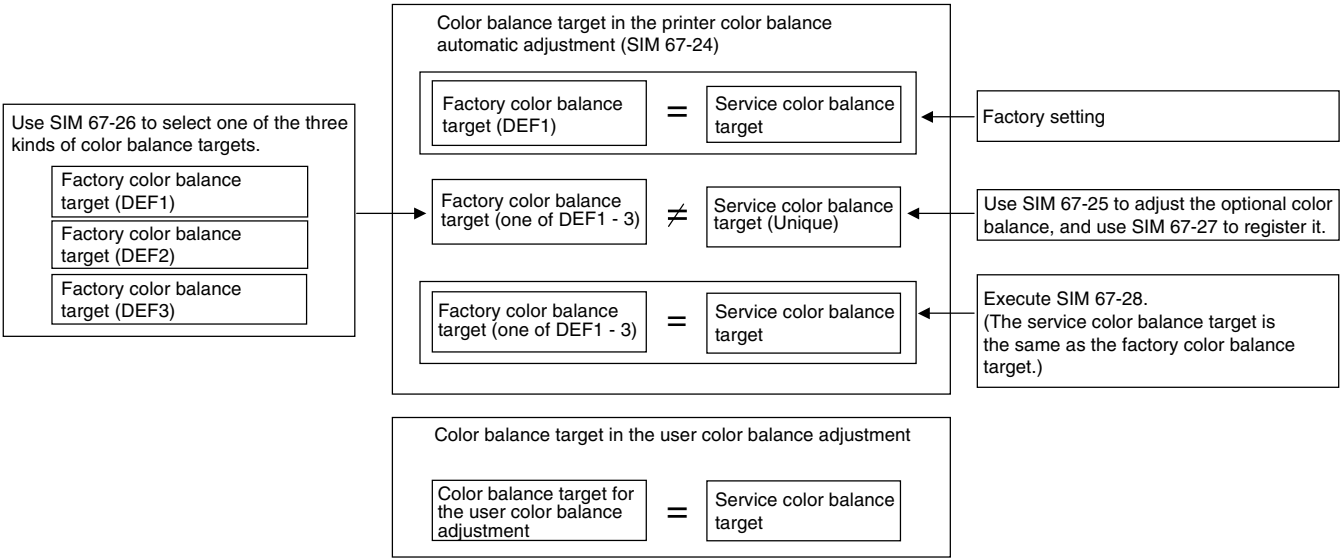
The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

SET 1B Printer color balance adjustment target setup

Color balance target for the printer color balance adjustment

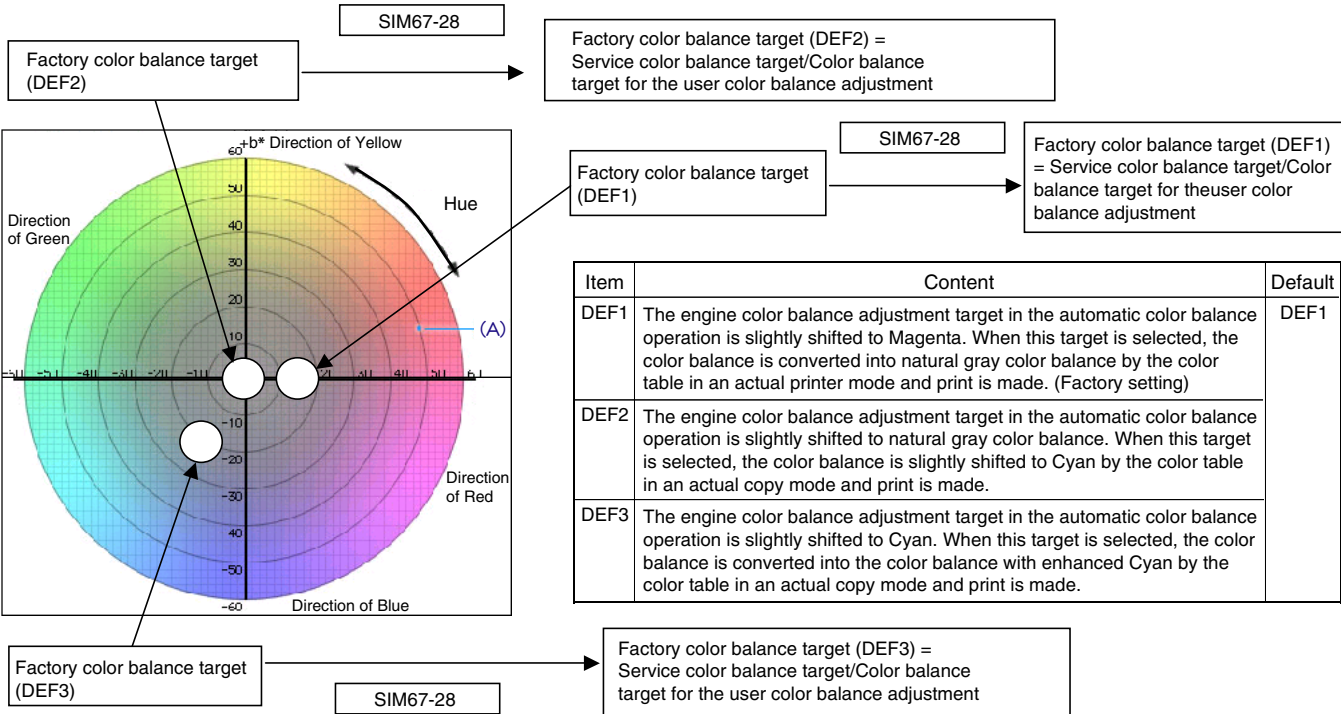
Type		Descriptions
A	Factory color balance (gamma) target	There are three kinds of the color balance targets, and each of them is specified according to the machine design. Use SIM 67-26 to select one of them as the factory target. The default setting (factory setting) is the color balance (DEF1) which emphasizes color reproduction.
B	Service color balance (gamma) target	This target is used when the user requests to customize the color balance to user's desired level. In advance, the user's unique color balance must be registered as the service color balance target. The above registration (setting) is made by the serviceman with SIM 67-25 to adjust the color balance and with SIM 67-27 to register it. This color balance target is used when the user executes the color balance adjustment. When, therefore, the service color balance target is changed, the color balance target of the user's color balance adjustment is also changed. When, however, SIM 67-28 is executed, the color balance is set to the factory color balance target set with SIM 67-26. The default setting (factory setting) of the color balance is same as the factory color balance target. (Emphasized on color reproduction (DEF1)) If the user does not request for customizing the color balance, be sure to use SIM 67-28 to set the color balance to the factory color balance target.
C	User color balance (gamma) target	Same color balance as the service color balance (gamma) target When the service color balance target is changed, this color balance target is also changed accordingly.

Relationship between the factory target and the service target and the color balance target for the user color balance adjustment in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/67-24)



Factory target in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/67-24)

By use of SIM 67-26, one of the following color balances can be set as the factory color balance target. Each of the three color balances cannot be changed. (Fixed)



Service color balance target in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/67-24).

For the service color balance target, an optional color balance can be adjusted with SIM 67-25 and registered with SIM 67-27. When, however, SIM 67-28 is executed, the color balance is set to the same balance as the factory color balance target set with SIM 67-26.

Color balance target in the user color balance adjustment

This color balance is same as the service color balance target in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/67-24). When, therefore, the service color balance target is changed, this target is also changed accordingly.

Meaning of the service color balance target gamma data and the purpose of registration

This procedure must be executed only when the color balance is customized with SIM 67-25.

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

After completion of the customized color balance adjustment (Manual) with SIM 67-25 according to the user's request, use SIM 67-27 to register the service color balance target data by use of the printed adjustment pattern.

CAUTION: In this case, be sure to use A4 or 11" x 8.5" paper for printing the adjustment pattern by SIM 67-25.

By this procedure, the service color balance target is revised.

It is recommended to keep the printed adjustment pattern created with SIM 67-25. This adjustment pattern can be used to register the same color balance target to another machine.

It is also useful to register the service color balance target data. Do not fold it and keep it under the circumstances which protect it from discoloration and dirt.

The service color balance target data is basically registered immediately after the color balance adjustment (Manual) with SIM 67-25. If a considerable time has passed after completion of the color balance adjustment (Manual) with SIM 67-25, the color balance of the adjustment pattern at the time of adjustment differs from the color balance of the adjustment pattern printed after a considerable time. Never use such a pattern for the adjustment.

The correctness of the service color balance target data can be judged as follows.

When result of the color balance adjustment (Auto) with selecting the service color balance target in SIM 67-24 is unsatisfactory or abnormal.

In that case, the registered service target data for the color balance adjustment (Auto) may be improper.

This may be caused when an improper or abnormal color balance adjustment pattern was used to register the service color balance target data for the color balance adjustment with SIM 67-27.

The color balance adjustment pattern used in registration was made and printed by the color balance adjustment (Manual) with SIM 67-25. This procedure may have been executed erroneously.

a. Setting procedure

(Setting procedure of an optional color balance (gamma) as the service color balance target)

- 1) Use SIM 67-25 (Printer color balance adjustment (manual adjustment) mode) to print two sheets of the color patch image (adjustment pattern).

CAUTION: In this case, be sure to use A4 or 11" x 8.5" paper for printing the adjustment pattern by SIM 67-25.

If the color balance is shifted from the standard, an adjustment is required. If not, an adjustment is not required. When an optional color balance is requested by the user, make an adjustment.

- 2) Enter the SIM 67-27 mode.
- 3) Press [SETUP] key.
- 4) Set the color patch image (adjustment pattern) correctly adjusted and printed in the printer color balance adjustment (Manual adjustment) (SIM 67-25) (ADJ7E (2)) on the document table.

A color patch image (adjustment pattern) printed by another machine can be used.

Set the pattern so that the light density side is on the left side. Place 5 sheets of white paper on the color patch image (adjustment pattern).

This procedure must not be executed when the copy color balance (manual) was adjusted with SIM 67-25 to a unique color balance requested by the user and it was registered as the service color balance target with SIM 67-27.

- 5) Press [EXECUTE] key.
The color patch image (adjustment pattern) is read.
- 6) Press [REPEAT] key, set the second color patch image (adjustment pattern), and execute the procedure 5) again.
The color balance (gamma) target set level of each color (K, C, M and Y) can be checked with K/C/M/Y keys.
Check that the set level is increased in the sequence of B - P (MAX). If there is no variation or variation is reversed, it is judged as abnormal.
In case of an abnormality, repair the problem and try again.
- 7) Press [OK] key.
The color balance (gamma) of the color patch image (adjustment pattern) used in the procedure 5) is set as the service target.

(Procedures to set the service color balance target and the color balance target for the user color balance adjustment to the same color balance as the factory color balance target)

CAUTION: This procedure must not be executed when the copy color balance was adjusted with SIM 67-25 to a unique color balance requested by the user and it was registered as the service color balance target with SIM 67-27.

When the factory color balance target is changed with SIM 67-26, be sure to execute this procedure.

- 1) Enter the SIM 67-28 mode.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

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.

7-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 scanner control PWB has been replaced.
- * The EEPROM on the scanner control PWB has been replaced.

a. General

SIM46-74 is used to perform the automatic copy 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.

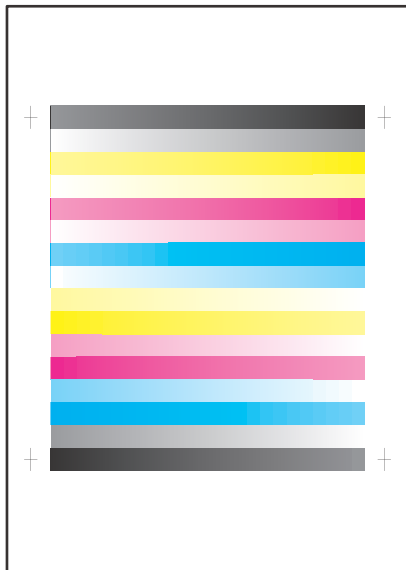
The color balance adjustment (automatic adjustment) is used to adjust the copy density of each of Cyan, Magenta, Yellow, and Black automatically.

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

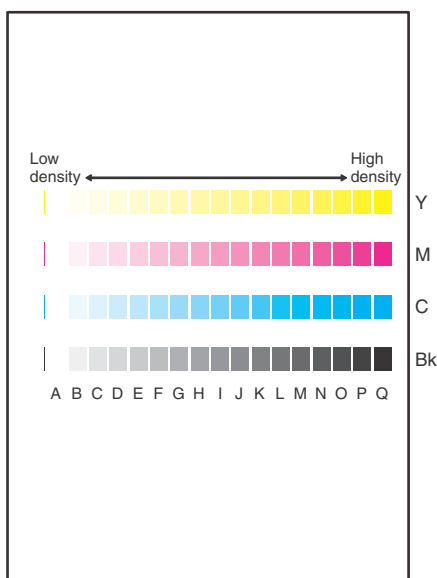
(Auto color balance adjustment by the serviceman)



- 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" or A3/11" x 17" paper is automatically selected.)
- 3) 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).

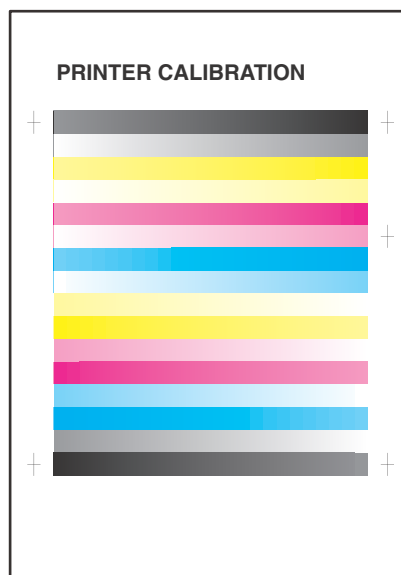


- 4) Select [FACTORY] target, and press [EXECUTE] key.
When the color balance is customized by the manual color balance adjustment (SIM 46-21) according to the user's request, and the color balance is registered with SIM63-7 as the service target, if the color balance is required to be adjusted, select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

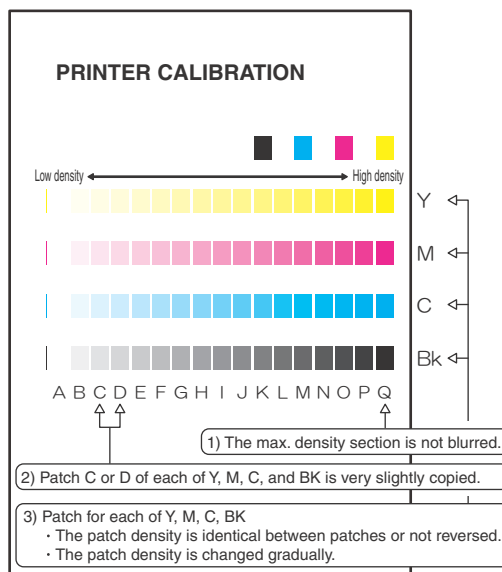


- 5) Press [EXECUTE] key.
The printer color patch image (adjustment pattern) is printed out. (A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.)

- 6) Set the color patch image (adjustment pattern) printed in the procedure 5) 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.



- 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.

CAUTION: The adjustment result becomes valid only when the both adjustments in the copy mode and in the printer mode are completed.

For example, if the copy color balance adjustment (automatic adjustment) is performed and the simulation is canceled, the adjustment result is invalid.

- 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 (ADJ 8C (2)).

Also when the service target is selected in procedure 4) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment (ADJ 8C (2)).

- 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 execute SIM67-28 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) (ADJ 8E (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 8E (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.

7-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 scanner control PWB has been replaced.
- * The EEPROM on the scanner control PWB has been replaced.

7-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.

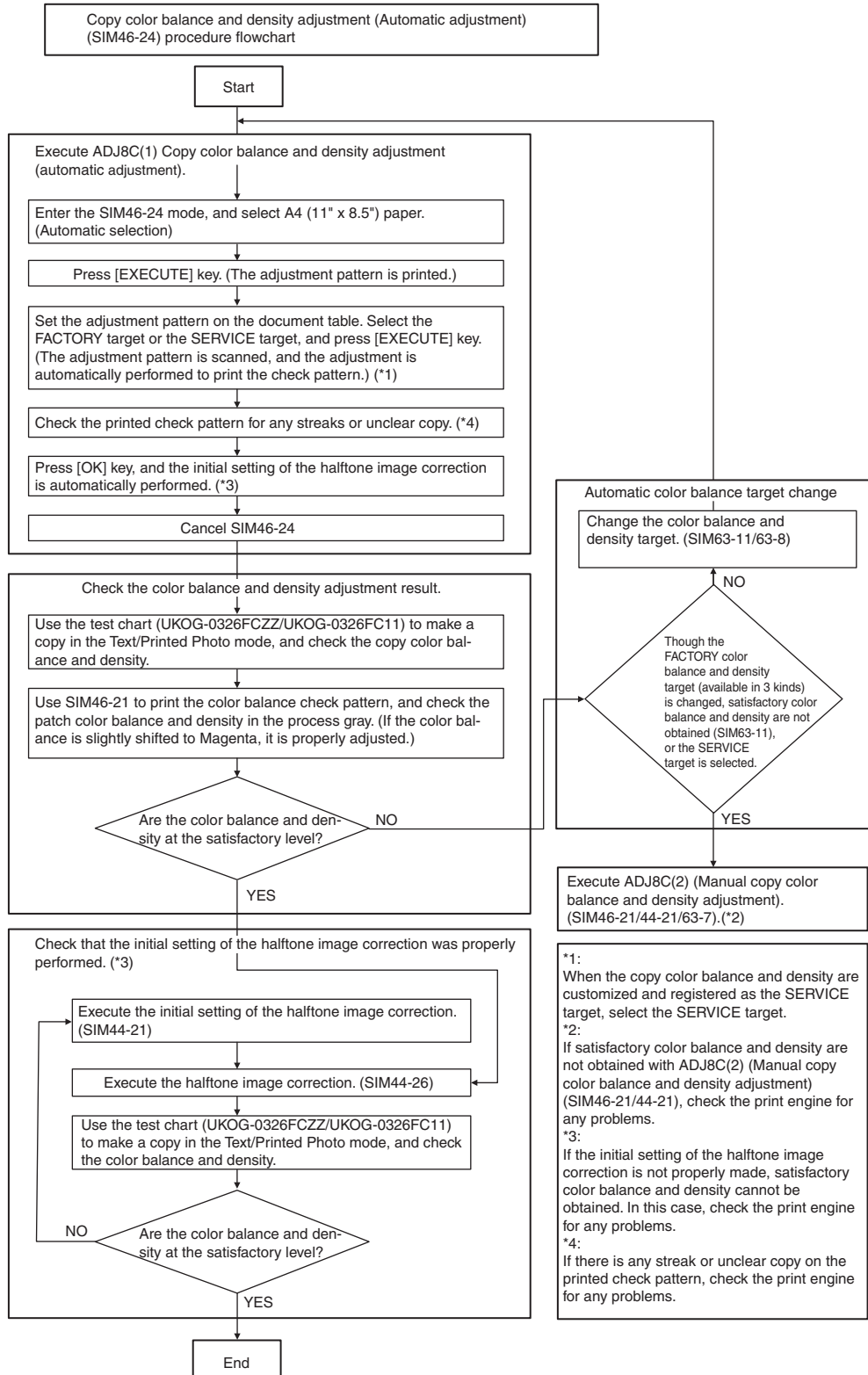
When, however, the machine has a fatal problem or when the machine condition is greatly changed, this function does not work effectively.

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.

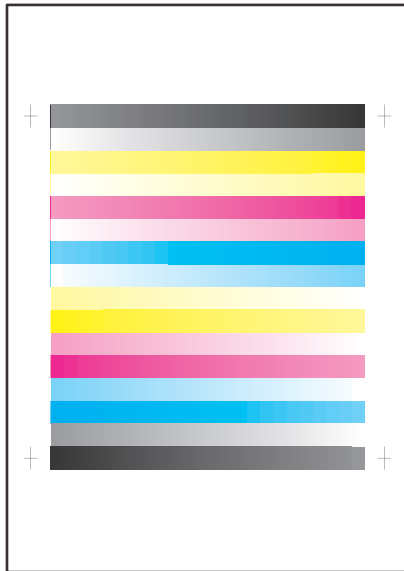
b. Adjustment procedure

(Auto color balance adjustment by the serviceman)



- 1) Enter the SIM 46-24 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" or A3/11" x 17" 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.

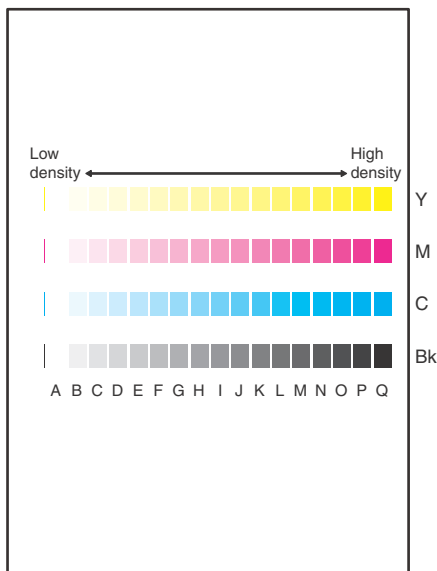
Place the printed color patch image (adjustment pattern) paper on the document table so that the thin lines on the paper are on the left side. Place 5 sheets of white paper on the printed color patch image (adjustment pattern) paper.



- 4) Select [FACTORY] 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.

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 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.
- 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) (ADJ7C (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 (ADJ7C(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.

7-C (2)

Copy color balance and density adjustment (Manual adjustment)

a. General

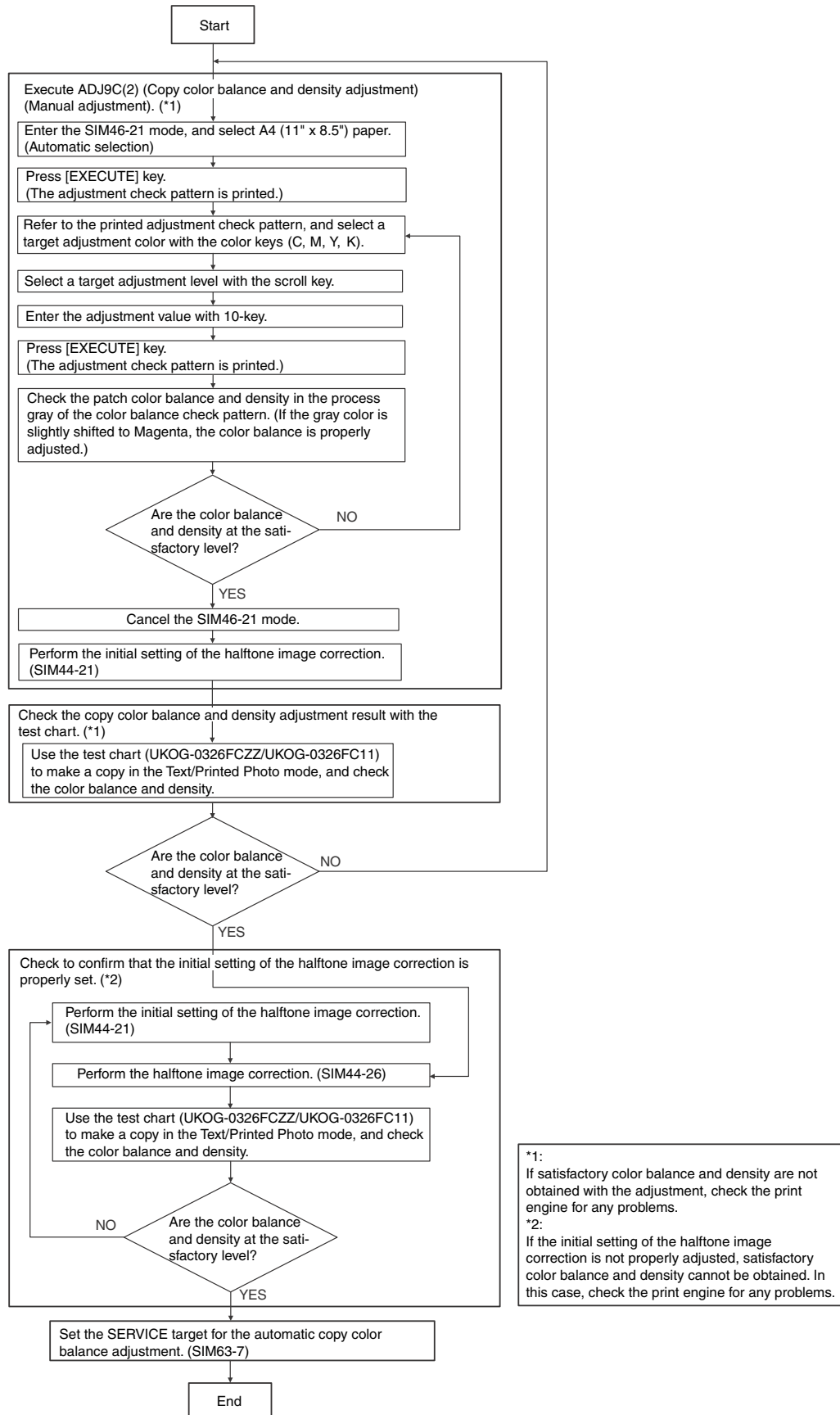
The color balance adjustment (Manual adjustment) is used to adjust the copy density of CMYK. This is used at the following situation. When the result of auto adjustment described above is not existing within the range of reference. When a fine adjustment is required. When there is request from the user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

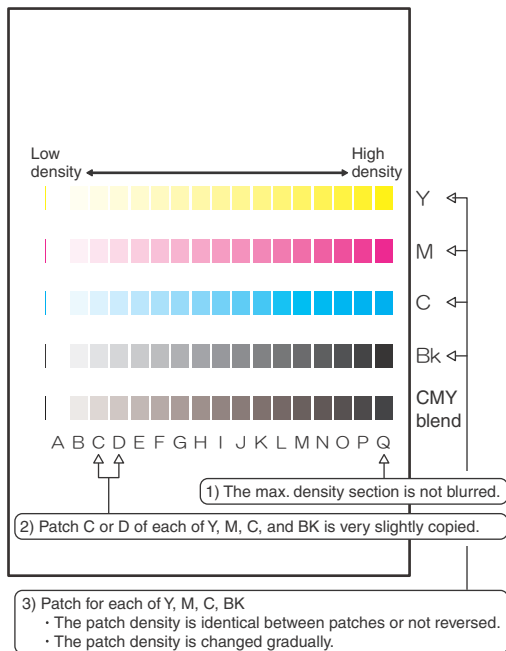
If the color balance is improper, execute the automatic color balance adjustment in advance, and execute this adjustment for better efficiency.

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" or A3/11" x 17" 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.)

NOTE:

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

Immediately after execution of ADJ7C (2) (Color balance adjustment, Manual) with SIM 46-21, be sure to execute this procedure.

When ADJ7C (1) (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.

- 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.

7-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 ADJ7B and ADJ7C or there is a request from the user. Normally there is no need to execute this adjustment.

In this adjustment, the adjustment result may be applied to the image send mode and the FAX mode as well as the copy mode.

This must be well understood for execution of the adjustment.

		Copy MODE				IMAGE SEND(SCAN) MODE					
		Color mode		Monochrome mode		Color mode		Monochrome mode			
		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	DSPF 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 (for each monochrome copy mode) (No need to adjust normally)	-	-	○	○	-	-	-	-	-	-
46-19	Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)	-	-	○	-	-	-	○	-	○	-
46-21	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 adiustment of all the modes)	-	-	-	-	-	-	-	-	○	-

		Copy MODE				IMAGE SEND(SCAN) MODE					
		Color mode		Monochrome mode		Color mode		Monochrome mode			
		Auto	Manual	Auto	Manual	Auto	Manual	Auto	Manual	FAX	Printer
46-41	FAX send image density adjustment (Normal text mode)	-	-	-	-	-	-	-	-	○	-
46-42	FAX send image density adjustment (Fine text mode)	-	-	-	-	-	-	-	-	○	-
46-43	FAX send image density adjustment (Super fine mode)	-	-	-	-	-	-	-	-	○	-
46-44	FAX send image density adjustment (Ultra fine mode)	-	-	-	-	-	-	-	-	○	-
46-45	FAX send image density adjustment (600dpi mode)	-	-	-	-	-	-	-	-	○	-
46-46	FAX send image density adjustment (RGB_RIP)	-	-	-	-	-	-	-	-	○	-
46-47	Copy image, image send image, FAX send image (JPEG) compression ratio setting (Normally unnecessary to the setting change)	○	○	○	○	○	○	○	○	○	○
46-51	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	○	○	○	○	-	-	-	-	-	-
46-59	Pseudo resolution UP function adjustment	○	○	○	○	-	-	-	-	-	○
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	○	○	-	-	-	-	-	-	-	○
46-66	Watermark 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	-	-	-	-	○	○	-	-	-	-

7-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.

Item/Display	Content	Setting range	Default value
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	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	

Item/Display	Content	Setting range	Default value
V	TWO COLOR (COPY TO COPY)	2-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.

7-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.

Display/Item	Content	Setting range	Default
A	AUTO1	Auto 1	LOW 1 - 99 50
		HIGH 1 - 99 50	
B	AUTO2	Auto 2	LOW 1 - 99 50
		HIGH 1 - 99 50	
C	TEXT	Text	LOW 1 - 99 50
		HIGH 1 - 99 50	
D	TEXT/PRINTED PHOTO	Text/Printed Photo	LOW 1 - 99 50
		HIGH 1 - 99 50	
E	TEXT/PHOTO	Text/Photograph	LOW 1 - 99 50
		HIGH 1 - 99 50	
F	PRINTED PHOTO	Printed Photo	LOW 1 - 99 50
		HIGH 1 - 99 50	
G	PHOTOGRAPH	Photograph	LOW 1 - 99 50
		HIGH 1 - 99 50	
H	MAP	Map	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	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.

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

- 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.

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

- 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.

7-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.

Display/Item	Content	Set value	Default
AE_MODE	Auto exposure mode	MODE1, MODE2	MODE1
AE_STOP_COPY	Auto B/W exposure Stop (for copy)	REALTIME/STOP/PRESCAN	STOP
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:

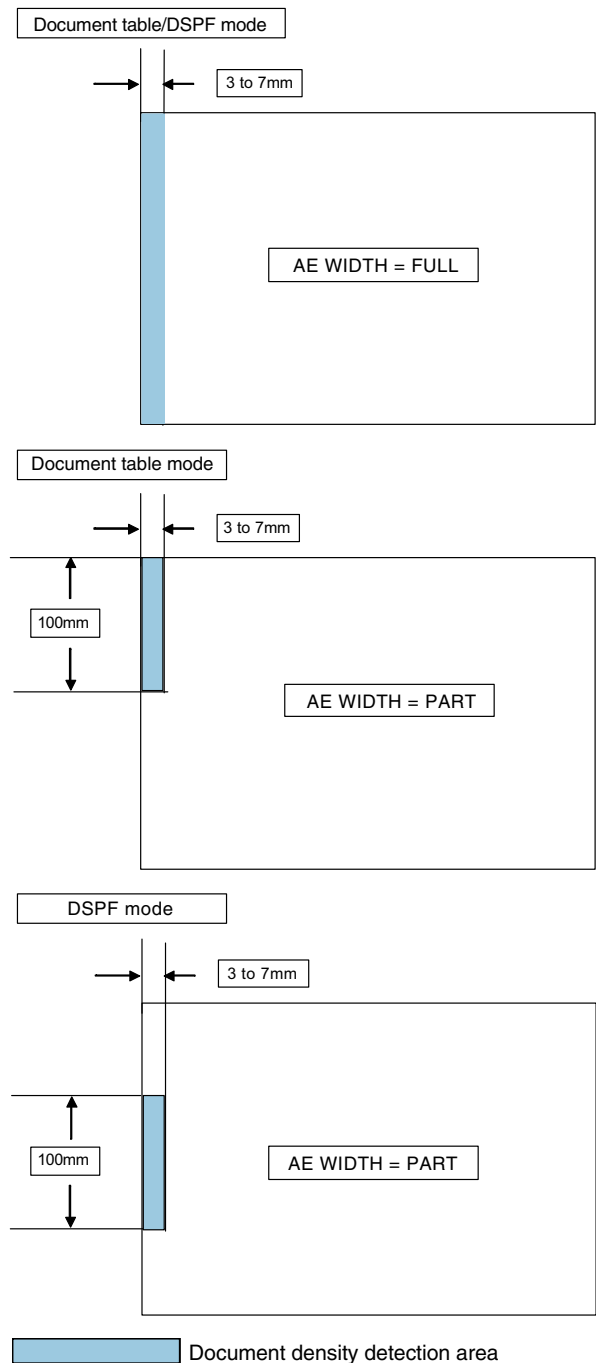
Document density reading area in monochrome auto mode is 3 - 7 mm (leading edge of document) x Document width. No relationship to PRESCAN MODE

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.



7-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.

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

7-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.

Display/Item	Content	Set value	Default
A COLOR COPY : TEXT/PRINTED PHOTO	Text/Printed photo (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 copy)	1 - 9	6

Display/Item	Content	Set value	Default
H COLOR COPY : TEXT/PRINTED PHOTO (COPY TO COPY)	Copy document, Text/Printed photo (color copy)	1 - 9	5
I COLOR COPY : TEXT (COPY TO COPY)	Copy document, Text (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/Printed photo (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

- 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.

7-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.

Display/Item (Copy mode)	Content	Adjustment range	Default
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
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

- 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.

Display/Item (Copy mode)		Content	Adjust- ment range	Default
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
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

- 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 color 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.

7-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.

Display/Item (Copy mode)		Content	Adjustment range	Default
A	R/G	Gray making setting (R/G)	0 - 99	21
B	B/G	Gray making setting (B/G)	0 - 99	0

- 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.

7-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.

Repeat the above procedures until a satisfactory result is obtained.

Display/Item (Copy mode)		Select button	Content	Default
MANUAL	TEXT PRT	(-) LUT2	Text/Printed photo (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 (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	TEXT PHOTO	(-) LUT2	Text/ Photograph (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	MAP	(-) LUT2	Map (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	CP ORG/ TEXT PRT	(-) LUT2	Copy document/ Text Printed photo (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	COPY ORG/ TEXT	(-) LUT2	Copy document/ Text (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	COPY ORG/ PHOTO	(-) LUT2	Copy document/ Printed photo (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	LIGHT ORIGINAL	(-) LUT2	Light document (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
AUTO	AUTO	(-) LUT2	Auto mode judgment	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.

7-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.

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

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.

Item/Display			Content		Setting range	Default value	NOTE
A	SCREEN FILTER LEVEL	H	Sharpness (filter) adjustment of dot pattern image in auto copy mode	Strong emphasis	1	3 (Auto)	Apply to auto copy mode only
		L		Soft emphasis	2		
		AUTO		Auto	3		
B	CPY AUTO FILTER LEVEL	SOFT	Sharpness (filter) adjustment for copy/push scan/FAX mode	SOFT	1	2 (CENTER)	Apply to copy/push scan/FAX mode
		CENTER		CENTER	2		
		HIGH		HIGH	3		
C	CPY PUSH AUTO FILTER LEVEL	SOFT	Sharpness (filter) adjustment for the auto push scan mode (color Text, Printed Photo / Printed Photo images)	SOFT	1	2 (CENTER)	Apply to auto push scan mode only
		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)	Available for the high density image except text and line image When setting ON, smoothness in the image shade part improves by applying soft filter. (asperity decreases)
		ON		ON	1		
E	COLOR COPY : K	OFF	Soft filter applying setting to K image in color copy mode	OFF	0	1 (ON)	
		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		ON	1		
G	2 COLOR COPY : CMY	OFF	Soft filter applying setting to C, M, Y image in 2-color copy mode	OFF	0	1 (ON)	
		ON		ON	1		
H	2 COLOR COPY : K	OFF	Soft filter applying setting to K image in color copy mode	OFF	0	1 (ON)	
		ON		ON	1		
I	B/W COPY	OFF	Soft filter applying setting in monochrome copy mode	OFF	0	1 (ON)	
		ON		ON	1		
J	COLOR PUSH : RGB	OFF	Soft filter applying setting to image in push scan color mode	OFF	0	1 (ON)	
		ON		ON	1		
K	B/W PUSH	OFF	Soft filter applying setting to image in push scan monochrome mode	OFF	0	1 (ON)	
		ON		ON	1		
L	COLOR PRINT: CMY	OFF	Soft filter applying setting to C,M,Y image in color print mode	OFF	0	1 (ON)	
		ON		ON	1		
M	COLOR PRINT: K	OFF	Soft filter applying setting to K image in color print mode	OFF	0	1 (ON)	
		ON		ON	1		
N	B/W PRINT	OFF	Soft filter applying setting in monochrome print mode	OFF	0	1 (ON)	
		ON		ON	1		

- 3) Input numeric value corresponding to sharpness level (filter process mode).

- Adjustment item A:

When selecting AUTO, filter is selected according to dot pattern state automatically and adjusts sharpness.

Input small numeric value to obtain crispy image. Input large numeric value to decrease moire.

- Adjustment item B, C:

Select HIGH to obtain clear images. Select SOFT to reduce moire.

- Adjustment item D - N:

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.

7-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.

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

CAUTION: 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)

7-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.

Display/Item		Adjustment range	Default		
			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.

7-D (14)**DSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)**

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

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

a. Adjustment procedure

- 1) Enter the SIM 46-9 mode.
- 2) Select the mode to be adjusted with the scroll key.

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

Item	Button	Display	Content	Setting range	Default value
A	OC	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 (High density side)	1 - 99	52
F		FAX SIDEA: HIGH	DSPF FAX mode exposure adjustment (High density side)	1 - 99	52
A	DSPF	COPY SIDEB: LOW	DSPF copy mode exposure adjustment (Low density side)	1 - 99	49
B		SCAN SIDEB: LOW	DSPF scanner mode exposure adjustment (Low density side)	1 - 99	49
C		FAX SIDEB: LOW	DSPF FAX mode exposure adjustment (Low density side)	1 - 99	49
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 side)	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

- 3) Enter the adjustment value with 10-key.
In case of increase of image density, input large numeric value. Or in case of diluting the image density, input small numeric value.
- 4) Press [OK] key.

- 5) Make a copy in the DSPF mode and check the copy.

If a satisfactory result is not obtained, return to the SIM 46-9 mode and change the adjustment value.

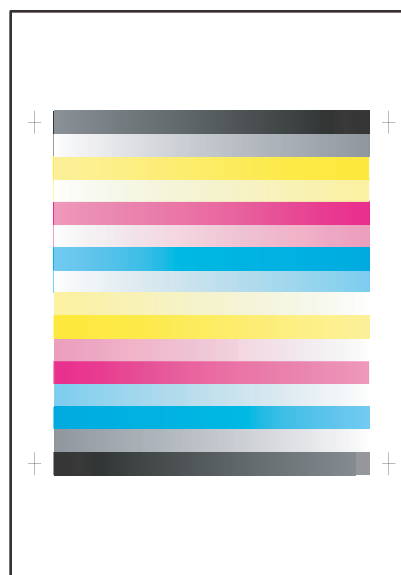
Repeat the above procedures until a satisfactory result is obtained.

7-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

- 1) Enter the SIM46-54 mode.
- 2) Press [EXECUTE] key.
A4/11" x 8.5" or A3/11" x 17" paper is automatically selected. The color patch image (adjustment pattern) is printed.
- 3) Set the patch image (adjustment pattern) printed in the procedure 2) on the document table so that the thin lines on the printed patch image (adjustment pattern) are on the left side. Place 5 sheets of white paper on the printed patch image (adjustment pattern).



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

Select item (Mode/Image)	Content
Heavy Paper *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
B/W	Adjustment item to improve the density and gradation in the monochrome text mode and the map mode.
Color Ed	Adjustment item to improve the color balance in the text mode and the map mode.

Select item (Mode/Image)	Content
B/W 600dpi	Adjustment item to improve the density and gradation in the monochrome printed photo mode and the photography mode.
WOVEN1	Adjustment item when adjusting the watermark density in the watermark mode 1
WOVEN2	Adjustment item when adjusting the watermark density in the watermark mode 2
WOVEN3	Adjustment item when adjusting the watermark density in the watermark mode 3
WOVEN4	Adjustment item when adjusting the watermark density in the watermark mode 4

*1: When performing adjustments in the heavy paper mode, load paper in the manual paper feed tray.

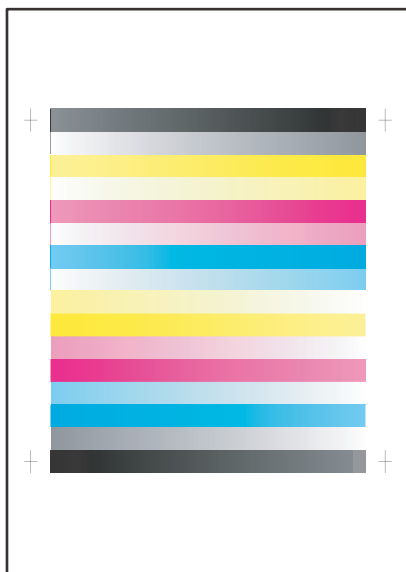
- 8) Press [EXECUTE] key.

A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.

The patch image (adjustment pattern) is printed out.

In the monochrome mode, only the monochrome pattern is printed.

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



- 10) Press [EXECUTE] key.

The color balance and the density are automatically adjusted, and the machine goes to the state of procedure 6).

To complete the adjustment and enable the adjustment result, press [OK] key.

- 11) Make a copy, and check the copy image quality.

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

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

7-D (16)**Dropout color adjustment
(Normally not required)****a. General**

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

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

This adjustment must be performed in the following cases:

* When there is request from the user.

b. Adjustment procedures

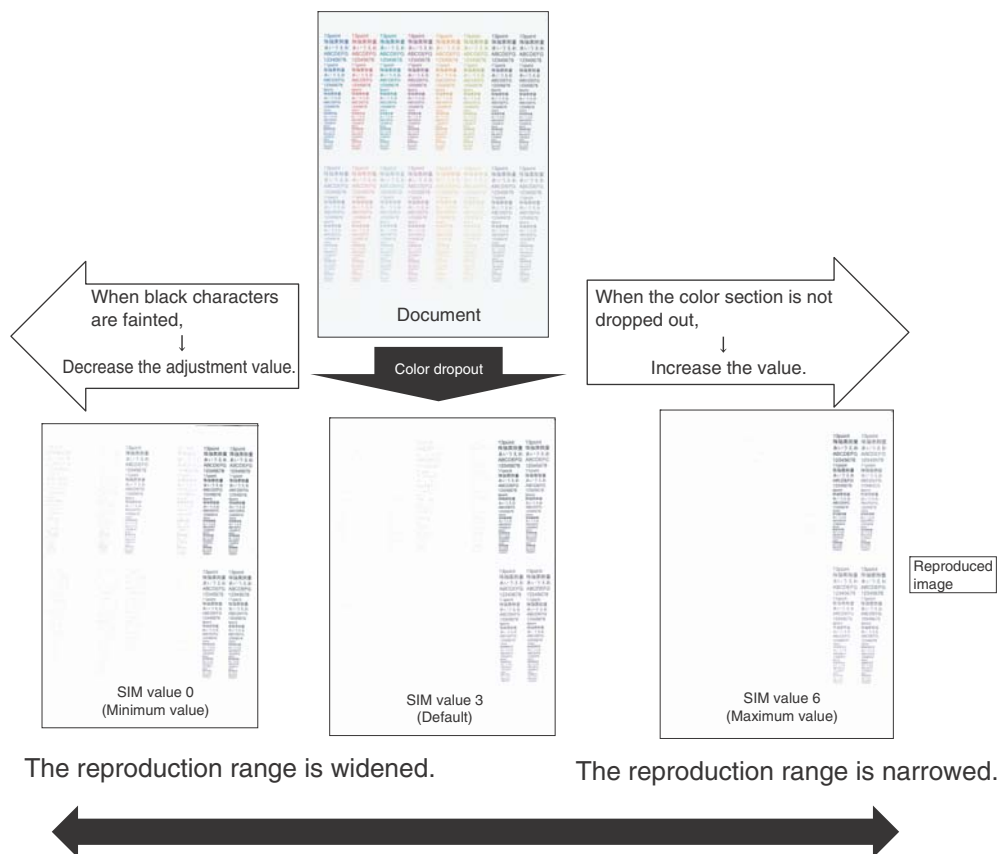
1) Enter the SIM 46-55 mode.

2) Enter the adjustment value with 10-key and press [OK] key.

When the adjustment value is increased, colors dropout becomes easy to narrow the reproduction range. When the adjustment value is decreased, color dropout becomes difficult to widen the reproduction range.

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

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

**Effect and adverse effect when decreasing the value****[Effect]**

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

[Adverse effect]

Dropout of color sections becomes difficult.

Effect and adverse effect when increasing the value**[Effect]**

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

[Adverse effect]

Black characters are faded or cracked.

7-D (17)**Watermark adjustment
(Normally not required)****a. General**

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

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

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

This adjustment must be performed in the following cases:

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

b. Adjustment procedures

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

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

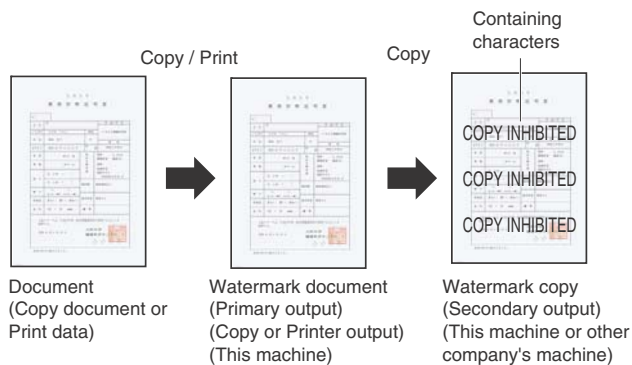
Item/Display	Content	Setting range	Default value	Description	NOTE
A	WOVEN DEN BK LOW	Watermark density level (Color: Black / Adjustment for light images)	0 - 255	15	<p>The adjustment value is changed to increase or decrease the density of the watermark of background documents (primary output). To increase the watermark density, increase the adjustment value. To decrease the watermark density, decrease the adjustment value.</p> <p>NOTE: When the adjustment value is increased, the watermark area which is originally not reproduced becomes difficult to disappear. When the adjustment value is decreased, the watermark area which is originally reproduced becomes easy to disappear.</p>
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	<p>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.)</p>
K	HT TYPE (POSI)	For half-tone index watermark type positive	42 - 43	42	<p>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.</p> <p>Normally set to the default.</p>
L	HT TYPE (NEGA)	For half-tone index watermark type negative	42 - 43	42	

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: 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. In the printer mode watermark, setting of 1200dpi and a watermark cannot be used together.

Watermark adjustment in the system setting

System setting - Security setting - Watermark print - Contrast tab

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

CAUTION:

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.

7-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.

7-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.

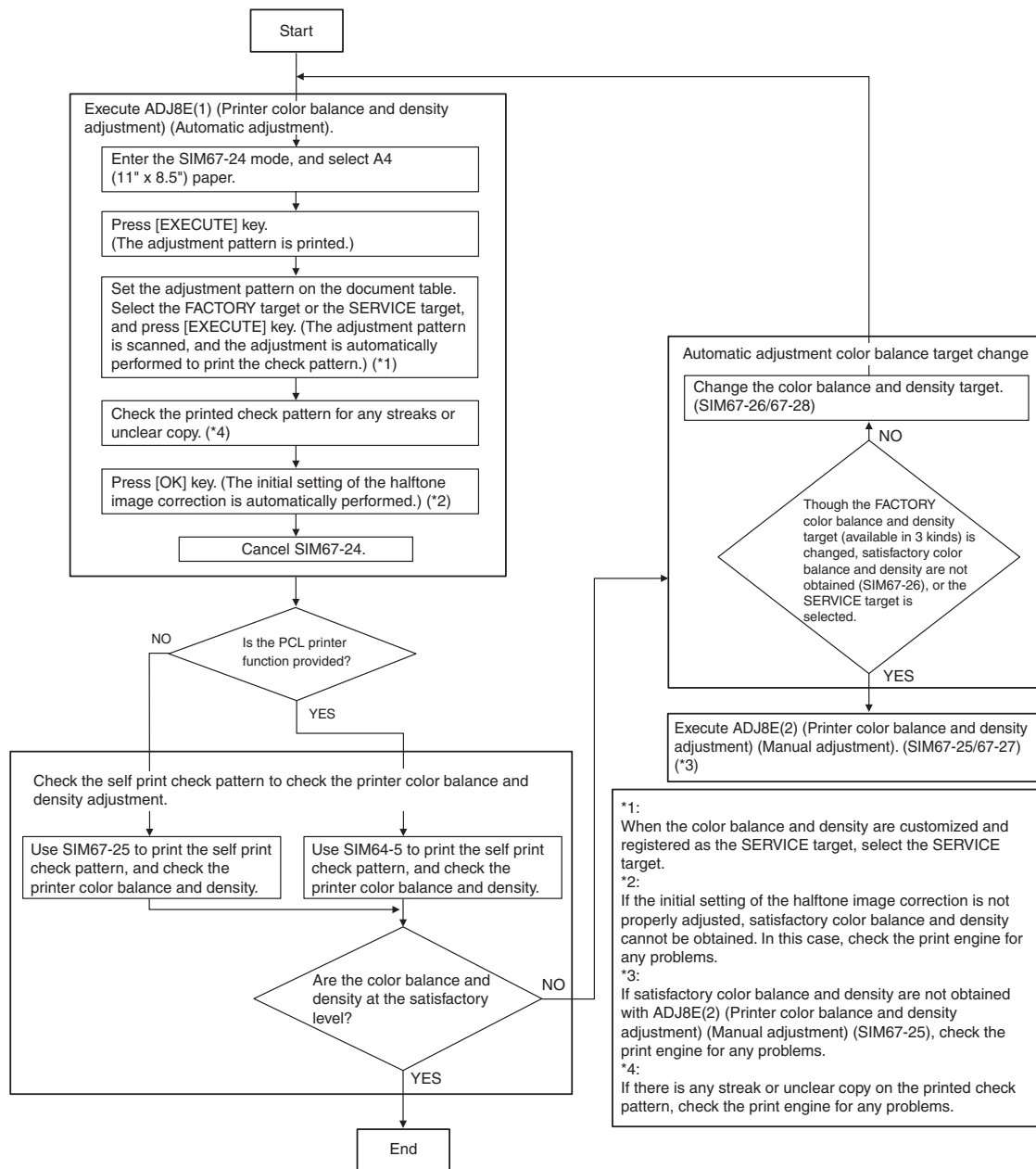
On the other hand, the auto color balance adjustment by the serviceman functions to recover the normal color balance though the machine condition is greatly changed. If the machine has a fatal problem, repair and adjust it for obtaining the normal color balance.

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

b. Adjustment procedure

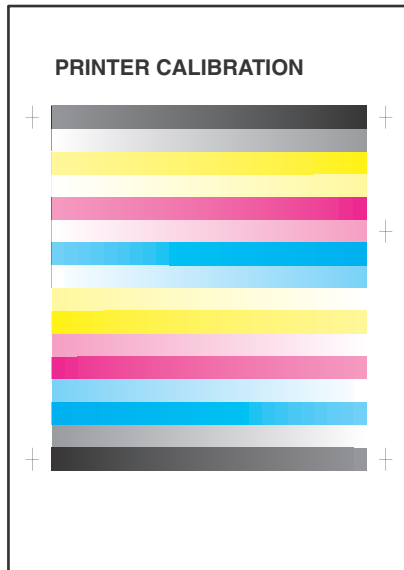
(Auto color balance adjustment by the serviceman)

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

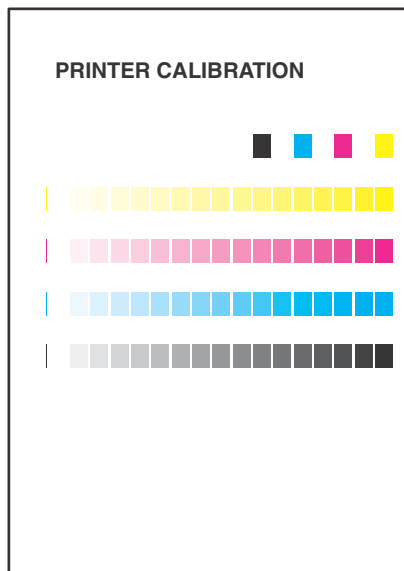


- 1) Enter the SIM 67-24 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.)
The color patch image (adjustment pattern) is printed out.
- 3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.

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) (ADJ7E (2)).

Also when the service target is selected in procedure 4) to execute the automatic adjustment and a satisfactory result is not obtained, perform the manual color balance adjustment (ADJ7E (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.

7-E (2) Printer color balance adjustment (Manual adjustment)

a. General

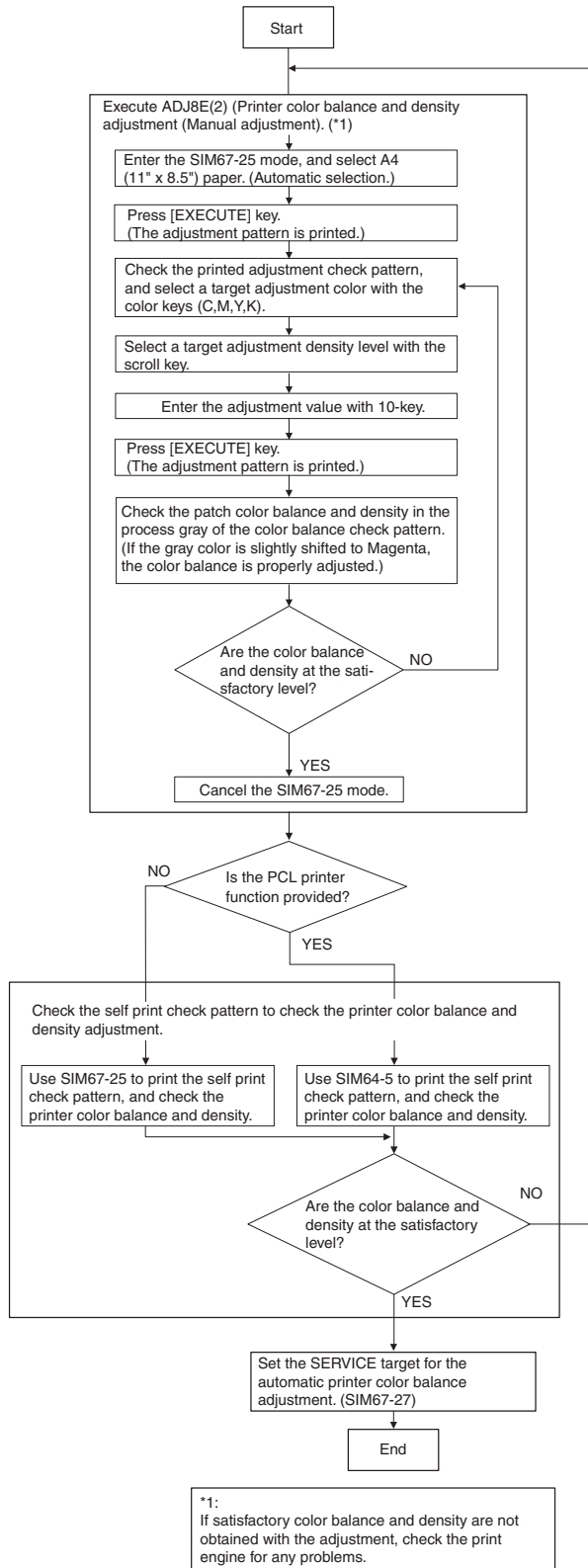
The color balance adjustment (Manual adjustment) is used to adjust the printer density of C, M, Y and K. This is used at the following situation. When the result of auto adjustment described above is not existing within the range of reference. When a fine adjustment is required. When there is request 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.

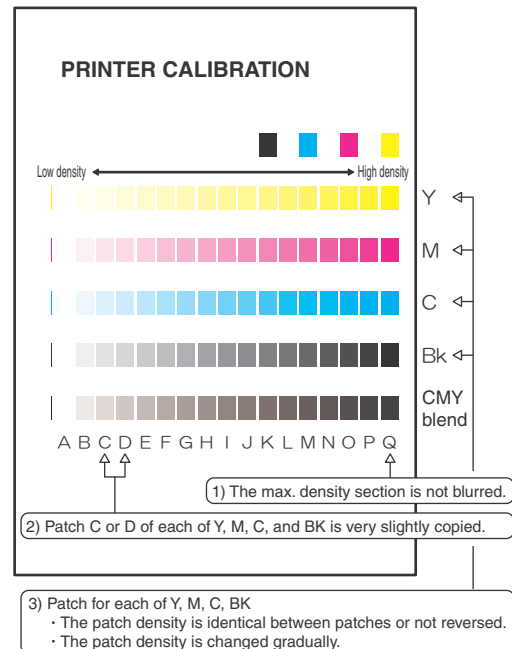
If the color balance is improper, execute the automatic color balance adjustment in advance, and execute this adjustment for better efficiency.

b. Adjustment procedure

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



- 1) Enter the SIM 67-25 mode.
- 2) Press [EXECUTE] key. (A4/11" x 8.5" or A3/11" x 17" 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.

7-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 ADJ7E (1) and ADJ7E (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.

7-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.

7-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.

Display/Item	Content	Setting range	Default
A	CMY (0: ENABLE 1: DISABLE)	0	CMY engine maximum density correction mode Enable
		1	CMY engine maximum density correction mode Disable

Display/Item	Content	Setting range	Default
B	K (0: ENABLE 1: DISABLE)	0	K engine maximum density correction mode Enable
		1	K engine maximum density correction mode Disable
C	CYAN MAX TARGET	Scanner target value for CYAN maximum density correction	0 - 999
D	MAGENTA MAX TARGET	Scanner target value for MAGENTA maximum density correction	0 - 999
E	YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction	0 - 999
F	BLACK MAX TARGET	Scanner target value for BLACK maximum density correction	0 - 999
G	PRINTER TOTAL TONER LIMIT SETUP	Printer total toner limit set up	0 - 3
H	RATIO LOW	High density correction blend ratio (LOW)(1/100)	0 - 100
I	RATIO HIGH	High density correction blend ratio (HIGH)(1/100)	0 - 100
J	DITHER THRESHOLD	Dither threshold (LOW)	0 - 255
K	SLOPE THRESHOLD	Slope threshold (HIGH)(1/100)	100 - 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.

NOTE: 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)

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

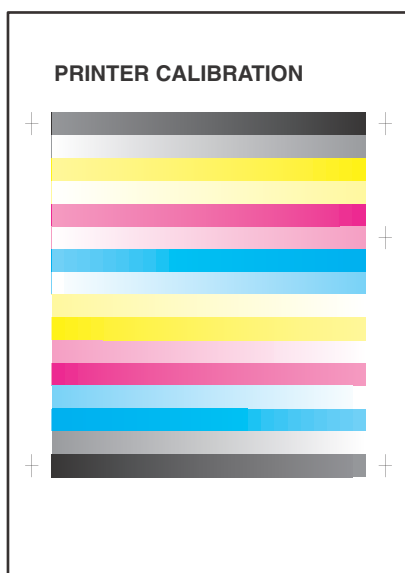
a. General

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

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

b. Adjustment procedures

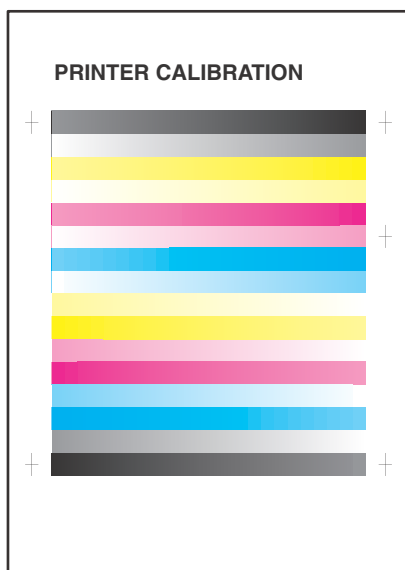
- 1) Enter the SIM67-54 mode.
- 2) Press [EXECUTE] key.
A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.
The color patch image (adjustment pattern) is printed out.
- 3) Set the color patch image (adjustment pattern) printed in the procedure 2) on the document table so that the thin lines 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/Image)	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
Gloss Paper	Adjustment item to improve the color balance in the gloss paper mode
1200dpi 1bit	Adjustment item to improve the color balance in 1200dpi mode

- 7) Press [EXECUTE] key.
A4/11" x 8.5" or A3/11" x 17" 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).

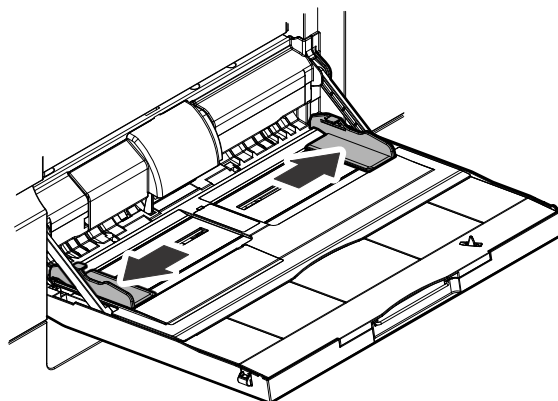


- 9) Press [EXECUTE] key.
The color balance adjustment is automatically performed, and the machine goes to the state of procedure 6).
 - 10) When [OK] key is pressed, the adjustment result is registered and the adjustment mode is terminated. When [EXECUTE] key is pressed, the adjustment result is registered 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.)
- NOTE:** Use SIM67-52 to reset the adjustment values to the default values.

ADJ 8 Manual paper feed tray paper size (width) sensor adjustment

This adjustment must be performed in the following cases:

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



- 3) Press [EXECUTE] key.
[EXECUTE] key is highlighted. Then it returns to the normal display.
The maximum width position detection level of the manual paper feed guide is recognized.
- 4) Set the manual paper feed guide to the A4 size.
- 5) Press [EXECUTE] key.
[EXECUTE] key is highlighted. Then it returns to the normal display.
The A4 size width position detection level of the manual paper feed guide is recognized.
- 6) Set the manual paper feed guide to the width for the A4R size.
- 7) Press [EXECUTE] key.
[EXECUTE] key is highlighted. Then it returns to the normal display.
Set the manual paper feed guide to the width for the A4R size.
- 8) Open the manual paper feed guide to the minimum width position.

- 9) Press [EXECUTE] key.
[EXECUTE] key is highlighted. Then it returns to the normal display.
The minimum width position detection level of the manual paper feed guide is recognized.

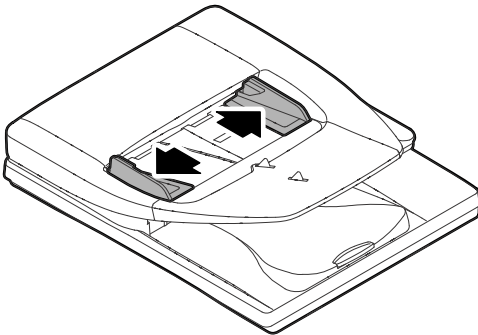
If the above operation is not completed normally, "ERROR" is displayed.

When the operation is completed normally, the above data are saved to the memory and "COMPLETE" is displayed.

ADJ 9 DSPF tray paper size (width) sensor adjustment

This adjustment must be performed in the following cases:

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



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

When each of the above operations has been completed, the "COMPLETE" message appears; when any of the operations has failed, the "ERROR" message appears.

ADJ 10 Document size detection adjustment

This adjustment must be performed in the following cases:

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

10-A Adjust the sensitivity of the original size sensor

- 1) Enter the SIM41-2 mode.
- 2) Execute the sensor adjustment without document.
With the document cover open, without placing a document on the table glass, press [EXECUTE] key.
- 3) Place A3 (11" x 17") paper on the document table and press [EXECUTE] key.

If the adjustment is completed normally, "DOCUMENT SIZE PHOTO SENSOR LEVEL IS ADJUSTED" is displayed.

ADJ 11 Touch panel coordinate setting

This adjustment must be performed in the following cases:

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



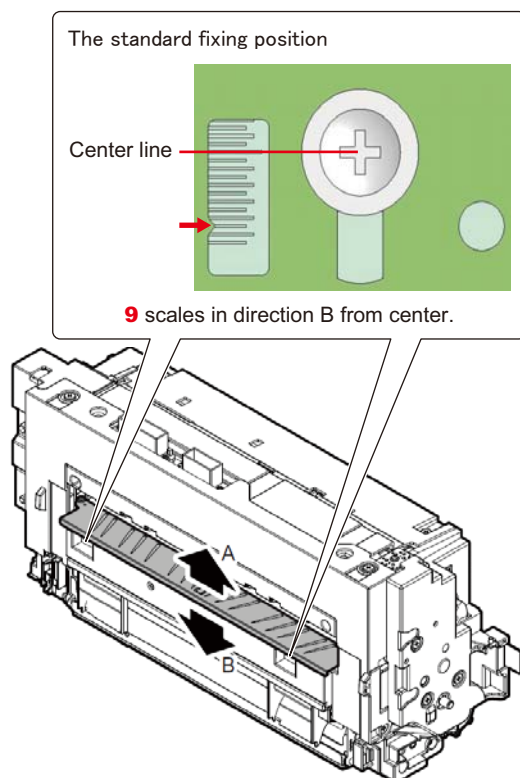
- 2) Precisely press the cross mark points (4 positions).
When the cross mark is pressed precisely, a buzzer sounds and the display is reversed. When all the four points are pressed and the touch panel adjustment is completed, the display returns to the simulation sub number entry screen.
In case of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

ADJ 12 Fusing paper guide position adjustment

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

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

1



The standard fixing positions for Front and Rear sides are at the 3 scales and 1 scale in direction B from the marking scale center, respectively. However, the position may be varied depending on the situation.

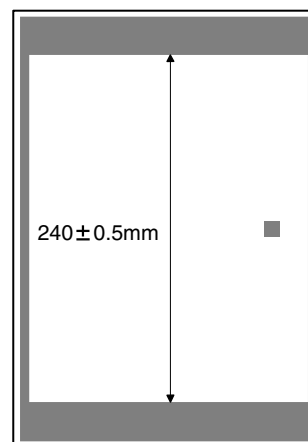
- * When a wrinkle is made on paper, change the position in the error direction A.
- * When an image deflection or unclear image is generated in the lead edge area of paper, change the position in the arrow direction B.

ADJ 13 Print image manual magnification ratio, area, position adjustment (Manual adjustment)

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

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 and the numeral key.
 - 4) Press [EXECUTE] key.
The check pattern is printed out.
 - 5) Check that the inside dimension of the printed halftone is 240 +/- 0.5mm.



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.

13-B Print image manual area adjustment (Main scanning direction, sub scanning direction) (Print engine)

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 manual magnification ratio adjustment (ADJ13A) (main scanning direction) (print engine).

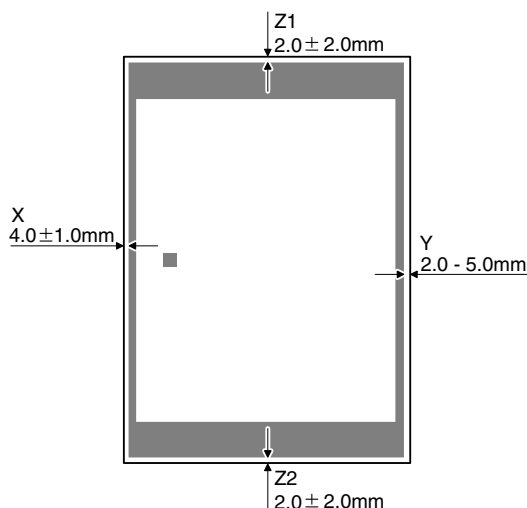
- 1) Enter the SIM 50-10 mode.
- 2) Set A4 (11" x 8.5") paper to all the paper feed trays. Select an adjustment item of the target paper feed tray among items B - J and enter the adjustment value. Then select item "R" to select the paper feed tray which is to be used for executing test printing.
- 3) 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 +/- 1.0mm
Y	Rear edge void area	2.0 - 5.0mm
Z1/Z2	FRONT/REAR void area	2.0 +/- 2.0mm

$$Z1 + Z2 = 4.0 \pm 2.0\text{mm}$$

$$Z1 > 0.0\text{mm}$$

$$Z2 > 0.0\text{mm}$$



If the above condition is not satisfied, or if it is set to a desired condition, execute the simulation 50-1.

NOTE: Feed paper from all the paper feed trays to confirm.

- 5) Enter the SIM 50-1 mode.
- 6) Select an adjustment item (DENA, DENB, FRONT/REAR) with the scroll key, enter the adjustment value, and press [OK] key.

Item/Display		Content	Setting range	Default value
Void area adjustment	DENA	Lead edge void area adjustment	1 - 99	40
	DENB	Rear edge void area adjustment	1 - 99	30
	FRONT/REAR	FRONT/REAR void area adjustment	1 - 99	20
Sub scanning direction print area correction value	DENB-MFT	Manual feed correction value	1 - 99	50
	DENB-CS1	Tray 1 correction value	1 - 99	50
	DENB-CS2	Tray 2 correction value	1 - 99	50
	DENB-CS3	Tray 3 correction value	1 - 99	50
	DENB-CS4	Tray 4 correction value	1 - 99	50
	DENB-LCC	LCC correction value	1 - 99	50
	DENB-ADU	ADU correction value	1 - 99	55
	DENB-HV	Heavy paper correction value	1 - 99	50

When the adjustment value is increased, the void area is increased. When the adjustment value is decreased, the void area is decreased.

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

NOTE:

The adjustment value and the actual void area are related as follows:

Adjustment value/10 = Actual void area

NOTE:

When the amount of the rear edge void is different between each paper feed tray, change the adjustment value of item (DENB-XXX) in SIM50-1 and adjust.

The adjustment item (DENB) have a effect on the paper of all paper feed tray.

That is, adjustment value of item (DENB-XXX) fine adjusts to adjustment item (DENB) for each paper tray.

After execution of the above, perform procedures 1) - 4) to check that the void area is within the specified range.

Though the lead edge void area adjustment value is proper, if the lead edge void area is not within the specified range, change the adjustment value of item (SUB-XXX) in SIM 50-10. Refer to ADJ13-C.

Repeat the above procedures until a satisfactory result is obtained.

13-C Print image manual position adjustment (Main scanning direction, sub scanning direction) (Print engine) (Each paper feed tray)

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 ADJ13A Print image manual magnification ratio adjustment (Main scanning direction) (Print engine) 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 manual magnification ration adjustment (ADJ13A) (main scanning direction) (Print engine) has been properly adjusted.

SIM 50-10 display item

Item/Display		Content	Setting range	Default value
Print off center adjustment	BK-MAG	Main scan print magnification ratio	60 - 140	100
	MAIN-MFT	(Print off center) manual feed adjustment value	1 - 99	50
	MAIN-CS1	(Print off center) tray 1 adjustment value	1 - 99	50
	MAIN-CS2	(Print off center) tray 2 adjustment value	1 - 99	50
	MAIN-CS3	(Print off center) tray 3 adjustment value	1 - 99	50
	MAIN-CS4	(Print off center) tray 4 adjustment value	1 - 99	50
	MAIN-LCC	(Print off center) LCC adjustment value	1 - 99	50
	MAIN-LCT1	Print off center adjustment value (LCT1)	1 - 99	50
	MAIN-LCT2	Print off center adjustment value (LCT2)	1 - 99	50
	MAIN-LCT-MFT	Print off center adjustment value (LCT_manual feed)	1 - 99	50
	MAIN-ADU	(Print off center) ADU adjustment value	1 - 99	50
	RRCB-MFT	(Lead edge adjustment: registration motor ON timing) manual feed adjustment value	1 - 99	50
	RRCB-CS12	(Lead edge adjustment: registration motor ON timing) tray 1 adjustment value	1 - 99	50
	RRCB-CS34	(Lead edge adjustment: registration motor ON timing) desk adjustment value	1 - 99	50

Item/Display		Content	Setting range	Default value
Print off center adjustment	RRCB-ADU	(Lead edge adjustment: registration motor ON timing) ADU adjustment value	1 - 99	50
	RRCB-LC	(Lead edge adjustment: registration motor ON timing) LCC/LCT adjustment value	1 - 99	50
	RRCB-ADU-HV-A	(Lead edge adjustment: registration motor ON timing) ADU adjustment value (Heavy paper A)	1 - 99	50
	RRCB-CS-HV-A	(Lead edge adjustment: registration motor ON timing) main unit tray adjustment value (Heavy paper A)	1 - 99	50
	RRCB-CS-HV-OHP	(Lead edge adjustment: registration motor ON timing) main unit tray adjustment value (OHP)	1 - 99	50
	RRCB-LC-HV-A	(Lead edge adjustment: registration motor ON timing) LCC/LCT adjustment value (Heavy paper A)	1 - 99	50
	RRCB-LC-HV-B	(Lead edge adjustment: registration motor ON timing) LCC/LCT adjustment value (Heavy paper B)	1 - 99	50
	RRCB-MFT-HV-A	(Lead edge adjustment: registration motor ON timing) manual feed tray adjustment value (Heavy paper A)	1 - 99	50
	RRCB-MFT-HV-B	(Lead edge adjustment: registration motor ON timing) manual feed tray adjustment value (Heavy paper B)	1 - 99	50
	RRCB-MFT-HV-OHP	(Lead edge adjustment: registration motor ON timing) manual feed tray adjustment value (OHP)	1 - 99	50
	RRCB-MFT-HV-ENV	(Lead edge adjustment: registration motor ON timing) manual feed tray adjustment value (Envelope)	1 - 99	50
	MULTI COUNT	Number of print	1 - 999	1
	PAPER	Tray selection	1 - 9	2
	DUPLEX	Duplex print selection	0 - 1	1

Heavy paper A: Heavy paper 1 - 2, Embossed paper, Label sheet, Tab sheet, Glossy paper

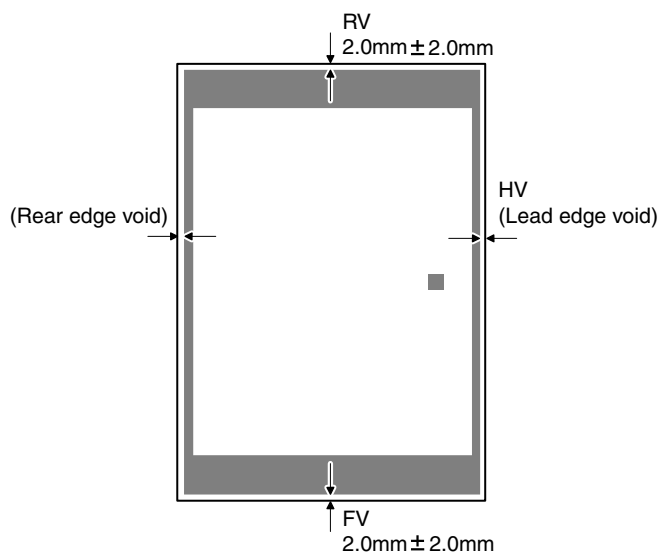
Heavy paper B: Heavy paper 3 - 4

- 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 lead edge void area in the front and the rear frame direction of the adjustment pattern, and check that all the following conditions are satisfied.



RV: REAR VOID AREA

FV: FRONT VOID AREA

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

$$RV > 0.0\text{mm}$$

$$FV > 0.0\text{mm}$$

HV: Lead edge void

$$HV = \text{DENA adjustment value} / 10 \pm 1.0\text{mm}$$

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 MAIN adjustment value is increased, the image FV of 5) is increased and the RV is decreased.

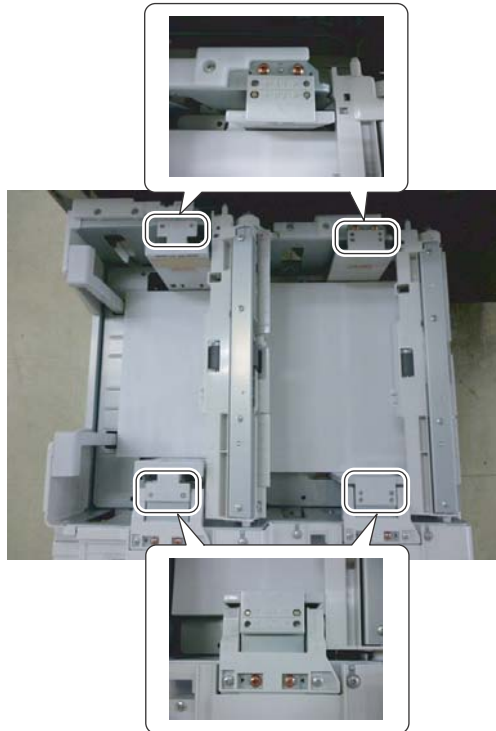
When the SUB adjustment value is increased, the image HV of 5) is increased and the rear edge void is decreased.

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

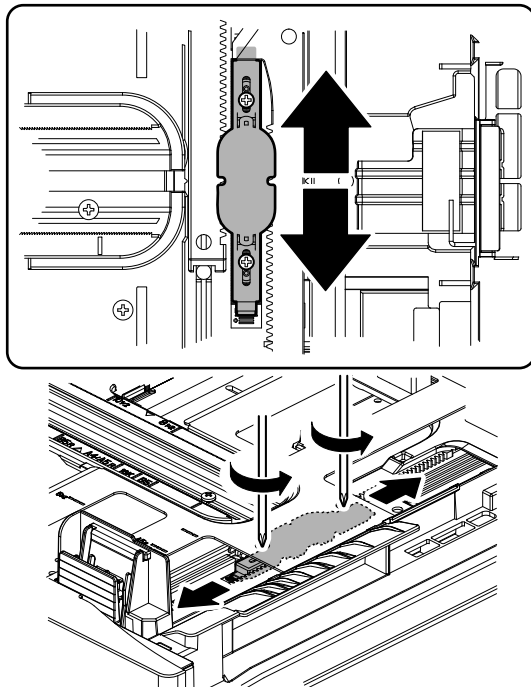
Repeat procedures 3) - 6) until the conditions of procedure 5) are satisfied.

In case a satisfactory result cannot be obtained by repeating the above procedures, perform the following procedure.

- 7) In the case of tandem tray
Loosen two red screws, and adjust the position of the paper feed guide.



- 8) In the case of paper feed tray 3/4
Loosen the paper feed tray off-center adjustment screws (2 pcs.) at the center section of the lift plate of the paper feed tray, and change the gear unit position in the front/rear frame direction. Repeat the adjustment procedures from 4).



NOTE:

The adjustment item (SUB-XXX-HV-XXX) is used to make the fine adjustment of heavy paper/OHP/envelopes for the adjustment item (SUB-XXX) of each paper feed tray.

ADJ 14 Scan image magnification ratio adjustment (Manual adjustment)

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

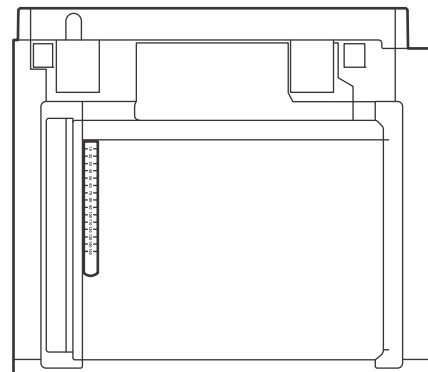
CAUTION: If the default adjustment value of the scan image magnification ratio adjustment (main scanning direction) of SIM 48-1, copy image quality may be degraded. Therefore, this adjustment must be executed only when there is a special necessity.

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 scanner control 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.



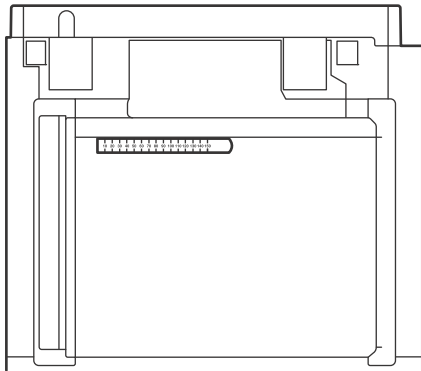
- 2) Enter the SIM 48-1 mode.
- 3) Make a normal copy and obtain the copy magnification ratio. Press [CLOSE] key to shift from the simulation mode to the copy mode, and make a copy.
- 4) Check that the copy magnification ratio is within the specified range (100 +/- 0.5%).
If the copy magnification ratio is within the specified range (100 +/- 0.5%), 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 +/- 0.5%).

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

This adjustment must be performed in the following cases:

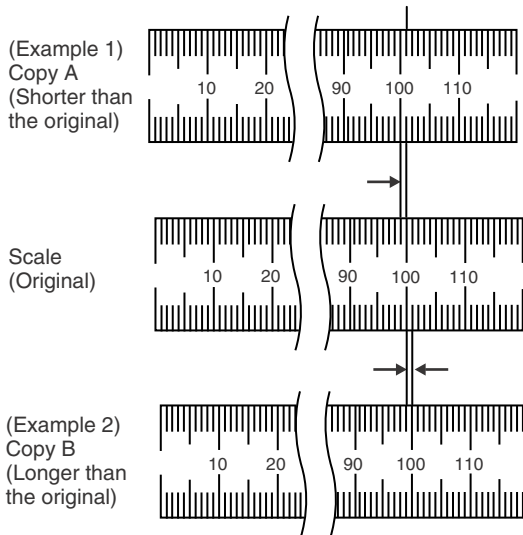
- * When the copy magnification ratio in the copy image sub scanning direction is not properly adjusted.
- * When the scanner motor is replaced.
- * U2 trouble has occurred.
- * When the scanner control PWB is replaced.
- * When the EEPROM of the scanner control PWB is replaced.

- 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 +/- 0.5%).

If the copy magnification ratio is within the specified range (100 +/- 0.5%), 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 +/- 0.5%).

14-C Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (DSPF mode)

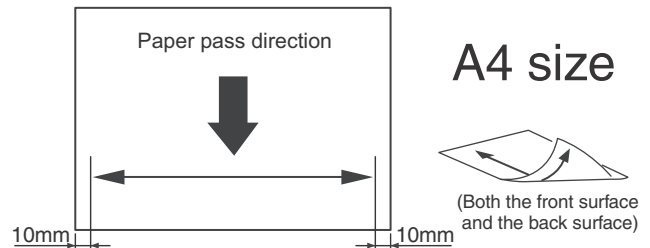
This adjustment must be performed in the following cases:

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

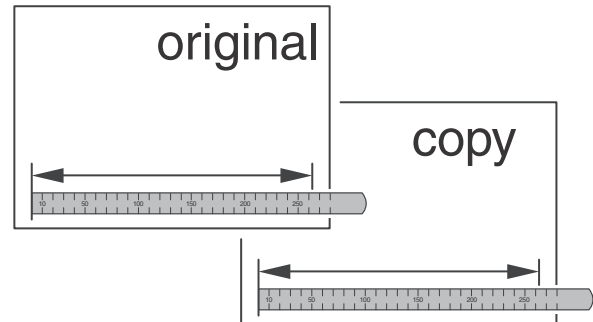
a. Adjustment procedures

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

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 +/- 0.5%), 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.

DSPF

Item	Display	Content	Setting range	Default value
A	CCD(MAIN)	SCAN main scanning magnification ratio adjustment (CCD)	1 - 99	50
B	CCD(SUB)	SCAN sub scanning magnification ratio adjustment (CCD)	1 - 99	50
C	SPF(MAIN)	DSPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50

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

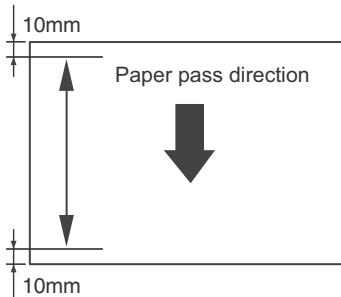
14-D Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (DSPF mode)

This adjustment must be performed in the following cases:

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

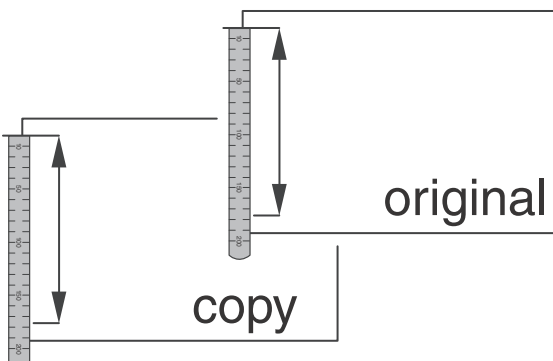
- 1) Place the duplex adjustment chart shown below on the DSPF document tray.

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 +/- 0.5%), 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.
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.

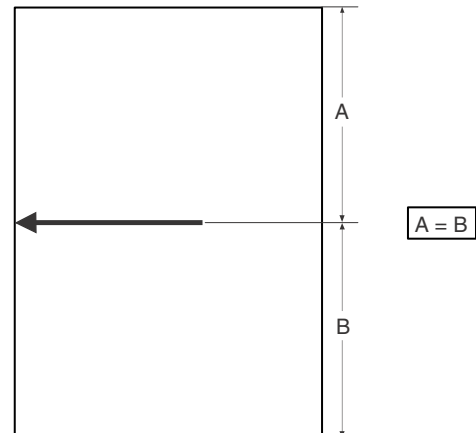
ADJ 15 Scan image off-center adjustment (Manual adjustment)

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

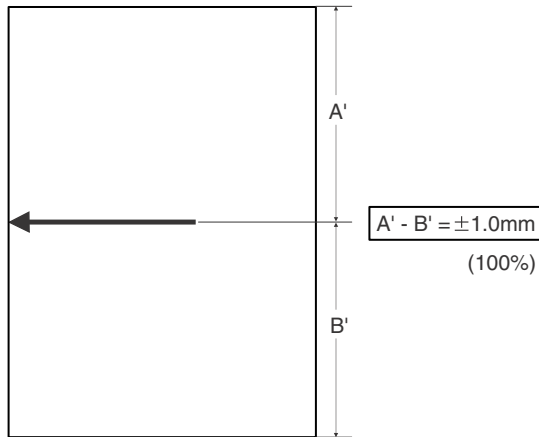
This adjustment must be performed in the following cases:

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

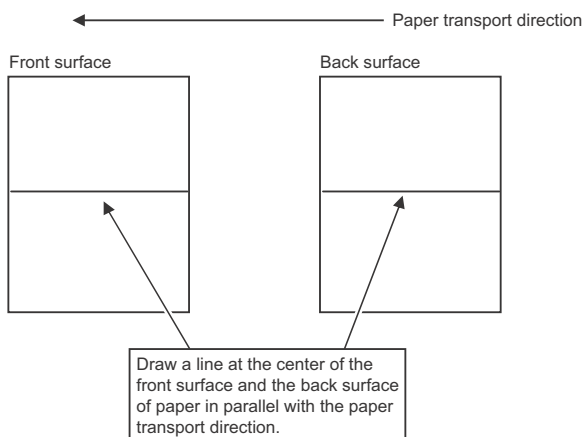
15-B Scan image off-center adjustment (Manual adjustment) (DSPF mode)

This adjustment must be performed in the following cases:

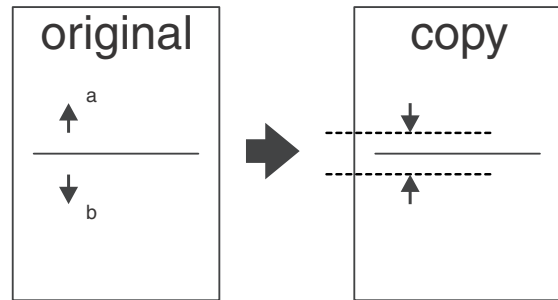
- * When the scan control PWB is replaced.
- * When the EEPROM on the scan control PWB is replaced.
- * When the scanner (reading) section is disassembled.
- * When the scanner (reading) section is replaced.
- * When U2 trouble occurs.
- * When the DSPF section is disassembled.
- * When the DSPF unit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

CAUTION: To execute this adjustment, it is required that the ADJ15A 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 DSPF.
- 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	LEAD_EDGE (SIDE1)	0 - 99	20
D	SIDE1	FRONT_REAR (SIDE1)	0 - 99	20
E		TRAIL_EDGE (SIDE1)	0 - 99	40
F	Image loss amount setting	LEAD_EDGE (SIDE2)	0 - 99	40
G	SIDE2	FRONT_REAR (SIDE2)	0 - 99	20
H		TRAIL_EDGE (SIDE2)	0 - 99	20
I	OFFSET_SPF1	DSPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2	DSPF back surface document off-center adjustment	1 - 99	50
K	SCAN_SPEED_SPF1	DSPF document front surface magnification ratio (Sub scan)	1 - 99	50

- * Item A, B: When the adjustment value is increased, the scan timing is delayed.
- * Item C - H: When the adjustment value is increased, the image loss is increased.
- * Item A - H: 1 step = 0.1mm change
- * The DSPF 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)
(In the case of SIM50-6: 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 16 Copy image position and image loss adjustment (Manual adjustment)

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

This adjustment must be performed in the following cases:

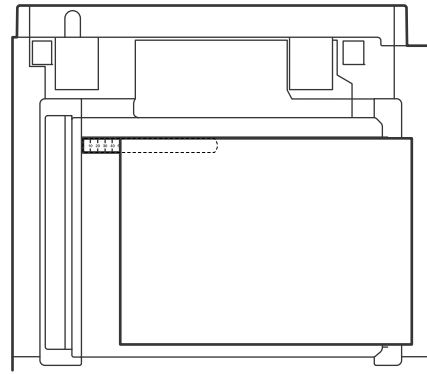
- * When the scanner (reading) section is disassembled.
- * When the scanner (reading) unit is replaced.
- * When the LSU is replaced or removed.
- * When the registration roller section is disassembled.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has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

NOTE: Before executing this adjustment, be sure to confirm that the ADJ3 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.

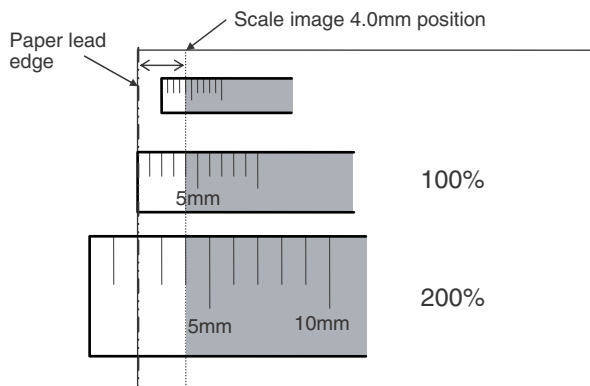
Place white paper on the document table so that the scale lead edge can be seen.



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

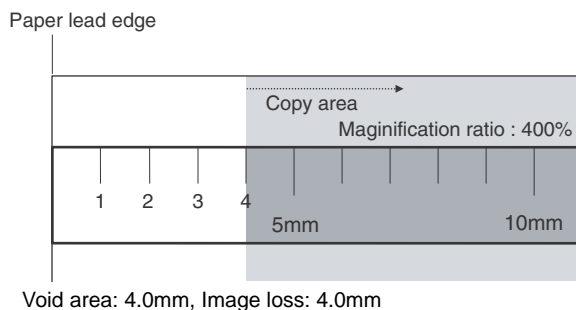
Item/Display			Content	Setting range	Default value
A	Lead edge adjustment value	RRCA	Document lead edge reference position (OC)	0 - 99	50
B	Image loss area setting value	LEAD	Lead edge image loss area setting	0 - 99	40
C		SIDE	Side image loss area setting	0 - 99	20
D	Void area adjustment	DENA	Print lead edge adjustment	1 - 99	40
E		DENB	Sub scanning direction print range adjustment	1 - 99	30
F		FRONT/ REAR	FRONT/REAR void area adjustment	1 - 99	20
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-LC	LCC/LCT/LCT manual paper feed correction value	1 - 99	50
O		DENB-ADU	ADU correction value	1 - 99	55
P		DENB-HV	Heavy paper correction value	1 - 99	50

- 4) Perform the image lead edge reference position adjustment.
Shift to the copy mode, and make a copy at each of 100% and 200% in the document table mode.
When the adjustment value of RRCA is proper, the lead edge image from 4.0mm is not copied in either of 100% and 200% copy scale.
If not, change and adjust the RRCA value.
(Adjust so that the lead edge image from 4.0mm is not copied in either of different copy magnification ratios.)
Repeat the above procedures until a satisfactory result is obtained.



5) Image loss adjustment

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



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

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

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

16-B Image scanning position adjustment (Manual adjustment) (DSPF mode)

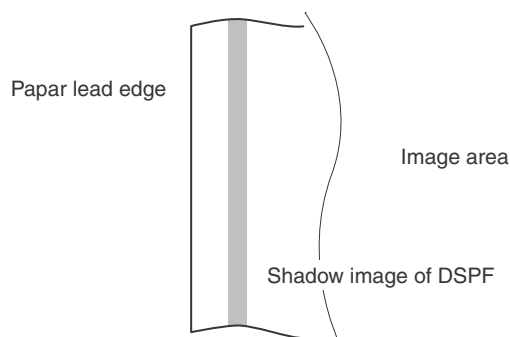
This adjustment must be performed in the following cases:

- * When the scan control 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 section is disassembled.
- * When the DSPF unit is replaced.

This simulation is to adjust the scanning position when scanning in the DSPF mode.

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

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



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

- 2) Enter the SIM 53-8 mode, and press [MANUAL] key.
- 3) Enter an adjustment value with 10-key, and press [OK] key.

When the set value is increased, the distance from the home position to the DSPF scanning position is increased. When the set value is changed by 1, the scanning position is changed by 0.1mm.

Perform the procedures of 1) - 3) until a satisfactory result is obtained.

CAUTION: After execution of this adjustment, be sure to execute ADJ16C Copy image position, image loss, void area adjustment (Manual adjustment) (DSPF mode).

16-C Copy image position, image loss, void area adjustment (Manual adjustment) (DSPF mode)

This adjustment must be performed in the following cases:

- * When the scan control 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 DSPF section is disassembled.
- * When the DSPF unit is replaced.

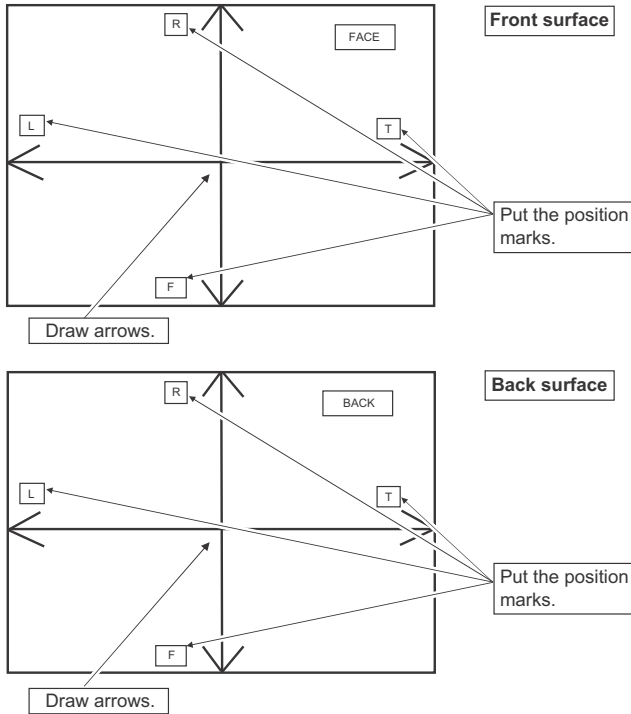
a. Adjustment procedures

- 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.



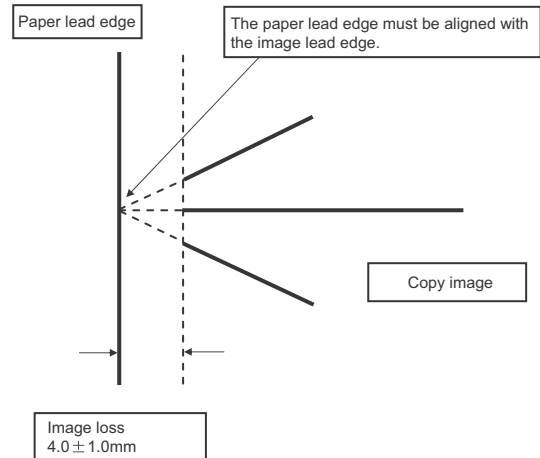
2) Enter the SIM 50-6 mode.

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	20
D		FRONT_REAR (SIDE1)	0 - 99	20
E		TRAIL_EDGE (SIDE1)	0 - 99	40
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2)	0 - 99	40
G		FRONT_REAR (SIDE2)	0 - 99	20
H		TRAIL_EDGE (SIDE2)	0 - 99	20
I	OFFSET_SPF1	DSPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2	DSPF back surface document off-center adjustment	1 - 99	50
K	SCAN_SPEED_SPF1	DSPF document front surface magnification ratio (Sub scan)	1 - 99	50

- * Item A, B: When the adjustment value is increased, the scan timing is delayed.
- * Item C - H: When the adjustment value is increased, the image loss is increased.
- * Item A - H: 1 step = 0.1mm change
- * The DSPF rear edge image loss setting is provided for countermeasures 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)
LEAD EDGE (SIDE 1):
20 Lead edge image loss set value (Front surface)
LEAD 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 DSPF mode. Check to confirm that the lead edge image loss is within 4.0 +/- 1.0mm on the front surface and the back surface. The paper lead edge must be aligned with the presumed image lead edge.

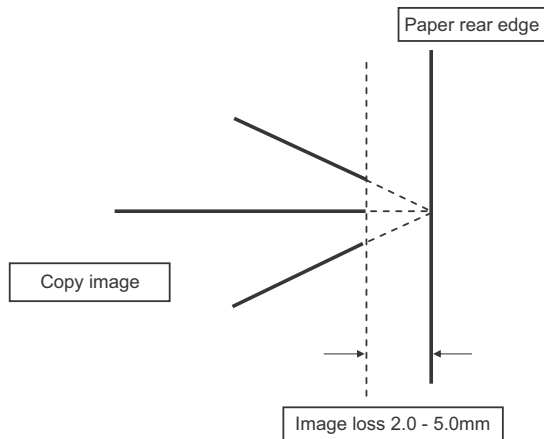


If the above condition is not satisfied, perform the following procedure.

- 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)

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



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

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

TRAIL EDGE (SIDE 1):

Rear edge image loss adjustment value (Front surface)

TRAIL EDGE (SIDE 2):

Rear edge image loss adjustment value (Back surface)

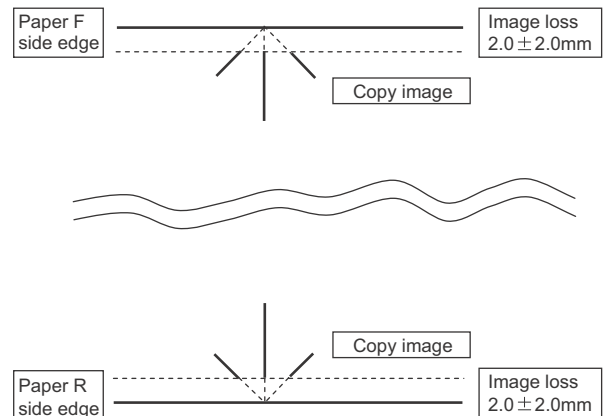
(When the adjustment value is increased, the rear edge image loss is increased.)

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

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

(Front/rear frame direction image loss adjustment)

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



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

- 2) Enter the adjustment value of 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 17 Finisher and punch unit adjustments (alignment, punch hole position, staple position)

This adjustment must be performed in the following cases:

- * When the finisher is disassembled.
- * When the finisher control PWB is replaced.
- * When the punch unit is disassembled.
- * When the punch control PWB is replaced.
- * When the alignment is improper.
- * When the punch hole position is shifted.
- * When the staple position is shifted.

- 1) Enter the SIM 3-10 mode.
- 2) Select an adjustment target item with the scroll key.

4K finisher (50 sheet staple) (MX-FN19)

Item/Display		Content	Setting range	Default value	Purpose (Case where the adjustment is required)	Change when the adjustment value is increased or decreased		Change when the adjustment value is changed by 1
A	FRONT ADJUST	Alignment position adjustment (front)	0 - 20	10	When the paper alignment capability in the stacker section is improper, the paper alignment width is adjusted.	F side paper alignment plate stop position (F/R direction)	When the adjustment value is increased, the alignment position is shifted to the center. When the adjustment value is decreased, the alignment position is shifted to the outside.	0.2mm
B	STAPLE REAR	Stapling position adjustment (Rear, one position)	94 - 106	100	When the stapling position on the R side is shifted, the adjustment is executed.	Stapling position (stapler stop position) (F/R direction)	When the adjustment value is increased, the distance between the stapling position and the paper edge becomes longer. When the adjustment value is decreased, the distance between the stapling position and the paper edge becomes shorter.	0.2mm
C	STAPLE FRONT	Stapling position adjustment (one position in front)	94 - 106	100	When the stapling position on the F side is shifted, the adjustment is executed.	Stapling position (stapler stop position) (F/R direction)	When the adjustment value is decreased, the distance between the stapling position and the paper edge becomes shorter. When the adjustment value is increased, the distance between the stapling position and the paper edge becomes longer.	0.2mm
D	PUNCH CENTER	Punch center adjustment	30 - 70	50	When the punch off-center is shifted, the adjustment is executed.	Punching position (F/R direction)	When the adjustment value is increased, the hole position is shifted to the front. When the adjustment value is decreased, the hole position is shifted to the rear.	0.2mm
E	PUNCH HOLE	Punch hole position adjustment	46 - 52	50	When the punch hole position is shifted in the transport direction, the adjustment is executed.	Punch position (paper transport direction)	When the adjustment value is increased, the punch hole position is shifted to the rear edge of paper. When the adjustment value is decreased, the punch hole position is shifted to the lead edge of paper.	0.2mm

4K saddle stitch finisher (50 sheet staple) (MX-FN20)

Item/Display		Content	Setting range	Default value	Purpose (Case where the adjustment is required)	Change when the adjustment value is increased or decreased		Change when the adjustment value is changed by 1
A	SADDLE POSITION	Saddle stitch position adjustment	197 - 203	200	The adjustment is executed when the saddle staple position is shifted.	Saddle paper lead edge striking plate stop position (Up-down direction)	When the adjustment value is increased, the stapling position is shifted to the lead edge of transported paper. When the adjustment value is decreased, the stapling position is shifted to the rear edge of transported paper.	0.2mm
B	FOLDING POSITION	Saddle folding position adjustment	192 - 208	200	The adjustment is executed when the saddle folding position is shifted.	Saddle paper lead edge striking plate stop position (Up-down direction)	When the adjustment value is increased, the folding position is shifted to the lead edge of transported paper. When the adjustment value is decreased, the folding position is shifted to the rear edge of transported paper.	0.2mm
C	FRONT ADJUST	Alignment position adjustment (front)	0 - 20	10	When the paper alignment capability in the stacker section is improper, the paper alignment width is adjusted.	F side paper alignment plate stop position (F/R direction)	When the adjustment value is increased, the alignment position is shifted to the center. When the adjustment value is decreased, the alignment position is shifted to the outside.	0.2mm
D	STAPLE REAR	Stapling position adjustment (Rear, one position)	94 - 106	100	When the stapling position on the R side is shifted, the adjustment is executed.	Stapling position (stapler stop position) (F/R direction)	When the adjustment value is increased, the distance between the stapling position and the paper edge becomes longer. When the adjustment value is decreased, the distance between the stapling position and the paper edge becomes shorter.	0.2mm
E	STAPLE FRONT	Stapling position adjustment (one position in front)	94 - 106	100	When the stapling position on the F side is shifted, the adjustment is executed.	Stapling position (stapler stop position) (F/R direction)	When the adjustment value is decreased, the distance between the stapling position and the paper edge becomes shorter. When the adjustment value is increased, the distance between the stapling position and the paper edge becomes longer.	0.2mm
F	PUNCH CENTER	Punch center adjustment	30 - 70	50	When the punch off-center is shifted, the adjustment is executed.	Punching position (F/R direction)	When the adjustment value is increased, the hole position is shifted to the front. When the adjustment value is decreased, the hole position is shifted to the rear.	0.2mm
G	PUNCH HOLE	Punch hole position adjustment	46 - 52	50	When the punch hole position is shifted in the transport direction, the adjustment is executed.	Punch position (paper transport direction)	When the adjustment value is increased, the punch hole position is shifted to the rear edge of paper. When the adjustment value is decreased, the punch hole position is shifted to the lead edge of paper.	0.2mm

4K finisher (100 sheet staple) (MX-FN21)

Item	Display	Content	Setting range	Default value
A	BUFFER SHIFT1	Buffer paper shift amount adjustment 1	50 - 150	100
B	BUFFER SHIFT2	Buffer paper shift amount adjustment 2	50 - 150	100
C	ALIGNMENT	Alignment width adjustment	50 - 150	100
D	STAPLE FRONT(S-WIDTH)	Stapling position adjustment (Front 1 position/Small width)	70 - 130	100
E	STAPLE FRONT(W-WIDTH)	Stapling position adjustment (Front 1 position/Wide width)	70 - 130	100
F	STAPLE REAR(S-WIDTH)	Stapling position adjustment (Rear 1 position/Small width)	70 - 130	100
G	STAPLE REAR(W-WIDTH)	Stapling position adjustment (Rear 1 position/Wide width)	70 - 130	100
H	STAPLE CENTER	Stapling position adjustment (Center 2 positions)	85 - 115	100
I	PUNCH Y	Punch hole position adjustment (Y: Main scanning direction)	85 - 115	100
J	PUNCH X	Punch hole position adjustment (X: Sub scanning direction)	50 - 150	100
K	PUNCH SKEW	Punch mode skew adjustment	98 - 102	100
L	PUNCH SKEW SHIN	Punch mode skew adjustment (thin paper)	99 - 103	100

4K saddle stitch finisher (100 sheet staple) (MX-FN22)

Item	Display	Content	Setting range	Default value
A	BUFFER SHIFT1	Buffer paper shift amount adjustment 1	50 - 150	100
B	BUFFER SHIFT2	Buffer paper shift amount adjustment 2	50 - 150	100
C	ALIGNMENT	Alignment width adjustment	50 - 150	100
D	STAPLE FRONT(S-WIDTH)	Stapling position adjustment (Front 1 position/Small width)	70 - 130	100
E	STAPLE FRONT(W-WIDTH)	Stapling position adjustment (Front 1 position/Wide width)	70 - 130	100
F	STAPLE REAR(S-WIDTH)	Stapling position adjustment (Rear 1 position/Small width)	70 - 130	100
G	STAPLE REAR(W-WIDTH)	Stapling position adjustment (Rear 1 position/Wide width)	70 - 130	100
H	STAPLE CENTER	Stapling position adjustment (Center 2 positions)	85 - 115	100
I	PUNCH Y	Punch hole position adjustment (Y: Main scanning direction)	85 - 115	100
J	PUNCH X	Punch hole position adjustment (X: Sub scanning direction)	50 - 150	100
K	PUNCH SKEW	Punch mode skew adjustment	98 - 102	100
L	PUNCH SKEW SHIN	Punch mode skew adjustment (thin paper)	99 - 103	100
M	SDL FOLD	Saddle folding position adjustment	80 - 120	100
N	SDL STPL	Saddle stitch position adjustment	80 - 120	100
O	SDL DIVIDE	Saddle separation position adjustment	85 - 115	100
P	SDL WIDTH	Saddle alignment width adjustment	80 - 120	100
Q	STPL/FOLD 1	Stapling/Folding position adjustment value 13 x 19	42 - 58	50
R	UNBOUND FOLD 1	Not-stapled folding position adjustment value A4R/LTRR	42 - 58	50
S	UNBOUND FOLD 2	Not-stapled folding position adjustment value B4/LGL	42 - 58	50
T	UNBOUND FOLD 3	Not-stapled folding position adjustment value A3/LDR	42 - 58	50
U	UNBOUND FOLD 4	Not-stapled folding position adjustment value SRA3/12 x 18	42 - 58	50
V	UNBOUND FOLD 5	Not-stapled folding position adjustment value 13 x 19	42 - 58	50
W	UNBOUND FOLD 6	Not-stapled folding position adjustment value (User-defined size)	42 - 58	50
X	TRIMMER REG S (*)	Trimmer registration position adjustment (Small size)	50 - 150	100
Y	TRIMMER REG L (*)	Trimmer registration position adjustment (Large size)	50 - 150	100
Z	TRIMMER CUT S (*)	Trimmer cut position adjustment (Small size)	50 - 150	100
AA	TRIMMER CUT L (*)	Trimmer cut position adjustment (Large size)	50 - 150	100

(*): Setting can be made only when the trimmer unit is installed.

- 3) Enter an adjustment value and press [OK] key.
- 4) Cancel the simulation, make a copy in the mode including the adjustment target, and check the adjustment result.

ADJ 18 DSPF CCD calibration

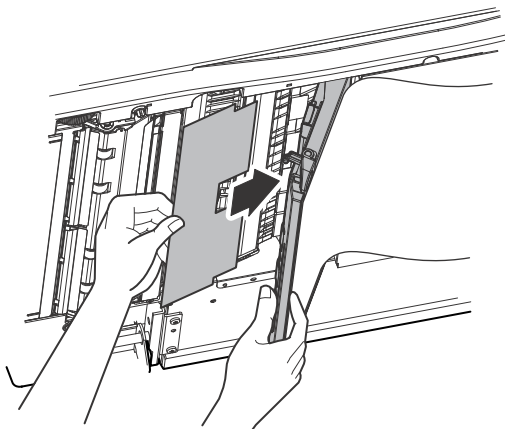
18-A Shading adjustment (Calibration) (DSPF mode)

This adjustment is required in the following cases:

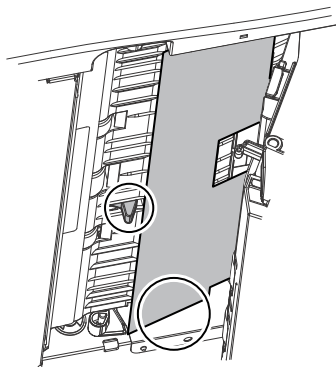
- * When the DSPF CCD unit is replaced.
- * When a U2 trouble occurs.
- * When the DSPF control PWB is replaced.

(1) Note before adjustment

- 1) Check to insure that there is no dirt or dust on the DSPF scanning glass, the mirror, and the lens surface. (If there is, clean it with alcohol.)
- 2) Open the DSPF document scanning section, insert the shading adjustment sheet (UKOG-0333FCZZ), and close the DSPF document scanning section.



- * When inserting the shading adjustment sheet, insert it along the rear edge frame so that the rear edge of the shading adjustment sheet comes to the root of the actuator.



- 3) Enter the SIM 63-2 mode.
- 4) Select [DSPF SHADING].
- 5) 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	OC analog correction level correction, and shading correction data making (Document table mode)
DSPF SHADING	Analog correction level correction, and shading correction data making (DSPF mode)

<Result display>

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

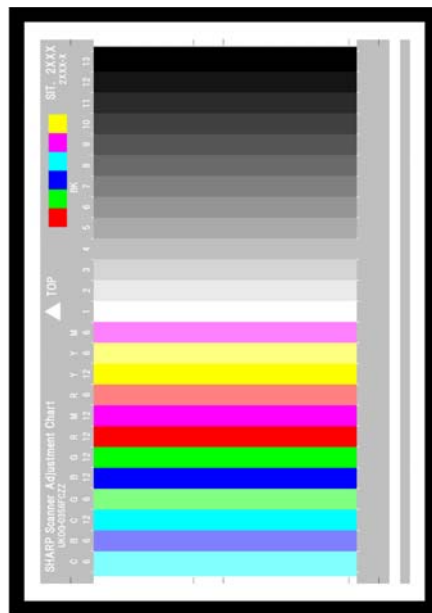
18-B CCD gamma adjustment (CCD calibration) (DSPF mode)

This adjustment is required in the following cases:

- * When the DSPF CCD unit is replaced.
- * When a U2 trouble occurs.
- * When the DSPF control PWB is replaced.

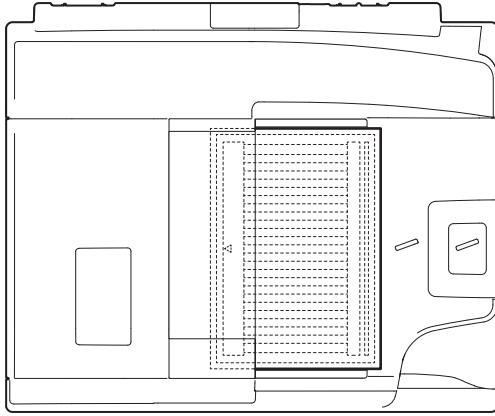
(1) Note before adjustment

- 1) Check to insure that there is no dirt or dust on the DSPF scanning glass, the mirror, and the lens surface. (If there is, clean it with alcohol.)
- 2) Check to confirm that the scanner adjustment chart (UKOG-0356FCZZ) are free from dirt and scratches.
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 face-down in the DSPF paper feed tray.



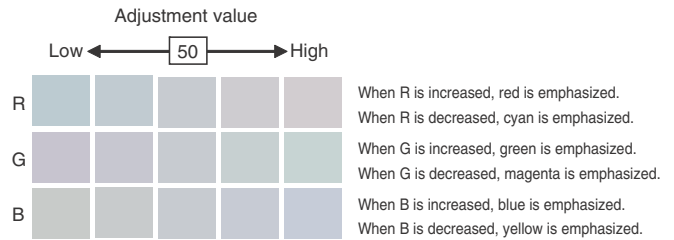
If the scanner adjustment chart is not available, execute SIM 63-5 to set the CCD gamma to the default. In this case, however, the adjustment accuracy is lower when compared with the adjustment method using the scanner adjustment chart.

- 2) Enter the SIM 63-3 mode.
 - 3) When a color key is selected, the adjustment value of the selected color is displayed.
 - * When [B] (Blue), [G] (Green), or [R] (Red) key is selected, the selected key is highlighted and the adjustment value of the selected color is displayed.
 - * Only one color key can be selected, and the selected key is highlighted. In the initial state, [B] is selected.
 - * If there is a page over [UP], an active display is shown and the page moves up. If there is no page upward, the display grays out and the operation is invalid.
 - If there is a page under [DOWN], an active display is shown and the page moves down. If there is no page downward, the display grays out and the operation is invalid.
 - 4) When [DSPF] key is pressed, it is highlighted, and the color automatic adjustment execution screen is displayed.
 - 5) Press [EXECUTE] key and it is highlighted and the color auto adjustment is executed.
 - * When [EXECUTE] key is pressed during the automatic adjustment, the automatic adjustment is interrupted.
 - 6) After normal completion, the result of calculation is displayed in the initial screen.
 - * When an error occurs in execution, the following screen is displayed.
 - * When an error occurs in the automatic adjustment, all the error patch numbers are displayed.
- When [RESULT] key is pressed, the display returns to the initial screen. (The previous value is displayed)
- * When the operation is completed normally, "COMPLETE" is displayed. When [RESULT] key is pressed, the display returns to the initial screen. (The calculation result of normal completion is displayed.)

ADJ 19 DSPF back surface color balance exposure adjustment (Manual adjustment)

This adjustment is to manually adjust the color balance of R, G, and B on the DSPF back surface in the following cases:

- There is a difference in hue between the front surface and the back surface of a duplex copy (scan) after executing SIM63-03 (automatic adjustment of the scanner and the DSPF color balance and color coefficient).
 - The color balance is requested to be changed (customized) by the user.
- 1) Place the servicing color test chart (UKOG-0326FCZZ/Z1) on the document table (OC), and press START key twice in the Text/Print Photo mode to make a 2-sided copy.
 - 2) Use the 2-sided copy made in procedure 1) as an original to make a 2-sided copy in the Text/Print mode with the DSPF.
 - 3) Check the tint of the front and the back surfaces.
 - If there is any difference, execute procedures 4) and later.
 - 4) Referring to the color sample below, check the hue on the back surface to confirm which color is shifted from that on the front surface.



- 5) Enter the SIM 46-9 mode.
 - For the color (R, G, B) which is shifted, the value is adjusted.
- 6) Select "DSPF" and select the color (G:R / H:G / I:B) to be adjusted with the scroll key.
- 7) Enter the adjustment value with 10-key and press [OK] key.
 - The adjustment value can be set in the range of (1 - 99).
 - All the initial values are set to 50.
 - To increase the color density, increase the adjustment value.
 - To decrease, decrease the adjustment value.
- 8) Make a duplex copy of UKOG-0326FCZZ/Z1) and a user document, as needed, in the Text/Print mode with the DSPF, and check the adjustment result.
 - Repeat procedures 3) - 8) until the difference in hue between the front surface and the back surface is eliminated or until the user satisfaction is obtained.

[Supplement] Since the read value varies according to the document type, thickness, and other conditions, perform the adjustment by using the user document if necessary.

ADJ 20 FR density variation correction

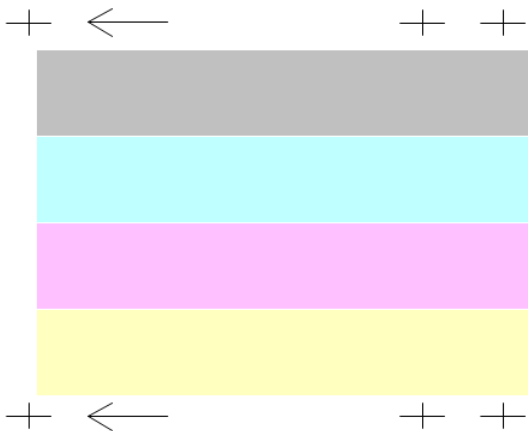
Make sure followings are confirmed prior to the adjustment:

- Charge unevenness is not occurring
- A paper tray with A4 (LT) size papers is available.
- The auto correction of FR density uniformity will clear the correction value in "ADJ20B manual correction of FR density uniformity". Do not execute auto correction if you wish to maintain the manual correction value.
- Execute Sim 61-13 if any one of DV unit, Drum Process unit and LSU unit has been replaced.

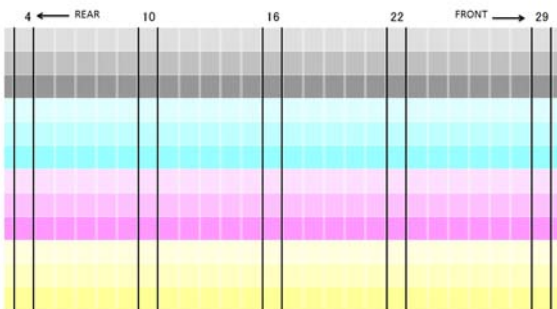
20-A FR density uniformity auto correction (32 point adjustment for all colors)

This adjustment must be performed in the following cases.

- Ununiformed density toward main scan direction has been observed
- 1) Enter Simulation 61-11.
 - 2) Press [AUTO CORRECTION] key.
Press [DATA] to confirm present auto correction value.
 - 3) Select the density level to adjust and press [EXECUTE] key.
The adjustment pattern will be output.
* Default Mode: Middle
 - 4) Place the adjustment pattern in the step 3) and the arrows on the adjustment pattern should be placed on left side (A4R/LTR direction) on the document table. and press [EXECUTE] key. Also put five blank sheets on top of the adjustment pattern.



- 5) After scanning the adjustment pattern and the adjustment result pattern will be printed automatically. Check whether density on front and rear side matches.



- 6) Press [RETRY] and repeat the steps in 3) to 5), if the density between front and rear is still unevenness with result in step 5).

NOTE: 1) As you repeat this procedure, the accuracy of this adjustment will increase that expected to remedy the color unevenness between front and rear.

- 2) [Setting the correction value back to default value (for readjustment)]

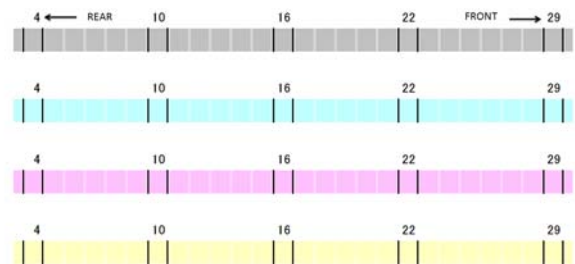
Clear the adjustment by Sim 61-13 (Laser Power Auto/Manual correction data clear). Make sure to execute this adjustment again after the clearance.

- 7) Execute Simulation 46-74 (Copy/Printer color balance adjustment) after completing all the adjustments.

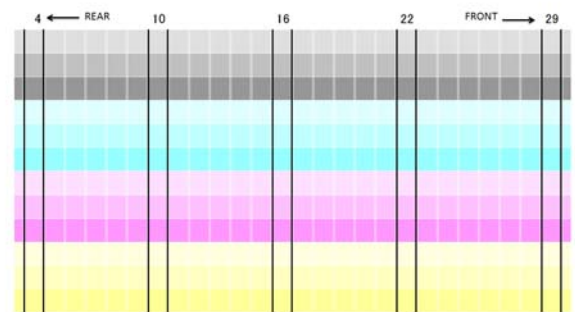
20-B FR density uniformity visual inspection (CMYK 5 point adjustment or CMYK 32point adjustment)

This adjustment must be performed in the following cases.

- Ununiformed density toward main scan direction has been observed:
- 1) Enter Simulation 61-12.
 - 2) Press [VISUAL INSPECTION] key.
Press [DATA] to confirm present manual correction value.
 - 3) Select the density level to adjust and press [EXECUTE] key.
The adjustment pattern will be output.
 - 4) Check the adjustment pattern in the step 3).
Select either [5 POINT CORRECTION] or [32 POINT CORRECTION], enter adjustment value and press [EXECUTE] key. Larger the adjustment value, the higher the density and vice versa.



- 5) The adjustment result pattern will be printed automatically. Check whether density on front and rear side matches.



- 6) After step5) if you furthermore require this adjustment, press [RETRY] key and repeat the step 3) to 5).

NOTE: [Setting the correction value back to default value (for readjustment)]

Clear the adjustment by Sim 61-13 (Laser Power Auto/Manual Correction Data Clear). Make sure to execute this adjustment again after the clearance.

- 7) Execute Simulation 46-74 (Copy/Printer color balance adjustment) after completing all the adjustments.

[6] SIMULATION

1. General and purpose

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

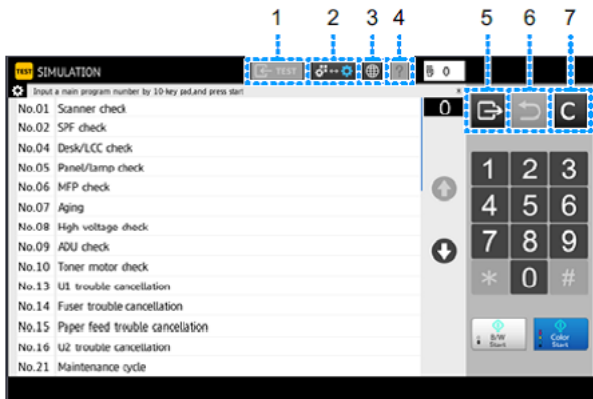
- 1) Various adjustments
- 2) Setting of the specifications and functions
- 3) Canceling troubles
- 4) Operation check
- 5) Counters check, setting clear
- 6) Machine operating conditions (operation hysteresis) data check, clear
- 7) Various (adjustments, setting, operation, counters, etc) data transport

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

2. Function of each key

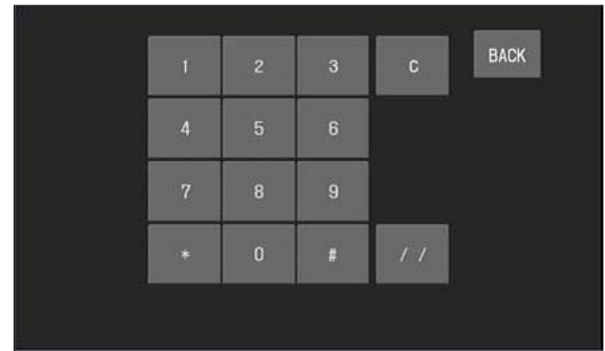
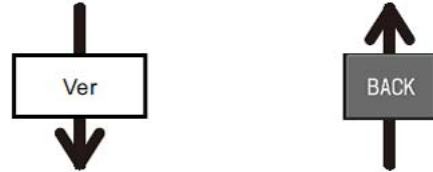
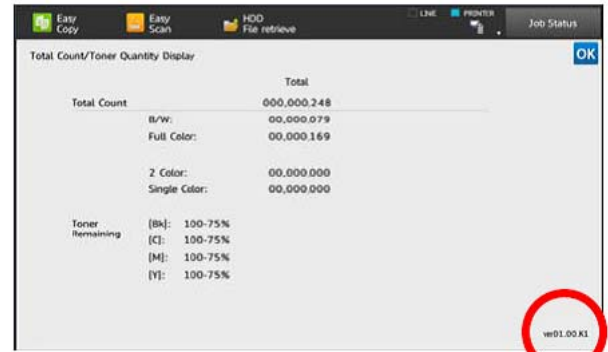


No.	Name	Function
1	TEST key	Change test mode
2	Mode setting key	Change mode (Easy mode, Classic mode)
3	Language setting key	Change language in simulation mode
4	INFO key	Display operation of current display
5	EXIT key	Exit from simulation mode
6	BACK key	Back to the previous display
7	CLEAR key	Clear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

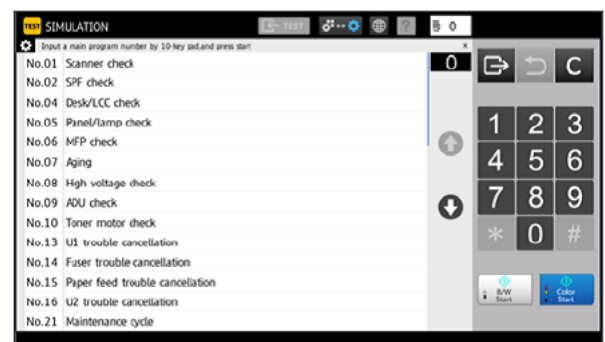
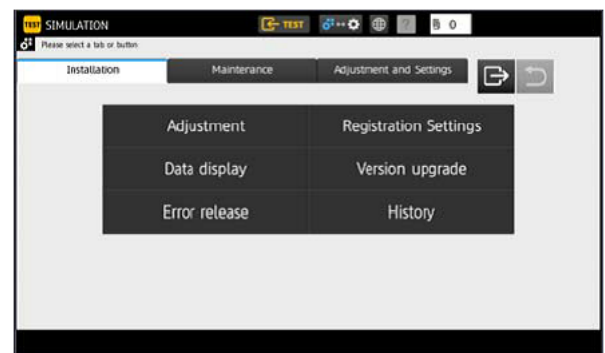
3. Starting the simulation

Entering the simulation mode

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



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



4. List of simulation codes

A. List of Easy mode

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
		64-05	Printer self print (PCL)
	5 Image Quality Adjustment	63-02	Shading execution
		63-03	Scanner color balance auto adjustment
		44-06	High density / engine halftone process control compulsory execution
		44-26	Half tone density correct execution
		46-74	Copy/printer gradation auto adjustment
2 Registration Settings	1 Function/Option settings	26-01	Paper output system setup
		26-02	Size setup
		26-03	Auditor setup
		26-50	Function setting
		26-65	Finisher alarm mode setup (staple limit)
		26-78	ROPE password setting
	2 Counter mode	26-05	A3(11x17) countup
		26-08	Banner size countup
		26-52	A blank paper count mode setup
	3 FAX/Image send settings	66-01	Image send software SW. setting
	4 Toner setting	26-18	Toner save mode setup
		26-69	Toner near end setting
	5 FSS setting	27-02	FSS function setup (input)
		27-04	FSS function setup
		27-07	FSS function setup (function)
		27-09	FSS function adjustment
		27-14	FSS test mode setup
		27-15	FSS connect status
		27-16	FSS alert setting
		27-17	FSS paper order alert setting
3 Data display	1 Counter display	22-01	Counter display
		22-09	Paper feed counter display
		22-13	Process cartridge display
	2 System/Version	22-05	ROM version data display
		22-10	Machine system display
	3 List printing	22-06	Data print mode
		23-02	JAM/trouble data print mode
	4 USB storage	56-99	Export all log data
4 Version upgrade	1	49-01	Firmware update
	2	49-03	E-manual update
	3	49-05	Water mark update
	4	49-06	OCR data update
	5	49-10	ACU update
5 Error release	1	13	U1 trouble cancellation
	2	14	Trouble cancellation (other)
	3	15	Paper feed trouble cancellation
	4	16	U2 trouble cancellation
6 Ready for transport	1	10-03	Toner cartridge eject sensor check
	2	06-90	Load move for shipment
10 History	1 Date list	Use SIM	

Maintenance

The first menu	The second menu	SIM number	SIM Title
1 Data display	1 Counter display	22-01	Counter display
		22-08	Org./staple counter display
		22-09	Paper feed counter display
		22-13	Process cartridge display
	2 JAM history data display	22-03	JAM history data display
		22-12	SPF JAM history data display
	3 System/Version	22-05	ROM version data display
		22-10	Machine system display
	4 List printing	22-06	Data print mode
		23-02	JAM/trouble data print mode
	5 USB storage	56-99	Export all log data

The first menu	The second menu	SIM number	SIM Title
2	1	50-10	Manual image position adjustment
		50-22	Auto adjustment of registration<FmSdata>[amp]drum position
	2	25-02	Automatic developer adjustment
		44-02	Process control gain adjustment
		46-74	Copy/printer gradation auto adjustment
		44-02	Process control gain adjustment
	3	44-06	High density / engine halftone process control compulsory execution
		44-26	Half tone density correct execution
		61-13	Laser power correction data clear
		61-11	Laser power auto correction
		63-03	Scanner color balance auto adjustment
		63-05	Standard scanner gamma setup
		46-74	Copy/printer gradation auto adjustment
		06-04	Charger cleaner check
	4	43-31	Fuser web cleaning check
		10-03	Toner cartridge eject sensor check
	5	25-02	Automatic developer adjustment
		24-01	JAM/trouble counter data clear
3	Counter clear	24-02	Paper feed counter clear
		24-03	Org./output counter data clear
		24-04	Maintenance counter clear
		21-01	Maintenance cycle setup
4	Registration Settings	49-01	Firmware update
		49-03	E-manual update
5	Version upgrade	49-05	Water mark update
		49-06	OCR data update
		49-10	ACU update
		13	U1 trouble cancellation
		14	Trouble cancellation(other)
6	Error release	15	Paper feed trouble cancellation
		16	U2 trouble cancellation
		1	Date list
10	History	Use SIM	

Adjustment and Settings

The first menu	The second menu	SIM number	SIM Title
1	1	50-01	Copy edge adjustment
		50-05	Print edge adjustment
		50-06	SPF edge adjustment
		50-10	Manual image position adjustment
		50-12	Original center offset setup
		48-01	Ratio adjustment
		48-05	Motor speed adjustment
		50-22	Auto adjustment of registration<FmSdata>[amp]drum position
	2	50-22	Auto adjustment of registration<FmSdata>[amp]drum position
		50-20	Registration adjustment
		61-11	Laser power auto correction
		46-74	Copy/printer gradation auto adjustment
	3	61-14	Laser power setting collective input
		61-11	Laser power auto correction
		61-13	Laser power correction data clear
		46-74	Copy/printer gradation auto adjustment
		46-54	Copy gradation auto adjustment(at dither)
		46-52	Copy gradation data clear(at dither)
		67-54	Printer gradation auto adjustment(at dither)
		67-52	Printer gradation data clear(at dither)
2	Process	10-03	Toner cartridge eject sensor check
		25-02	Automatic developer adjustment
		44-02	Process control gain adjustment
		46-74	Copy/printer gradation auto adjustment
3	Scanner/SPF	41-01	PD sensor check
		41-02	Document size photo-sensor setup
		46-09	Exposure adjustment(SFP)
		63-02	Shading execution
		53-06	SPF tray adjustment
		53-08	SPF scanning position adjustment
		63-03	Scanner color balance auto adjustment
		63-05	Standard scanner gamma setup
4	Paper feeding, Transport and paper ejection	40-02	Bypass tray adjustment
		40-12	Tray adjustment
		03-10	Finisher adjustment
		03-42	Folding unit adjustment

The first menu		The second menu		SIM number	SIM Title
5	Copy	1		46-21	Color copy gradation manual adjustment
		2		44-21	Half tone process control standard value register setup
		3		46-24	Copy gradation auto adjustment
		4		46-54	Copy gradation auto adjustment(at dither)
		5		63-07	Copy gradation auto adjustment target setup:service
		6		63-08	Copy gradation auto adjustment target clear:service
		7		63-11	Copy gradation auto adjustment target select
6	Printer	1		67-24	Printer gradation auto adjustment
		2		67-25	Printer gradation manual adjustment
		3		67-26	Printer gradation auto adjustment target select
		4		67-27	Printer gradation auto adjustment target setup:service
		5		67-28	Printer gradation auto adjustment target clear:service
7	Touch panel	1		65-01	Touch panel adjustment
8	Function/Option settings	1		64-02	Self print(B/W) : service
9	Data display	1	Counter display	22-01	Counter display
				22-09	Paper feed counter display
				22-13	Process cartridge display
		2	System/Version	22-05	ROM version data display
				22-10	Machine system display
		3	List printing	22-06	Data print mode
				23-02	JAM/trouble data print mode
		4	USB storage	56-99	Export all log data
10	History	1	Date list	Use SIM	

B. List of Classic mode

Main	Sub	Functions	Section
1	1	Used to check the operation of the scanner (reading) unit and the control circuit.	Scanner (reading)
	2	Used to check the sensors in the scanner (reading) section and the related circuits.	Scanner (reading)
	5	Used to check the operation of the scanner (reading) unit and the control circuit.	Scanner (reading)
2	1	Used to check the operations of the automatic document feeder and the control circuit.	DSPF
	2	Used to check the operations of the sensors and the detectors in the automatic document feeder section and the control circuits.	DSPF
	3	Used to check the operations of the loads in the automatic document feeder and the control circuit.	DSPF
3	2	Used to check the operations of the sensors and the detectors in the finisher and the control circuit.	Finisher
	3	Used to check the operation of the load in the finisher and the control circuit.	Finisher
	10	Used to adjust the finisher.	Finisher
	30	Insertion sensor check	Insertion
	31	Insertion individual load check	Insertion
	40	Paper folding unit sensor check	Paper folding unit
	41	Paper fold unit individual load check	Paper folding unit
	42	Paper folding unit adjustment	Paper folding unit
	50	Decurler sensor check	Decurler
	51	Decurler individual load check	Decurler unit
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.	Desk/Large capacity tray (LCC)
	3	Used to check the operations of the loads in the desk/large capacity tray (LCC), and the control circuit of those.	Desk/Large capacity tray (LCC)
	5	Used to check the operations of the paper feed desk paper transport clutch (DTRC) and the LCC paper transport clutch (LTRC).	Desk/Large capacity tray (LCC)
	10	LCT warm air heater temperature setting	LCT
	11	LCT fan Duty setting	LCT
	14	LCT temperature and humidity sensor monitor display	LCT
5	1	Used to check the operation of the display, LCD in the operation panel, and control circuit.	Operation panel
	2	Used to check the operation of the heater lamp and the control circuit.	Fusing
	3	Used to check the operation of the scanner lamp and the control circuit.	Scanner (reading)
	4	Used to check the operation of the discharge lamp and the control circuit.	Process
6	1	Used to check the operations of the load in the paper transport system (clutches and solenoids) and the control circuits.	Paper transport/Paper exit section
	2	Used to check the operations of each fan motor and its control circuit.	Others
	3	Used to check the operations of the transport unit and the control circuit.	Process (Transport)
	4	Used to check the cleaning operation of the PTC and the main charger.	Process
	6	Used to perform fusing pressure release and applying, and to check the operations of the control circuits.	Fusing
	7	Used to refresh the fuser belt.	Fusing
	90	Used to reset the machine to the factory setting. (The scanner is set to the lock enable position)	Scanner
7	1	Used to set the operating conditions of aging.	Others
	6	Used to set the operating intermittent aging cycle.	
	8	Used to display the warm-up time.	
	9	Color setting in the color copy test mode (Used to check the copy operation and the image quality for each color).	

Main	Sub	Functions	Section
7	12	The document reading number of sheets setting (for aging operation)	DSPF
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.	Process (Developing)
	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.	Process (Charging)
	6	Used to check and adjust the operation of the transport voltage and the control circuit.	Process (Transport)
	10	Main charger total current output setting	Process
9	2	Used to check the operations of the sensors and detectors in the paper reverse section (duplex section) and its control circuit.	Duplex
	3	Used to check the operations of the load in the paper reverse section (duplex section) and its control circuit.	Duplex
10	1	Used to check the operations of the toner supply mechanism (toner motor) and the related circuit.	Toner supply section
	2	Used to check the operations of the toner remaining quantity sensor and the control circuit.	Toner supply section
13	-	Used to cancel the self-diag "U1" trouble.	
14	-	Used to cancel the self-diag H3, H4, H5 troubles.	
15	-	Used to cancel the self-diag "U6" trouble.	LCC/LCT
16	-	Used to cancel the self-diag "U2" trouble.	MFP PWB / PCU PWB / SCU PWB
21	1	Used to set the maintenance cycle.	
22	1	Used to check the print count value in each section and each operation mode. (Used to check the maintenance timing.)	
	2	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.)	
	3	Used to check misfeed positions and the misfeed count of each position. * Presumption of the faulty point by this data is possible.	
	4	Used to check the trouble (self diag) history.	
	5	Used to check the ROM version of each unit (section).	Firmware
	6	Used to output the setting/adjustment data (simulation, FAX soft switch, counter), the firmware version, and the counter list.	
	8	Used to check the number of operations (counter value) of the finisher, the DSPF, and the scan (reading) unit.	
	9	Used to check the number of use (print quantity) of each paper feed section.	Paper feed, ADU, LCC
	10	Used to check the system configuration (option, internal hardware).	
	11	Used to check the use frequency (send/receive) of FAX. (Only when FAX is installed)	FAX
	12	Used to check the DSPF misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)	DSPF
	13	Used to check the operating time of the process section (OPC drum, DV unit, toner cartridge) and the fusing unit	Process
	14	Used to display the use status of the toner cartridge.	Process
	18	Used to display the user data delete history.	
	19	Used to check the values of the counters related to the scan - image send.	
	40	Used to display the error code list and the contents.	
	41	Used to check JAM code information.	
	42	Used to check the JAM/trouble data.	
	43	JAM data details display	
	90	Used to output the various set data lists.	
23	2	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.)	
	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 the detectors in the paper feed section and the paper transport section.	Paper feed, Paper transport
	81	Used to export paper feed time list.	
24	1	Used to clear the jam counter, and the trouble counter. (After completion of maintenance, clear the counters.)	
	2	Used to clear the number of use (the number of prints) of each paper feed section.	
	3	Used to clear the finisher, DSPF, and the scan (reading) unit counter.	
	4	Used to clear the maintenance counter, the printer counters of the transport unit and the fusing unit. (After completion of maintenance, clear the counters.)	
	5	Used to clear the developer counter value and the toner hopper remaining quantity counter. (After replacing developer, clear these counters.)	
	35	Used to clear the toner cartridge use status data.	
25	1	Used to check the operations of the developing section.	Process (Developing section)
	2	Used to make the initial setting of toner density when replacing developer. (Automatic adjustment)	Image process (Photoconductor/Developing/Transfer/Cleaning)
	4	Used to display the operation data of the toner supply quantity. (Not used in the market.)	Process
	5	Used to display the toner density correction data. (Not used in the market.)	Process
	10	Developer/drum serial no setting	
26	1	Used to set Yes/No of installation of the right paper exit tray.	Paper exit
	2	Used to set the paper size of the large capacity tray (LCC). (When the paper size is changed, this simulation must be executed to change the paper size in software.)	Paper feed
	3	Used to set the specifications of the auditor. (Setting must be made according to the auditor use conditions.)	Auditor
	5	Used to set the count mode of the total counter and the maintenance counter. (A3/11x17 size)	
	6	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.	

Main	Sub	Functions	Section
26	7	Used to set the machine ID.	
	8	Counter mode setting (Long scale)	
	10	Used to set the trial mode of the network scanner.	
	18	Used to set Disable/Enable of the toner save mode operation. (For the Japan and the UK versions.)	
	30	Used to set the operation mode corresponding to the CE mark (Europe safety standards). (For slow start to drive the fusing heater lamp)	
	32	Used to set the specifications of the fusing cleaning operation.	Fusing
	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.	
	38	Used to set Continue/Stop of print when the maintenance life is reached.	
	41	Used to set Enable/Disable of the magnification ratio automatic select function (AMS) in the center binding mode.	
	49	Used to set the print speed of postcards mode.	
	50	Used to set functions.	
	52	Used to set whether non-printed paper (insertion paper, cover paper) is counted up or not.	
	65	Used to set the finisher alarm mode.	
	66	Simulation password setting.	
	69	Used to set the operating conditions for toner near end.	
	73	Enlargement continuous shoot, A3 wide copy mode image loss (shade delete quantity) adjustment	
	74	Used to set the OSA trial mode.	
	78	Used to set the password of the remote operation panel.	
	79	Used to set YES/NO of the pop-up display of user data delete result.	
	85	Simulation function setting.	
27	2	Used to set the sender's registration number and the HOST server telephone number. (FSS function)	
	4	Used to set the initial call and toner order auto send. (FSS function)	
	5	Used to set the machine tag No. (This function allows the host computer to check the machine tag No.) (FSS function)	Communication (RIC/MODEM)
	6	Used to set of the manual service call. (FSS function)	
	7	Used to set of the enable, alert callout. (FSS function)	
	9	Used to set the paper transport time recording YES/NO threshold value and shading gain adjustment retry number. (FSS function)	
	10	Used to clear the trouble prediction history information. (FSS function)	
	11	Used to check the serial communication retry number and the scanner gain adjustment retry number history. (FSS function)	
	12	Used to check the high density, halftone process control and the automatic registration adjustment error history. (FSS Function)	
	13	Used to check the history of paper transport time between sensors. (FSS function)	
	14	Used to set the FSS function connection test mode.	
	15	Used to display the FSS connection status.	
	16	Used to set the FSS alert send.	
	17	Used to set the FSS paper order alert.	
30	1	Used to check the operations of the sensors and the detectors in other than the paper feed section and the control circuits.	
	2	Used to check the operations of the sensors and the detectors in the paper feed section and the control circuits.	
40	2	Manual paper feed tray paper width sensor adjustment.	Paper feed
	7	Used to set the adjustment value of the manual paper feed tray paper width sensor.	Paper feed
	12	Used to adjust the tray 4 width detection level.	Paper feed
41	1	Used to check the operations of the document size sensor and the control circuit.	
	2	Used to adjust the document size sensor detection level.	
	3	Used to check the operations of the document size sensor and the control circuit.	
43	1	Used to set the fusing temperature in each mode.	
	2	Used to set the fusing operation and preheating.	
	20	Used to set the environmental correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-1) in each paper mode.	
	21	Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-1) in each paper mode.	
	24	Used to set the correction of the temperature adjustment value of SIM 43-1.	
	31	Used to check fusing web cleaning.	
	32	Used to set various items related to the forcible operation of web cleaning when job end.	Fusing
	35	Fusing nip operation check	Fusing
44	1	Used to set each correction operation function in the image forming (process) section.	Image process (Photoconductor/Developing/Transfer/Cleaning)
	2	Used to adjust the sensitivity of the image density sensor (registration sensor).	Process
	4	Used to set the conditions of the high density process control operation.	Process
	6	Used to execute the high density process control forcibly.	Process
	9	Used to display the result data of the high density process control operation.	Image process (Photoconductor/Developing/Transfer/Cleaning)
	12	Used to display the operation data of the high density process control and the image density sensor (registration sensor).	Image process (Photoconductor/Developing)
	14	Used to display the output level of the temperature and humidity sensor.	Process (OPC drum, development)/Fusing/LSU

Main	Sub	Functions	Section
44	15	Used to set the OPC drum idle rotation.	Process
	17	Process refresh execution	Process
	21	Used to set the halftone process control target.	Process
	22	Used to display the toner patch density level in the halftone process control operation.	Process
	24	Used to display the correction target and the correction level in the halftone process control operation.	Process
	25	Used to set the calculating conditions of the correction value for the halftone process control.	Process
	26	Used to execute the halftone process control compulsory.	Process
	27	Used to clear the correction data of the halftone process control.	Process
	28	Used to set the process control execution conditions.	Process
	29	Used to set the operating conditions of the process control during a job.	Process
	31	Used to check the deflection of the OPC drum.	Process
	37	Used to set the development bias correction level in the continuous printing operation.	
	43	Used to display the identification information of the developing unit.	Developing system
46	62	Used to set the process control execution conditions.	Process
	1	Used to adjust the copy density in the copy mode.	
	2	Used to adjust the copy density in the copy mode.	
	4	Used to adjust the density in the image send mode.	
	5	Used to adjust the density in the image send mode.	
	8	Used to adjust the image send mode color balance RGB.	
	9	Used to adjust the scan image density.	
	10	Used to adjust the copy color balance and the gamma (for each color copy mode).	
	16	Used to adjust the monochrome copy density and the gamma (for each monochrome copy mode).	
	19	Used to set the operating conditions for the density scanning (exposure) of monochrome auto copy mode documents.	
	21	Copy color balance adjustment (Manual adjustment)	
	23	Used to set the density correction of copy high density section (High density tone gap supported).	
	24	Copy color balance adjustment (Auto adjustment)	
	25	Used to adjust the copy color balance. (Single color copy mode)	
	26	Used to reset the single color mode color balance set value to the default.	
	27	Used to adjust the gamma/density of copy images, texts, and line image edges.	
	30	Used to adjust the resolution in the sub scanning direction in the copy mode.	
	32	Used to adjust the document background density reproducibility in the monochrome auto copy mode.	
	36	Used to adjust the colors in the 2-color copy mode.	
	37	Used to adjust the reproduction capability of monochrome mode color.	
	38	Used to adjust the black component amount in the color copy mode.	
	39	Used to adjust the sharpness of FAX send images.	
	40	Used to adjust the FAX send image density. (Collective adjustment of all the modes)	
	41	Used to adjust the FAX send image density. (Normal)	
	42	Used to adjust the FAX send image density. (Fine)	
	43	Used to adjust the FAX send image density. (Super Fine)	
	44	Used to adjust the FAX send image density. (Ultra fine)	
	45	Used to adjust the FAX send image density. (600dpi).	
	46	Used to adjust the FAX send image density. (RGB RIP)	
	47	Used to set the compression rate of copy and scan images (JPEG).	
	48	Used to set the copy output resolution.	
	51	Used to adjust the gamma for the copy mode heavy paper mode and the image process mode.	
	52	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.)	
	54	Used to perform the engine halftone automatic density adjustment (dither).	
	55	Used to adjust the drop out color in the image send mode (monochrome manual text mode).	
	58	Used to set the copy mode pseudo resolution. (Smoothing process)	
	60	Used to adjust the sharpness in the color auto copy mode.	
	61	Used to adjust the area separation recognition level.	
	62	Used to set the operating conditions of the ACS, the area separation, the background image process, and the auto exposure mode.	
	63	Used to adjust the density in the copy low density section.	
	65	Used to set the color correction table.	
	66	Used to adjust the reproduction capability of watermarks in the copy/printer mode.	
	68	Used to adjust the auto resolution judgment.	
	74	Copy color balance adjustment (Auto adjustment)/Printer color balance adjustment (Auto adjustment)	
	90	Used to set the process operation of high-compression PDF images.	
	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).	
	5	Used to correction the scan image magnification ratio (in the sub scanning direction).	Scanner section
	6	Used to adjust the rotation speed of each motor.	
49	1	Used to perform the firmware update.	
	3	Used to update the operation manual in the HDD.	
	5	Used to perform the watermark update.	
	6	Used to perform the OCR update.	
	10	Used to perform the ACU update.	

Main	Sub	Functions	Section
50	1	Copy image position, image loss adjustment	
	5	Used to adjust the print lead edge image position. (PRINTER MODE)	
	6	Used to adjust the copy image position and the image loss. (DSPF mode)	DSPF
	10	Used to adjust the black print image magnification ratio and the off-center position. (The adjustment is made separately for each paper feed section.)	
	12	Used to perform the scan image off-center position adjustment. (The adjustment is made separately for each scan mode.)	
	20	Image registration adjustment (Main scanning direction)	
	22	Used to adjust the image registration. (Main scan direction, sub scan direction) (Auto adjustment)/OPC drum phase adjustment (Auto adjustment)	
	23	Used to set the temperature correction.	
	24	Used to display the detail data of SIM 44-2, 50-20 and 22.	
	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.	
	2	Used to adjust the contact pressure (deflection amount) on paper by the main unit and the DSPF 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.)	
53	6	Used to adjust the detection level of the DSPF document width.	
	7	Used to adjust the DSPF document size width sensor.	
	8	Used to adjust the document lead edge reference and the DSPF mode document scan position.	
	9	DSPF dirt detection setting.	
	10	DSPF dirt detection execution.	
55	1	Used to set the specifications of the engine control operations. (SOFT SW)	
	2	Used to set the specifications of the scanner control operation. (SOFT SW)	
	3	Used to set the specifications of the controller operation. (SOFT SW)	
	10	Used to set the special stamp text. (Taiwan only)	
56	1	Used to transport data between HDD - MFP PWB SRAM/EEPROM. (Used to repair the PWB.)	
	2	Used to backup the data in the EEPROM. SD Card, and HDD (including user authentication data and address data) to the USB memory. (Corresponding to the device cloning and the storage backup.)	
	3	Used to backup the document filing data to the USB memory.	
	4	Used to backup the JOB log data to the USB memory.	
	5	Used to import the SIM22-6 data to a USB memory in the TEXT format.	
	6	Used to output the JAM/trouble data.	
	7	Used to export system log data.	
	8	Used to perform ICC profile update.	
	15	Used to restore MFP EEPROM data.	
	99	Used to export system log data.	
60	1	Used to check the memory operations (read/write) of the MFP PWB.	
61	1	Used to check the LSU polygon motor rotation and laser detection.	LSU
	2	Used to set the laser power (FIERY)	
	3	Used to set the laser power	
	4	Used to print the print image skew adjustment pattern. (LSU unit)	
	11	Used to correct the laser power automatically.	
	12	Laser power manual correction	LSU
	13	Used to clear the laser power correction value.	
	14	Used to set the laser power correction.	
62	1	Used to format the hard disk/SD Card. (HDD: Excluding the Operation manual and the watermark data) (SD Card: User data)	
	2	Used to check read/write of the hard disk (partial).	
	3	Used to check read/write of the hard disk (all areas).	
	6	Used to perform the self diagnostics of the hard disk.	
	7	Used to print the hard disk self diagnostics error log.	
	8	Used to format the hard disk/SD Card. (HDD: Excluding the Operation Manual, the watermark data, and the system area) (SD Card: User data)	
	10	Used to clear the job completion list data.	
	11	Used to delete the document filing data.	
	12	Used to set Enable/Disable of auto format in a hard disk trouble.	
	13	Used to format the hard disk. (Operation Manual, watermark data only)	
	14	Used to delete the document filing management data.	HDD
	20	Used to check the operation of the mirroring hard disk.	Mirroring hard disk
63	1	Used to display the shading correction result.	Scanner
	2	Used to perform shading.	
	3	Used to perform scanner (CCD) color balance and gamma auto adjustment.	Scanner
	4	Used to display the SIT chart patch density.	
	5	Used to perform the scanner (CCD) color balance and gamma default setting.	
	7	Used to register the service target of the copy mode auto color balance adjustment.	
	8	Used to set the default of the service target of the copy mode auto color balance adjustment.	
64	11	Used to set the target color balance of the copy mode auto color balance adjustment.	
	1	Test print. (Self print) (Color mode)	
	2	Test print. (Self print) (Monochrome mode)	
	4	Printer test print. (Self print)	
	5	Printer test print. (Self print) (PCL)	

Main	Sub	Functions	Section
64	6	Printer test print. (Self print) (PS)	
65	1	Used to adjust the touch panel (LCD display section) detection coordinates.	Operation panel section
	2	Used to display the touch panel (LCD display section) detection coordinates.	
	5	Used to check the operation panel key input.	
66	1	Used to display the FAX-related soft SW (2 - 150) on the LCD to allow changing the soft SW while checking with the LCD.	FAX
	2	Used to enter a country code and set the default value for the country code.	FAX
	3	Used to check read/write of the EEPROM and the SDRAM on the MODEM controller and display the result.	FAX
	4	Used to send the selected signals to the line and the main unit speaker. (Send level: max.)	FAX
	5	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.)	FAX
	6	Used to print the confidential registration check table (BOX NO., BOX name, passcode. (If there is no confidential registration, no print is made.)	FAX
	7	Used to output all image data saved in the image memory. (Confidential data are also outputted.)	FAX
	8	Used to send the selected sound messages to the line and the speaker. (Send level: Max.)	FAX
	9	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.	FAX
	10	Used to clear the FAX and image send image data. (The confidential data are also cleared.)	FAX
	11	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Max.)	FAX
	12	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Soft SW setting) * For the kinds of send signals at 300bps, refer to SIM66-11, 300bps send signal table.	FAX
	13	Used to register dial numbers for SIM66-14/15/16, Dial test. (Up to 20 digits can be registered.)	FAX
	14	Used to execute the dial pulse (10PPS) send test and to adjust the make time.	FAX
	15	Used to execute the dial pulse (20PPS) send test and to adjust the make time.	FAX
	16	Used to execute the DTFM signal send test and to adjust the send level.	FAX
	17	Used to send the DTMF signal to the line and the speaker. (Send level: Max.)	FAX
	18	Used to send the DTMF signal to the line and the speaker. (Send level: Soft SW setting)	FAX
	21	Used to print the selected items (system error, protocol monitor).	FAX
	22	Used to set the handset sound volume. (This simulation can be executed even though the handset setting is set to NO. When, however, the handset is not installed, the sound volume cannot be checked.) (Japan model only)	FAX
	29	Used to initialize the telephone book data (the one-touch registration table, the FTP/Desktop expansion table, the group expansion table, the program registration table, the interface memory box table, the meta data, InboundRouting, and the DocumentAdmin table).	FAX
	30	Used to display the TEL/LIU status change. The display is highlighted by status change.	FAX
	31	Used to set ON/OFF the port for output to TEL/LIU.	FAX
	32	Used to check the fixed data received from the line and to display the result.	FAX
	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.	FAX
	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.	FAX
	39	Used to check and change the destination setting saved in EEPROM of the FAX BOX.	FAX
	42	Used to rewrite the program to power control installed in the FAX BOX.	FAX
	43	Used to write the adjustment value into the power control installed in the FAX BOX.	FAX
	61	Used to display the FAX-related soft SW (151 - 250) on the LCD to allow changing the soft SW while checking with the LCD.	FAX
	62	Used to import the FAX receive data into a USB memory in PDF file type.	FAX
67	17	Printer reset	Printer
	24	Printer color balance adjustment (Auto adjustment)	Printer
	25	Printer color balance adjustment (Manual adjustment)	Printer
	26	Used to set the target color balance of the printer mode auto color balance adjustment.	Printer
	27	Used to set the service target of the printer mode auto color balance adjustment.	Printer
	28	Used to set the default of the service target of the printer mode auto color balance adjustment.	Printer
	31	Used to clear the printer calibration value.	Printer
	33	Used to change the gamma of the printer screen.	Printer
	34	Used to set the density correction in the printer high density section. (Support for the high density section tone gap)	Printer
	36	Used to adjust the density in the low density section.	Printer
	41	Used to set the threshold for judging the selected color printing or the black color printing in the black and white mode.	Printer
	42	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.	Printer
	43	2 Color mode balance adjustment	Printer
	46	Used to adjust print image enhancement	
	52	Used to set the default of the gamma of the printer screen.	Printer
	54	Printer color balance adjustment (Automatic adjustment for each dither)	Printer

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).

Item/Display		Operation mode	Default value
OC SCAN	300DPI	300DPI (372.0mm/s)	300DPI (372.0mm/s)
	400DPI	400DPI (372.0mm/s)	
	600DPI	600DPI (264.0mm/s)	
	1200DPI	1200DPI (132.0mm/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.

Item/Display		Operation mode	Default value
OC SCAN	300DPI	300DPI (372.0mm/s)	300DPI (372.0mm/s)
	400DPI	400DPI (372.0mm/s)	
	600DPI	600DPI (264.0mm/s)	
	1200DPI	1200DPI (132.0mm/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	DSPF

Operation/Procedure

- 1) Select the operation mode and the speed with the touch panel key.
- 2) Press [EXECUTE] key.
The DSPF 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.

Item/Display		Operation mode	Default value
(SINGLE)	300DPI	300DPI (496.0mm/s)	300DPI (496.0mm/s)
	400DPI	400DPI (396.0mm/s)	
	600DPI	600DPI (264.0mm/s)	
(DOUBLE)	300DPI	300DPI (496.0mm/s)	300DPI (496.0mm/s)
	400DPI	400DPI (396.0mm/s)	
	600DPI	600DPI (264.0mm/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	DSPF

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.

Display	Content
SSET	DSPF installation detector
SOCD	DSPF open/close sensor
SCOV	DSPF upper door open/close sensor
SLCOV	DSPF lower door open/close sensor
SPED1	DSPF document upper limit sensor
SPED2	DSPF document empty sensor
SPPD1	DSPF document pass sensor 1
SPPD2	DSPF document pass sensor 2
SPPD3	DSPF document pass sensor 3
SPPD4	DSPF document pass sensor 4
SPPD5	DSPF document pass sensor 5
SPOD	DSPF document exit sensor
SPRDMD	DSPF document random sensor
SPLS1	DSPF document length detection short sensor
SPLS2	DSPF document length detection long sensor
STLD	DSPF document feed tray lower limit sensor
STUD	DSPF document feed tray upper limit sensor
STMPU	DSPF stamp unit installation detection
SWD_LEN	DSPF guide plate position (Unit: 0.1mm)
SWD_AD	DSPF document detection volume output AD value

NOTE: SWD_LEN and SWD_AD are not ON/OFF display.

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

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.

Display	Content
SPFM	DSPF transport motor
SPOM	DSPF document exit motor
SLUM	DSPF lift-up motor
SPFFAN	DSPF cooling fan motor
SPFC	DSPF document feed clutch
SRRC	DSPF No.2 registration roller clutch
STRRC	DSPF No.1 registration roller clutch
STRC	DSPF transport roller clutch
STMPs	Stamp solenoid

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

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

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

NOTE: When the punch module is installed, the code names are displayed at the back of the sensor display.

Finisher (50-sheet stapling)

No./Display item	Content
1 PDPPD1	Finisher paper pass paper transport detector 1
2 PDPPD2	Finisher paper pass paper transport detector 2
3 PDOS	Finisher paper pass cover open/close sensor
4 FED	Finisher entry port paper detection
5 FAED1	Finisher tray 1 area detection 1
6 FAED2	Finisher tray 1 area detection 2
7 FAED3	Finisher tray 1 area detection 3
8 FFJHPD	Finisher alignment home position detection front
9 FRJHPD	Finisher alignment home position detection rear
10 FBED1	Finisher tray 1 paper detection
11 FBED2	Finisher tray 2 paper detection
12 FCCD	Finisher tray approach detection
13 FSLD1	Finisher tray 1 paper surface detection
14 FPDD1	Finisher discharged paper detection
15 FSLD2	Finisher tray 2 paper surface detection
16 FASHPD	Finisher rear edge assist home position detection
17 FSWHPD	Finisher oscillation guide home position detection
18 FSWOPD	Finisher oscillation guide open detection
19 FSTPD	Finisher staple tray paper detection
20 FSHPD	Finisher staple drive home position detection
21 FSTHPD	Finisher staple shift home position detection
22 FSD	Finisher staple empty detection
23 FSTD	Finisher staple lead edge position detection

No./Display item	Content
24 FFANLK	Finisher fan motor lock detection
25 FSJOGD	Finisher stapler alignment interference detection
26 FSAD	Finisher staple safety SW
27 FSHTD	Finisher shutter open detection
28 FCD	Finisher connection detection
29 FFDD	Finisher front cover open detection
30 F24V	Finisher 24V output interruption detection
31 FPSW1	Finisher PUSHSW1 detection
32 FPSW2	Finisher PUSHSW2 detection
33 FPSW3	Finisher PUSHSW3 detection
34 FAED21	Finisher tray 2 area detection 1
35 FAED22	Finisher tray 2 area detection 2
36 FAED23	Finisher tray 2 area detection 3

Finisher (100-sheet stapling)

No./Display item	Content
1 FNS103	Staple tray paper sensor
2 FNS122	Finisher tray 1 area 1 sensor
3 FNS123	Finisher tray 1 area 2 sensor
4 FNS124	Finisher tray 1 area 3 sensor
5 FNS146	Discharge paper surface detection
6 FNS149	YO paper surface sensor
7 FNS118	Process tray paper surface sensor
8 FNS143	Lower tray paper surface sensor
9 FNS114	YOHP sensor
10 FNS112	Take-up switch home position sensor
11 FNS135	Paper holding lever home position sensor
12 FNS111	Roller nip home position sensor
13 FNS142	Buffer flapper home position sensor
14 FNS102	Discharged paper detection
15 FNS101	Entry port paper detection
16 FNS131	Staple drive home position detection
17 FNS128	Staple area sensor
18 FNSW110	Tray 1 interference switch
19 FNS134	Staple cart sensor
20 FNS132	Staple lead edge position detection
21 FNS133	Staple empty detection
22 FNS104	Tray 1 paper detection
23 FNS105	Tray 2 paper detection
24 FNS130	Tray 3 paper detection
25 FNPCH_CON	Punch unit connection detection
26 FNSW2	PUSHSW2 detection
27 FNSW1	PUSHSW1 detection
28 FNS107	Staple shift home position detection
29 FNS108	Alignment plate front home position sensor
30 FNS109	Alignment plate rear home position sensor
31 FNS106	Shutter open detection
32 FNS110	Oscillation guide open detection
33 FNSW3-1	DIPSW1 detection
34 FNSW3-2	DIPSW2 detection
35 FNSW3-3	DIPSW3 detection
36 FNSW3-4	DIPSW4 detection
37 FNS129	Finisher front cover sensor
38 FNSW103	Stapler safety switch
39 FNSW101	Finisher front cover switch
40 FNS148	Shutter close detection
41 FNSW102	Oscillation guide switch
42 FNS125	Tray 2 area 1 sensor
43 FNS126	Tray 2 area 2 sensor
44 FNS127	Tray 2 area 3 sensor
45 FNS113	Rear edge falling home position sensor
46 FNS138	YO rear home position sensor
47 FNS139	YO front home position sensor
48 FNS136	Guide sub rear home position sensor
49 FNS137	Guide sub front home position sensor
50 FN24V-DET	24V-DETECT
51 FN24V1-DET	24V1-DETECT
52 FNAC-RELAY-ON	Relay on signal
53 FNS115	Gripper home position sensor
54 FNS140	Gripper front/rear sensor
55 FNS116	Gripper base front sensor

No./Display item	Content
56 FNS117	Gripper base rear sensor
57 FNM19-LD	Load tray upper motor arm
58 FNM20-LD	Load tray lower motor arm
59 FNFAN2-ALM	Power supply fan alarm
60 FNFAN1-ALM	PWB cooling fan alarm
61 FNFAN5-ALM	Upper tray fan alarm
62 FNFAN4-ALM	Lower tray fan alarm
63 FNS200	Cut staple sensor
64 FNSDL_CON	Saddle connection detection
65 FNFOLD_CON	Folding unit connection detection
66 FNGBC_CON	GBC punch connection detection
67 FNFLD-ETR-ST-ACK	Folding unit EntryStartAck signal
68 FNFLD-EJCT-ST	Folding unit EjectStart signal
69 PIS150	Transfer unit bus sensor
70 PISW200	Transfer unit front cover switch
71 PIUNITMOT_ALM	Transfer unit transport motor lock detection signal
72 PIPASSUNIT-CON	Transfer unit connection detection

Saddle stitch finisher (50-sheet stapling)

No./Display item	Content
1 FSSUC	Finisher saddle staple unit detection
2 FSPIND	Finisher saddle entry port paper detection
3 FSPDD	Finisher saddle paper exit detection
4 FSDTPD	Finisher saddle tray paper detection
5 FS1PD	Finisher saddle paper detection 1
6 FS2PD	Finisher saddle paper detection 2
7 FS3PD	Finisher saddle paper detection 3
8 FSLGE	Finisher paper pushing plate motor lock detection
9 FSLGHPD	Finisher paper pushing plate home position detection
10 FSLGTD	Finisher paper pushing plate lead edge position detection
11 FSFOE	Finisher paper folding motor lock detection
12 FSFOHPD	Finisher paper folding home position detection
13 FSPPHPD	Finisher paper positioning plate home position detection
14 FSPPPD	Finisher paper positioning plate paper detection
15 FSAHPD	Finisher alignment plate home position detection
16 FSSHPD	Finisher stitcher home position detection
17 FSVPPD	Finisher vertical path paper detection
18 FSCRPD	Finisher semi-circular roller phase detection
19 FSGHPD	Finisher guide home position detection
20 FSSH1P1	Finisher stitch operation home position detection 1
21 FSSH1P2	Finisher stitch operation home position detection 2
22 FSSD1	Finisher saddle needle presence detection 1
23 FSSD2	Finisher saddle needle presence detection 2
24 FSGHPC	Finisher paper folding guide home position sensor connection detection
25 FSFOHPC	Finisher paper folding home position sensor connector connection detection
26 FSSHPC	Finisher stitcher home position sensor connection detection
27 FSLGTC	Finisher paper pushing plate lead edge position sensor connector connection detection
28 FSINDD	Finisher inlet port cover open detection
29 FSINDSW	Finisher saddle inlet port door detection
30 FSFDSW	Finisher front door open detection SW
31 FSPSW1	Finisher S-PUSHSW detection
32 FSBHPC	Finisher paper pushing plate home position sensor connector connection detection

Saddle finisher (100-sheet stapling)

No./Display item	Content
1 FSS213	Pushing clock sensor
2 FSS214	Folding clock sensor
3 FSS228	Saddle tray paper sensor
4 FSS219	Rear edge holding shift home position
5 FSS221	Rear edge holding home position
6 FSS206	Alignment plate home position
7 FSS205	Lead edge stopper home position
8 FSS222	Pulling separation home position

No./Display item	Content
9 FSS229	Folding home position sensor
10 FSS223	Staple drive home position sensor
11 FSS208	Pushing home position
12 FSS203	Vertical path sensor
13 FSS226	Bundle paper exit path sensor 1
14 FST-CON	Trimmer connection detection
15 FSS225	Staple 2 sensor
16 FSS224	Staple 1 sensor
17 FSS207	Roller guide home position sensor
18 FSS227	Bundle paper exit bus sensor 2
19 FSS218	Rear edge sorting home position
20 FSS201	Entry port path sensor
21 FS24V-DET	Interlock power supply (24V) detection

Punch module (Finisher (50-sheet stapling))

No./Display item	Content
1 FPE	Punch motor lock detection
2 FPUC	Punch unit connection detection
3 FPHPD	Punch home position detection
4 FPSHPD	Punch side registration home position detection
5 FPFDD	Punch front door open detection
6 FPDD	Punch dust detection
7 FPUDSW	Punch upper cover open detection SW

Punch module (Finisher (100-sheet stapling))

No./Display item	Content
1 FCS105	Punch motor clock detection
2 FCPCB2	Punch dust sensor
3 FCS104	Punch home position detection
4 FCS101	Punch horizontal registration home position detection
5 FCPCB31	Punch horizontal registration A3 sensor
6 FCPCB32	Punch horizontal registration LD sensor
7 FCPCB33	Punch horizontal registration B4 sensor
8 FCPCB34	Punch horizontal registration A4R sensor
9 FCPCB35	Punch horizontal registration B5R sensor
10 FCS102	Punch hole motor position sensor
11 FCS103	Punch hole motor 2-hole/3-hole sensor
12 FCSW1-1	Punch DIPSW1
13 FCSW1-2	Punch DIPSW2

DIPSW (Finisher (50-sheet stapling))

No./Display item	Content
1 FDSW1	DIPSW1 detection
2 FDSW2	DIPSW2 detection
3 FDSW3	DIPSW3 detection
4 FDSW4	DIPSW4 detection
5 FDSW5	DIPSW5 detection
6 FDSW6	DIPSW6 detection
7 FDSW7	DIPSW7 detection
8 FDSW8	DIPSW8 detection

DIPSW (Saddle stitch finisher (50-sheet stapling))

No./Display item	Content
1 FSDSW1	S-DIPSW1 detection
2 FSDSW2	S-DIPSW2 detection
3 FSDSW3	S-DIPSW3 detection
4 FSDSW4	S-DIPSW4 detection
5 FSDSW5	S-DIPSW5 detection
6 FSDSW6	S-DIPSW6 detection
7 FSDSW7	S-DIPSW7 detection
8 FSDSW8	S-DIPSW8 detection

Folding unit (100-sheet stapling)

No./Display item	Content
1 FLENTY	Paper transfer start request
2 FLEXIT_ACK	Paper exit start response
3 FLS30	Speed reduction timing sensor
4 FLS31	Separation timing sensor
5 FLS32	Folding position accurate detection sensor
6 FLS33	Upper stopper section paper sensor

No./Display item		Content
7	FLS25	Lead edge guide home position sensor
8	FLS24	Internal 3-fold stopper home position sensor
9	FLS23	Upper stopper section home position sensor
10	FLS22	Discharged 1 paper sensor
11	FLS28	Internal 3-fold tray (intermediate tray) home position sensor
12	FLS26	Internal 3-fold tray (paper exit tray) full sensor
13	FLS27	Internal 3-fold tray (intermediate tray) paper sensor
14	FLS29	Folding unit pull-out sensor
15	FLORIHAN_LOCK	Brushless motor lock detection signal
16	FLSW1	Front cover sensor
17	FLS20	Entry port sensor
18	FLS21	Discharged paper 2 sensor
19	FLSW3-1	DipSW1
20	FLSW3-2	DipSW2
21	FLSW3-3	DipSW3
22	FLSW3-4	DipSW4
23	FLSW3-5	DipSW5
24	FLSW3-6	DipSW6
25	FLSW3-7	DipSW7
26	FLSW3-8	DipSW8
27	FLSW1	PushSW1
28	FLSW2	PushSW2
29	FLFAN3_LOCK	Power supply fan lock detection signal

Trimming module (100-sheet stapling)

No./Display item		Content
1	FTS108	Cutter motor clock sensor
2	FTS105	Registration home position sensor
3	FTS106	Press motor home position sensor
4	FTS104	Rear estrangement motor home position sensor
5	FTS102	Front estrangement motor home position sensor
6	FTS103	Paper delivery sensor
7	FTS101	Inlet sensor
8	FTS111	Waste paper full sensor
9	FTS109	Waste paper box detection sensor
10	FTSW1-1	DIPSW1 detection
11	FTSW1-2	DIPSW2 detection
12	FTSW1-3	DIPSW3 detection
13	FTSW1-4	DIPSW4 detection
14	FTSW2	PUSHSW detection

3-3

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

Operation/Procedure

- 1) Select the item to be 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.

Finisher (50-sheet stapling)

No./Display item		Content
1	PDPGS	Finisher paper pass paper gate solenoid
2	PDPTM	Finisher paper pass paper transport motor
3	PDCF	Finisher paper pass cooling fan
4	FFM	Finisher paper transport motor 1
5	FAM	Finisher bundle paper exit motor
6	FFJM	Finisher alignment motor front
7	FRJM	Finisher alignment motor rear
8	FFSM	Finisher staple motor
9	FTLM1	Finisher tray 1 lift motor
10	FTLM2	Finisher tray 2 lift motor
11	FFSM	Finisher staple motor

No./Display item		Content
12	FSWM	Finisher oscillation motor
13	FASM	Finisher rear edge assist motor
14	FINRRS	Finisher inlet port roller separation solenoid
15	FBRRS	Finisher buffer roller separation solenoid
16	FFDRRS	Finisher paper exit roller separation solenoid
17	FBES	Finisher buffer rear edge holding solenoid
18	FSHC	Finisher shutter open/close clutch
19	FAORC	Finisher bundle exit lower roller clutch

Finisher (100-sheet stapling)

No./Display item		Content
1	FNM101	Entry port transport motor
2	FNM104	Paper delivery transport motor
3	FNM108	Front alignment motor
4	FNM107	Stapler shift motor
5	FNM105	Load tray upper motor
6	FNM115	Staple motor
7	FNM110	Oscillation guide motor
8	FNM102	Buffer transport motor
9	FNM106	Load tray lower motor
10	FNM119	Roller nip motor
11	FNM114	YO motor
12	FNM120	Guide motor
13	FNM113	Rear edge falling motor
14	FNM117	Gripper belt motor
15	FNM116	Gripper arm motor
16	FNM121	Take-up transport motor
17	FNM112	Take-up swing motor
18	FNM118	Paper holding lever motor
19	FNM109	Rear alignment motor
20	FNCL102	Shutter clutch
21	FNM122	Paper delivery lower transport motor
22	FNSL101	Oscillation safety switch solenoid
23	FNFAN102	PWB cooling fan
24	FNFAN103	Upper tray cooling fan
25	FNFAN104	Lower tray cooling fan
26	PIM301	Transfer unit transport motor lock (*1)

*1: Operates only when the transport unit is installed.

Saddle stitch finisher (50-sheet stapling)

No./Display item		Content
1	FPPM	Finisher saddle paper positioning motor
2	FSIFM	Finisher saddle entry port transport motor
3	FSFM	Finisher saddle transport motor
4	FSFOM	Finisher paper folding motor
5	FSGM	Finisher guide motor
6	FSJM	Finisher saddle alignment motor
7	FSFSTM	Finisher stitch motor front
8	FSRSTM	Finisher stitch motor rear
9	FSLGM	Finisher paper holding motor
10	FSFS	Finisher saddle flapper solenoid
11	FS1DFS	Finisher paper deflection plate 1 solenoid
12	FS2DFS	Finisher paper deflection plate 2 solenoid
13	FSFCS	Finisher transport plate contact solenoid

Saddle stitch finisher (100-sheet stapling)

No./Display item		Content
1	FSM200	Entry port transport motor
2	FSM201	Transport motor
3	FSM212	Alignment roller (lead edge roller) motor
4	FSSL206	Inlet port path select solenoid
5	FSSL205	Lead edge stopper solenoid
6	FSSL203	Lead edge separation solenoid 1
7	FSSL204	Lead edge separation solenoid 2
8	FSM202	Alignment motor
9	FSM203	Lead edge stopper motor
10	FSM204	Roller guide motor
11	FSM210	Rear edge holding motor
12	FSM211	Rear edge shift motor
13	FSM213	Flapping motor

No./Display item	Content	
14	FSM214	Pull-in roller (separation) motor
15	FSM209	Staple motor
16	FSM206	Folding motor
17	FSM205	Push motor

Punch module (Finisher (50-sheet stapling))

No./Display item	Content	
1	FPNM	Punch motor
2	FPSM	Punch side registration motor

Folding unit (100-sheet stapling)

No./Display item	Content	
1	FLSOL2	Folding/Straight branch solenoid
2	FLSOL3	Separation solenoid
3	FLSOL5	Internal 3-fold stopper solenoid
4	FLM11	Folding transport motor
5	FLM15	Folding position adjustment motor
6	FLM13	Exit port motor 2
7	FLM14	Exit port motor 1
8	FLM5	Inlet port motor
9	FLSOL4	Internal 3-fold tray branch solenoid
10	FLM8	Upper stopper motor
11	FLM9	Internal 3-fold stopper adjustment motor
12	FLM10	Lead edge holding guide motor
13	FLM7	Internal 3-fold tray (intermediate tray) motor
14	FLCL3	Folding position adjustment clutch (normal)
15	FLCL4	Folding position adjustment clutch (reverse)

Trimming module (100-sheet stapling)

No./Display item	Content	
1	FTM101	Trimmer transport motor
2	FTM103	Inlet port separation motor
3	FTM104	Paper delivery separation motor
4	FTM102	Registration motor
5	FTM106	Cutter motor
6	FTSL101	Registration solenoid
7	FTM105	Press motor
8	FTSL102	Paddle solenoid

3-10	
Purpose	Adjustment
Function (Purpose)	Used to adjust the finisher.
Section	Finisher

Operation/Procedure

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

Finisher (50-sheet stapling)

Item/Display	Content	Setting range	Default value
A FRONT ADJUST	Alignment position adjustment (front)	0 - 20	10
B STAPLE REAR	Stapling position adjustment (Rear, one position)	94 - 106	100
C STAPLE FRONT	Stapling position adjustment (one position in front)	94 - 106	100
D PUNCH CENTER	Punch center adjustment	30 - 70	50
E PUNCH HOLE	Punch hole position adjustment	46 - 52	50

Saddle stitch finisher (50-sheet stapling)

Item/Display	Content	Setting range	Default value
A SADDLE POSITION	Saddle stitch position adjustment	197 - 203	200
B FOLDING POSITION	Saddle folding position adjustment	192 - 208	200
C FRONT ADJUST	Alignment position adjustment (front)	0 - 20	10
D STAPLE REAR	Stapling position adjustment (Rear, one position)	94 - 106	100
E STAPLE FRONT	Stapling position adjustment (one position in front)	94 - 106	100
F PUNCH CENTER	Punch center adjustment	30 - 70	50
G PUNCH HOLE	Punch hole position adjustment	46 - 52	50

Finisher (100-sheet stapling)

Item/Display	Content	Setting range	Default value
A BUFFER SHIFT1	Buffer paper shift amount adjustment 1	50 - 150	100
B BUFFER SHIFT2	Buffer paper shift amount adjustment 2	50 - 150	100
C ALIGNMENT	Alignment width adjustment	50 - 150	100
D STAPLE FRONT (S-WIDTH)	Stapling position adjustment (Front 1 position/Small width)	70 - 130	100
E STAPLE FRONT (W-WIDTH)	Stapling position adjustment (Front 1 position/Wide width)	70 - 130	100
F STAPLE REAR (S-WIDTH)	Stapling position adjustment (Rear 1 position/Small width)	70 - 130	100
G STAPLE REAR (W-WIDTH)	Stapling position adjustment (Rear 1 position/Wide width)	70 - 130	100
H STAPLE CENTER	Stapling position adjustment (Center 2 positions)	85 - 115	100
I PUNCH Y *1	Punch hole position adjustment (Y: Main scanning direction)	85 - 115	100
J PUNCH X *1	Punch hole position adjustment (X: Sub scanning direction)	50 - 150	100
K PUNCH SKEW *1	Punch mode skew adjustment	98 - 102	100
L PUNCH SKEW SHIN *1	Punch mode skew adjustment (thin paper)	99 - 103	100

*1: Not saved when the punch is not installed.

Saddle stitch finisher (100-sheet stapling)

Item/Display	Content	Setting range	Default value
A BUFFER SHIFT1	Buffer paper shift amount adjustment 1	50 - 150	100
B BUFFER SHIFT2	Buffer paper shift amount adjustment 2	50 - 150	100
C ALIGNMENT	Alignment width adjustment	50 - 150	100
D STAPLE FRONT (S-WIDTH)	Stapling position adjustment (Front 1 position/Small width)	70 - 130	100
E STAPLE FRONT (W-WIDTH)	Stapling position adjustment (Front 1 position/Wide width)	70 - 130	100
F STAPLE REAR (S-WIDTH)	Stapling position adjustment (Rear 1 position/Small width)	70 - 130	100
G STAPLE REAR (W-WIDTH)	Stapling position adjustment (Rear 1 position/Wide width)	70 - 130	100
H STAPLE CENTER	Stapling position adjustment (Center 2 positions)	85 - 115	100

Item/Display		Content	Setting range	Default value
I	PUNCH Y *2	Punch hole position adjustment (Y: Main scanning direction)	85 - 115	100
J	PUNCH X *2	Punch hole position adjustment (X: Sub scanning direction)	50 - 150	100
K	PUNCH SKEW *2	Punch mode skew adjustment	98 - 102	100
L	PUNCH SKEW SHIN *2	Punch mode skew adjustment (thin paper)	99 - 103	100
M	SDL FOLD	Saddle folding position adjustment	80 - 120	100
N	SDL STPL	Saddle stitch position adjustment	80 - 120	100
O	SDL DIVIDE	Saddle separation position adjustment	85 - 115	100
P	SDL WIDTH	Saddle alignment width adjustment	80 - 120	100
Q	STPL/FOLD 1	Stapling/Folding position adjustment value 13x19	42 - 58	50
R	UNBOUND FOLD 1	Not-stapled folding position adjustment value A4R/LTRR	42 - 58	50
S	UNBOUND FOLD 2	Not-stapled folding position adjustment value B4/LGL	42 - 58	50
T	UNBOUND FOLD 3	Not-stapled folding position adjustment value A3/LDR	42 - 58	50
U	UNBOUND FOLD 4	Not-stapled folding position adjustment value SRA3/12x18	42 - 58	50
V	UNBOUND FOLD 5	Not-stapled folding position adjustment value 13x19	42 - 58	50
W	UNBOUND FOLD 6	Not-stapled folding position adjustment value (User-defined size)	42 - 58	50
X	TRIMMER REG S *1	Trimmer registration position adjustment (Small size)	50 - 150	100
Y	TRIMMER REG L *1	Trimmer registration position adjustment (Large size)	50 - 150	100
Z	TRIMMER CUT S *1	Trimmer cut position adjustment (Small size)	50 - 150	100
AA	TRIMMER CUT L *1	Trimmer cut position adjustment (Large size)	50 - 150	100

*1: Setting can be made only when the trimmer unit is installed.

*2: Not saved when the punch is not installed.

3-30	
Purpose	Operation check
Function (Purpose)	Insertor sensor check
Section	Insertor

Operation/Procedure

- 1) When each sensor is turned ON, the sensor name displayed on the screen is highlighted.
- 2) Use the touch panel scroll key to shift between pages.

Display	Sensor name
INSENT	Inlet port sensor
INSOUT	Paper exit sensor
VTRS2	No. 2 vertical transport sensor
VTRS1	No. 1 vertical transport sensor
PLOUT2	No. 2 pull-out sensor
PLOUT1	No. 1 pull-out sensor
INSFEED2	No. 2 paper feed sensor
INSFEED1	No. 1 paper feed sensor
NEREND1	No. 1 near end detection
LWRLMT2	No. 2 lower limit detection
LWRLMT1	No. 1 lower limit detection
UPRLMT2	No. 2 upper limit detection
UPRLMT1	No. 1 upper limit detection
INSHP2	No. 2 pickup arm HP detection

Display	Sensor name
INSHP1	No. 1 pickup arm HP detection
INSEXT	Outlet port sensor
INSSZ13	No. 1 paper size sensor 3
INSSZ12	No. 1 paper size sensor 2
INSSZ11	No. 1 paper size sensor 1
PPRLNG2	No. 2 length sensor
PPRLNG1	No. 1 length sensor
PPREND2	No. 2 paper end detection
PPREND1	No. 1 paper end detection
NEREND2	No. 2 near end detection
FECVROP1	No. 1 paper size sensor
INSSZ25	No. 2 paper size sensor 5
INSSZ24	No. 2 paper size sensor 4
INSSZ23	No. 2 paper size sensor 3
INSSZ22	No. 2 paper size sensor 2
INSSZ21	No. 2 paper size sensor 1
INSSZ15	No. 1 paper size sensor 5
INSSZ14	No. 1 paper size sensor 4
INSFDRSW	Front door SW
VTRCVRSW	Vertical transport cover SW
FECVROP2	No. 2 cover open detection

3-31

Purpose	Operation check
Function (Purpose)	Insertor individual load check
Section	Insertor

Operation/Procedure

- 1) Press the name of the signal to which a load is applied with the touch panel key.
- 2) Press [EXECUTE] key to start the load operation.
- 3) Press [EXECUTE] key again to stop the operation.

[Display items]

Display	Content
TRSH_M	Horizontal transport motor
TRSV_M	Vertical transport motor
PLOUT2_M	No. 2 pull-out motor
PLOUT1_M	No. 1 pull-out motor
FEED2_M	No. 2 paper feed motor
FEED1_M	No. 1 paper feed motor
PIKUP2_M	No. 2 pickup motor
PIKUP1_M	No. 2 pickup motor
TRYLFT2M	No. 2 lift motor
TRYLFT1M	No. 1 lift motor

3-40

Purpose	Operation check
Function (Purpose)	Paper folding unit sensor check
Section	Paper folding unit

Operation/Procedure

- 1) When each sensor is turned ON, the sensor name displayed on the screen is highlighted.
- 2) Use the touch panel scroll key to shift between pages.

Sensor name (Display)	Content
FLENTY	Paper reception start request
FLEXIT_ACK	Paper exit start response
FLS30	Speed reduction timing sensor
FLS31	Separation timing sensor
FLS32	Folding position accurate sensor
FLS33	Upper stopper section paper sensor
FLS25	Lead edge hold guide HP sensor
FLS24	Internal 3-fold stopper HP sensor
FLS23	Upper stopper section HP sensor

Sensor name (Display)	Content
FLS22	Paper exit 1 paper sensor
FLS28	Internal 3-fold tray (Intermediate tray) HP sensor
FLS26	Internal 3-fold tray (Paper exit tray) full sensor
FLS27	Internal 3-fold tray (Intermediate tray) paper sensor
FLS29	Folding unit pull-out sensor
FLORIHAN_LOCK	Brushless motor lock detection signal
FLFSW1	Front cover sensor
FLS20	Inlet port sensor
FLS21	Paper exit 2 sensor
FLSW3-1	DipSW1
FLSW3-2	DipSW2
FLSW3-3	DipSW3
FLSW3-4	DipSW4
FLSW3-5	DipSW5
FLSW3-6	DipSW6
FLSW3-7	DipSW7
FLSW3-8	DipSW8
FLSW1	PushSW1
FLSW2	PushSW2
FLFAN3_LOCK	Power fan lock detection signal

3-41

Purpose	Operation check
Function (Purpose)	Paper fold unit individual load check
Section	Paper folding unit

Operation/Procedure

- 1) Press the name of the signal to which a load is applied with the touch panel key.
- 2) Press [EXECUTE] key to start the load operation.
- 3) Press [EXECUTE] key again to stop the operation.

[Display item]

No./Display	Content
1 FLSOL2	Folding/Straight branch solenoid
2 FLSOL3	Separation solenoid
3 FLSOL5	Internal 3-fold stopper solenoid
4 FLM11	Folding transport motor
5 FLM15	Folding position adjustment motor
6 FLM13	Outlet port motor 2
7 FLM14	Outlet port motor 1
8 FLM5	Inlet port motor
9 FLSOL4	Internal 3-fold tray branch solenoid
10 FLM8	Upper stopper motor
11 FLM9	Internal 3-fold stopper adjustment motor
12 FLM10	Lead edge hold guide motor
13 FLM7	Internal 3-fold tray (Intermediate tray) motor
14 FLCL3	Folding position adjustment clutch (Normal)
15 FLCL4	Folding position adjustment clutch (Reverse)

3-42

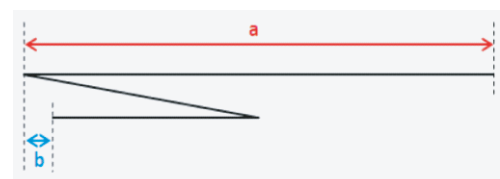
Purpose	Adjustment
Function (Purpose)	Paper folding unit adjustment
Section	Paper folding unit

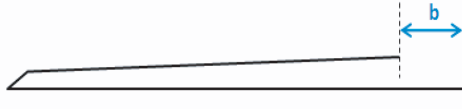
Operation/Procedure

- 1) Select an adjustment item with the touch panel scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

Item/Display	Content	Setting range	Default value
A FOLD S1 A3	A3 Z-fold first folding position adjustment	50 - 150	100
B FOLD S2 A3	A3 Z-fold second folding position adjustment	50 - 150	100

Item/Display	Content	Setting range	Default value
C FOLD S1 B4	B4 Z-fold first folding position adjustment	50 - 150	100
D FOLD S2 B4	B4 Z-fold second folding position adjustment	50 - 150	100
E FOLD S1 A4R	A4R Z-fold first folding position adjustment	50 - 150	100
F FOLD S2 A4R	A4R Z-fold second folding position adjustment	50 - 150	100
G FOLD S1 LDR	LDR Z-fold first folding position adjustment	50 - 150	100
H FOLD S2 LDR	LDR Z-fold second folding position adjustment	50 - 150	100
I FOLD S1 LGL	LGL Z-fold first folding position adjustment	50 - 150	100
J FOLD S2 LGL	LGL Z-fold second folding position adjustment	50 - 150	100
K FOLD S1 LTRR	LTRR Z-fold first folding position adjustment	50 - 150	100
L FOLD S2 LTRR	LTRR Z-fold second folding position adjustment	50 - 150	100
M FOLD IN T1 A4R	A4R internal 3-fold first folding position adjustment	50 - 150	100
N FOLD IN T2 A4R	A4R internal 3-fold second folding position adjustment	50 - 150	100
O FOLD IN T1 LTRR	LTRR internal 3-fold first folding position adjustment	50 - 150	100
P FOLD IN T2 LTRR	LTRR internal 3-fold second folding position adjustment	50 - 150	100
Q FOLD OUT T1 A4R	A4R external 3-fold first folding position adjustment	50 - 150	100
R FOLD OUT T2 A4R	A4R external 3-fold second folding position adjustment	50 - 150	100
S FOLD OUT T1 LTRR	LTRR external 3-fold first folding position adjustment	50 - 150	100
T FOLD OUT T2 LTRR	LTRR external 3-fold second folding position adjustment	50 - 150	100
U FOLD Q1 A4R	A4R 4-fold first folding position adjustment	50 - 150	100
V FOLD Q2 A4R	A4R 4-fold second folding position adjustment	50 - 150	100
W FOLD Q1 LTRR	LTRR 4-fold first folding position adjustment	50 - 150	100
X FOLD Q2 LTRR	LTRR 4-fold second folding position adjustment	50 - 150	100
Y FOLD Q1 LGL	LGL 4-fold first folding position adjustment	50 - 150	100
Z FOLD Q2 LGL	LGL 4-fold second folding position adjustment	50 - 150	100
AA FOLD H1 A4R	A4R 2-fold first folding position adjustment	50 - 150	100
AB FOLD H1 LTRR	LTRR 2-fold first position adjustment	50 - 150	100
AC FOLD IN S FINE	Z-fold X position fine adjustment designation data	46 - 53	50
AD FOLD IN T FINE	Internal 3-fold X position fine adjustment designation data	36 - 60	48
AE FOLD OUT T FINE	External 3-fold X position fine adjustment designation data	36 - 60	48
AF FOLD Q1 FINE	4-fold X position fine adjustment designation data	46 - 60	48
AG FOLD Q2 FINE	4-fold Y position fine adjustment designation data	50 - 60	52
AH FOLD H FINE	2-fold X position fine adjustment designation data	46 - 54	50

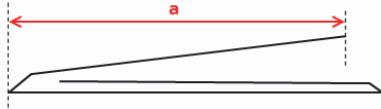




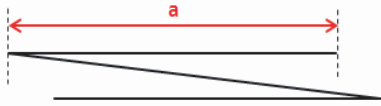
Item	Content	Variation value
AA	When the adjustment value is increased, the length of b is increased. When the adjustment value is decreased, the length of b is decreased.	0.1mm
AB	When the adjustment value is increased, the length of b is increased. When the adjustment value is decreased, the length of b is decreased.	0.1mm



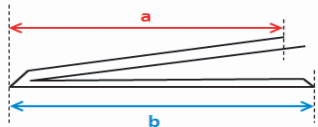
Item	Content	Variation value
AC	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.5mm



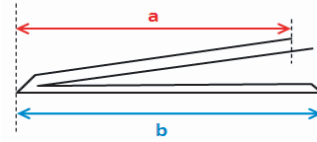
Item	Content	Variation value
AD	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.5mm



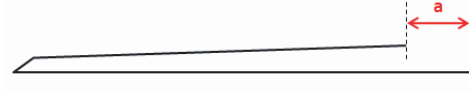
Item	Content	Variation value
AE	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.5mm



Item	Content	Variation value
AF	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.5mm



Item	Content	Variation value
AG	When the adjustment value is increased, the length of b is increased. When the adjustment value is decreased, the length of b is decreased.	0.5mm



Item	Content	Variation value
AH	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.5mm

3-50

Purpose	Operation check
Function (Purpose)	Decurler sensor check
Section	Decurler

Operation/Procedure

- When each sensor is turned ON, the sensor name displayed on the screen is highlighted.
- Use the touch panel scroll key to shift between pages.

No./Sensor name (Display)	Content
1 DCS100	Decurler unit transport path sensor
2 DCTRS_MOT_FAULT	Decurler transport motor driver IC error detection signal
3 DCSW100	Decurler unit front cover switch
4 DCMOT_FAN_LOCK	Decurler unit fan 3 alarm signal
5 DCTOP_FAN_LOCK	Decurler unit fan 1 alarm signal
6 DCBTM_FAN_LOCK	Decurler unit fan 2 alarm signal
7 DCSW1-1	DIPSW1 detection
8 DCSW1-2	DIPSW2 detection
9 DCSW1-3	DIPSW3 detection
10 DCSW1-4	DIPSW4 detection
11 DCSW2	PUSHSW detection
12 PDPPD1	Finisher paper relay paper transport detector 1
13 PDPPD2	Finisher paper relay paper transport detector 2
14 PDOS	Finisher paper relay cover open/close sensor
15 FFANLK	Finisher fan motor lock detection

3-51	
Purpose	Operation check
Function (Purpose)	Decurler individual load check
Section	Decurler unit

Operation/Procedure

- 1) Press the name of the signal to which a load is applied with the touch panel key.
- 2) Press [EXECUTE] key to start the load operation.
- 3) Press [EXECUTE] key again to stop the operation.

[Display item]

No./Display	Content
1 DCM100	Decurler transport motor
2 DCFAN100	Decurler unit fan 1
3 DCFAN101	Decurler unit fan 2
4 DCFAN103	Decurler unit fan 3
5 PDPTM	Finisher paper relay paper transport motor
6 PDPGS	Finisher paper relay paper gate solenoid
7 PDCF	Finisher paper relay cooling fan
8 PBM102	Relay unit transport motor 2

4

4-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and detectors in the desk/large capacity tray (LCC), and the control circuit of those.
Section	Desk/Large capacity tray (LCC)

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

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

A4LCC sensor

Display	Content
LPFD	LCC transport detector
LUD	LCC tray upper limit detector
LDD	LCC tray lower limit detector
LPED	LCC tray paper empty detector
LCLD	LCC tray open/close detector
LDSW	LCC upper open/close detection switch
LRE	LCC lift motor encoder
L24VM	LCC24V power monitor
LLSW	LCC upper limit switch
LCCD	LCC main unit connection detection

A3LCC sensor

Display	Content
LPFD	LCC transport detector
LUD	LCC tray upper limit detector
LDD	LCC tray lower limit detector
LPED	LCC tray paper empty detector
LCLD	LCC tray open/close detector
LDSW	LCC upper open/close detection switch
LRE	LCC lift motor encoder
L24VM	LCC24V power monitor
LLSW	LCC upper limit switch
LPUSW	LCC paper upper surface detection switch
LRRSW	LCC reverse winding detection switch
LTLSW	LCC tray lift switch
LTLD	LCC tray lock sensor
LIPSW	LCC illegal paper detection SW

Display	Content
LTOD	LCC main unit connection detection

Paper feed option: Paper pass unit sensor

Display	Content
L1DDR01	Machine - Relay connection sensor
L1DDR02	Interface unit upper open/close sensor
L1DDR03	Interface unit PG open/close sensor
L1DFR01	Interface transport sensor 1
L1DFR02	Interface transport sensor 2
L1DFR03	Interface transport sensor 3

Paper feed option: Paper pass unit sensor, Multi bypass tray sensor

Display	Content
L1MPFS	Manual paper feed sensor
L1MTS	Manual feed transport sensor
L1DFB01	Manual feed paper entry sensor
L1MPES	Manual feed paper sensor
L1MSLIDE	Manual feed slide detector
L1MULS	Upper limit sensor
L1MLLS	Lower limit sensor
L1MPVS1	Remaining quantity sensor 1
L1MPVS2	Remaining quantity sensor 2
L1MLSW	Lift switch
L1MLS	Manual feed tray paper length sensor
L1MSIZ1	Size sensor 1
L1MSIZ2	Size sensor 2
L1MSIZ3	Size sensor 3
L1MSIZ4	Size sensor 4
L1MSIZ5	Size sensor 5

LCT unit sensor

Display	Content
L1DFTRC	TRC signal (1 series)
L1DO001	2 series installation detection
L1DO002	Interface unit installation detection
L1DO003	Horizontal transport unit installation detection
L1DO004	Manual feed unit installation detection
L1DD001	Machine - LCT1 connection sensor
L1DD002	LCT1 front door open/close sensor
L1DD003	Transport open/close sensor 1 (1 series)
L1DD004	Transport open/close sensor 2 (1 series)
L1DD005	Vertical transport open/close sensor (1 series)
L1DD006	Horizontal unit insertion sensor
L1DF001	Vertical transport sensor 1 (1 series)
L1DF002	Vertical transport sensor 2 (1 series)
L1DF003	Vertical transport sensor 3 (1 series)
L1DF004	Vertical transport sensor 4 (1 series)
L1DF005	LCT paper exit sensor (1 series)
L1DF006	Horizontal transport sensor 1
L1DF007	Horizontal transport sensor 2
L1DF008	Horizontal transport sensor 3
L1DF009	Horizontal transport sensor 4
L1DF010	Horizontal transport sensor 5

LCT unit sensor: Cassette tray 1 sensor

Display	Content
L1DF101	Paper exit sensor 1cs
L1DT101	Cassette insertion detection switch 1cs
L1DT102	Upper limit switch 1cs
L1DT103	Paper empty sensor 1cs
L1DT104	Lift motor encoder 1cs
L1DT105	LCC tray lock sensor 1cs
L1DT106	Upper limit sensor 1cs
L1DT107	Lower limit sensor 1cs
L1DT108	Reverse winding detection switch 1cs
L1DT109	Tray descending switch 1cs
L1DT110	Paper upper surface sensor 1cs
L1DT111	Paper length sensor 1cs
L1DT112	Size sensor 1 1cs

Display	Content
L1DT113	Size sensor 2 1cs
L1DT114	Size sensor 3 1cs
L1DT115	Size sensor 4 1cs

LCT unit sensor: Cassette tray 2 sensor

Display	Content
L1DF201	Paper exit sensor 2cs
L1DT201	Cassette insertion detection switch 2cs
L1DT202	Upper limit switch 2cs
L1DT203	Paper empty sensor 2cs
L1DT204	Lift motor encoder 2cs
L1DT205	LCC tray lock sensor 2cs
L1DT206	Upper limit sensor 2cs
L1DT207	Lower limit sensor 2cs
L1DT208	Reverse winding detection switch 2cs
L1DT209	Tray descending switch 2cs
L1DT210	Paper upper surface sensor 2cs
L1DT211	Paper length sensor 2cs
L1DT212	Size sensor 1 2cs
L1DT213	Size sensor 2 2cs
L1DT214	Size sensor 3 2cs
L1DT215	Size sensor 4 2cs

4-3

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

Operation/Procedure

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

A4LCC

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

A3LCC

Display	Content
LPFM	LCC transport motor
LLM	LCC lift motor
LPFC	LCC paper feed clutch
LPFS	LCC paper feed solenoid
LTRC	LCC transport clutch
LTLED	LCC tray LED lamp
LTLIS	LCC tray lock solenoid
LFAN	LCC separation auxiliary fan

Paper feed option: Paper pass unit

Display	Content
L1MTR01	Paper pass unit transport motor
L1CLR01	Paper pass unit transport clutch
L1LDR01	Paper pass unit LED

LCT unit

Display	Content
L1MT001	Transport motor 1 (1 series)
L1PW001	Heat-retention heater relay (1 series)
L1CL001	Horizontal transport clutch

LCT cassette tray 1

Display	Content
L1MT101	Lift motor 1cs
L1MT102	Inlet fan motor 1cs
L1MT103	Outlet fan 1cs
L1MT104	Assist fan motor 1cs
L1SL101	Suction valve solenoid 1cs
L1SL102	Lock solenoid 1cs
L1CL101	Paper feed clutch 1cs
L1CL102	Transport clutch 1cs
L1HT101	Hot air heater 1cs
L1LD101	Lift LED 1cs
L1CHK101	Wind pressure measuring operation 1cs

LCT cassette tray 2

Display	Content
L1MT201	Lift motor 2cs
L1MT202	Inlet fan motor 2cs
L1MT203	Outlet fan 2cs
L1MT204	Assist fan motor 2cs
L1SL201	Suction valve solenoid 2cs
L1SL202	Lock solenoid 2cs
L1CL201	Paper feed clutch 2cs
L1CL202	Transport clutch 2cs
L1HT201	Hot air heater 2cs
L1LD201	Lift LED 2cs
L1CHK201	Wind pressure measuring operation 2cs

4-5

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

Operation/Procedure

Check the ON operation

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	Content
LTRC	A4LCC, A3LCC, multi-stage LCT transport clutch

4-10

Purpose	Setting
Function (Purpose)	LCT warm air heater temperature setting
Section	LCT

Operation/Procedure

- 1) Select a target item to be adjusted with scroll keys.
- 2) Enter the setting value with 10-key.
- 3) Press [OK] key to save the setting value into the EEPROM and the RAM.

Item/Display	Content	Setting range	Default value
A WARM AIR TEMP. (PLAIN)	Warm air heater temperature setting: Normal paper	20 - 80	45
B WARM AIR TEMP. (HEAVY1,2)	Warm air heater temperature setting: Heavy paper 1, 2	20 - 80	45
C WARM AIR TEMP. (HEAVY3,4)	Warm air heater temperature setting: Heavy paper 3, 4	20 - 80	45
D WARM AIR TEMP. (THIN)	Warm air heater temperature setting: Thin paper	20 - 80	45
E WARM AIR TEMP. (GLOSSY)	Warm air heater temperature setting: Glossy paper	20 - 80	45
F WARM AIR TEMP. (OTHER)	Warm air heater temperature setting: Other	20 - 80	45
G WARM AIR CONTROL DISABLE (PLAIN)	Warm air heater temperature setting control disable: Normal paper	0: Enable 1: Disable	1
H WARM AIR CONTROL DISABLE (HEAVY1,2)	Warm air heater temperature setting control disable: Heavy paper 1, 2	0: Enable 1: Disable	0
I WARM AIR CONTROL DISABLE (HEAVY3,4)	Warm air heater temperature setting control disable: Heavy paper 3, 4	0: Enable 1: Disable	0
J WARM AIR CONTROL DISABLE (THIN)	Warm air heater temperature setting control disable: Thin paper	0: Enable 1: Disable	1
K WARM AIR CONTROL DISABLE (GLOSSY)	Warm air heater temperature setting control disable: Glossy paper	0: Enable 1: Disable	0
L WARM AIR CONTROL DISABLE (OTHER)	Warm air heater temperature setting control disable: Other	0: Enable 1: Disable	1

4-11

Purpose	Setting
Function (Purpose)	LCT fan Duty setting
Section	LCT

Operation/Procedure

- 1) Select a target item to be adjusted with scroll keys.
- 2) Enter the setting value with 10-key.
- 3) Press [OK] key to save the setting value into the EEPROM and the RAM.

When the set value is 50, the fan duty is 50%.

NOTE: When the fan duty is set to 0 - 14%, the fan does not rotate.

Item/Display	Content	Setting range	Default value
A VACUUM FAN DUTY (PLAIN - L)	Suction fan Duty: Normal paper Large size	30 - 100	60
B VACUUM FAN DUTY (PLAIN - M)	Suction fan Duty: Normal paper Middle size	30 - 100	60
C VACUUM FAN DUTY (PLAIN - S)	Suction fan Duty: Normal paper Small size	30 - 100	60
D VACUUM FAN DUTY (HEAVY1,2 - L)	Suction fan Duty: Heavy paper 1, 2 Large size	30 - 100	90
E VACUUM FAN DUTY (HEAVY1,2 - M)	Suction fan Duty: Heavy paper 1, 2 Middle size	30 - 100	90
F VACUUM FAN DUTY (HEAVY1,2 - S)	Suction fan Duty: Heavy paper 1, 2 Small size	30 - 100	90
G VACUUM FAN DUTY (HEAVY3,4 - L)	Suction fan Duty: Heavy paper 3, 4 Large size	30 - 100	90
H VACUUM FAN DUTY (HEAVY3,4 - M)	Suction fan Duty: Heavy paper 3, 4 Middle size	30 - 100	90
I VACUUM FAN DUTY (HEAVY3,4 - S)	Suction fan Duty: Heavy paper 3, 4 Small size	30 - 100	90
J VACUUM FAN DUTY (THIN - L)	Suction fan Duty: Thin paper Large size	30 - 100	60
K VACUUM FAN DUTY (THIN - M)	Suction fan Duty: Thin paper Middle size	30 - 100	60
L VACUUM FAN DUTY (THIN - S)	Suction fan Duty: Thin paper Small size	30 - 100	60
M VACUUM FAN DUTY (GLOSSY - L)	Suction fan Duty: Glossy paper Large size	30 - 100	60
N VACUUM FAN DUTY (GLOSSY - M)	Suction fan Duty: Glossy paper Middle size	30 - 100	60
O VACUUM FAN DUTY (GLOSSY - S)	Suction fan Duty: Glossy paper Small size	30 - 100	60
P VACUUM FAN DUTY (OTHER - L)	Suction fan Duty: Other Large size	30 - 100	60
Q VACUUM FAN DUTY (OTHER - M)	Suction fan Duty: Other Middle size	30 - 100	60
R VACUUM FAN DUTY (OTHER - S)	Suction fan Duty: Other Small size	30 - 100	60
S BLOWER FAN DUTY (PLAIN - L)	Separation fan Duty: Normal paper Large size	30 - 100	60
T BLOWER FAN DUTY (PLAIN - M)	Separation fan Duty: Normal paper Middle size	30 - 100	60
U BLOWER FAN DUTY (PLAIN - S)	Separation fan Duty: Normal paper Small size	30 - 100	60
V BLOWER FAN DUTY (HEAVY1,2 - L)	Separation fan Duty: Heavy paper 1, 2 Large size	30 - 100	90
W BLOWER FAN DUTY (HEAVY1,2 - M)	Separation fan Duty: Heavy paper 1, 2 Middle size	30 - 100	90

Item/Display		Content	Setting range	Default value
X	BLOWER FAN DUTY (HEAVY1,2 - S)	Separation fan Duty: Heavy paper 1, 2 Small size	30 - 100	90
Y	BLOWER FAN DUTY (HEAVY3,4 - L)	Separation fan Duty: Heavy paper 3, 4 Large size	30 - 100	90
Z	BLOWER FAN DUTY (HEAVY3,4 - M)	Separation fan Duty: Heavy paper 3, 4 Middle size	30 - 100	90
AA	BLOWER FAN DUTY (HEAVY3,4 - S)	Separation fan Duty: Heavy paper 3, 4 Small size	30 - 100	90
AB	BLOWER FAN DUTY (THIN - L)	Separation fan Duty: Thin paper Large size	30 - 100	60
AC	BLOWER FAN DUTY (THIN - M)	Separation fan Duty: Thin paper Middle size	30 - 100	60
AD	BLOWER FAN DUTY (THIN - S)	Separation fan Duty: Thin paper Small size	30 - 100	60
AE	BLOWER FAN DUTY (GLOSSY - L)	Separation fan Duty: Glossy paper Large size	30 - 100	60
AF	BLOWER FAN DUTY (GLOSSY - M)	Separation fan Duty: Glossy paper Middle size	30 - 100	60
AG	BLOWER FAN DUTY (GLOSSY - S)	Separation fan Duty: Glossy paper Small size	30 - 100	60
AH	BLOWER FAN DUTY (OTHER - L)	Separation fan Duty: Other Large size	30 - 100	60
AI	BLOWER FAN DUTY (OTHER - M)	Separation fan Duty: Other Middle size	30 - 100	60
AJ	BLOWER FAN DUTY (OTHER - S)	Separation fan Duty: Other Small size	30 - 100	60
AK	ASSIST FAN DUTY (PLAIN - L)	Side assist fan Duty: Normal paper Large size	0 - 100	10
AL	ASSIST FAN DUTY (PLAIN - M)	Side assist fan Duty: Normal paper Middle size	0 - 100	10
AM	ASSIST FAN DUTY (PLAIN - S)	Side assist fan Duty: Normal paper Small size	0 - 100	10
AN	ASSIST FAN DUTY (HEAVY1,2 - L)	Side assist fan Duty: Heavy paper 1, 2 Large size	0 - 100	10
AO	ASSIST FAN DUTY (HEAVY1,2 - M)	Side assist fan Duty: Heavy paper 1, 2 Middle size	0 - 100	10
AP	ASSIST FAN DUTY (HEAVY1,2 - S)	Side assist fan Duty: Heavy paper 1, 2 Small size	0 - 100	10
AQ	ASSIST FAN DUTY (HEAVY3,4 - L)	Side assist fan Duty: Heavy paper 3, 4 Large size	0 - 100	30
AR	ASSIST FAN DUTY (HEAVY3,4 - M)	Side assist fan Duty: Heavy paper 3, 4 Middle size	0 - 100	10
AS	ASSIST FAN DUTY (HEAVY3,4 - S)	Side assist fan Duty: Heavy paper 3, 4 Small size	0 - 100	10
AT	ASSIST FAN DUTY (THIN - L)	Side assist fan Duty: Thin paper Large size	0 - 100	10
AU	ASSIST FAN DUTY (THIN - M)	Side assist fan Duty: Thin paper Middle size	0 - 100	10
AV	ASSIST FAN DUTY (THIN - S)	Side assist fan Duty: Thin paper Small size	0 - 100	10
AW	ASSIST FAN DUTY (GLOSSY - L)	Side assist fan Duty: Glossy paper Large size	0 - 100	10
AX	ASSIST FAN DUTY (GLOSSY - M)	Side assist fan Duty: Glossy paper Middle size	0 - 100	10
AY	ASSIST FAN DUTY (GLOSSY - S)	Side assist fan Duty: Glossy paper Small size	0 - 100	10
AZ	ASSIST FAN DUTY (OTHER - L)	Side assist fan Duty: Other Large size	0 - 100	10
BA	ASSIST FAN DUTY (OTHER - M)	Side assist fan Duty: Other Middle size	0 - 100	10
BB	ASSIST FAN DUTY (OTHER - S)	Side assist fan Duty: Other Small size	0 - 100	10

4-14	
Purpose	Check
Function (Purpose)	LCT temperature and humidity sensor monitor display
Section	LCT

Operation/Procedure

When the machine enters the simulation mode, the current data are displayed.

Since the value varies depending on the use conditions and the operating conditions, use the value as a reference only.

* Data are revised every 5 sec.

Display item	Content	Display range
LCT1 TEMP.	LCT1 series temperature sensor: Temperature LCT1 series temperature sensor: AD value	Temperature: 0 - 255 degrees C AD value: 0 - 65535
LCT1 RH	LCT1 series humidity sensor: Humidity LCT1 series humidity sensor: AD value	Humidity: 0 - 100% AD value: 0 - 65535
CS1 HEATER TEMP.	CS1 CS heater temperature sensor: Temperature CS1 CS heater temperature sensor: AD value	Temperature: 0 - 255degrees C AD value: 0 - 65535
CS1 WARM AIR TEMP.	CS1 CS warm air outlet port temperature sensor: Temperature CS1 CS warm air outlet port temperature sensor: AD value	Temperature: 0 - 255degrees C AD value: 0 - 65535
CS1 TEMP.	CS1 CS temperature sensor: Temperature CS1 CS temperature sensor: AD value	Temperature: 0 - 255degrees C AD value: 0 - 65535
CS1 RH	CS1 CS humidity sensor: Humidity CS1 CS humidity sensor: AD value	Humidity: 0 - 100% AD value: 0 - 65535

Display item	Content	Display range
CS2 HEATER TEMP.	CS2 CS heater temperature sensor: Temperature CS2 CS heater temperature sensor: AD value	Temperature: 0 - 255degrees C AD value: 0 - 65535
CS2 WARM AIR TEMP.	CS2 CS warm air outlet port temperature sensor: Temperature CS2 CS warm air outlet port temperature sensor: AD value	Temperature: 0 - 255degrees C AD value: 0 - 65535
CS2 TEMP.	CS2 CS temperature sensor: Temperature CS2 CS temperature sensor: AD value	Temperature: 0 - 255degrees C AD value: 0 - 65535
CS2 RH	CS2 CS humidity sensor: Humidity CS2 CS humidity sensor: AD value	Humidity: 0 - 100% AD value: 0 - 65535

* The AD value is displayed by converting the above display range into hexadecimal number.

* "C" is displayed as "deg" because of the display fonts.

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 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 and the paper exit tray, and the lighting status of each heater lamp can be checked through the clearance between the fusing pressure release drive gear and the frame fusing section.

Display	Content
HL_UM	Heater lamp main (Front surface of paper heat roller)
HL_US	Heater lamp sub (Front surface of paper heat roller)
HL_LM	Heater lamp main (Back surface of paper heat roller)
HL_UW	Upper assist heater lamp (Warm-up)

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 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.

Descriptions of loads (for DSPF)

Display	Content
OC COPY LAMP	OC copy lamp
DSPF COPY LAMP	DSPF copy lamp

Descriptions of loads (except DSPF)

Display	Content
OC COPY LAMP	OC 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 for 30 sec.

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

Item name	Content
DL_K	Discharge lamp K
DL_C	Discharge lamp C
DL_M	Discharge lamp M
DL_Y	Discharge lamp Y
DL2_K	After-transfer discharge lamp K
DL2_C	After-transfer discharge lamp C
DL2_M	After-transfer discharge lamp M
DL2_Y	After-transfer 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 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.

Item display name		Content
Transport/ process	LCCM	LCC transport motor
	RRM	Registration motor
	FRS	Fusing lower separation pawl solenoid
	FUM	Fusing motor
	POM_F	Paper exit motor (normal rotation)(*1)
	POM_R	Paper exit motor (reverse rotation)(*1)
	WTM	Waste toner transport motor
	2WTM	Secondary transfer waste toner motor
	PTRC2	Vertical transport clutch upper
	PTRC1	Tray vertical transport clutch
	TTRC	Tandem transport clutch
	LCCC	LCC transport clutch
	DVC_K	Developing clutch K
	DVC_C	Developing clutch C
	DVC_M	Developing clutch M
	DVC_Y	Developing clutch Y
PCSS	Process control shutter solenoid	
PFM	PS front motor	

Item display name		Content
Paper feed	CPFM	Paper feed motor
	T1LUM	Tandem tray 1 lift motor
	T2LUM	Tandem tray 2 lift motor
	C3LUM	Tray 3 lift motor
	C4LUM	Tray 4 lift motor
	MPUC	Manual paper feed clutch
	T1PUC	Tandem tray 1 paper feed clutch
	T2PUC	Tandem tray 2 paper feed clutch
	C3PUC	Tray 3 paper feed clutch
	C4PUC	Tray 4 paper feed clutch
	MPFS	Manual feed take-up solenoid
	MPGS	Manual paper feed gate solenoid
	T1PUS	Tray 1 pickup solenoid
	T2PUS	Tray 2 pickup solenoid
	C3PUS	Tray 3 pickup solenoid
	C4PUS	Tray 4 pickup solenoid
LSU	LSUSS	LSU shutter solenoid

*1: If "Normal rotation" and "Reverse rotation" of a same load are displayed as different items, when the both are selected at the same time, "Normal rotation" is performed. In addition, a change in the rotating direction is accepted only when the operation is stopped.

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 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
POFM	Paper exit fan motor rear exhaust
	Paper exit fan motor front
	Paper exit fan motor rear
OZFM12	Ozone exhaust fan motor 1
	Ozone exhaust fan motor 2
OZFM3	Ozone exhaust fan motor 3
PSFM	Power cooling fan motor
FUFM	Fusing cooling fan motor
FPRFM	Fusing pressure roller cooling fan motor F
	Fusing pressure roller cooling fan motor R
TBFM	Toner bottle cooling fan motor
VFM_R	Main inside ventilation fan motor R
LSUFM	LSU fan motor
ADUFM	ADU transport cooling fan motor
MFPFAN	Controller fan motor, HDD fan motor
POFM2_EX	Paper exit cooling fan2 (For Europe)
POFM2_F	Paper exit cooling fan2 (F) (For Europe)
POFM2_R	Paper exit cooling fan2 (R) (For Europe)
VFM_BA	Machine ventilation fan BA (For Europe)

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

- 1) Select the operation mode with the mode select button.

Display	Content
1TC MID	The cam is operated at the process speed in the plain paper mode.
1TC L1	The cam is operated at the process speed of low speed 1 (220m/s).
1TC L2	The cam is operated at the process speed of low speed 2 (165m/s).

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

Button	Display	Content	Remarks
1TC MID	BLACK	Monochrome mode position	Black mode position - Color mode position - Black mode position - Drum separation position - (Black mode position) (Repeated in this sequence.)
	COLOR	Color mode position	
	FREE	Drum separation position	
1TC L1	BLACK	Monochrome mode position	Black mode position - Color mode position - Black mode position - Drum separation position - (Black mode position) (Repeated in this sequence.)
	COLOR	Color mode position	
	FREE	Drum separation position	
1TC L2	BLACK	Monochrome mode position	Black mode position - Color mode position - Black mode position - Drum separation position - (Black mode position) (Repeated in this sequence.)
	COLOR	Color mode position	
	FREE	Drum separation position	

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

Operation/Procedure

- 1) Select the item to be checked with the touch panel key.
- 2) [MC] On the execution menu, the color is designated with K, C, M, and Y. (Two or more colors can be selected.)
- 3) Press [EXECUTE] key.

List of cleaner operations

Display	Cleaning operation counter	Content
MC	MC(K)COUNT	MC cleaner operation check (Color can be selected.)
	MC(C)COUNT	
	MC(M)COUNT	
	MC(Y)COUNT	
PTC	PTC COUNT	PTC cleaner operation check
ALL	All counter	MC cleaner operation check (Color cannot be selected. All colors cleaning) + PTC cleaner operation check

6-6	
Purpose	Operation test/check
Function (Purpose)	Used to perform fusing pressure release and applying, and to check the operations of the control circuits.
Section	Fusing

Operation/Procedure

- 1) Press [FUSER] key to highlight it.
- 2) Press [EXECUTE] key, and fusing pressure applying and fusing pressure release are repeated.

During this period, the status of the fusing roller pressure is displayed.

PRINT	Fusing pressure applying	Fusing pressure applying - Fusing pressure release - (Fusing pressure applying) The operation is repeated.
FREE	Fusing pressure release	

6-7	
Purpose	others
Function (Purpose)	Used to refresh the fuser belt.
Section	fusing

Operation/Procedure

- 1) Press EXECUTE key. and start fuser pressure releasing.
- 2) The EXECUTE button is highlighted during decompression of the fuser.
- 3) After completion of the fuser / decompression operation, the screen transits to the screen for waiting for execution of the fuser belt refreshing.
- 4) Press EXECUTE key.
The EXECUTE button changes to highlighted, and the fuser belt refresh processing is started.
After the fuser refresh processing is completed, the screen returns to the normal end screen.
- 5) Press EXIT or BACK key to exit the simulation

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.

Item	Display	Setting range	Default value
A	CYCLE TIME(SEC)	1 - 900	3

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	DSPF

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 here-after unless the power is turned off or the setting is changed.

Item	Display	Content	Setting range	Default value
A	ORIGINALS	Document scan quantity specification (for aging)	0 - 255	0

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 \triangle ∇ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [EXECUTE] key.

The set value is saved and the voltage entered with step 3) is output for 30 sec.

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

Button	Item	Display	Content	Setting range	Default value
MIDDLE	A	MIDDLE SPEED DVB_K	K developing bias set value at middle speed	0 - 600	450
	B	MIDDLE SPEED DVB_C	C developing bias set value at middle speed	0 - 600	450
	C	MIDDLE SPEED DVB_M	M developing bias set value at middle speed	0 - 600	450
	D	MIDDLE SPEED DVB_Y	Y developing bias set value at middle speed	0 - 600	450

Button	Item	Display	Content	Setting range	Default value
LOW	A	LOW1 SPEED DVB_K	K developing bias set value at low speed 1	0 - 600	450
	B	LOW1 SPEED DVB_C	C developing bias set value at low speed 1	0 - 600	450
	C	LOW1 SPEED DVB_M	M developing bias set value at low speed 1	0 - 600	450
	D	LOW1 SPEED DVB_Y	Y developing bias set value at low speed 1	0 - 600	450
	E	LOW2 SPEED DVB_K	K developing bias set value at low speed 2	0 - 600	450
	F	LOW2 SPEED DVB_C	C developing bias set value at low speed 2	0 - 600	450
	G	LOW2 SPEED DVB_M	M developing bias set value at low speed 2	0 - 600	450
	H	LOW2 SPEED DVB_Y	Y developing bias set value at low speed 2	0 - 600	450

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 \triangle ∇ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 4) Press [EXECUTE] key.

The set value is saved and the voltage entered with step 3) is output for 30 sec.

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

Button	Item/ Display	Content	Setting range	Default value		
				65 cpm machine	75 cpm machine	
MIDDLE	A	MIDDLE SPEED GB_K	K charging/grid bias set value at middle speed	150 - 950	620	625
	B	MIDDLE SPEED GB_C	C charging/grid bias set value at middle speed	150 - 950	620	625
	C	MIDDLE SPEED GB_M	M charging/grid bias set value at middle speed	150 - 950	620	625
	D	MIDDLE SPEED GB_Y	Y charging/grid bias set value at middle speed	150 - 950	620	625

Button	Item/ Display	Content	Setting range	Default value	
				65 cpm machine	75 cpm machine
LOW	A	LOW1 SPEED GB_K	K charging/grid bias set value at low speed 1	150 - 950	608
	B	LOW1 SPEED GB_C	C charging/grid bias set value at low speed 1	150 - 950	608
	C	LOW1 SPEED GB_M	M charging/grid bias set value at low speed 1	150 - 950	608
	D	LOW1 SPEED GB_Y	Y charging/grid bias set value at low speed 1	150 - 950	608
	E	LOW2 SPEED GB_K	K charging/grid bias set value at low speed 2	150 - 950	604
	F	LOW2 SPEED GB_C	C charging/grid bias set value at low speed 2	150 - 950	604
	G	LOW2 SPEED GB_M	M charging/grid bias set value at low speed 2	150 - 950	604
	H	LOW2 SPEED GB_Y	Y charging/grid bias set value at low speed 2	150 - 950	604

8-6	
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 [EXECUTE] key.
The set value is saved and the voltage corresponding to the set value is output for 30 sec.
When [EXECUTE] key is pressed, the output is terminated.

Item/Display		Content				Setting range	Default value
A	TC1 LOW 1 CL K	Primary transfer bias reference value	Color	K	Low speed 1	0 - 255	95
B	TC1 LOW 2 CL K				Low speed 2	0 - 255	91
C	TC1 MIDDLE CL K				Middle speed	0 - 255	99
D	TC1 LOW 1 CL C			C	Low speed 1	0 - 255	95
E	TC1 LOW 2 CL C				Low speed 2	0 - 255	91
F	TC1 MIDDLE CL C				Middle speed	0 - 255	99
G	TC1 LOW 1 CL M			M	Low speed 1	0 - 255	95
H	TC1 LOW 2 CL M				Low speed 2	0 - 255	91
I	TC1 MIDDLE CL M				Middle speed	0 - 255	99
J	TC1 LOW 1 CL Y			Y	Low speed 1	0 - 255	95
K	TC1 LOW 2 CL Y				Low speed 2	0 - 255	91
L	TC1 MIDDLE CL Y				Middle speed	0 - 255	99
M	TC1 LOW 1 BW K		Black and white	K	Low speed 1	0 - 255	95
N	TC1 LOW 2 BW K				Low speed 2	0 - 255	91
O	TC1 MIDDLE BW K				Middle speed	0 - 255	99
P	TC2 PLAIN CL SPX	Secondary transfer bias reference value	Color	Standard paper 1	Front surface	0 - 255	145
Q	TC2 PLAIN CL DPX				Back surface	0 - 255	145
R	TC2 PLAIN BW SPX		Black and white		Front surface	0 - 255	138
S	TC2 PLAIN BW DPX					Back surface	0 - 255
T	TC2 PLAIN2 CL SPX		Color	Standard paper 2	Front surface	0 - 255	145
U	TC2 PLAIN2 CL DPX				Back surface	0 - 255	145
V	TC2 PLAIN2 BW SPX		Black and white		Front surface	0 - 255	138
W	TC2 PLAIN2 BW DPX					Back surface	0 - 255

Item/Display		Content				Setting range	Default value	
X	TC2 HEAVY1 CL SPX	Secondary transfer bias reference value	Color	Heavy paper 1 <Low speed 1>	Front surface	0 - 255	110	
Y	TC2 HEAVY1 CL DPX				Back surface	0 - 255	103	
Z	TC2 HEAVY1 BW SPX		Black and white			Front surface	0 - 255	110
AA	TC2 HEAVY1 BW DPX					Back surface	0 - 255	103
AB	TC2 HEAVY2 CL SPX		Color	Heavy paper 2 <Low speed 1>	Front surface	0 - 255	110	
AC	TC2 HEAVY2 CL DPX				Back surface	0 - 255	103	
AD	TC2 HEAVY2 BW SPX		Black and white			Front surface	0 - 255	110
AE	TC2 HEAVY2 BW DPX					Back surface	0 - 255	103
AF	TC2 HEAVY3 CL SPX		Color	Heavy paper 3 <Low speed 2>	Front surface	0 - 255	96	
AG	TC2 HEAVY3 CL DPX				Back surface	0 - 255	87	
AH	TC2 HEAVY3 BW SPX		Black and white			Front surface	0 - 255	96
AI	TC2 HEAVY3 BW DPX					Back surface	0 - 255	87
AJ	TC2 HEAVY4 CL SPX		Color	Heavy paper 4 <Low speed 2>	Front surface	0 - 255	96	
AK	TC2 HEAVY4 CL DPX				Back surface	0 - 255	87	
AL	TC2 HEAVY4 BW SPX		Black and white			Front surface	0 - 255	96
AM	TC2 HEAVY4 BW DPX					Back surface	0 - 255	87
AN	TC2 OHP CL		Color	OHP <Low speed 1>	Front surface	0 - 255	110	
AO	TC2 OHP BW				Back surface	0 - 255	110	
AP	TC2 ENVELOPE CL		Black and white	Envelope <Low speed 1>	Front surface	0 - 255	83	
AQ	TC2 ENVELOPE BW					Back surface	0 - 255	83
AR	TC2 THIN CL		Color	Thin paper <Middle speed>	Front surface	0 - 255	138	
AS	TC2 THIN BW				Back surface	0 - 255	138	
AT	TC2 GLOSSY PAPER CL	Black and white	Glossy paper <Low speed 1>	Front surface	0 - 255	110		
AU	TC2 GLOSSY PAPER BW				Back surface	0 - 255	110	
AV	TC2 EMBOSS CL	Color	Embossed paper <Low speed 2>	Front surface	0 - 255	96		
AW	TC2 EMBOSS BW			Back surface	0 - 255	80		
AX	TC2 LABEL CL	Black and white	Label paper <Low speed 1>	Front surface	0 - 255	110		
AY	TC2 LABEL BW				Back surface	0 - 255	110	
AZ	TC2 FRONT EDGE LOW1 SPX	Secondary transfer front edge bias reference value	In low speed 1 print		Front surface	0 - 255	145	
BA	TC2 FRONT EDGE LOW1 DPX			Back surface	0 - 255	145		
BB	TC2 FRONT EDGE LOW2 SPX		In low speed 2 print		Front surface	0 - 255	145	
BC	TC2 FRONT EDGE LOW2 DPX			Back surface	0 - 255	145		
BD	TC2 FRONT EDGE MIDDLE SPX		In middle speed print		Front surface	0 - 255	145	
BE	TC2 FRONT EDGE MIDDLE DPX			Back surface	0 - 255	145		
BF	TC2 BACKEND LOW1 SPX	Secondary transfer rear edge bias reference value	In low speed 1 print		Front surface	0 - 255	69	
BG	TC2 BACKEND LOW1 DPX			Back surface	0 - 255	69		
BH	TC2 BACKEND LOW2 SPX		In low speed 2 print		Front surface	0 - 255	69	
BI	TC2 BACKEND LOW2 DPX			Back surface	0 - 255	69		
BJ	TC2 BACKEND MIDDLE SPX		In middle speed print		Front surface	0 - 255	69	
BK	TC2 BACKEND MIDDLE DPX			Back surface	0 - 255	69		
BL	TC2 CLEANING MINUS LOW 1	Secondary transfer cleaning negative bias reference value	In low speed 1 print			0 - 255	76	
BM	TC2 CLEANING MINUS LOW 2		In low speed 2 print			0 - 255	76	
BN	TC2 CLEANING MINUS MIDDLE		In middle speed print			0 - 255	76	
BO	TC2 INTERVAL LOW 1	Bias reference value between papers	In low speed 1 print			0 - 255	72	
BP	TC2 INTERVAL LOW 2		In low speed 2 print			0 - 255	72	
BQ	TC2 INTERVAL MIDDLE		In middle speed print			0 - 255	72	
BR	TC2 COUNTER LOW 1	Counter bias reference value	In low speed 1 print			0 - 255	72	
BS	TC2 COUNTER LOW 2		In low speed 2 print			0 - 255	72	
BT	TC2 COUNTER MIDDLE		In middle speed print			0 - 255	72	
BU	PTC LOW 1 CL	PTC current reference value	Color	Low speed 1		0 - 255	119	
BV	PTC LOW 2 CL			Low speed 2		0 - 255	119	
BW	PTC MIDDLE CL			Middle speed		0 - 255	119	
BX	PTC LOW 1 BW		Black and white	Low speed 1		0 - 255	119	
BY	PTC LOW 2 BW			Low speed 2		0 - 255	119	
BZ	PTC MIDDLE BW			Middle speed		0 - 255	119	
CA	PTC EMBOSS	Both	Low speed 2		0 - 255	187		
CB	CASE VOLT LOW 1 CL	PTC case voltage reference value	Color	Low speed 1		0 - 255	0	
CC	CASE VOLT LOW 2 CL			Low speed 2		0 - 255	0	
CD	CASE VOLT MIDDLE CL			Middle speed		0 - 255	0	
CE	CASE VOLT LOW 1 BW		Black and white	Low speed 1		0 - 255	0	
CF	CASE VOLT LOW 2 BW			Low speed 2		0 - 255	0	
CG	CASE VOLT MIDDLE BW			Middle speed		0 - 255	0	
CH	CASE VOLT EMBOSS	Both	Low speed 2		0 - 255	0		
CI	TC2 DRIVEROLL LOW 1 CL	Secondary transfer drive roller bias reference value	Color	Low speed 1		0 - 255	98	
CJ	TC2 DRIVEROLL LOW 2 CL			Low speed 2		0 - 255	98	
CK	TC2 DRIVEROLL MIDDLE CL			Middle speed		0 - 255	98	
CL	TC2 DRIVEROLL LOW 1 BW		Black and white	Low speed 1		0 - 255	98	
CM	TC2 DRIVEROLL LOW 2 BW			Low speed 2		0 - 255	98	
CN	TC2 DRIVEROLL MIDDLE BW			Middle speed		0 - 255	98	

8-10	
Purpose	Operation test/check
Function (Purpose)	Main charger total current output setting
Section	Process

Operation/Procedure

- 1) Select the item to be checked with the touch panel key.
- 2) Select an item to be set with the scroll key.
- 3) Press [OK] key.

Button	Item	Display	Content	Setting range	Default value
MIDDLE	A	MIDDLE SPEED MC_K	Main charger total current (middle speed mode) K	60 - 110	70
	B	MIDDLE SPEED MC_C	Main charger total current (middle speed mode) C	60 - 110	70
	C	MIDDLE SPEED MC_M	Main charger total current (middle speed mode) M	60 - 110	70
	D	MIDDLE SPEED MC_Y	Main charger total current (middle speed mode) Y	60 - 110	70
LOW1	A	LOW1 SPEED MC_K	Main charger total current (low speed 1 mode) K	60 - 110	70
	B	LOW1 SPEED MC_C	Main charger total current (low speed 1 mode) C	60 - 110	70
	C	LOW1 SPEED MC_M	Main charger total current (low speed 1 mode) M	60 - 110	70
	D	LOW1 SPEED MC_Y	Main charger total current (low speed 1 mode) Y	60 - 110	70
LOW2	A	LOW2 SPEED MC_K	Main charger total current (low speed 2 mode) K	60 - 110	70
	B	LOW2 SPEED MC_C	Main charger total current (low speed 2 mode) C	60 - 110	70
	C	LOW2 SPEED MC_M	Main charger total current (low speed 2 mode) M	60 - 110	70
	D	LOW2 SPEED MC_Y	Main charger total current (low speed 2 mode) Y	60 - 110	70

9

9-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and detectors in the paper reverse section (duplex section) and its control circuit.
Section	Duplex

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

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

APPD1	ADU paper transport detector 1
APPD2	ADU paper transport detector 2
DSW_ADU	ADU paper guide open/close detector

9-3	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the load in the paper reverse section (duplex section) and its control circuit.
Section	Duplex

Operation/Procedure

- 1) Select the item to be 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.

Display	Content
ADUM1	ADU motor 1
ADUM2	ADU motor 2
ADUGS	ADU gate solenoid

10

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

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.

NOTE: This simulation must be executed without installing the toner cartridges.

If this simulation is executed with the toner cartridges installed, toner will be forcibly supplied to the developing unit, resulting in overtoner.

If this simulation is erroneously executed with the toner cartridges installed, overtoner state may be deleted by making a few black background copy in the single color copy mode of the target color.

Display	Content
TNM_K	Toner motor K
TNM_C	Toner motor C
TNM_M	Toner motor M
TNM_Y	Toner motor Y
TNHM_K	Hopper motor K
TNHM_C	Hopper motor C
TNHM_M	Hopper motor M
TNHM_Y	Hopper motor Y

10-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the toner remaining quantity sensor and the control circuit.
Section	Toner supply section
Operation/Procedure	
Press [EXECUTE] key to display "No toner remaining" or "Toner remaining" in the toner hopper.	
No toner remaining: Normal display	
Toner remaining: Highlighted display	
Display	Content
TFSD_K	Hopper remaining quantity sensor K
TFSD_C	Hopper remaining quantity sensor C
TFSD_M	Hopper remaining quantity sensor M
TFSD_Y	Hopper remaining quantity sensor 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.	

15

15--	
Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U6" trouble.
Section	LCC/LCT
Operation/Procedure	
1) Press [EXECUTE] key.	
2) Press [YES] key to execute cancellation of the trouble.	

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16--	
Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U2" trouble.
Section	MFP PWB / PCU PWB / SCU 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	
* Do not change the default setting value of the maintenance counter on SIM21-1. The replacement timing of the fusing cleaning roller, the filter and PS paper dust removal cleaner may not clarify.	
1) Select a target item of setting with scroll key on the touch panel.	
2) Enter the set value with 10-key.	
3) 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	300K
B	MAINTENANCE COUNTER (COLOR)	Maintenance counter (Color)	0: Default 1 - 300: 1K - 300K 999: Free	200K

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.	

Target counter	Display	Description	Default value	Display range/ No. of digits
Total output quantity	TOTAL OUT (BW)	Total output quantity of black and white	0	Max. 8
	TOTAL OUT (COL)	Total output quantity of color	0	Max. 8

Target counter	Display	Description	Default value	Display range/ No. of digits
Total use quantity	TOTAL (BW)	Total use quantity of black and white	0	Max. 8
	TOTAL (COL)	Total use quantity of full color	0	Max. 8
	TOTAL (2COL)	Total use quantity of 2-color	0	Max. 8
	TOTAL (3COL)	Total use quantity of 3-color	0	Max. 8
	TOTAL (SGL_COL)	Total use quantity of single color	0	Max. 8
Copy	COPY (BW)	Black and white copy counter	0	Max. 8
	COPY (COL)	Full color copy counter	0	Max. 8
	COPY (2COL)	2-color copy counter	0	Max. 8
	COPY (SGL_COL)	Single color copy counter	0	Max. 8
Print	PRINT (BW)	Black and white print counter	0	Max. 8
	PRINT (COL)	Full color print counter	0	Max. 8
	PRINT (2COL)	2-color print counter	0	Max. 8
	PRINT (3COL)	3-color print counter	0	Max. 8
	PRINT (SGL_COL)	Single color print counter	0	Max. 8
Document filing	DOC FIL (BW)	Black and white document filing print counter	0	Max. 8
	DOC FIL (COL)	Color document filing print counter	0	Max. 8
	DOC FIL (2COL)	2-color document filing print counter	0	Max. 8
	DOC FIL (SGL_COL)	Single color document filing print counter	0	Max. 8
Other	OTHER (BW)	Black and white other counter	0	Max. 8
	OTHER (COL)	Color other counter	0	Max. 8

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.

Display	Content	Default value
MACHINE JAM	Machine JAM counter	0
DSPF JAM	SPFJAM counter	0
TROUBLE	Trouble counter	0

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)
ASIC2	ASIC2
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/ESK (TANDEM)	Desk unit
LCT/LCC/LCT(A3LCC)/LCT(A3LCT)	LCT/LCC/LCT(A3LCC)/LCT(A3LCT)
FINISHER/FINISHER (FIN100)/ FINISHER (4KFIN)/	Finisher
SADDLE/ SADDLE(FIN100)	Saddle
PUNCH/PUNCH(4K)	Punch unit

Display	Content
TRIMMER	Trimmer
INSERTER	Inserter
FOLDING UNIT	Folding unit
FAX	Standard FAX
FAX OPT1	FAX 1-Line (Option section)
FAX OPT2	FAX 2-Line (Option section)
ACU	High compression PDF unit
FIERY	Fiery
FONT UNICODE	Unicode font data

22-6

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

Section

Operation/Procedure

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

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

Item	Print list mode	Print content
DATA PATTERN	NO.1	Firmware version, counter data, etc.
	NO.2	SIM50-24 data
	NO.3	Data related to the process control
2SIDED PRINT	1-SIDED	Simplex surface print (Default)
	2-SIDED	Duplex surface print

- 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 finisher, the DSPF, and the scan (reading) unit.

Section

Operation/Procedure

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

Display	Content	Number of digits of display or type	Default value
SPF	Document feed quantity	8 digits	0
SCAN	Scan counter	8 digits	0
STAPLER	Staple counter	8 digits	0
PUNCHER	Puncher counter	8 digits	0
STAMP	Stamp counter	8 digits	0
SADDLE STAPLER	Saddle staple counter	8 digits	0
SADDLE V FOLD	Saddle finisher V fold counter	8 digits	0
COVER	Cover open/close counter	8 digits	0
HP_ON	HP detection count	8 digits	0
TRIMMER	Trimmer counter	8 digits	0
FOLDING	Paper folding counter	8 digits	0
INSERTER	Inserter counter (Tray 1)	8 digits	0
INSERTER2	Inserter counter (Tray 2)	8 digits	0
INSERTER OFFLINE	Inserter offline counter	8 digits	0
DECURLER	De-curler counter	8 digits	0
GBC PUNCH	GBC punch counter	8 digits	0

Display	Content	Number of digits of display or type	Default value
OC LAMP TIME	Displays the total lighting time of the lamp in the OC section.	*****:**	0
DSPF LAMP TIME(*1)	Displays the total lighting time of the lamp in the DSPF section.	*****:**	0

The lamp lighting time is displayed in ** hours ** minutes.

The lamp lighting time is accumulated in all the modes.

*1: Displayed only when the DSPF is installed.

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, LCC

Operation/Procedure

The counter values related to paper feed are displayed.

Display item	Content	No. of digits	Default value
TRAY1	Tray 1 paper feed counter	8 digits	0
TRAY2	Tray 2 paper feed counter	8 digits	0
TRAY3	Tray 3 paper feed counter	8 digits	0
TRAY4	Tray 4 paper feed counter	8 digits	0
MFT	Manual paper feed counter	8 digits	0
LCC	Side LCC paper feed counter (A4LCC or A3LCC) (*1)	8 digits	0
LCT1	Upper stage LCT paper feed counter (*1)	8 digits	0
LCT2	Lower stage LCT paper feed counter (*1)	8 digits	0
LCT_MFT	LCT manual paper feed counter (*1)	8 digits	0
ADU	ADU paper feed counter	8 digits	0
TRAY1_TTL	Accumulated tray 1 paper feed counter	8 digits	0
TRAY2_TTL	Accumulated tray 2 paper feed counter	8 digits	0
TRAY3_TTL	Accumulated tray 3 paper feed counter	8 digits	0
TRAY4_TTL	Accumulated tray 4 paper feed counter	8 digits	0
MFT_TTL	Accumulated manual paper feed counter (*1)	8 digits	0
LCC_TTL	Accumulated side LCC paper feed counter (A4LCC or A3LCC) (*1)	8 digits	0
LCT1_TTL	Accumulated upper stage LCT paper feed counter (*1)	8 digits	0
LCT2_TTL	Accumulated lower stage LCT paper feed counter (*1)	8 digits	0
LCT_MFT_TTL	Accumulated LCT manual paper feed counter (*1)	8 digits	0
ADU_TTL	Accumulated ADU paper feed counter	8 digits	0
TRAY1_RETRY	Paper feed retry counter (Paper feed tray 1)	8 digits	0
TRAY2_RETRY	Paper feed retry counter (Paper feed tray 2)	8 digits	0
TRAY3_RETRY	Paper feed retry counter (Paper feed tray 3)	8 digits	0
TRAY4_RETRY	Paper feed retry counter (Paper feed tray 4)	8 digits	0
MFT_RETRY	Manual paper feed retry counter (*1)	8 digits	0
LCC_RETRY	LCC paper feed retry counter (*1)	8 digits	0

Display item	Content	No. of digits	Default value
LCT1_RETRY	LCT1 paper feed retry counter (*1)	8 digits	0
LCT2_RETRY	LCT2 paper feed retry counter (*1)	8 digits	0
LCT_MFT_RETRY	LCT Manual paper feed retry counter (*1)	8 digits	0

*1: Displayed only when the option is installed.

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-6580N	Main unit
	MX-7580N	
SPF	STANDARD	Duplex single pass feeder
STAMP	AR-SU1	Finish stamp
LCC	MX-LC12	A4 large capacity tray
	MX-LCX3 N	A3 large capacity tray
	MX-LC13 N	Large capacity tray
PUNCHER	MX-PN12A	Punch module
	MX-PN12B	
	MX-PN12C	
	MX-PN12D	
	MX-PN13A	
	MX-PN13B	
	MX-PN13C	
	MX-PN13D	
	MX-PNX4A	
	MX-PNX4B	
FINISHER	MX-FN21	4K finisher (100 sheets staple)
	MX-FN22	4K saddle finisher (100 sheets staple)
	MX-FN19	4K finisher (50 sheets staple)
	MX-FN20	4K saddle finisher (50 sheets staple)
INSERTER	MX-CF11	Insertor
FAX1	MX-FX15	Facsimile expansion kit
FAX2	MX-FL12	Fax line expansion kit
FAX3	MX-FL12	Fax line expansion kit
PS	STANDARD	PS expansion kit
SECURITY	MX-FR55U	Data security kit (commercial version)
ICU_PWB (REUS1)	*****MB	ICU_REUS memory capacity
ICU_PWB (SOC)	*****MB	ICU_SOC memory capacity
HDD	*****GB	Hard disk capacity
SSD	*****MB	SSD capacity
NIC	STANDARD	NIC
BARCODE	MX-PF10	Barcode font kit
INTERNET-FAX	MX-FWX1	Internet Fax expansion kit
AIM	MX-AMX1	Application integration module
ACM(*1)	MX-AMX2	Application communication module
EAM(*1)	MX-AMX3	External account module
HC-PDF	MX-EB11	Enhanced compression kit
CURL	MX-RB15	Curl correction unit
TRIMMING	MX-TM10	Trimming module (100 sheets saddle finisher)

Item display name	Display content	Content
FOLDING UNIT	MX-FD10	Folding unit

*1: Option units are displayed only when they are installed.

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.

Display	Content	Default value
FAX OUTPUT	FAX print quantity counter (for line 1)	0
FAX OUTPUT_L2	FAX print quantity counter (for line 2)	0
FAX OUTPUT_L3	FAX print quantity counter (for line 3)	0
FAX SEND	FAX send counter	0
FAX RECEIVED	FAX receive counter	0
SEND IMAGES	FAX send quantity counter (for line 1)	0
SEND IMAGES_L2	FAX send quantity counter (for line 2)	0
SEND IMAGES_L3	FAX send quantity counter (for line 3)	0
SEND TIME	FAX send time	0
RECEIVED TIME	FAX receive time	0

22-12

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the DSPF misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)
Section	DSPF

Operation/Procedure

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

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.

Display item	Content	Counter	RPM	Number of use days	Life meter (+/- 1% unit)	Number of remaining days
MAINTENANCE ALL	Maintenance counter (Total)	Max. 8	Not displayed	0 - 999	0 - 100(%)	0 - 365(*1)
MAINTENANCE COL	Maintenance counter (Color)	Max. 8	Not displayed	0 - 999	0 - 100(%)	0 - 365(*1)
FUSING UNIT	Fusing unit					
FUSING BELT	Fusing belt	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
FUSING ROLLER	Fusing roller	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
FUSING MOTOR	Fusing motor	Not displayed	Max. 8	0 - 999	Not displayed	Not displayed
FUSING LOAD	Fusing pressure release drive	Not displayed	Max. 8	Not displayed	Not displayed	Not displayed
PRESSURE ROLLER	Pressure roller	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
SEPARATE PAWL	Separation pawl	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
SEPARATE PLATE	Separation plate	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
FUSING WEB UNIT(L)	Fusing lower web unit	Max. 8	Not displayed	0 - 999	0 - 100(%)	0 - 365(*1)
FUSING WEB SEND(L)	Fusing lower web cleaning send counter	Max. 8	Not displayed	Not displayed	Not displayed	Not displayed
TC1 UNIT	Primary transfer unit					
TC1 BELT	Primary transfer belt	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
TRANSFER BLADE	Transfer blade	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
PTC	PTC counter	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
PTC CLEAN	PTC cleaner	Not displayed	Max. 8	Not displayed	Not displayed	Not displayed
TC2 UNIT	Secondary transfer unit					
TC2 BELT	Secondary transfer belt	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
TC2 TRANSFER BLADE	Secondary transfer blade	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
PS PAPER	PS paper dust removing	Max. 8	Not displayed	0 - 999	0 - 100(%)	0 - 365(*1)
OZONE/TONER FILTER	Ozone filter/Toner filter	Max. 8	Not displayed	0 - 999	0 - 100(%)	0 - 365(*1)
DEVE UNIT(K)/(C)/(M)/(Y)	Developer unit K/C/M/Y					
DEVE CLUTCH(K)/(C)/(M)/(Y)	Developer clutch K/C/M/Y					
DEVE CTRG(K)	Developer cartridge K	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
DEVE CTRG(C)	Developer cartridge C	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
DEVE CTRG(M)	Developer cartridge M	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
DEVE CTRG(Y)	Developer cartridge Y	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
DRUM UNIT(K)/(C)/(M)/(Y)	Drum unit K/C/M/Y					
DRUM CTRG(K)	Drum cartridge K	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
DRUM CTRG(C)	Drum cartridge C	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
DRUM CTRG(M)	Drum cartridge M	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
DRUM CTRG(Y)	Drum cartridge Y	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
MAIN CHARGER(K)	Main charger K	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
MAIN CHARGER(C)	Main charger C	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
MAIN CHARGER(M)	Main charger M	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
MAIN CHARGER(Y)	Main charger Y	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
MC CLEAN(K)	MC cleaner (K)	Not displayed	Max. 8	Not displayed	Not displayed	Not displayed
MC CLEAN(C)	MC cleaner (C)	Not displayed	Max. 8	Not displayed	Not displayed	Not displayed
MC CLEAN(M)	MC cleaner (M)	Not displayed	Max. 8	Not displayed	Not displayed	Not displayed
MC CLEAN(Y)	MC cleaner (Y)	Not displayed	Max. 8	Not displayed	Not displayed	Not displayed
DRUM BLADE(K)	Drum blade K	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
DRUM BLADE(C)	Drum blade C	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
DRUM BLADE(M)	Drum blade M	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
DRUM BLADE(Y)	Drum blade Y	Max. 8	Max. 8	0 - 999	0 - 100(%)	0 - 365(*1)
TONER CTRG(K)	Toner cartridge K	Max. 8	Max. 8	0 - 999	0 - 100(%)	Not displayed
TONER CTRG(C)	Toner cartridge C	Max. 8	Max. 8	0 - 999	0 - 100(%)	Not displayed
TONER CTRG(M)	Toner cartridge M	Max. 8	Max. 8	0 - 999	0 - 100(%)	Not displayed
TONER CTRG(Y)	Toner cartridge Y	Max. 8	Max. 8	0 - 999	0 - 100(%)	Not displayed

*1: For outside the range, "-----" is displayed.

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 end (Unit)	Accumulated No. of end (Unit)	Remaining quantity (Unit: %)
		INSTALL	NN END	END	RESIDUAL
TONER (K)	Toner cartridge use counter (K)	0 - 255	0 - 255	0 - 255	0-25%
TONER (C)	Toner cartridge use counter (C)				25-50%
TONER (M)	Toner cartridge use counter (M)				50-75%
TONER (Y)	Toner cartridge use counter (Y)				75-100%

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)

Display		Content	No. of digits	Default value
FTP	FTP COUNTER	Number of FTP send	8	0
Other	SMB SEND	Number of SMB send	8	0
	USB CNT	Number of times of USB storage	8	0
	TRIAL MODE_B&C	Trial mode counter (B/W & COLOR scan job)	8	0
	SCAN TO HDD_B/W	SCAN TO HDD record quantity (B/W)	8	0
	SCAN TO HDD_CL	SCAN TO HDD record quantity (Color)	8	0
	SCAN TO HDD_2CL	SCAN TO HDD record quantity (2-color)	8	0
	SCAN TO HDD_SGL	SCAN TO HDD record quantity (Single color)	8	0

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.

Display		Content	No. of digits	Default value
Network scanner	NET SCN ORG_B/W	Network scanner document read quantity counter (B/W scan job)	8	0
	NET SCN ORG_CL	Network scanner document read quantity counter (Color scan job)	8	0
	NET SCN ORG_2CL	Network scanner document read quantity counter (2-Color scan job)	8	0
	NET SCN ORG_SGL	Network scanner document read quantity counter (Single-color scan job)	8	0
Internet FAX	INTERNET FAX OUTPUT	Number of internet FAX output	8	0
	INTERNET FAX SEND OUTPUT	Number of internet FAX sending page	8	0
	INTERNET FAX RECEIVE	Number of internet FAX receive	8	0
	INTERNET FAX SEND	Number of internet FAX send	8	0
E-Mail	MAIL COUNTER	Number of times of E-MAIL send	8	0

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				Max. number of histories	Remarks
	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:MM:SS)	Total output quantity of black and white	Total output quantity of color	50	The head is the latest, and the bottom is the oldest. The max. number of histories is 50.
SPF JAM	SPF JAM COUNT	Number of SPF JAM troubles	Generated JAM code (SPF)				50	When 50 is exceeded, the oldest one is not displayed sequentially.
TROUBLE	TROUBLE COUNT	Number of troubles	Generated trouble code				30	The head is the latest, and the bottom is the oldest. The max. number of histories is 30. When 30 is exceeded, the oldest one is not displayed sequentially.

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
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
TH_M	External air temperature sensor temperature/AD value
HUD_M	External air humidity sensor humidity/AD value
TH1_LSU	LSU thermistor 1 temperature/AD value
TH2_LSU	LSU thermistor 2 temperature/AD value
TH_UM	Fusing upper main thermistor (differential) temperature/AD value
TH_UM_CS	Fusing upper main thermistor (compensation) temperature/AD value
TUMD	Fusing upper main thermistor (detection) AD value
TH_US1	Fusing upper sub thermistor (differential) temperature/AD value
TH_US1_CS	Fusing upper sub thermistor (compensation) temperature/AD value
TU1D	Fusing upper sub thermistor (detection) AD value
TH_LM1	Fusing lower main thermistor (differential) temperature/AD value
TH_LM1_CS	Fusing lower main thermistor (compensation) temperature/AD value
TL1D	Fusing lower main thermistor (detection) AD value
TH_US2	Fusing upper sub thermistor 2 temperature/AD value
TH_LM2	Fusing lower main thermistor 2 temperature/AD value

Detail display content of HISTORY1

Display	Content	
NON	Inch series fixed form	No paper size
WLG		Double Legal
WLR		Double Legal-R
LD		Ledger
LDR		Ledger-R (Double Letter)
LG		Legal
LGR		Legal-R
FC		Foolscap
FCR		Foolscap-R
LT		Letter
LTR		Letter-R
IV		Invoice (Mini)
IVR		Invoice-R (Mini)
EC		Executive
ECR		Executive-R
A3W		A3W (12x18 in)

Display	Content	
AWR	Inch series fixed form	A3W (12x18 in)-R
12		22x17
13		22x17R
14		22x34
15		22x34R
16		34x44
17		34x44R
18		44x68
19		44x68R
01A		9x12
01B		9x12R
01C		13x19
01D		13x19R
MLG		Mexican-Legal
MLR		Mexican-Legal-R
ALG		Asian-Legal
ALR		Asian -Legal-R
EXT	Other	Extra (Special)
A1	AB series fixed form	A1
A1R		A1R
A2		A2
A2R		A2R
A3		A3
A3R		A3R
A4		A4
A4R		A4R
A5		A5
A5R		A5R
A6		A6
A6R		A6R
B3		B3
B3R		B3R
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

Display	Content	
89	Domestic special (Envelope)	120 x 235 mm
08B		90 x 205 mm
08D		90 x 185 mm
08F		240 x 332 mm
91		216 x 277 mm
93		197 x 267 mm
95		190 x 240 mm
97		162 x 229 mm
99		142 x 205 mm
09B		119 x 197 mm
09D		120 x 176 mm
09F		114 x 162 mm
0A1		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

Display	Content
COL	Color paper
PLN	Standard paper
PRP	Pre printed
OHP	OHP Transparency
HV	Heavy paper
LBL	Label sheet
ENV	Envelope
HG	Postcard
TAB	Tab sheet
THN	Thin paper
US1	User type 1
US2	User type 2
US3	User type 3
US4	User type 4
US5	User type 5
US6	User type 6
US7	User type 7
US8	User type 8
US9	User type 9
US10	User type 10
US11	User type 11
HV2	Heavy paper 2
PL2	Plain paper 2 (not used)
HV3	Heavy paper 3
HV4	Heavy paper 4
GLS	Glossy paper
EMB	Embossed paper
ECO	Eco Crystal 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 *1	MACHINE STATUS LIST	Machine status list
Printer test page	PCL SYMBOL SET LIST	SPDL symbol set list *2
	PCL INTERNAL FONT LIST	SPDL internal font list *2
	PCL EXTENDED FONT LIST	SPDL extended font list *2
	PS FONT LIST	PS internal font list *2
	KANJI FONT LIST	PS KANJI font list *2
	PS EXTENDED FONT LIST	PS extended font list *2
	NIC PAGE	NIC page
Address registration list *1	INDIVIDUAL LIST	Address registration list
	GROUP LIST	Group list
	MEMORY BOX LIST	Memory box list
Document filing list *1	DOCUMENT FILING FOLDER LIST	Document filing folder list
Common	PAPER SETTING LIST	Paper setting list
	MACHINE IDENTIFICATION SETTINGS LIST	Machine identification settings list
	OPERATION SETTINGS LIST	Operation settings list
	KEYBOARD SETTINGS LIST	Keyboard settings list
	DEVICE CONTROL LIST	Device control list
	HOME SCREEN 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)
	ANTI JUNK FAX NUMBER LIST	Receive rejection number table
Transfer table list	ALLOW/REJECT MAIL & DOMAIN NAME LIST	Receive rejection/allow address
	INBOUND ROUTING LIST	Transfer table list
	DOCUMENT ADMIN LIST	To administrator transfer list

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

*2 When Fiery is set, this setting is invalid.

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.

Item	Button display	Content
DATA PATTERN	NO.1	JAM/Trouble history print
	NO.2	Paper feed counter, JAM history details, and temperature/humidity history print

23-80

Purpose	Operation test/check
Function (Purpose)	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 the detectors in the paper feed section and the paper transport section.

Section	Paper feed, Paper transport
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Operation/Procedure

When [EXECUTE] key is pressed, the timing list of paper feed and paper transport is outputted.

Used to print the operations timing list of the sensors and detectors in the paper feed and transport section.

The timing list of paper feed and paper transport operations of the latest job (copy or print) on the final paper is printed.

Since the paper feed and paper transport routes differ depending on the used paper feed tray and the print operation mode, the sensor and the detectors and the operation timing also differ.

SECTION	Operation content (Trigger name - Detection operation or load operation name)
STANDARD	Reference value (ms)
CURRENT (*1)	Operation timing (ms) of the latest job on the final paper
PREVIOUS (*1)	Operation timing (ms) of the second latest job on the final paper
MAXIMUM (*1)	Max. operation timing (ms) of all the jobs
MINIMUM (*1)	Min. operation timing (ms) of all the jobs

*1: The value without unit on the left side of each item on the list has no relation to the operation timing. It is not used in the market.

23-81

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

Section	Paper feed, Paper transport
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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.

24-1

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	DSPF 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.

Display	Content
TRAY1	Tray 1 paper feed counter
TRAY2	Tray 2 paper feed counter
TRAY3	Tray 3 paper feed counter
TRAY4	Tray 4 paper feed counter
ADU	ADU paper feed counter
MFT	Manual paper feed counter (*1)
LCC	Side LCC paper feed counter (A4 LCC or A3 LCC)
LCT1	Upper stage LCT paper feed counter (*1)
LCT2	Lower stage LCT paper feed counter (*1)
LCT_MFT	LCT manual paper feed counter (*1)

*1: Displayed only when the option is installed.

24-3

Purpose	Data clear
Function (Purpose)	Used to clear the finisher, DSPF, 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.

Display	Display
SPF	Document feed quantity
SCAN	Number of times of scan
STAPLER	Staple counter
PUNCHER	Puncher counter
STAMP	Number of stamps
SADDLE STAPLER	Saddle staple counter
SADDLE V FOLD	Saddle finisher V fold counter
COVER	Cover open/close counter

Display	Display
HP_ON	HP detection count
TRIMMER	Trimmer counter
FOLDING	Paper folding counter
INSERTER	Insertor counter (Tray 1)
INSERTER2	Insertor counter (Tray 2)
INSERTER OFFLINE	Insertor offline counter
DECURLER	De-curler counter
OC LAMP TIME	OC section lamp total lighting time
DSPF LAMP TIME (*1)	DSPF section lamp total lighting time

*1: Display only when the DSPF is installed.

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.

	Display	Content
Maintenance	MAINTENANCE ALL	Maintenance counter (Total) (Counter)
		Maintenance counter (Total) (Number of use days)
	MAINTENANCE COL	Maintenance counter (Color) (Counter)
		Maintenance counter (Color) (Number of use days)
Fusing	FUSING UNIT	Fusing unit (counter)
	FUSING BELT	Fusing belt (Counter)
		Fusing belt (Number of use days)
		Fusing belt (Accumulated traveling distance)
	FUSING ROLLER	Fusing roller (Counter)
		Fusing roller (Number of use days)
		Fusing roller (Accumulated traveling distance)
	FUSING MOTOR	Fusing motor (Number of use days)
		Fusing motor (Accumulated traveling distance)
	FUSING LOAD	Fusing pressure release drive (Number of rotations)
		Pressure roller (Counter)
		Pressure roller (Number of use days)
	PRESS ROLLER	Pressure roller (Accumulated traveling distance)
		Separation pawl (Counter)
		Separation pawl (Number of use days)
	SEPARATE PAWL	Separation pawl (Accumulated traveling distance)
		Separation plate (Counter)
		Separation plate (Number of use days)
	SEPARATE PLATE	Separation plate (Accumulated traveling distance)
		WEB UNIT(L)
		Fusing lower web unit (Counter)
		Fusing lower web unit (Number of use days)
		Fusing lower web cleaning send counter (Counter)

	Display	Content
Transfer	TC1 UNIT	Primary transfer unit (counter)
	TC1 BELT	Primary transfer belt (Counter)
		Primary transfer belt (Number of use days)
		Primary transfer belt (Accumulated traveling distance)
	TRANS BLADE	Transfer blade (Counter)
		Transfer blade (Number of use days)
		Transfer blade (Accumulated traveling distance)
	TC CL ROLLER	Transfer cleaning roller (Counter)
		Transfer cleaning roller (Number of use days)
		Transfer cleaning roller (Accumulated traveling distance)
	TC2 UNIT	Secondary transfer unit (Counter)
	TC2 BELT	Secondary transfer belt (Counter)
		Secondary transfer belt (Number of use days)
		Secondary transfer belt (Accumulated traveling distance)
	TC2 TRANS BLADE	Secondary transfer blade (Counter)
		Secondary transfer blade (Number of use days)
		Secondary transfer blade (Accumulated traveling distance)
PTC	PTC	PTC counter (Counter)
		PTC counter (Number of use days)
		PTC counter (Accumulated traveling distance)
	PTC CLEAN	PTC counter (RPM)
Drum	DRUM UNIT K	Drum unit K (Counter)
	DRUM UNIT C	Drum unit C (Counter)
	DRUM UNIT M	Drum unit M (Counter)
	DRUM UNIT Y	Drum unit Y (Counter)
	DRUM CTGR K	Drum cartridge K (Counter)
		Drum cartridge K (Number of use days)
		Drum cartridge K (Accumulated traveling distance)
	DRUM CTGR C	Drum cartridge C (Counter)
		Drum cartridge C (Number of use days)
		Drum cartridge C (Accumulated traveling distance)
	DRUM CTGR M	Drum cartridge M (Counter)
		Drum cartridge M (Number of use days)
		Drum cartridge M (Accumulated traveling distance)
	DRUM CTGR Y	Drum cartridge Y (Counter)
		Drum cartridge Y (Number of use days)
		Drum cartridge Y (Accumulated traveling distance)
Main charger	MAIN CHARGER K	Main charger K (Counter)
		Main charger K (Number of use days)
		Main charger K (Accumulated traveling distance)
	MAIN CHARGER C	Main charger C (Counter)
		Main charger C (Number of use days)
		Main charger C (Accumulated traveling distance)
	MAIN CHARGER M	Main charger M (Counter)
		Main charger M (Number of use days)
		Main charger M (Accumulated traveling distance)

Display		Content
Main charger	MAIN CHARGER Y	Main charger Y (Counter)
		Main charger Y (Number of use days)
		Main charger Y (Accumulated traveling distance)
	MC CLEAN K	MC cleaner K (RPM)
	MC CLEAN C	MC cleaner C (RPM)
	MC CLEAN M	MC cleaner M (RPM)
Drum blade	DRUM BLADE K	Drum blade K (Counter)
		Drum blade K (Number of use days)
		Drum blade K (Accumulated traveling distance)
	DRUM BLADE C	Drum blade C (Counter)
		Drum blade C (Number of use days)
		Drum blade C (Accumulated traveling distance)
	DRUM BLADE M	Drum blade M (Counter)
		Drum blade M (Number of use days)
		Drum blade M (Accumulated traveling distance)
	DRUM BLADE Y	Drum blade Y (Counter)
		Drum blade Y (Number of use days)
		Drum blade Y (Accumulated traveling distance)
Other	PS PAPER	PS paper dust removing (Counter)
		PS paper dust removing (Number of use days)
	OZONE/TONER FILTER	Ozone filter/Toner filter (Counter)
		Ozone filter/Toner filter (Number of use days)
	DEVE CLUTCH K	DV Clutch K (Counter)
	DEVE CLUTCH C	DV Clutch C (Counter)
	DEVE CLUTCH M	DV Clutch M (Counter)
	DEVE CLUTCH Y	DV Clutch Y (Counter)

* The winding counter for the fusing web cleaning is cleared by being synchronized with the fusing web cleaning feed counter.

* When "MAIN CHARGER K" is cleared, "MC CLEAN K" is also cleared. (as well as CMY)

24-5	
Purpose	Data clear
Function (Purpose)	Used to clear the developer counter value and the toner hopper remaining quantity counter. (After replacing developer, clear these 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.

NOTE: When SIM25-2 is executed, the counters related to developer are automatically cleared.

Button display	Content
DV_UT_K	DV unit print counter (K)
DV_UT_C	DV unit print counter (C)
DV_UT_M	DV unit print counter (M)
DV_UT_Y	DV unit print counter (Y)

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)
HP_K	Remaining toner counter in the intermediate hopper (K)
	Hopper loop count (K)
HP_C	Remaining toner counter in the intermediate hopper (C)
	Hopper loop count (C)
HP_M	Remaining toner counter in the intermediate hopper (M)
	Hopper loop count (M)
HP_Y	Remaining toner counter in the intermediate hopper (Y)
	Hopper loop count (Y)

NOTE: The "developer cartridge life meter" counter displayed in SIM22-13 is not displayed in this simulation, but it is not cleared when this simulation is executed.

When the toner hopper is replaced with a new one or when toner in the hopper is cleaned, execute "HP_*."

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.

Sensor name (Display)	Sensor name
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 sensor control voltage input value (K)
TSG_C	Toner sensor control voltage input value (C)
TSG_M	Toner sensor control voltage input value (M)
TSG_Y	Toner sensor control voltage input value (Y)

Display item	Content	Default value
MIDDLE	Process speed: Medium speed	Middle speed
LOW1	Process speed: Low speed 1	
LOW2	Process speed: Low speed 2	

25-2

Purpose	Setting
Function (Purpose)	Used to make the initial setting of toner density when replacing developer. (Automatic adjustment)
Section	Image process (Photoconductor/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 1 min 30 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.

CAUTION: 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.

CAUTION: 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.

CAUTION: Execute without insertion of the toner cartridge.

Result display item name

Display item	Content	Display range	Default value
AT DEVE ADJ_L1_K	Automatic developer adjustment value at low speed 1	1 - 255	128
AT DEVE ADJ_L1_C		1 - 255	128
AT DEVE ADJ_L1_M		1 - 255	128
AT DEVE ADJ_L1_Y		1 - 255	128
AT DEVE ADJ_L2_K	Automatic developer adjustment value at low speed 2	1 - 255	128
AT DEVE ADJ_L2_C		1 - 255	128
AT DEVE ADJ_L2_M		1 - 255	128
AT DEVE ADJ_L2_Y		1 - 255	128
AT DEVE ADJ_M_K	Automatic developer adjustment value at middle speed	1 - 255	128
AT DEVE ADJ_M_C		1 - 255	128
AT DEVE ADJ_M_M		1 - 255	128
AT DEVE ADJ_M_Y		1 - 255	128
AT DEVE VO_L1_K	Automatic developer adjustment control voltage in low speed 1	1 - 255	128
AT DEVE VO_L1_C		1 - 255	128
AT DEVE VO_L1_M		1 - 255	128
AT DEVE VO_L1_Y		1 - 255	128
AT DEVE VO_L2_K	Automatic developer adjustment control voltage in low speed 2	1 - 255	128
AT DEVE VO_L2_C		1 - 255	128
AT DEVE VO_L2_M		1 - 255	128
AT DEVE VO_L2_Y		1 - 255	128
AT DEVE VO_M_K	Automatic developer adjustment control voltage in middle speed	1 - 255	128
AT DEVE VO_M_C		1 - 255	128
AT DEVE VO_M_M		1 - 255	128
AT DEVE VO_M_Y		1 - 255	128

Display during execution of the simulation

Sensor name (Display)	Sensor name
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 sensor control voltage input value (K)
TSG_C	Toner sensor control voltage input value (C)
TSG_M	Toner sensor control voltage input value (M)
TSG_Y	Toner sensor control voltage input value (Y)

Error content

Error display	Error name	Details of error display
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.

Item/Display	Content	Display range
YLD_CNT_FB	Toner supply FB rate by the yield count	50 - 200
DELTA_DVB	Delta DVB (Process control DVB - Target DVB)	-500 - 500
IDL_DVB	Target DVB	100 - 600
PROCON_DVB	Process control DVB	100 - 600
DV_LIFE	Developer life area	1 - 32
COVERAGE_AREA	Average print rate area	1 - 29
ENV_AREA	Environment area	1 - 16
MULTI_TIME	Toner supply drive time area (Specified by the DV motor rotation time)	1 - 8
PRO_FB_CNT	No. of remaining times of toner supply for the process control result	0 - 65535
PRO_FB_INT	Interval of toner supply for the process control result	0 - 65535
PRO_FB_RATIO	Correction rate of one-time toner supply for the process control result	-10 - 10
RECV_MODE_CNT(+)	No. of times of recovery mode (+) (No. of times of compulsory toner supply)	0 - 65535
RECV_MODE_CNT(-)	No. of times of recovery mode (-) (No. of times of compulsory printing of one-color background image)	0 - 65535
AUTO_DV_AREA	Environment area at automatic developer adjustment	1 - 16

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.

Display	Content	Display range
TCS_B_AVE.	Average value of the toner sensor output block	0 - 255
TSG_HUM	Current TSG environment correction value (Medium speed)	-127 - 127
TSG_COV	Current TSG print ratio correction value (Medium speed)	-127 - 127
TSG_LIFE	Current TSG developer life correction value (Medium speed)	-127 - 127
TSG_ENV	Current TSG accumulated drive area correction value (Medium speed)	-127 - 127
DELTA_TSG	Control voltage correction value	-255 - 255
DELTA VSPEED(M)	ΔVspeed correction value (Medium speed)	-127 - 127
DELTA VSPEED(L)	ΔVspeed correction value (Low speed)	-127 - 127
TSG_REF	Control voltage reference value (Medium speed)	0 - 255
TSG_TOTAL	Current applying TSG (Medium speed)	0 - 255
TCS_AVE.	Toner sensor output average value	0 - 255
TN_EMP_W	Number of times of detecting the toner empty threshold value w or above	0 - 255
TN_EMP_X	Number of times of detecting the toner empty threshold value x or above	0 - 255
TN_EMP_Y	Number of times of detecting the toner empty threshold value y or above	0 - 255
TN_REM_CNT	Remaining toner counter in the intermediate hopper	0 - 400000
TNM_PPS	PPC correction coefficient for calculating the TM rotation number	50 - 150
HP_B_AVE.	Intermediate hopper transport amount average value	30 - 50

25-10	
Purpose	Setting
Function (Purpose)	Developer/drum serial no. setting (Not used in the market)
Section	

Operation/Procedure

26

26-1	
Purpose	Setting
Function (Purpose)	Used to set Yes/No of installation of the right paper exit tray.
Section	Paper exit

Operation/Procedure

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

This setting is required to use the right paper exit tray unit.

Item/Display			Content
A	0	YES	Paper exit tray: YES
	1	NO	Paper exit tray: NO

26-2	
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Purpose	Setting
Function (Purpose)	Used to set the paper size of the large capacity tray (LCC). (When the paper size is changed, this simulation must be executed to change the paper size in software.)

Section	Paper feed
----------------	------------

Operation/Procedure

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

Item	Setting value	Content
TRAY1	0	8.5 x 11
	1	A4
	2	B5
A4 LCC	0	8.5 x 11
	1	A4
	2	B5
G/LBS SET	0	GRAM
	1	LBS

Destination	Setting value		
	TRAY1	A4 LCC	G/LBS SET
U.S.A	8.5 x 11	8.5 x 11	LBS
CANADA	8.5 x 11	8.5 x 11	LBS
INCH	8.5 x 11	8.5 x 11	LBS
JAPAN	B5	A4	GRAM
TAIWAN	A4	A4	GRAM
EUROPE	A4	A4	GRAM
U.K.	A4	A4	GRAM
AUS.	A4	A4	GRAM
AB	A4	A4	GRAM
CHINA	A4	A4	GRAM
KOREA	A4	A4	GRAM
BRAZIL	A4	A4	GRAM

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 VENDOR2	Vendor mode in which signals for the DocuLyser connected to the PCU are used for communication in parallel I/F.	
	P VENDOR3	Vendor mode in which signals for the intercard connected to the PCU are used for communication in parallel I/F.	

Item/Display		Content	Default value
OUTSIDE AUDITOR	P OTHER	Mode for an external auditor connected to the SCU.	NONE
	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_OUT
	FUSER_OUT	Mode in which the detection timing of the paper rear edge by the sensor after the paper passes the fusing section is used as the money charging timing.	
	EXIT_OUT	Mode in which the detection timing of the paper rear edge by the paper exit sensor of the right paper exit tray or of the after process unit is used as the money charging timing.	
IMS CONTROL	ON	Image send mode is limited.	OFF
	OFF	Image send mode is not limited.	
PRINTER CONTROL	MODE1	All the items in OUTSIDE AUDITOR and VENDOR MODE are allowed to select.	MODE 3
	MODE2	OUTSIDE AUDITOR is always set to P VENDOR1 and VENDOR MODE is always set to MODE3.	
	MODE3	OUTSIDE AUDITOR is always set to P OTHER and VENDOR MODE is always set to MODE3.	

(*1) Displayed only when EQUITRAC.

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

Details of the vendor mode

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

Operation 1:

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

Operation 2:

Auto clear is not made.

Operation 3:

The display is shifted to the initial screen.

Details of the printer control

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

26-5

Purpose	Setting
Function (Purpose)	Used to set the count mode of the total counter and the maintenance counter. (A3/11x17 size)
Section	

Operation/Procedure

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

Item/Display	Content	Default value
A TOTAL (B/W)	Total counter (B/W)	2
B TOTAL (COL)	Total counter (Color)	
C MAINT (B/W)	Maintenance counter (B/W)	2
D MAINT (COL)	Maintenance counter (Color)	
E DEV (B/W)	Developer counter (B/W)	
F DEV (COL)	Developer counter (Color)	

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.

U.S.A.	United States of America
CANADA	Canada
INCH	Inch series, other destinations
JAPAN	Japan
TAIWAN	Taiwan
EUROPE	Europe
U.K.	United Kingdom
AUS.	Australia
AB	AB series (A5 detection), other destinations
CHINA	China
KOREA	Korea
BRAZIL	Brazil

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	-	-	-	-	-	-	-	-	-

26-8	
Purpose	Setting
Function (Purpose)	Counter mode setting (Long scale)
Section	

Operation/Procedure

- 1) Select a setting item with the scroll key.
- 2) Enter the set value with 10-key.
1 = 1 count up, 2 = 2 count up
- 3) Press [OK] key.

Item/Display		Content	Setting range	Default value	Default value (Taiwan)
A	TOTAL(B/W) LONG SIZE(S)	Long scale (Small) Total counter (B/W)	1 - 10	3	2
B	TOTAL (COL) LONG SIZE(S)	Long scale (Small) Total counter (Color)	1 - 10	3	2
C	MAINTEN (B/W) LONG SIZE(S)	Long scale (Small) Maintenance counter (B/W)	1 - 10	3	2
D	MAINTEN (COL) LONG SIZE(S)	Long scale (Small) Maintenance counter (Color)	1 - 10	3	2
E	DEV(B/W) LONG SIZE(S)	Long scale (Small) Developer counter (B/W)	1 - 10	3	2
F	DEV(COL) LONG SIZE(S)	Long scale (Small) Developer counter (color)	1 - 10	3	2
G	TOTAL(B/W) LONG SIZE(L)	Long scale (Large) Total counter (B/W)	1 - 10	5	2
H	TOTAL (COL) LONG SIZE(L)	Long scale (Large) Total counter (Color)	1 - 10	5	2
I	MAINTEN (B/W) LONG SIZE(L)	Long scale (Large) Maintenance counter (B/W)	1 - 10	5	2
J	MAINTEN (COL) LONG SIZE(L)	Long scale (Large) Maintenance counter (Color)	1 - 10	5	2
K	DEV(B/W) LONG SIZE(L)	Long scale (Large) Developer counter (B/W)	1 - 10	5	2
L	DEV(COL) LONG SIZE(L)	Long scale (Large) Developer counter (color)	1 - 10	5	2

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	Setting range	Default value	NOTE
A COPY (0: OFF 1: SV1 2: SV2 3: SV3)	0 Copy toner save mode NOT available	0 - 3	0	1: Toner save LOW 3: Toner save HIGH
	1 Copy toner save mode 1			
	2 Copy toner save mode 2			
	3 Copy toner save mode 3			
B PRINTER (0: OFF 1: SV1 2: SV2 3: SV3)	0 Printer toner save mode NOT available	0 - 3	0	1: Toner save LOW 3: Toner save HIGH
	1 Printer toner save mode 1			
	2 Printer toner save mode 2			
	3 Printer toner save mode 3			
C COPY TS DISPLAY (0: YES 1: NO)	0 Setting of copy toner save is displayed.	0 - 1	Linked with the set value of SIM26-6.	
	1 Setting of copy toner save is not displayed.			
D PRINTER TS DISPLAY (0: YES 1: NO)	0 Setting of printer toner save is displayed.	0 - 1	Linked with the set value of SIM26-6.	
	1 Setting of printer toner save is not displayed.			

Destination	Default value C	Default value D
U.S.A	0 (Displayed)	0 (Displayed)
CANADA	0 (Displayed)	0 (Displayed)
INCH	0 (Displayed)	0 (Displayed)
JAPAN	1 (Not Displayed)	1 (Not Displayed)
TAIWAN	0 (Displayed)	0 (Displayed)
EUROPE	0 (Displayed)	0 (Displayed)
U.K.	1 (Not Displayed)	1 (Not Displayed)
AUS.	0 (Displayed)	0 (Displayed)
AB	0 (Displayed)	0 (Displayed)
CHINA	0 (Displayed)	0 (Displayed)
KOREA	0 (Displayed)	0 (Displayed)
BRAZIL	0 (Displayed)	0 (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.

U.S.A	1 (CE not supported)	U.K.	0 (CE supported)
CANADA	1 (CE not supported)	AUS.	1 (CE not supported)
INCH	1 (CE not supported)	AB	1 (CE not supported)
JAPAN	1 (CE not supported)	CHINA	0 (CE supported)
TAIWAN	1 (CE not supported)	KOREA	1 (CE not supported)
EUROPE	0 (CE supported)	BRAZIL	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 CLEANING PRINT SET	User fusing cleaning function is Enable.	0 YES	0 (YES)
	User fusing cleaning function is Disable.	1 NO	

26-35	
Purpose	Setting
Function (Purpose)	Used to set the display mode of SIM 22-4 trouble history when a same trouble occurred repeatedly. There are two display modes: display as one trouble and display as several series of troubles.

Section

Operation/Procedure

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

0	Only once display.
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)	
B FUSER WEB END (0: CONTINUE 1: STOP)	0 Continue/Stop setting of print when the fusing web is end (Print Continue)	1
	1 Continue/Stop setting of print when the fusing web is end (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	0 (Disable)
JAPAN	0 (Disable)	CHINA	0 (Disable)
TAIWAN	0 (Disable)	KOREA	0 (Disable)
EUROPE	1 (Enable)	BRAZIL	0 (Disable)

26-49	
Purpose	Setting
Function (Purpose)	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.

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 Destination values Item A
	1 BW reverse copy Enable	
B COLOR MODE	2-color/Single color copy mode Enable/Disable setting	Refer Destination values Item B
C FINISHER FUNCTION	0 Finisher special paper The number of paper exit is limited.	0 (YES)
	1 Finisher special paper The number of paper exit is not limited.	
D COLOR MODE (PRINTER)	0 All colors and monochrome counters are displayed.	Refer Destination values Item D
	1 All are displayed except for the 3-color print counter.	
	2 Monochrome and full color print counters are displayed.	
E FEED TRAY COLOR	0 Paper feed tray color display ON during paper feed	0
	1 Paper feed tray color display OFF during paper feed	
F BANNER SIZE PRINT	0 Long size print disable	0
	1 Long size print enable	
G STATUS LIGHT SETTING	0 Disable status display light setting.	0 (NO)
	1 Enable status display light setting.	
H GBC PUNCH SET	0 Switching the setting of AB type / inch type of GBC punch unit	0 (INCH) 1 (AB) Refer Destination values Item H
	1	
I WIRELESS SET	0 Disables wireless LAN setting.	0 (NO)
	1 Enables wireless LAN setting.	
J POWER SHUT-OFF SET	0 Display setting of auto power shut off	Refer Destination values Item J
	1	
K USB DEVICE	0 USB device settings	0 (NO)
	1	

*Item F. Maximum width specification is 305mm but can be set up to 330mm.

*1: Default values for each destination of item A/B/D

Destination	Item A	Item B	Item D	Item H	Item J
U.S.A	1 (Enable)	0	2	0 (INCH)	1 (Display)
CANADA	1 (Enable)	0	2	0 (INCH)	1 (Display)
INCH	1 (Enable)	0	2	0 (INCH)	1 (Display)
JAPAN	1 (Enable)	7	2	1 (AB)	1 (Display)
TAIWAN	1 (Enable)	0	2	1 (AB)	1 (Display)
EUROPE	1 (Enable)	0	2	1 (AB)	0 (Hide)
U.K.	0 (Disable)	0	2	1 (AB)	0 (Hide)
AUS.	1 (Enable)	0	2	1 (AB)	1 (Display)

Destination	Item A	Item B	Item D	Item H	Item J
AB	1 (Enable)	0	2	1 (AB)	1 (Display)
CHINA	1 (Enable)	0	2	1 (AB)	1 (Display)
KOREA	1 (Enable)	0	2	1 (AB)	1 (Display)
BRAZIL	1 (Enable)	0	2	1 (AB)	1 (Display)

*2: Item B: COLOR MODE set value
(OFF: Displayed/ON: Not displayed)

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

*3:

	Target paper	Target paper setting	
		0	1
Inner finisher	Postcard, envelope	The operation is stopped when 10 sheets of a same kind are discharged continuously. When, however, different kinds of sheets are mixed and discharged and 10 or less sheets of a kind are continuously discharged, the operation is stopped by the paper exit tray full detection.	If it is set to "1," the operation is stopped when the paper exit tray is full or when 250 sheets (35.5mm thick) are discharged.
	Label sheet, tab sheet, OHP	The operation is stopped when 100 sheets of a same kind are discharged continuously. When, however, different kinds of sheets are mixed and discharged and 100 or less sheets of a kind are continuously discharged, the operation is stopped by the paper exit tray full detection.	
1K Saddle stitch finisher	Postcard, envelope	The operation is stopped when 30 sheets of a same kind are discharged continuously. When, however, different kinds of sheets are mixed and discharged and 30 or less sheets of a kind are continuously discharged, the operation is stopped by the paper exit tray full detection.	If it is set to "1," the operation is stopped when the paper exit tray is full or when 500 sheets (67mm thick) are discharged.
	Label sheet, tab sheet, OHP	The operation is stopped when 100 sheets of a same kind are discharged continuously. When, however, different kinds of sheets are mixed and discharged and 100 or less sheets of a kind are continuously discharged, the operation is stopped by the paper exit tray full detection.	

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.

Destination	Default
U.S.A	0 (Counted)
CANADA	0 (Counted)
INCH	0 (Counted)
JAPAN	1 (Not counted)
TAIWAN	0 (Counted)
EUROPE	0 (Counted)
U.K.	0 (Counted)
AUS.	1 (Not counted)
AB	0 (Counted)
CHINA	0 (Counted)
KOREA	1 (Not counted)
BRAZIL	0 (Counted)

26-65

Purpose	Setting
Function (Purpose)	Used to set the finisher alarm mode.
Section	

Operation/Procedure

Use the touch key to set.

Item	Content	100 sheets staple finisher/ 100 sheets staple saddle finisher			4K finisher			4K saddle finisher		
		Setting value	Setting range	Default value	Setting value	Setting range	Default value	Setting value	Setting range	Default value
LIMIT COPIES	Number of sheets of stapling: Limited	ON	ON or	ON	ON	ON or	ON	ON	ON or	ON
	Number of sets of stapling: Not Limited	OFF	OFF		OFF	OFF		OFF	OFF	
SADDLE COPIES	Number of sets loaded in the saddle staple: Limited	-			-			ON	ON or OFF	ON
	Number of sets loaded in the saddle staple: Not Limited							OFF		

* The limit for loading when folding paper is linked with SADDLE COPIES.

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		Setting range	Default value
A	TONER PREPARATION (0:YES 1:NO)	0	The toner preparation message is displayed.	0 - 1	0
		1	The toner preparation message is not displayed.		
B	REMAINING TONER LEVEL	5%	0 Toner preparation at remaining toner level of 5%	0 - 9	4
		10%	1 Toner preparation at remaining toner level of 10%		
		15%	2 Toner preparation at remaining toner level of 15%		

Item/Display				Content	Setting range	Default value
B	REMAINING TONER LEVEL	20%	3	Toner preparation at remaining toner level of 20%	0 - 9	4
		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%		
C	TONER NEAR END(0:YES 1:NO)		0	The toner near end message is displayed.	0 - 1	0
			1	The toner near end message is not displayed.		
D	TONER END		1	Operation 1	1 - 3	2
			2	Operation 2		
			3	Operation 3		
E	TONER END JUDGMENT		1	Remaining toner counter (accumulated rotation time of the toner hopper)	1 - 3	1
			2	Toner end judgment by ATC (Exhaust use in the intermediate hopper)		

Item/Display		Content		Setting range	Default value
E	TONER END JUDGMENT	3	Toner end judgment by bottle end (Introduction process, etc.)	1 - 3	1
F	TONER E-MAIL ALERT	0	E-mail alert Toner Low status send timing near near toner end	0 - 1	0
		1	E-mail alert Toner Low status send timing near toner end		
G	TONER MIB UNIT	0	Receive the remaining toner level MIB in 1% increment.	0 - 2	0
		1	Receive the remaining toner level MIB in 5% increment.		
		2	Receive the remaining toner level MIB in 25% increment.		

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		Setting range	Default value
A	OSA TRIAL MODE (0: YES 1: NO)	0	Used to set the OSA trial mode.	0 - 1	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 delete result.

Section

Operation/Procedure

- 1) Enter the set value with 10-key.
The value for the display operation specification after completion of user data delete is set.
- 2) Press [OK] key.

Item/Display		Content	Setting range		Default value
A	DISP SET	User data delete result pop-up display ON	YES	1	0 (NO)
		User data delete result pop-up 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 value
A	DISP SET	Password input display for transferring between each simulation ON	YES	1	0
		Password input display for transferring between each simulation OFF	NO	0	

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) <ul style="list-style-type: none"> • If the connection process is not completed normally when registering the FSS, calling to the HOST may be continuously made every time when the power is turned ON (from OFF) or rebooted. In this case, enter "*****" to inhibit calling to the HOST.

27-4

Purpose	Setting
Function (Purpose)	Used to set the initial call and toner order auto send. (FSS function)

Section**Operation/Procedure**

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) 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		For convenience stores
		NFB2		Send/Receive in NE-F mode		3		For convenience stores
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		
		5%		5%		2		
		10%		10%		3		
		15%		15%		4		
		20%		20%		5		
		25%		25%		6		
		30%		30%		7		
		35%		35%		8		
		40%		40%		9		
		45%		45%		10		
		50%		50%		11		
H	TONER ORDER TIMING(C)	EMPTY	Toner order auto send timing setting (C)	Empty	0 - 11	0	6	
		NEAR_END		Near end		1		
		5%		5%		2		
		10%		10%		3		
		15%		15%		4		
		20%		20%		5		
		25%		25%		6		
		30%		30%		7		
		35%		35%		8		
		40%		40%		9		
		45%		45%		10		
		50%		50%		11		

Item/Display			Content		Setting range		Default value	Remarks
I	TONER ORDER TIMING(M)	EMPTY	Toner order auto send timing setting (M)	Empty	0 - 11	0	6	
		NEAR_END		Near end		1		
		5%		5%		2		
		10%		10%		3		
		15%		15%		4		
		20%		20%		5		
		25%		25%		6		
		30%		30%		7		
		35%		35%		8		
		40%		40%		9		
		45%		45%		10		
		50%		50%		11		
J	TONER ORDER TIMING(Y)	EMPTY	Toner order auto send timing setting (Y)	Empty	0 - 11	0	6	
		NEAR_END		Near end		1		
		5%		5%		2		
		10%		10%		3		
		15%		15%		4		
		20%		20%		5		
		25%		25%		6		
		30%		30%		7		
		35%		35%		8		
		40%		40%		9		
		45%		45%		10		
		50%		50%		11		
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 send at the fixed toner remaining quantity	0 - 1	0	1	
				Toner under alert send when presuming the toner consumption		1		

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.

Item/Display		Content		Setting range	Default value
A	(0: YES 1: NO)	0	Manual service call Enable	0 - 1	0
		1	Manual service call Disable		

- 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 (NO)
		FSS function disable		1	
B	ALERT (0: YES 1: NO)	Alert call enable		0	0 (YES)
		Alert call disable		1	
C	CONNECTION (0: FAX 1: No Use 2: HTTP)	FAX connection enable		0	0 (FAX)
		Not used.		1	
		HTTP connection enable		2	

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

- 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
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 - 20	10 (TIMES)
D JAM ALERT PERIOD	Continuous JAM alert period setting	0 - 99	30 (DAYS)

* Items A, B: 0%, standard passing time between sheets of paper; 100%, time for judgment as a jam between sheets of paper.

* Item C: 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
	History of high density error between papers
	History of half-tone error between papers
	History of automatic registration adjustment error
	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.

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	
FINISHER1	99/99/99 99:99:99	8 digits	
FINISHER2	99/99/99 99:99:99	8 digits	
LCC1	99/99/99 99:99:99	8 digits	
LCC2	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	
SCAN GAIN ADJ4	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ5	99/99/99 99:99:99	8 digits	DSPF gain adjustment retry history display
DSPF GAIN ADJ1	99/99/99 99:99:99	8 digits	
DSPF GAIN ADJ2	99/99/99 99:99:99	8 digits	
DSPF GAIN ADJ3	99/99/99 99:99:99	8 digits	
DSPF GAIN ADJ4	99/99/99 99:99:99	8 digits	
DSPF GAIN ADJ5	99/99/99 99:99:99	8 digits	

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.

Display item	Content	Occurrence date (Display)	Error code (digits)
HV_ERR1	High density error history 1	99/99/99 99:99:99	Max. 4 digits
HV_ERR2	High density error history 2	99/99/99 99:99:99	Max. 4 digits
HV_ERR3	High density error history 3	99/99/99 99:99:99	Max. 4 digits
HV_ERR4	High density error history 4	99/99/99 99:99:99	Max. 4 digits
HV_ERR5	High density error history 5	99/99/99 99:99:99	Max. 4 digits
H_TONE_ERR1	Halftone error history 1	99/99/99 99:99:99	Max. 4 digits
H_TONE_ERR2	Halftone error history 2	99/99/99 99:99:99	Max. 4 digits
H_TONE_ERR3	Halftone error history 3	99/99/99 99:99:99	Max. 4 digits
H_TONE_ERR4	Halftone error history 4	99/99/99 99:99:99	Max. 4 digits
H_TONE_ERR5	Halftone error history 5	99/99/99 99:99:99	Max. 4 digits
AUTO REG ADJ1	Automatic registration adjustment error history 1	99/99/99 99:99:99	Max. 4 digits
AUTO REG ADJ2	Automatic registration adjustment error history 2	99/99/99 99:99:99	Max. 4 digits
AUTO REG ADJ3	Automatic registration adjustment error history 3	99/99/99 99:99:99	Max. 4 digits
AUTO REG ADJ4	Automatic registration adjustment error history 4	99/99/99 99:99:99	Max. 4 digits
AUTO REG ADJ5	Automatic registration adjustment error history 5	99/99/99 99:99:99	Max. 4 digits
P_HV_ERR1	History of high density error between papers 1	99/99/99 99:99:99	Max. 4 digits
P_HV_ERR2	History of high density error between papers 2	99/99/99 99:99:99	Max. 4 digits
P_HV_ERR3	History of high density error between papers 3	99/99/99 99:99:99	Max. 4 digits
P_HV_ERR4	History of high density error between papers 4	99/99/99 99:99:99	Max. 4 digits
P_HV_ERR5	History of high density error between papers 5	99/99/99 99:99:99	Max. 4 digits
P_HT_ERR1	History of half-tone error between papers 1	99/99/99 99:99:99	Max. 4 digits
P_HT_ERR2	History of half-tone error between papers 2	99/99/99 99:99:99	Max. 4 digits
P_HT_ERR3	History of half-tone error between papers 3	99/99/99 99:99:99	Max. 4 digits
P_HT_ERR4	History of half-tone error between papers 4	99/99/99 99:99:99	Max. 4 digits
P_HT_ERR5	History of half-tone error between papers 5	99/99/99 99:99:99	Max. 4 digits
P_AUTO REG ADJ1	History of automatic registration adjustment error 1	99/99/99 99:99:99	Max. 4 digits
P_AUTO REG ADJ2	History of automatic registration adjustment error 2	99/99/99 99:99:99	Max. 4 digits
P_AUTO REG ADJ3	History of automatic registration adjustment error 3	99/99/99 99:99:99	Max. 4 digits
P_AUTO REG ADJ4	History of automatic registration adjustment error 4	99/99/99 99:99:99	Max. 4 digits
P_AUTO REG ADJ5	History of automatic registration adjustment error 5	99/99/99 99:99:99	Max. 4 digits

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	Occurrence date	Code between sensors	Passing time	Reference passing time
Main unit	FEED TIME1	History of paper transport time between sensors 1	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME2	History of paper transport time between sensors 2	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME3	History of paper transport time between sensors 3	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME4	History of paper transport time between sensors 4	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME5	History of paper transport time between sensors 5	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME6	History of paper transport time between sensors 6	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME7	History of paper transport time between sensors 7	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)

	Item/Display	Content	Occurrence date	Code between sensors	Passing time	Reference passing time
Main unit	FEED TIME8	History of paper transport time between sensors 8	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME9	History of paper transport time between sensors 9	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME10	History of paper transport time between sensors 10	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
DSPF	FEED TIME1 (SPF)	History of paper transport time between SPF sensors 1	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME2 (SPF)	History of paper transport time between SPF sensors 2	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME3 (SPF)	History of paper transport time between SPF sensors 3	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME4 (SPF)	History of paper transport time between SPF sensors 4	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME5 (SPF)	History of paper transport time between SPF sensors 5	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME6 (SPF)	History of paper transport time between SPF sensors 6	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME7 (SPF)	History of paper transport time between SPF sensors 7	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME8 (SPF)	History of paper transport time between SPF sensors 8	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME9 (SPF)	History of paper transport time between SPF sensors 9	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME10 (SPF)	History of paper transport time between SPF sensors 10	Year/month/day hour: min.: sec.	5 digits	5 digits (ms)	5 digits (ms)

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.

Item/Display	Content	Setting range	Default value
A CONNECTION TEST MODE (1: ON 0: OFF)	1 The FSS connection test mode is enable.	0 - 1	0 (OFF)
	0 The FSS connection test mode is disable. (*1)		

*1: The FSS connection test mode can be changed only from Disable to Enable, and cannot be changed from Enable to Disable.

- 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
		Alert send Disable	1
B TONER ORDER ALERT (0:YES 1:NO)	Toner order alert send Enable setting	Alert send Enable	0
		Alert send Disable	1
C TONER CTRG ALERT (0:YES 1:NO)	Toner cartridge replacement alert send Enable setting	Alert send Enable	0
		Alert send Disable	1
D JAM ALERT (0:YES 1:NO)	Continuous JAM alert send Enable setting	Alert send Enable	0
		Alert send Disable	1
E TROUBLE ALERT (0:YES 1:NO)	Trouble alert send Enable setting	Alert send Enable	0
		Alert send Disable	1
F PAPER ORDER ALERT (0:YES 1:NO)	Paper order alert send Enable setting	Alert send Enable	0
		Alert send Disable	1

Purpose	Setting
Function (Purpose)	Used to set the FSS paper order alert.
Section	

Operation/Procedure

- 1) Select an item to be set.
- 2) Enter the set value with 10-key.
The value for the FSS paper order alert operation specification is set.
- 3) Press [SET] key.

Item/Display	Content	Setting range	Default value	NOTE
PAPER TYPE SET	Setting of paper kind for paper order alert	0 - 2	0	0: Standard paper and recycled paper 1: Standard paper only 2: Recycled paper only
A3	Paper order number setting [Number of sheets] (A3)	500 - 5000	1250	Unit: No. of sheets for a box
A4	Paper order number setting [Number of sheets] (A4)	500 - 5000	2500	Unit: No. of sheets for a box
B4	Paper order number setting [Number of sheets] (B4)	500 - 5000	2500	Unit: No. of sheets for a box
B5	Paper order number setting [Number of sheets] (B5)	500 - 5000	2500	Unit: No. of sheets for a box
A3: FIRST	Paper order alert number setting (A3) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time
A4: FIRST	Paper order alert number setting (A4) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time
B4: FIRST	Paper order alert number setting (B4) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time
B5: FIRST	Paper order alert number setting (B5) (Number of used sheets)	500 - 10000	1000	Unit: No. of alert sheets for the first time

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.

PPD1	Resist pre-detection
PPD2	Resist detection
POD1	Fusing rear detection
POD2	Main unit paper exit detection
POD3	Right tray paper exit detection
TFD2	Main unit paper exit full detection
TFD3	Right tray paper exit full detection
DSW_R	Right door open/close detection
DSW_RL	Right lower door open/close detection
DSW_FU	Front door upper open/close detection SW
DSW_FL	Front door lower open/close detection SW
DSW_CS	Transport cover open/close detection
DHPD_K	Drum phase detection K
DHPD_C	Drum phase detection C
DHPD_M	Drum phase detection M
DHPD_Y	Drum phase detection Y
WTFD	Waste toner full detection
WTBSET	Waste toner box installation detection
CCHP_K	MC cleaner HP-K
CCHP_C	MC cleaner HP-C
CCHP_M	MC cleaner HP-M
CCHP_Y	MC cleaner HP-Y
CCMD_K	MC cleaner shift detection K
CCMD_C	MC cleaner shift detection C
CCMD_M	MC cleaner shift detection M
CCMD_Y	MC cleaner shift detection Y
LPPD	LCC paper entry detection
T2PPD1	Tandem tray 2 transport detection
T1PPD1	Tandem tray 1 paper entry detection 1
T1PPD2	Tandem tray 1 paper entry detection 2
HLPCD	Fusing pressure release detection
WEB_END1	Web end detection 1
WEB_END2	Web end detection 2
PTCHP	PTC initial detection
PTCMD	PTC cleaner shift detection
PRTPD	Right paper exit paper empty detection
FPPD	Fusing upper paper entry detection
1TUD_CL	Primary transfer belt separation CL detection
1TUD_K	Primary transfer belt separation K detection

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.

TNDSET	Tandem tray close detection
T1SPD	Tray 1 paper remaining quantity detection
T1LUD	Tray 1 upper limit detection
T1PED	Tray 1 paper empty detection
T2SPD	Tray 2 paper remaining quantity detection
T2LUD	Tray 2 upper limit detection
T2PED	Tray 2 paper empty detection
C3PFD	Tray 3 transport detection
C3LUD	Tray 3 upper limit detection
C3PED	Tray 3 paper empty detection
C3SPD	Tray 3 paper remaining quantity detection
C3SS1	Tray 3 paper size detection 1
C3SS2	Tray 3 paper size detection 2
C3SS3	Tray 3 paper size detection 3
C3SS4	Tray 3 paper size detection 4
C4PFD	Tray 4 transport detection
C4LUD	Tray 4 upper limit detection
C4PED	Tray 4 paper empty detection
C4SPD	Tray 4 paper remaining quantity detection
C4SS1	Tray 4 paper size detection 1
C4SS2	Tray 4 paper size detection 2
C4SS3	Tray 4 paper size detection 3
C4SS4	Tray 4 paper size detection 4
MPED	Manual feed paper empty detection (Detection at "1")
MPLD	Manual feed paper length detection
MPFD	Manual feed paper entry detection

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40-2

Purpose	Adjustment/Setup
Function (Purpose)	Manual paper feed tray paper width sensor adjustment.
Section	Paper feed

Operation/Procedure

- 1) Open the manual paper feed guide to the max. width (MAX).
- 2) Press [EXECUTE] key.
The max. width (MAX) detection level is recognized.
- 3) Open the manual paper feed guide to P1 width (A4).
- 4) Press [EXECUTE] key.
The P1 width (A4) detection level is recognized.
- 5) Open the manual paper feed guide to P2 width (A4R).
- 6) Press [EXECUTE] key.
The P2 width (A4R) detection level is recognized.
- 7) Open the manual paper feed guide to the min. width (MIN).
- 8) Press [EXECUTE] key.
The min. width (MIN) detection level is recognized.

When the above operation is not performed normally, "ERROR" is displayed. When completed normally, "COMPLETE" is displayed.

MAX POSITION	Manual feed max. width
P1(A4)POSITION	Manual feed P1 position width (A4)
P2(A4R)POSITION	Manual feed P2 position width (A4R)
MIN POSITION	Manual feed min. width

40-7

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the adjustment value of the manual paper feed tray paper width sensor.
Section	Paper feed

Operation/Procedure

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

Item/Display		Content	Default value
A	MAX POSITION	Manual feed max. width	241
B	P1 POSITION	Manual feed P1 position width (A4)	231
C	P2 POSITION	Manual feed P2 position width (A4R)	140
D	MIN POSITION	Manual feed min. width	19

40-12

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the tray 4 width detection level.
Section	Paper feed

Operation/Procedure

- 1) Set the tray 4 paper feed guide to the max. width (MAX).
- 2) Press [EXECUTE] key.
The max. width (MAX) detection level is recognized.
- 3) Set to the tray 4 paper feed guide to the min. width (MIN).
- 4) Press [EXECUTE] key.
The min. width (MIN) detection level is recognized.

When the above operation is not performed normally, "ERROR" is displayed. When completed normally, "COMPLETE" is displayed.

MAX POSITION	Tray 4 max. width
MIN POSITION	Tray 4 min. width

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41-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the document size sensor and the control circuit.
Section	

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The sensors and the detectors which are turned ON are highlighted.

OCSW	Document cover status	Open: Normal display Close: Highlighted
PD1 - 7	Document detection sensor status	No document: Normal display Document present: Highlighted

41-2

Purpose	Adjustment
Function (Purpose)	Used to adjust the document size sensor detection level.

Section

Operation/Procedure

- 1) Open the document cover, and press [EXECUTE] key without place a document on the document table.

The sensor level without document is recognized.

- 2) Set A3 (11" x 17") paper on the document table, and press [EXECUTE] key.

The sensor level when detecting the document is displayed.

When the above operation is normally completed, it is displayed.

Sensor name	Content	Setting range	Default value
PD1	Document sensor 1	0 - 255	128
PD2	Document sensor 2		
PD3	Document sensor 3		
PD4	Document sensor 4		
PD5	Document sensor 5		
PD6	Document sensor 6		
PD7	Document sensor 7		

41-3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the document size sensor and the control circuit.

Section

Operation/Procedure

The detection output level (A/D value) of OCSW and the document sensor (PD1 - PD7) is displayed in real time.

The light receiving range of PD1 - PD7 is 1 - 255. (Default: 128)

Item/Display	Content	Detection level range
OCSW	Original cover SW	0-1 ("1" to Close)
PD1	Document detection 1	0 - 255
PD2	Document detection 2	0 - 255
PD3	Document detection 3	0 - 255
PD4	Document detection 4	0 - 255
PD5	Document detection 5	0 - 255
PD6	Document detection 6	0 - 255
PD7	Document detection 7	0 - 255

43

43-1

Purpose	Setting
Function (Purpose)	Used to set the fusing temperature in each mode.

Section

Operation/Procedure

- 1) Select the SW-A or the SW-B.
- 2) Select an item to be set with scroll keys.
- 3) Select an item to be set with displayed value.

The set value in step 3) is saved.

Display	Content	Setting range	Default
PLAIN PAP&WUP&RDY GR	Used to change the fusing temperature setting of plain paper, WUP, and Ready series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
PLAIN PAPER 2	Used to change the fusing temperature setting of plain paper 2.	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
HEAVY PAPER GR	Used to change the fusing temperature setting of heavy paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
THIN PAPER GR	Used to change the fusing temperature setting of thin paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
RECYCLED PAPER GR	Used to change the fusing temperature setting of recycled paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
GLOSSY PAPER GR	Used to change the fusing temperature setting of gloss paper series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
ENV PAPER GR	Used to change the fusing temperature setting of envelope series	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	

Display	Content	Setting range	Default
EMBOSS PAPER GR	Used to change the fusing temperature setting of embossed paper	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
OHP PAPER	Used to change the fusing temperature setting of OHP paper	-20	0
		-15	
		-10	
		-5	
		0	
		+5	
		+10	
		+15	
		+20	
FUSING CONDITION ADJ	Fusing condition adjustment setting	0	0
		1	
		2	
		3	
		4	
		5	
ENV PAPER PRESS PATTERN	Envelop paper pressure adjustment	0	0
		1	
		2	
WUP&RDY GR ADJ LL	WUP/Ready LL environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
PLAIN PAP ADJ LL	Normal paper LL environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
HEAVY PAPER GR ADJ LL	Heavy paper LL environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
SPECIAL PAPER ADJ LL	Special paper LL environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	

Display	Content	Setting range	Default
WUP&RDY GR ADJ HH	WUP/Ready HH environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
PLAIN PAP ADJ HH	Normal paper HH environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
HEAVY PAPER GR ADJ HH	Heavy paper HH environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	
SPECIAL PAPER ADJ HH	Special paper HH environment fine adjustment	-10	0
		-7	
		-5	
		-3	
		0	
		+3	
		+5	
		+7	
		+10	

Purpose	Setting
Function (Purpose)	Used to set the fusing operation and pre-heating.
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.

65 CPM machine

Item/Display	Content	Setting range	Default value (SW A)			Default value (SW B)		
			Group A	Group B	Group C	Group A	Group B	Group C
A WARMUP FUMON TH_UM T	Fusing motor previous rotation start TH_UM set value	0 - 200	0	0	0	0	0	0
B WARMUP FUMOFF	Fusing motor previous rotation complete time	0 - 255	20	20	20	20	20	20
C WARMUP END TIME	Warm-up complete time	1 - 255	84	84	84	84	84	84
D HI_WU_FM_ON_TMP	FM preliminary rotation start TH_UM when warming up at alpha degrees C or above	0 - 200	0	0	0	0	0	0
E HI_WU_END_TIME	Warm-Up completion time when Warm-Up at alpha degrees C or above	0 - 255	72	72	72	72	72	72
F LO_WARMUP_TIME	Setting value applying time in warm-up of 120 degrees C or below (Timer from Ready completion)	0 - 255	255	255	255	255	255	255
G HI_WARMUP_TIME	Setting value applying time in warm-up of 120 degrees C or above (Timer from Ready completion)	0 - 255	255	255	255	255	255	255
H HI_WARMUP_BORDER	Threshold value alpha to apply the setting value in warm-up of alpha degrees C or above	1 - 119	60	60	60	60	60	60
I JOBEND_FUMON_TIME	After-rotation time after completion of a job	0 - 255	5	5	5	5	5	5
J TH_UM E-STAR	TH_UM set value when preheating	30 - 200	150	150	150	150	150	150
K TH_LM E-STAR	TH_LM set value when preheating	30 - 200	140	140	140	140	140	140
L TH_US E-STAR	TH_US set value when preheating	30 - 200	150	150	150	150	150	150
M TH_UM PRE-JOB	Resetting from preheating TH_UM set value	30 - 200	160	160	160	180	180	190

Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)
TH_LM	Fusing thermistor main (Back surface of paper)	HL_LM	Heater lamp main (Heat roller for back surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)	HL_US	Heater lamp sub (Heat roller for front surface of paper)

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

The set value displayed in this simulation differs depending on plain paper or heavy paper which is selected in the system setting/device setting/fusing control setting.

(Example) When plain paper is selected in the system setting/device setting/fusing control setting, the value of SW-A is displayed.

List of destination groups

Group	Destination					
Group A	JAPAN	-	-	-	-	-
Group B	U. S. A	CANADA	INCH	-	-	-
Group C	AB_B	EUROPE	U. K	AUS.	AB_A	CHINA

75 CPM machine

Item/Display	Content	Setting range	Default value (SW A)			Default value (SW B)		
			Group A	Group B	Group C	Group A	Group B	Group C
A WARMUP FUMON TH_UM T	Fusing motor previous rotation start TH_UM set value	0 - 200	0	0	0	0	0	0
B WARMUP FUMOFF	Fusing motor previous rotation complete time	0 - 255	20	20	20	20	20	20
C WARMUP END TIME	Warm-up complete time	1 - 255	84	84	84	84	84	84
D HI_WU_FM_ON_TMP	FM preliminary rotation start TH_UM when warming up at alpha degrees C or above	0 - 200	0	0	0	0	0	0
E HI_WU_END_TIME	Warm-Up completion time when Warm-Up at alpha degrees C or above	0 - 255	72	72	72	72	72	72
F LO_WARMUP_TIME	AF - AH applying time (Timer from completion of Ready)	0 - 255	255	255	255	255	255	255
G HI_WARMUP_TIME	AJ - AL applying time (Timer from completion of Ready)	0 - 255	255	255	255	255	255	255

Item/Display	Content	Setting range	Default value (SW A)			Default value (SW B)		
			Group A	Group B	Group C	Group A	Group B	Group C
H	HI_WARMUP_BORDER	Threshold value alpha to which AN - AP is applied	1 - 119	60	60	60	60	60
I	JOBEND_FUMON_TIME	After-rotation time after completion of a job	0 - 255	5	5	5	5	5
J	TH_UM E-STAR	TH_UM set value when preheating	30 - 200	150	150	150	150	150
K	TH_LM E-STAR	TH_LM set value when preheating	30 - 200	140	140	140	140	140
L	TH_US E-STAR	TH_US set value when preheating	30 - 200	150	150	150	150	150
M	TH_UM PRE-JOB	Resetting from preheating TH_UM set value	30 - 200	160	160	160	180	195

Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)
TH_LM	Fusing thermistor main (Back surface of paper)	HL_LM	Heater lamp main (Heat roller for back surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)	HL_US	Heater lamp sub (Heat roller for front surface of paper)

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

The set value displayed in this simulation differs depending on plain paper or heavy paper which is selected in the system setting/device setting/fusing control setting.

(Example) When plain paper is selected in the system setting/device setting/fusing control setting, the value of SW-A is displayed.

List of destination groups

Group	Destination					
Group A	JAPAN	-	-	-	-	-
Group B	U. S. A	CANADA	INCH	-	-	-
Group C	AB_B	EUROPE	U. K	AUS.	AB_A	CHINA

43-20	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the environmental correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-2) in each paper mode.
Section	

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) 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	
				65 CPM machine	75 CPM machine
A	WARMUP FUMON TH_UM T LL	Correction value for fusing motor pre-rotation start TH_UM set value under LL environment	1 - 99	50	50
B	WARMUP FUMOFF LL	Fusing motor prior rotation completion time under LL environment	1 - 99	50	50
C	WARMUP END TIME LL	Correction value for warm-up complete time under LL environment	1 - 99	85	85
D	HI_WU_FM_ON_TMP_LL	Correction value for FM prior rotation start TH_UM in Warm-Up at alpha degrees C or above under LL environment	1 - 99	50	50
E	HI_WU_END_TIME_LL	Correction value for Warm-Up completion time in Warm-Up at alpha degrees C or above under LL environment	1 - 99	50	50
F	LO_WARMUP_TIME_LL	Correction value of the setting value applying time in warm-up of 120 degrees C or below under LL environment (Timer from Ready completion)	1 - 99	50	50
G	HI_WARMUP_TIME_LL	Correction value of the setting value applying time in warm-up of 120 degrees C or above under LL environment (Timer from Ready completion)	1 - 99	50	50
H	HI_WARMUP_BORDER_LL	Correction value of the threshold value alpha to apply the setting value in warm-up of alpha degrees C or above under LL environment	1 - 99	50	50
I	JOBEND_FUMON_TIME LL	Correction value for the after rotation time when completing a job under LL environment	1 - 99	50	50
J	TH_UM E-STAR LL	Correction value for preheating TH_UM set value under LL environment	1 - 99	55	55
K	TH_LM E-STAR LL	Correction value for preheating TH_LM set value under LL environment	1 - 99	55	55
L	TH_US E-STAR LL	Correction value for preheating TH_US set value under LL environment	1 - 99	55	55
M	TH_UM PRE-JOB LL	Correction value for the set value of TH_UM when restoring from preheating under LL environment	1 - 99	55	55

Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)
TH_LM	Fusing thermistor main (Back surface of paper)	HL_LM	Heater lamp main (Heat roller for back surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)	HL_US	Heater lamp sub (Heat roller for front surface of paper)

43-21

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-2) in each paper mode.
Section	

Operation/Procedure

- 1) Select an item to be set with scroll keys.
- 2) Enter the set value with 10-key.
- 3) 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	
				65 CPM machine	75 CPM machine
A	WARMUP FUMON HL_US T HH	Fusing motor previous rotation start TH_UM set value	1 - 99	50	50
B	WARMUP FUMOFF HH	Fusing motor previous rotation complete time	1 - 99	50	50
C	WARMUP END TIME HH	Warm-up complete time	1 - 99	50	50
D	HI_WU_FM_ON_TMP HH	FM preliminary rotation start TH_UM when warming up at alpha degrees C or above	1 - 99	50	50
E	HI_WU_END_TIME HH	Warm-Up completion time when Warm-Up at alpha degrees C or above	1 - 99	50	50
F	LO_WARMUP_TIME_HH	Correction value for AF - AH application time (timer from Ready complete)	1 - 99	50	50
G	HI_WARMUP_TIME HH	Correction value for AJ - AL application time (timer from Ready complete)	1 - 99	50	50
H	HI_WARMUP_BORDER_HH	Threshold value alpha to which AN - AP is applied	1 - 99	50	50
I	JOBEND_FUMON_TIME HH	After-rotation time after completion of a job	1 - 99	50	50
J	TH_UM E-STAR HH	TH_UM set value when preheating	1 - 99	50	50
K	TH_LM E-STAR HH	TH_LM set value when preheating	1 - 99	50	50
L	TH_US E-STAR HH	TH_US set value when preheating	1 - 99	50	50
M	TH_UM PRE-JOB HH	Resetting from preheating TH_UM set value	1 - 99	50	50

Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)
TH_LM	Fusing thermistor main (Back surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)

43-24

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the correction of the temperature adjustment value of SIM 43-1.
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					
			Default value (65 CPM machine)			Default value (75 CPM machine)		
			Group A	Group B	Group C	Group A	Group B	Group C
A	COOL_DOWN_HEAVY	Cool down time (Heavy paper)	1 - 60	5	5	5	5	5
B	COOL_DOWN_OHP	Cool down time (OHP)	1 - 60	10	10	10	10	10
C	COOL_DOWN_ENVELOPE	Cool down time (Envelope)	1 - 60	15	15	15	15	15
D	FUS_MOTOR	Fusing web motor operating interval (*1)	3 - 20	18	18	18	18	18
E	POWER_SET	Power voltage setting 1: 100V, 2: 110 - 120V, 3: 220V - 240V	1 - 3	3	3	3	3	3

*1: When the web feed amount is changed (increased), the web life will be shortened to cause the machine to stop by detecting "End" before display of "Near End." In addition, the life meter of the fusing web unit in SIM22-13 will not be displayed normally.

Code descriptions

TH_UM	Fusing thermistor main (Front surface of paper)	HL_UM	Heater lamp main (Heat roller for front surface of paper)
TH_LM	Fusing thermistor main (Back surface of paper)	HL_LM	Heater lamp main (Heat roller for back surface of paper)
TH_US	Fusing thermistor sub (Front surface of paper)	HL_US	Heater lamp sub (Heat roller for front surface of paper)

List of destination groups

Group	Destination					
Group A	JAPAN	-	-	-	-	-
Group B	U.S.A	CANADA	INCH	-	-	-
Group C	AB_B	EUROPE	U. K	AUS.	AB_A	CHINA

43-31

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the fusing web cleaning motor and the control circuit.
Section	

Operation/Procedure

Press [EXECUTE] key.

The fusing web cleaning motor is operated.

Fusing web unit installation detection state	Operation	Remark
Fusing web unit not installed	No operation	* During the operation, the fusing web cleaning feed counter is counted up.
Fusing web unit installed	Operates predefined pulse times	

43-32

Purpose	Adjustment/Setup
Function (Purpose)	Used to set various items related to the forcible operation of web cleaning when job end.
Section	

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 set value in step 2) is saved.

NOTE: The set value may be changed for a design change or an individual arrangement. Except for the above cases, however, the set value must not be changed. If it is changed, a trouble may be occur.

Item/Display	Item		Setting range	Default value
A	JOB END COMPACT CHECK	Fusing web motor forcible operation condition when job end	Enable Disable	0 - 1 0 1
B	JOB END COMPACT INTERVAL	Interval of the print quantity of compulsory action of the fusing web motor at job end	1 - 255	110
C	JOB END COMPACT CNT	Number of forcible operations of the fusing web motor when job end	1 - 10	5

43-35

Purpose	Adjustment and setting
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Function (Purpose)	Fusing nip operation check
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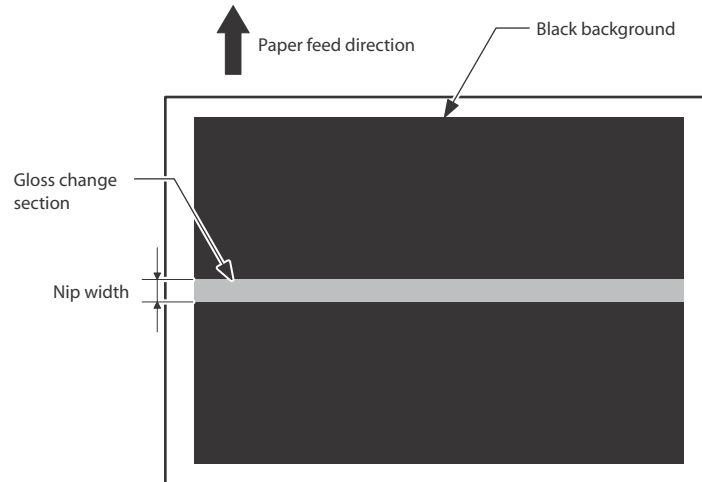
Section	Fusing
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Operation/Procedure

- 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 30sec, then remove the jam paper.
- 6) Measure the width of the gloss change section (nip) of the jam paper, and check to confirm that it is in the range of about 10.5mm - 12mm.
* If the difference between F and R is considerably great, the fusing pressure may be insufficient.

Item/Display item			Content	Setting range		Default value
A	PAPER	MFT	Cassette selection	1 - 5	1	2 (CS1)
		CS1			2	
		CS2			3	
		CS3			4	
		CS4			5	



44-1

Purpose	Setting
Function (Purpose)	Used to set each correction operation function in the image forming (process) section.
Section	Image process (Photoconductor/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.)

NOTE: Set the items to the default values unless a change is specially required.

Display	Content	Setting range	Default value	Remarks
HV	Enable/Disable setting of the high density process control in normal operation	Black text on white background (Inhibit: 0=NO) White text on black background (Allow: 1=YES)	Allow	
HT	Enable/Disable setting of the medium density process control in normal operation		Allow	
TN_PIX_SUP	Enable/Disable setting of toner supply control by the yield count		Allow	When set to Disable, the all-color FB ratio is fixed to 100%.
TN_FB	Enable/Disable setting of FEEDBACK toner supply control		Allow	When set to Disable, toner supply is not made by the process control feedback.
TN_INT	Enable/Disable setting of the interval toner supply control		Allow	When set to Disable, toner supply is not made by the developer traveling distance.
TN_RECV	Enable/Disable setting of developer recovery		Allow	When set to Disable, the developer recovery mode is not available in HV process control.
TN_ADJ	Enable/Disable setting of the sensor output adjustment		Allow	When set to Disable, the control voltage adjustment is not made in process control.
TN_EMP	Setting of Enable/Disable of the toner falling distance detection control		Allow	When set to Disable, the fall amount is not detected. (ENP_INT and ENP_NEW are not available.)
TN_EMP_INT	Setting of Enable/Disable of the toner falling distance detection control of job interruption		Allow	When set to Disable, near end when EMP is detected in a job
TN_EMP_NEW	Enable/Disable setting of fall amount detection control of a new cartridge		Allow	
TN_PIX_TBL	Enable/Disable setting of the yield count correction table calculation		Allow	
FIERY_HT	Enable/Disable setting of Fiery printer correction feedback of half-tone process control		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 VG MC	Enable/Disable setting of the grid correction by the MC total current correction		Allow	
MD VG DV	Enable/Disable setting of the grid correction by the developer bias absolute value		Allow	
MD LD	Enable/Disable setting of the membrane decrease laser power voltage correction		Allow	
MD LD EV	Enable/Disable setting of environmental area and the membrane decrease count laser power voltage correction		Allow	
MD LD HV	Enable/Disable process control laser power voltage correction		Allow	
MD DL	Enable/Disable setting of the membrane decrease discharge light quantity correction		Allow	
MD DL2	Enable/Disable setting of the discharge light quantity correction after transfer by membrane decrease		Allow	
MD DL EV	Enable/Disable setting of the membrane decrease environment discharge quantity correction		Inhibit	
MD DL2 EV	Enable/Disable setting of the discharge light quantity correction after transfer by environmental change		Allow	
MD DL2 TC	Enable/Disable setting of the discharge light quantity correction after transfer by the transfer current		Allow	
MD DL2 GB	Enable/Disable setting of the discharge light quantity correction after transfer by grid voltage		Allow	
MD MC	Enable/Disable setting of the MC total current correction by an increase in the resistance		Allow	
MD MC EV	Enable/Disable setting of the MC total current correction by environmental change		Allow	
AR_AUTO	Auto registration adjustment Enable/Disable setting		Allow	
DM_PHASE	Drum phase fitting Enable/Disable setting		Allow	
PAR AUTO	Enable/Disable setting of registration adjustment between papers		Allow	
DM_VCTL	Enable/Disable setting of the drum motor modulation control		Allow	
PTC_ENV	PTC environment correction Enable/Disable setting		Allow	Enable: Correction ON

Display	Content	Setting range	Default value	Remarks
1TC	Primary transfer output correction Enable/Disable setting	Black text on white background (Inhibit: 0=NO) White text on black background (Allow: 1=YES)	Allow	
2TC	Secondary transfer output correction Enable/Disable setting		Allow	

1

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.

Class ification	Item/Display	Content	Setting range	Default value
PROC ON/ EGIS T	A REGS_ F LED	Light emitting quantity adjustment value	1 - 255	21
	B REGS_ C LED		1-255	21
	C REGS_ R LED		1 - 255	21
	D REGS_ F	Transfer belt substrate detection level value (F side) when the light emitting quantity adjustment is completed.	0 - 255	0
	E REGS_ C	Transfer belt substrate detection level value (C side) when the light emitting quantity adjustment is completed.	0 - 255	0
	F REGS_ R	Transfer belt substrate detection level value (R side) when the light emitting quantity adjustment is completed.	0 - 255	0
	G REGS_ F DARK	Specular reflection dark voltage (F side)	0 - 255	0
	H REGS_ C DARK	Specular reflection dark voltage (C side)	0 - 255	0
	I REGS_ R DARK	Specular reflection dark voltage (R side)	0 - 255	0
PROC ON	J PCS_F _DARK	Diffuse reflection dark voltage (F side)	0 - 255	0
	K PCS_C _DARK	Diffuse reflection dark voltage (C side)	0 - 255	0
	L PCS_R _DARK	Diffuse reflection dark voltage (R side)	0 - 255	0

Class ification	Item/Display	Content	Setting range	Default value
PROC ON	M PCS_F _V1	Linearity correction coefficients (F side)	0 - 255	20
	N PCS_F _V2		0 - 255	41
	O PCS_F _V3		0 - 255	82
	P PCS_F _V4		0 - 255	122
	Q PCS_F _V5		0 - 255	163
	R PCS_C _V1	Linearity correction coefficients	0 - 255	20
	S PCS_C _V2		0 - 255	41
	T PCS_C _V3		0 - 255	82
	U PCS_C _V4		0 - 255	122
	V PCS_C _V5		0 - 255	163
	W PCS_R _V1	Linearity correction coefficients (R side)	0 - 255	20
	X PCS_R _V2		0 - 255	41
	Y PCS_R _V3		0 - 255	82
	Z PCS_R _V4		0 - 255	122
	AA PCS_R _V5		0 - 255	163
	AB PCS_F _CL_ka	Diffuse reflection normalization coefficients	100 - 2000	500
	AC PCS_C _CL_ka		100 - 2000	500
	AD PCS_R _CL_ka		100 - 2000	500
	AE BELT_ PCS_F MAX	Belt substrate F side monitor max. value (Process control)	0 - 255	0
	AF BELT_ PCS_F MIN	Belt substrate F side monitor min. value (Process control)	0 - 255	0
	AG BELT_ PCS_F DIF	Belt substrate F side monitor difference (BELT_PCS_F MAX-MIN)	0 - 255	0
	AH BELT_ PCS_C MAX	Belt substrate C side monitor max. value (Process control)	0 - 255	0
	AI BELT_ PCS_C MIN	Belt substrate C side monitor min. value (Process control)	0 - 255	0
	AJ BELT_ PCS_C DIF	Belt substrate C side monitor difference (BELT_PCS_C_MAX-MIN)	0 - 255	0

Class ificati on	Item/Display		Content	Setting range	Default value
PROC ON	AK	BELT_ PCS_R MAX	Belt substrate R side monitor max. value (Process control)	0 - 255	0
	AL	BELT_ PCS_R MIN	Belt substrate R side monitor min. value (Process control)	0 - 255	0
	AM	BELT_ PCS_R DIF	Belt substrate R side monitor difference (BELT_PCS_F MAX- MIN)	0 - 255	0
REGI ST	AN	BELT_ REGS_ F_ MAX	Belt substrate F side monitor max. value (Registration)	0 - 255	0
	AO	BELT_ REGS_ F_ MIN	Belt substrate F side monitor min. value (Registration)	0 - 255	0
	AP	BELT_ REGS_ F_ DIF	Belt substrate F side monitor difference (BELT_REGS_F MAX- MIN)	0 - 255	0
	AQ	BELT_ REGS_ C_ MAX	Belt substrate C side monitor max. value (Registration)	0 - 255	0
	AR	BELT_ REGS_ C_ MIN	Belt substrate C side monitor min. value (Registration)	0 - 255	0
	AS	BELT_ REGS_ C_ DIF	Belt substrate C side monitor difference (BELT_REGS_C MAX- MIN)	0 - 255	0
	AT	BELT_ REGS_ R_ MAX	Belt substrate R side monitor max. value (Registration)	0 - 255	0
	AU	BELT_ REGS_ R_ MIN	Belt substrate R side monitor min. value (Registration)	0 - 255	0
	AV	BELT_ REGS_ R_ DIF	Belt substrate R side monitor difference (BELT_REGS_R MAX- MIN)	0 - 255	0
	AW	PATCH_ REGS_ F_ K	Toner patch detection level F (K)	0 - 255	0
	AX	PATCH_ REGS_ F_ C	Toner patch detection level F (C)	0 - 255	0
	AY	PATCH_ REGS_ F_ M	Toner patch detection level F (M)	0 - 255	0
	AZ	PATCH_ REGS_ F_ Y	Toner patch detection level F (Y)	0 - 255	0
	BA	PATCH_ REGS_ C_ K	Toner patch detection level C (K)	0 - 255	0
	BB	PATCH_ REGS_ C_ C	Toner patch detection level C (C)	0 - 255	0
	BC	PATCH_ REGS_ C_ M	Toner patch detection level C (M)	0 - 255	0
	BD	PATCH_ REGS_ C_ Y	Toner patch detection level C (Y)	0 - 255	0
	BE	PATCH_ REGS_ R_ K	Toner patch detection level R (K)	0 - 255	0
	BF	PATCH_ REGS_ R_ C	Toner patch detection level R (C)	0 - 255	0

Class ificati on	Item/Display		Content	Setting range	Default value
REGI ST	BG	PATCH_ REGS_ R_ M	Toner patch detection level R (M)	0 - 255	0
	BH	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.
C sensor adjustment abnormality	REGS_C 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
C Color sensor adjustment abnormality	PCS_C_CL_ka calculation error The target is not reached
Process control C sensor adjustment abnormality	BELT_PCS_C 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
R Color sensor adjustment abnormality	PCS_R_CL_ka calculation error The target is not reached
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 C scan abnormality	BELT_REGS_C_ 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

44-4	
Purpose	Setting
Function (Purpose)	Used to set the conditions of the high density process control operation.
Section	Process

Operation/Procedure

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

NOTE: Set the items to the default values unless a change is specially required.

	Item/Display	Content	Setting range	Default value
A	PCS TARGET	Sensor target value set value	1 - 255	204
B	LED_F_OUTPUT	F sensor light emitting quantity set value	1 - 255	21
C	LED_C_OUTPUT	C sensor light emitting quantity set value	1 - 255	21
D	LED_R_OUTPUT	R sensor light emitting quantity set value	1 - 255	21
E	PCS ADJUSTMENT LIMIT	Sensor adjustment target limit value	1 - 255	8
F	BELT GROUND DIF	Effective difference between upper/loser values of belt one-round surface	1 - 255	1
G	BIAS_CL STANDARD DIF	Bias (for color) reference calculation difference	0 - 255	60
H	BIAS_BK STANDARD DIF	Bias (for black) reference calculation difference	0 - 255	0
I	BIAS PATCH INTERVAL	Patch bias output interval	1 - 255	60
J	Y_PAT TARGET ID	Patch density standard value (yellow)	1 - 255	50
K	M_PAT TARGET ID	Patch density standard value (magenta)	1 - 255	50
L	C_PAT TARGET ID	Patch density standard value (cyan)	1 - 255	50
M	K_PAT TARGET ID	Patch density standard value (black)	1 - 255	45
N	Y_PAT TARGET ID LOW1	Patch density standard value LOW1 (yellow)	1 - 255	100
O	M_PAT TARGET ID LOW1	Patch density standard value LOW1 (magenta)	1 - 255	100
P	C_PAT TARGET ID LOW1	Patch density standard value LOW1 (cyan)	1 - 255	100
Q	K_PAT TARGET ID LOW1	Patch density standard value LOW1 (black)	1 - 255	100
R	Y_PAT TARGET ID LOW2	Patch density standard value LOW2 (yellow)	1 - 255	100
S	M_PAT TARGET ID LOW2	Patch density standard value LOW2 (magenta)	1 - 255	100
T	C_PAT TARGET ID LOW2	Patch density standard value LOW2 (cyan)	1 - 255	100
U	K_PAT TARGET ID LOW2	Patch density standard value LOW2 (black)	1 - 255	100
V	HV BK_GROUND LIMIT	Surface light reception effective area value at the patch position	1 - 255	60

44-6	
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

Purpose	Operation data display
Function (Purpose)	Used to display the result data of the high density process control operation.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)

Operation/Procedure

Select a target display mode with [CPY/PRN], [OTHER] keys.

Mode	Item/Display (*: Correction value)				Content	Display range	Default value
CPY/PRN (*1)	P (PROCON)			BLACK : GB ***/*** DV ***/***	High density process control GB/DV data (KCMY)	GB:150 - 950 DV:0 - 600	GB:630 DV:430
				CYAN : GB ***/*** DV ***/***			
				MAGENTA : GB ***/*** DV ***/***			
				YELLOW : GB ***/*** DV ***/***			
	N(M) (NORMAL (MIDDLE))			BLACK : GB ***/*** DV ***/***	High density normal (display for middle speed) GB/DV data (KCMY)	GB:150 - 850 DV:0 - 600	GB:630 DV:430
				CYAN : GB ***/*** DV ***/***			
				MAGENTA : GB ***/*** DV ***/***			
				YELLOW : GB ***/*** DV ***/***			
	N(L1) (NORMAL (LOW1))			BLACK : GB ***/*** DV ***/***	High density normal (display for low speed) GB/DV data (KCMY)	GB:150 - 850 DV:0 - 600	GB:630 DV:430
				CYAN : GB ***/*** DV ***/***			
				MAGENTA : GB ***/*** DV ***/***			
				YELLOW : GB ***/*** DV ***/***			
	N(L2) (NORMAL (LOW2))			BLACK : GB ***/*** DV ***/***	High density normal (display for low speed 2) GB/DV data (KCMY)	GB:150 - 850 DV:0 - 600	GB:630 DV:430
				CYAN : GB ***/*** DV ***/***			
				MAGENTA : GB ***/*** DV ***/***			
				YELLOW : GB ***/*** DV ***/***			
OTHER	1/8	TN/TC	LEFT	TN HUD AREA	Toner control display humidity area	1 - 8	4
				TN HUD DATA	Toner control display humidity AD value	0 - 1023	0
				TC TMP AREA	Transfer display temperature area	1 - 15	4
				TC TMP DATA	Transfer display temperature AD value	0 - 1023	0
			RIGHT	TC HUD AREA	Transfer display humidity area	1 - 11	4
				TC HUD DATA	Transfer display humidity AD value	0 - 1023	0
				MD HUD AREA	Membrane decrease display humidity area	1 - 8	4
				MD HUD DATA	Membrane decrease display humidity AD value	0 - 1023	0
		DRUM	LEFT	MD K DRUM COUNT	Membrane decrease drum traveling distance area (KCMY)	0 - 20	0
				MD C DRUM COUNT			
				MD M DRUM COUNT			
				MD Y DRUM COUNT			
				MD K REVISE(LIFE) : L1 *** L2 *** M ***	LIFE grid voltage correction display (KCMY)	0 - 255	0
				MD C REVISE(LIFE) : L1 *** L2 *** M ***			
				MD M REVISE(LIFE) : L1 *** L2 *** M ***			
				MD Y REVISE(LIFE) : L1 *** L2 *** M ***			
		EV		MD K REVISE(EV) : L1 *** L2 *** M ***	Environment grid voltage correction display (KCMY)	0 - 255	0
				MD C REVISE(EV) : L1 *** L2 *** M ***			
				MD M REVISE(EV) : L1 *** L2 *** M ***			
				MD Y REVISE(EV) : L1 *** L2 *** M ***			
		VG_DV		MD K REVISE(VG_DV) : L1 *** L2 *** M ***	Grid voltage skew correction display (CMYK)	0 - 255	0
				MD C REVISE(VG_DV) : L1 *** L2 *** M ***			
				MD M REVISE(VG_DV) : L1 *** L2 *** M ***			
				MD Y REVISE(VG_DV) : L1 *** L2 *** M ***			
	3/8	VG_MC		MD K REVISE(VG_MC) : L1 *** L2 *** M ***	Current grid voltage correction display (KCMY)	0 - 255	0
				MD C REVISE(VG_MC) : L1 *** L2 *** M ***			
				MD M REVISE(VG_MC) : L1 *** L2 *** M ***			
				MD Y REVISE(VG_MC) : L1 *** L2 *** M ***			
		ALL		MD K REVISE(ALL) : L1 *** L2 *** M ***	Grid voltage correction ALL display (KCMY)	0 - 255	0
				MD C REVISE(ALL) : L1 *** L2 *** M ***			
				MD M REVISE(ALL) : L1 *** L2 *** M ***			
				MD Y REVISE(ALL) : L1 *** L2 *** M ***			
		LD		MD K REVISE(LD) : L1 *** L2 *** M ***	Drum membrane decrease laser power voltage correction (KCMY)	0 - 255	0
				MD C REVISE(LD) : L1 *** L2 *** M ***			
				MD M REVISE(LD) : L1 *** L2 *** M ***			
				MD Y REVISE(LD) : L1 *** L2 *** M ***			

Mode	Item/Display (*: Correction value)			Content	Display range	Default value
OTHER	4/8	LD EV	MD K REVISE(LD EV) : L1 *** L2 *** M ***	Environment laser power correction (KCMY)	0 - 255	0
			MD C REVISE(LD EV) : L1 *** L2 *** M ***			
			MD M REVISE(LD EV) : L1 *** L2 *** M ***			
			MD Y REVISE(LD EV) : L1 *** L2 *** M ***			
		LD DVB	MD K REVISE(LD DVB) : L1 *** L2 *** M ***	Laser power correction (KCMY) for DV vias	0 - 255	0
			MD C REVISE(LD DVB) : L1 *** L2 *** M ***			
			MD M REVISE(LD DVB) : L1 *** L2 *** M ***			
			MD Y REVISE(LD DVB) : L1 *** L2 *** M ***			
		LD EHT	MD K REVISE(LD EHT) : L1 *** L2 *** M ***	Laser power correction (KCMY) for Halftone process control	0 - 255	0
			MD C REVISE(LD EHT) : L1 *** L2 *** M ***			
			MD M REVISE(LD EHT) : L1 *** L2 *** M ***			
			MD Y REVISE(LD EHT) : L1 *** L2 *** M ***			
	5/8	DL	MD K REVISE COL (DL) : L1 *** L2 *** M ***	Drum membrane decrease discharge light quantity correction (%)	0 - 100	0
			MD C REVISE COL (DL) : L1 *** L2 *** M ***			
			MD M REVISE COL (DL) : L1 *** L2 *** M ***			
			MD Y REVISE COL (DL) : L1 *** L2 *** M ***			
		DL EV	MD K REVISE COL (DL EV) : L1 *** L2 *** M ***	Drum membrane decrease environment discharge light quantity correction (%)	-100 - 100	0
			MD C REVISE COL (DL EV) : L1 *** L2 *** M ***			
			MD M REVISE COL (DL EV) : L1 *** L2 *** M ***			
			MD Y REVISE COL (DL EV) : L1 *** L2 *** M ***			
		DL2	MD K REVISE COL (DL2) : L1 *** L2 *** M ***	Drum membrane decrease after-transfer discharge light quantity correction (%)	0 - 100	0
			MD C REVISE COL (DL2) : L1 *** L2 *** M ***			
			MD M REVISE COL (DL2) : L1 *** L2 *** M ***			
			MD Y REVISE COL (DL2) : L1 *** L2 *** M ***			
	6/8	DL2 EV	MD K REVISE COL (DL2 EV) : L1 *** L2 *** M ***	Drum membrane decrease after-transfer environmental discharge light quantity correction (%)	-100 - 100	0
			MD C REVISE COL (DL2 EV) : L1 *** L2 *** M ***			
			MD M REVISE COL (DL2 EV) : L1 *** L2 *** M ***			
			MD Y REVISE COL (DL2 EV) : L1 *** L2 *** M ***			
		DL2 TC	MD K REVISE COL (DL2 TC) : L1 *** L2 *** M ***	After-transfer discharge light quantity correction (%) by the transfer current	-100 - 100	0
			MD C REVISE COL (DL2 TC) : L1 *** L2 *** M ***			
			MD M REVISE COL (DL2 TC) : L1 *** L2 *** M ***			
			MD Y REVISE COL (DL2 TC) : L1 *** L2 *** M ***			
		DL2 GB	MD K REVISE COL (DL2 GB) : L1 *** L2 *** M ***	After-transfer discharge light quantity correction (%) by the grid bias	0 - 100	0
			MD C REVISE COL (DL2 GB) : L1 *** L2 *** M ***			
			MD M REVISE COL (DL2 GB) : L1 *** L2 *** M ***			
			MD Y REVISE COL (DL2 GB) : L1 *** L2 *** M ***			
	7/8	MC	MD K REVISE(MC) : L1 *** L2 *** M ***	Current correction (KCMY) by the MC discharge time	0 - 90	1
			MD C REVISE(MC) : L1 *** L2 *** M ***			
			MD M REVISE(MC) : L1 *** L2 *** M ***			
			MD Y REVISE(MC) : L1 *** L2 *** M ***			
		MC EV	MD K REVISE(MC EV) : L1 *** L2 *** M ***	Environment MC current correction (KCMY)	-90 - 90	0
			MD C REVISE(MC EV) : L1 *** L2 *** M ***			
			MD M REVISE(MC EV) : L1 *** L2 *** M ***			
			MD Y REVISE(MC EV) : L1 *** L2 *** M ***			
	8/8	CNT	PROCON COUNT HV	High density process control execution number	0 - 99999999	0
			PROCON COUNT HT	Halftone process control execution number	0 - 99999999	0

*1: The left of the correction value is the result of execution. The right is the reference value.

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 (Photoconductor/Developing)

Operation/Procedure

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

Item	Display item	Content	Display range	Default value
TARGET	HV TARGET M(K/C/M/Y)	Sensor target setting value (middle speed)	0.00 - 255.00	0
	HV TARGET L1(K/C/M/Y)	Sensor target setting value (low speed 1)	0.00 - 255.00	0
	HV TARGET L2(K/C/M/Y)	Sensor target setting value (low speed 2)	0.00 - 255.00	0
	PHT TARGET M(K/C/M/Y)	Half-tone process control target between paper (middle speed)	0.00 - 255.00	0
	PHT TARGET L1(K/C/M/Y)	Half-tone process control target between paper (low speed 1)	0.00 - 255.00	0
	PHT TARGET L2(K/C/M/Y)	Half-tone process control target between paper (low speed 2)	0.00 - 255.00	0
	ADK_SL(K/C/M/Y)	Development characteristics gradient coefficient (K/C/M/Y)	-9.99 - 9.99	0
	ADK_INT(K/C/M/Y)	Developing characteristics intercept coefficient (K/C/M/Y)	-999.9 - 999.9	0
	PCS_F_DARK	Diffuse reflection dark potential (F side)	0 - 255	0
	PCS_C_DARK	Diffuse reflection dark potential (C side)	0 - 255	0
	PCS_R_DARK	Diffuse reflection dark potential (R side)	0 - 255	0
	REGS_F_DARK	Regular reflection dark potential (F side)	0 - 255	0
	REGS_C_DARK	Regular reflection dark potential (C side)	0 - 255	0
	REGS_R_DARK	Regular reflection dark potential (R side)	0 - 255	0
PATCH	n-1	Patch data nth time patch 1	0 - 255	0
	n-2	Patch data nth time patch 2	0 - 255	0
	n-3	Patch data nth time patch 3	0 - 255	0
	n-4	Patch data nth time patch 4	0 - 255	0

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.

Display item	Description	Display range
TH_M	External air temperature sensor temperature External air temperature sensor AD value	Temperature: -40.0 - 150.0 degrees C (+/-0.1 degrees C) AD value: 0 - 1023
HUD_M	External air humidity sensor humidity External air sensor AD value	Humidity: 0.0 - 100.0% (+/-0.1) AD value: 0 - 1023
TH1_LSU	LSU thermistor 1 temperature LSU thermistor 1 A/D value	Temperature: 0.0 - 255.0 degrees C (+/-0.1 degrees C) AD value: 0 - 255
TH2_LSU	LSU thermistor 2 temperature LSU thermistor 2 A/D value	Temperature: 0.0 - 255.0 degrees C (+/-0.1 degrees C) AD value: 0 - 255
TH_UM	Fusing upper main thermistor temperature Fusing upper main thermistor (differential) AD value	Temperature: 0 - 255 degrees C (+/-1 degrees C) AD value: 0 - 1023
TH_UM_CS	Fusing upper main thermistor (compensation) temperature Fusing upper main thermistor (compensation) AD value	Temperature: 0.0 - 255.0 degrees C (+/-0.1 degrees C) AD value: 0 - 1023
TH_UM_D	Fusing upper main thermistor (detection) AD value	AD value: 0 - 1023
TH_US1	Fusing upper sub thermistor temperature Fusing upper sub thermistor (differential) AD value	Temperature: 0 - 255 degrees C (+/-1 degrees C) AD value: 0 - 1023
TH_US1_CS	Fusing upper sub thermistor (compensation) temperature Fusing upper sub thermistor (compensation) AD value	Temperature: 0.0 - 255.0 degrees C (+/-0.1 degrees C) AD value: 0 - 1023
TH_US1_D	Fusing upper sub thermistor (detection) AD value	AD value: 0 - 1023
TH_US2	Fusing upper sub thermistor 2 temperature Fusing upper sub thermistor 2 AD value	Temperature: 0 - 255 degrees C (+/-1 degrees C)
TH_LM1	Fusing lower main thermistor temperature Fusing lower main thermistor (differential) AD value	Temperature: 0 - 255 degrees C (+/-1 degrees C) AD value: 0 - 1023
TH_LM1_CS	Fusing lower main thermistor (compensation) temperature Fusing lower main thermistor (compensation) AD value	Temperature: 0.0 - 255.0 degrees C (+/-0.1 degrees C) AD value: 0 - 1023
TH_LM1_D	Fusing lower main thermistor (detection) AD value	AD value: 0 - 1023
TH_LM2	Fusing lower main thermistor 2 temperature Fusing lower main thermistor 2 AD value	Temperature: 0 - 255 degrees C (+/-1 degrees C) AD value: 0 - 1023

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

The execution YES/NO of the OPC drum idle rotation is determined by the AND condition of TIME, AREA1, and AREA 2.

To execute the OPC drum idle rotation, set item B (AREA 1) to "0," and item C (AREA2) to "15."

However, idle rotation is performed in a certain interval while in shut off. This must be fully explained to the user.

44-17

Purpose	Setting
Function (Purpose)	Process refresh execution
Section	Process

Operation/Procedure

- 1) Select a refresh item with the touch panel key.
- 2) Press [EXECUTE] key.
- 3) The refresh operation is executed.

NOTE: Do not execute this simulation unless specially required.

Display items and descriptions of contents

Display	Content
BLADE REFRESH	Blade development refresh
DRUM REFRESH	Drum refresh
DEVE REFRESH	Development refresh * DEVE REFRESH execution consume W-Letter A3 100% worth of toner.

Display of results and descriptions of items

Display	Content
COMPLETE	Normal completion
ERROR	Abnormal end
INTERRUPTION	Forcible interruption

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]	Halftone 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
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Operation/Procedure

- 1) Select the display mode with [1ST STEP], [2ND STEP] key.
The toner patch density level made in the halftone process control operation is displayed.

Display item	Content
ID_n	Patch data display (n = 1 - 16)
BASE1	Belt substrate data (START)
BASE5	Belt substrate data (LAST)

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
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Operation/Procedure

- 1) Select the display category with [NEXT] key.
- 2) Select a target adjustment color with [K] [C] [M] [Y] key.

Category	Display item	Content
Coefficient	[DITHER_RAW_VALUE]	Printer halftone correction value (before correction)
Reference value	[SENSOR_TARGET MID]	Halftone process control reference value (for Mid)
	[SENSOR_TARGET LOW1]	Halftone process control reference value (for Low1)
	[SENSOR_TARGET LOW2]	Halftone process control reference value (for Low2)
Correction value	[S_VALUE]	Halftone process control correction amount
	[COPY_LOW1 CONVERSION VALUE]	Copier Low 1 conversion amount
For printer *	[PRINTER_S_VALUE]	Printer halftone process control correction amount
	[PRINTER_BASE_DITHER_VALUE]	Printer halftone process control reference dither value
	[PRINTER_AUTO_HT_VALUE]	Printer automatic density adjustment correction amount

Category	Display item	Content
Previous correction value	[BEFORE S_VALUE]	Previous halftone process control correction amount
	[BEFORE PRINTER_S_VALUE]	Previous printer halftone process control correction amount

* It is not displayed when the FIERY printer option is installed.

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.

NOTE: Set the items to the default values unless a change is specially required.

Item/Display	Setting range	Content	Default value	
			K	CMY
A HIGHLIGHT VALUE LIMIT	0 - 128	Highlight correction amount limit value	20	20
B MAX VALUE LIMIT	0 - 128	Maximum density value correction limit value	20	20

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.)

NOTE: Set the items to the default values unless a change is specially required.

Item/Category		Display		Content		Setting range		Default value
A	Process control Enable/Disable setting	INITIAL	YES	When warming up after clearing the OPC drum and the developer unit counters	Enable	0 - 1	0	0
			NO		Disable		1	
B		SW ON		When supplying the power (when canceling power shut-off)	Color process control Enable	0 - 3	0	3
					Process control Disable		1	
					BK process control Enable		2	
					Pixel count judgment		3	
C		TIME		After passing the specified time from leaving READY continuously (Time can be changed by INTERVAL TIME)	Color process control Enable	0 - 3	0	3
					Process control Disable		1	
					BK process control Enable		2	
					Pixel count judgment		3	

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]	Halftone 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.

Item/Category		Display		Content		Setting range		Default value
D	Process control Enable/Disable setting	HUM_LIMIT		HUM judgment is made when turning ON the power and after passing TIME.	Color process control Enable	0 - 2	0	0
					Process control Disable		1	
					BK process control Enable		2	
E		HUM		The temperature and humidity in the machine are monitored in every 2 hours only during a job, and the change in the temperature/humidity is above the specified level compared with that in execution of the previous process control.	Color process control Enable	0 - 2	0	0
					Process control Disable		1	
					BK process control Enable		2	
F		REV1	YES	When a certain level of the accumulated traveling distance of BK or M position OPC drum unit is reached after the power is supplied.	Allow	0 - 1	0	0
			NO		Inhibit		1	
G		REV2_BK	YES	When a certain level of the accumulated traveling distance of BK position OPC drum unit is reached after execution of the previous density correction.	Allow	0 - 1	0	0
			NO		Inhibit		1	
H		REV2_CL	YES	When a certain level of the accumulated traveling distance of M position OPC drum unit is reached after execution of the previous density correction.	Allow	0 - 1	0	0
			NO		Inhibit		1	
I		REFRESH MODE	YES	YES/NO setting of the display of the manual process control key by key operations	Key operation display YES	0 - 1	0	1
			NO		Key operation display NO		1	
J	Process control execution condition setting	DAY		After color job after passing a certain days from execution of the previous color process control. When next warming up if there is no color job.	0: Disable of the specified days judgment	0 - 999	0	1
					1 - 999: 1 - 999 days passing		999	
K		HI-COV		The average print ratio is monitored in a certain interval, and the high print process control execution is judged.	Process control interval setting for every 10 pages	0 - 2	0	0
					High print judgment disable		1	
					Judgment at the 30th paper (continuous).		2	
L		LO-COV		Low print document continuous printing process control execution judgment	Allow	0 - 1	0	0
					Inhibit		1	
M		TonerCA-END		When the toner cartridge remaining quantity reached 25% or below, the process control interval is changed.	Allow	0 - 1	0	1
					Inhibit		1	
N		JOB STOP		Enable/Disable setting of execution [REV2_BK], [REV2_CL], [HI-COV], and [LO-COV] judgment during a job.	Allow	0 - 1	0	1
					Inhibit		1	
O		AVERAGE-PAGE		Average print ratio paper number setting	1: 10 pages - 5: 50 pages	1 - 5	1	3
					Corresponds to 1 step/ 10 pages.		5	
P		LIMIT PAGE		Setting of the job connection number of sheets/limitation of the number of sheets	1: 10 pages - 99: 990 pages	1 - 99	1	10
					Corresponds to 1 step/ 10 pages.		99	
Q		PIX_RATIO_BK		Magnification ratio setting (%) of the BK toner count specified value When 100 is entered, it corresponds to 1kp at 5% print.	1 - 999		10	
R		PIX_RATIO_CL		Magnification ratio setting (%) of the color (CMY) toner count specified value When 100 is entered, it corresponds to 1kp at 5% print.	1 - 999		10	
S		INTERVAL TIME		Setting of the leaving time when turning ON the power (including the sleep recovery time) (h: hour)	1 - 255 (1 - 255; 1 - 255h passed)		3	

Item/Category		Display		Content		Setting range			Default value	
T	Process control execution condition setting	HUM HOUR		[HUM] temperature/humidity monitoring time Interval setting (10 minutes unit)		1 - 24			2	
U		HUM_DIF		Area difference specified value when compared with the execution of the previous process control of "HUM"		1 - 9			2	
V		BK_RATIO		[REV2_BK] BK position OPC drum traveling distance value magnification ratio setting (%)		1 - 999 (Entry of 20 corresponds to 10,000mm.)			15	
W		M_RATIO		[REV2_CL] M position OPC drum traveling distance value magnification ratio setting (%)		1 - 999 (Entry of 20 corresponds to 10,000mm.)			15	
X		REV1_RATIO		[REV1_BK] BK position OPC drum traveling distance value magnification ratio setting (%)		1 - 255 (Entry of 100 corresponds to 70,000mm.)			20	
Y		LOW_RATIO		LOW mode process control execution interval		1 - 999			15	
Z		COLOR BORDER		Setting of the magnification ratio of the upper limit of the M position OPC drum traveling distance when BK process control is executed.	0: BK process control is executed without ratio judgment of the M OPC drum traveling distance. 1 - 999;1 - 999(%)	0 - 999			20	
AA		BK ONLY		Enable/Disable setting of the BK process control execution when monochrome printing is continued, and setting of the number of repetitions.	Enable 5 times Enable 1 - 5 times Inhibit	0 - 6	0 1 - 5 6	5		
AB		P2P PV_CL		Interval of number of sheets of color patch making of process control between papers		0 - 255			30	
AC		P2P PV_BK		Interval of number of sheets of BK patch making of process control between papers		0 - 255			60	
AD		HT_DIF		Used to judge the execution of HT process control. Bias variation difference value		1 - 255			40	
AE		Registration adjustment setting	RG_ON_SYNC	CL	Power ON process control Synchronization/Asynchronization switch		0 - 2	0	0	
				ALL			1			
				CL/BK			2			
AF			RR_PH_ADJ TIMER		Setting of the span of the modulation adjustment timer execution		0 - 199 (Hour)			72
AG			RG_PERM_TIMER		Setting of the span from execution disable to enable		0 - 15 (X 10 minute)			0
AH	RG_HOUR_TIMER		Setting of the span of timer execution		0 - 15 (HOUR)			6		
AI	RG_BW_SYNC		Enable/Disable setting of the registration adjustment in a monochrome job.	Allow Inhibit	0 - 1	0 1	1			
AJ	MC cleaner control	MC_CLEAN_TIME		MC automatic cleaning execution interval	0: Not executed 5 - 99: Executed	0 - 99	0 1 - 99	3		
AK		MC_CLEAN_DURATION_JOB		Enable/Disable setting of the MC automatic cleaning execution during job.	Enable Disable	0 - 1	0 1	1		
AL		MC_DISCHARGE_TIME_1		Setting of idle discharge time after MC automatic cleaning (sec)		0 - 300			0	
AM		MC_DISCHARGE_TIME_2		Setting of idle discharge time after MC cleaning in Sim (sec)		0 - 300			0	
AN		MC_DISCHARGE_TIME_3		Setting of idle discharge time after MC cleaning from system setting (sec)		0 - 300			30	
AO		DRUM_REVERSE		Drum reverse rotation control setting	Enable Disable	0 - 1	0 1	1		
AP		BLADE_CLEAN_TIME		Setting blade refresh interval	Disable Interval setting	0 - 99	0 1 - 99	10		
AQ		MC_CLEAN_LL_1		Judgment on MC cleaning at WUP under low humidity environment	Disable Enable	0 - 1	0 1	0		
AR		MC_CLEAN_LL_2		Judgment on MC cleaning under low humidity environment	Disable Enable	0 - 1	0 1	1		
AS		PTC_CLEAN_TIME_CL		PTC automatic cleaning interval (Color)		0 - 300			50	
AT		PTC_CLEAN_TIME_BK		PTC automatic cleaning interval (Monochrome)		0 - 300			100	
AU		PAR_CNT SYNC		Judgment of execution of the registration adjustment between sheets, interval of number of sheets		1 - 999 (sheet)			700	
AV		PAR_TIMER SYNC		Judgment of execution of the registration adjustment between sheets, interval of time		0 - 240 (minute)			30	
AW		PAR_TEMP SYNC		Judgment of execution of the registration adjustment between sheets, difference in temperature		0 - 99 degrees C			0	

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 - 2 0: No execution 1: HV only 2: HV → HT	2
B PRINTER	During print job		2
C FAX	During FAX print job		2
D SELF PRINT	During self print		2
E CPY TO PRT TABLE	Halftone process control copier - printer conversion table select	0 - 1 0: CALCULATED (Color balance calculation value) 1: DEFAULT	0
F HT RETRY	Setting of halftone correction retry	1 - 255	20
G HT TARGET RETRY	Setting of halftone correction reference value registration retry setting	1 - 255	3

* "1: HV only" in items A to D also includes execution of engine halftone correction.

* The display of A to E is item name: detailed display.

Example: COPY: HV → HT

HV: High density process control

HT: Halftone process control

44-31

Purpose	Adjustment/Setup
Function (Purpose)	Used to check the deflection of the OPC drum.
Section	Process

Operation/Procedure

NOTE: 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 development bias correction level in the continuous printing operation.
Section	

Operation/Procedure

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

NOTE: When the print density is varied in the continuous printing operation, this simulation is used.

Button	Item	Display	Content	Setting range	Default value
K	A	GB_ADJ_CL_K_M_DATA_1	Grid bias correction data 1 in color printing (middle speed)	0 - 5	0
	B	GB_ADJ_CL_K_M_DATA_2	Grid bias correction data 2 in color printing (middle speed)	0 - 5	0
	C	GB_ADJ_CL_K_M_DATA_3	Grid bias correction data 3 in color printing (middle speed)	0 - 5	0
	D	GB_ADJ_CL_K_L_DATA_1	Grid bias correction data 1 in color printing (low speed 1)	0 - 5	0
	E	GB_ADJ_CL_K_L_DATA_2	Grid bias correction data 2 in color printing (low speed 1)	0 - 5	0
	F	GB_ADJ_CL_K_L_DATA_3	Grid bias correction data 3 in color printing (low speed 1)	0 - 5	0
	G	GB_ADJ_CL_K_L2_DATA_1	Grid bias correction data 1 in color printing (low speed 2)	0 - 5	0
	H	GB_ADJ_CL_K_L2_DATA_2	Grid bias correction data 2 in color printing (low speed 2)	0 - 5	0
	I	GB_ADJ_CL_K_L2_DATA_3	Grid bias correction data 3 in color printing (low speed 2)	0 - 5	0

Button	Item	Display	Content	Setting range	Default value
C	A	GB_ADJ_CL_C_M_DATA_1	Grid bias correction data 1 in color printing (middle speed)	0 - 5	0
	B	GB_ADJ_CL_C_M_DATA_2	Grid bias correction data 2 in color printing (middle speed)	0 - 5	0
	C	GB_ADJ_CL_C_M_DATA_3	Grid bias correction data 3 in color printing (middle speed)	0 - 5	0
	D	GB_ADJ_CL_C_L_DATA_1	Grid bias correction data 1 in color printing (low speed 1)	0 - 5	0
	E	GB_ADJ_CL_C_L_DATA_2	Grid bias correction data 2 in color printing (low speed 1)	0 - 5	0
	F	GB_ADJ_CL_C_L_DATA_3	Grid bias correction data 3 in color printing (low speed 1)	0 - 5	0
	G	GB_ADJ_CL_C_L2_DATA_1	Grid bias correction data 1 in color printing (low speed 2)	0 - 5	0
	H	GB_ADJ_CL_C_L2_DATA_2	Grid bias correction data 2 in color printing (low speed 2)	0 - 5	0
	I	GB_ADJ_CL_C_L2_DATA_3	Grid bias correction data 3 in color printing (low speed 2)	0 - 5	0
M	A	GB_ADJ_CL_M_M_DATA_1	Grid bias correction data 1 in color printing (middle speed)	0 - 5	0
	B	GB_ADJ_CL_M_M_DATA_2	Grid bias correction data 2 in color printing (middle speed)	0 - 5	0
	C	GB_ADJ_CL_M_M_DATA_3	Grid bias correction data 3 in color printing (middle speed)	0 - 5	0
	D	GB_ADJ_CL_M_L_DATA_1	Grid bias correction data 1 in color printing (low speed 1)	0 - 5	0
	E	GB_ADJ_CL_M_L_DATA_2	Grid bias correction data 2 in color printing (low speed 1)	0 - 5	0
	F	GB_ADJ_CL_M_L_DATA_3	Grid bias correction data 3 in color printing (low speed 1)	0 - 5	0
	G	GB_ADJ_CL_M_L2_DATA_1	Grid bias correction data 1 in color printing (low speed 2)	0 - 5	0
	H	GB_ADJ_CL_M_L2_DATA_2	Grid bias correction data 2 in color printing (low speed 2)	0 - 5	0
	I	GB_ADJ_CL_M_L2_DATA_3	Grid bias correction data 3 in color printing (low speed 2)	0 - 5	0
Y	A	GB_ADJ_CL_Y_M_DATA_1	Grid bias correction data 1 in color printing (middle speed)	0 - 5	0
	B	GB_ADJ_CL_Y_M_DATA_2	Grid bias correction data 2 in color printing (middle speed)	0 - 5	0
	C	GB_ADJ_CL_Y_M_DATA_3	Grid bias correction data 3 in color printing (middle speed)	0 - 5	0
	D	GB_ADJ_CL_Y_L_DATA_1	Grid bias correction data 1 in color printing (low speed 1)	0 - 5	0
	E	GB_ADJ_CL_Y_L_DATA_2	Grid bias correction data 2 in color printing (low speed 1)	0 - 5	0
	F	GB_ADJ_CL_Y_L_DATA_3	Grid bias correction data 3 in color printing (low speed 1)	0 - 5	0
	G	GB_ADJ_CL_Y_L2_DATA_1	Grid bias correction data 1 in color printing (low speed 2)	0 - 5	0
	H	GB_ADJ_CL_Y_L2_DATA_2	Grid bias correction data 2 in color printing (low speed 2)	0 - 5	0
	I	GB_ADJ_CL_Y_L2_DATA_3	Grid bias correction data 3 in color printing (low speed 2)	0 - 5	0

<Use example>

Make multi copy of 10 sheets. If the density of 10th sheet is greater than that of the first sheet, decrease the set value.

Make multi copy of 10 sheets. If the density of 10th sheet is smaller than that of the first sheet, increase the set value.

When the set value is 0 (Default), the correction level does not work.

44-43	
Purpose	Data display
Function (Purpose)	Used to display the identification information of the developing unit.
Section	Developing system

Operation/Procedure

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

Item/Display	Content	Display range	NOTE
A DVCH KIND K	K developing unit identification number	1 - 9	The model identification number of the developing unit which is backed up in the EEPROM of the machine.
B DVCH KIND C	C developing unit identification number	1 - 9	
C DVCH KIND M	M developing unit identification number	1 - 9	
D DVCH KIND Y	Y developing unit identification number	1 - 9	
E DV_TYP_SEL_K	K developing unit identification detection	0 - 1	0 = High (Open) 1 = Low (GND)
F DV_TYP_SEL_C	C developing unit identification detection	0 - 1	
G DV_TYP_SEL_M	M developing unit identification detection	0 - 1	
H DV_TYP_SEL_Y	Y developing unit identification detection	0 - 1	

Item/Display	Content	Display range	NOTE
I DVCH_A D_K	K developing unit identification AD value	0 - 255	AD value of the developing unit identification voltage
J DVCH_A D_C	C developing unit identification AD value	0 - 255	
K DVCH_A D_M	M developing unit identification AD value	0 - 255	
L DVCH_A D_Y	Y developing unit identification AD value	0 - 255	

* The developing unit is identified by the combination of items E, F, G, H and items I, J, K, and L.

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.

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 QUALITY1	The execution frequency of the process control is high. (It is set when the color image quality is given priority.)
	HIGH QUALITY2	The execution frequency of the process control is highest. (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 process control is executed in the normal frequency. (It is set when there are little color jobs and many monochrome jobs.)
	NORMAL	The process control is executed in the normal frequency.

When PROCON TARGET is selected.

- 1) Select the density level.

When PROCON MODE is selected.

- 1) Select the execution frequency of the process control.
- 2) Press [EXECUTE] key.
- 3) Press [YES] key.

NOTE:

This simulation may not function with some firmware versions.

In such a case, the firmware must be upgraded to the latest version.

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 \triangle ∇ 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.)

To adjust the copy density in the low density area, select the "LOW" mode and change the adjustment value. To adjust the copy density in the high density area, select the "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.

Item/Display		Content	Setting range	Default value
A	AUTO	Auto	LOW	1 - 99
			HIGH	50
B	TEXT	Text	LOW	1 - 99
			HIGH	50
C	TEXT/PRINTED PHOTO	Text/Printed Photo	LOW	1 - 99
			HIGH	50
D	TEXT/PHOTO	Text/Photograph	LOW	1 - 99
			HIGH	50
E	PRINTED PHOTO	Printed Photo	LOW	1 - 99
			HIGH	50
F	PHOTOGRAPH	Photograph	LOW	1 - 99
			HIGH	50
G	MAP	Map	LOW	1 - 99
			HIGH	50
H	LIGHT	Light document	LOW	1 - 99
			HIGH	50
I	TEXT(COPY TO COPY)	Text (Copy document)	LOW	1 - 99
			HIGH	50
J	TEXT/PRINTED PHOTO (COPY TO COPY)	Text/Printed Photo (Copy document)	LOW	1 - 99
			HIGH	50
K	PRINTED PHOTO (COPY TO COPY)	Printed Photo (Copy document)	LOW	1 - 99
			HIGH	50
L	TEXT (COLOR TONE ENHANCEMENT)	Text (Color tone enhancement)	LOW	1 - 99
			HIGH	50
M	TEXT/PRINTED PHOTO (COLOR TONE ENHANCEMENT)	Text/Printed Photo (Color tone enhancement)	LOW	1 - 99
			HIGH	50
N	TEXT/PHOTO (COLOR TONE ENHANCEMENT)	Text/Photograph (Color tone enhancement)	LOW	1 - 99
			HIGH	50
O	PRINTED PHOTO (COLOR TONE ENHANCEMENT)	Printed Photo (Color tone enhancement)	LOW	1 - 99
			HIGH	50
P	PHOTOGRAPH (COLOR TONE ENHANCEMENT)	Photograph (Color tone enhancement)	LOW	1 - 99
			HIGH	50
Q	MAP (COLOR TONE ENHANCEMENT)	Map (Color tone enhancement)	LOW	1 - 99
			HIGH	50
R	LIGHT (COLOR TONE ENHANCEMENT)	Light document (Color tone enhancement)	LOW	1 - 99
			HIGH	50
S	SINGLE COLOR	Single color	LOW	1 - 99
			HIGH	50
T	SINGLE COLOR (COPY TO COPY)	Single color (Copy document)	LOW	1 - 99
			HIGH	50
U	TWO COLOR	2-color (red/black) copy	LOW	1 - 99
			HIGH	50
V	TWO COLOR (COPY TO COPY)	2-color (red/black) copy (copy document)	LOW	1 - 99
			HIGH	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 $\triangle \nabla$ 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.)

To adjust the copy density in the low density area, select the "LOW" mode and change the adjustment value. To adjust the copy density in the high density area, select the "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.

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 $\triangle \nabla$ 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

46-5

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 $\triangle \nabla$ 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 TEXT	Auto/Text	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 TEXT	Auto/Text	1 - 99	50
	B	TEXT	Text	1 - 99	50
	C	TEXT/PRINTED PHOTO	Text/Printed Photo	1 - 99	50
	D	TEXT/PHOTO	Text/Photograph	1 - 99	50
	E	PRINTED PHOTO	Printed Photo	1 - 99	50
	F	PHOTOGRAPH	Photograph	1 - 99	50
	G	MAP	Map	1 - 99	50
	H	RIP	-	1 - 99	50

46-8

Purpose	Adjustment (Color scanner mode)
Function (Purpose)	Used to adjust the image send mode color balance RGB.

Section**Operation/Procedure**

- 1) Select an adjustment target with [R] [G] [B] keys on the touch panel.
- 2) Select an adjustment target item with scroll key 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	Setting range	Default value
A	LOW DENSITY POINT	Low density correction amount	1 - 99	50
B	HIGH DENSITY POINT	High density correction amount		50

46-9

Purpose	Adjustment (DSPF 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 \triangle ∇ 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.

Item	Button	Display	Content	Setting range	Default value
A	OC	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)		
C		FAX SIDEA: LOW	DSPF FAX mode exposure adjustment (Low density side)		
D		COPY SIDEA: HIGH	DSPF copy mode exposure adjustment (High density side)	1 - 99	52
E		SCAN SIDEA: HIGH	DSPF scanner mode exposure adjustment (High density side)		
F		FAX SIDEA: HIGH	DSPF FAX mode exposure adjustment (High density)	1 - 99	52

Item	Button	Display	Content	Setting range	Default value
A	DSPF	COPY SIDEB: LOW	DSPF copy mode exposure adjustment (Low density side)	1 - 99	49
B		SCAN SIDEB: LOW	DSPF scanner mode exposure adjustment (Low density side)		
C		FAX SIDEB: LOW	DSPF FAX mode exposure adjustment (Low density side)		
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)		
F		FAX SIDEB: HIGH	DSPF FAX mode exposure adjustment (High density)	1 - 99	50
G		BALANCE SIDEB: R	DSPF color balance R		
H		BALANCE SIDEB: G	DSPF color balance G		
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 with scroll key on the touch panel.
- 4) Enter the set value with 10-key.
 - * When the \triangle ∇ 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

Item/Display		Density level (Point)	Setting range	Default value
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 (for each monochrome 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 Δ ∇ 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

Item/Display		Content	Set value	Default value
AE_FILTER		Auto exposure filter setting	SOFT NORMAL SHARP	NORMAL
AE_WIDTH		AE exposure width	FULL/PART	FULL

NOTE:

MODE 1	High gamma (high contrast images)
MODE 2	Normal gamma
STOP	The image density in 3 - 7mm area at the lead edge is scanned, and the output image density is determined according to the scanned density. (The output image density is even for all the surface.)
REALTIME	The densities of the document width are scanned sequentially, and the output image density is determined according to the density in each area of document. (The output image density may not be even for all the surface.)
PRESCAN	The densities of the all surface of document are scanned sequentially, and 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	The document density scan area in the monochrome auto mode is 3 - 7mm at the document lead edge x the document width. This is not related to the PRESCAN mode.
AE WIDTH PART	The document density scan area in the monochrome auto mode is 3 - 7mm at the document lead edge x 100mm width. This is not related to the PRESCAN mode.

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 with scroll key on the touch panel.
- 3) Enter the set value with 10-key.
 - * When the Δ ∇ 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 in 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

Item/Display		Density level (Point)	Setting range	Default value
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		
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.

NOTE: 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) Plate 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.
- 5) When [EXECUTE] key is displayed, press it.

When "COMPLETED THIS PROCEDURE" is displayed, the adjustment is completed.

NOTE: 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.

46-25

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 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
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, C, and E are changed, the gamma of text 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 character and line edge is decreased.

When the adjustment values of items B, D, and F are increased, the image density of text 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)	Mode 1 Mode 2	0 - 1 0 1 0

Mode	Scan mode	Resolution in the sub scanning direction (DPI)		
		25-99% [Magnification ratio]	100-200% [Magnification ratio]	201-400% [Magnification ratio]
Mode 1	OC	600	600	600
	DSPF	600	600	-
Mode 2	OC	400	600	600
	DSPF	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.

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

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	
OUTCOLOR (Output color coefficient)	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	MAGENTA	M output color	0 - 255	0	255	0	-
	F	YELLOW	Y output color	0 - 255	0	0	255	-
	G	ORANGE	O output color	0 - 255	0	150	255	-
	H	NAVY	N output color	0 - 255	255	200	0	-
	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	-
CHROMA (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.

An individual adjustment is available in each of the copy mode and the printer mode.

Item/Display	Content	Setting range	Default value
A	R-Ratio	Gray making setting (R)	0 - 1000
B	G-Ratio	Gray making setting (G)	0 - 1000
C	R-Ratio RIP	Print gray making setting (R)	0 - 1000
D	G-Ratio RIP	Print gray making setting (G)	0 - 1000

B-Ratio	Gray making setting (B) (1000-R-Ratio - G-Ratio)
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 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.

Item/Display (Copy mode)		Select button	Content	Default value
MANUAL	TEXT PRT	(-) LUT2	Text/Printed photo (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 (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	TEXT PHOTO	(-) LUT2	Text/Photograph (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	MAP	(-) LUT2	Map (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	CPY TO CPY/ TXT PRT	(-) LUT2	Copy document/ Text Printed photo (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	CPY TO CPY/ TEXT	(-) LUT2	Copy document/ Text (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	CPY TO CPY/ PHOTO	(-) LUT2	Copy document/ Printed photo (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	LIGHT ORIGINAL	(-) LUT2	Light document (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		

Item/Display (Copy mode)		Select button	Content	Default value
AUTO	AUTO	(-) LUT2	Auto mode judgment	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		

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) Select [I-FAX] or [FAX] to be set.
- 3) Enter the set value with 10-key.
- 4) 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) Select [I-FAX] or [FAX] to be set.
- 3) Enter the set value with 10-key.
- 4) 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 EXP1 EXP2 EXP3 EXP4 EXP5	Print mode Auto Exposure 1 Exposure 2 Exposure 3 Exposure 4 Exposure 5	1 - 6 1 2 3 4 5 6 1 (AUTO)

To check the adjustment density level of items A - F, set the document and set the setting value of item G according to items A - F, and press [EXECUTE] key.

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) Select [I-FAX] or [FAX] to be set.
- 3) Enter the set value with 10-key.
- 4) 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 EXP1 EXP2 EXP3 EXP4 EXP5 AUTO H_TONE EXP1 H_TONE EXP2 H_TONE EXP3 H_TONE EXP4 H_TONE EXP5 H_TONE	Print mode Fine/Auto Fine/ Exposure 1 Fine/ Exposure 2 Fine/ Exposure 3 Fine/ Exposure 4 Fine/ Exposure 5 Fine/ Automatic/ halftone Fine/ Exposure 1/ Halftone Fine/ Exposure 2/ Halftone Fine/ Exposure 3/ Halftone Fine/ Exposure 4/ Halftone Fine/ Exposure 5/ Halftone	1 - 12 1 2 3 4 5 6 7 8 9 10 11 12 1 (AUTO)

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

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) Select [I-FAX] or [FAX] to be set.
- 3) Enter the set value with 10-key.
- 4) 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 - 12	1	1 (AUTO)
		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	

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

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) Select [I-FAX] or [FAX] to be set.
- 3) Enter the set value with 10-key.
- 4) 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 - 12	1	1 (AUTO)
		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	

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

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) Select [I-FAX] or [FAX] to be set.
- 3) Enter the set value with 10-key.
- 4) 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
		EXP1		600dpi/ Exposure 1
		EXP2		600dpi/ Exposure 2
		EXP3		600dpi/ Exposure 3
		EXP4		600dpi/ Exposure 4
		EXP5		600dpi/ Exposure 5
		AUTO H_TONE		600dpi/ Auto/ Halftone
		EXP1 H_TONE		600dpi/ Exposure 1/ Halftone
		EXP2 H_TONE		600dpi/ Exposure 2/ Halftone
		EXP3 H_TONE		600dpi/ Exposure 3/ Halftone
		EXP4 H_TONE		600dpi/ Exposure 4/ Halftone
		EXP5 H_TONE		600dpi/ Exposure 5/ Halftone

To check the adjustment density level of items A - L, set the document and set the setting value of item M according to items A - L, and press [EXECUTE] key.

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.

Operation mode	Item/Display		Content	Setting range	Default value
FILLING (COLOR) Filing (Color mode)	A	FILLING (C)	LOW Low compression (Color)	0	0 (LOW)
		MIDDLE	Medium compression (Color)	1	
		HIGH	High compression (Color)	2	

Operation mode	Item/Display		Content	Setting range	Default value
FILLING (GRAY) Filing (Mono-chrome halftone mode)	B	FILLING (G)	LOW	Low compression (Halftone)	0
			MIDDLE	Medium compression (Mono-chrome halftone mode)	1
			HIGH	High compression (Mono-chrome halftone mode)	2
PRINT HOLD (COLOR) Print hold (Color mode)	C	PRINT (C)	LOW	Low compression (Color)	0
			MIDDLE	Medium compression (Color)	1
			HIGH	High compression (Color)	2
PRINT HOLD (GRAY) Print hold (Mono-chrome halftone mode)	D	PRINT (G)	LOW	Low compression (Halftone)	0
			MIDDLE	Medium compression (Mono-chrome halftone mode)	1
			HIGH	High compression (Mono-chrome halftone mode)	2
PUSH SCAN (COLOR) (Scanner color)	E	SCAN (C) (*1)	MIDDLE 1	Medium compression mode 1 Low compression	0
			MIDDLE 2	Medium compression mode 2 Medium compression	1
			MIDDLE 3	Medium compression mode 3 High compression	2

Operation mode	Item/Display		Content	Setting range	Default value
PUSH SCAN (GRAY) (Scanner mono-chrome halftone mode)	F	SCAN (G) (*1)	MIDDLE 1	Medium compression mode 1 Low compression	0
			MIDDLE 2	Medium compression mode 2 Medium compression	1
			MIDDLE 3	Medium compression mode 3 High compression	2

*1: Setting of compression rate for images when the image compression rate is set to "Medium" in the user mode.

NOTE: When the compression rate is increased, the HDD capacity in the document filing mode is decreased. On the other hand, however, the image quality of some documents may be remarkably reduced.

46-48	
Purpose	Adjustment/Setup
Function (Purpose)	Used to change the copy output resolution to 600dpi or 1200dpi depending on the printing quality.
Section	

Operation/Procedure

- 1) Select a target item with scroll keys on the touch panel.

Item	Button display	Content	Default value
AUTO	600DPI ED	AUTO	600DPI DT
	600DPI DT		
TEXT/PRT PHOTO	600DPI ED	Text/Printed Photo	600DPI DT
	600DPI DT		
	1200DPI DT		
TEXT/PHOTO	600DPI DT	Text/Photograph	600DPI DT
	1200DPI DT		
PRINTED PHOTO	600DPI DT	Printed photo	1200DPI DT
PHOTO	600DPI DT	Photograph	1200DPI DT
	1200DPI DT		

46-51	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the gamma for the copy mode heavy paper mode and the image process mode.

Section

Operation/Procedure

- 1) Select a target adjustment mode with the touch panel key [PAPER/DITHER].
- 2) Select 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 out-putted.

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
DITH7	Monochrome dither (1200dpi)	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.

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") or A3 (11" x 17") paper in the paper feed tray is used.)
- 2) Place the 48 patch self print on the document table, and 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.
- 4) Press [EXECUTE] key.
After completion of the halftone image correction, the screen shifts to the dither selection menu.
- 5) Select an item (dither) to be adjusted.

HEAVYPAPER	Copier/gamma for heavy paper
BLACK EDGE	Black edge
COLOR EDGE	Color edge
COLOR ED	Color error diffusion
B/W ED	Monochrome error diffusion
B/W 600	Monochrome dither 600dpi
WOVEN1	Watermark mode 1
WOVEN2	Watermark mode 2
WOVEN3	Watermark mode 3
WOVEN4	Watermark mode 4

- 6) Press [EXECUTE] key.
The 48 patch self print is printed.
- 7) 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.
- 8) 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.

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 600 dpi

0 (OFF): 600 x 600 dpi

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	0 (OFF)
			ON	1	
	B TEXT	Text	OFF	0	1 (ON)
			ON	1	
	C TEXT PRT	Text/Printed photo	OFF	0	0 (OFF)
			ON	1	
	D PRINTED PHOTO	Printed Photo	OFF	0	0 (OFF)
			ON	1	
	E TEXT PHOTO	Text photograph	OFF	0	0 (OFF)
			ON	1	
	F PHOTO	Photograph	OFF	0	0 (OFF)
			ON	1	
MONO	G MAP	Map	OFF	0	1 (ON)
			ON	1	
	H LIGHT	Light document	OFF	0	0 (OFF)
			ON	1	
	I CPY TO CPY/TEXT	Text (copy document)	OFF	0	1 (ON)
			ON	1	
	J CPY TO CPY/TXT PRT	Text Printed photo (copy document)	OFF	0	0 (OFF)
			ON	1	
	K CPY TO CPY/PHOTO	Printed Photo (copy document)	OFF	0	0 (OFF)
			ON	1	
	A AUTO	Auto	OFF	0	0 (OFF)
			ON	1	
MONO	B TEXT	Text	OFF	0	1 (ON)
			ON	1	
	C TEXT PRT	Text/Printed photo	OFF	0	0 (OFF)
			ON	1	
	D PRINTED PHOTO	Printed Photo	OFF	0	0 (OFF)
			ON	1	
	E TEXT PHOTO	Text photograph	OFF	0	0 (OFF)
			ON	1	
	F PHOTO	Photograph	OFF	0	0 (OFF)
			ON	1	
	G MAP	Map	OFF	0	1 (ON)
			ON	1	
MONO	H LIGHT	Light document	OFF	0	0 (OFF)
			ON	1	
	I COPY TO COPY/AUTO	Auto (copy document)	OFF	0	0 (OFF)
			ON	1	
	J CPY TO CPY/TEXT	Text (copy document)	OFF	0	1 (ON)
			ON	1	
	K CPY TO CPY/TXT PRT	Text Printed photo (copy document)	OFF	0	0 (OFF)
			ON	1	
	L CPY TO CPY/PHOTO	Printed Photo (copy document)	OFF	0	0 (OFF)
			ON	1	

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).
- 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 (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 copy/push scan/FAX mode	SOFT	2 (CENTER)
		CENTER		CENTER	
		HIGH		HIGH	
C	CPY PUSH AUTO FILTER LEVEL	SOFT	Sharpness (filter) adjustment for the auto push scan mode (color 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	

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.

NOTE: This must be set to the default unless any change is specially required.

When the adjustment value is set to a value greatly different from the default value, image quality trouble may occur for some documents.

Item/Display		Content
COLOR	AUTO	[Color/Gray] Auto
	TPP	[Color/Gray] Manual (Text print)
	COPY (TPP & AUTO)	[Color/Gray] Copy document (Text print & Auto)
MONO	AUTO	[Monochrome] Auto
	TPP	[Monochrome] Manual (Text print)
	COPY (TPP & AUTO)	[Monochrome] Copy document (Text print & 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

Item/Display		Content	Setting range	Default value
O	SEGMENT: ADJUST [BK]	Detection level adjustment: No chrome judgment	1 - 99	50
P	SEGMENT: ADJUST [CL]	Detection level adjustment: Chrome judgment	1 - 99	50
Q	SEGMENT: ADJUST [TXT ON BG]	Detection level adjustment: Text on background	1 - 99	50
R	SEGMENT: ADJUST [SCR 1 HIGH]	Detection level adjustment: High density dots 1	1 - 49	25
S	SEGMENT: ADJUST [SCR 1 MIDDLE]	Detection level adjustment: Medium density dots 1	1 - 49	25
T	SEGMENT: ADJUST [SCR 1 LOW]	Detection level adjustment: Low density dots 1	1 - 49	25
U	SEGMENT: ADJUST [SCR 2]	Detection level adjustment: Dot 2	1 - 15	8
V	SEGMENT: ADJUST [SCR 3]	Detection level adjustment: Dot 3	1 - 15	8
W	SEGMENT: ADJUST [LINE HALFTONE]	Detection level adjustment: line screen	1 - 49	25
X	SEGMENT: ADJUST [SMALL SCR 1]	Detection level adjustment: Small Dot Area 1	1 - 49	25
Y	SEGMENT: ADJUST [SMALL SCR 2]	Detection level adjustment: Small Dot Area 2	1 - 99	50
Z	SEGMENT: SWITCH [LOCK]	Image Quality Priority ON/OFF : Image Quality Priority lock	0 - 1	0

46-62	
Purpose	Adjustment/Setup
Function (Purpose)	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.

NOTE: 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

Item/Display			Content		Setting range		Default value
F	AE_LV_CC		AE background detection division result adjustment: For color copy		0 - 8		4
G	AE_LV_MC		AE background detection division result adjustment: For monochrome copy		0 - 8		4
H	AE_LV_CS		AE background detection division result adjustment: For color scan		0 - 8		4
I	AE_LV_MS		AE background detection division result adjustment: For monochrome scan		0 - 8		4
J	AE_JUDGE_LV_L_U		Color AE background density threshold value adjustment (lower limit)		0 - 4		0
K	AE_JUDGE_LV_L_O		Color AE background density threshold value adjustment (upper limit)		0 - 10		0
L	AE_JUDGE_LV_C		Color AE background detection level adjustment (chroma)		0 - 10		5
M	AE_ONOFF_CC	ON	AE mode ON/ OFF switch : For color copy	ON	0 - 1	0	0 (ON)
		OFF		OFF		1	
N	AE_ONOFF_MC	ON	AE mode ON/ OFF switch : For mono-chrome copy	ON	0 - 1	0	0 (ON)
		OFF		OFF		1	
O	AE_ONOFF_CS	ON	AE mode ON/ OFF switch : For color scan	ON	0 - 1	0	0 (ON)
		OFF		OFF		1	
P	AE_ONOFF_MS	ON	AE mode ON/ OFF switch :For monochrome scan	ON	0 - 1	0	0 (ON)
		OFF		OFF		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_UNDER		Mode 0 developing paper mode select		0 - 6		0
T	MODE1_UNDER		Mode 1 developing paper mode select		0 - 6		0
U	MODE5_UNDER		Mode 5 developing paper mode select		0 - 6		0
V	MODE6_UNDER		Mode 6 developing paper mode select		0 - 6		0
W	SW_CHANGE_MODE0		Mode 0: Mode judgment select		0 - 6		0
X	SW_CHANGE_MODE1		Mode 1: Mode judgment select		0 - 6		1
Y	SW_CHANGE_MODE2		Mode 2: Mode judgment select		0 - 6		2
Z	SW_CHANGE_MODE3		Mode 3: Mode judgment select		0 - 6		3
AA	SW_CHANGE_MODE4		Mode 4: Mode judgment select		0 - 6		4
AB	SW_CHANGE_MODE5		Mode 5: Mode judgment select		0 - 6		5
AC	SW_CHANGE_MODE6		Mode 6: Mode judgment select		0 - 6		6

46-63

Purpose

Adjustment/Setup

Function (Purpose)

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
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

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.

Category	Mode	Item/Display	Content	Setting range	Default value
OC (Document table)	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	Auto mode judgment 0	0 - 12	0
		L AUTO1	Auto mode judgment 1	0 - 12	0
		M AUTO2	Auto mode judgment 2	0 - 12	1
		N AUTO3	Auto mode judgment 3	0 - 12	1
		O AUTO4	Auto mode judgment 4	0 - 12	0
		P AUTO5	Auto mode judgment 5	0 - 12	0
		Q AUTO6	Auto 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
		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	Auto mode judgment 0	0 - 12	0
		L AUTO1	Auto mode judgment 1	0 - 12	0
		M AUTO2	Auto mode judgment 2	0 - 12	1
		N AUTO3	Auto mode judgment 3	0 - 12	1
		O AUTO4	Auto mode judgment 4	0 - 12	0
		P AUTO5	Auto mode judgment 5	0 - 12	0
		Q AUTO6	Auto mode judgment 6	0 - 12	0
SPF1 (Automatic document feeder (DSPF) front)	COPY	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	Auto mode judgment 0	0 - 12	4
		L AUTO1	Auto mode judgment 1	0 - 12	4
		M AUTO2	Auto mode judgment 2	0 - 12	5
		N AUTO3	Auto mode judgment 3	0 - 12	5
		O AUTO4	Auto mode judgment 4	0 - 12	4
		P AUTO5	Auto mode judgment 5	0 - 12	4
		Q AUTO6	Auto mode judgment 6	0 - 12	4

Category	Mode	Item/Display		Content	Setting range	Default value
SPF1 (Automatic document feeder (DSPF) front)	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	Auto mode judgment 0	0 - 12	4
		L	AUTO1	Auto mode judgment 1	0 - 12	4
		M	AUTO2	Auto mode judgment 2	0 - 12	5
		N	AUTO3	Auto mode judgment 3	0 - 12	5
		O	AUTO4	Auto mode judgment 4	0 - 12	4
		P	AUTO5	Auto mode judgment 5	0 - 12	4
		Q	AUTO6	Auto mode judgment 6	0 - 12	4
SPF2 (Automatic 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
		K	AUTO0	Auto mode judgment 0	0 - 12	8
		L	AUTO1	Auto mode judgment 1	0 - 12	8
		M	AUTO2	Auto mode judgment 2	0 - 12	9
		N	AUTO3	Auto mode judgment 3	0 - 12	9
		O	AUTO4	Auto mode judgment 4	0 - 12	8
		P	AUTO5	Auto mode judgment 5	0 - 12	8
		Q	AUTO6	Auto 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	Auto mode judgment 0	0 - 12	8
		L	AUTO1	Auto mode judgment 1	0 - 12	8
		M	AUTO2	Auto mode judgment 2	0 - 12	9
		N	AUTO3	Auto mode judgment 3	0 - 12	9
		O	AUTO4	Auto mode judgment 4	0 - 12	8
		P	AUTO5	Auto mode judgment 5	0 - 12	8
		Q	AUTO6	Auto mode judgment 6	0 - 12	8

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). To increase the watermark density, increase the adjustment value. To decrease the watermark density, decrease the adjustment value. NOTE: When the adjustment value is increased, the watermark area which is originally not reproduced becomes difficult to disappear. When the adjustment value is decreased, the watermark area which is originally reproduced becomes easy to disappear.
	B	WOVEN DEN BK MIDDLE	Watermark density level (Black MIDDLE)	0 - 255	19	
	C	WOVEN DEN BK HIGH	Watermark density level (Black HIGH)	0 - 255	23	
	D	WOVEN DEN C LOW	Watermark density level (Cyan LOW)	0 - 255	19	
	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	
	G	WOVEN DEN M LOW	Watermark density level (Magenta LOW)	0 - 255	15	
	H	WOVEN DEN M MIDDLE	Watermark density level (Magenta MIDDLE)	0 - 255	18	
	I	WOVEN DEN M HIGH	Watermark density level (Magenta HIGH)	0 - 255	21	
	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. 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	HT TYPE (POS)	For halftone index watermark type positive	42 - 43	42	To reproduce the containing characters of watermark copy (secondary output) more clearly, set to 43. In that case, however, the containing characters of the watermark document (primary output) can be easily reproduced.	
L	HT TYPE (NEGA)	For halftone index watermark type negative	42 - 43	42		

Category	Item/Display		Content		Setting range		Default value	NOTE	
COPY MODE	A	TEXT/PRINTED PHOTO	Text/Printed Photo mode select Enable/Disable	OFF ON	0 - 1	0 1	1	Normally set to the default. No need to change in the market.	
	B	TEXT	Text mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	C	PRINTED PHOTO	Printed Photo mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	D	PHOTOGRAPH	Photograph mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	E	TEXT/PHOTO	Text/Photograph mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	F	MAP	Map mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	G	LIGHT	Light density document mode select Enable/Disable	OFF ON	0 - 1	0 1	1		
	H	TEXT/PRINTED PHOTO (CPY TO CPY)	Copy document: Enable/Disable of selection of the text/ printed photo 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)(*1)		0 - 200			20
		B	LINE SPACE 2	Line space in the watermark print box (37P - 48P)(*1)		0 - 200			20
		C	LINE SPACE 3	Line space in the watermark print box (49P - 64P)(*1)		0 - 200			20
		D	LINE SPACE 4	Line space in the watermark print box (65P - 80P)(*1)		0 - 200			20
E		BLANK H/B 1	Upper margin/Lower margin in the watermark print box (24P - 36P)(*2)		0 - 200		10		
F		BLANK H/B 2	Upper margin/Lower margin in the watermark print box (37P - 48P)(*2)		0 - 200		10		
G		BLANK H/B 3	Upper margin/Lower margin in the watermark print box (49P - 64P)(*2)		0 - 200		10		
H		BLANK H/B 4	Upper margin/Lower margin in the watermark print box (65P - 80P)(*2)		0 - 200		10		
I		BLANK L/R 1	Left margin/Right margin in the watermark print box (24P - 36P)(*3)		0 - 200		60		
J		BLANK L/R 2	Left margin/Right margin in the watermark print box (37P - 48P)(*3)		0 - 200		90		
K		BLANK L/R 3	Left margin/Right margin in the watermark print box (49P - 64P)(*3)		0 - 200		120		
L		BLANK L/R 4	Left margin/Right margin in the watermark print box (65P - 80P)(*3)		0 - 200		150		

*1: When the adjustment value is varied by +/-1, the line space is varied by 0.1mm.

*2: When the adjustment value is varied by +/-1, the upper and the lower margins are varied by 0.1mm.

*3: When the adjustment value is varied by +/-1, the left and the right margins are varied by 0.1mm.

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.

	Item/Display	Content	Setting range	Default value
A	RESULT HIGH RESOLUTION	Judgement result : High resolution	0 - 3	3
B	RESULT MID RESOLUTION1	Judgement result : Slight high resolution	0 - 3	2
C	RESULT MID RESOLUTION2	Judgement result : Slight low resolution	0 - 3	1
D	RESULT LOW RESOLUTION1	Judgement result : Low resolution	0 - 3	1
E	RESULT UNKNOWN RESOLUTION	Judgement result : Cannot judge	0 - 3	1
F	LANGUAGE SEL	Language setting	0 - 1	0
G	AUTO RESOLUTION MODE	Automatic resolution judgement mode	0 - 2	1

46-74

Purpose	Adjustment
Function (Purpose)	Copy 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.

NOTE: 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 range	Default value
TEXT	A	GLYPH SENSITIVITY	Text handling selection	0 - 2	0
	B	BG SW FOR FINDLINES	Line handling selection	0 - 1	0
	C	HOR FINDLINES SW	Line detection SW (H)	0 - 2	0
	D	VERT FINDLINES SW	Line detection SW (V)	0 - 2	0
	E	FGCOLOR INDEXING SEL	Text color number adjustment SW	0 - 3	0
	F	FGCOLOR INDEXING ADJ	Text color adjustment	0 - 4	2
COLOR	A	LUMINANCE ADJUSTMENT	Luminance adjustment	0 - 4	2
	B	CHROMA INTENT	Chroma selection	0 - 2	1
	C	NEUTRAL ADJUSTMENT	Neutral adjustment	0 - 2	0
	D	R-RATIO ADJUSTMENT	Gray scale adjustment (R)	0 - 1000	299
	E	G-RATIO ADJUSTMENT	Gray scale adjustment (G)	0 - 1000	587
BG LAYER	A	BG LAYER INTENT 1	Speed priority setting	0 - 2	1
	B	BG LAYER INTENT 2	Image quality priority setting	0 - 2	1
SOFT CIC	A	SKEW CORRECTION	Skew correction switch	0 - 1	0
	B	FILTER	Filter switch	0 - 1	0
	C	CIC MODE	High compression mode switch	0 - 1	0
	D	OUTPUT RESOLUTION	Resolution setting	0 - 3	0

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	Setting range	Default value
A	SEGMENT PARAM	COMMON	Area separation setting select	0: Other than image send mode black text emphasis (simple, high compression) 1: Image send mode black text emphasis (simple, high compression)	0 - 1	0
		SPECIAL				
B	BG: JPEG QUALITY LV [COL: COMPACT]		JPEG recompression level adjustment [Color: High compression mode]	The JPEG compression ratio of the background layer is selected. 0: Low 1: Middle 2: High	0 - 2	1
C	BG: JPEG QUALITY LV [COL: ULTRA FINE]		JPEG recompression level adjustment [Color: Ultra fine mode]		0 - 2	1
D	BG: JPEG QUALITY LV [GRY: COMPACT]		JPEG recompression level adjustment [Gray: High compression mode]		0 - 2	1
E	BG: JPEG QUALITY LV [GRY: ULTRA FINE]		JPEG recompression level adjustment [Gray: Ultra fine mode]		0 - 2	1
F	FG: TARGET AREA	TYPE0	Front ground extraction area select	0: type0	0 - 2	0
		TYPE1		1: type1		
		TYPE2		2: type2		
G	FG: TEXT DENSITY [COL]		Front ground black text density adjustment [Color]	The black text density in the front ground layer is changed. 0: Dark - 5: Default - 10: Light	0 - 10	5
H	FG: TEXT DENSITY [GRY]		Front ground black text density adjustment [Gray]		0 - 10	5
I	ULTRA FINE MODE	OFF	High compression/Ultra Fine mode select	0: High compression mode 1: Ultra fine mode	0 - 1	0
		ON				

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 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, the image magnification ratio is increased.

A change of "1" in the adjustment value of item A, C, or E corresponds to a change of about 0.02% in the copy magnification ratio.

A change of "1" in the adjustment value of item B or D corresponds to a change of about 0.1% in the copy magnification ratio.

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)	DSPF document front surface magnification ratio adjustment (Main scan)	1 - 99	50
D	SPF (SUB)	DSPF document front surface magnification ratio adjustment (Sub scan)	1 - 99	50
E	SPFB (MAIN)	DSPF document back surface magnification ratio adjustment (Main scan)	1 - 99	50
F	COPY CORRECTION (SUB)	Copy magnification correction (Sub scan)	1 - 7	4

48-5

Purpose	Adjustment
Function (Purpose)	Used to correction the scan image magnification ratio (in the sub scanning direction).
Section	Scanner 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.

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.

48-6

Purpose	Adjustment
Function (Purpose)	Used to adjust the rotation speed of each motor.
Section	

Operation/Procedure

- 1) Select an adjustment target mode with [MID] [LOW A] [LOW B] [LOW C] keys on the touch panel.

Mode Select		Item/Display		Content	Setting range	Default value
COLOR/MONO	MID	A	RRM (COLOR)	Registration motor correction value (Color)	1-99	51
COLOR/MONO	MID	B	RRM (MONO)	Registration motor correction value (Monochrome)		51
HEAVY1,2	LOW A	A	RRM (COLOR/MONO)	Registration motor correction value		51
HEAVY3	LOW B	A	RRM (COLOR/MONO)			51
HEAVY4	LOW C	A	RRM (COLOR/MONO)			51
COLOR/MONO	MID	C	BTM	Belt motor correction value	1-99	47
COLOR/MONO	MID	D	DM-K	Drum K motor correction value	1-99	47
COLOR/MONO	MID	E	DM-C	Drum C motor correction value	1-99	47
COLOR/MONO	MID	F	DM-M	Drum M motor correction value	1-99	47
COLOR/MONO	MID	G	DM-Y	Drum Y motor correction value	1-99	47
COLOR/MONO	MID	H	FUM	Fusing motor correction value	1-99	43
HEAVY1,2	LOW A	B				45
HEAVY3	LOW B					45
HEAVY4	LOW C					45
COLOR/MONO	MID	I	CPFM	Paper feed motor correction value	1-99	50
HEAVY1,2	LOW A	C				50
HEAVY3	LOW B					50
HEAVY4	LOW C					50
COLOR/MONO	MID	J	PFM	PS front motor correction value	1-99	50
HEAVY1,2	LOW A	D				50
HEAVY3	LOW B					50
HEAVY4	LOW C					50
COLOR/MONO	MID	K	POM	Paper exit motor correction value	1-99	50
HEAVY1,2	LOW A	E				50
HEAVY3	LOW B					50
HEAVY4	LOW C					50
HEAVY1,2	LOW A	F	FUSER SETTING	Fusing speed switch timing value	1-99	35
HEAVY3	LOW B					43
HEAVY4	LOW C					43
HEAVY1,2	LOW A	G	FS-OFFSET	Fusing acceleration ratio	1-99	70
HEAVY3	LOW B					70
HEAVY4	LOW C					70
HEAVY1,2	LOW A	H	RRM-START	RRM acceleration start timing	0-255	150
HEAVY3	LOW B					150
HEAVY4	LOW C					150
HEAVY1,2	LOW A	I	RRM-END	RRM acceleration end timing	0-255	200
HEAVY3	LOW B					200
HEAVY4	LOW C					200
HEAVY1,2	LOW A	J	RRM-OFFSET	RRM acceleration ratio	50-99	60
HEAVY3	LOW B					70
HEAVY4	LOW C					70

When there is an error in the image magnification ratio in reduction, change the adjustment value in the high speed mode. When there is an error in the image magnification ratio in enlargement, change the adjustment value in the low speed mode.

Item/Display	Content	Setting range	Default value
A MR (HI)	Scanner motor (High speed)	1 - 99	50
B MR(MID)	Scanner motor (Reference speed)	1 - 99	50
C MR(LO)	Scanner motor (Low speed)	1 - 99	50
D SPF(HI)	Document feed (SPF) motor (High speed)	1 - 99	50
E SPF(MID)	Document feed (SPF) motor (Reference speed)	1 - 99	50

- 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.

Mode Select		Item/Display		Content	Setting range	Default value
COLOR/MONO	MID	L	LCCM	LCC motor correction values	1-99	50
COLOR/MONO	MID	M	COR-IM	Imaging motors all correction values	1-99	50
COLOR/MONO	MID	N	COR-PP	Paper transport motors all correction values	1-99	50
HEAVY1,2	LOW A	K				50
HEAVY3	LOW B					50
HEAVY4	LOW C					50

The greater the correction value is, the higher the speed is, and vice versa. Change by +/-1 corresponds to 0.1%.

However, with respect to FUSER SETTING, RRM START, and RRM END, when the paper enters the fixing state, the change is 1 mm for every ± 1

(The larger the value is, the downstream in the conveying direction, the smaller the value, the more upstream in the conveying direction)

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.

Display item	Content	Error display
ICU1(MAIN)	ICU1 Main section former half	ICU1M
ICU1(BOOTM)	ICU1 Boot section main	ICU1B
ICU1(SUB)	ICU1 Sub section (ARM9)	ICU1S
ICU2	ICU2 program	ICU2
LANGUAGE	Language support data program (General term)	LANG
SLIST	SLIST data for L-LCD	SLIST
EOSA	embedded OSA	EOSA
PCL(PROFILE)	PCL color profile	PCLP
PCU(BOOT)	PCU Boot section	PCUB
PCU(MAIN)	PCU Main section	PCUM
DESK(BOOT)	Desk unit Boot section	DESKB
DESK(MAIN)	Desk unit Main section	DESKM
A4LCC(BOOT)	Side LCC (A4) Boot section	LCC4B
A4LCC(MAIN)	Side LCC (A4) Main section	LCC4M
A3LCC(BOOT)	Side LCC (A3) Boot section	LCC3B
A3LCC(MAIN)	Side LCC (A3) Main section	LCC3M
LCT1(BOOT)	A3LCT1 series Boot section	LCT1B
LCT1(MAIN)	A3LCT1 series Main section	LCT1M
FIN(BOOT)	Inner finisher BOOT section	FINB
FIN(MAIN)	Inner finisher MAIN section	FINM
INSERTER(BOOT)	Insertter Boot section	INSB
INSERTER(MAIN)	Insertter Main section	INSM
SADDLE(BOOT)	Saddle Boot section	SDLB
SADDLE(MAIN)	Saddle Main section	SDLM
1KFIN(BOOT)	1K finisher Boot section	FIN1B
1KFIN(MAIN)	1K finisher Main section	FIN1M
4KFIN(BOOT)	4K finisher Boot section	FIN4B
4KFIN(MAIN)	4K finisher Main section	FIN4M
4KFIN100(BOOT)	100 sheets staple 4K finisher Boot section	100FB

Display item	Content	Error display
4KFIN100(MAIN)	100 sheets staple 4K finisher Main section	100FM
1KPUNCH(BOOT)	Punch module Boot section for 1K finisher	1PUNB
1KPUNCH(MAIN)	Punch module Main section for 1K finisher	1PUNM
4KPUNCH(BOOT)	Punch module Boot section for 4K finisher	4PUNB
4KPUNCH(MAIN)	Punch module Main section for 4K finisher	4PUNM
SADDLE100(BOOT)	100 sheets staple saddle unit Boot section	S100B
SADDLE100(MAIN)	100 sheets staple saddle unit Main section	S100M
TRIMMER(BOOT)	100 sheets staple trimmer unit Boot section	TRIMB
TRIMMER(MAIN)	100 sheets staple trimmer unit Main section	TRIMM
FOLDER(BOOT)	Folding unit Boot section	FOLDB
FOLDER(MAIN)	Folding unit Main section	FOLDM
DECURLER(BOOT)	Relay unit (Decurling) Boot section	DECB
DECURLER(MAIN)	Relay unit (Decurling) Main section	DECM
SCU(BOOT)	SCU Boot section	SCUB
SCU(MAIN)	SCU Main section	SCUM
DSPF(BOOT)	DSPF Boot section	DSPFB
DSPF(MAIN)	DSPF Main section	DSPFM
FAX(BOOT)	FAX1 Boot section	FAXB
FAX(MAIN)	FAX1 Main section	FAXM
FAXOPT1(BOOT)	FAX2 Boot section	FX01B
FAXOPT1(MAIN)	FAX2 Main section	FX01M
FAXOPT2(BOOT)	FAX3 Boot section	FX02B
FAXOPT2(MAIN)	FAX3 Main section	FX02M
ACRE(BOOT)	ACRE Boot section	ACREB
ACRE(MAIN)	ACRE Main section	ACREM
ACRE_DATA	ACRE table	ACRED

49-3

Purpose

Function (Purpose) Used to update the operation manual.

Section

Operation/Procedure

- 1) Insert the USB memory into the main unit.
* When the USB is not inserted, "INSERT A STORAGE E-MANUAL STORED ON" is displayed. When [OK] key is pressed, the display is shifted to the folder select menu 1.
- 2) Press the folder button of the operation manual data. (The display is shifted to the operation manual update menu.)
The current version and the update version are displayed.
- 3) Press [EXECUTE] key.
[EXECUTE] key is highlighted, and [YES] [NO] keys becomes active from gray out.

- 4) When [YES] key is pressed, the selected operation manual is updated.

When update is completed normally, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

49-5	
Purpose	
Function (Purpose)	Used to perform the watermark update.
Section	

Operation/Procedure

- 1) Insert the USB memory into the main unit.
- 2) Select the button of the folder to perform the watermark update.
- 3) The current version and the update version are displayed.
- 4) Press [EXECUTE] key.
- 5) Press [YES] key.
The selected watermark is updated.

49-6	
Purpose	
Function (Purpose)	Used to perform the OCR update.
Section	

Operation/Procedure

- 1) Insert the USB flash drive into the main unit.
- 2) Select the button of the folder to perform the OCR update.
- 3) The current version and the update version are displayed.
- 4) Press [EXECUTE] key.
- 5) Press [YES] key.
The selected OCR is updated.

49-10	
Purpose	
Function (Purpose)	Used to perform the ACU firmware update.
Section	

Operation/Procedure

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

50

50-1	
Purpose	Adjustment
Function (Purpose)	Copy image position, image loss adjustment
Section	

Operation/Procedure

- 1) Select an adjustment target item with scroll key 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 item			Description	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	40
C		SIDE	Side image loss area adjustment	0 - 99	20
D	Void area adjustment	DENA	Print lead edge adjustment	1 - 99	40
E		DENB	Sub scanning direction print range adjustment	1 - 99	30
F		FRONT/REAR	FRONT/REAR void area adjustment	1 - 99	20
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-LC	LCC/LCT/LCT manual paper feed correction value	1 - 99	50
O		DENB-ADU	ADU correction value	1 - 99	55
P		DENB-HV	Heavy paper correction value	1 - 99	50

A.(RRCA-A)

The timing of detection of the image lead edge after starting the document scan 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 specified. Difference between the document lead edge scan start position and the document lead edge (0.1mm/step)

- * When the value is increased, the image loss is increased.

C.(SIDE)

The side image loss amount is specified.

(Document width - Document edge scan range)/2 (0.1mm/step)
(Rear edge image loss amount is fixed to 0. (No adjustment))

- * When the value is increased, the image loss is increased.

D.(DEN-A)

The void amount made at the paper lead edge is specified. (0.1mm/step)

- * When the value is increased, the void is increased.

E.(DEN-B)

The void amount made at the paper rear edge is specified. (0.1mm/step)

- * When the value is increased, the void is increased.

F.(FRONT/REAR)

The void amount made at the right and the left edges of paper is adjusted. (0.1mm/step)

- * When the value is increased, the void is increased.

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 distanced is decreased.

When the set value is changed by 1, the distance is changed by about 0.1mm.

Item/Display			Content		Setting range		Default value	Remarks
A	DEN-C		Printer print lead edge adjustment		1 - 99		30	Adjustment value for fitting the print lead edge for the printer
								When the adjustment value of this item is decreased by 1, the printer print start position in the paper transport direction is shifted to the lead edge by 0.1mm.
B	DEN-B		Sub scanning direction print range adjustment		1 - 99		30	Void amount generated at the paper rear edge.
								When the adjustment value of item B (DEN-B) is decreased by 1, the print area adjustment value in the sub scanning direction for the paper transport direction is decreased by 0.1mm.
C	FRONT/REAR		FRONT/REAR void area adjustment		1 - 99		20	The void amount made at the right and the left edges of paper is adjusted. When the value is increased, the void amount is increased.
D	DENB-MFT		Manual feed correction value		1 - 99		50	
E	DENB-CS1		Tray 1 correction value		1 - 99		50	
F	DENB-CS2		Tray 2 correction value		1 - 99		50	
G	DENB-CS3		Tray 3 correction value		1 - 99		50	
H	DENB-CS4		Tray 4 correction value		1 - 99		50	
I	DENB-LC		LCC/LCT/LCT manual paper feed correction value		1 - 99		50	
J	DENB-ADU		ADU correction value		1 - 99		55	
K	DENB-HV		Heavy paper correction value		1 - 99		50	
L	MULTI COUNT		Number of print		1 - 999		1	
M	PAPER	MFT	Tray selection	Manual paper feed	1 - 9	1	2(CS1)	
		CS1		Tray 1		2		
		CS2		Tray 2		3		
		CS3		Tray 3		4		
		CS4		Tray 4		5		
		LCC		LCC (*1)		6		
		LCT1_1		LCT first series first stage (*2)		6		
		LCT1_2		LCT first series second stage (*2)		7		
		LCT2_1		LCT second series, first stage (*3)		8		
		LCT2_2		LCT second series, second stage (*3)		9		
N	DUPLEX	YES	Duplex print selection	Select	0 - 1	0	1(NO)	
		NO		Not select		1		

*1: Displayed only when A4/A3 LCC is connected.

*2: Displayed only when 2-stage LCT is installed.

*3: Displayed only when two units of 2-stage LCT are connected.

50-6	
Purpose	Adjustment
Function (Purpose)	Used to adjust the copy image position and the image loss. (DSPF mode)
Section	DSPF

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.)

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	LEAD_EDGE (SIDE1)	0 - 99	20
D	SIDE1	FRONT_REAR (SIDE1)	0 - 99	20
E		TRAIL_EDGE (SIDE1)	0 - 99	40
F	Image loss amount setting	LEAD_EDGE (SIDE2)	0 - 99	40
G	SIDE2	FRONT_REAR (SIDE2)	0 - 99	20
H		TRAIL_EDGE (SIDE2)	0 - 99	20
I	OFFSET_SPF1	DSPF front surface document off-center adjustment	1 - 99	50
J	OFFSET_SPF2	DSPF back surface document off-center adjustment	1 - 99	50
K	SCAN_SPEED_SPF1	DSPF document front surface magnification ratio (Sub scan)	1 - 99	50

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

Item C - H: When the adjustment value is increased, the image loss is increased.

Item E - H: When a shadow image appears on the rear edge, increase the adjustment value to delete the shadow.

All adjustment items: 1 step = 0.1mm change

*1: Displayed only when A4/A3 LCC is connected.

*2: Displayed only when 2-stage LCT is installed.

*3: Displayed only when two units of 2-stage LCT are connected.

Purpose	Adjustment
Function (Purpose)	Used to adjust the black print image magnification ratio and the off-center position. (The adjustment is made separately for each paper feed section.)
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	BK-MAG	Main scan print magnification ratio BK		60 - 140		99
B	MAIN-STD	Standard correction amount (offcenter direction)				51
C	SUB-STD	Standard correction amount (Paper feed direction)				55
D	MAIN-MFT	Print off center adjustment value (Manual paper feed)		1 - 99		69
E	MAIN-CS1	Print off center adjustment value (Tray 1)		1 - 99		56
F	MAIN-CS2	Print off center adjustment value (Tray 2)		1 - 99		50
G	MAIN-CS3	Print off center adjustment value (Tray 3)		1 - 99		45
H	MAIN-CS4	Print off center adjustment value (Tray 4)		1 - 99		44
I	MAIN-LCC	Print off center adjustment value (LCC)		1 - 99		50
J	MAIN-LCT-MFT	Print off center adjustment value (LCT manual feed)		1 - 99		50
K	MAIN-LCT1	Print off center adjustment value (LCT 1 series, first stage)		1 - 99		50
L	MAIN-LCT2	Print off center adjustment value (LCT 1 series, second stage)		1 - 99		50
M	MAIN-ADU	Print off center adjustment value (ADU)		1 - 99		44
N	SUB-MFT	Resist motor ON timing adjustment	Manual feed (Main machine)	1 - 99		48
O	SUB-CS1		Standard tray	1 - 99		50
P	SUB-CS2			1 - 99		50
Q	SUB-CS3			1 - 99		48
R	SUB-CS4			1 - 99		48
S	SUB-LC		LCC /LCT/LCT manual paper feed	1 - 99		50
T	SUB-ADU		ADU	1 - 99		48
U	SUB-HV-A		Heavy paper1,2	1 - 99		50
V	SUB-HV-B		Heavy paper3,4	1 - 99		50
W	SUB-GLOSSY PAPER		Glossy paper	1 - 99		50
X	SUB-EMBOSS		Embossed paper	1 - 99		50
Y	SUB-OHP		OHP	1 - 99		50
Z	SUB-ENV		Envelope	1 - 99		50
AA	MULTI COUNT	Number of print		1 - 999		1
AB	PAPER	MFT	Tray selection	1 - 6	1	2(CS1)
		CS1	Manual feed		2	
		CS2	Tray 1		3	
		CS3	Tray 2		4	
		CS4	Tray 3		5	
		LCC	Tray 4		6	
		LCT1_1	LCC (*1)		6	
		LCT1_2	LCT 1 series, first stage (*2)		7	
		ALL_B	LCT 1 series, second stage (*2)		6/7/	
		UT_CS 2	All printable cassettes except cassette 2		8(*3)	
AC	DUPLEX	YES	Duplex print selection	0 - 1	0	1(NO)
		NO	Select Not select		1	

*1: Displayed only when A4/A3 LCC is connected.

*2: Displayed only when 2-stage LCT is installed.

*3: Without option: 6, A4 / A3 at LCC connection: 7, at 2nd stage LCT connection: 8.

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 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, 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 F side (Cyan laser writing position F side)	1 - 399	200
B	CYAN(REAR)	Registration adjustment value main scanning direction R side (Cyan laser writing position R side)	1 - 399	200
C	MAGENTA(FRONT)	Registration adjustment value main scanning direction F side (Magenta laser writing position F side)	1 - 399	200
D	MAGENTA(REAR)	Registration adjustment value main scanning direction R side (Magenta laser writing position R side)	1 - 399	200
E	YELLOW(FRONT)	Registration adjustment value main scanning direction F side (Yellow laser writing position F side)	1 - 399	200
F	YELLOW(REAR)	Registration adjustment value main scanning direction R side (Yellow laser writing position R side)	1 - 399	200
G	CYAN(SUB)	Registration adjustment value sub scanning direction CYAN (Black drum reference)	1 - 399	200
H	MAGENTA(SUB)	Registration adjustment value sub scanning direction MAGENTA (Black drum reference)	1 - 399	200
I	YELLOW(SUB)	Registration adjustment value sub scanning direction YELLOW (Black drum reference)	1 - 399	200
J	OFFSET_C_MAIN_F	Registration adjustment value main scan direction offset value CYAN (FRONT)	1 - 99	50
K	OFFSET_C_MAIN_R	Registration adjustment value main scan direction offset value CYAN (REAR)	1 - 99	50
L	OFFSET_M_MAIN_F	Registration adjustment value main scan direction offset value MAGENTA (FRONT)	1 - 99	50
M	OFFSET_M_MAIN_R	Registration adjustment value main scan direction offset value MAGENTA (REAR)	1 - 99	50
N	OFFSET_Y_MAIN_F	Registration adjustment value main scan direction offset value MAGENTA (FRONT)	1 - 99	50
O	OFFSET_Y_MAIN_R	Registration adjustment value main scan direction offset value MAGENTA (REAR)	1 - 99	50
P	OFFSET_C_SUB	Registration adjustment value sub scan direction offset value CYAN	1 - 99	51
Q	OFFSET_M_SUB	Registration adjustment value sub scan direction offset value MAGENTA	1 - 99	51
R	OFFSET_Y_SUB	Registration adjustment value sub scan direction offset value YELLOW	1 - 99	51
S	OFFSET_C_SUB_H V12	Registration adjustment value sub scan direction offset value CYAN (Heavy paper 1/2)	1 - 99	50
T	OFFSET_M_SUB_H V12	Registration adjustment value sub scan direction offset value MAGENTA (Heavy paper 1/2)	1 - 99	50

Item/Display			Content		Setting range		Default value
U	OFFSET_Y_SUB_H V12		Registration adjustment value sub scan direction offset value YELLOW (Heavy paper 1/2)		1 - 99		50
V	OFFSET_C_SUB_H V34		Registration adjustment value sub scan direction offset value CYAN (Heavy paper 3/4)		1 - 99		50
W	OFFSET_M_SUB_H V34		Registration adjustment value sub scan direction offset value MAGENTA (Heavy paper 3/4)		1 - 99		50
X	OFFSET_Y_SUB_H V34		Registration adjustment value sub scan direction offset value YELLOW (Heavy paper 3/4)		1 - 99		50
Y	MULTICOUNT		Number of print		1 - 999		1
Z	PAPER	MFT	Tray selection	Manual paper feed	1 - 5	1	2 (CS1)
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
		AA		DUPLEX		YES	
NO	Not select	1					

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)	Default value	Remarks
MAIN F	-	REG_M_F (VALUE)	Registration adjustment correction amount main scan direction F	1.0 - 399.0 (+/-0.1)	200	Same item with SIM50-20. * However, the adjustment accuracy is in the unit of +/- 0.1dot.
	()	REG_M_F (DIF)	Registration value correction amount from the previous one, main scan F	-399.0 - 399.0 (+/- 0.1)	0	
MAIN R	-	REG_M_R (VALUE)	Registration adjustment correction amount main scan direction R	1.0 - 399.0 (+/-0.1)	200	
	()	REG_M_R (DIF)	Registration value correction amount from the previous one, main scan R	-399.0 - 399.0 (+/- 0.1)	0	
SUB	-	REG_SUB (VALUE)	Registration adjustment correction amount sub scan direction	1.0 - 399.0 (+/-0.1)	200	
	()	REG_SUB (DIF)	Registration value correction amount from the previous one, sub scan	-399.0 - 399.0 (+/- 0.1)	0	
SKEW	CMY	SKEW_CLC	Rotating direction of SKEW adjustment and the number of clicks (CMY)	L99.9 - R99.9 (+/-0.1)	0	If the value is positive (+), "L" is displayed at the head the value. If the value is negative (-), "R" is displayed at the head. If the value is -5.0 - +5.0, "(OK)" is displayed at the bottom of the value. If not, "(NG)" is displayed.
	ALL_ROTATE		Rotating direction of SKEW adjustment and the number of clicks (K)			
START	KCMY	START_POINT	Modulation control start position (1: Current value)	0 - 359	0	1step 1°
	()		Modulation control start position (2: The previous value)			

Item/Display			Content	Setting range (unit)	Default value	Remarks
AMP1	KCMY	AMP	Modulation control amplitude value 1 (1: Current value)	0.00 - 15.00(±0.25)	0	Adjustment unit:±0.25
	()		Modulation control amplitude value 2 (2: The previous value)			
AMP2	KCMY	AMP2	Modulation control amplitude value 2 (2: Current value)	0.00 - 15.00(±0.25)	0	Adjustment unit:±0.25
	()		Modulation control amplitude value 2 (2: The previous value)			
PHASE 1	KCMY	PHASE_ADJ	Modulation phase adjustment value (1:Current value)	0 - 359	0	
	()		Modulation phase adjustment value (2: The previous value)			
PHASE 2	KCMY	PHASE_ADJ2	Modulation phase adjustment value 2 (1:Current value)	0 - 359	0	
	()		Modulation phase adjustment value 2 (2: The previous value)			
PHASE /K	CMY	PHASE_ADJK	Tandem phase adjustment value K (1: Current value)	0 - 359	0	
	()		Tandem phase adjustment value K (2: The previous value)			
POSITION	CMY	POSITION	Drum phase position value (1: Current value)	0 - 359	0	
	()		Drum phase position value (2: The previous value)			

Error displays in case of abnormal end

Error code	Error display	Error content
Forcible end error	- SUSPENDED	Door open
	- SUSPENDED	CA end
	- -	OFF end
Basic error	1 TONNER EMPTY 01	Toner empty
	2 BEFORE BEHAVIOR 02	Other conditions
	4 SENSOR CALIBRATION F 04	Caribration error F
	5 SENSOR CALIBRATION C 05	Caribration erroe C
	6 SENSOR CALIBRATION R 06	Caribration erroe R
	7 TIME OVER 07	Time error
	8 PROCESS CONTROL 08	Process control error
Sub scanning adjustment error	10 DATA_SUB_K_F_all 10	Data not designated SUB_K_F all
	11 DATA_SUB_K_F_any 11	Data not designated SUB_K_F any
	12 DATA_SUB_K_F_all_widt h 12	Data not designated SUB_K_F all_width
	13 DATA_SUB_K_F_any_widt h 13	Data not designated SUB_K_F any_width
	15 DATA_SUB_K_R_all 15	Data not designated SUB_K_R all
	16 DATA_SUB_K_R_any 16	Data not designated SUB_K_R any
	17 DATA_SUB_K_R_all_widt h 17	Data not designated SUB_K_R all_width
	18 DATA_SUB_K_R_any_widt h 18	Data not designated SUB_K_R any_width
	20 DATA_SUB_C_F_all 20	Data not designated SUB_C_F all
	21 DATA_SUB_C_F_any 21	Data not designated SUB_C_F any
	22 DATA_SUB_C_F_all_widt h 22	Data not designated SUB_C_F all_width
	23 DATA_SUB_C_F_any_widt h 23	Data not designated SUB_C_F any_width
	25 DATA_SUB_C_R_all 25	Data not designated SUB_C_R all
	26 DATA_SUB_C_R_any 26	Data not designated SUB_C_R any
	27 DATA_SUB_C_R_all_widt h 27	Data not designated SUB_C_R all_width
	28 DATA_SUB_C_R_any_widt h 28	Data not designated SUB_C_R any_width

Error code	Error display	Error content
Sub scanning adjustment error	30 DATA_SUB_M_F_all 30	Data not designated SUB_M_F all
	31 DATA_SUB_M_F_any 31	Data not designated SUB_M_F any
	32 DATA_SUB_M_F_all_widt h 32	Data not designated SUB_M_F all_width
	33 DATA_SUB_M_F_any_widt h 33	Data not designated SUB_M_F any_width
	35 DATA_SUB_M_R_all 35	Data not designated SUB_M_R all
	36 DATA_SUB_M_R_any 36	Data not designated SUB_M_R any
	37 DATA_SUB_M_R_all_widt h 37	Data not designated SUB_M_R all_width
	38 DATA_SUB_M_R_any_widt h 38	Data not designated SUB_M_R any_width
	40 DATA_SUB_Y_F_all 40	Data not designated SUB_Y_F all
	41 DATA_SUB_Y_F_any 41	Data not designated SUB_Y_F any
	42 DATA_SUB_Y_F_all_widt h 42	Data not designated SUB_Y_F all_width
	43 DATA_SUB_Y_F_any_widt h 43	Data not designated SUB_Y_F any_width
	45 DATA_SUB_Y_R_all 45	Data not designated SUB_Y_R all
	46 DATA_SUB_Y_R_any 46	Data not designated SUB_Y_R any
	47 DATA_SUB_Y_R_all_widt h 47	Data not designated SUB_Y_R all_width
	48 DATA_SUB_Y_R_any_widt h 48	Data not designated SUB_Y_R any_width
	52 DATA_SUB_K_F_all_widt h 52	Data not designated SUB_K_F all_width
	53 DATA_SUB_K_F_any_widt h 53	Data not designated SUB_K_F any_width
Main scanning adjustment error	50 DATA_MAIN_K_F_all 50	Data not designated MAIN_K_F all
	51 DATA_MAIN_K_F_any 51	Data not designated MAIN_K_F any
	55 DATA_MAIN_K_R_all 55	Data not designated MAIN_K_R all
	56 DATA_MAIN_K_R_any 56	Data not designated MAIN_K_R any
	57 DATA_MAIN_K_R_all_widt h 57	Data not designated MAIN_K_R all_width

Error code	Error display	Error content
Main scanning adjustment error	58 DATA_MAIN_K_R_any_wi dth 58	Data not designated MAIN_K_R any_width
	60 DATA_MAIN_C_F_all 60	Data not designated MAIN_C_F all
	61 DATA_MAIN_C_F_any 61	Data not designated MAIN_C_F any
	62 DATA_MAIN_C_F_all_wid th 62	Data not designated MAIN_C_F all_width
	63 DATA_MAIN_C_F_any_wi dth 63	Data not designated MAIN_C_F any_width
	65 DATA_MAIN_C_R_all 65	Data not designated MAIN_C_R all
	66 DATA_MAIN_C_R_any 66	Data not designated MAIN_C_R any
	67 DATA_MAIN_C_R_all_wid th 67	Data not designated MAIN_C_R all_width
	68 DATA_MAIN_C_R_any_wi dth 68	Data not designated MAIN_C_R any_width
	70 DATA_MAIN_M_F_all 70	Data not designated MAIN_M_F all
	71 DATA_MAIN_M_F_any 71	Data not designated MAIN_M_F any
	72 DATA_MAIN_M_F_all_wid th 72	Data not designated MAIN_M_F all_width
	73 DATA_MAIN_M_F_any_wi dth 73	Data not designated MAIN_M_F any_width
	75 DATA_MAIN_M_R_all 75	Data not designated MAIN_M_R all
	76 DATA_MAIN_M_R_any 76	Data not designated MAIN_M_R any
	77 DATA_MAIN_M_R_all_wi dth 77	Data not designated MAIN_M_R all_width
	78 DATA_MAIN_M_R_any_wi dth 78	Data not designated MAIN_M_R any_width
	80 DATA_MAIN_Y_F_all 80	Data not designated MAIN_Y_F all
	81 DATA_MAIN_Y_F_any 81	Data not designated MAIN_Y_F any
	82 DATA_MAIN_Y_F_all_wid th 82	Data not designated MAIN_Y_F all_width
	83 DATA_MAIN_Y_F_any_wi dth 83	Data not designated MAIN_Y_F any_width
Adjustment range error	85 DATA_MAIN_Y_R_all 85	Data not designated MAIN_Y_R all
	86 DATA_MAIN_Y_R_any 86	Data not designated MAIN_Y_R any
	87 DATA_MAIN_Y_R_all_wid th 87	Data not designated MAIN_Y_R all_width
	88 DATA_MAIN_Y_R_any_wi dth 88	Data not designated MAIN_Y_R any_width
	90 RANGE_SKEW_K 90	Adjustment range error SKEW_K
	91 RANGE_SUB_C 91	Adjustment range error SUB_C
	92 RANGE_SKEW_C 92	Adjustment range error SKEW_C
	93 RANGE_SUB_M 93	Adjustment range error SUB_M
	94 RANGE_SKEW_M 94	Adjustment range error SKEW_M
	95 RANGE_SUB_Y 95	Adjustment range error SUB_Y
	96 RANGE_SKEW_Y 96	Adjustment range error SKEW_Y
	97 RANGE_MAIN_C_F 97	Adjustment range error MAIN_C_F
	99 RANGE_MAIN_C_R 99	Adjustment range error MAIN_C_R
	101 RANGE_MAIN_M_F 101	Adjustment range error MAIN_M_F
	103 RANGE_MAIN_M_R 103	Adjustment range error MAIN_M_R
	105 RANGE_MAIN_Y_F 105	Adjustment range error MAIN_Y_F

Error code	Error display	Error content
Adjustment range error	107 RANGE_MAIN_Y_R 107	Adjustment range error MAIN_Y_R

50-23

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.)

50-24

Purpose (This simulation is normally not used in the market.)

Function (Purpose) Used to display the detail data of SIM 44-2, 50-20 and 22.

Section

Operation/Procedure

NOTE: This simulation is mainly used by the technical division, and is not necessary for the market.

50-27

Purpose	Adjustment
Function (Purpose)	Used to perform the image loss adjustment of scanned images in the FAX or image send mode.

Section

Operation/Procedure

- 1) Select a target adjustment mode with [FAX] or [SCANNER] key.
- 2) Select an adjustment target item with scroll key on the touch panel.
- 3) Enter the set value with 10-key.
- 4) Press [OK] key. (The set value is saved.)

Item/Display				Content	Setting range	Default value
FAX send	A	Image loss amount setting OC	LEAD_EDGE (OC)	OC lead edge image loss amount setting	0 - 100	30 (3mm)
	B		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 SIDE1	LEAD_EDGE (SPF_SIDE1)	Front surface lead edge image loss amount setting	0 - 100	20 (2mm)
	E		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)
	G	Image loss amount setting SPF SIDE2	LEAD_EDGE (SPF_SIDE2)	Back surface lead edge image loss amount setting	0 - 100	30 (3mm)
	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 (2mm)
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)

A-I: When the adjustment value is increased, the image loss is increased.

1step = 0.1mm

51

51-1

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the ON/OFF timing of the secondary transport voltage.

Section

Operation/Procedure

- 1) Select an adjustment target item with scroll key 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 item		Content	Setting range	Default value
A	TC2 ON TIMING	Secondary transfer voltage ON timing setting	1 - 99	48
B	TC2 OFF TIMING	Secondary transfer voltage OFF timing setting	1 - 99	50
C	FRONT EDGE ON TIMING	Secondary transfer front edge bias ON timing setting	1 - 99	30

Item/Display item		Content	Setting range	Default value
D	BACKEND OFF TIMING	Secondary transfer backend bias OFF timing setting	1 - 99	60

51-2	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the contact pressure (deflection amount) on paper by the main unit and the DSPF 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) 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.)

Item/Button		Display item	Content (Mode, document, paper feed speed)	Transport direction	Setting range	Default value
A	REGI1	NORMAL_PLAIN_HIGH	DSPF deflection amount adjustment value 1 (Normal/Plain paper/HIGH)	-	1 - 99	50
B		NORMAL_PLAIN_LOW	DSPF deflection amount adjustment value 1 (Normal/Plain paper/LOW)	-	1 - 99	50
C		NORMAL_THIN_HIGH	DSPF deflection amount adjustment value 1 (Normal/Thin paper/HIGH)	-	1 - 99	50
D		NORMAL_THIN_LOW	DSPF deflection amount adjustment value 1 (Normal/Thin paper/LOW)	-	1 - 99	50
E		RANDOM_PLAIN_HIGH	DSPF deflection amount adjustment value 1 (Random/Plain paper/HIGH)	-	1 - 99	50
F		RANDOM_PLAIN_LOW	DSPF deflection amount adjustment value 1 (Random/Plain paper/LOW)	-	1 - 99	50
G		RANDOM_THIN_HIGH	DSPF deflection amount adjustment value 1 (Random/Thin paper/HIGH)	-	1 - 99	50
H		RANDOM_THIN_LOW	DSPF deflection amount adjustment value 1 (Random/Thin paper/LOW)	-	1 - 99	50
A	REGI2	NORMAL_PLAIN_HIGH	DSPF deflection amount adjustment value 2 (Normal/Plain paper/HIGH)	-	1 - 99	70
B		NORMAL_PLAIN_LOW	DSPF deflection amount adjustment value 2 (Normal/Plain paper/LOW)	-	1 - 99	50
C		NORMAL_THIN_HIGH	DSPF deflection amount adjustment value 2 (Normal/Thin paper/HIGH)	-	1 - 99	70
D		NORMAL_THIN_LOW	DSPF deflection amount adjustment value 2 (Normal/Thin paper/LOW)	-	1 - 99	50
E		RANDOM_PLAIN_HIGH	DSPF deflection amount adjustment value 2 (Random/Plain paper/HIGH)	-	1 - 99	70
F		RANDOM_PLAIN_LOW	DSPF deflection amount adjustment value 2 (Random/Plain paper/LOW)	-	1 - 99	50
G		RANDOM_THIN_HIGH	DSPF deflection amount adjustment value 2 (Random/Thin paper/HIGH)	-	1 - 99	70
H		RANDOM_THIN_LOW	DSPF deflection amount adjustment value 2 (Random/Thin paper/LOW)	-	1 - 99	50
A	ENGINE	TRAY1 (S)	Tray 1 (Upper stage)/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99	20
B		TRAY2 (S)	Tray 2 (Lower stage)/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99	20
C		MANUAL PLAIN PAPER (S)	Manual feed tray/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99	20
D		MANUAL PLAIN PAPER (L)	Manual feed tray/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99	20
E		MANUAL HEAVY A PAPER (S)	Manual feed tray/deflection adjustment value (Heavy paper A/Small size)	LT size (216mm) or less	1 - 99	50
F		MANUAL HEAVY A PAPER (L)	Manual feed tray/deflection adjustment value (Heavy paper A/Large size)	LT size (216mm) or above	1 - 99	50
G		MANUAL HEAVY B PAPER (S)	Manual feed tray/deflection adjustment value (Heavy paper B/Small size)	LT size (216mm) or less	1 - 99	60
H		MANUAL HEAVY B PAPER (L)	Manual feed tray/deflection adjustment value (Heavy paper B/Large size)	LT size (216mm) or above	1 - 99	60
I		MANUAL OHP	Manual feed tray/deflection adjustment value (OHP)	-	1 - 99	40
J		MANUAL ENV	Manual feed tray/deflection adjustment value (Envelope)	-	1 - 99	40
K		MANUAL LABEL	Manual feed tray/deflection adjustment value (Label)	-	1 - 99	40

Item/Button		Display item	Content (Mode, document, paper feed speed)	Transport direction	Setting range	Default value
L	ENGINE	ADU PLAIN PAPER (S)	ADU/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99	20
M		ADU PLAIN PAPER (L)	ADU/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99	20
N		ADU HEAVY A PAPER (S)	ADU/deflection adjustment value (Heavy paper A/Small size)	LT size (216mm) or less	1 - 99	40
O		ADU HEAVY A PAPER(L)	ADU/deflection adjustment value (Heavy paper A/Large size)	LT size (216mm) or above	1 - 99	40
P		ADU HEAVY B PAPER (S)	ADU/deflection adjustment value (Heavy paper B/Small size)	LT size (216mm) or less	1 - 99	60
Q		ADU HEAVY B PAPER(L)	ADU/deflection adjustment value (Heavy paper B/Large size)	LT size (216mm) or above	1 - 99	60
R		TRAY3/4(S)	Tray 3, 4/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99	20
S		TRAY3/4 HEAVY A PAPER (S)	Tray 3, 4/deflection adjustment value (Heavy paper A/Small size)	LT size (216mm) or less	1 - 99	40
T		TRAY3/4(L)	Tray 3, 4/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99	20
U		TRAY3/4 HEAVY A PAPER (L)	Tray 3, 4/deflection adjustment value (Heavy paper A/Large size)	LT size (216mm) or above	1 - 99	40
V		TRAY4 OHP	Tray 4/deflection adjustment value (OHP)	-	1 - 99	40
W		TRAY4 LABEL	Tray 4/deflection adjustment value (Label)	-	1 - 99	40
X		LCC/LCT (S)	LCC/LCT, deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99	20
Y		LCC/LCT HEAVY A PAPER (S)	LCC/LCT, deflection adjustment value (Heavy paper A/Small size)	LT size (216mm) or less	1 - 99	50
Z		LCC/LCT HEAVY B PAPER (S)	LCC/LCT, deflection adjustment value (Heavy paper B/Small size)	LT size (216mm) or less	1 - 99	60
AA		LCC/LCT (L)	LCC/LCT, deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99	20
AB		LCC/LCT HEAVY A PAPER (L)	LCC/LCT, deflection adjustment value (Heavy paper A/Large size)	LT size (216mm) or above	1 - 99	50
AC		LCC/LCT HEAVY B PAPER (L)	LCC/LCT, deflection adjustment value (Heavy paper B/Large size)	LT size (216mm) or above	1 - 99	60
AD		LCT MANUAL OHP	LCT, warp adjustment value (OHP) manual feed adjustment value	-	1 - 99	40
AE		LCC/LCT LABEL	LCC/LCT, deflection adjustment value (Label)	-	1 - 99	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).

* The adjustment unit is a distance of 0.1mm unit.

* The smaller the set value of the warp amount for each of the specified items is, the smaller the warp is. The greater the set value is, the greater the warp is.

* DSPF REG11 is the registration amount adjustment in the paper feed side. DSPF REG12 is the registration amount adjustment at just before scanning.

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.)

53-6

Purpose	Adjustment
Function (Purpose)	Used to adjust the detection level of the DSPF document width.

Section**Operation/Procedure**

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

When the above operation is not performed normally, "ERROR" is displayed and. When the above operation is completed normally, "COMPLETE" is displayed.

1	TRAYVOLMAX	Tray size volume maximum value
2	TRAYVOLA4R	Tray volume A4R size adjustment value
3	TRAYVOLA5R	Tray volume A5R size adjustment value
4	TRAYVOLMIN	Tray size volume minimum value

53-7

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the DSPF document size width sensor.

Section**Operation/Procedure**

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

Item/Display			Setting range	Default value
A	AD_MAX	Max. width position	0 - 1023	66
B	AD_P1	Intermediate position (L)	0 - 1023	438
C	AD_P2	Intermediate position (S)	0 - 1023	699
D	AD_MIN	Min. width position	0 - 1023	893

53-8

Purpose	Adjustment
Function (Purpose)	Used to adjust the document lead edge reference and the DSPF 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: DSPF 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
A	ADJUST VALUE	DSPF mode document scan position adjustment (Scanner stop position adjustment)	1 - 99	10

- When the adjustment value is increased, the scanner stop position in the DSPF 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)	DSPF dirt detection setting

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.

Item/Display item, Details of display			Content		Setting range		Default value
A	SIDEA_SCAN_POSITION_SET_START	OFF	DSPF front surface optimum scan position detection setting (when starting)	OFF	0 - 1	0	0 (OFF)
		ON		ON		1	
B	SIDEA_SCAN_POSITION_SET_JOB	OFF	DSPF front surface optimum scan position detection setting (After a job)	OFF	0 - 1	0	1 (ON)
		ON		ON		1	
C	SIDEA_SCAN_POSITION_LV	WEAK	DSPF front surface optimum scan position detection level setting	Low	0 - 2	0	1 (MIDDLE)
		MIDDLE		Medium		1	
		STRONG		High		2	
D	OC_DIRT_LV	WEAK	OC dirt level setting	Low	0 - 2	0	1 (MIDDLE)
		MIDDLE		Medium		1	
		STRONG		High		2	
E	SIDEA_DIRT_ALARM_LV	WEAK	DSPF front surface dirt alarm level setting	Low	0 - 2	0	1 (MIDDLE)
		MIDDLE		Medium		1	
		STRONG		High		2	
F	SIDEB_DIRT_ALARM_LV	WEAK	DSPF back surface dirt alarm level setting	Low	0 - 2	0	1 (MIDDLE)
		MIDDLE		Medium		1	
		STRONG		High		2	
G	SIDEA_DIRT_SHADING_SET	OFF	DSPF front surface streak delete shading setting	OFF	0 - 1	0	1 (ON)
		ON		ON		1	
H	SIDEB_DIRT_SHADING_SET	OFF	DSPF back surface streak delete shading setting	OFF	0 - 1	0	1 (ON)
		ON		ON		1	
I	SIDEB_EXT_SHADING_SET		SPF back surface extended shading setting	Default	0 - 4	0	0
				Both OFF		1	
				Both ON		2	
				ON at startup / OFF after JOB		3	
				OFF at startup / ON after JOB		4	

53-10	
Purpose	Adjustment/Setup
Function (Purpose)	DSPF dirt detection execution.
Section	
Operation/Procedure	
1) Press [EXECUTE] key.	
Item	Content
OC	Forcible execution of OC/DSPF SIDE A and the result display are made.
DSPF	Forcible execution of DSPF SIDE B and the result display are made.

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	

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			
C	3RD DIGIT	Third digit		32 [blank: 20H]	
D	4TH DIGIT	Fourth digit		65 - 90	
E	5TH DIGIT	Fifth digit		[Alphabet: 41H("A") - 5AH("Z")]	
F	6TH DIGIT	Sixth digit (right edge)		48 - 57 [Numeral: 30H("0") - 39H("9")]	
G	COLOR	K	Color specification input	0	0
		C		1	
		M		2	
		Y		3	
		R		4	
		G		5	
		B		6	
H	TYPE	PATTERN 1	Print composing method	Edging type	1
		PATTERN 2		OR process type	
		PATTERN 3		No-delete-composition type	

Input value

Print	Blank	A	B	C	D	E	F
Input value	32	65	66	67	68	69	70

Print	G	H	I	J	K	L	M
Input value	71	72	73	74	75	76	77

Print	N	O	P	Q	R	S	T
Input value	78	79	80	81	82	83	84

Print	U	V	W	X	Y	Z	0
Input value	85	86	87	88	89	90	48

Print	1	2	3	4	5	6	7
Input value	49	50	51	52	53	54	55

Print	8	9
Input value	56	57

Purpose	Backup
Function (Purpose)	Used to transport data between HDD - MFP PWB SRAM/EEPROM. (Used to repair the PWB.)

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 - HDD	Transfer from EEPROM to HDD
HDD - EEPROM	Transfer from HDD to EEPROM

Purpose	Data backup
Function (Purpose)	Used to backup the data in the EEPROM. HDD (including user authentication data and address data) to the USB memory. (Corresponding to the device cloning and the storage backup.)

Section**Operation/Procedure**

- 1) Insert the USB memory into the main unit.
- 2) Select a target transfer item with the touch panel.
<IMPORT>
From USB MEMORY DEVICE To EEPROM, HDD
<EXPORT>
From EEPROM, HDD To USB MEMORY
- 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 memory into the main unit.
- 2) Select a target transfer item with the touch panel.
<IMPORT>
From USB MEMORY DEVICE to EEPROM, HDD
<EXPORT>
From EEPROM, HDD to USB MEMORY DEVICE
- 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 memory.
Section	
Operation/Procedure	
1) Insert the USB memory into the main unit.	
2) Select a target transfer item with the touch panel.	
<IMPORT>	
From USB MEMORY DEVICE to EEPROM, HDD	
<EXPORT>	
From EEPROM, HDD to USB MEMORY DEVICE	
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 memory.
Section	
Operation/Procedure	
1) Insert the USB memory 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 memory in the TEXT format.
Section	
Operation/Procedure	
1) Insert the USB memory 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	Adjustment/Setting/Operation data check
Function (Purpose)	Used to output the JAM/trouble data.
Section	
Operation/Procedure	
1) Insert the USB memory into the main unit.	
2) Select the output target item with the touch panel key.	
3) Press [EXECUTE] key.	
4) 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
SIM56-5	Import SIM56-5 data.
SIM56-6	Import SIM56-6 data.
SIM00-11	Import SIM00-11 data.
SIM56-4	Import SIM56-4 job log data.
SIM56-7	Import SIM56-7 system log data.
SIM56-2	Perform simplified output of SIM56-2.

60

60-1

Purpose	Operation test/check
Function (Purpose)	Used to check the memory operations (read/write) of the MFP PWB.

Section

Operation/Procedure

- 1) Press [EXECUTE] key.
Start the test.

Result display	Description
OK	Success
NG	Fail
NONE	Not installed (Including DIMM trouble)
INVALID	Execution disable

SLOT	Description	
ICUM SLOT1	ICU standard 1	SLOT1
ICUM SLOT2	ICU standard 2	SLOT2
ICU1 SLOT1	ICU1 standard	DIMM1
ICU1 SLOT2	ICU1 expansion	DIMM2
ICU2 SLOT1	ICU2 standard	DIMM3
ACRE SLOT	ACRE	ACRE

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)

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the laser power
Section	

Operation/Procedure

- 1) Select a target mode for adjustment with [PR600] on the touch panel.
- 2) Select an adjustment target item with scroll key 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 and the DUTY adjustment value are increased, the print density is increased and the line width of line images are increased.

Category	Item/Display		Content	Setting range	Default value	
					65 CPM machine	75 CPM machine
PR600 (Fiery)	A	LASER POWER MIDDLE(K)	Laser power setting middle speed/K	0 - 255	142	155
	B	LASER POWER MIDDLE(C)	Laser power setting middle speed/C	0 - 255	142	155
	C	LASER POWER MIDDLE(M)	Laser power setting middle speed/M	0 - 255	142	155
	D	LASER POWER MIDDLE(Y)	Laser power setting middle speed/Y	0 - 255	142	155
	E	LASER POWER LOW1(K)	Laser power setting low speed 1/K	0 - 255	100	100
	F	LASER POWER LOW1(C)	Laser power setting low speed 1/C	0 - 255	100	100
	G	LASER POWER LOW1(M)	Laser power setting low speed 1/M	0 - 255	100	100
	H	LASER POWER LOW1(Y)	Laser power setting low speed 1/Y	0 - 255	100	100
	I	LASER POWER LOW2(K)	Laser power setting low speed 2/K	0 - 255	142	142
	J	LASER POWER LOW2(C)	Laser power setting low speed 2/C	0 - 255	142	142
	K	LASER POWER LOW2(M)	Laser power setting low speed 2/M	0 - 255	142	142
	L	LASER POWER LOW2(Y)	Laser power setting low speed 2/Y	0 - 255	142	142
	M	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	0 - 255	142	155
	N	LASER POWER LOW1(BW)	Laser power setting low speed 1/BW	0 - 255	100	100
	O	LASER POWER LOW2(BW)	Laser power setting low speed 2/BW	0 - 255	142	142
	P	LASER DUTY MIDDLE(K)	Laser DUTY select middle speed/K	0 - 255	0	0
	Q	LASER DUTY MIDDLE(C)	Laser DUTY select middle speed/C	0 - 255	0	0
	R	LASER DUTY MIDDLE(M)	Laser DUTY select middle speed/M	0 - 255	0	0
	S	LASER DUTY MIDDLE(Y)	Laser DUTY select middle speed/Y	0 - 255	0	0
	T	LASER DUTY LOW1(K)	Laser DUTY select low speed 1/K	0 - 255	0	0
	U	LASER DUTY LOW1(C)	Laser DUTY select low speed 1/C	0 - 255	0	0
	V	LASER DUTY LOW1(M)	Laser DUTY select low speed 1/M	0 - 255	0	0
	W	LASER DUTY LOW1(Y)	Laser DUTY select low speed 1/Y	0 - 255	0	0
	X	LASER DUTY LOW2(K)	Laser DUTY select low speed 2/K	0 - 255	0	0
	Y	LASER DUTY LOW2(C)	Laser DUTY select low speed 2/C	0 - 255	0	0
	Z	LASER DUTY LOW2(M)	Laser DUTY select low speed 2/M	0 - 255	0	0
	AA	LASER DUTY LOW2(Y)	Laser DUTY select low speed 2/Y	0 - 255	0	0
	AB	LASER DUTY MIDDLE(BW)	Laser DUTY select middle speed/BW	0 - 255	0	0
	AC	LASER DUTY LOW1(BW)	Laser DUTY select low speed 1/BW	0 - 255	0	0
	AD	LASER DUTY LOW2(BW)	Laser DUTY select low speed 2/BW	0 - 255	0	0
	AE	LASER DUTY MIDDLE(K 1BIT)	Laser Duty select middle speed /K	0 - 255	0	0
	AF	LASER DUTY MIDDLE(C 1BIT)	Laser Duty select middle speed /C	0 - 255	0	0
	AG	LASER DUTY MIDDLE(M 1BIT)	Laser Duty select middle speed /M	0 - 255	0	0
	AH	LASER DUTY MIDDLE(Y 1BIT)	Laser Duty select middle speed /Y	0 - 255	0	0
	AI	LASER DUTY LOW1(K 1BIT)	Laser Duty select Low1 speed /K	0 - 255	0	0
	AJ	LASER DUTY LOW1(C 1BIT)	Laser Duty select Low1 speed /C	0 - 255	0	0
	AK	LASER DUTY LOW1(M 1BIT)	Laser Duty select Low1 speed /M	0 - 255	0	0
	AL	LASER DUTY LOW1(Y 1BIT)	Laser Duty select Low1 speed /Y	0 - 255	0	0
	AM	LASER DUTY LOW2(K 1BIT)	Laser Duty select Low2 speed /K	0 - 255	0	0
	AN	LASER DUTY LOW2(C 1BIT)	Laser Duty select Low2 speed /C	0 - 255	0	0
	AO	LASER DUTY LOW2(M 1BIT)	Laser Duty select Low2 speed /M	0 - 255	0	0
	AP	LASER DUTY LOW2(Y 1BIT)	Laser Duty select Low2 speed /Y	0 - 255	0	0
	AQ	LASER DUTY MIDDLE(BW 1BIT)	Laser power setting correction value Y1	0 - 255	0	0
	AR	LASER DUTY LOW1(BW 1BIT)	Laser power setting correction value Y2	0 - 255	0	0
	AS	LASER DUTY LOW2(BW 1BIT)	Laser power setting correction value Y3	0 - 255	0	0

Category	Item/Display		Content	Setting range	Default value	
					65 CPM machine	75 CPM machine
COPY1200 (Fiery)	A	LASER POWER MIDDLE(K)	Laser power setting middle speed/K	0 - 255	142	155
	B	LASER POWER MIDDLE(C)	Laser power setting middle speed/C	0 - 255	142	155
	C	LASER POWER MIDDLE(M)	Laser power setting middle speed/M	0 - 255	142	155
	D	LASER POWER MIDDLE(Y)	Laser power setting middle speed/Y	0 - 255	142	155
	E	LASER POWER LOW1(K)	Laser power setting low speed 1/K	0 - 255	100	100
	F	LASER POWER LOW1(C)	Laser power setting low speed 1/C	0 - 255	100	100
	G	LASER POWER LOW1(M)	Laser power setting low speed 1/M	0 - 255	100	100
	H	LASER POWER LOW1(Y)	Laser power setting low speed 1/Y	0 - 255	100	100
	I	LASER POWER LOW2(K)	Laser power setting low speed 2/K	0 - 255	142	142
	J	LASER POWER LOW2(C)	Laser power setting low speed 2/C	0 - 255	142	142
	K	LASER POWER LOW2(M)	Laser power setting low speed 2/M	0 - 255	142	142
	L	LASER POWER LOW2(Y)	Laser power setting low speed 2/Y	0 - 255	142	142
	M	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	0 - 255	142	155
	N	LASER POWER LOW1(BW)	Laser power setting low speed 1/BW	0 - 255	100	100
	O	LASER POWER LOW2(BW)	Laser power setting low speed 2/BW	0 - 255	142	142
	P	LASER DUTY MIDDLE(K)	Laser DUTY select middle speed/K	0 - 255	0	0
	Q	LASER DUTY MIDDLE(C)	Laser DUTY select middle speed/C	0 - 255	0	0
	R	LASER DUTY MIDDLE(M)	Laser DUTY select middle speed/M	0 - 255	0	0
	S	LASER DUTY MIDDLE(Y)	Laser DUTY select middle speed/Y	0 - 255	0	0
	T	LASER DUTY LOW1(K)	Laser DUTY select low speed 1/K	0 - 255	0	0
	U	LASER DUTY LOW1(C)	Laser DUTY select low speed 1/C	0 - 255	0	0
	V	LASER DUTY LOW1(M)	Laser DUTY select low speed 1/M	0 - 255	0	0
	W	LASER DUTY LOW1(Y)	Laser DUTY select low speed 1/Y	0 - 255	0	0
	X	LASER DUTY LOW2(K)	Laser DUTY select low speed 2/K	0 - 255	0	0
	Y	LASER DUTY LOW2(C)	Laser DUTY select low speed 2/C	0 - 255	0	0
	Z	LASER DUTY LOW2(M)	Laser DUTY select low speed 2/M	0 - 255	0	0
	AA	LASER DUTY LOW2(Y)	Laser DUTY select low speed 2/Y	0 - 255	0	0
	AB	LASER DUTY MIDDLE(BW)	Laser DUTY select middle speed/BW	0 - 255	0	0
	AC	LASER DUTY LOW1(BW)	Laser DUTY select low speed 1/BW	0 - 255	0	0
	AD	LASER DUTY LOW2(BW)	Laser DUTY select low speed 2/BW	0 - 255	0	0

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the laser power
Section	LSU

Operation/Procedure

- 1) Select a target mode for adjustment with [COPY], [COPY1200], [PR600/FAX], [PR1200] on the touch panel.
- 2) Select an adjustment target item with scroll key 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.

Category	Item/Display		Content	Setting range	Default value	
					65 CPM machine	75 CPM machine
COPY600	A	LASER POWER MIDDLE(K)	Laser power setting middle speed/K	0 - 255	130	141
	B	LASER POWER MIDDLE(C)	Laser power setting middle speed/C	0 - 255	130	141
	C	LASER POWER MIDDLE(M)	Laser power setting middle speed/M	0 - 255	130	141
	D	LASER POWER MIDDLE(Y)	Laser power setting middle speed/Y	0 - 255	130	141
	E	LASER POWER LOW1(K)	Laser power setting low speed 1/K	0 - 255	84	84
	F	LASER POWER LOW1(C)	Laser power setting low speed 1/C	0 - 255	84	84
	G	LASER POWER LOW1(M)	Laser power setting low speed 1/M	0 - 255	84	84
	H	LASER POWER LOW1(Y)	Laser power setting low speed 1/Y	0 - 255	84	84
	I	LASER POWER LOW2(K)	Laser power setting low speed 2/K	0 - 255	130	130
	J	LASER POWER LOW2(C)	Laser power setting low speed 2/	0 - 255	130	130
	K	LASER POWER LOW2(M)	Laser power setting low speed 2/M	0 - 255	130	130
	L	LASER POWER LOW2(Y)	Laser power setting low speed 2/Y	0 - 255	130	130
	M	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	0 - 255	130	141
	N	LASER POWER LOW1(BW)	Laser power setting low speed 1/BW	0 - 255	84	84
	O	LASER POWER LOW2(BW)	Laser power setting low speed 2/BW	0 - 255	130	130
	P	LASER DUTY MIDDLE(K)	Laser DUTY select middle speed/K	0 - 255	0	0
	Q	LASER DUTY MIDDLE(C)	Laser DUTY select middle speed/C	0 - 255	0	0
	R	LASER DUTY MIDDLE(M)	Laser DUTY select middle speed/M	0 - 255	0	0
	S	LASER DUTY MIDDLE(Y)	Laser DUTY select middle speed/Y	0 - 255	0	0
	T	LASER DUTY LOW1(K)	Laser DUTY select low speed 1/K	0 - 255	0	0
	U	LASER DUTY LOW1(C)	Laser DUTY select low speed 1/C	0 - 255	0	0
	V	LASER DUTY LOW1(M)	Laser DUTY select low speed 1/M	0 - 255	0	0
	W	LASER DUTY LOW1(Y)	Laser DUTY select low speed 1/Y	0 - 255	0	0
	X	LASER DUTY LOW2(K)	Laser DUTY select low speed 2/K	0 - 255	0	0
	Y	LASER DUTY LOW2(C)	Laser DUTY select low speed 2/C	0 - 255	0	0
	Z	LASER DUTY LOW2(M)	Laser DUTY select low speed 2/M	0 - 255	0	0
	AA	LASER DUTY LOW2(Y)	Laser DUTY select low speed 2/Y	0 - 255	0	0
	AB	LASER DUTY MIDDLE(BW)	Laser DUTY select middle speed/BW	0 - 255	0	0
	AC	LASER DUTY LOW1(BW)	Laser DUTY select low speed 1/BW	0 - 255	0	0
	AD	LASER DUTY LOW2(BW)	Laser DUTY select low speed 2/BW	0 - 255	0	0
	AE	LASER POWER K1	Laser power setting correction value K1	0 - 255	100	100
	AF	LASER POWER K2	Laser power setting correction value K2	0 - 255	100	100
	AG	LASER POWER K3	Laser power setting correction value K3	0 - 255	100	100
	AH	LASER POWER K4	Laser power setting correction value K4	0 - 255	100	100
	AI	LASER POWER C1	Laser power setting correction value C1	0 - 255	100	100
	AJ	LASER POWER C2	Laser power setting correction value C2	0 - 255	100	100
	AK	LASER POWER C3	Laser power setting correction value C3	0 - 255	100	100
	AL	LASER POWER C4	Laser power setting correction value C4	0 - 255	100	100
	AM	LASER POWER M1	Laser power setting correction value M1	0 - 255	100	100
	AN	LASER POWER M2	Laser power setting correction value M2	0 - 255	100	100
	AO	LASER POWER M3	Laser power setting correction value M3	0 - 255	100	100
	AP	LASER POWER M4	Laser power setting correction value M4	0 - 255	100	100
	AQ	LASER POWER Y1	Laser power setting correction value Y1	0 - 255	100	100
	AR	LASER POWER Y2	Laser power setting correction value Y2	0 - 255	100	100
	AS	LASER POWER Y3	Laser power setting correction value Y3	0 - 255	100	100
	AT	LASER POWER Y4	Laser power setting correction value Y4	0 - 255	100	100

Category	Item/Display		Content	Setting range	Default value	
					65 CPM machine	75 CPM machine
PRINTER 600/FAX	A	LASER POWER MIDDLE(K)	Laser power setting middle speed/K	0 - 255	130	141
	B	LASER POWER MIDDLE(C)	Laser power setting middle speed/C	0 - 255	130	141
	C	LASER POWER MIDDLE(M)	Laser power setting middle speed/M	0 - 255	130	141
	D	LASER POWER MIDDLE(Y)	Laser power setting middle speed/Y	0 - 255	130	141
	E	LASER POWER LOW1(K)	Laser power setting low speed 1/K	0 - 255	84	84
	F	LASER POWER LOW1(C)	Laser power setting low speed 1/C	0 - 255	84	84
	G	LASER POWER LOW1(M)	Laser power setting low speed 1/M	0 - 255	84	84
	H	LASER POWER LOW1(Y)	Laser power setting low speed 1/Y	0 - 255	84	84
	I	LASER POWER LOW2(K)	Laser power setting low speed 2/K	0 - 255	130	130
	J	LASER POWER LOW2(C)	Laser power setting low speed 2/	0 - 255	130	130
	K	LASER POWER LOW2(M)	Laser power setting low speed 2/M	0 - 255	130	130
	L	LASER POWER LOW2(Y)	Laser power setting low speed 2/Y	0 - 255	130	130
	M	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	0 - 255	130	141
	N	LASER POWER LOW1(BW)	Laser power setting low speed 1/BW	0 - 255	84	84
	O	LASER POWER LOW2(BW)	Laser power setting low speed 2/BW	0 - 255	130	130
	P	LASER DUTY MIDDLE(K)	Laser DUTY select middle speed/K	0 - 255	0	0
	Q	LASER DUTY MIDDLE(C)	Laser DUTY select middle speed/C	0 - 255	0	0
	R	LASER DUTY MIDDLE(M)	Laser DUTY select middle speed/M	0 - 255	0	0
	S	LASER DUTY MIDDLE(Y)	Laser DUTY select middle speed/Y	0 - 255	0	0
	T	LASER DUTY LOW1(K)	Laser DUTY select low speed 1/K	0 - 255	0	0
	U	LASER DUTY LOW1(C)	Laser DUTY select low speed 1/C	0 - 255	0	0
	V	LASER DUTY LOW1(M)	Laser DUTY select low speed 1/M	0 - 255	0	0
	W	LASER DUTY LOW1(Y)	Laser DUTY select low speed 1/Y	0 - 255	0	0
	X	LASER DUTY LOW2(K)	Laser DUTY select low speed 2/K	0 - 255	0	0
	Y	LASER DUTY LOW2(C)	Laser DUTY select low speed 2/C	0 - 255	0	0
	Z	LASER DUTY LOW2(M)	Laser DUTY select low speed 2/M	0 - 255	0	0
	AA	LASER DUTY LOW2(Y)	Laser DUTY select low speed 2/Y	0 - 255	0	0
	AB	LASER DUTY MIDDLE(BW)	Laser DUTY select middle speed/BW	0 - 255	0	0
	AC	LASER DUTY LOW1(BW)	Laser DUTY select low speed 1/BW	0 - 255	0	0
	AD	LASER DUTY LOW2(BW)	Laser DUTY select low speed 2/BW	0 - 255	0	0
	AE	LASER DUTY MIDDLE(K 1BIT)	Laser DUTY select middle speed/K	0 - 255	0	0
	AF	LASER DUTY MIDDLE(C 1BIT)	Laser DUTY select middle speed/C	0 - 255	0	0
	AG	LASER DUTY MIDDLE(M 1BIT)	Laser DUTY select middle speed/M	0 - 255	0	0
	AH	LASER DUTY MIDDLE(Y 1BIT)	Laser DUTY select middle speed/Y	0 - 255	0	0
	AI	LASER DUTY LOW1(K 1BIT)	Laser DUTY select low speed 1/K	0 - 255	0	0
	AJ	LASER DUTY LOW1(C 1BIT)	Laser DUTY select low speed 1/C	0 - 255	0	0
	AK	LASER DUTY LOW1(M 1BIT)	Laser DUTY select low speed 1/M	0 - 255	0	0
	AL	LASER DUTY LOW1(Y 1BIT)	Laser DUTY select low speed 1/Y	0 - 255	0	0
	AM	LASER DUTY LOW2(K 1BIT)	Laser DUTY select low speed 2/K	0 - 255	0	0
	AN	LASER DUTY LOW2(C 1BIT)	Laser DUTY select low speed 2/C	0 - 255	0	0
	AO	LASER DUTY LOW2(M 1BIT)	Laser DUTY select low speed 2/M	0 - 255	0	0
	AP	LASER DUTY LOW2(Y 1BIT)	Laser DUTY select low speed 2/Y	0 - 255	0	0
	AQ	LASER DUTY MIDDLE(BW 1BIT)	Laser DUTY select middle speed/BW	0 - 255	0	0
	AR	LASER DUTY LOW1(BW 1BIT)	Laser DUTY select low speed 1/BW	0 - 255	0	0
	AS	LASER DUTY LOW2(BW 1BIT)	Laser DUTY select low speed 2/BW	0 - 255	0	0

Category	Item/Display		Content	Setting range	Default value	
					65 CPM machine	75 CPM machine
PRINTER 1200	A	LASER POWER MIDDLE(K)	Laser power setting middle speed/K	0 - 255	130	141
	B	LASER POWER MIDDLE(C)	Laser power setting middle speed/C	0 - 255	130	141
	C	LASER POWER MIDDLE(M)	Laser power setting middle speed/M	0 - 255	130	141
	D	LASER POWER MIDDLE(Y)	Laser power setting middle speed/Y	0 - 255	130	141
	E	LASER POWER LOW1(K)	Laser power setting low speed 1/K	0 - 255	84	84
	F	LASER POWER LOW1(C)	Laser power setting low speed 1/C	0 - 255	84	84
	G	LASER POWER LOW1(M)	Laser power setting low speed 1/M	0 - 255	84	84
	H	LASER POWER LOW1(Y)	Laser power setting low speed 1/Y	0 - 255	84	84
	I	LASER POWER LOW2(K)	Laser power setting low speed 2/K	0 - 255	130	130
	J	LASER POWER LOW2(C)	Laser power setting low speed 2/C	0 - 255	130	130
	K	LASER POWER LOW2(M)	Laser power setting low speed 2/M	0 - 255	130	130
	L	LASER POWER LOW2(Y)	Laser power setting low speed 2/Y	0 - 255	130	130
	M	LASER POWER MIDDLE(BW)	Laser power setting middle speed/BW	0 - 255	130	141
	N	LASER POWER LOW1(BW)	Laser power setting low speed 1/BW	0 - 255	84	84
	O	LASER POWER LOW2(BW)	Laser power setting low speed 2/BW	0 - 255	130	130
	P	LASER DUTY MIDDLE(K)	Laser DUTY select middle speed/K	0 - 255	0	0
	Q	LASER DUTY MIDDLE(C)	Laser DUTY select middle speed/C	0 - 255	0	0
	R	LASER DUTY MIDDLE(M)	Laser DUTY select middle speed/M	0 - 255	0	0
	S	LASER DUTY MIDDLE(Y)	Laser DUTY select middle speed/Y	0 - 255	0	0
	T	LASER DUTY LOW1(K)	Laser DUTY select low speed 1/K	0 - 255	0	0
	U	LASER DUTY LOW1(C)	Laser DUTY select low speed 1/C	0 - 255	0	0
	V	LASER DUTY LOW1(M)	Laser DUTY select low speed 1/M	0 - 255	0	0
	W	LASER DUTY LOW1(Y)	Laser DUTY select low speed 1/Y	0 - 255	0	0
	X	LASER DUTY LOW2(K)	Laser DUTY select low speed 2/K	0 - 255	0	0
	Y	LASER DUTY LOW2(C)	Laser DUTY select low speed 2/C	0 - 255	0	0
	Z	LASER DUTY LOW2(M)	Laser DUTY select low speed 2/M	0 - 255	0	0
	AA	LASER DUTY LOW2(Y)	Laser DUTY select low speed 2/Y	0 - 255	0	0
	AB	LASER DUTY MIDDLE(BW)	Laser DUTY select middle speed/BW	0 - 255	0	0
	AC	LASER DUTY LOW1(BW)	Laser DUTY select low speed 1/BW	0 - 255	0	0
	AD	LASER DUTY LOW2(BW)	Laser DUTY select low speed 2/BW	0 - 255	0	0

61-4	
Purpose	Adjustment
Function (Purpose)	Used to print the print image skew adjustment pattern. (LSU unit)
Section	

Operation/Procedure

- 1) Select a target item with scroll key on the touch panel.
- 2) Enter the print conditions setting value with 10-key.
- 3) Press [EXECUTE] key.

The print image skew adjustment pattern is printed.

Item/Display		Content		Setting range	Default value
A	MULTI COUNT	Number of print		1 - 999	1
B	PAPER	MFT	Tray selection	Manual paper feed	1 - 6
					1
					2
					3
					4
					5
				LCC	6

61-11	
Purpose	Adjustment
Function (Purpose)	Used to correct the laser power automatically.
Section	LSU

Operation/Procedure

Select a target item on the touch panel key.

Items	Contents	Outline
AUTO CORRECTION	Automatic correction	Adjustment by scanner
DATA	Data display screen	Data display when executing the automatic correction

When [AUTO CORRECTION] is pressed:

- 1) Select a density to be corrected.
- 2) Press [EXECUTE] key.
- 3) The adjustment pattern is printed out.
- 4) Place the printed adjustment pattern on the document table (A4R direction), and press [EXECUTE] key.
The adjustment result pattern is outputted.
- 5) IF correction is still required, press [RETRY] key.

When [DATA] is pressed:

The display is shifted to the auto adjustment result display screen.

61-12	
Purpose	Adjustment
Function (Purpose)	Laser power manual correction
Section	LSU

Operation/Procedure

Press an item button to be adjusted.

When [MEASURING INSTRUMENT] is pressed:

- 1) Select the adjustment density pattern.
- 2) Press [EXECUTE] key.
- 3) The adjustment pattern is printed out.
- 4) Enter the adjustment value of 5points by the density meter.
- 5) Press [EXECUTE] key.

Execute the manual correction of the laser power. Then the adjustment result pattern is outputted and the data are displayed.

- 6) To perform the correction again, press [RETRY] key.

When [VISUAL INSPECTION] is pressed:

- 1) Select the adjustment density pattern.
- 2) Press [EXECUTE] key.
- 3) The adjustment pattern is printed out.
- 4) Press [5POINT CORRECTION] or [32POINT CORRECTION].
- 5) Enter an adjustment value.
- 6) Press [EXECUTE] key.

Execute the manual correction of the laser power. Then the adjustment result pattern is outputted and the data are displayed.

- 7) To perform the correction again, press [RETRY] key.

When [DATA] is pressed:

The display is shifted to the manual adjustment result display screen.

Items	Contents	Outline
MEASURING INSTRUMENT	Density meter correction *	Adjustment with the density meter.
VISUAL INSPECTION	Visual check adjustment	Adjustment by visual check
DATA	Data display screen	Data display during execution of the manual correction

*: Since a special tool is required for measurement, this simulation is executed only in the factory.

61-13	
Purpose	Adjustment
Function (Purpose)	Used to clear the laser power correction value.
Section	LSU

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.
- 3) Laser power auto correction value (K-Y) 32 points and laser power manual correction value (K-Y) 32 points are return back to the default value.

61-14	
Purpose	Adjustment
Function (Purpose)	Used to set the laser power at once.
Section	LSU

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%)	
	2	Thick (120%)	
M	-2	Fine (80%)	0
	-1	Slight fine (90%)	
	0	Normal (100%)	
	1	Slight thick (110%)	
	2	Thick (120%)	
Y	-2	Fine (80%)	0
	-1	Slight fine (90%)	
	0	Normal (100%)	
	1	Slight thick (110%)	
	2	Thick (120%)	

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62-1	
Purpose	Data clear
Function (Purpose)	Used to format the hard disk.
Section	

Operation/Procedure

- 1) Press [EXECUTE] key.
 - 2) Press [YES] key.
- Used to execute the HDD format.

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

62-2	
Purpose	Operation test/check
Function (Purpose)	Used to check read/write of the hard disk (partial).
Section	

Operation/Procedure

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

62-3	
Purpose	Operation test/check
Function (Purpose)	Used to check read/write of the hard disk (all areas).
Section	
Operation/Procedure	
1) Press [EXECUTE] key.	
2) Press [YES] key.	
Read/write operations are performed.	

62-6	
Purpose	Operation test/check
Function (Purpose)	Used to perform the self diagnostics of the hard disk.
Section	
Operation/Procedure	
1) Select the self diag area.	
2) Press [EXECUTE] key.	
The self diag operation is performed.	
NOTE: E7-03 error occurs. If there may be a trouble in the HDD, use this simulation to cheek the HDD.	

SHORT S.T	Partial area diag
EXTENDED S.T	All area diag

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

Normal completion - "OK (RESULT:0)" is displayed.

Abnormal end - "NG (RESULT: Other than 0)" is displayed.

* If the simulation cannot be executed or terminated abnormally for some reason, "ERROR" is displayed on the corresponding section.

62-7	
Purpose	Operation test/check
Function (Purpose)	Used to print the hard disk self diagnostics error log.
Section	
Operation/Procedure	
1) Press [EXECUTE] key.	
ERROR LOG SECTOR of the SMART function is executed, and the result is printed.	
When the operation is completed, [EXECUTE] key returns to the normal display.	

62-8	
Purpose	Data clear
Function (Purpose)	Used to format the hard disk.
Section	
Operation/Procedure	
1) Press [EXECUTE] key.	
2) Press [YES] key.	
Used to execute the hard disk format.	
When the operation is completed, [EXECUTE] key returns to the normal display.	
* When the HDD formatting (except for the system area) is not completed normally, "HDD FORMAT (EXCEPT SYSTEM AREA) NG" is displayed.	

62-10	
Purpose	Data clear
Function (Purpose)	Used to clear the job completion list data.
Section	
Operation/Procedure	
1) Press [EXECUTE] key.	
2) Press [YES] key.	
Used to delete the job log data.	
When the operation is completed, [EXECUTE] key returns to the normal display.	

62-11	
Purpose	Data clear
Function (Purpose)	Used to delete the document filing data.
Section	
Operation/Procedure	
1) 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 a hard disk 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.	

Item	Content		Default value
A	0	Enable	1
	1	Disable	

62-13	
Purpose	Data clear
Function (Purpose)	Used to format the hard disk.
Section	
Operation/Procedure	
1) Press [EXECUTE] key.	
2) Press [YES] key.	
The operation manual data are deleted.	
When the operation is completed, [EXECUTE] key returns to the normal display.	

62-14	
Purpose	Data clear
Function (Purpose)	Used to delete the document filing management data.
Section	HDD

Operation/Procedure

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

The document filing management data are cleared.

At the same time, the job log data are also cleared.

This simulation is executed in the following trouble cases.

- * The document filing function does not work normally.
- * The job log is not recorded normally.

NOTE:

This simulation may not function with some firmware versions.

In such a case, the firmware must be upgraded to the latest version.

62-20	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the mirroring hard disk.
Section	Mirroring hard disk

Operation/Procedure

Enter the simulation mode, and the operation status of the HDD is displayed.

The status display is renewed in every second.

Display	Content description
OK	Normal operation
NONE	Not connected
REBUILDING	Data rebuilding
ERROR	Error occurrence
TROUBLE	Trouble

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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.

Button	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)	

Button	Display item	Description	Remarks
OC	SMP AVE ODD	Reference plate sampling average value (odd number)	
	SMP AVE EVEN	Reference plate sampling average value (even number)	
	TARGET VALUE	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 less than the specified level.
			3: STAGE3. The gain set value is negative.
			4: END is not asserted. (Gain adjustment)
			5: STAGE2 Retry Max
			6: STAGE2. Underflow
			7: Black shading error
			8: Other error
			9: END is not asserted. (White shading)
DSPF	DSPF FACE WHITE LEVEL 1ST	First scan DSPF front surface white reference level	
	DSPF FACE WHITE LEVEL 2ND	Second scan DSPF front surface white reference level	
	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 number)	
	SMP AVE EVEN	Reference plate sampling average value (even number)	
	TARGET VALUE	Target value	
	BLACK LEVEL	Black output level	
			10: END is not asserted. (Black shading)
			11: END is not asserted. (Light quantity correction)
			12: END is not asserted. (Scan)
			13: Register check error (When starting/Gain)
			14: Register check error (Before light quantity correction)

Button	Display item	Description	Remarks
DSPF	ERROR CODE	Error code (0, 1 - 14)	0: No error
			1: STAGE1. Loop number over
			2: STAGE2. The target value is less than the specified level.
			3: STAGE3. The gain set value is negative.
			4: END is not asserted. (Gain adjustment)
			5: STAGE2 Retry Max
			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. (Scan)
			13: Register check error (When starting/Gain)
			14: Register check error (Before light quantity correction)
	DSPF BACK WHITE LEVEL 1ST	First scan DSPF back surface white reference level	
	DSPF BACK WHITE LEVEL 2ND	Second scan DSPF back surface white reference level	

63-2	
Purpose	Adjustment
Function (Purpose)	Used to perform shading.
Section	

Operation/Procedure

- 1) Select [OC SHADING] key or [DSPF SHADING] key, and press [EXECUTE] key.

Used to perform shading.

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

63-3	
Purpose	Adjustment
Function (Purpose)	Used to perform scanner (CCD) color balance and gamma auto adjustment.
Section	Scanner

Operation/Procedure

- 1) Place the chart on the reference position of the left rear frame side of the document table. For the DSPF mode, put the chart backside up on the DSPF tray.
- 2) Select [OC] key or [DSPF] key.

- 3) Press [EXECUTE] key.

The scanner (CCD) color balance automatic adjustment is performed.

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

After completion of the operation, press [RESULT] key, and the adjustment data are displayed. At that time, the target color of data display can be selected with [R] [G] [B] key.

63-4	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to display the chart patch density.
Section	

Operation/Procedure

- 1) Place the chart on the reference position of the left rear frame side of the document table. For the DSPF mode, put the chart backside up on the DSPF tray.
- 2) Select [OC] key or [DSPF] key.
- 3) Press [EXECUTE] key.
The patch of the SIT chart is scanned.
When the operation is completed, [EXECUTE] key returns to the normal display.
- 4) Select a data display mode.

GAMMA THROUGH	Chart scan data
COPY GAMMA	Copy mode gamma process data of the chart scan data
SCANNER GAMMA	Image send mode gamma process data of the chart scan data
SIT CHECK	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.

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.

NOTE: 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 color balance	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.	

64-1

Purpose	Operation test/check
Function (Purpose)	Test print. (Self print) (Color 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.
 Select a target 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 (1, 2, 9 - 11, 17 - 19, 21, 22, 29)	Specification of the print pattern (* For details, refer to the below.)		1 - 68 (Printable only 1, 2, 9 - 11, 17 - 19, 21, 22, 29)		1
B	DOT1 (DOT1>=2 IF A: 2, 11)	Setting of print dot number (M parameter) (Self print pattern: For m by n)		1 - 255 (Pattern 2, 11: 2 - 255 except above: 1 - 255)		1
C	DOT2 (DOT2>=2 IF A: 2, 11)	Space dot number setting (N parameter) (Self print pattern: For m by n)		0 - 255 (Pattern 2, 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 (STANDARD DITHER)
		TEXT/PRINTED PHOTO		Text/Printed Photo	2	
		TEXT/PHOTO		Text/Photo	3	
		TEXT		Text	4	
		PHOTO		Photo	5	
		PRINTED PHOTO		Printed photo	6	
		MAP		Map	7	
		STANDARD DITHER		Dither without correction	8	
G	PAPER	MFT	Tray selection	Manual paper feed	1	2 (CS1)
		CS1		Tray 1	2	
		CS2		Tray 2	3	
		CS3		Tray 3	4	
		CS4		Tray 4	5	
		LCC		LCC (*1)	6	
		LCT1_1		LCT tray 1 (*2)	6	
		LCT1_2		LCT tray 2 (*2)	7	
H	DUPLEX	YES	Duplex print selection	Yes	0	1 (NO)
		NO		No	1	
I	PAPER TYPE	PLAIN1	Paper type	Standard paper	1	1 (PLAIN1)
		PLAIN2		Standard paper 2	2	
		HEAVY		Heavy paper	3	
		OHP		OHP	4	
		ENVELOPE		Envelope	5	
		HEAVY2		Heavy paper 2	6	
		GROSSY		Glossy paper	7	

*1: Displayed only when A4/A3 LCC is connected.

*2: Displayed only when 2-stage LCT is installed.

Print pattern of Item A

NO./Content		Pattern size	Pattern generating section	Color select		Gradatio n select	Exposure select	M parameter		N parameter		
				Condition	When none			Enable/ Disable	Default value	Enable/ Disable	Default value	
1	Grid pattern	All surface	LSU-ASIC	○	K only	○	×	○	1	○	236	
				<ul style="list-style-type: none">• When the print width is 100 or above and all colors are selected, printing is made in the three colors of CMY.• Printing is started at 4mm from the paper lead edge.• For the first writing, LD1 is fixed regardless of void.								
2	Dot print	All surface		○	K only	○	×	○	2	○	2	
9	Each color 10% area (A4/4R) density print	Fixed range		×	-	○	×	○	10	○	1	
				<ul style="list-style-type: none">• Each interval is 41.86mm (989dots).• When m is out of the range of 1 - 13%, it is rounded.• K printing is started at 17mm from the paper lead edge.								
10	8-color belt print	Fixed range		×	-	○	×	×	1	×	1	
11	4-color dot print (sub scan)	All surface (each color 1/4)	Halftone (IMG-ASIC rear process)	×	-	○	×	○	2	○	2	
				<ul style="list-style-type: none">• Each color is printed in 1/4 of the sub scan paper size.• At N=0, 4 colors are printed in all the surface.								
17	All background (halftone)	All surface		○	K only	○	○	×	1	×	1	
				<ul style="list-style-type: none">• When all colors are selected, print is made in CMY.								
18	256 gradations pattern (Other dither)	Fixed range		○	K only	×	○	×	1	×	1	
				<ul style="list-style-type: none">• When all colors are selected, print is made in CMY.• 16 gradations are printed in the main scan direction, and the following 16 gradations are printed in the next line. (16 x 16 patch print)• Printing is started at 5mm from the paper lead edge.• Printing is made from 255 gradation, and 0 - 254 gradations are printed.								
19	256 gradations pattern (Dither for text)	Fixed range	Same as above.	○	K only	×	○	×	1	×	1	
21	4-point dot print (main scan)	All color (each color 1/4)	LSU-ASIC	×	-	○	×	○	2	○	2	
				<ul style="list-style-type: none">• Each color is printed in 1/4 of the main scan paper size.• At N=0, 4 colors are printed in all the surface.								
22	Slant line	All surface	LSU-ASIC	○	K only	○	×	○	1	○	254	

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, 29, 33 - 35)	Specification of the print pattern (* For details, refer to the below.)		1 - 1 (Printable only 1, 2, 9 - 11, 17 - 19, 21, 22, 29, 33 - 35)		1
B	DOT1 (DOT1>=2 IF A: 2, 11)	Setting of print dot number (M parameter) (Self print pattern: For m by n)		1 - 1 (Pattern 2, 11, : 2 - 255 except above: 1 - 255)		1
C	DOT2 (DOT2>=2 IF A: 2, 11)	Space dot number setting (N parameter) (Self print pattern: For m by n)		0 - 0 (Pattern 2, 11, : 2 - 255 except above: 0 - 255)		236
D	DENSITY (FIXED "255" IF A:9)	Used to specify the print gradation.		1 - 1 (Pattern 9: 255 Fixed except above: 1 - 255)		255
E	MULTI COUNT	Number of print		1 - 1		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 (STANDARD DITHER)
		TEXT/PRINTED PHOTO	No process (through) Text/Printed Photo		2	
		TEXT/PHOTO	Text/Photo		3	
		TEXT	Text		4	
		PHOTO	Photo		5	
		PRINTED PHOTO	Printed photo		6	
		MAP	Map		7	
		STANDARD DITHER	Dither without correction		8	
G	PAPER	MFT	Tray selection	1 - 7	1	2 (CS1)
		CS1	Tray 1		2	
		CS2	Tray 2		3	
		CS3	Tray 3		4	
		CS4	Tray 4		5	
		LCC	LCC (*1)		6	
		LCT1_1	LCT tray 1 (*2)		6	
		LCT1_2	LCT tray 2 (*2)		7	
H	DUPLEX	YES	Duplex print selection	0 - 1	0	1 (NO)
		NO	No		1	
I	PAPER TYPE	PLAIN1	Paper type	1 - 7	1	1 (PLAIN1)
		PLAIN2	Standard paper 2		2	
		HEAVY	Heavy paper		3	
		OHP	OHP		4	
		ENVELOPE	Envelope		5	
		HEAVY2	Heavy paper 2		6	
		GROSSY	Glossy paper		7	

*1: Displayed only when A4/A3 LCC is connected.

*2: Displayed only when 2-stage LCT is installed.

Print pattern of Item A

NO./Content		Pattern size	Pattern generating section	Gradation select	Exposure select	M parameter		N parameter	
						Enable/Disable	Default value	Enable/Disable	Default value
1	Grid pattern	All surface	LSU-ASIC	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	1	<input type="radio"/>	236
<div>• When the print width is 100 or above and all colors are selected, printing is made in the three colors of CMY.</div> <div>• Printing is started at 4mm from the paper lead edge.</div> <div>• For the first writing, LD1 is fixed regardless of void.</div>									
2	Dot print	All surface		<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	2	<input type="radio"/>	2
9	Each color 10% area (A4/4R) density print	Fixed range		<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	10	<input type="radio"/>	1
<div>• Each interval is 41.86mm (989dots).</div> <div>• When m is out of the range of 1 - 13%, it is rounded.</div> <div>• K printing is started at 17mm from the paper lead edge.</div>									
10	8-color belt print	Fixed range		<input type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>	1
11	4-color dot print (sub scan)	All surface (each color 1/4)	Halftone (IMG-ASIC rear process)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2	<input type="radio"/>	2
<div>• Each color is printed in 1/4 of the sub scan paper size.</div> <div>• At N=0, 4 colors are printed in all the surface.</div>									
17	All background (halftone)	All surface		<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>	1
<div>• When all colors are selected, print is made in CMY.</div>									
18	256 gradations pattern (Other dither)	Fixed range		<input checked="" type="checkbox"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>	1
<div>• When all colors are selected, print is made in CMY.</div> <div>• 16 gradations are printed in the main scan direction, and the following 16 gradations are printed in the next line. (16 x 16 patch print)</div> <div>• Printing is started at 5mm from the paper lead edge.</div> <div>• Printing is made from 255 gradation, and 0 - 254 gradations are printed.</div>									
19	256 gradations pattern (Dither for text)	Fixed range	LSU-ASIC	<input checked="" type="checkbox"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>	1
Same as above.									
21	4-point dot print (main scan)	All color (each color 1/4)	LSU-ASIC	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	2	<input type="radio"/>	2
<div>• Each color is printed in 1/4 of the main scan paper size.</div> <div>• At N=0, 4 colors are printed in all the surface.</div>									
22	Slant line	All surface	LSU-ASIC	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	1	<input type="radio"/>	254

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	3 (CS2)
		CS1		Tray 1	2	
		CS2		Tray 2	3	
		CS3		Tray 3	4	
		CS4		Tray 4	5	
		LCC		LCC	6	
		LCT1_1		LCT1	7	
		LCT1_2		LCT1 2	8	
E	HALFTONE	LOW	Halftone	Low line number	0	0 (LOW)
		HIGH		High line number	1	
F	QUALITY	600DPI	Image quality setting	Standard	0	1 600DPI(HIGH QUALITY)
		600DPI(HIGH QUALITY)		High quality	1	
		1200DPI		Fine	2	
G	DITHER	STRAIGHT	Specification of dither correction	Straight	0	1 (CALIB)
		CALIB		Calibration	1	
H	PAPER TYPE	PLAIN1	Paper type	Standard paper	0	0 (PLAIN1)
		PLAIN2		Standard paper 2	1	
		GLOSSY		Glossy paper	2	
		HEAVY1		Heavy paper	3	
		HEAVY2		Heavy paper 2	4	
		HEAVY3		Heavy paper 3	5	
		HEAVY4		Heavy paper 4	6	

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

Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PCL)
Section	

Operation/Procedure

- 1) Set the print conditions.
 Select an item to be print condition with scroll keys.
 Set the print conditions with 10-key.
 Select a target 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 - 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)
		CS1		Tray 1	2	
		CS2		Tray 2	3	
		CS3		Tray 3	4	
		CS4		Tray 4	5	
		LCC		LCC	6	
		LCT1_1		LCT1	7	
		LCT1_2		LCT1 2	8	
E	HALFTONE	LOW(IMAGE)	Halftone	For Photo	0	2 (AUTO)
		HIGH(TEXT)		For text	1	
		AUTO		Auto (for photo/text)	2	
F	QUALITY	600DPI	Image quality setting	Standard	0	1 600DPI(HIGH QUALITY)
		600DPI(HIGH QUALITY)		High quality	1	
		1200DPI		Fine	2	
G	DITHER	STRAIGHT	Specification of dither correction	0: Straight	0	1
		CALIB		1: Calibration	1	
H	PAPER TYPE	PLAIN1	Paper type	Standard paper	0	0 (PLAIN)
		PLAIN2		Standard paper 2	1	
		GLOSSY		Glossy paper	2	
		HEAVY1		Heavy paper	3	
		HEAVY2		Heavy paper 2	4	
		HEAVY3		Heavy paper 3	5	
		HEAVY4		Heavy paper 4	6	
I	INTENT	PERCEPTUAL	Rendering indent	Perceptual	0	0 (PERCEPTUAL)
		COLORIMETRIC		Color metric	1	
		SATURATION		Saturation	2	
J	OUTPUT PROFILE	SHARP	Output profile	Standard	0	0 (SHARP)
		STANDARD		Photo	1	
		GRAPHICS		Presentation	2	
K	RGB SOURCE PROFILE	SRGB	RGB source profile	SRGB	0	0 (SRGB)
		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		For TONER SAVE	6	
L	GRAY COMPENSATION	K	Gray print method	Print method K	0	0 (K)
		KCMY		KCMY	1	
M	PURE BLACK PRINT	ON	Pure black print	set.	0	0 (ON)
		OFF		not set.	1	
N	TONER SAVE MODE	OFF	Monochrome toner save	not set.	0	0 (OFF)
		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)

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

Operation/Procedure

- Set the print conditions.
 Select an item to be print condition with scroll keys.
 Set the print conditions with 10-key.
 Select a print color with [K] [C] [M] [Y] key.
- 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)
		CS1		Tray 1	2	
		CS2		Tray 2	3	
		CS3		Tray 3	4	
		CS4		Tray 4	5	
		LCC		LCC	6	
		LCT1_1		LCT1	7	
		LCT1_2		LCT1 2	8	
E	HALFTONE	LOW(IMAGE)	Halftone	For Photo	0	2 (AUTO)
		HIGH(TEXT)		For text	1	
		AUTO		Auto (for photo/text)	2	
F	QUALITY	600DPI	Image quality setting	Standard	0	1 600DPI(HIGH QUALITY)
		600DPI(High QUALITY)		High quality	1	
		1200DPI		Fine	2	
G	DITHER	STRAIGHT	Specification of dither correction	0: Straight	0	1 (CALIB)
		CALIB		1: Calibration	1	
H	PAPER TYPE	PLAIN1	Paper type	Standard paper	0	0 (PLAIN1)
		PLAIN2		Standard paper 2	1	
		GLOSSY		Glossy paper	2	
		HEAVY1		Heavy paper	3	
		HEAVY2		Heavy paper 2	4	
		HEAVY3		Heavy paper 3	5	
		HEAVY4		Heavy paper 4	6	
I	INTENT	PERCEPTUAL	Rendering indent	Perceptual	0	0 (PERCEPTUAL)
		COLORIMETRIC		Color metric	1	
		SATURATION		Saturation	2	
J	OUTPUT PROFILE	SHARP	Output profile	Standard	0	0 (SHARP)
		STANDARD		Photo	1	
		GRAPHICS		Presentation	2	
K	RGB SOURCE PROFILE	SRGB	RGB source profile	SRGB	0	0 (SRGB)
		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		For TONER SAVE	6	
L	GRAY COMPENSATION	K	Gray print method	Print method K only	0	0 (K)
		KCMY		KCMY	1	
M	PURE BLACK PRINT	ON	Pure Black	set.	0	0 (ON)
		OFF		not set.	1	
N	TONER SAVE MODE	OFF	Monochrome toner save	not set.	0	0 (OFF)
		ON		set.	1	
O	CMY INK SIMULATION	OFF	CMYK simulation	OFF	0	0 (OFF)
		SWOP		SWOP	1	
		EURO		EURO	2	
		JAPAN COLOR		JAPAN COLOR	3	
		TONER SAVE		For TONER SAVE	4	

Print pattern of Item A

Pattern No.	Content
1	COLOR
2	B/W

65

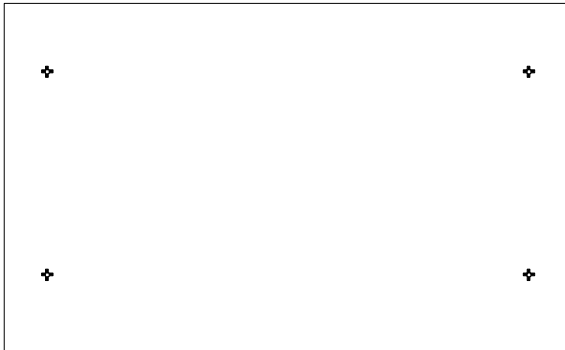
65-1	
Purpose	Adjustment
Function (Purpose)	Used to adjust the touch panel (LCD display section) detection coordinates.
Section	Operation panel section

Operation/Procedure

Touch the center of the cross mark at the four corners of the screen.

When the adjustment is completed normally, the screen shifts to the simulation sub number entry menu.

In case of an error, the screen returns to the adjustment menu.

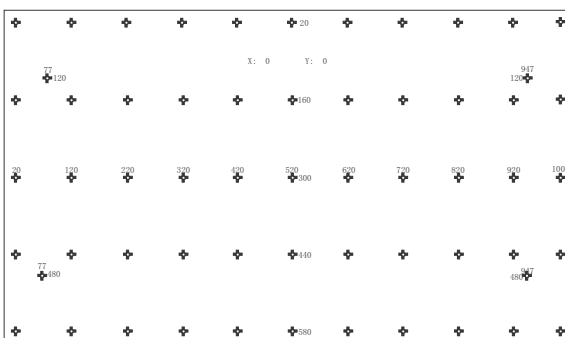


65-2	
Purpose	Operation check/test
Function (Purpose)	Used to display the touch panel (LCD display section) detection coordinates.
Section	

Operation/Procedure

Touch the touch panel.

The coordinates X (horizontal direction) and Y (vertical direction) of the touched position is displayed in real time.



65-5	
Purpose	Operation check/test
Function (Purpose)	Used to check the operation panel key input.
Section	
Operation/Procedure	Press the keys sequentially according to the guidance displayed on the screen. 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

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

- Enter the [SW NO] with 10-key.
* When [C] key is pressed, the entered value of [SW NO] is cleared.
- Press [DATA] key.
The soft SW data entered in procedure 1) is displayed.
* When [SW NO] key is pressed, the display returns to the initial screen.
- Enter the number corresponding to the bit to be changed with 10-key.
* [1] - [0]
[0] - [1]
- When [EXECUTE] key is pressed, it is highlighted and the setting is saved.
After saving the setting, [EXECUTE] key 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

- When the machine enters Simulation 66-02, the following screen is displayed.
* When [DEST CODE] key is pressed, the display is shifted to the country code list screen.
* The currently set country code is displayed in the column of "PRESENT:".
- Enter the country code (8 digits) with 10-key([0]/[1]). The entered country code is displayed in the column of "NEW:" and [SET] key becomes active.
* When [C] key is pressed, the column of "NEW:" is cleared.
- When [SET] key is pressed after entering the country code, [EXECUTE] key becomes active. The country code is displayed in the column of "PRESENT:", and the column of "NEW:" is cleared.

- 4) When [EXECUTE] key is pressed, it is highlighted and [YES] and [NO] keys become active. The country name is displayed on the tile line.
- 5) When [YES] key 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] keys become inactive.

Operation/Procedure (Shifting to the country page)

* When [DEST CODE] key 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

- 3) When [EXECUTE] key is pressed, it is highlighted and the memory check of the selected item is started.
- 4) After completion of memory check, [EXECUTE] key 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

The number in < > indicates the line.

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

- 1) 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.
- 2) 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.
- 3) When [EXECUTE] key is pressed, it is highlighted and signals are sent.
- 4) To end signal send:
When [EXECUTE] key 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
---------	--------	--------	---------

66-3	
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

- 1) When the machine enters Simulation 66-03, the following screen is displayed.
* Select the page of memory check item with the scroll key.
- 2) When the memory check item button is selected, the display is shifted to the memory check screen.

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 following 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] key is pressed, it is highlighted and signals are sent.
- To end signal send:
* When [EXECUTE] key 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, pass-code. (If there is no confidential registration, no print is made.)
Section	FAX

Operation/Procedure

- When [EXECUTE] key 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] key returns to the normal display.

66-7

Purpose	Data output/Check
Function (Purpose)	Used to output all image data saved in the image memory. (Confidential data are also outputted.)
Section	FAX

Operation/Procedure

- When [EXECUTE] key is pressed, it is highlighted and all image data saved in the image memory are outputted.
- After completion of printing, [EXECUTE] key returns to the normal display.

66-8

Purpose	Operation test/Check
Function (Purpose)	Used to send the selected sound messages to the line and the speaker. (Send level: Max.)
Section	FAX

Operation/Procedure

- When the machine enters Simulation 66-08, the following screen is displayed.
- When the sound message button to be sent is selected, it is highlighted and the previously set button returns to the normal display.

<Sound message table>

NONE (Mute)	PAUSE (Pause melody)	MESSAGE1 (Message 1)	MESSAGE2 (Message 2)
MESSAGE3 (Message 3)	MESSAGE4 (Message 4)	MESSAGE5 (Message 5)	MESSAGE6 (Message 6)
ALARM (Alarm)	RINGER (Ringing sound (Speaker))	EXT.TEL.RINGER (External telephone call)	

66-9

Purpose	Operation test/Check
Function (Purpose)	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

- When the machine enters Simulation 66-09, the following screen is displayed.
- 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.
- When [EXECUTE] key is pressed, it is highlighted and a sound message is sent.
- To end signal send:
When [EXECUTE] key 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 are also cleared.)
Section	FAX

Operation/Procedure

- Press [EXECUTE] key.
- Press [YES] key.
- After completion of clearing, press [CA] key to reboot the machine.

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

- When the machine enters Simulation 66-11, the following screen is displayed.
- 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.
- When [EXECUTE] key is pressed, it is highlighted and a sound message is sent.
- To end signal send:
When [EXECUTE] key is pressed, it is highlighted and signal send is interrupted.

<300bps send signal table>

NO SIGNAL	1111	1110	0000
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 following 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] key is pressed, it is highlighted and a sound message is sent.
- 4) To end signal send:
When [EXECUTE] key 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 following 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 following screen is displayed.
- 2) When [EXECUTE] key 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] key 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 following screen is displayed.
- 2) When [EXECUTE] key 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] key 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 following screen is displayed.
- 2) When [EXECUTE] key 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] key. 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 following 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] key is pressed, it is highlighted and signals are sent.
- 4) To stop signal sending:
When [EXECUTE] key 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 following 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] key is pressed, it is highlighted and signals are sent.
- 4) To stop signal sending:
When [EXECUTE] key 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] key.
[EXECUTE] key is highlighted and printing is started.
- 3) After completion of printing, [EXECUTE] key returns to the normal display.

<FAX information print content table>

PROTOCOL LINE 1	SYSTEM ERROR LINE 1
-----------------	---------------------

66-22

Purpose	Setting
Function (Purpose)	Used to set the handset sound volume. (This simulation can be executed even though the handset setting is set to NO. When, however, the handset is not installed, the sound volume cannot be checked.) (Japan model only)
Section	FAX

Operation/Procedure

- 1) When the machine enters the simulation, the number of the set sound volume is displayed. (In this example, MIDDLE is set as the default sound volume.)
- 2) Use 10-key to set the handset sound volume. (0: MIN 1:MIDDLE 2:MAX)
- 3) Press [EXECUTE] key to deliver the selected on-hold tone.
* If, however, the handset is not installed, the sound volume cannot be checked. Execution is possible.
- 4) When [EXECUTE] key is pressed, it is highlighted and delivery of the on-hold tone is stopped.

66-29

Purpose	Clear
Function (Purpose)	Used to initialize the telephone book data (the one-touch registration table, the FTP/Desktop expansion table, the group expansion table, the program registration table, the interface memory box table, the meta data, InboundRouting, and the Document Admin table).
Section	FAX

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.
The telephone book data area cleared.
- 3) After completion of memory clear, [EXECUTE] key returns to the normal display and [YES] and [NO] keys 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 following screen is displayed.
- 2) HS1, HS2, RHS, and EXHS are highlighted when the signal is detected, and displayed normally when the signal is not detected.

<TEL/LIU status change item description>

HS1	Polarity inversion signal
HS2	Polarity inversion signal
RHS	Handset hook SW
EXHS	External telephone hook SW

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 following screen is displayed.
- 2) Change the port setting.
When a port is set to ON, the port display is highlighted.
- 3) When [EXECUTE] key is pressed, the changed setting is reflected to the port which outputs to TEL/LIU.
- 4) To terminate the process, press [EXECUTE] key again. [EXECUTE] key returns to the normal display.

<Port which outputs to TEL/LIU>

CION	150Vom	S.
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66-32

Purpose	Operation test/Check
Function (Purpose)	Used to check the fixed data received from the line and to display the result.
Section	FAX

Operation/Procedure

- 1) Press [EXECUTE] key to check the fixed data received from the line. At that time, [EXECUTE] key 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] key 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 following 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 following 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. (In this example, USA/CANADA is selected.) 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] key. [EXECUTE] key is highlighted and YES] and [NO] keys become active.
- 2) Press [YES] key.
The power control program is rewritten.
- 3) When rewriting of the power control program is normally completed, "OK" is displayed and [EXECUTE] key returns to the normal display, and [YES] and [NO] keys gray out.

66-43

Purpose	Setting
Function (Purpose)	Used to write the adjustment value into the power control installed in the FAX BOX.
Section	FAX

Operation/Procedure

- 1) When the machine enters Simulation 66-43, the following screen is displayed.
 - * Use scroll keys to select the select item of the power control adjustment value.
- 2) 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.
- 3) After completion of writing, [EXECUTE] key returns to the normal display.

<Set range and default value of each set value>

	Item	Set range	Default value
A	CI_LEVEL_JUDGE	2 to 15	6
B	CI_CYCLE_MIN	1 to 254	10
C	CI_CYCLE_MAX	2 to 255	142
D	CI_COUNT	2 to 15	3
E	RES_3.3V_LEVEL_JUDGE	2 to 15	15
F	EXHS_LEVEL_JUDGE	2 to 225	240
G	RHS_LEVEL_JUDGE	2 to 15	2
H	SON_TIMEOUT	1 to 127	20

66-61

Purpose	Setting
Function (Purpose)	Used to display the FAX-related soft SW (151 - 250) on the LCD to allow changing the soft SW while checking with the LCD.
Section	FAX

Operation/Procedure

- 1) Enter the [SW NO] with 10-key.
- 2) Press [DATA] key.
The soft SW data entered in procedure 1) is displayed.
- 3) Enter the number corresponding to the bit to be changed with 10-key.
* [1] - [0]
[0] - [1]
- 4) When [EXECUTE] key 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 memory in PDF file type.
Section	FAX

Operation/Procedure

- 1) Insert the USB memory into the main unit.
- 2) Select data to be imported.
- 3) 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 memory installed
ERROR: NO IMAGE DATA	No image data
ERROR	Other errors

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67-17

Purpose	Reset
Function (Purpose)	Printer reset
Section	Printer

Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.
The set data related to the printer are initialized. (Including the NIC setting.)
When the operation is completed, [EXECUTE] key returns to the normal display.

67-24

Purpose	Adjustment/Setup
Function (Purpose)	Printer color balance adjustment (Auto adjustment)
Section	Printer

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 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 with scroll key on the touch panel.
- 3) Enter the set value with 10-key.
* When the \triangle ∇ 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 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.	

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.

NOTE: 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.

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.)

67-33

Purpose	Adjustment/Setup
Function (Purpose)	Used to change the gamma of the printer screen.
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 in 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

Display	Content	Key
HEAVY PAPER	Heavy paper	CMYK
SCREEN1	600dpi 1bit Photo	CMYK
SCREEN2	600dpi 1bit Graphics	CMYK
SCREEN3	600dpi 4bit Photo	CMYK
SCREEN4	600dpi 4bit Graphics	CMYK
SCREEN5	1200dpi 1bit Photo	CMYK
SCREEN6	1200dpi 1bit Graphics	CMYK
SCREEN7	B/W 600 dpi 1bit	K
SCREEN8	B/W 600 dpi 4bit	K
SCREEN9	B/W 1200dpi 1bit	K
SCREEN10	Toner Save B/W	CMYK

* When only the K data are displayed, [C], [M], and [Y] keys are grayed out, disabling the key operations.

* When "600dpi 1bit SCREEN" is displayed, [EXECUTE] key is grayed out, disabling the key operations.

67-34

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the density correction in the printer high density section. (Support for the high density section tone gap)
Section	Printer

Operation/Procedure

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

0	Enable
1	Disable

- 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
		1	CMY engine highest density correction mode: Disable
B	K (0: ENABLE 1: DISABLE)	0	K engine highest density correction mode: Enable
		1	K engine highest density correction mode: Disable
C	CYAN MAX TARGET	Scanner target value for CYAN maximum density correction	0 - 999
D	MAGENTA MAX TARGET	Scanner target value for MAGENTA maximum density correction	0 - 999
E	YELLOW MAX TARGET	Scanner target value for YELLOW maximum density correction	0 - 999
F	BLACK MAX TARGET	Scanner target value for BLACK maximum density correction	0 - 999

• 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.

NOTE: 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) Enter the adjustment value using the 10-key.
- 2) 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	A patch input value	0 - 13

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
C	C2	Mode2 : Threshold of Saturation	0 - 255
D	V2	Mode2 : 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	224
B	GREEN	G output color	CMY	0 - 255	180	0	241
C	BLUE	B output color	CMY	0 - 255	235	159	0
D	CYAN	C output color	CMY	0 - 255	182	0	25
E	MAGENTA	M output color	CMY	0 - 255	0	217	0
F	YELLOW	Y output color	CMY	0 - 255	0	0	234

67-46

Purpose	Adjustment
Function (Purpose)	Used to adjust print image enhancement
Section	

Operation/Procedure

- 1) Select an adjustment item with scroll key.
- 2) Enter the set value with 10-keys
- 3) Press [OK] key

Item/Display	Content	Setting range	Default value
A	PROCESS Edge judgment (0:CMYK 1:K)	0 - 1	0
B	CANCEL (600dpi) Edge cancellation	0 - 255	64
C	CANCEL (1200dpi) Edge cancellation	0 - 255	64

67-52

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the default of the gamma of the printer screen.
Section	Printer

Operation/Procedure

- 1) Select a target default setting mode with the touch panel.
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.

Display	Content
Screen	HEAVYPAPER Heavy paper screen Printer heavy paper automatic density correction amount
	1200DPI_1BIT SCREEN5 (1200dpi 1bit Photo) SCREEN6 (1200dpi 1bit Graphics)
	600DPI_1BIT SCREEN1 (600dpi 1bit Photo) SCREEN2 (600dpi 1bit Graphics)
	B/W SCREEN7 (600dpi 1bit) SCREEN8 (600dpi 4bit) SCREEN9 (1200dpi 1bit) Printer B/W toner save automatic density correction amount
	4BIT_GRAPHICS SCREEN4 (600dpi 4bit Graphics)

67-54

Purpose	Adjustment
Function (Purpose)	Printer color balance adjustment (Automatic adjustment for each dither)
Section	Printer

Operation/Procedure

This simulation is used to adjust the color balance, the density, and the gradation in the monochrome mode, the heavy paper mode, the 1200dpi mode, the graphic mode, the dot screen mode and the SHIGH mode.

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

- 1) Press [EXECUTE] key. (A4/LT or A3 or 11" x 17" paper is automatically selected.)

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

- 2) 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).

- 3) Press [EXECUTE] key.

The color balance adjustment is automatically performed.

The adjustment pattern is printed out. Check it for any abnormality.

- 4) Press [OK] key.

The list of the adjustment items (for each dither) is displayed.

- 5) 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
1200dpi 1bit	Adjustment item to improve the color balance in 1200dpi 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 600dpi, 4bit Graphic mode.

- 6) Press [EXECUTE] key. (A4/LT or A3 or 11" x 17" paper is automatically selected.)

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

- 7) 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. Place 5 sheets of white paper on the printed color patch image (adjustment pattern).

- 8) Press [EXECUTE] key.

The color balance adjustment is automatically performed, and the color balance check patch image is printed out.

- 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.

[7] SELF DIAG AND TROUBLE CODE

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.

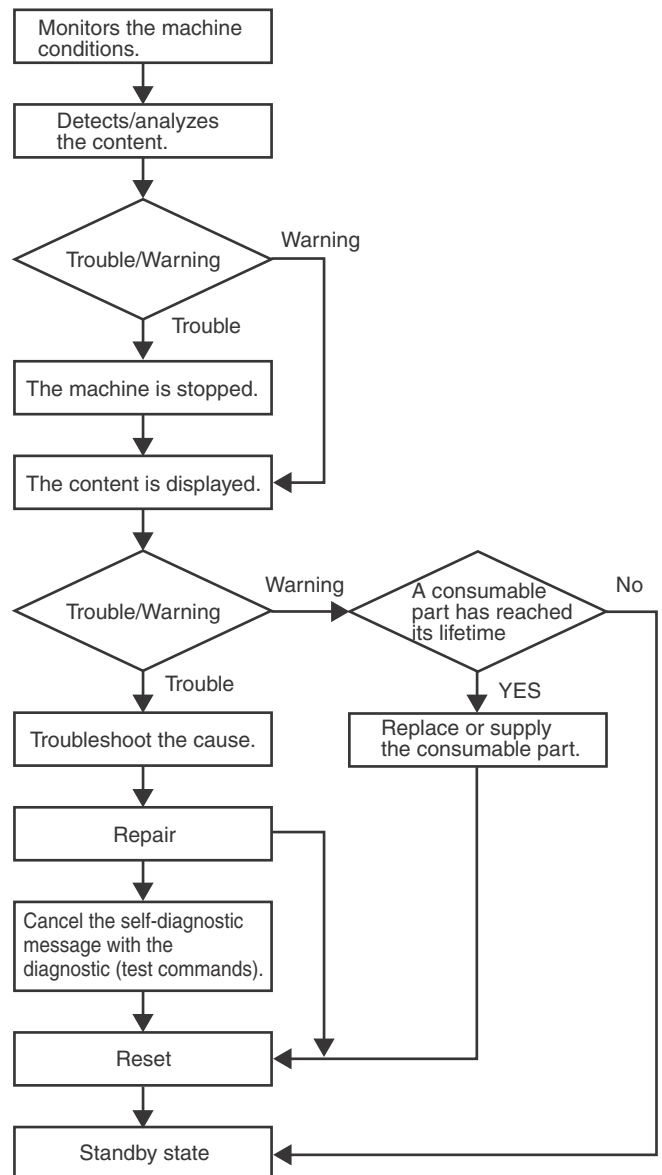
A warning message is displayed when a consumable part life is nearly expired or is expired.

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		Judgement block	Trouble code	Operable mode							
				Copy scan	Scan (Push)	Scan (Pull)	Scan To HDD	Print	List print	FAX send	FAX print
Security trouble	Security module breakdown	MFP	E7(C0,C1)	×	×	×	×	×	×	×	×
FAX board trouble	FAX board breakdown		F6(00,01,02,04,21,30,97,98)	○	○	○	○	○	○	△1	△1
HDD trouble	SSD breakdown		E7(A7)	×	×	×	×	×	×	×	×
	HDD breakdown		E7(03)	×	×	×	×	×	×	×	×
	HDD-ASIC breakdown		E7(04)	×	×	×	×	×	×	×	×
Operation communication trouble	Operation communication trouble		U9(01)	×	×	×	×	○	○	×	○
Scanner communication trouble	SCU communication error		A0(02) E7(80)	×	×	×	×	○	○	×	○
Engine communication trouble	PCU communication error		A0(01) E7(90)	×	×	×	×	×	×	×	×
Option communication trouble	ACU communication error		A0(04)	×	×	×	×	×	×	×	×
Printer port system trouble	Printer port system trouble		F9(00)	○	×	×	○	×	△ *13	○	○
Backup battery voltage fall trouble	Backup battery voltage fall		U1(01)	×	×	×	×	×	×	×	×
				*20	*20	*20	*20	*20	*20	*20	*20
Operation disable trouble 1	Controller fan motor trouble		L4(28,30)	×	×	×	×	×	×	×	×
Operation disable trouble 2	Memory error (included not installed the expansion RAM)		U2(00,11,41,42)	×	×	×	×	×	×	×	×
				*20	*20	*20	*20	*20	*20	*20	*20
	Serial number discrepancy		U2(30)	×	×	×	×	×	×	×	×
				*20	*20	*20	*20	*20	*20	*20	*20
	HDD registration data check sum error		U2(50)	×	×	×	×	×	×	×	×
				*20	*20	*20	*20	*20	*20	*20	*20
	External communication disable (RIC)		U7(50,51)	×	×	×	×	×	×	×	×
Operation disable trouble 3	Memory error (included not installed the expansion RAM)		U2(40)	×	×	×	×	×	×	×	×
	Connection trouble (MFP detection)		A0(10,15,17,18,19,20) E7(60,61,62)	×	×	×	×	×	×	×	×
	Memory check error when booting		E7(96)	×	×	×	×	×	×	×	×
	Image memory trouble, decode error		E7(01,49,91,92,93,94)	×	×	×	×	×	×	×	×
	Image memory trouble, decode error (related to ACRE)		E7(42,46,47,48)	×	△17	×	×	×	○	○	○
Operation disable trouble 4	Personal counter not installed trouble		PC(00)	×	×	×	×	×	×	×	×
Power controller trouble	Power controller trouble		L8(20)	×	×	×	×	×	×	×	×
Special function trouble	Special function error trouble		U2(60,70)	○	○	○	○	○	○	○	○
				*16	*16	*16	*16	*16	*16	*16	*16

Trouble content		Judgement block	Trouble code	Operable mode							
				Copy scan	Scan (Push)	Scan (Pull)	Scan To HDD	Print	List print	FAX send	FAX print
Laser trouble	LSU breakdown	PCU	E7(20,24,28,29,A0) L6(10)	×	×	×	×	×	×	×	×
Engine trouble 1	Connection trouble (PCU detection)		A0(21) E7(50,55) F1(50)	×	×	×	×	×	×	×	×
Engine trouble 2	PCU troubles (motor, fusing, etc)		H5(01) U2(90,91)	×	×	×	×	×	×	×	×
	PCU troubles (motor, fusing, etc)		C1(01,10,14,40) C4(00,20,21,25,30,31,35) F2(22,40,64,70,74,91) H2(00,01,02,03,04,05,06,07) H3(00,01,02) H4(00,01,02,30,31,32) H7(10,11) L4(02,03,06,07,08,12,16,17,18,19,20,31,32,34,35,36,39,40,41,42,43,44,48,49,57,60,61,71) L8(01,02,11,12)	×	×	×	×	×	×	×	×
Color system trouble	General PCU color system breakdown		C1(03,05,07) E7(21,22,23,25,26,27,A1,A2,A3) F2(23,24,25,41,42,43,65,66,67,71,72,73,75,76,77,92,93,94)	×	×	×	×	×	×	×	×
Paper feed tray 0 trouble	Paper feed tray 0 breakdown		U6(63,68,69)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray 1 trouble	Paper feed tray 1 breakdown		F3(12)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray 2 trouble	Paper feed tray 2 breakdown		F3(22)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray 3 trouble	Paper feed tray 3 breakdown		F3(32)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray 4 trouble	Paper feed tray 4 breakdown		F3(42)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray 5 trouble	Paper feed tray 5 breakdown		U6(09)	△3 *20	○ *20	○ *20	○ *20	△3 *20	△3 *10 *20	○ *20	△3 *20
	Paper feed tray 5 breakdown		U6(23,24,29) UE(10,11,12,13,14,15,16,17)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray 6 trouble	Paper feed tray 6 breakdown		U6(33,34,39) UE(20,21,22,23,24,25,26,27)	△3	○	○	○	△3	△3 *10	○	△3
Paper feed tray other trouble	Paper feed tray other breakdown		U6(20,21,22,51,54,80,81,82,83,84)	△11	○	○	○	△11	△11 *10	○	△11
Staple trouble	Staple breakdown		F1(08,10)	△4	△4	△4	△4	△4	△4 *10	△4	△4
Saddle stitch section trouble	Saddle stitch section breakdown		F1(31,41,42,43,44,45,46,51)	△4	△4	△4	△4	△4	△4 *10	△4	△4
Finisher trouble	After process breakdown		F0(03,08,10,11,14,15,18,19,20,23,25,28,29,30,31,32,33,34,37,40,41,42,43,44,45,46,47,48,49,51,52,53,54,55,56,70,71,72,73,74,75,76,77,80,81,82,83,84,86) F1(00,03,15,19,20,21,22,23,30,32,33,34,37,38,52,55,60,90,96,97,98,99)	△4	△4	△4	△4	△4	△4 *10	△4	△4
Insertor trouble	Insertor breakdown (except for communication trouble)		F1(64,65,66,67)	△3	○	○	○	△3	△3 *10	○	△3
Other troubles	Other troubles		EE(EC,EL,EU)	○	○	○	○	○	○	○	○
Process control trouble	Process control breakdown (PCU detection)		F2(39,49,50,51,52,53,58,78,A0,A1,A2,A3)	○ *12	○	○	○	○	○	○	○

Trouble content		Judgement block	Trouble code	Operable mode							
				Copy scan	Scan (Push)	Scan (Pull)	Scan To HDD	Print	List print	FAX send	FAX print
Operation disable trouble	Connection trouble (SCU detection)	SCU	A0(22)	×	×	×	×	×	×	×	×
Color system trouble (SCU detection)	SCU color system breakdown (SCU detection)		UC(02)	△9	△9	△9	△9	○	○	△9	○
Color system trouble (DSPF detection)	SCU color system breakdown (DSPF detection)		UC(12)	△8	△8	△8	△8	○	○	△8	○
Anti-copy trouble	Anti-copy system		UC(20)	×	×	×	×	○	○	×	○
Anti-copy trouble (DSPF detection)	Anti-copy system (DSPF detection)		UC(30)	△7	△7	△7	△7	○	○	△7	○
Scanner trouble 1	EEPROM system		U2(80,81)	×	×	×	×	○	○	×	○
				*20	*20	*20	*20	*20	*20	*20	*20
Scanner trouble 2	Scanner section breakdown (mirror, motor, lens, copy lamp)		L1(00) L3(00)	×	×	×	×	○	○	×	○
CCD trouble	CCD breakdown (shading, etc)	PCU	E7(10,11,14)	×	×	×	×	○	○	×	○
DSPF/DF trouble	DSPF/DF breakdown		U5(00,16,20,30,31)	△6	△6	△6	△6	○	○	△6	○
SPF back surface trouble	General troubles in the SPF back surface scanning section		E6(10,11,14)	△7	△7	△7	△7	○	○	△7	○

Trouble content

Trouble content	PCU	F2(45)	○	○	○	○	○	○	○	○	○
Error history	MFP	U2(05)	○	○	○	○	○	○	○	○	○

○: Operation enabled ×: Operation disabled

△1: The operation is enabled in a line other than the trouble line

△3: When detected during other than a job, the operation is enabled with a tray other than the trouble tray

△4: When detected during other than a job, the operation is enabled in a section other than the trouble paper exit section

△6: When detected during other than a job, the operation is enabled in the OC mode

△7: When detected in other than a job, the operation is enabled in the OC mode/single surface 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 monochrome mode

*10: Since communication is enabled, reception can be transferred

△11: When detected during other than a job, the operation is enabled in other than the DESK

*12: Trouble display message is displayed in 2 lines (Example: Ready to copy. F2 trouble)

*13: When Fiery server is installed, PCL does not operate

*14: Only Fiery server list print (self print) is disabled

△15: When in U2-22, trouble notification cannot be made. When in U2-23, If either of the FAX soft switch cannot be restored.

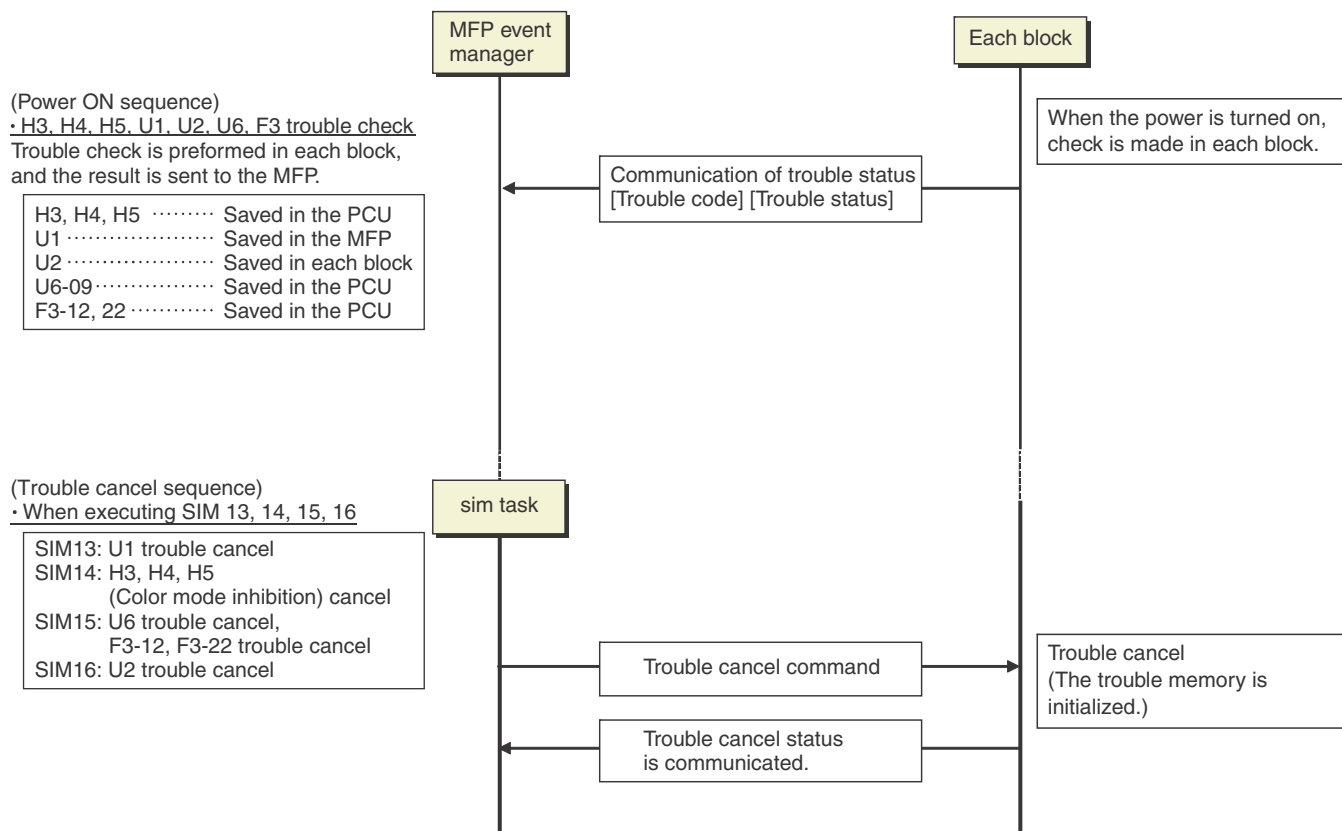
*16: Message is displayed

△17: Job execution enable only in a format other than high compression PDF

*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 monochrome mode

*20: Message is displayed

(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	MFPC PWB EEPROM counter check sum error
		00	MFP EEPROM read/write error
	E7	48	Scanner expansion PWB (ACRE) ASIC memory error
		42	Image data trouble (Scanner expansion PWB (ACRE) ASIC)
	A0	04	Scanner expansion PWB (ACU) (ACRE) ROM 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 PWB ROM error	MFP			○		
	02	SCN Mother PWB ROM error	MFP			○		
	04	ACU ROM error	MFP			○		
	10	Controller ROM error	MFP			○		
	15	Store DSK data conflict	MFP			○		
	17	Inconsistency between the UI data and the CPU firmware version	MFP			○		
	18	Incompatible ASIC-MAIN firmware	MFP			○		
	19	MFPC starting (synchronization) error	MFP			○		
	20	Conflict firmware and EEPROM data version (MFP)	MFP			○		
	21	Conflict firmware and EEPROM data version (PCU)	PCU			○		
	22	Conflict firmware and EEPROM data version (SCU)	SCU			○		
C1	01	Charger cleaner trouble (K)	PCU			○		
	03	Charger cleaner trouble (C)	PCU			○		
	05	Charger cleaner trouble (M)	PCU			○		
	07	Charger cleaner trouble (Y)	PCU			○		
	10	Main charger trouble (Monochrome)	PCU			○		
	14	Main charger trouble (Color)	PCU			○		
	40	High voltage MC PWB trouble	PCU			○		
C4	00	PTC trouble	PCU			○		
	01	PTC (Pre Transfer Charger) cleaner trouble	PCU			○		
	20	1st transfer output open trouble	PCU			○		
	21	1st transfer output short trouble	PCU			○		
	25	High voltage 1TC PWB trouble	PCU			○		
	30	2nd transfer output open trouble	PCU			○		
	31	2nd transfer output short trouble	PCU			○		
E6	35	High voltage 2TC PWB trouble	PCU			○		
	10	Shading error (Black correction)	SCU			○		
	11	Shading error (White correction)	SCU			○		
E7	14	CCD-ASIC error	SCU			○		
	01	MFP image data error	MFP			○		
	03	HDD trouble	MFP			○		
	04	HDD-ASIC error	MFP			○		
	10	Shading error (Black correction)	SCU			○		
	11	Shading error (White correction)	SCU			○		
	14	CCD-ASIC error	SCU			○		
	20	LSU laser detection and deterioration error (K)	PCU			○		
	21	LSU laser deterioration error (C)	PCU			○		
	22	LSU laser deterioration error (M)	PCU			○		
	23	LSU laser deterioration error (Y)	PCU			○		
	24	LSU LD driver trouble (K)	PCU			○		
	25	LSU LD driver trouble (C)	PCU			○		
	26	LSU LD driver trouble (M)	PCU			○		
	27	LSU LD driver trouble (Y)	PCU			○		
	28	LSU - PCU connection error	PCU			○		
	29	LSU ASIC frequency error	PCU			○		
	42	Image data trouble (ACRE ASIC)	MFP			○		
	46	Image data decode error (ACRE ASIC)	MFP			○		
	47	Inconsistency between the MFP and the ACRE firmware	MFP			○		
	48	ACRE ASIC memory error	MFP			○		
	49	Water Mark data error	MFP			○		
	50	Combination error between PWB and firmware	PCU			○		
	55	PWB information sum error	MFP			○		
	60	Combination error between PWB and firmware	MFP			○		
	61	Combination error between the MFPC PWB and the PCU PWB	MFP			○		
	62	Controller connection error	MFP			○		
	80	MFP - SCN Mother PWB communication error	MFP			○		
	89	Communication error between MFPC PWB CPU and energy-saving NIC controller	MFP			○		
	90	MFP - PCU PWB communication error	MFP			○		
	91	FAX reception image data error	MFP				○	
	92	Copy image data error	MFP			○		
	93	Copy, image send, filing, print image data process error	MFP			○		
	94	Image file data process error (when importing file data)	MFP			○		
	96	MFPC PWB DIMM memory check error	MFP			○		
	A0	LSU EEPROM/LD driver read/write error (K)	PCU			○		
	A1	LSU EEPROM/LD driver read/write error (C)	PCU			○		
	A2	LSU EEPROM/LD driver read/write error (M)	PCU			○		

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
E7	A3	LSU EEPROM/LD driver read/write error (Y)	PCU			○		
	A7	SSD trouble	MFP			○		
	C0	TPM PWB data access error	MFP			○		
	C1	Security check error	MFP			○		
EE	EC	Automatic toner density adjustment error	PCU			○		
	EL	Automatic toner density adjustment error (Over toner)	PCU			○		
	EU	Automatic toner density adjustment error (Under toner)	PCU			○		
F0	03	Finisher paper exit roller lift motor section abnormality (FNM110)	PCU		○			
	08	Finisher stapler shift motor section abnormality (FNM107)	PCU		○			
	10	Finisher staple motor section abnormality (FNM115)	PCU		○			
	11	Finisher bundle exit motor section abnormality (FNM116)	PCU		○			
	14	Finisher paper rear edge falling motor section abnormality (FNM113)	PCU		○			
	15	Finisher tray lift motor section abnormality (FNM106)	PCU		○			
	18	Finisher rear edge hold motor section abnormality (FNM118)	PCU		○			
	19	Finisher paper alignment motor F section abnormality (FNM108)	PCU		○			
	20	Finisher paper alignment motor R section abnormality (FNM109)	PCU		○			
	23	Shutter trouble (FNCL102)	PCU		○			
	25	Finisher paper transport roller lift motor section abnormality (FNM119)	PCU		○			
	28	Finisher paper alignment roller lift motor section abnormality (FNM112)	PCU		○			
	29	Finisher PWB cooling fan abnormality (FNFAN102)	PCU		○			
	30	Communication trouble between the finisher and the saddle	PCU		○			
	31	Finisher saddle folding motor section abnormality (FSM206)	PCU		○			
	32	Finisher relay unit transport motor section abnormality (PIM301)	PCU		○			
	33	Finisher punch shift motor section abnormality (FCM101)	PCU		○			
	34	Finisher punch motor section abnormality (FCM102)	PCU		○			
	37	Finisher backup RAM trouble	PCU		○			
	40	Communication trouble between the finisher saddle and the trimmer.	PCU		○			
	41	Finisher saddle lead edge stopper motor section abnormality (FSM203)	PCU		○			
	42	Finisher saddle folding roller guide motor section abnormality (FSM204)	PCU		○			
	43	Finisher saddle alignment motor section abnormality (FSM212)	PCU		○			
	44	Finisher saddle rear edge hold motor section abnormality (FSM210)	PCU		○			
	45	Finisher saddle staple motor section abnormality (FSM209)	PCU		○			
	46	Finisher saddle rear edge shift motor section abnormality (FSM211)	PCU		○			
	47	Finisher saddle flap motor section abnormality (FSM213)	PCU		○			
	48	Finisher saddle push motor section abnormality (FSM205)	PCU		○			
	49	Finisher saddle separation motor section abnormality (FSM214)	PCU		○			
	51	Finisher trimmer cutter motor abnormality (FTM106)	PCU		○			
	52	Finisher trimmer registration motor section abnormality (FTM102)	PCU		○			
	53	Finisher trimmer inlet port separation motor abnormality (FTM103)	PCU		○			
	54	Finisher trimmer paper exit separation motor section abnormality (FTM104)	PCU		○			
	55	Finisher trimmer bundle press motor section abnormality (FTM105)	PCU		○			
	56	Paper remaining trouble in the finisher trimmer	PCU		○			
	70	Communication trouble between the finisher and the folding unit	PCU		○			
	71	Folding unit lead edge holding guide motor section abnormality (FLM10)	PCU		○			
	72	Folding unit backup RAM trouble	PCU		○			
	73	Folding unit power fan abnormality	PCU		○			
	74	Folding unit folding tray paper exit motor section abnormality (FLM14)	PCU		○			
	75	Folding unit upper stopper motor section abnormality (FLM8)	PCU		○			
	76	3-fold stopper motor section in the folding unit is abnormal (FLM9)	PCU		○			
	77	Folding unit transport motor section abnormality (FLM11)	PCU		○			
	80	Finisher power cooling fan motor abnormality (FNFAN101)	PCU		○			
	81	Finisher upper tray fan abnormality (FNFAN103)	PCU		○			
	82	Finisher lower tray fan abnormality (FNFAN104)	PCU		○			
	83	Finisher paper guide motor section abnormality (FNM120)	PCU		○			
	84	Finisher grip section abnormality (FNM117)	PCU		○			
	86	Finisher discharged paper hold motor section abnormality (FNM114)	PCU		○			
F1	00	Finisher - PCU PWB communication error	PCU		○			
	03	Finisher paper delivery roller lift operation trouble (FSWN)	PCU		○			
	08	Stapler shift trouble (FSM)	PCU		○			
	10	Staple operation trouble (FFSM)	PCU		○			
	15	Finisher paper exit tray lift operation trouble (FTLM)	PCU		○			
	19	Finisher paper alignment operation trouble F	PCU		○			
	20	Finisher paper alignment operation trouble R	PCU		○			
	21	Abnormality of relay unit fan motor inside the machine (FDCM)	PCU		○			
	22	Finisher trailing edge assist motor trouble (FASM)	PCU		○			
	23	Finisher shutter trouble (FSHC)	PCU		○			
	30	Communication trouble between the Finisher and Saddle Unit	PCU		○			

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
F1	31	Saddle paper folding motor trouble (FSFOM)	PCU		○			
	32	Communication error between the finisher and the punch unit (Saddle stitch finisher)	PCU		○			
	33	Punch unit shift operation trouble (FPSM)	PCU		○			
	34	Punch operation trouble (FPNM)	PCU		○			
	37	Finisher data backup RAM error	PCU		○			
	38	Punch data backup RAM error	PCU		○			
	41	Saddle paper positioning operation trouble (FPPM)	PCU		○			
	42	Saddle guide motor trouble (FSGM)	PCU		○			
	43	Saddle alignment operation trouble (FSJM)	PCU		○			
	44	Saddle staple motor R trouble (FSRSTM)	PCU		○			
	45	Saddle staple trouble (FSFSTM)	PCU		○			
	46	Saddle pushing plate motor trouble (FSLGM)	PCU		○			
	50	Main unit - Finisher combination error	PCU		○			
	51	Saddle sensor connection trouble (FSGHPD, FSLGHPD or FSLGTD)	PCU		○			
	52	Finisher inlet door switch trouble (FSINDSW)	PCU		○			
	60	Communication error between the Finisher and Inserter	PCU		○			
	64	No. 1 pickup motor trouble	PCU		○			
	65	No. 2 pickup motor trouble	PCU		○			
	66	No. 1 lift motor trouble	PCU		○			
	67	No. 2 lift motor trouble	PCU		○			
	90	Communication trouble between the decurler and the downstream units.	PCU		○			
	96	Decurler transport motor abnormality (DCM100)	PCU		○			
	97	Decurler unit fan 1 (Upper cooling fan) abnormality (DCFAN100)	PCU		○			
	98	Decurler unit fan 2 (Lower cooling fan) abnormality (DCFAN103)	PCU		○			
	99	Decurler unit fan 3 (Transport motor cooling fan) abnormality (DCFAN101)	PCU		○			
F2	22	Discharge lamp trouble (K)	PCU					○
	23	Discharge lamp trouble (C)	PCU					○
	24	Discharge lamp trouble (M)	PCU					○
	25	Discharge lamp trouble (Y)	PCU					○
	39	Process temperature sensor trouble	PCU					○
	40	Toner density sensor trouble (K)	PCU					○
	41	Toner density sensor trouble (C)	PCU					○
	42	Toner density sensor trouble (M)	PCU					○
	43	Toner density sensor trouble (Y)	PCU					○
	45	Color image density sensor trouble	PCU					○
	49	LSU thermistor trouble	PCU					○
	50	K drum phase sensor trouble	PCU					○
	51	CL drum phase sensor trouble (C)	PCU					○
	52	CL drum phase sensor trouble (M)	PCU					○
	53	CL drum phase sensor trouble (Y)	PCU					○
	58	Temperature/humidity sensor trouble (HUD_M/TH_M)	PCU					○
	64	Toner supply operation trouble (K)	PCU					○
	65	Toner supply operation trouble (C)	PCU					○
	66	Toner supply operation trouble (M)	PCU					○
	67	Toner supply operation trouble (Y)	PCU					○
	70	Improper toner cartridge detection (K)	PCU					○
	71	Improper toner cartridge detection (C)	PCU					○
	72	Improper toner cartridge detection (M)	PCU					○
	73	Improper toner cartridge detection (Y)	PCU					○
	74	Toner cartridge CRUM error (K)	PCU					○
	75	Toner cartridge CRUM error (C)	PCU					○
	76	Toner cartridge CRUM error (M)	PCU					○
	77	Toner cartridge CRUM error (Y)	PCU					○
	78	Registration/BK image density sensor trouble	PCU					○
	A0	After-transfer discharge lamp open trouble (K)	PCU			○		
	A1	After-transfer discharge lamp open trouble (C)	PCU			○		
	A2	After-transfer discharge lamp open trouble (M)	PCU			○		
	A3	After-transfer discharge lamp open trouble (Y)	PCU			○		
F3	12	Paper feed tray 1 lift operation trouble	PCU	○				
	22	Paper feed tray 2 lift operation trouble	PCU	○				
	32	Main body cassette 3 lift trouble	PCU			○		
	42	Main body cassette 4 lift trouble	PCU			○		
F6	00	MFPC PWB - FAX communication trouble	MFP				○	
	01	FAX control PWB EEPROM read/write error	FAX				○	
	02	FAX power supply trouble	FAX				○	
	04	FAX MODEM operation trouble	FAX				○	
	21	Improper combination of TEL/LIU PWB and FAX soft switch	FAX				○	

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
F6	30	FAX 1-chip microprocessor access error (FAX detection)	FAX				○	
	97	Incompatibility between FAX control PWB and the main machine	MFP				○	
	98	Incompatibility between the FAX control PWB destination and the main machine destination	MFP				○	
F9	00	Communication error between MFP and the printer section when booting	MFP					
H2	00	Thermistor open trouble (TH_UM_AD2)	PCU	○				
	01	Non-contact thermistor lower main detection thermistor open (TH_LM1_AD2)	PCU			○		
	02	Non-contact thermistor upper sub detection thermistor open (TH_US1_AD2)	PCU			○		
	03	Non-contact thermistor upper main compensation thermistor open (TH_UM_CS)	PCU			○		
	04	Non-contact thermistor lower main compensation thermistor open (TH_LM1_AD1)	PCU			○		
	05	Non-contact thermistor upper sub compensation thermistor open (TH_US1_AD1)	PCU			○		
	06	Upper edge section thermistor open (TH_US2)	PCU			○		
	07	Lower edge section thermistor open (TH_LM2)	PCU			○		
H3	00	Fusing section high temperature trouble (TH_UM)	PCU	○				
	01	Fusing section high temperature trouble (TH_LM)	PCU	○				
	02	Fusing section high temperature trouble (TH_US)	PCU	○				
H4	00	Lower main thermistor differential input abnormality (TH_LM1)	PCU	○				
	01	Fusing section low temperature trouble (TH_LM)	PCU	○				
	02	Fusing section low temperature trouble (TH_US)	PCU	○				
	30	Upper main thermistor differential input abnormality (TH_UM)	PCU	○				
	31	Lower main thermistor differential input abnormality (TH_LM1)	PCU			○		
	32	Upper sub thermistor differential input abnormality (TH_US1)	PCU			○		
H5	01	5 times continuous POD1 not-reach jam	PCU	○				
H7	10	Recovery error from low fuser temp. (TH_UM_AD2)	PCU	○				
	11	Recovery error from low fuser temp. (TH_LM)	PCU	○				
L1	00	Scanner feed trouble	SCU	○				
L3	00	Scanner return trouble	SCU	○				
L4	02	Paper feed motor trouble	PCU			○		
	03	Fusing motor trouble	PCU			○		
	06	Transfer unit lift trouble	PCU			○		
	07	Transfer belt motor trouble	PCU			○		
	08	Waste toner transport motor lock	PCU			○		
	16	Fusing pressure release trouble	PCU			○		
	17	Drum motor lock trouble (K)	PCU			○		
	18	Drum motor lock trouble (C)	PCU			○		
	19	Drum motor lock trouble (M)	PCU			○		
	20	Drum motor lock trouble (Y)	PCU			○		
	30	MFP cooling fan / HDD cooling fan trouble	MFP			○		
	31	Paper exit cooling fan F trouble	PCU			○		
	32	Power source cooling fan 1 trouble	PCU			○		
	33	Machine ventilation fan BA trouble	PCU			○		
	34	LSU cooling fan trouble	PCU			○		
	35	Paper exit exhaust fan trouble	PCU			○		
	36	Fusing cooling fan trouble	PCU			○		
	38	Paper exit cooling fan2 F trouble	PCU			○		
	39	Machine ventilation fan trouble	PCU			○		
	40	Ozone fan motor 1 trouble	PCU			○		
	41	Ozone fan motor 2 trouble	PCU			○		
	42	Ozone fan motor 3 trouble	PCU			○		
	43	Paper exit cooling fan R trouble	PCU			○		
	44	Power source cooling fan 2 trouble	PCU			○		
	48	ADU transport cooling fan motor F trouble	PCU			○		
	49	ADU transport cooling fan motor R trouble	PCU			○		
	56	Paper exit cooling fan2 R trouble	PCU			○		
	57	Toner bottle cooling fan motor trouble	PCU			○		
	58	Paper exit cooling fan2 trouble	PCU			○		
	60	Fusing pressure roller cooling fan motor F trouble	PCU			○		
	61	Fusing pressure roller cooling fan motor R trouble	PCU			○		
L6	10	Polygon motor trouble	PCU			○		
L8	01	Full wave signal detection error	PCU			○		
	02	Full wave signal error	PCU			○		
	11	AC Cord 2 (power for fusing) full wave not detected	PCU			○		
	12	AC Cord 2 (power for fusing) full wave signal width abnormality	PCU			○		
	20	Communication error of MFPC PWB/SCN mother board	MFP			○		

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
PC	-	Personal counter not detected	MFP	○				
U1	01	Battery trouble	MFP			○		
U2	00	MFP EEPROM read/write error	MFP			○		
	05	Erroneous detection of account management data	MFP			○		
	11	MFPC PWB EEPROM counter check sum error	MFP			○		
	30	MFPC PWB and PCU PWB manufacturing No. data inconsistency	MFP			○		
	40	SD card system storage data area error	MFP			○		
	41	HDD system storage data area error	MFP			○		
	42	Machine adjustment data (system storage data area) error	MFP			○		
	50	HDD user authentication data check sum error	MFP			○		
	60	Watermark check error	MFP			○		
	70	OCR dictionary check error	MFP			○		
	80	SCN Mother PWB EEPROM read/write error	SCU			○		
	81	SCN Mother PWB EEPROM check sum error	SCU			○		
	90	PCU PWB EEPROM read/write error	PCU			○		
	91	PCU PWB EEPROM check sum error	PCU			○		
U5	00	Document feed unit communication error	SCU			○		
	16	Document feed unit fan trouble	SCU			○		
	20	SPF paper feed transport motor trouble	SCU			○		
	30	Document feed unit tray lift up trouble	SCU			○		
	31	Document feed unit tray lift down trouble	SCU			○		
U6	09	LCC lift motor trouble	PCU		○			
	20	LCC control PWB - PCU PWB communication error	PCU		○			
	21	LCC transport motor trouble	PCU		○			
	22	LCC 24V power abnormality	PCU		○			
	23	A3 LCC tray descending trouble (Reverse winding detection) (A3 LCC)	PCU		○			
	24	A3 LCC tray lock detection trouble	PCU		○			
	29	LCT1 lift trouble	PCU		○			
	33	LCT2 reverse winding detection trouble	PCU		○			
	34	LCT2 lock detection trouble	PCU		○			
	39	LCT2 lift trouble	PCU		○			
	51	LCC - Main unit combination trouble	PCU		○			
	54	Option installation combination trouble	PCU					
	63	Manual feed tray descending trouble	PCU		○			
	68	Manual feed tray paper feed position abnormality	PCU		○			
	69	Manual feed tray lift trouble	PCU		○			
	80	Relay unit transport motor trouble	PCU					
	81	Power unit cooling fan motor trouble	PCU					
	82	EEPROM trouble	PCU					
	83	Room temperature thermistor breakdown	PCU					
	84	Room humidity thermistor breakdown	PCU					
U7	50	MFPC PWB - Vendor machine communication error	MFP			○		
	51	Vendor machine error	MFP			○		
U9	01	Touch panel trouble	MFP			○		
UC	02	CPT - ASIC error	SCU			○		
	12	CPT - ASIC abnormal trouble (DSPF detection)	SCU			○		
	20	DOCC ASIC error	SCU			○		
	30	Anti-copy MODULE trouble (DSPF detection)	SCU			○		
UE	10	LCT1 suction fan motor trouble	PCU					
	11	LCT1 exhaust fan motor trouble	PCU					
	12	LCT1 warm air heater thermistor open	PCU					
	13	LCT1 warm air heater thermistor low temperature trouble	PCU					
	14	LCT1 warm air heater thermistor high temperature trouble	PCU					
	15	LCT1 warm air outlet port thermistor open	PCU					
	16	LCT1 warm air outlet port thermistor low temperature	PCU					
	17	LCT1 warm air outlet port thermistor high temperature	PCU					
	20	LCT2 suction fan motor trouble	PCU					
	21	LCT2 exhaust fan motor trouble	PCU					
	22	LCT2 warm air heater thermistor open	PCU					
	23	LCT2 warm air heater thermistor low temperature trouble	PCU					
	24	LCT2 warm air heater thermistor high temperature trouble	PCU					
	25	LCT2 warm air outlet port thermistor open	PCU					
	26	LCT2 warm air outlet port thermistor low temperature	PCU					
	27	LCT2 warm air outlet port thermistor high temperature	PCU					

G. Details of error codes and countermeasures

A0-01 PCU PWB ROM error

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 SCN Mother PWB ROM error

Detail	MFP
Cause	The firmware version-up is not completed properly by interruption of the power during the version-up operation, etc. SCN Mother PWB trouble.
Check & Remedy	Use SIM49-1 to perform the firmware version-up procedure again. Replace the SCN Mother PWB.

A0-04 ACU ROM error

Detail	MFP
Cause	ACU ROM data error An error occurs during firmware upgrading for some reasons.
Check & Remedy	Perform firmware upgrading again.

A0-10 Controller ROM error

Trouble content	Controller ROM 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 Store DSK data conflict

Detail	MFP
Cause	combination error of firmware version ASIC-MAIN
Check & Remedy	Check firmware version for ASIC-MAIN

A0-17 Inconsistency between the UI data and the CPU firmware version

Trouble content	
Detail	MFP
Cause	Combination error between the UI contents data and the CPU UI firmware version.
Check & Remedy	Install the firmware in the all-firmware version-up mode.

A0-18 Incompatible ASIC-MAIN firmware

Trouble content	
Detail	MFP
Cause	Combination version error in MFP ASIC
Check & Remedy	Check the combination of the firmware. Use Sim49-1 to perform the firmware version up

A0-19 MFPC starting (synchronization) error

Trouble content	
Detail	Starting error caused by defective MFP PWB
Cause	Defective of Flash ROM, memory devices
Check & Remedy	Insert and extract mSATA SSD Insert and extract ASIC1 Flash ROM (ASIC-PG1) Insert and extract ASIC2 Flash ROM (ASIC-PG2) Check and replace the following parts individually. If still the same remained, replace parts will be returned to the old one each time. Replace mSATA SSD Replace ASIC1 Flash ROM (ASIC-PG1) Replace ASIC2 Flash ROM (ASIC-PG2) Replace MFP 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.

C1-01 Charger cleaner trouble (K)

Trouble content	
Detail	PCU
Cause	<p>The main charger unit (K) is not installed properly.</p> <p>There is an abnormality in the main charger unit (K).</p> <p>Connector connection trouble of the drum unit (K) HP sensor, the discharge lamp, or the after-transfer discharge lamp.</p> <p>Harness disconnection of the drum unit (K) HP sensor, the discharge lamp, or the after-transfer discharge lamp.</p> <p>HP sensor dirt.</p> <p>Charger cleaner motor (K) trouble.</p> <p>PCU PWB connector connection trouble/PWB trouble.</p>
Check & Remedy	<p>Use SIM6-4 to check the operation of the charger cleaner.</p> <p>Check disconnection of the main charger unit./</p> <p>Replace.</p> <p>Check for disconnection of the connector of the drum unit (K) HP sensor, the discharge lamp, and the after-transfer discharge lamp.</p> <p>Check the harness of the drum unit (K) HP sensor, the discharge lamp, and the after-transfer discharge lamp. (Since the earth wire is common to them, check the three positions.)</p> <p>Clean the HP sensor.</p> <p>Check disconnection of the PCU PWB connector./</p> <p>Replace PWB.</p> <p>Replace the charger cleaner motor (K).</p>

C1-05 Charger cleaner trouble (M)

Trouble content	
Detail	PCU
Cause	<p>The main charger unit (M) is not installed properly.</p> <p>There is an abnormality in the main charger unit (M).</p> <p>Connector connection trouble of the drum unit (M) HP sensor, the discharge lamp, or the after-transfer discharge lamp.</p> <p>Harness disconnection of the drum unit (M) HP sensor, the discharge lamp, or the after-transfer discharge lamp.</p> <p>HP sensor dirt.</p> <p>Charger cleaner motor (M) trouble.</p> <p>PCU PWB connector connection trouble/PWB trouble.</p>
Check & Remedy	<p>Use SIM6-4 to check the operation of the charger cleaner.</p> <p>Check disconnection of the main charger unit./</p> <p>Replace.</p> <p>Check for disconnection of the connector of the drum unit (M) HP sensor, the discharge lamp, and the after-transfer discharge lamp.</p> <p>Check the harness of the drum unit (M) HP sensor, the discharge lamp, and the after-transfer discharge lamp. (Since the earth wire is common to them, check the three positions.)</p> <p>Clean the HP sensor.</p> <p>Check disconnection of the PCU PWB connector./</p> <p>Replace PWB.</p> <p>Replace the charger cleaner motor (M).</p>

C1-03 Charger cleaner trouble (C)

Trouble content	
Detail	PCU
Cause	<p>The main charger unit (C) is not installed properly.</p> <p>There is an abnormality in the main charger unit (C).</p> <p>Connector connection trouble of the drum unit (C) HP sensor, the discharge lamp, or the after-transfer discharge lamp.</p> <p>Harness disconnection of the drum unit (C) HP sensor, the discharge lamp, or the after-transfer discharge lamp.</p> <p>HP sensor dirt.</p> <p>Charger cleaner motor (C) trouble.</p> <p>PCU PWB connector connection trouble/PWB trouble.</p>
Check & Remedy	<p>Use SIM6-4 to check the operation of the charger cleaner.</p> <p>Check disconnection of the main charger unit./</p> <p>Replace.</p> <p>Check for disconnection of the connector of the drum unit (C) HP sensor, the discharge lamp, and the after-transfer discharge lamp.</p> <p>Check the harness of the drum unit (C) HP sensor, the discharge lamp, and the after-transfer discharge lamp. (Since the earth wire is common to them, check the three positions.)</p> <p>Clean the HP sensor.</p> <p>Check disconnection of the PCU PWB connector./</p> <p>Replace PWB.</p> <p>Replace the charger cleaner motor (C).</p>

C1-07 Charger cleaner trouble (Y)

Trouble content	
Detail	PCU
Cause	<p>The main charger unit (Y) is not installed properly.</p> <p>There is an abnormality in the main charger unit (Y).</p> <p>Connector connection trouble of the drum unit (Y) HP sensor, the discharge lamp, or the after-transfer discharge lamp.</p> <p>Harness disconnection of the drum unit (Y) HP sensor, the discharge lamp, or the after-transfer discharge lamp.</p> <p>HP sensor dirt.</p> <p>Charger cleaner motor (Y) trouble.</p> <p>PCU PWB connector connection trouble/PWB trouble.</p>
Check & Remedy	<p>Use SIM6-4 to check the operation of the charger cleaner.</p> <p>Check disconnection of the main charger unit./</p> <p>Replace.</p> <p>Check for disconnection of the connector of the drum unit (Y) HP sensor, the discharge lamp, and the after-transfer discharge lamp.</p> <p>Check the harness of the drum unit (Y) HP sensor, the discharge lamp, and the after-transfer discharge lamp. (Since the earth wire is common to them, check the three positions.)</p> <p>Clean the HP sensor.</p> <p>Check disconnection of the PCU PWB connector./</p> <p>Replace PWB.</p> <p>Replace the charger cleaner motor (Y).</p>

C1-10 Main charger trouble (Monochrome)

Trouble detection	PCU
Cause	Open circuit or short circuit of the main charger (Black) output
1) Check & Remedy	<p>Use SIM8-2 to check the output of [GB-K]. If the leakage noise or the flickering on the screen of the panel is detected;</p> <p>(1) Abnormality of the charger (BK) -> Remove and insert the charger (BK) or replace the charger (BK).</p> <p>(2) Imperfect insertion of the charger (BK) -> Remove and insert the charger (BK).</p> <p>(3) Abnormality of MC-K harness (Transformer T101 of the high-voltage MC PWB) -> Remove and insert MC-K harness or replace MC-K harness.</p> <p>(4) Abnormality of GB-K/DV-KCMY wiring -> Check GB-K/DV-KCMY wiring./Replace.</p> <p>(5) Abnormality of the developing unit (K/C/M/Y) -> Insert and remove the developing unit./Replace.</p> <p>(6) Abnormality of the high voltage MC PWB spring contact (GB,DV). -> Check the high voltage MC PWB spring contact.</p>
2) Check & Remedy	<p>Use SIM8-2 to check the output of [GB-K]. If the leakage noise etc. is not detected;</p> <p>(1) Charger (BK) not inserted. -> Insert the Charger (BK).</p> <p>(2) Disconnection/ breakage of MC-K harness (Transformer T101 of the high-voltage MC PWB) -> Insert the harness./Replace.</p> <p>(3) High MC PWB trouble. -> Replace the high MC PWB.</p> <p>(4) PCU PWB trouble -> Replace PCU PWB.</p>

C1-14 Main charger trouble (Color)

Trouble detection	PCU
Cause	Open circuit or short circuit of the main charger (Color) output
1) Check & Remedy	<p>Use SIM8-2 to check the output of [GB-C/M/Y]. If the leakage noise or the flickering on the screen of the panel is detected;</p> <p>(1) Abnormality of the charger (C/M/Y) -> Remove and insert the charger (C/M/Y) or replace the charger (C/M/Y).</p> <p>(2) Imperfect insertion of the charger (C/M/Y) -> Remove and insert the charger (C/M/Y).</p> <p>(3) Abnormality of MC-CL harness (Transformer T102, T201, T202 of the high-voltage MC PWB) -> Remove and insert MC-CL harness or replace MC-CL harness.</p> <p>(4) Abnormality of GB-CMY wiring -> Check GB-CMY wiring./Replace.</p> <p>(5) Abnormality of the high voltage MC PWB spring contact (GB,DV) -> Check the high voltage MC PWB spring contact.</p>
2) Check & Remedy	<p>Use SIM8-2 to check the output of [GB-C/M/Y]. If the leakage noise etc. is not detected;</p> <p>(1) Charger (C/M/Y) not inserted. -> Insert the Charger (C/M/Y).</p> <p>(2) Disconnection/ breakage of MC-CL harness (Transformer T102, T201, T202 of the high-voltage MC PWB) -> Insert the harness./Replace.</p> <p>(3) High MC PWB trouble. -> Replace the high MC PWB.</p> <p>(4) PCU PWB trouble -> Replace PCU PWB.</p>

C1-40 High voltage MC PWB trouble

Trouble content	PCU
Detail	PCU
Cause	<p>1) Input harness disconnection in the high voltage MC PWB CN1</p> <p>2) Harness (MC-K-ERR, MC-CMY-ERR) pin disconnection (connector CN1-1,8,9,10pin)</p> <p>3) 24V fuse meltdown</p> <p>4) High voltage error circuit (MC-K-ERR, MC-CMY-ERR) breakage</p>
Check & Remedy	<p>1) Check the harness and connector CN1</p> <p>2) Check or replace the harness MC PWB input connector CN1-1,8,9,10pin</p> <p>3) 4) Replace the MC PWB</p>

C4-00 PTC trouble

Trouble detection	PCU
Cause	<p>(1) Abnormality of PTC unit</p> <p>(2) Imperfection insertion of PTC unit</p> <p>(3) PTC unit not inserted</p> <p>(4) Disconnection, abnormality of PTC unit. (Transformer T102 of the high-voltage 2TC PWB)</p> <p>(5) High voltage 2TC PWB trouble</p> <p>(6) PCU PWB trouble</p>
Check & Remedy	<p>(1) Remove and insert PTC unit./Replace.</p> <p>(2) Remove and insert PTC unit.</p> <p>(3) Insert PTC unit.</p> <p>(4) Insert PCT harness. /Replace. (Transformer T102 of the high-voltage 2TC PWB)</p> <p>(5) Replace the high voltage 2TC PWB.</p> <p>(6) Replace PCU PWB.</p>

C4-01 PTC (Pre Transfer Charger) cleaner trouble

Trouble content	Shifting the charger cleaner is not completed within the specified time.
Detail	PCU
Cause	<p>Charger unit trouble</p> <p>HP sensor, motor, PCU PWB, harness connection trouble</p>
Check & Remedy	Check the charger unit, the PCU PWB, and the harness connection.

C4-20 1st transfer output open trouble

Trouble detection	PCU
Cause	Open circuit of the 1st transfer out put.
1) Check & Remedy	Use SIM8-6 to check the out put of [1TC-K/C/M/Y].If the leakage noise or the flickering on the screen of the panel is detected; (1) Abnormality of 1ST transfer unit. --> Remove and insert the 1ST transfer unit. --> Replace the 1ST transfer unit. (2) Imperfect insertion the 1ST transfer unit. --> Remove and insert the 1ST transfer unit. (3) Abnormality of the 1TC-K/C/M/Y harness (Transformer T101,T102,T201,T202 of the high voltage 1TC PWB). --> Check 1TC-K/C/M/Y harness wiring./Replace. (4) High voltage 1TC PWB trouble. --> Replace the High voltage 1TC PWB. (5) PCU PWB trouble. --> Replace the PCU PWB.
2) Check & Remedy	Check the operation of the 1ST transfer separation clutch (1TURC, 1TURRC). If the clutch or gera do not move smoothly or have noise, (1) Abnormality of 1ST transfer separation clutch. --> Check connection of harness and check the clutch. --> Replace the clutch. (2) Abnormality of 1ST transfer unit. --> Check the 1ST transfer unit. --> Replace the 1ST transfer unit.
3) Check & Remedy	Check the operation of OPC Drum. If it is not normal movement, (1) Abnormality of Drum drive motor (DM_K, DM_C, DM_M, DM_Y). --> Check Drum drive motor (DM_K, DM_C, DM_M, DM_Y). (2) Abnormality of OPC Drum (K/C/M/Y). --> Check OPC Drum (K/C/M/Y). --> Replace OPC Drum (K/C/M/Y).

C4-21 1st transfer output short trouble

Trouble detection	PCU
Cause	1) Abnormality of 1ST transfer unit. 2) Imperfect insertion the 1ST transfer unit. 3) High voltage 1TC PWB trouble.
Check & Remedy	Use SIM8-6 to check the out put of [1TC]. 1) Check the 1ST transfer unit. Replace the 1ST transfer unit. 2) Remove and insert the 1ST transfer unit. 3) Replace the high voltage 1TC PWB.

C4-25 High voltage 1TC PWB trouble

Trouble content	
Detail	PCU
Cause	1) Input harness disconnection in the high voltage 1TC PWB CN1 2) Hrness(1TC-S-ERR, 1TC-O-ERR) pin disconnection (connector CN1-1,7,8pin) 3) 24V fuse meltdown 4) High voltage error circuit(1TC-S-ERR, 1TC-O-ERR) breakage 5) ConnectorCN23 disconnection on the PCU PWB
Check & Remedy	1) Check the harness and connector CN1 2) Check or replace the harness input connector CN1-1,7,8pin 3) 4)Replace high voltage 1TC PWB 5) Replace PCU PWB

C4-30 2nd transfer output open trouble

Trouble detection	PCU
Cause	Open circuit of the 2nd transfer out put.
Check & Remedy	Use SIM8-6 to check the out put of [2TC]. If the leakage noise or the flickering on the screen of the panel is detected; (1) Abnormality of 1ST transfer unit. --> Remove and insert the 1ST transfer unit. --> Replace the 1ST transfer unit. (2) Imperfect insertion the 1ST transfer unit. --> Remove and insert the 1ST transfer unit. (3) Abnormality of 2nd transfer unit. --> Remove and insert the 2nd transfer unit. --> Replace the 2ST transfer unit. (4) Imperfect insertion the 2nd transfer unit. --> Remove and insert the 2nd transfer unit. (5) Abnormality of the 2nd TC harness. (Transformer T102 of the high-voltage 2TC PWB) --> Check 2nd TC harness wiring.Replace. (6) High voltage 2TC PWB trouble. --> Replace the high voltage 2TC PWB. (7) PCU PWB trouble. --> Replace the PCU PWB.

C4-31 2nd transfer output short trouble

Trouble detection	PCU
Cause	1) Abnormality of 1st transfer unit, 2nd transfer unit. 2) Imperfect insertion the 1st transfer unit, 2nd transfer unit. 3) High voltage 2TC PWB trouble.
Check & Remedy	Use SIM8-6 to check the out put of [2TC]. 1) Check the 1st transfer unit, 2nd transfer unit. Replace the 1st transfer unit, 2nd transfer unit. 2) Remove and insert the 1st transfer unit, 2nd transfer unit. 3) Replace the high voltage 2nd PWB.

C4-35 High voltage 2TC PWB trouble

Trouble content	
Detail	
Cause	1) Input harness disconnection in the high voltage 2TC PWB CN1 2) Harness (2TC-ERR, PTC-ERR) pin disconnection (connector CN1-1,7,8pin, or PCU PWB connector CN12-24,26,38pin) 3) 24V fuse meltdown 4) High voltage error circuit(2TC-ERR, PTC-ERR) breakage 5) Connector CN12 disconnection on the PCU PWB 6) PCU PWB trouble
Check & Remedy	1) Check the harness and connector CN1 2) Check or replace the harness 2TC PWB input connector CN1-1,7,8pin, or PCU PWB input connector CN12-24,26,38pin 3) 4)Replace the high voltage 2TC PWB 5) Check the connector CN12 on the PCU PWB 6) Replace PCU PWB

E6-10 Shading error (Black correction)

Trouble content	
Detail	SCU
Cause	Installation error of the CCD unit harness. CCD unit trouble. DSPF PWB trouble.
Check & Remedy	Check the installing state of the harness to the CCD unit. Check the CCD unit. Check the DSPF PWB.

E6-11 Shading error (White correction)

Trouble content	
Detail	SCU
Cause	Installation error of the CCD unit harness. Copy lamp lighting trouble. Dirt on the mirror, the lens, or the reference white plate. CCD unit trouble. DSPF PWB trouble. Shading SIM not executed / Shading ROM abnormality.
Check & Remedy	Check the installing state of the harness the CCD unit. Check the installing state of the harness to the copy lamp unit. Clean the mirror, the lens, or the reference white plate. Check the CCD unit. Check the DSPF PWB.

E6-14 CCD-ASIC error

Trouble content	
Detail	SCU
Cause	DSPF PWB trouble.
Check & Remedy	Check the DSPF 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 Mother PWB abnormality.
Check & Remedy	Check connection of the harness to the CCD unit. Check the CCD unit. Check the SCN Mother 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 Mother 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 Mother PWB.

E7-14 CCD-ASIC error

Trouble content	
Detail	SCU
Cause	SCN Mother PWB trouble.
Check & Remedy	Check the SCN Mother PWB. Replace the SCN Mother PWB.

E7-20 LSU laser detection and deterioration error (K)

Trouble content	
Detail	PCU
Cause	Laser optical axis misalignment Reduced laser power, lighting error, laser diode trouble. LSU harness, connector trouble BD board, LD board, LSUcnt board trouble
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check or replace the LSU control PWB. Check connection of the LSU harness and connector. Replace the LSU.

E7-21 LSU laser deterioration error (C)

Trouble content	
Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. LSU harness, connector trouble LD board, LSUcnt board trouble
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check or replace the LSU control PWB. Check connection of the LSU harness and connector. Replace the LSU.

E7-22 LSU laser deterioration error (M)

Trouble content	
Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. LSU harness, connector trouble LD board, LSUcnt board trouble
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check or replace the LSU control PWB. Check connection of the LSU harness and connector. Replace the LSU.

E7-23 LSU laser deterioration error (Y)

Trouble content	
Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. LSU harness, connector trouble LD board, LSUcnt board trouble
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check or replace the LSU control PWB. Check connection of the LSU harness and connector. Replace the LSU.

E7-24 LSU LD driver trouble (K)

Trouble content	The LSU LD is lighted, the initialization process of the LD driver is not performed normally.
Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. LSU connector trouble. LD PWB/LSU control PWB trouble.
Check & Remedy	Use SIM61-01 to check the operations of the LSU. Check or replace the LSU control PWB. Check connection of the LSU harness. Replace the LSU.

E7-25 LSU LD driver trouble (C)

Trouble content	The LSU LD is lighted, the initialization process of the LD driver is not performed normally.
Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. LSU connector trouble. LD PWB/LSU control PWB trouble.
Check & Remedy	Use SIM61-01 to check the operations of the LSU. Check or replace the LSU control PWB. Check connection of the LSU harness. Replace the LSU.

E7-26 LSU LD driver trouble (M)

Trouble content	The LSU LD is lighted, the initialization process of the LD driver is not performed normally.
Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. LSU connector trouble. LD PWB/LSU control PWB trouble.
Check & Remedy	Use SIM61-01 to check the operations of the LSU. Check or replace the LSU control PWB. Check connection of the LSU harness. Replace the LSU.

E7-27 LSU LD driver trouble (Y)

Trouble content	The LSU LD is lighted, the initialization process of the LD driver is not performed normally.
Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. LSU connector trouble. LD PWB/LSU control PWB trouble.
Check & Remedy	Use SIM61-01 to check the operations of the LSU. Check the harness and the connector between the LD PWB and the LSU control PWB. Replace the LD PWB and the LSU control PWB.

E7-28 LSU - PCU connection 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 the LSU control PWB (interface PWB). Harness trouble between the PCU PWB and the LSU control PWB (interface PWB) PCU PWB trouble. LSU control PWB trouble. LSU trouble.
Check & Remedy	Check connection of the connector and the harness between the PCU PWB and the LSU control PWB. Replace the LSU control PWB. Replace the PCU PWB. Replace the LSU.

E7-29 LSU ASIC frequency error

Trouble content	
Detail	PCU
Cause	Oscillation abnormality of the external oscillator used in the LSU ASIC. LSU ASIC abnormality on the LSU control PWB.
Check & Remedy	Replace the LSU control PWB.

E7-42 Image data trouble (ACRE ASIC)

Trouble content	
Detail	MFP
Cause	An image data error occurs. An image data send error occurs. ACRE ASIC trouble. MFPC PWB trouble.
Check & Remedy	Check the MFPC PWB, and replace if necessary.

E7-46 Image data decode error (ACRE ASIC)

Trouble content	
Detail	MFP
Cause	A decode error occurs while high compression PDF images are made. (garbled data) ACRE ASIC trouble. MFPC PWB trouble.
Check & Remedy	Check the MFPC PWB, and replace if necessary.

E7-47 Inconsistency between the MFP and the ACRE firmware

Trouble content	
Detail	
Cause	Written ACRE board of the firmware that a model did not support MFP was connected
Check & Remedy	Check the kind and the version of the firmware. Use Sim49-1 or Sim49-10 to execute firmware version up

E7-48 ACRE ASIC memory error

Trouble content	
Detail	MFP
Cause	ACRE ASIC trouble. MFPC PWB trouble.
Check & Remedy	Check the MFPC PWB, and replace if necessary.

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

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 PWB information sum error

Detail	PCU
Cause	EEPROM device trouble. EEPROM device contact trouble. Device access error due to noises.
Check & Remedy	Replace the PWB.

E7-60 Combination error between PWB and firmware

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

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.

E7-62 Controller combination error

Detail	
Cause	Combination error between the scanner and MFP PWB
Check & Remedy	Check MFP PWB and scanner combination

E7-80 MFP - SCN Mother PWB communication error

Detail	MFP
Cause	SCN Mother PWB - MFPC PWB connection trouble. SCN Mother PWB trouble. MFPC PWB trouble.
Check & Remedy	Check connection of the SCN Mother PWB and the MFPC PWB. Check the ground. Replace the SCN Mother PWB. Replace the MFPC PWB.

E7-89 Communication error between MFPC PWB CPU and energy-saving NIC controller

Trouble content	No response can be obtained from the energy-saving NIC controller.
Detail	MFP
Cause	MFPC PWB trouble.
Check & Remedy	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 DIMM memory trouble or contact error FAX control 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 or check installation of the DIMM memory. Replace the FAX control 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 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.

E7-93 Copy, image send, filing, print image data process error

Trouble content	An image data process error occurs in the following operation mode: <ul style="list-style-type: none"> • 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.

E7-96 MFPC PWB DIMM memory check error

Trouble content	MFPC PWB DIMM memory access trouble
Detail	MFP
Cause	Memory data corruption occurs 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 MFPC PWB. DIMM memory socket check Replace the DIMM memory.

E7-A0 LSU EEPROM/LD driver read/write error (K)

Trouble content	Write error in write sequence of the serial EEPROM/LD driver for Black
Detail	PCU
Cause	EEPROM/LD driver trouble. EEPROM/LD driver access circuit trouble.
Check & Remedy	Check connection of the connector and the harness of the LD PWB and the PCU PWB. Replace the PCU PWB. If the above remedies cannot delete the trouble, replace the LSU.

E7-A1 LSU EEPROM/LD driver read/write error (C)

Trouble content	Write error in write sequence of the serial EEPROM/LD driver for Cyan
Detail	PCU
Cause	EEPROM/LD driver trouble. EEPROM/LD driver access circuit trouble.
Check & Remedy	Check connection of the connector and the harness of the LD PWB and the PCU PWB. Replace the PCU PWB. If the above remedies cannot delete the trouble, replace the LSU.

E7-A2 LSU EEPROM/LD driver read/write error (M)

Trouble content	Write error in write sequence of the serial EEPROM/LD driver for Magenta
Detail	PCU
Cause	EEPROM/LD driver trouble. EEPROM/LD driver access circuit trouble.
Check & Remedy	Check connection of the connector and the harness of the LD PWB and the PCU PWB. Replace the PCU PWB. If the above remedies cannot delete the trouble, replace the LSU.

E7-A3 LSU EEPROM/LD driver read/write error (Y)

Trouble content	Write error in write sequence of the serial EEPROM/LD driver for Yellow
Detail	PCU
Cause	EEPROM/LD driver trouble. EEPROM/LD driver access circuit trouble.
Check & Remedy	Check connection of the connector and the harness of the LD PWB and the PCU PWB. Replace the PCU PWB. If the above remedies cannot delete the trouble, replace the LSU.

E7-A7 SSD trouble

Trouble content	
Detail	
Cause	SSD trouble Improper connection of SSD MFP PWB trouble Data error of the file system management part
Check & Remedy	Remove and insert the SSD Replace the SSD Replace the MFP PWB

E7-C0 TPM PWB data access error

Trouble content	
Detail	
Cause	TPM PWB error, poor connection Installed TPM PWB used with other MFP
Check & Remedy	Turn power off and on Check and confirm TPM PWB insertion

E7-C1 Security check error

Trouble content	
Detail	
Cause	TPM PWB error Program error Security function, setting error
Check & Remedy	Turn power off and on Check and confirm TPM PWB insertion

EE-EC Automatic toner density adjustment error

Trouble content	The sampling level in the automatic toner density adjustment is outside of 128 +/-10.
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.

F0-03 Finisher paper exit roller lift motor section abnormality (FNM110)

Trouble content	Finisher paper exit roller lifting operation abnormality.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the paper exit roller lift motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-08 Finisher stapler shift motor section abnormality (FNM107)

Trouble content	The shift operation of the finisher stapler is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the stapler shift motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-10 Finisher staple motor section abnormality (FNM115)

Trouble content	The operation of the finisher staple is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the staple motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-11 Finisher bundle exit motor section abnormality (FNM116)

Trouble content	The grip expansion arm drive motor of the finisher for staple bundle exit is abnormal. HP sensor abnormality.
Detail	PCU
Cause	Motor lock, motor harness short/open, control PWB trouble, HP sensor breakdown, disconnection of harness or connector.
Check & Remedy	Use SIM3-3 to check the operation of the gripper arm motor (FNM116). Check connection from the control PWB to the motor. Replace the control PWB and the sensor part.

F0-14 Finisher paper rear edge falling motor section abnormality (FNM113)

Trouble content	The rear edge falling operation in the staple compiler of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the rear edge falling motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-15 Finisher tray lift motor section abnormality (FNM106)

Trouble content	The operation of the lift motor for the upper and the lower trays of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown, area sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the upper tray lift motor and the lower tray lift motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, and motor, and the sensor part.

F0-18 Finisher rear edge hold motor section abnormality (FNM118)

Trouble content	The operation of the paper hold arm in the staple compiler of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the paper hold motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-19 Finisher paper alignment motor F section abnormality (FNM108)

Trouble content	The operation of the front alignment plate in the staple compiler of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the paper alignment motor F. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-20 Finisher paper alignment motor R section abnormality (FNM109)

Trouble content	The operation of the rear alignment plate in the staple compiler of the finisher.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the paper alignment motor R. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-23 Shutter trouble (FNCL102)

Trouble content	The operation of the shutter open/close in the paper exit section.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the shutter clutch. Check connection from the control PWB to the clutch and the sensor. Replace the control PWB, the clutch, and the sensor part.

F0-25 Finisher paper transport roller lift motor section abnormality (FNM119)

Trouble content	The separation operation of the transport roller in the buffer section of the finisher or the path select operation of the flapper is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the paper transport roller lift motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-28 Finisher paper alignment roller lift motor section abnormality (FNM112)

Trouble content	The lifting operation of the paper takeup roller arm in the staple compiler of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the paper alignment roller lift motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-29 Finisher PWB cooling fan abnormality (FNFAN102)

Trouble content	The operation of the PWB cooling fan in the finisher is abnormal.
Detail	PCU
Cause	Motor lock, motor harness short/open, control PWB trouble, disconnection of harness or connector.
Check & Remedy	Use SIM3-3 to check the operation of the control PWB cooling fan. Check connection from the control PWB to the motor. Replace the control PWB and the fan motor.

F0-30 Communication trouble between the finisher and the saddle

Trouble content	Communication trouble between the finisher and the saddle No response for the command send from the saddle unit
Detail	PCU
Cause	Noise on the communication line, control PWB trouble, disconnection of connector or harness.
Check & Remedy	Turn OFF/ON the power. Check the connector between the finisher and the saddle. Replace the control PWB of the saddle unit.

F0-31 Finisher saddle folding motor section abnormality (FSM206)

Trouble content	Saddle unit folding roller operation abnormality
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the saddle paper folding motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-32 Finisher relay unit transport motor section abnormality (PIM301)

Trouble content	The operation of the paper transport in the paper relay unit of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, motor harness short/open, control PWB trouble, disconnection of harness or connector.
Check & Remedy	Use SIM3-3 to check the operation of the relay paper transport motor. Check connection from the control PWB to the motor. Turn OFF/ON the power. Replace the control PWB and the motor.

F0-33 Finisher punch shift motor section abnormality (FCM101)

Trouble content	The horizontal registration shift operation of the punch unit in the finisher is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the punch shift motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-34 Finisher punch motor section abnormality (FCM102)

Trouble content	The punching operation of the punch unit in the finisher is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the punch motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-37 Finisher backup RAM trouble

Trouble content	Data cannot be written into the backup RAM. The red values are abnormal.
Detail	PCU
Cause	Finisher control PWB trouble, EEPROM chip breakdown.
Check & Remedy	Replace the finisher control PWB.

F0-40 Communication trouble between the finisher saddle and the trimmer

Trouble content	Communication trouble between the saddle unit and the trimmer unit. When a command is sent from the saddle unit to the trimmer unit, no response is made by the trimmer unit.
Detail	PCU
Cause	Noise on the communication line, control PWB trouble, disconnection of connector or harness.
Check & Remedy	Turn OFF/ON the power. Check the connector between the saddle and the trimmer unit. Replace the control PWB of the saddle unit. Replace the control PWB of the trimmer unit.

F0-41 Finisher saddle lead edge stopper motor section abnormality (FSM203)

Trouble content	The operation of the finisher saddle unit lead edge stopper motor is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the saddle lead edge stopper motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-42 Finisher saddle folding roller guide motor section abnormality (FSM204)

Trouble content	The operation of the saddle unit folding roller guide is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the saddle folding roller guide motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-43 Finisher saddle alignment motor section abnormality (FSM212)

Trouble content	The jogger shift operation in the staple compiler of the saddle unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the saddle paper alignment motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-44 Finisher saddle rear edge hold motor section abnormality (FSM210)

Trouble content	The operation of the rear edge hold member of the saddle unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the saddle rear edge hold motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-45 Finisher saddle staple motor section abnormality (FSM209)

Trouble content	The staple operation of the saddle unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the saddle staple motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-46 Finisher saddle rear edge shift motor section abnormality (FSM211)

Trouble content	The operation of the rear edge shift motor of the finisher saddle unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the saddle rear edge shift motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-47 Finisher saddle flap motor section abnormality (FSM213)

Trouble content	The operation of the rear edge flap unit of the saddle unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the saddle flap motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-48 Finisher saddle push motor section abnormality (FSM205)

Trouble content	The pushing operation of the saddle unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the saddle push motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-49 Finisher saddle separation motor section abnormality (FSM214)

Trouble content	The operation of the takeup separation roller of the saddle unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the saddle separation motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-51 Finisher trimmer cutter motor abnormality (FTM106)

Trouble content	The cutter operation of the trimmer unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the trimmer cutter motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-52 Finisher trimmer registration motor section abnormality (FTM102)

Trouble content	PCU
Detail	The operation of the registration taking unit of the trimmer unit is abnormal.
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the trimmer registration motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-53 Finisher trimmer inlet port separation motor abnormality (FTM103)

Trouble content	The separation operation of the inlet port roller of the trimmer unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the trimmer inlet port separation motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-54 Finisher trimmer paper exit separation motor section abnormality (FTM104)

Trouble content	The separation operation of the paper exit roller of the trimmer unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the trimmer paper exit separation motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-55 Finisher trimmer bundle press motor section abnormality (FTM105)

Trouble content	The nip and separation operations of the bundle press roller of the trimmer unit are abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the trimmer bundle press motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-56 Paper remaining trouble in the finisher trimmer

Trouble content	Paper bundle remained in the trimmer is not discharged by the automatic paper exit operation.
Detail	PCU
Cause	Trimmer inlet port sensor breakdown The paper bundle is bent and cannot be transported.
Check & Remedy	Use SIM3-3 to check the operation of the trimmer transport motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part. Check the paper bundle can be transported or not.

F0-70 Communication trouble between the finisher and the folding unit

Trouble content	Communication trouble between the finisher and the folding unit. No response for a command from the folding unit.
Detail	PCU
Cause	Noise on the communication line, control PWB trouble, disconnection of connector or harness.
Check & Remedy	Turn OFF/ON the power. Check connection between the finisher and the folding unit. Replace the control PWB of the folding unit.

F0-71 Folding unit lead edge holding guide motor section abnormality (FLM10)

Trouble content	The operations of the folding unit lead edge holding guide is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the folding unit lead edge holding guide motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-72 Folding unit backup RAM trouble

Trouble content	Data cannot be written into the backup RAM of the folding unit. The red values are abnormal.
Detail	PCU
Cause	Folding unit control PWB trouble, EEPROM chip breakdown.
Check & Remedy	Replace the folding unit control PWB.

F0-73 Folding unit power fan abnormality

Trouble content	Cooling fan abnormality in the power unit section of the folding unit
Detail	PCU
Cause	Motor lock, motor harness short/open, control PWB trouble, disconnection of harness or connector.
Check & Remedy	Check connection from the control PWB to the fan motor. Replace the control PWB. Replace the fan motor.

F0-74 Folding unit folding tray paper exit motor section abnormality (FLM14)

Trouble content	The paper exit operation to the folding unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the folding unit folding tray paper exit motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-75 Folding unit upper stopper motor section abnormality (FLM8)

Trouble content	The operation of the upper stopper of the folding unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the folding unit upper stopper motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-76 3-fold stopper motor section in the folding unit is abnormal (FLM9)

Trouble content	The operation of the 3-fold stopper in the folding unit is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-41 to check the operation of the 3-fold stopper motor in the folding unit. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-77 Folding unit transport motor section abnormality (FLM11)

Trouble content	The folding and transport operations of the folding unit are abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector.
Check & Remedy	Use SIM3-41 to check the operation of the folding unit transport motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-80 Finisher power cooling fan motor abnormality (FNFAN101)

Trouble content	The operation of the cooling fan in the power unit section of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, motor harness short/open, control PWB trouble, disconnection of harness or connector.
Check & Remedy	Check connection from the control PWB to the fan motor. Replace the control PWB. Replace the fan motor.

F0-81 Finisher upper tray fan abnormality (FNFAN103)

Trouble content	The operation of the cooling fan in the upper tray of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, motor harness short/open, control PWB trouble, disconnection of harness or connector.
Check & Remedy	Use SIM3-3 to check the operation of the upper tray fan. Check connection from the control PWB to the fan motor. Replace the control PWB. Replace the fan motor.

F0-82 Finisher lower tray fan abnormality (FNFAN104)

Trouble content	The operation of the cooling fan in the lower tray of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, motor harness short/open, control PWB trouble, disconnection of harness or connector.
Check & Remedy	Use SIM3-3 to check the operation of the lower tray fan. Check connection from the control PWB to the fan motor. Replace the control PWB. Replace the fan motor.

F0-83 Finisher paper guide motor section abnormality (FNM120)

Trouble content	The operation of the paper lead edge guide unit at the paper exit port of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the paper guide motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-84 Finisher grip section abnormality (FNM117)

Trouble content	The bundle grip operation when discharging paper bundle from the staple compiler of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the gripper motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F0-86 Finisher discharged paper hold motor section abnormality (FNM114)

Trouble content	The operation of the paper hold lever at the paper exit port of the finisher is abnormal.
Detail	PCU
Cause	Motor lock, control PWB trouble, disconnection of harness or connector, HP sensor breakdown.
Check & Remedy	Use SIM3-3 to check the operation of the discharged paper hold motor. Check connection from the control PWB to the motor and the sensor. Replace the control PWB, the motor, and the sensor part.

F1-00 Finisher - PCU PWB communication error

Trouble content	
Detail	PCU
Cause	Connection trouble of the connector and the harness between the finisher and the PCU PWB. Finisher control PWB trouble. PCU PWB trouble.
Check & Remedy	Check the connector and the harness between the finisher and the PCU PWB. Replace the finisher control PWB. Replace the PCU PWB.

F1-03 Finisher paper delivery roller lift operation trouble (FSWM)

Trouble content	
Detail	PCU
Cause	Finisher paper delivery roller lift motor trouble Harness and connector connection trouble Home position sensor trouble Finisher control PWB trouble
Check & Remedy	Use SIM3-3 to check the operation of the paper delivery roller lift motor. Use SIM3-2 to check the operation of the home position sensor. Replace the paper delivery roller lift motor. Check connection of the connector and the harness. Replace the home position sensor. Replace the finisher control PWB.

F1-08 Stapler shift trouble (FSM)

Trouble content	
Detail	PCU
Cause	Stapler shift motor trouble. Finisher control PWB trouble. Home position sensor trouble.
Check & Remedy	Use SIM3-3 to check the operation of the stapler shift motor. Use SIM3-2 to check the operation of the home position sensor. Replace the stapler shift motor. Check connection of the connector and the harness. Replace the home position sensor. Replace the finisher control PWB.

F1-10 Staple operation trouble (FFSM)

Trouble content	
Detail	PCU
Cause	Staple motor trouble. Finisher control PWB trouble. Home position sensor trouble.
Check & Remedy	Use SIM3-3 to check the operation of the staple motor. Use SIM3-2 to check the operation of the home position sensor. Replace the staple motor. Check connection of the connector and the harness. Replace the home position sensor. Replace the finisher control PWB.

F1-15 Finisher paper exit tray lift operation trouble (FTLM)

Trouble content	Lift motor trouble.
Detail	PCU
Cause	Paper exit tray lift motor trouble. Finisher control PWB trouble. Home position sensor trouble.
Check & Remedy	Use SIM3-3 to check the operation of the paper exit tray lift motor. Use SIM3-2 to check the operation of the home position sensor. Replace the finisher control PWB. Replace the paper exit tray lift motor. Replace the home position sensor.

F1-19 Finisher paper alignment operation trouble F

Trouble content	
Detail	PCU
Cause	Finisher paper alignment motor lock. Motor speed abnormality. Over-current to the motor. Finisher control PWB trouble. Home position sensor trouble.
Check & Remedy	Use SIM3-3 to check the operation of the paper alignment motor F. Use SIM3-2 to check the operation of the home position sensor. Replace the finisher control PWB. Replace the paper alignment motor F. Replace the home position sensor.

F1-20 Finisher paper alignment operation trouble R

Trouble content	
Detail	PCU
Cause	Finisher paper alignment motor lock. Motor speed abnormality. Over-current to the motor. Finisher control PWB trouble. Home position sensor trouble.
Check & Remedy	Use SIM3-3 to check the operation of the paper alignment motor R. Use SIM3-2 to check the operation of the home position sensor. Replace the finisher control PWB. Replace the paper alignment motor R. Replace the home position sensor.

F1-21 Abnormality of relay unit fan motor inside the machine (PDCF)

Trouble content	The operation of the relay unit fan motor inside the machine is abnormal.
Detail	PCU
Cause	Motor lock, motor harness short/open, control PWB trouble, disconnection of harness or connector.
Check & Remedy	Use SIM3-3 to check the operation of the relay unit fan inside the machine. Check connection from the control PWB to the fan motor. Replace the control PWB. Replace the fan motor.

F1-22 Finisher trailing edge assist motor trouble (FASM)

Trouble content	
Detail	PCU
Cause	Motor harness short/open trouble. Control PWB trouble. Connection harness/connector connection trouble
Check & Remedy	Check the operation of the rear edge assist motor with SIM3-3. Check connection from the control PWB to the motor. Replace the control PWB.

F1-23 Finisher shutter trouble (FSHC)

Trouble content	
Detail	PCU
Cause	Motor lock trouble. Control PWB trouble. Home position sensor trouble. Connection harness/connector connection trouble.
Check & Remedy	Check the operation of the bundle paper exit motor with SIM3-3. Check connection from the control PWB to the motor. Replace the control PWB.

F1-30 Communication trouble between the Finisher and Saddle Unit

Trouble content	
Detail	PCU
Cause	Connector and harness connection trouble. Finisher control PWB trouble.
Check & Remedy	Check connection of the connector and the harness. Turn OFF/ON the power. Replace the finisher control PWB.

F1-31 Saddle paper folding motor trouble (FSFOM)

Trouble content	
Detail	PCU
Cause	Saddle paper folding motor trouble. Saddle paper folding mechanism trouble. Finisher control PWB trouble. Folding plate home position sensor trouble. Saddle paper folding motor rotation sensor trouble. Harness/connector connection trouble. PCU PWB trouble.
Check & Remedy	Use SIM3-3 to check the operation of the saddle motor. Check the saddle paper folding mechanism. Check the finisher control PWB, and replace if necessary. Check the folding plate home position sensor, and replace if necessary. Check the saddle paper folding motor rotation sensor, and replace if necessary. Check connection of the harness/connector, and replace if necessary. Check the PCU PWB, and replace if necessary.

F1-32 Communication error between the finisher and the punch unit (Saddle stitch finisher)

Trouble content	
Detail	PCU
Cause	Connector/harness trouble between the finisher and the punch unit. Finisher control PWB trouble. PCU PWB trouble. Malfunction due to noises.
Check & Remedy	Check the connector/harness between the finisher and the punch unit, and replace if necessary. Check the finisher control PWB, and replace if necessary. Check the PCU PWB, and replace if necessary.

F1-33 Punch unit shift operation trouble (FPSM)

Trouble content	
Detail	PCU
Cause	Punch shift motor trouble. Finisher control PWB trouble. Home position sensor trouble. Harness and connector connection trouble.
Check & Remedy	Use SIM3-3 to check the operation of the punch shifting. Use SIM3-2 to check the operation of the home position sensor. Replace the punch shift motor. Replace the finisher control PWB. Replace the home position sensor. Check connection of the connectors and the harness.

F1-34 Punch operation trouble (FPNM)

Trouble content	
Detail	PCU
Cause	Punch motor trouble. Finisher control PWB trouble. Home position sensor trouble. Harness and connector connection trouble.
Check & Remedy	Use SIM3-2 to check the operation of the home position sensor. Use SIM3-3 to check the operation of the punch. Replace the punch motor. Replace the finisher control PWB. Replace the home position sensor. Check connection of the connectors and the harness.

F1-37 Finisher data backup RAM error

Trouble content	
Detail	PCU
Cause	Finisher control PWB trouble. Malfunction due to noises
Check & Remedy	Replace the finisher control PWB. Readjust the finisher. (Use SIM3-10, Finisher control PWB DIP SW adjustment.)

F1-38 Punch data backup RAM error

Trouble content	
Detail	PCU
Cause	Punch control PWB trouble. Malfunction due to noises
Check & Remedy	Replace the punch control PWB. Set the punch unit specifications, and adjust the sensor. (Punch unit control PWB DIP SW adjustment.)

F1-41 Saddle paper positioning operation trouble (FPPM)

Trouble content	
Detail	PCU
Cause	Abnormality in the folding positioning guide motor in the saddle section. Saddle paper positioning guide drive motor trouble. Finisher control PWB trouble. Home position sensor trouble. Harness and connector connection trouble.
Check & Remedy	Use SIM3-3 to check the operation of the saddle paper positioning motor. Check connection from the control PWB to the motor. Turn OFF/ON the power. Replace the control PWB. Replace the sensor.

F1-42 Finisher saddle guide motor trouble (FSGM)

Trouble content	
Detail	PCU
Cause	Saddle roller guide motor trouble. Finisher control PWB trouble. Home position sensor trouble. Harness and connector connection trouble.
Check & Remedy	Use SIM3-3 to check the operation of the saddle roller guide motor. Check connection from the control PWB to the motor. Turn OFF/ON the power. Replace the control PWB. Replace the sensor.

F1-43 Saddle alignment operation trouble (FSJM)

Trouble content	
Detail	PCU
Cause	Saddle alignment motor trouble. Finisher control PWB trouble. Home position sensor trouble. Harness and connector connection trouble.
Check & Remedy	Use SIM3-3 to check the operation of the Saddle alignment motor (FSPAM). Check connection from the control PWB to the motor. Turn OFF/ON the power. Replace the control PWB. Replace the sensor.

F1-44 Saddle staple motor R trouble (FSRSTM)

Trouble content	
Detail	PCU
Cause	Saddle staple motor R trouble. Finisher control PWB trouble. Home position sensor trouble. Harness and connector connection trouble.
Check & Remedy	Use SIM3-3 to check the operation of the saddle staple motor R. Check connection from the control PWB to the motor. Turn OFF/ON the power. Replace the control PWB. Replace the sensor.

F1-45 Saddle staple trouble (FSFSTM)

Trouble content	Abnormality of the staple unit drive motor in the saddle section.
Detail	PCU
Cause	Saddle staple motor trouble. Finisher control PWB trouble. Home position sensor trouble. Harness and connector connection trouble.
Check & Remedy	Use SIM3-3 to check the operation of the saddle staple motor. Check connection from the control PWB to the motor. Turn OFF/ON the power. Replace the control PWB. Replace the sensor.

F1-46 Saddle pushing plate motor trouble (FSLGM)

Trouble content	
Detail	PCU
Cause	Saddle motor trouble. Finisher control PWB trouble. Home position sensor trouble. Harness and connector connection trouble.
Check & Remedy	Use SIM3-3 to check the operation of the saddle motor. Check connection from the control PWB to the motor. Turn OFF/ON the power. Replace the control PWB. Replace the sensor.

F1-50 Main unit - Finisher combination error

Trouble content	
Detail	PCU
Cause	The finisher which is not supported by the main unit model is installed. Finisher control PWB trouble.
Check & Remedy	Install a proper finisher. Replace the finisher control PWB.

F1-51 Saddle sensor connection trouble (FSGHPD, FSLGHPD or FSLGTD)

Trouble content	
Detail	PCU
Cause	Finisher control PWB trouble. Home position sensor trouble. Harness and connector connection trouble.
Check & Remedy	Use SIM03-02 to check the operations of the guide HP sensor and the push plate lead edge sensor. Check connection from the control PWB to the sensor. Replace the control PWB. Replace the sensor.

F1-52 Finisher inlet door switch trouble (FSINDSW)

Trouble content	
Detail	PCU
Cause	Finisher control PWB trouble. Each micro switch trouble. Harness and connector connection trouble.
Check & Remedy	Use SIM03-02 to check the operations of the front door/upper door open detection and the oscillation guide close detection. Check connection from the control PWB to the sensor. Replace the control PWB. Replace the sensor.

F1-60 Communication error between the Finisher and Inserter

Trouble content	Communication abnormality between the units connected to the downstream of the inserter. No response for a command from the inserter. Motor abnormality.
Detail	PCU
Cause	Noise on the communication line Control PWB trouble. Harness and connector connection trouble.
Check & Remedy	Turn OFF/ON the power. Check connection of the connector with the downstream units of the inserter. Replace the control PWB of the downstream units of the inserter.

F1-64 No. 1 pickup motor trouble

Trouble content	Abnormality of the paper feed roller driving motor in the upper side paper feed section of the inserter
Detail	PCU
Cause	Motor lock, control PWB trouble, home position sensor breakdown, connection harness / connector connection trouble.
Check & Remedy	Use Sim. 3-31 to check the operation of the No. 1 pickup motor. Check connection from the control PWB to the motor. Replace the control PWB and the sensor part.

F1-65 No. 2 pickup motor trouble

Trouble content	Abnormality of the paper feed roller driving motor in the lower side paper feed section of the inserter
Detail	PCU
Cause	Motor lock, control PWB trouble, home position sensor breakdown, connection harness / connector connection trouble.
Check & Remedy	Use Sim. 3-31 to check the operation of the No. 2 pickup motor. Check connection from the control PWB to the motor. Replace the control PWB and the sensor part.

F1-66 No. 1 lift motor trouble

Trouble content	Abnormality of the tray lift-up driving motor in the upper side paper feed section of the inserter.
Detail	PCU
Cause	Motor lock, control PWB trouble, home position sensor breakdown, connection harness / connector connection trouble.
Check & Remedy	Use Sim. 3-31 to check the operation of the No. 1 lift motor. Check connection from the control PWB to the motor. Replace the control PWB and the sensor part.

F1-67 No. 2 lift motor trouble

Trouble content	Abnormality of the tray lift-up driving motor in the upper side paper feed section of the inserter.
Detail	PCU
Cause	Motor lock, control PWB trouble, home position sensor breakdown, connection harness / connector connection trouble.
Check & Remedy	Use Sim. 3-31 to check the operation of the No. 2 lift motor. Check connection from the control PWB to the motor. Replace the control PWB and the sensor part.

F1-90 Communication trouble between the decurler and the downstream units.

Trouble content	Communication trouble between the decurler and the units connected to the downstream of the decurler.
Detail	PCU
Cause	Noise on the communication line, control PWB trouble, disconnection of connector or harness.
Check & Remedy	Turn OFF/ON the power. Check connection of the connector between the decurler unit and the downstream units of the decurler. Replace the control PWB of the downstream units of the decurler.

F1-96 Decurler transport motor abnormality (DCM100)

Trouble content	The transport operation of the decurler transport motor is abnormal.
Detail	PCU
Cause	Motor driver IC overcurrent detection, overheat detection.
Check & Remedy	Use SIM3-51 to check the operation of the decurler transport motor. Replace the control PWB.

F1-97 Decurler unit fan 1 (Upper cooling fan) abnormality (DCFAN100)

Trouble content	The operation of the fan in the decurler unit is abnormal.
Detail	PCU
Cause	Motor lock, motor harness short/open, control PWB trouble, disconnection of harness or connector.
Check & Remedy	Use SIM3-51 to check the operation of the decurler unit fan 1 (Upper cooling fan). Check connection from the control PWB to the fan motor. Replace the control PWB. Replace the fan motor.

F1-98 Decurler unit fan 2 (Lower cooling fan) abnormality (DCFAN103)

Trouble content	The operation of the fan in the decurler unit is abnormal.
Detail	PCU
Cause	Motor lock, motor harness short/open, control PWB trouble, disconnection of harness or connector.
Check & Remedy	Use SIM3-51 to check the operation of the decurler unit fan 2 (Lower cooling fan). Check connection from the control PWB to the fan motor. Replace the control PWB. Replace the fan motor.

F1-99 Decurler unit fan 3 (Transport motor cooling fan) abnormality (DCFAN101)

Trouble content	The operation of the fan in the decurler unit is abnormal.
Detail	PCU
Cause	Motor lock, motor harness short/open, control PWB trouble, disconnection of harness or connector.
Check & Remedy	Use SIM3-51 to check the operation of the decurler unit fan 3 (Transport motor cooling fan). Check connection from the control PWB to the fan motor. Replace the control PWB. Replace the fan motor.

F2-22 Discharge lamp trouble (K)

Trouble content	When the discharge lamp open sensor is kept ON for a certain time from turning ON the discharge lamp, it is detected as a trouble.
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	Use SIM5-4 to check lighting of the discharge lamp (K) [DL_K]. Check the discharge lamp PWB (K). Check the harness and the connector. Replace the PCU PWB.

F2-23 Discharge lamp trouble (C)

Trouble content	When the discharge lamp open sensor is kept ON for a certain time from turning ON the discharge lamp, it is detected as a trouble.
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	Use SIM5-4 to check lighting of the discharge lamp (C) [DL_C]. Check the discharge lamp PWB (C). Check the harness and the connector. Replace the PCU PWB.

F2-24 Discharge lamp trouble (M)

Trouble content	When the discharge lamp open sensor is kept ON for a certain time from turning ON the discharge lamp, it is detected as a trouble.
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	Use SIM5-4 to check lighting of the discharge lamp (M) [DL_M]. Check the discharge lamp PWB (M). Check the harness and the connector. Replace the PCU PWB.

F2-25 Discharge lamp trouble (Y)

Trouble content	When the discharge lamp open sensor is kept ON for a certain time from turning ON the discharge lamp, it is detected as a trouble.
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	Use SIM5-4 to check lighting of the discharge lamp (Y) [DL_Y]. Check the discharge lamp PWB (Y). Check the harness and the connector. Replace the PCU PWB.

F2-39 Process temperature sensor 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. Calibration plate 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. Replace the calibration plate. Repair the transfer unit lift mechanism. Replace the PCU PWB.

F2-49 LSU thermistor trouble

Trouble content	
Detail	PCU
Cause	The LSU temperature is outside of -28 - 78 deg C. LSU thermistor trouble. LSU thermistor harness and connector connection trouble PCU PWB trouble. LSU control PWB trouble.
Check & Remedy	Replace the PCU PWB. Replace the LSU control 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 (C)

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_C", "DHPD_M", "DHPD_Y". 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.

F2-52 CL drum phase sensor trouble (M)

Trouble content	
Detail	PCU
Cause	Drum phase sensor trouble. Harness and connector connection trouble. Drum drive section trouble. PCU PWB trouble.
Check & Remedy	Use SIM30-1 to check the operation of "DHPD_C", "DHPD_M", "DHPD_Y". Replace the drum phase sensor. Check connection of the connectors and the harness. Repair the drum drive section. Replace the PCU PWB.

F2-53 CL drum phase sensor trouble (Y)

Trouble content	
Detail	PCU
Cause	Drum phase sensor trouble. Harness and connector connection trouble. Drum drive section trouble. PCU PWB trouble.
Check & Remedy	Use SIM30-1 to check the operation of "DHPD_C", "DHPD_M", "DHPD_Y". Replace the drum phase sensor. Check connection of the connectors and the harness. 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. Process humidity sensor harness and connector connection trouble PCU PWB trouble.
Check & Remedy	Replace the temperature/humidity sensor. Check connection of the temperature/humidity sensor harness and the connector. Replace the PCU PWB.

F2-64 Toner supply operation trouble (K)

Trouble content	
Detail	PCU
Cause	Toner motor trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble. Tone hopper section trouble
Check & Remedy	Replace the toner motor. Replace the toner density sensor. Connector and harness check. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit. Check the toner hopper section.

F2-65 Toner supply operation trouble (C)

Trouble content	
Detail	PCU
Cause	Toner motor trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble. Tone hopper section trouble
Check & Remedy	Replace the toner motor. Replace the toner density sensor. Connector and harness check. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit. Check the toner hopper section.

F2-66 Toner supply operation trouble (M)

Trouble content	
Detail	PCU
Cause	Toner motor trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble. Tone hopper section trouble
Check & Remedy	Replace the toner motor. Replace the toner density sensor. Connector and harness check. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit. Check the toner hopper section.

F2-67 Toner supply operation trouble (Y)

Trouble content	
Detail	PCU
Cause	Toner motor trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble. Tone hopper section trouble
Check & Remedy	Replace the toner motor. Replace the toner density sensor. Connector and harness check. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit. Check the toner hopper 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/BK image density sensor trouble

Trouble content	Transfer belt substrate reflection rate abnormality
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.

F2-A0 After-transfer discharge lamp open trouble (K)

Trouble content	The after-transfer discharge lamp open sensor is kept open for a specified time from turning ON the after-transfer discharge lamp.
Detail	PCU
Cause	Connection trouble between the after-transfer discharge lamp PWB and the PCU PWB After-transfer discharge lamp PWB trouble PCU PWB trouble
Check & Remedy	Use SIM5-4 to check lighting of the after-transfer discharge lamp (K) [DL2_K]. Check the after-transfer discharge lamp PWB (K). Check the harness and the connector. Replace the PCU PWB.

F2-A1 After-transfer discharge lamp open trouble (C)

Trouble content	The after-transfer discharge lamp open sensor is kept open for a specified time from turning ON the after-transfer discharge lamp.
Detail	PCU
Cause	Connection trouble between the after-transfer discharge lamp PWB and the PCU PWB After-transfer discharge lamp PWB trouble PCU PWB trouble
Check & Remedy	Use SIM5-4 to check lighting of the after-transfer discharge lamp (C) [DL2_C]. Check the after-transfer discharge lamp PWB (C). Check the harness and the connector. Replace the PCU PWB.

F2-A2 After-transfer discharge lamp open trouble (M)

Trouble content	The after-transfer discharge lamp open sensor is kept open for a specified time from turning ON the after-transfer discharge lamp.
Detail	PCU
Cause	Connection trouble between the after-transfer discharge lamp PWB and the PCU PWB After-transfer discharge lamp PWB trouble PCU PWB trouble
Check & Remedy	Use SIM5-4 to check lighting of the after-transfer discharge lamp (M) [DL2_M]. Check the after-transfer discharge lamp PWB (M). Check the harness and the connector. Replace the PCU PWB.

F2-A3 After-transfer discharge lamp open trouble (Y)

Trouble content	The after-transfer discharge lamp open sensor is kept open for a specified time from turning ON the after-transfer discharge lamp.
Detail	PCU
Cause	Connection trouble between the after-transfer discharge lamp PWB and the PCU PWB After-transfer discharge lamp PWB trouble PCU PWB trouble
Check & Remedy	Use SIM5-4 to check lighting of the after-transfer discharge lamp (Y) [DL2_Y]. Check the after-transfer discharge lamp PWB (Y). Check the harness and the connector. Replace the PCU PWB.

F3-12 Paper feed tray 1 lift operation trouble

Trouble content	
Detail	PCU
Cause	LUD1 is not turned ON within the specified time. CLUD1 sensor trouble. Paper feed tray 1 lift unit trouble. PCU PWB trouble. Sensor harness and connector connection trouble
Check & Remedy	Check connection of the harness and the connector of LUD1. Replace the lift unit. Replace the PCU PWB.

F3-22 Paper feed tray 2 lift operation trouble

Trouble content	LUD2 does not turn ON within the specified time.
Detail	PCU
Cause	LUD2 does not turn ON within the specified time. CLUD2 sensor trouble. Paper feed tray 2 lift unit trouble. PCU PWB trouble. Sensor harness and connector connection trouble
Check & Remedy	Check the harness and the connector of LUD2. Replace the lift unit. Replace the PCU PWB.

F3-32 Main body cassette 3 lift trouble

Trouble content	C3LUD does not turn ON within the specified time.
Detail	PCU
Cause	C3LUD sensor trouble. Cassette 3 lift motor trouble. Harness connection trouble between the PCU PWB, the lift unit, and the paper feed unit
Check & Remedy	Check the harness and the connector of C3LUD. Check the lift unit.

F3-42 Main body cassette 4 lift trouble

Trouble content	C4LUD does not turn ON within the specified time.
Detail	PCU
Cause	C4LUD sensor trouble. Cassette 4 lift motor trouble. Harness connection trouble between the PCU PWB, the lift unit, and the paper feed unit
Check & Remedy	Check the harness and the connector of C4LUD. Check the lift unit.

F6-00 MFPC PWB - FAX communication trouble

Trouble content	MFP - FAX communication establishment error / Framing / Parity / Protocol error	
Section	MFP	
Case 1	Cause	FAX control PWB trouble.
	Check and Remedy	Replace the FAX control 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 control PWB and the MFPC PWB.
Case 3	Cause	FAX control PWB - Mother board connector and harness trouble
	Check and Remedy	Check the connector and the harness between the FAX control PWB and the mother board.
Case 4	Cause	FAX control PWB ROM trouble / ROM pin breakage
	Check and Remedy	Check the ROM of the FAX control PWB.

F6-01 FAX control PWB EEPROM read/write error

Trouble content	FAX control PWB EEPROM access error (Read and write)	
Section	FAX	
Case 1	Cause	FAX control 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 control PWB EEPROM access circuit trouble
	Check and Remedy	Replace the FAX control PWB.

F6-02 FAX power supply trouble

Trouble content		
Detail		
Cause	DC power supply trouble MFP PWB trouble 24V detection circuit trouble Harness trouble between the FAX PWB and MFP PWB	
Check & Remedy	Check 24V supply circuit between the machine and FAX PWB Replace DC power supply unit Replace MFP PWB Replace FAX PWB Replace the harness between the machine and FAX PWB	

F6-04 FAX MODEM operation trouble

Trouble content	FAX control PWB MODEM chip operation trouble	
Section	FAX	
Case 1	Cause	FAX MODEM chip operation trouble.
	Check and remedy	Replace the FAX control PWB.
Case 2	Cause	The FAX MODEM chip cannot be accessed.
	Check and Remedy	Replace the FAX control PWB.

F6-21 Improper combination of TEL/LIU PWB and FAX soft switch

Trouble content	Incompatibility between the TEL/LIU PWB and the FAX control PWB information (soft switch)	
Section	FAX	
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		FAX
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 control PWB.

F6-97 Incompatibility between FAX control PWB and the main machine

Trouble content		Incompatibility between FAX control PWB and the main machine
Section		MFP
Case 1	Cause	The FAX control PWB installed is improper. FAX control PWB trouble.
	Check and Remedy	Install a proper FAX control PWB. Replace the FAX control PWB.

F6-98 Incompatibility between the FAX control PWB destination and the main machine destination

Trouble content		Incompatibility between the FAX control PWB destination and the main machine destination
Section		MFP
Case 1	Cause	Incompatibility between the destination information written into the FAX control PWB EEPROM and that in the main machine (set with SIM26-6)
	Check and Remedy	1) Check the destination of the FAX control PWB. 2) Check the destination of the machine. (SIM26-6)

F9-00 Communication error between MFP and the printer section when booting

Trouble content		Booting of the printer section cannot be recognized when booting.
Detail		MFP
Cause		MFPC (section) PWB trouble. CF card trouble. MFPC (section) PWB - printer (section) PWB connection trouble.
Check & Remedy		Replace the MFPC (section) PWB. Replace the CF card. Check connection between the MFPC (section) PWB and the printer (section) PWB.

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 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.

H2-01 Non-contact thermistor lower main detection thermistor open (TH_LM1_AD2)

Trouble content		The thermistor is open.
Detail		PCU
Cause		Thermistor trouble Control PWB trouble Fusing section connector connection trouble AC power trouble Fusing unit not installed.
Check & Remedy		Check connection of the harness and the connector from the thermistor to the control PWB.

H2-02 Non-contact thermistor upper sub detection thermistor open (TH_US1_AD2)

Trouble content		The thermistor is open.
Detail		PCU
Cause		Thermistor trouble Control PWB trouble Fusing section connector connection trouble AC power trouble Fusing unit not installed.
Check & Remedy		Check connection of the harness and the connector from the thermistor to the control PWB.

H2-03 Non-contact thermistor upper main compensation thermistor open (TH_UM_CS)

Trouble content		The thermistor is open.
Detail		PCU
Cause		Thermistor trouble Control PWB trouble Fusing section connector connection trouble AC power trouble Fusing unit not installed.
Check & Remedy		Check connection of the harness and the connector from the thermistor to the control PWB.

H2-04 Non-contact thermistor lower main compensation thermistor open (TH_LM1_AD1)

Trouble content	The thermistor is open.
Detail	PCU
Cause	Thermistor trouble Control PWB trouble Fusing section connector connection trouble AC power trouble Fusing unit not installed.
Check & Remedy	Check connection of the harness and the connector from the thermistor to the control PWB.

H2-05 Non-contact thermistor upper sub compensation thermistor open (TH_US1_AD1)

Trouble content	The thermistor is open.
Detail	PCU
Cause	Thermistor trouble Control PWB trouble Fusing section connector connection trouble AC power trouble Fusing unit not installed.
Check & Remedy	Check connection of the harness and the connector from the thermistor to the control PWB.

H2-06 Upper edge section thermistor open (TH_US2)

Trouble content	The thermistor is open.
Detail	PCU
Cause	Thermistor trouble Control PWB trouble Fusing section connector connection trouble AC power trouble Fusing unit not installed.
Check & Remedy	Check connection of the harness and the connector from the thermistor to the control PWB.

H2-07 Lower edge section thermistor open (TH_LM2)

Trouble content	The thermistor is open.
Detail	PCU
Cause	Thermistor trouble Control PWB trouble Fusing section connector connection trouble AC power trouble Fusing unit not installed.
Check & Remedy	Check connection of the harness and the connector from the thermistor to the control PWB.

H3-00 Fusing section high temperature trouble (TH_UM)

Trouble content	
Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble PCU PWB trouble Thermistor connector and harness connection trouble HL control PWB 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. Replace the PCU PWB. Check connection of the thermistor connector and the harness. Replace the HL control PWB.

H3-01 Fusing section high temperature trouble (TH_LM)

Trouble content	
Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble PCU PWB trouble Thermistor connector and harness connection trouble HL control PWB 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. Replace the PCU PWB. Check connection of the thermistor connector and the harness. Replace the HL control PWB.

H3-02 Fusing section high temperature trouble (TH_US)

Trouble content	
Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble PCU PWB trouble Thermistor connector and harness connection trouble HL control PWB 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. Replace the PCU PWB. Check connection of the thermistor connector and the harness. Replace the HL control PWB.

H4-00 Fusing section low temperature trouble (TH_UM_AD2)

Trouble content	The fusing temperature does not reach the specified level within the specified time from turning ON the power relay.
Detail	PCU
Cause	Thermistor trouble. Heater lamp trouble. PCU PWB trouble. Thermostat trouble. Connector, harness connection trouble. HL control PWB 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 PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the HL control PWB. Replace the power unit.

H4-02 Fusing section low temperature trouble (TH_US)

Trouble content	The fusing temperature does not reach the specified level within the specified time from turning ON the power relay.
Detail	PCU
Cause	Thermistor trouble. Heater lamp trouble. PCU PWB trouble. Thermostat trouble. Connector, harness connection trouble. HL control PWB trouble. Power unit trouble.
Check & Remedy	Use SIM14 to cancel the trouble. Use SIM44-14 to check the state of the thermistor. Use SIM05-02 to check the flashing operation of the heater lamp. Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the HL control PWB. Replace the power unit.

H4-01 Fusing section low temperature trouble (TH_LM)

Trouble content	The fusing temperature does not reach the specified level within the specified time from turning ON the power relay.
Detail	PCU
Cause	Thermistor trouble. Heater lamp trouble. PCU PWB trouble. Thermostat trouble. Connector, harness connection trouble. HL control PWB 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 PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the HL control PWB. Replace the power unit.

H4-30 Upper main thermistor differential input abnormality (TH_UM)

Trouble content	The values of TH_UM_AD1 and TH_UM_AD2 do not exceed the specified value within the specified time from turning ON the HL_UM.
Detail	PCU
Cause	HL_UM does not turn on. Thermistor trouble. Harness trouble. PCU PWB trouble
Check & Remedy	Use SIM05-02 to check the flashing operation of the heater lamp. When the heater lamp flashes normally, check the thermistor and its harness. Check the thermistor input circuit section of the PCU PWB. When the lamp does not light up, check for disconnection in the heater lamp and breakage of the thermostat. Check the interlock switch. Check the lamp control circuit of the AC PWB and the PCU PWB. Use SIM14 to cancel the trouble.

H4-31 Lower main thermistor differential input abnormality (TH_LM1)

Trouble content	The lower main compensation thermistor and the lower main differential thermistor do not exceed the specified value within the specified time from turning ON the lower main heater lamp.
Detail	PCU
Cause	The lower main heater lamp does not turn ON. Thermistor breakdown, harness trouble, PCU PWB trouble
Check & Remedy	Use SIM05-02 to check the flashing operation of the heater lamp. When the heater lamp flashes normally, check the thermistor and its harness. Check the thermistor input circuit section of the PCU PWB. When the lamp does not light up, check for disconnection in the heater lamp and breakage of the thermostat. Check the interlock switch. Check the lamp control circuit of the AC PWB and the PCU PWB. Use SIM14 to cancel the trouble.

H4-32 Upper sub thermistor differential input abnormality (TH_US1)

Trouble content	The upper sub compensation thermistor and the upper sub differential thermistor do not exceed the specified value within the specified time from turning ON the upper sub heater lamp.
Detail	PCU
Cause	The upper sub heater lamp does not turn ON. Thermistor breakdown, harness trouble, PCU PWB trouble
Check & Remedy	Use SIM05-02 to check the flashing operation of the heater lamp. When the heater lamp flashes normally, check the thermistor and its harness. Check the thermistor input circuit section of the PCU PWB. When the lamp does not light up, check for disconnection in the heater lamp and breakage of the thermostat. Check the interlock switch. Check the lamp control circuit of 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_AD2)

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. PCU PWB trouble. Thermostat trouble. Connector, harness connection trouble. HL control PWB trouble. Power unit trouble.
Check & Remedy	Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the HL control PWB. Replace the power unit. Use SIM5-2 to check the flashing operation of the heater lamp.

H7-11 Recovery error from low fuser temp. (TH_LM)

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. PCU PWB trouble. Thermostat trouble. Connector, harness connection trouble. HL control PWB trouble. Power unit trouble.
Check & Remedy	Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the HL control PWB. 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 Mother PWB trouble. Scanner control 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 Mother 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 SCN Mother PWB trouble Scanner control 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 Mother PWB. Check connection of the connectors and the harness. Replace the scanner home position sensor. Replace the scanner motor.

L4-02 Paper feed motor trouble

Trouble content	A lock signal is not detected within the specified time in ON operation of the paper feed motor after warming-up or canceling a jam.
Detail	PCU
Cause	Paper feed motor trouble Paper feed motor harness and connector connection trouble PCU PWB trouble
Check & Remedy	Use SIM6-1 to check the operation of the paper feed motor. Replace the paper feed motor. Check connection of the paper feed motor harness and the connector. Replace the PCU PWB.

L4-03 Fusing motor trouble

Trouble content	The motor lock signal is detected during rotation of the fusing motor.
Detail	PCU
Cause	Fusing motor trouble Fusing motor harness and connector connection trouble PCU PWB trouble
Check & Remedy	Use SIM6-1 to check the operation of the fusing motor. Replace the Fusing motor. Check connection of the fusing motor harness and the connection. Replace the 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.

L4-07 Transfer belt motor trouble

Trouble content	The motor lock signal is detected during rotation of the transfer belt motor.
Detail	PCU
Cause	Transfer belt trouble. Harness/connector trouble between the PCU PWB and the transfer belt motor. Control PWB trouble. Circuit trouble.
Check & Remedy	Use SIM25-1 to check the operation of the transfer belt motor. Check the harness and the connector between the PCU PWB and the transfer belt motor.

L4-08 Waste toner transport motor lock

Trouble content	The waste toner lock sensor is detected during rotation of the drum motor.
Detail	PCU
Cause	Waste toner transport motor trouble. Waste toner transport pipe clogging Harness/connector trouble between the PCU PWB and the waste toner transport motor.
Check & Remedy	Use SIM6-1 to check the operation of the waste toner transport motor (WTM). Check the waste toner transport pipe for clogging. Check the harness and the connector between the PCU PWB and the waste toner transport motor.

L4-16 Fusing pressure release trouble

Trouble content	A change in the fusing pressure release sensor signal cannot be detected within the specified time after outputting the fusing pressure release motor.
Detail	PCU
Cause	Fusing pressure release sensor trouble. Fusing pressure release motor trouble. Pressure release drive gear and pressure release idle gear trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Replace the fusing pressure release sensor. Replace the fusing pressure release motor. Replace the pressure release drive gear and the pressure release idle gear. Replace the PCU PWB. Check connection of the connector and the harness.

L4-17 Drum motor lock trouble (K)

Trouble content	The motor lock signal is detected during rotation of the drum motor (K).
Detail	PCU
Cause	Drum motor trouble Harness connection trouble between the PCU 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 PCU PWB and the developing motor. Replace the PCU PWB. Replace the drum motor.

L4-18 Drum motor lock trouble (C)

Trouble content	The motor lock signal is detected during rotation of the drum motor (C).
Detail	PCU
Cause	Drum motor trouble Harness connection trouble between the PCU 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 PCU PWB and the developing motor. Replace the PCU PWB. Replace the drum motor.

L4-19 Drum motor lock trouble (M)

Trouble content	The motor lock signal is detected during rotation of the drum motor (M).
Detail	PCU
Cause	Drum motor trouble Harness connection trouble between the PCU 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 PCU PWB and the developing motor. Replace the PCU PWB. Replace the drum motor.

L4-20 Drum motor lock trouble (Y)

Trouble content	The motor lock signal is detected during rotation of the drum motor (Y).
Detail	PCU
Cause	Drum motor trouble Harness connection trouble between the PCU 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 PCU PWB and the developing motor. Replace the PCU PWB. Replace the drum motor.

L4-30 MFP cooling fan / HDD cooling fan trouble

Trouble content	The motor lock signal is detected during rotation of the MFP cooling fan or HDD cooling fan.
Detail	MFP
Cause	Fan motor trouble, controller PWB trouble, SCN-Mother PWB trouble, fan motor/SCN-Mother PWB harness connection trouble, controller PWB/SCN-Mother PWB connection trouble, control circuit trouble
Check & Remedy	Use SIM06-02 to check the operation of the fan motor. Check the controller PWB, the SCN-Mother PWB, and the harness and the connector between the fan motor and the SCN-Mother PWB.

L4-31 Paper exit cooling fan F trouble

Trouble content	The fan operation signal is not detected within the specified time in the paper exit cooling fan F operation.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the fan connector or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan. Use SIM6-2 to check that the fan is actually rotating.

L4-32 Power source cooling fan 1 trouble

Trouble content	The fan operation signal is not detected within the specified time in the power cooling fan 1 operation.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the ozone exhaust fan or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan. Use SIM6-2 to check that the fan is actually rotating.

L4-33 Machine ventilation fan BA trouble

Trouble content	The fan operation signal is not detected within the specified time in the machine ventilation fan BA operation.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the ozone exhaust fan or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan. Use SIM6-2 to check that the fan is actually rotating.

L4-34 LSU cooling fan trouble

Trouble content	
Detail	PCU
Cause	When the LSU cooling fan is operated, the fan operation signal is not detected within the specified time. LSU fan trouble. Harness, connector trouble. LSU control PWB trouble.
Check & Remedy	Use SIM6-2 to check the fan operation. Check the LSU fan, and replace if necessary. Check the harness/connector, and replace if necessary. Check the LSU control PWB, and replace if necessary.

L4-35 Paper exit exhaust fan trouble

Trouble content	When the fan is operated, the fan operation signal is not detected within the specified time.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the fan connector or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan. Use SIM6-2 to check that the fan is actually rotating.

L4-36 Fusing cooling fan trouble

Trouble content	When the fan is operated, the fan operation signal is not detected within the specified time.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the fan connector or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan. Use SIM6-2 to check that the fan is actually rotating.

L4-38 Paper exit cooling fan2 F trouble

Trouble content	When the fan is operated, the fan operation signal is not detected within the specified time.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the fan connector or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan. Use SIM6-2 to check that the fan is actually rotating.

L4-39 Machine ventilation fan trouble

Trouble content	When the fan is operated, the fan operation signal is not detected within the specified time.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the fan connector or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan. Use SIM6-2 to check that the fan is actually rotating.

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.

L4-41 Ozone fan motor 2 trouble

Trouble content	The lock signal is detected during rotation of the ozone fan motor 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.

L4-42 Ozone fan motor 3 trouble

Trouble content	When the fan is operated, the fan operation signal is not detected within the specified time.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the fan connector or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan. Use SIM6-2 to check that the fan is actually rotating.

L4-43 Paper exit cooling fan R trouble

Trouble content	When the fan is operated, the fan operation signal is not detected within the specified time.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the fan connector or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan. Use SIM6-2 to check that the fan is actually rotating.

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.

L4-48 ADU transport cooling fan motor F trouble

Trouble content	The lock signal is detected during rotation of the ADU transport cooling fan motor F.
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.

L4-49 ADU transport cooling fan motor R trouble

Trouble content	The lock signal is detected during rotation of the ADU transport cooling fan motor R.
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.

L4-56 Paper exit cooling fan2 R trouble

Trouble content	When the fan is operated, the fan operation signal is not detected within the specified time.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the fan connector or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan. Use SIM6-2 to check that the fan is actually rotating.

L4-57 Toner bottle cooling fan motor trouble

Trouble content	The fan operation signal is not detected within the specified time in the toner bottle cooling fan operation.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the fan connector or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan motor. Check that the fan is rotating after turning ON the power.

L4-58 Paper exit cooling fan2 trouble

Trouble content	When the fan is operated, the fan operation signal is not detected within the specified time.
Detail	PCU
Cause	The fan does not rotate because of disconnection of the fan connector or other trouble.
Check & Remedy	Check the harness and the connector between the PCU PWB and the fan. Use SIM6-2 to check that the fan is actually rotating.

L4-60 Fusing pressure roller cooling fan motor F trouble

Trouble content	When the fan is operated, the fan operation signal is not detected within the specified time.
Detail	PCU
Cause	Harness connection 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.

L4-61 Fusing pressure roller cooling fan motor R trouble

Trouble content	When the fan is operated, the fan operation signal is not detected within the specified time.
Detail	PCU
Cause	Harness connection 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. LSU control PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM61-1 to check the operation of the polygon motor. Check connection of the connector and the harness. Replace the LSU. Replace the LSU control PWB.

L8-01 Full wave signal detection error

Trouble content	The full wave signal is not detected.
Detail	PCU
Cause	PCU PWB trouble. Power unit trouble. Connection trouble of the connector and the harness.
Check & Remedy	Replace the PCU PWB. Replace the power unit. Check connection of the connector and the harness.

L8-02 Full wave signal error

Trouble content	
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, waveform abnormality.
Check & Remedy	Replace the PCU PWB. Replace the power unit. Check connection of the connector and the harness. Check the power waveform.

L8-11 AC Cord 2 (power for fusing) full wave not detected

Trouble content	The full wave signal is not detected.
Detail	PCU
Cause	PCU PWB trouble. Power unit trouble. Harness trouble. Disconnection of the AC cord 2. AC SUB PWB trouble.
Check & Remedy	Replace the PCU PWB. Replace the power unit. Check connection of the connector and the harness. Check the connection of the AC cord 2. Replace the AC SUB PWB

L8-12 AC Cord 2 (power for fusing) full wave signal width abnormality

Trouble content	The frequency of the full wave signal is judged as abnormal.
Detail	PCU
Cause	PCU PWB trouble. Power unit trouble. Harness trouble. AC SUB PWB trouble. Power frequency, waveform abnormality.
Check & Remedy	Replace the PCU PWB. Replace the power unit. Check connection of the connector and the harness. Replace the AC SUB PWB. Check the power waveform.

L8-20 Communication error of MFPC PWB/SCN mother board

Trouble content	
Detail	MFP
Cause	SCN mother board PWB - MFPC PWB connection trouble. MFPC PWB trouble. SCN mother board trouble.
Check & Remedy	Check connection between the SCN mother board PWB and the MFPC PWB. Check the ground of the main unit. Replace the MFPC PWB. Replace the SCN mother board.

PC-- Personal counter not detected

Trouble content	
Detail	MFP
Cause	The personal counter is not installed. The personal counter is not detected. SCN Mother PWB trouble.
Check & Remedy	Check connection of the connectors and the harness. Replace the SCN Mother PWB.

U1-01 Battery trouble

Trouble content	RTC backup battery voltage fall				
Detail	MFP				
Case 1	<table> <tr> <td>Cause</td><td>1) Battery life 2) Battery circuit abnormality</td></tr> <tr> <td>Check and Remedy</td><td>Check to confirm that the battery voltage is about 2.5V or above. Replace the battery.</td></tr> </table>	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.
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 MFP 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 Erroneous detection of account management data

Trouble content	
Detail	MFP
Cause	Breakage of the authentication DB is detected.
Check & Remedy	When breakage of the authentication DB is detected, the MFP is rebooted and the DB tables are reconstructed, generating "U2-05". The message, however, is not displayed and only the trouble history is saved. The authentication data are cleared.

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 SD card system storage data area error

Trouble content	
Detail	MFP
Cause	A file error occurs in the SD card system storage data partition. SD card trouble MFPC PWB trouble
Check & Remedy	Turn OFF/ON the power, and the backup data in the HDD are written into the SD card and the machine is automatically booted. Check the MFPC PWB, and replace if necessary. Check the SD card, and replace if necessary.

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 (system storage data area) error

Trouble content	
Detail	MFP
Cause	The saved file of the machine adjustment values in the SD card and the HDD cannot be found or is broken. Both of the SD card 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 user authentication data check sum error

Trouble content	
Detail	MFP
Cause	HDD trouble 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. 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.)

U2-60 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.

U2-80 SCN Mother PWB EEPROM read/write error

Trouble content	
Detail	SCU
Cause	SCN Mother PWB EEPROM trouble SCN Mother PWB trouble SCN Mother PWB EEPROM socket connection trouble
Check & Remedy	Replace the SCN Mother PWB EEPROM. Replace the SCN Mother PWB. Check connection of the SCN Mother 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 adjustmentsTouch panel-related adjustments Use SIM16 to cancel the trouble.

U2-81 SCN Mother PWB EEPROM check sum error

Trouble content	
Detail	SCU
Cause	SCN Mother PWB EEPROM trouble. Installation of non-initialized EEPROM. SCN Mother PWB trouble. EEPROM socket contact trouble.
Check & Remedy	Replace the SCN Mother PWB EEPROM. Replace the SCN Mother 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 Document feed unit communication error

Trouble content	
Detail	SCU
Cause	Connector, harness connection trouble. SCN Mother PWB trouble. DSPF PWB trouble.
Check & Remedy	Turn OFF/ON the power. Check connection of the connector and the harness. Replace the SCN Mother PWB. Replace the DSPF PWB.

U5-16 Document feed unit fan trouble

Trouble content	
Detail	SCU
Cause	When the fan is operated, the fan operation signal is not detected within the specified time. Fan motor trouble. Connector, harness connection trouble. DSPF PWB trouble.
Check & Remedy	Use SIM2-3 to check that the fan is rotating. Replace the fan motor. Check connection of the connector and the harness. Replace the DSPF PWB.

U5-20 SPF paper feed transport motor trouble

Trouble content	
Detail	
Cause	SPF paper feed transport motor trouble Connection trouble of the connector and the harness
Check & Remedy	Use Sim2-3 to check the operation Check the SPF paper feed transport motor and connection of the connector and the harness

U5-30 Document feed unit tray lift up trouble

Trouble content	
Detail	SCU
Cause	STUD does not turn ON 5 times continuously within the specified time. STUD/STLD sensor trouble. Connection trouble of the connector and the harness. DSPF PWB trouble.
Check & Remedy	Replace the STUD/STLD sensor. Check connection of the connector and the harness. Replace the DSPF PWB.

U5-31 Document feed unit tray lift down trouble

Trouble content	
Detail	SCU
Cause	STLD does not turn OFF within the specified time. STUD/STLD sensor trouble. Connection trouble of the connector and the harness. DSPF PWB trouble.
Check & Remedy	Replace the STUD/STLD sensor. Check connection of the connector and the harness. Replace the DSPF PWB.

U6-09 LCC lift motor trouble

Trouble content	No variation in the motor rotation sensor signal (encoder sign) is detected within the specified time after booting or stopping the LCC lift motor.
Detail	PCU
Cause	LCC lift motor rotation sensor trouble LCC control PWB trouble LCC lift mechanism trouble LCC lift motor trouble
Check & Remedy	Use SIM4-2 and 4-3 to check the operation of the LCC sensor and the lift motor. Check the LCC lift motor rotation sensor, and replace if necessary. Check the LCC control PWB, and replace if necessary. Check the LCC lift mechanism, and repair if necessary. Check the LCC lift motor, and replace if necessary. Use SIM15 to cancel the trouble.

U6-20 LCC control PWB - PCU PWB communication error

Trouble content	
Detail	PCU
Cause	Communication error between the LCC control PWB and the PCU PWB. Connection trouble of the harness and the connector between the machine and the LCC and those of the LCC control PWB. LCC control PWB trouble PCU PWB trouble Malfunction due to noises.
Check & Remedy	Check to confirm the LCC model. Check the connection of the harness and the connector between the machine and the LCC and those of the LCC control PWB, and replace if necessary. Check the LCC control PWB, and replace if necessary. Check the PCU PWB, and replace if necessary.

U6-21 LCC transport motor trouble

Trouble content	Transport motor abnormality
Detail	PCU
Cause	Motor lock Motor RPM abnormality Overcurrent to the motor LCC control PWB trouble / A3 2-stage LCT control PWB trouble
Check & Remedy	Use SIM04-03 to check the operation of the transport motor. Replace the motor Replace the LCC / A3 2-stage LCT control PWB.

U6-22 LCC 24V power abnormality

Trouble content	The DV 24V power is not supplied to the LCC / A3 2-stage LCT.
Detail	PCU
Cause	Connection trouble or disconnection of the connector and the harness. LCC control PWB trouble / A3 2-stage LCT control PWB trouble Power unit trouble
Check & Remedy	Check the connector and the harness of the power line. Check the 24V voltage with the power unit, the LCC control PWB, and the A3 2-stage LCT control PWB.

U6-23 A3 LCC tray descending trouble (Reverse winding detection) (A3 LCC)

Trouble content	It is detected that the wire of the LCC tray is reversely wound. (A3 LCC / A3 2-stage LCT) The lower limit position (full state) is not detected within the specified time (A4: 10sec, A3: 8sec) from the start of descending the LCT1 tray. (A3 3-stage LCT / A4 3-stage LCT)
Detail	PCU
Cause	Reverse winding detection SW ON The wire is reversely wound. Reverse winding detection SW trouble Connection trouble of the connector and the harness LCC control PWB trouble. (A3 LCC) A3 2-stage LCT control PWB trouble (A3 2-stage LCT) Remaining quantity sensor abnormality, LCT1 tray lift motor lock, connector and harness connection trouble, PWB trouble (A3 3-stage LCT / A4 3-stage LCT)
Check & Remedy	Check the wire. Replace the reverse winding SW and the LCC control PWB. / Replace the A3 2-stage LCT control PWB. Check connection of the connector and the harness. (A3 LCC / A3 2-stage LCT) Use SIM04-02 and SIM04-03 to check the operations of the remaining quantity sensor and the LCT1 lift motor. Check the wiring. (A3 3-stage LCT / A4 3-stage LCT)

U6-24 A3 LCC tray lock detection trouble

Trouble content	The LCC / A3 2-stage LCT tray lock mechanism malfunctions.
Detail	PCU
Cause	Tray lock mechanism breakdown Connection trouble of the connector and the harness Tray lock sensor trouble LCC control PWB trouble / A3 2-stage LCT control PWB trouble
Check & Remedy	Check the tray lock mechanism. Check connection of the connector and the harness. Replace the tray lock sensor. Replace the LCC control PWB. / Replace the A3 2-stage LCT control PWB.

U6-29 LCT1 lift trouble

Trouble content	The upper limit is not detected within the specified time (A4 LCC: 10sec, A3 LCC: 8sec) when lifting up. (A3 3-stage LCT / A4 3-stage LCT) The upper limit is not detected within the specified time when lifting. The limit SW ON is detected when lifting. The encoder signal does not vary when lifting. (A3 2-stage LCT)
Detail	PCU
Cause	Upper limit sensor abnormality, tray lift motor lock, connector and harness connection trouble, PWB trouble (A3 3-stage LCT / A4 3-stage LCT) Sensor trouble, upper limit SW trouble, A3 2-stage LCT control PWB trouble, broken gear, lift motor trouble (A3 2-stage LCT)
Check & Remedy	Use SIM04-02 and SIM04-03 to check the operation of the upper limit sensor and the lift operation. Check the wiring. Fix the trouble, and use SIM15 to cancel the trouble. (A3 3-stage LCT / A4 3-stage LCT) Use SIM04-02 and SIM04-03 to check the operation of the upper limit sensor, the upper limit SW, the encoder sensor, and the lift motor. Fix the trouble, and use SIM15 to cancel the trouble. (A3 2-stage LCT)

U6-33 LCT2 reverse winding detection trouble

Trouble content	It is detected that the wire of the tray is reversely wound.
Detail	
Cause	Reverse winding detection SW ON The wire is reversely wound. Reverse winding detection SW trouble Connection trouble of the connector and the harness A3 2-stage LCT control PWB trouble
Check & Remedy	Check the wire. Replace the reverse winding SW. Check connection of the connector and the harness. Replace the A3 2-stage LCT control PWB.

U6-34 LCT2 lock detection trouble

Trouble content	It is detected that the tray lock mechanism malfunctions.
Detail	
Cause	Tray lock mechanism breakdown Connection trouble of the connector and the harness Tray lock sensor trouble A3 2-stage LCT control PWB trouble
Check & Remedy	Check the tray lock mechanism. Check connection of the connector and the harness. Replace the tray lock sensor. Replace the A3 2-stage LCT control PWB.

U6-39 LCT2 lift trouble

Trouble content	The upper limit is not detected within the specified time (A4 LCC: 10sec, A3 LCC: 8sec) when lifting. (A3 3-stage LCT / A4 3-stage LCT) The upper limit is not detected within the specified time when lifting. The limit SW ON is detected when lifting. The encoder signal does not vary when lifting. (A3 2-stage LCT)
Detail	PCU
Cause	Upper limit sensor abnormality, tray lift motor lock, connector and harness connection trouble, PWB trouble (A3 3-stage LCT / A4 3-stage LCT) Sensor trouble, upper limit SW trouble, LCT control PWB trouble, broken gear, lift motor trouble (A3 2-stage LCT)
Check & Remedy	Use SIM04-02 and SIM04-03 to check the operation of the upper limit sensor and the lift operation. Check the wiring. Fix the trouble, and use SIM15 to cancel the trouble. (A3 3-stage LCT / A4 3-stage LCT) Use SIM04-02 and SIM04-03 to check the operation of the upper limit sensor, the upper limit SW, the encoder sensor, and the lift motor. Fix the trouble, and use SIM15 to cancel the trouble. (A3 2-stage LCT)

U6-51 LCC - Main unit combination trouble

Trouble content	An LCC of a different model which is not supported by the machine is installed. (Improper combination of the machine and the LCC model code.)
Detail	PCU
Cause	LCC control PWB trouble PCU PWB trouble
Check & Remedy	Check to confirm the LCC model. Check the LCC control PWB, and replace if necessary. Check the PCU PWB, and replace if necessary.

U6-54 Option installation combination trouble

Trouble content	
Detail	
Cause	Firmware version is inconsistency
Check & Remedy	Update latest firmware version

U6-63 Manual feed tray descending trouble

Trouble content	The lower limit position is not detected within the specified time (10sec) from the start of descending the manual feed tray.
Detail	PCU
Cause	Lower limit sensor trouble. Manual feed tray lift motor lock. Connection trouble of the connector and the harness. PWB trouble.
Check & Remedy	Use SIM04-02 and SIM04-03 to check the operations of the lower limit position sensor and the manual feed tray lift motor. Wiring check. Fix the trouble, and use SIM15 to cancel the trouble.

U6-68 Manual feed tray paper feed position abnormality

Trouble content	The upper limit sensor turns OFF before turning ON the pickup SOL. (Normally the upper limit sensor turns OFF after turning OFF the pickup SOL when starting lifting up.)
Detail	PCU
Cause	Sensor trouble. Connection trouble of the connector and the harness. PWB trouble. The pickup roller remains in the lower position. (Mechanism trouble)
Check & Remedy	Use SIM04-02 and SIM04-03 to check the operations of the upper limit sensor and lift operations. Wiring check.

U6-69 Manual feed tray lift trouble

Trouble content	The upper limit is not detected within the specified time (10sec) when lifting up.
Detail	PCU
Cause	Upper limit sensor trouble. Tray lift motor lock. Connection trouble of the connector and the harness. PWB trouble.
Check & Remedy	Use SIM04-02 and SIM04-03 to check the operations of the upper limit sensor and lift operations. Wiring check. Fix the trouble, and use SIM15 to cancel the trouble.

U6-80 Relay unit transport motor trouble

Trouble content	Relay unit transport motor abnormality
Detail	PCU
Cause	Motor lock Motor RPM abnormality Overcurrent to the motor A3 2-stage LCT control PWB trouble
Check & Remedy	Use SIM04-03 to check the operation of the relay unit transport motor. Replace the motor. Replace the A3 2-stage LCT control PWB.

U6-81 Power unit cooling fan motor trouble

Trouble content	A3 2-stage LCT power unit section cooling fan motor abnormality
Detail	PCU
Cause	Motor lock, motor harness short/open, A3 2-stage LCT control PWB trouble, harness and connector connection trouble
Check & Remedy	Check connection from the A3 2-stage LCT control PWB to the motor. Replace the A3 2-stage LCT control PWB. Replace the motor.

U6-82 EEPROM trouble

Trouble content	The EEPROM contents are garbled.
Detail	PCU
Cause	A3 2-stage LCT control PWB trouble Malfunction caused by noises
Check & Remedy	Replace the A3 2-stage LCT controller PWB.

U6-83 Room temperature thermistor breakdown

Trouble content	Room temperature thermistor open or short
Detail	PCU
Cause	Room temperature thermistor harness connection trouble Room temperature thermistor trouble A3 2-stage LCT control PWB trouble
Check & Remedy	Check connection of the harness and the connector of the room temperature thermistor. Replace the temperature and humidity sensor. Check the A3 2-stage LCT control PWB.

U6-84 Room humidity thermistor breakdown

Trouble content	Humidity thermistor open or short
Detail	PCU
Cause	Humidity thermistor harness connection trouble Humidity thermistor trouble A3 2-stage LCT control PWB trouble
Check & Remedy	Check connection of the harness and the connector of the humidity thermistor. Replace the temperature and humidity sensor. Check the A3 2-stage LCT control PWB.

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 content	
Detail	
Cause	Harness connection trouble MFP PWB trouble Touch panel trouble
Check & Remedy	Check the connector and the harness in the touch panel line Replace MFP PWB Replace Touch panel

UC-02 CPT - ASIC error

Trouble content	
Detail	SCU
Cause	SCN Mother PWB trouble. (CPT-ASIC trouble.)
Check & Remedy	Replace the SCN Mother PWB.

UC-12 CPT - ASIC abnormal trouble (DSPF detection)

Trouble content	Access abnormality to the CPT - ASIC (when the ASIC operates abnormally)
Detail	SCU
Cause	B to B connector connection trouble. DSPF PWB trouble. CPT - ASIC trouble.
Check & Remedy	Check the B to B connector. Replace the DSPF PWB or the Option PWB.

UC-20 DOCC ASIC error

Trouble content	
Detail	SCU
Cause	SCN Mother PWB trouble. (DOCC-ASIC trouble.)
Check & Remedy	Replace the SCN Mother PWB.

UC-30 Anti-copy MODULE trouble (DSPF detection)

Trouble content	Access abnormality to the DOCC-ASIC (when the ASIC operates abnormally)
Detail	PCU
Cause	B to B connector connection trouble. DSPF PWB trouble. DOCC-ASIC trouble.
Check & Remedy	Check the B to B connector. Replace the DSPF PWB or the Option PWB.

UE-10 LCT1 suction fan motor trouble

Trouble content	Suction fan motor abnormality
Detail	PCU
Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Harness and connector connection trouble A3 2-stage LCT control PWB trouble
Check & Remedy	Use SIM04-03 to check the operation of the suction fan motor. Check connection of the harness and the connector. Replace the A3 2-stage LCT control PWB.

UE-11 LCT1 exhaust fan motor trouble

Trouble content	Exhaust fan motor abnormality
Detail	PCU
Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Harness and connector connection trouble A3 2-stage LCT control PWB trouble
Check & Remedy	Use SIM04-03 to check the operation of the exhaust fan motor. Check connection of the harness and the connector. Replace the A3 2-stage LCT control PWB.

UE-12 LCT1 warm air heater thermistor open

Trouble content	The thermistor is open.
Detail	PCU
Cause	Warm air heater (thermistor) trouble A3 2-stage LCT control PWB trouble Warm air heater harness and connector connection trouble
Check & Remedy	Check the harness and the connector from the warm air heater (thermistor) to the A3 2-stage LCT control PWB.

UE-13 LCT1 warm air heater thermistor low temperature trouble

Trouble content	The temperature does not reach the specified level within the specified time after turning ON the power relay.
Detail	PCU
Cause	Warm air heater (thermistor) trouble Warm air heater trouble Warm air heater harness and connector connection trouble A3 2-stage LCT control PWB trouble Thermostat trouble. AC power trouble Insertion detection switch 2 trouble Heater relay PWB trouble
Check & Remedy	Check the warm air heater (thermistor) and its harness. Check the thermistor input circuit section of the A3 2-stage LCT control PWB. Check for disconnection of the warm air heater and the thermostat. Check the insertion detection switch 2. Check the heater relay PWB. Check the heater control circuit of the AC PWB and that of the A3 2-stage LCT control PWB.

UE-14 LCT1 warm air heater thermistor high temperature trouble

Trouble content	The warm air heater temperature exceeds the specified level.
Detail	PCU
Cause	Warm air heater (thermistor) trouble A3 2-stage LCT control PWB trouble Warm air heater harness and connector connection trouble Heater relay PWB trouble
Check & Remedy	Check the warm air heater (thermistor) and its harness. Check the thermistor input circuit section of the A3 2-stage LCT control PWB. Check the heater relay PWB. Check the heater control circuit of the A3 2-stage LCT control PWB.

UE-15 LCT1 warm air outlet port thermistor open

Trouble content	The thermistor is open.
Detail	PCU
Cause	Thermistor trouble. A3 2-stage LCT control PWB trouble Connector connection trouble
Check & Remedy	Check connection of the harness and the connector from the thermistor to the A3 2-stage LCT control PWB.

UE-16 LCT1 warm air outlet port thermistor low temperature

Trouble content	The temperature does not reach the specified level within the specified time after turning ON the power relay.
Detail	PCU
Cause	Thermistor trouble. Warm air heater trouble Warm air heater harness and connector connection trouble A3 2-stage LCT control PWB trouble Thermostat trouble. AC power trouble Insertion detection switch 2 trouble Heater relay PWB trouble
Check & Remedy	Check the thermistor and its harness. Check the thermistor input circuit section of the A3 2-stage LCT control PWB. Check for disconnection of the warm air heater and the thermostat. Check the insertion detection switch 2. Check the heater relay PWB. Check the heater control circuit of the AC PWB and that of the A3 2-stage LCT control PWB.

UE-17 LCT1 warm air outlet port thermistor high temperature

Trouble content	The temperature at the warm air outlet port exceeds the specified level.
Detail	PCU
Cause	Thermistor trouble. Warm air heater harness and connector connection trouble Heater relay PWB trouble A3 2-stage LCT control PWB trouble
Check & Remedy	Check the thermistor and its harness. Check the thermistor input circuit section of the A3 2-stage LCT control PWB. Check the heater relay PWB. Check the heater control circuit of the A3 2-stage LCT control PWB.

UE-20 LCT2 suction fan motor trouble

Trouble content	Suction fan motor abnormality
Detail	PCU
Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Harness and connector connection trouble A3 2-stage LCT control PWB trouble
Check & Remedy	Use SIM04-03 to check the operation of the suction fan motor. Check connection of the harness and the connector. Replace the A3 2-stage LCT controller PWB.

UE-21 LCT2 exhaust fan motor trouble

Trouble content	Exhaust fan motor abnormality
Detail	PCU
Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Harness and connector connection trouble A3 2-stage LCT control PWB trouble
Check & Remedy	Use SIM04-03 to check the operation of the exhaust fan motor. Check connection of the harness and the connector. Replace the A3 2-stage LCT control PWB.

UE-22 LCT2 warm air heater thermistor open

Trouble content	The thermistor is open.
Detail	PCU
Cause	Warm air heater (thermistor) trouble A3 2-stage LCT control PWB trouble Warm air heater harness and connector connection trouble
Check & Remedy	Check the harness and the connector from the warm air heater (thermistor) to the A3 2-stage LCT control PWB.

UE-23 LCT2 warm air heater thermistor low temperature trouble

Trouble content	The temperature does not reach the specified level within the specified time after turning ON the power relay.
Detail	PCU
Cause	Warm air heater (thermistor) trouble Warm air heater trouble Warm air heater harness and connector connection trouble A3 2-stage LCT control PWB trouble Thermostat trouble. AC power trouble Insertion detection switch 2 trouble Heater relay PWB trouble
Check & Remedy	Check the warm air heater (thermistor) and its harness. Check the thermistor input circuit section of the A3 2-stage LCT control PWB. Check for disconnection of the warm air heater and the thermostat. Check the insertion detection switch 2. Check the heater relay PWB. Check the heater control circuit of the AC PWB and that of the A3 2-stage LCT control PWB.

UE-24 LCT2 warm air heater thermistor high temperature trouble

Trouble content	The warm air heater temperature exceeds the specified level.
Detail	PCU
Cause	Warm air heater (thermistor) trouble A3 2-stage LCT control PWB trouble Warm air heater harness and connector connection trouble Heater relay PWB trouble
Check & Remedy	Check the warm air heater (thermistor) and its harness. Check the thermistor input circuit section of the A3 2-stage LCT control PWB. Check the heater relay PWB. Check the heater control circuit of the A3 2-stage LCT control PWB.

UE-25 LCT2 warm air outlet port thermistor open

Trouble content	The thermistor is open.
Detail	PCU
Cause	Thermistor trouble. A3 2-stage LCT control PWB trouble Connector connection trouble
Check & Remedy	Check connection of the harness and the connector from the thermistor to the A3 2-stage LCT control PWB.

UE-26 LCT2 warm air outlet port thermistor low temperature

Trouble content	The temperature does not reach the specified level within the specified time after turning ON the power relay.
Detail	PCU
Cause	Thermistor trouble. Warm air heater trouble Warm air heater harness and connector connection trouble A3 2-stage LCT control PWB trouble Thermostat trouble. AC power trouble Insertion detection switch 2 trouble Heater relay PWB trouble
Check & Remedy	Check the thermistor and its harness. Check the thermistor input circuit section of the A3 2-stage LCT control PWB. Check for disconnection of the warm air heater and the thermostat. Check the insertion detection switch 2. Check the heater relay PWB. Check the heater control circuit of the AC PWB and that of the A3 2-stage LCT control PWB.

UE-27 LCT2 warm air outlet port thermistor high temperature

Trouble content	The temperature at the warm air outlet port exceeds the specified level.
Detail	PCU
Cause	Thermistor trouble. Warm air heater harness and connector connection trouble Heater relay PWB trouble A3 2-stage LCT control PWB trouble
Check & Remedy	Check the thermistor and its harness. Check the thermistor input circuit section of the A3 2-stage LCT control PWB. Check the heater relay PWB. Check the heater control circuit of the A3 2-stage LCT control PWB.

2. JAM and troubleshooting

A. JAM code list

(1) PCU JAM cause (Some parts are overlapped with the SCU code table.)

Main unit

JAM code	JAM content
MFT_LE	Manual feed tray paper feed JAM (100K for the paper feed counter)*1
TRAY1_LE	Tray 1 paper feed JAM (200K for the paper feed counter)*1
TRAY2_LE	Tray 2 paper feed JAM (200K for the paper feed counter)*1
TRAY3_LE	Tray 3 paper feed JAM (100K for the paper feed counter)*1
TRAY4_LE	Tray 4 paper feed JAM (100K for the paper feed counter)*1
MFT	Manual feed tray paper feed JAM (MPFD not-reached)
MPFD_S	MPFD remaining JAM
TRAY1	Tandem tray 1
T1PPD1_S1	T1PPD1 remaining JAM
T1PPD2_N1	Tandem tray 1 paper feed JAM (T1PPD2 not-reached JAM)
T1PPD2_S1	T1PPD2 remaining JAM
TRAY2	Tandem tray 2 paper feed JAM (T2PPD1 not-reached JAM)
T2PPD1_N3	T2PPD1 not-reached JAM (cassette 3 paper feed paper)
T2PPD1_N4	T2PPD1 not-reached JAM (cassette 4 paper feed paper)
T2PPD1_S2	T2PPD1 remaining JAM (cassette 2 paper feed paper)
T2PPD1_S3	T2PPD1 remaining JAM (cassette 3 paper feed paper)
T2PPD1_S4	T2PPD1 remaining JAM (cassette 4 paper feed paper)
TRAY3	Cassette 3 paper feed JAM (C3PFD not-reached JAM)
C3PFD_N4	C3PFD not-reached JAM (cassette 4 paper feed paper)
C3PFD_S3	C3PFD remaining JAM (cassette 3 paper feed paper)
C3PFD_S4	C3PFD remaining JAM (cassette 4 paper feed paper)
TRAY4	Cassette 4 paper feed JAM (C4PFD not-reached JAM)
C4PFD_S4	C4PFD remaining JAM (cassette 4 paper feed paper)
LPPD1_NL	LPPD not-reached JAM (side A4/A3LCC paper feed paper)
LPPD1_NL11	LPPD not-reached JAM (large capacity paper feed tray 1 paper feed paper)
LPPD1_NL12	LPPD not-reached JAM (large capacity paper feed tray 2 paper feed paper)
LPPD1_NLM	LPPD not-reached JAM (large capacity paper feed tray manual paper feed paper)
LPPD1_SL	LPPD remaining JAM (side A4/A3LCC paper feed paper)
LPPD1_SL11	LPPD remaining JAM (large capacity paper feed tray 1 paper feed paper)
LPPD1_SL12	LPPD remaining JAM (large capacity paper feed tray 2 paper feed paper)
LPPD1_SLM	LPPD remaining JAM (large capacity paper feed tray manual paper feed paper)
PPD1_NM	PPD1 not-reached JAM (manual paper feed tray paper)
PPD1_N1	PPD1 not-reached JAM (tandem tray 1 paper feed paper)
PPD1_N2	PPD1 not-reached JAM (tandem tray 2 paper feed paper)
PPD1_N3	PPD1 not-reached JAM (cassette 3 paper feed paper)
PPD1_N4	PPD1 not-reached JAM (cassette 4 paper feed paper)
PPD1_NL	PPD1 not-reached JAM (side A4/A3LCC paper feed paper)
PPD1_NL11	PPD1 not-reached JAM (large capacity paper feed tray 1 paper feed paper)
PPD1_NL12	PPD1 not-reached JAM (large capacity paper feed tray 2 paper feed paper)
PPD1_NLM	PPD1 not-reached JAM (large capacity paper feed tray manual paper feed paper)
PPD1_NA	PPD1 not-reached JAM (ADU refeed paper)

JAM code	JAM content
PPD1_SM	PPD1 remaining JAM (manual paper feed tray paper)
PPD1_S1	PPD1 remaining JAM (tandem tray 1 paper feed paper)
PPD1_S2	PPD1 remaining JAM (tandem tray 2 paper feed paper)
PPD1_S3	PPD1 remaining JAM (cassette 3 paper feed paper)
PPD1_S4	PPD1 remaining JAM (cassette 4 paper feed paper)
PPD1_SL	PPD1 remaining JAM (side A4/A3LCC paper feed paper)
PPD1_SL11	PPD1 remaining JAM (large capacity paper feed tray 1 paper feed paper)
PPD1_SL12	PPD1 remaining JAM (large capacity paper feed tray 2 paper feed paper)
PPD1_SLM	PPD1 remaining JAM (large capacity paper feed tray manual paper feed paper)
PPD1_SA	PPD1 remaining JAM (ADU refeed paper)
PPD2_NM	PPD2 not-reached JAM (manual paper feed tray paper)
PPD2_N1	PPD2 not-reached JAM (tandem tray 1 paper feed paper)
PPD2_N2	PPD2 not-reached JAM (tandem tray 2 paper feed paper)
PPD2_N3	PPD2 not-reached JAM (cassette 3 paper feed paper)
PPD2_N4	PPD2 not-reached JAM (cassette 4 paper feed paper)
PPD2_NL	PPD2 not-reached JAM (side A4/A3LCC paper feed paper)
PPD2_NL11	PPD2 not-reached JAM (large capacity paper feed tray 1 paper feed paper)
PPD2_NL12	PPD2 not-reached JAM (large capacity paper feed tray 2 paper feed paper)
PPD2_NLM	PPD2 not-reached JAM (large capacity paper feed tray manual paper feed paper)
PPD2_NA	PPD2 not-reached JAM (ADU refeed paper)
PPD2_SM	PPD2 remaining JAM (manual paper feed tray paper)
PPD2_S1	PPD2 remaining JAM (tandem tray 1 paper feed paper)
PPD2_S2	PPD2 remaining JAM (tandem tray 2 paper feed paper)
PPD2_S3	PPD2 remaining JAM (cassette 3 paper feed paper)
PPD2_S4	PPD2 remaining JAM (cassette 4 paper feed paper)
PPD2_SL	PPD2 remaining JAM (side A4/A3LCC paper feed paper)
PPD2_SL11	PPD2 remaining JAM (large capacity paper feed tray 1 paper feed paper)
PPD2_SL12	PPD2 remaining JAM (large capacity paper feed tray 2 paper feed paper)
PPD2_SLM	PPD2 remaining JAM (large capacity paper feed tray manual paper feed paper)
PPD2_SA	PPD2 remaining JAM (ADU refeed paper)
PPD2_NM_D	PPD2 not-reached JAM (manual paper feed tray paper) (Delay of paper just before the jam from PS) *2
PPD2_N1_D	PPD2 not-reached JAM (tandem tray 1 paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_N2_D	PPD2 not-reached JAM (tandem tray 2 paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_N3_D	PPD2 not-reached JAM (cassette 3 paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_N4_D	PPD2 not-reached JAM (cassette 4 paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_NL_D	PPD2 not-reached JAM (side A4/A3LCC paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_NL11_D	PPD2 not-reached JAM (large capacity paper feed tray 1 paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_NL12_D	PPD2 not-reached JAM (large capacity paper feed tray 2 paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_NLM_D	PPD2 not-reached JAM (large capacity paper feed tray manual paper feed paper) (Delay of paper just before the jam from PS) *2

JAM code	JAM content
PPD2_NA_D	PPD2 not-reached JAM (ADU refeed paper) (Delay of paper just before the jam from PS) *2
PPD2_SM_D	PPD2 remaining JAM (manual paper feed tray paper) (Delay of paper just before the jam from PS) *2
PPD2_S1_D	PPD2 remaining JAM (tandem tray 1 paper feed paper) (Delay of paper just before the jam from PS)*2
PPD2_S2_D	PPD2 remaining JAM (tandem tray 2 paper feed paper) (Delay of paper just before the jam from PS)*2
PPD2_S3_D	PPD2 remaining JAM (cassette 3 paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_S4_D	PPD2 remaining JAM (cassette 4 paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_SL_D	PPD2 remaining JAM (side A4/A3LCC paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_SL11_D	PPD2 remaining JAM (large capacity paper feed tray 1 paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_SL12_D	PPD2 remaining JAM (large capacity paper feed tray 2 paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_SLM_D	PPD2 remaining JAM (large capacity paper feed tray manual paper feed paper) (Delay of paper just before the jam from PS) *2
PPD2_SA_D	PPD2 remaining JAM (ADU refeed paper) (Delay of paper just before the jam from PS) *2
P_FPDF_NM	FPDF not-reached JAM (manual paper feed tray paper)
P_FPDF_N1	FPDF not-reached JAM (tandem tray 1 paper feed paper)
P_FPDF_N2	FPDF not-reached JAM (tandem tray 2 paper feed paper)
P_FPDF_N3	FPDF not-reached JAM (tray 3 paper feed paper)
P_FPDF_N4	FPDF not-reached JAM (tray 4 paper feed paper)
P_FPDF_NL	FPDF not-reached JAM (side A4/A3LCC paper feed paper)
P_FPDF_NL11	FPDF not-reached JAM (large capacity paper feed tray 1 paper feed paper)
P_FPDF_NL12	FPDF not-reached JAM (large capacity paper feed tray 2 paper feed paper)
P_FPDF_NLM	FPDF not-reached JAM (large capacity manual paper feed paper)
P_FPDF_NA	FPDF not-reached JAM (ADU refeed paper)
P_FPDF_SM	FPDF remaining JAM (manual paper feed tray paper)
P_FPDF_S1	FPDF remaining JAM (tandem tray 1 paper feed paper)
P_FPDF_S2	FPDF remaining JAM (tandem tray 2 paper feed paper)
P_FPDF_S3	FPDF remaining JAM (tray 3 paper feed paper)
P_FPDF_S4	FPDF remaining JAM (tray 4 paper feed paper)
P_FPDF_SL	FPDF remaining JAM (side A4/A3LCC paper feed paper)
P_FPDF_SL11	FPDF remaining JAM (large capacity paper feed tray 1 paper feed paper)
P_FPDF_SL12	FPDF remaining JAM (large capacity paper feed tray 2 paper feed paper)
P_FPDF_SLM	FPDF remaining JAM (large capacity manual paper feed paper)
P_FPDF_SA	FPDF 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
POD2_NB	POD2 not-reached JAM (In the case of a jam before switchback)

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JAM code	JAM content
POD2_SB	POD2 remaining JAM (In the case of a jam before switchback)
POD2_SA	POD2 remaining JAM (In the case of a jam after switchback)
POD3_N	POD3 not-reached JAM
POD3_S	POD3 remaining JAM
APPD1_N	APPD1 not-reached JAM
APPD1_S	APPD1 remaining JAM
APPD2_N	APPD2 not-reached JAM
APPD2_S	APPD2 remaining JAM
MTR_ILG	Motor driver trouble JAM
DRUM	Drum JAM (drum lock detection)
FUSER	Fuser JAM (fusing winding detection)
PRI_JAM	PRI JAM (Image preparation wait time-out)
LCC_ERR	LCC JAM (LCC communication abnormality detection)
FIN_ERR	Finisher JAM (Finisher communication abnormality detection)
SIZE_ILG	Size illegal JAM
STOP_JAM	Emergency stop request JAM (Controller request)
NO_MATCH	Parameter inconsistency
MFT_RT	Manual feed tray paper feed JAM (Check the paper)
TRAY1_RT	Tray 1 feed tray paper feed JAM (Check the paper)
TRAY2_RT	Tray 2 feed tray paper feed JAM (Check the paper)
TRAY3_RT	Tray 3 feed tray paper feed JAM (Check the paper)
TRAY4_RT	Tray 4 feed tray paper feed JAM (Check the paper)
MFT_1ST	Manual feed tray paper feed JAM (Check the paper set condition)
TRAY1_1ST	Tray 1 feed tray paper feed JAM (Check the paper set condition)
TRAY2_1ST	Tray 2 feed tray paper feed JAM (Check the paper set condition)
TRAY3_1ST	Tray 3 feed tray paper feed JAM (Check the paper set condition)
TRAY4_1ST	Tray 4 feed tray paper feed JAM (Check the paper set condition)

*1: In SIM22-41, the descriptions are abbreviated on the screen because of the limitation on the number of characters (100K for the paper feed counter).

*2: In SIM22-41, the description of "(Delay of paper just before the JAM from PS)" is omitted because of the limitation on the number of characters.

MX-FN19/20

JAM code	JAM content
FED_N	Finisher inlet port not-reached JAM
FED_S	Finisher inlet port remaining JAM
FFPD_N	Saddle section not-reached JAM
FFPD_S	Saddle section remaining JAM
FIN_TIME	Finisher paper early reaching JAM
FHS_N	Finisher paper exit not-reached JAM
FHS_S	Finisher paper exit remaining JAM
FSHS_N	Saddle transport not-reached JAM
FSHS_S	Saddle transport remaining JAM
FSFS_N	Saddle paper exit not-reached JAM
FSFS_S	Saddle paper exit remaining JAM
FSTPLJ	Finisher staple JAM
FPNCHJ	Finisher punch JAM
FSSTPLJ	Saddle staple JAM
PDPPD1_N	Finisher interface inlet port not-reached JAM
PDPPD1_S	Finisher interface inlet port remaining JAM
PDPPD2_N	Finisher interface outlet port not-reached JAM
PDPPD2_S	Finisher interface outlet port remaining JAM

1

MX-RB15

JAM code	JAM content
DCS100_N	Decurler unit transport pass sensor not-reached JAM
DCS100_S	Decurler unit transport pass sensor remaining JAM
DCTIME	Early reaching JAM
DCPAOF	Paper attribute data reception overflow

MX-RB13

JAM code	JAM content
PIS150_N	Transport unit pass sensor not-reached JAM
PIS150_S	Transport unit pass sensor remaining JAM

GBC punch

JAM code	JAM content
GBCJ	GBC punch unit JAM

MX-FN21/22

JAM code	JAM content
FNS101_N	Inlet port not-reached JAM (FN pass)
FNS101_S	Inlet port remaining JAM (FN pass)
FNS102_N	Paper exit not-reached JAM
FNS102_S	Paper exit remaining JAM
FNM110	Paper exit roller lift motor JAM
FNM117	Gripper motor JAM
FNM115	Staple JAM
FNM114	Discharged paper HOLD motor JAM
FNM113	Paper rear edge fall motor JAM
FNM116	Gripper arm motor JAM
FNM112	Paper alignment roller lift motor JAM
FNM118	Paper rear edge hold motor JAM
FCM102	Punch JAM
FNPAOF	Paper attribute data reception overflow
FNTIME	Early reaching JAM
FSS201_N	Saddle inlet port pass sensor delay JAM
FSS201_S	Saddle inlet port pass sensor remaining JAM
FSS203_N	Saddle vertical pass sensor delay JAM
FSS226_N	Saddle transport paper pass sensor 1 delay JAM
FSS226_S	Saddle transport paper pass sensor 1 remaining JAM
FSS227_N	Saddle paper exit pass sensor 2 delay JAM
FSS227_S	Saddle paper exit pass sensor 2 remaining JAM
FSM202	Saddle section saddle alignment motor JAM
FSM203	Saddle section lead edge stopper motor JAM
FSM204	Saddle section folding roller guide motor JAM
FSM210	Saddle section rear edge hold motor JAM
FSM211	Saddle section rear edge shift motor JAM
FSM213	Saddle section SADDLE flapping motor JAM
FSM214	Saddle section SEPARATION motor JAM
FSM206	Saddle section folding motor JAM
FSM205	Saddle section PUSH motor JAM

MX-TM10

JAM code	JAM content
FTS103_N	Trimmer paper exit sensor delay JAM
FTS103_S	Trimmer paper exit sensor remaining JAM
FTS101_N	Trimmer inlet port sensor relay JAM
FTS101_S	Trimmer inlet port sensor remaining JAM
FTM103	Trimmer section inlet port separation motor JAM
FTM104	Trimmer section paper exit separation motor JAM
FTM102	Trimmer section registration motor JAM
FTM106	Trimmer section CUTTER motor JAM
FTM105	Trimmer section bundle press motor JAM

MX-FD10

JAM code	JAM content
FLS30_N	Speed reduction timing sensor delay JAM
FLS30_S	Speed reduction timing sensor remaining JAM
FLS31_N	Separation timing sensor delay JAM
FLS31_S	Separation timing sensor remaining JAM
FLS32_N	Folding position adjustment sensor delay JAM
FLS32_S	Folding position adjustment sensor remaining JAM
FLS33_N	Upper stopper section paper detection sensor delay JAM
FLS33_S	Upper stopper section paper detection sensor remaining JAM
FLS22_N	Outlet port 1 sensor delay JAM
FLS22_S	Outlet port 1 sensor remaining JAM
FLS27_N	Folding tray empty sensor delay JAM
FLS27_S	Folding tray empty sensor remaining JAM
FLS20_N	Inlet port sensor delay JAM
FLS20_S	Inlet port sensor remaining JAM
FLS21_N	Outlet port 2 sensor delay JAM
FLS21_S	Outlet port 2 sensor remaining JAM
FLM8	Folding section upper stopper motor JAM
FLM9	Folding SECTION 3-fold stopper motor JAM
FLM10	Folding section lead edge hold guide motor JAM
FLM7	Folding section folding tray paper exit motor JAM
FLENT_ERR	EntryStart time out JAM
FLEJT_ERR	EjectStartAck time out JAM

MX-CF11

JAM code	JAM content
INSTR1_LE	Interter tray 1 paper feed JAM (60K for the paper feed counter)*1
INSTR2_LE	Interter tray 2 paper feed JAM (60K for the paper feed counter)*1
INSTR1_RT	Interter tray 1 paper feed JAM (Check the paper)
INSTR2_RT	Interter tray 2 paper feed JAM (Check the paper)
INSTR1_1ST	Interter tray 1 paper feed JAM (Check the paper set condition)
INSTR2_1ST	Interter tray 2 paper feed JAM (Check the paper set condition)
INSFED1_N	No. 1 paper feed sensor not-reached JAM
INSFED1_S	No. 1 paper feed sensor remaining JAM
INSFED2_N	No. 2 paper feed sensor not-reached JAM
INSFED2_S	No. 2 paper feed sensor remaining JAM
INSPL1_N	No. 1 pull-out sensor not-reached JAM
INSPL1_S	No. 1 pull-out sensor remaining JAM
INSPL2_N	No. 2 pull-out sensor not-reached JAM
INSPL2_S	No. 2 pull-out sensor remaining JAM
INSVTR1_N	No. 1 vertical transport sensor not-reached JAM
INSVTR1_S	No. 1 vertical transport sensor remaining JAM
INSVTR2_N	No. 2 vertical transport sensor not-reached JAM
INSVTR2_S	No. 2 vertical transport sensor remaining JAM
INSOUT_N	Paper exit sensor not reached JAM
INSOUT_S	Paper exit sensor remaining JAM
INSENT_N	Inlet port sensor not-reached JAM
INSENT_S	Inlet port sensor remaining JAM
INSEXT_N	Outlet port sensor not-reached JAM
INSEXT_S	Outlet port sensor remaining JAM
INSLUP1J	No. 1 lift motor JAM
INSLUP2J	No. 2 lift motor JAM
INSPICM1J	No. 1 pickup motor JAM
INSPICM2J	No. 2 pickup motor JAM

MX-RB14

JAM code	JAM content
L1DFR01_NL1	Interface transport sensor 1 not-reached JAM (Multi-stage LCT tray 1 paper feed)
L1DFR01_SL1	Interface transport sensor 1 remaining JAM (Multi-stage LCT tray 1 paper feed)
L1DFR01_NL2	Interface transport sensor 1 not-reached JAM (Multi-stage LCT tray 2 paper feed)
L1DFR01_SL2	Interface transport sensor 1 remaining JAM (Multi-stage LCT tray 2 paper feed)
L1DFR01_NLM	Interface transport sensor 1 not-reached JAM (Multi-stage LCT manual paper feed)
L1DFR01_SLM	Interface transport sensor 1 remaining JAM (Multi-stage LCT manual paper feed)
L1DFR02_NL1	Interface transport sensor 2 not-reached JAM (Multi-stage LCT tray 1 paper feed)
L1DFR02_SL1	Interface transport sensor 2 remaining JAM (Multi-stage LCT tray 1 paper feed)
L1DFR02_NL2	Interface transport sensor 2 not-reached JAM (Multi-stage LCT tray 2 paper feed)
L1DFR02_SL2	Interface transport sensor 2 remaining JAM (Multi-stage LCT tray 2 paper feed)
L1DFR02_NLM	Interface transport sensor 2 not-reached JAM (Multi-stage LCT manual paper feed)
L1DFR02_SLM	Interface transport sensor 2 remaining JAM (Multi-stage LCT manual paper feed)
L1DFR03_NL1	Interface transport sensor 3 not-reached JAM (Multi-stage LCT tray 1 paper feed)
L1DFR03_SL1	Interface transport sensor 3 remaining JAM (Multi-stage LCT tray 1 paper feed)
L1DFR03_NL2	Interface transport sensor 3 not-reached JAM (Multi-stage LCT tray 2 paper feed)
L1DFR03_SL2	Interface transport sensor 3 remaining JAM (Multi-stage LCT tray 2 paper feed)
L1DFR03_NLM	Interface transport sensor 3 not-reached JAM (Multi-stage LCT manual paper feed)
L1DFR03_SLM	Interface transport sensor 3 remaining JAM (Multi-stage LCT manual paper feed)

MX-MF11

JAM code	JAM content
L1MPFS_NLM	Manual paper feed sensor not-reached JAM (Multi-stage LCT manual paper feed)
L1MPFS_SLM	Manual paper feed sensor remaining JAM (Multi-stage LCT manual paper feed)
L1MTS_NLM	Manual paper transport sensor not-reached JAM (Multi-stage LCT manual paper feed)
L1MTS_SLM	Manual paper transport sensor remaining JAM (Multi-stage LCT manual paper feed)
L1DFB01_NLM	Manual feed paper entry sensor not-reached JAM (Multi-stage LCT manual paper feed)
L1DFB01_SLM	Manual feed paper entry sensor remaining JAM (Multi-stage LCT manual paper feed)
MFT2_LE	Multi-stage LCT manual feed tray paper feed JAM (200K for the paper feed counter)
MFT2_RT	Multi-stage LCT manual feed tray paper feed JAM (Check the paper)
MFT2_1ST	Multi-stage LCT manual feed tray paper feed JAM (Check the paper set condition)

MX-LCX3N/LC12

JAM code	JAM content
LCC_LE	Side A4LCC paper feed JAM (200K/100K for the paper feed counter)*1
LCC	A4/A3LCC paper feed JAM (LPFD1 not-reached JAM)
LPFD_SL	LPFD remaining JAM (side A4/A3LCC paper feed paper)
LCC_RT	A4/A3LCC feed tray paper feed JAM (Check the paper)
LCC_1ST	A4/A3LCC paper feed JAM (Check the paper set condition)

MX-LC13 N

JAM code	JAM content
LCT1_1_RT	Multi-stage LCT tray 1 paper feed JAM (Check the paper)
LCT1_2_RT	Multi-stage LCT tray 2 paper feed JAM (Check the paper)
LCT1_1_1ST	Multi-stage LCT tray 1 paper feed JAM (Check the paper set condition)
LCT1_2_1ST	Multi-stage LCT tray 2 paper feed JAM (Check the paper set condition)
L1DF101_NL1	Paper exit sensor 1cs not-reached JAM (Multi-stage LCT tray 1 paper feed)
L1DF101_SL1	Paper exit sensor 1cs remaining JAM (Multi-stage LCT tray 1 paper feed)
L1DF201_NL2	Paper exit sensor 2cs not-reached JAM (Multi-stage LCT tray 2 paper feed)
L1DF201_SL2	Paper exit sensor 2cs remaining JAM (Multi-stage LCT tray 2 paper feed)
L1DF001_NL1	Vertical transport sensor 1 (1-series) not-reached JAM (Multi-stage LCT tray 1 paper feed)
L1DF001_SL1	Vertical transport sensor 1 (1-series) remaining JAM (Multi-stage LCT tray 1 paper feed)
L1DF001_NLM	Vertical transport sensor 1 (1-series) not-reached JAM (Multi-stage LCT manual paper feed)
L1DF001_SLM	Vertical transport sensor 1 (1-series) remaining JAM (Multi-stage LCT manual paper feed)
L1DF002_NL1	Vertical transport sensor 2 (1-series) not-reached JAM (Multi-stage LCT tray 1 paper feed)
L1DF002_SL1	Vertical transport sensor 2 (1-series) remaining JAM (Multi-stage LCT tray 1 paper feed)
L1DF002_NLM	Vertical transport sensor 2 (1-series) not-reached JAM (Multi-stage LCT manual paper feed)
L1DF002_SLM	Vertical transport sensor 2 (1-series) remaining JAM (Multi-stage LCT manual paper feed)
L1DF003_NL1	Vertical transport sensor 3 (1-series) not-reached JAM (Multi-stage LCT tray 1 paper feed)
L1DF003_SL1	Vertical transport sensor 3 (1-series) remaining JAM (Multi-stage LCT tray 1 paper feed)
L1DF003_NLM	Vertical transport sensor 3 (1-series) not-reached JAM (Multi-stage LCT manual paper feed)
L1DF003_SLM	Vertical transport sensor 3 (1-series) remaining JAM (Multi-stage LCT manual paper feed)
L1DF004_NL1	Vertical transport sensor 4 (1-series) not-reached JAM (Multi-stage LCT tray 1 paper feed)
L1DF004_SL1	Vertical transport sensor 4 (1-series) remaining JAM (Multi-stage LCT tray 1 paper feed)
L1DF004_NL2	Vertical transport sensor 4 (1-series) not-reached JAM (Multi-stage LCT tray 2 paper feed)
L1DF004_SL2	Vertical transport sensor 4 (1-series) remaining JAM (Multi-stage LCT tray 2 paper feed)
L1DF004_NLM	Vertical transport sensor 4 (1-series) not-reached JAM (Multi-stage LCT manual paper feed)
L1DF004_SLM	Vertical transport sensor 4 (1-series) remaining JAM (Multi-stage LCT manual paper feed)
L1DF005_NL1	LCT paper exit sensor (1-series) not-reached JAM (Multi-stage LCT tray 1 paper feed)
L1DF005_SL1	LCT paper exit sensor (1-series) remaining JAM (Multi-stage LCT tray 1 paper feed)
L1DF005_NL2	LCT paper exit sensor (1-series) not-reached JAM (Multi-stage LCT tray 2 paper feed)
L1DF005_SL2	LCT paper exit sensor (1-series) remaining JAM (Multi-stage LCT tray 2 paper feed)
L1DF005_NLM	LCT paper exit sensor (1-series) not-reached JAM (Multi-stage LCT manual paper feed)
L1DF005_SLM	LCT paper exit sensor (1-series) remaining JAM (Multi-stage LCT manual paper feed)

(2) SCU JAM case (Some parts are overlapped with the PCU code table.)

JAM code	JAM content
STOP_JAM	Emergency stop request JAM (Controller request)
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 not-reached JAM
SPPD3_S	SPPD3 remaining JAM
SPPD4_N	SPPD4 not-reached JAM
SPPD4_S	SPPD4 remaining JAM
SPPD5_N	SPPD5 not-reached JAM
SPPD5_S	SPPD5 remaining JAM
SPOD_N	SPOD not-reached JAM
SPOD_S	SPOD remaining JAM
SPSD_SCN	Exposure start notification timer end
P_SHORT	Short size JAM
SDFS_S	Double feed detection JAM/Accompanied feed JAM
ICU_REQ	ICU factor stop JAM

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.)

CAUTION: The communication report sub code 1 and sub code 2 are in hexadecimal notation. (The others are in decimal notation.)

CAUTION: The communication report sub code 1 is not used in the these models.

B. Details

(1) Communication report main code

Report code	Final receive signal (Send side)	Final receive signal (Receive side)
0	Abnormal signal	Abnormal signal
1	NSF, DIS	(SID), (SUB), NSS, DCS
2	CFR	(PWD), (SEP), NSC, DTC
3	FTT	EOP
4	MCF	EOM
5	PIP, PIN	MPS
6	RTN, RTP	PRI-Q
7	No signal, DCN	DCN
8	PPR	PPS-EOP
9		PPS-EOM
10		PPS-MPS, PPS-NULL
11	RNR	RR
12	CTR	CTC
13	ERR	EOR-Q
14		PPS-PRI-Q
16	Abnormal signal	Abnormal signal
17	NSF, DIS	SID, SUB, NSS, DCS
18	CFR	PWD, SEP, NSC, DTC
19	FTT	PPS-EOP
20	MCF	PPS-EOM
21	PIP, PIN	PPS-MPS, PPS-NULL
22	RTN, RTP	PRI-Q
23	No signal, DCN	DCN
24	PPR	
25	RNR	RR
26	CTR	CTC
27	ERR	EOR-Q
28		PPS-PRI-Q
29	V.8 Phase-1	V.8 Phase-1
30	V.8 Phase-2	V.8 Phase-2
31	V.8 Phase-3	V.8 Phase-3

CAUTION: For report codes 16 – 31, V.34 MODE COMMUNICATION.

Report code (Communication result)	Display in the column of result	Content of communication interruption
0 – 31	Refer to "previous table".	Depends on the point of communication interruption. For 16 or later, V.34 mode communication.
33	BUSY	The calling side cannot establish connection with the remote party.
34	CANCEL	A communication interruption command is made during sending/receiving. The interruption key is pressed for interruption of input. <Send/Receive/Polling/Bulletin board>
35	NG35 XXXX	Power is failed during sending/receiving. <Send/Receive/Polling/Bulletin board>
36	(No record paper)	
37	(Record paper jam)	
38	MEM. FULL	Memory over during reception. <Receive/Polling> Print is not made during reception in acting reception inhibit. <Receive/Polling>
39	(Number of paper unmatched)	
40	(Relay not received)	
41	LENGTH OVER	The send data length of one page exceeds the limit (2m) in sending. <Send/Bulletin board>
42	LENGTH OVER	The receive data length of one page exceeds the limit. <Receive/Polling>
43	(Communication) (OK)	Speaking before data transmission
44	ORIGINAL ERROR	A document jam occurs in direct sending. <Send>
45	(Picture quality error)	
46	NO RESPONSE	The FAX signal from the remote party is not detected within T1 time. <Send/Polling> (When in recall, however, the recall setting in case of a communication error is valid.)
47	TX DECODE ERROR	A decode error occurs in the FAX board. <Send/Bulletin board>
48	OK	Normal end of communication
	OK REPLY RECEIVE	OK in Internet FAX send with reception confirmation.
49	NO RX POLL	The called side does not have polling function in polling reception. <Polling> The called side has no data to send. <Polling>
50	RX POLL FAIL	In polling reception, DCN is received for DTC. <Polling> In polling sending, there is no send data. <Bulletin board>
51	PASS # NG	In polling sending, the allow number is not matched. <Bulletin board> In polling sending, the system number is not matched. <Bulletin board>
52	(No confidential function in remote party)	In confidential sending, the remote party does not have confidential function. <Send> (Including other company's machines) 1) The NSF signal has not "Confidential function" bit. 2) The NSF is not a Sharp machine.
53	(Confidential not received)	1) In confidential sending, DCN is received for NSS. <Send>
54	(Confidential BOX NO NG)	1) In confidential reception, a confidential box number which is not registered is specified.
55	(No relay function in remote party)	In relay command sending, the remote machine has no relay function. <Send> (Including other company's machine) 1) The NSF signal has not "Confidential function" bit. 2) The NSF is not a Sharp machine.
56	NO REL RX	1) In relay command sending, DCN is received for NSS. <Send> 2) In relay command reception, a remote station number which is not registered is specified. <Receive> 3) In F code relay broadcasting, an F code relay command is received. <Receive>
57	(Relay ID unmatched)	1) In relay command reception, the relay ID does not match. <Receive>
58	REJECTED	In reception, data are sent from a remote machine of receive inhibit number. <Receive> (Not rejected in the bulletin board send or the F code bulletin board send.)
59	RX NO F-CODE POLL	In F code polling (calling), the remote machine has no DIS bit 47 (polling function). <Polling> In F code polling (calling), the called side has no send data. (DIS bit 9 is 0.) <Polling>
60	NO F-CODE POLL	In F code polling (calling), DCN is received for SEP. <Polling> In bulletin board, there is no send data for SEP. <Bulletin board>
61	RX POLL # NG	In bulletin board, the sub address (bulletin board number (SEP)) is not matched. <Bulletin board>
62	F POLL PASS # NG	In bulleting board, the pass code (PWD) is not matched. <Bulletin board>
63	NO F FUNC	In F code sending, the remote machine has no DIS bit 49 (sub address function). <Send> (Check that the remote machine conforms to F code.)
64	NO F-CODE	In F code sending : <Send> 1) DCN is received for SUB. --- Check the box number. 2) DCN is received for SID. --- Check the box number and pass code. In F code receiving : <Receive> "F code relay broadcasting" or "F code confidential reception" is "Inhibited with soft SW."
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>
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; • 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>

Report code (Communication result)	Display in the column of result	Content of communication interruption
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 FAX 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	When image conversion for image send cannot be made after send reservation.
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 <ul style="list-style-type: none"> 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)	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 conversion for sending, the number of the IMS management pages exceeds the upper limit (1 communication reservation: 999 sheets, Total communication reservation: 5,000 sheets). (This trouble occurs also in OSA scan, resulting in memory over.)	Send OSAScan
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

When the sub code 2 is "08" or "30" and the communication report is "OK," the report code is "00" or "16."

4. Dial tone

When shipping from the factory, the dial tone detection when sending is set to Enable (changed from OFF to ON). When installing this machine, be sure to check and confirm that the dial tone is properly detected and the auto dial sending is enabled.

Check to confirm that the continuous buzzer sound is heard when the on-hook key is pressed. (Press the on-hook key again to cancel the buzzer sound.)

If facsimile communication cannot be executed normally through the IP telephone line, try the general telephone line.

[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

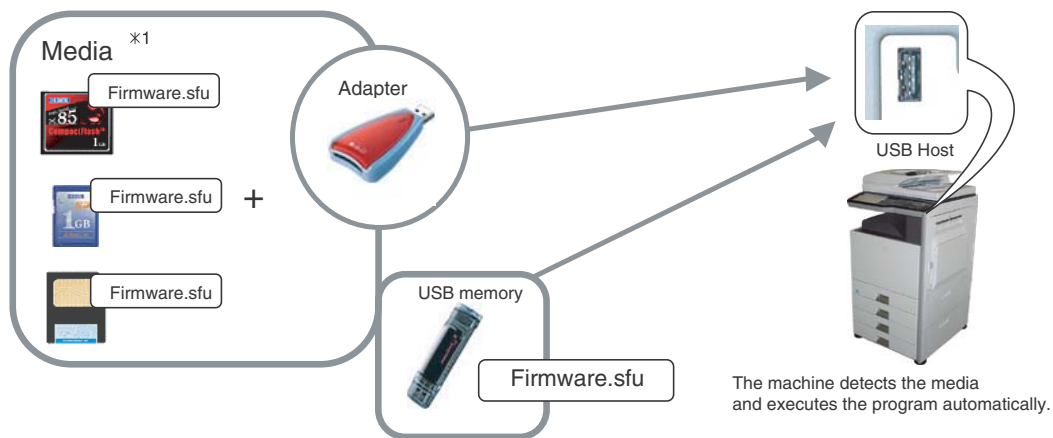
The firmware type can be displayed by SIM22-5.

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.

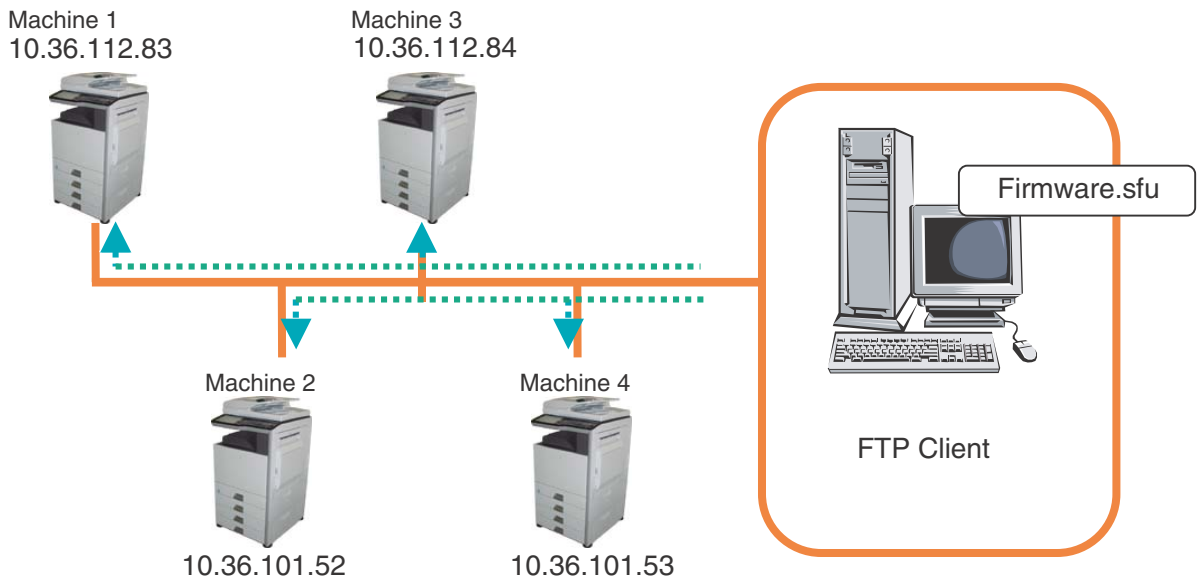
Execution of the firmware by SIM49-01

- 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, following screen is displayed.
Press [OK] key. (The machine is rebooted.)
Go to SIM22-05 and confirm the firmware has upgraded successfully.
- 7) If the update is not normal completion, following screen is displayed.

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

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. 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 MFP PWB is called the CN update.

a. Function

There are the following three functions in the CN update mode.

- Firmware update function

This function is used to update the firmware by transferring data from the PC which is connected to the MFP PWB, the SCU 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 SD card and CompactFlash 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.

- 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.)

b. Purpose

This function is used in the following cases:

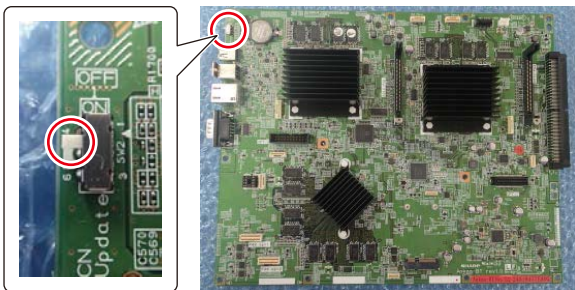
- When an error occurs during firmware update operation other than the CN update.
- When the power is shut down or an error occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update, this method can be used to update the firmware.

If an error occurs in the boot program, this method cannot be used. In such a case, the SD card and CompactFlash must be replaced with a new one having the normal boot program.

c. DIP-SW used in the CN update mode

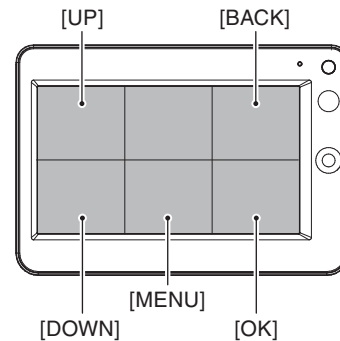
To enter the CN update mode, turn ON the UPDATE DIP-SW on the MFP PWB and boot the machine.

When terminating the CN update mode, reset UPDATE DIP-SW to OFF (normal mode).



d. Keys used in the CN update mode

The following five keys are used for operations in the CN update mode. Be careful that the functions of the keys differ those in the normal mode.



Key name	Functions in the CN update mode
[OK] key	Executes the selected function or item.
[MENU] key	Selects a menu.
[BACK] key	Selects a menu. (Serves as a cancel key in the execution check screen.)
[UP] key	Selects an item.
[DOWN] key	Selects an item.

(2) Operating procedures

a. Firmware update function

This function is used to revise the firmware by using the USB memory for the MFP PWB, the SCU PWB, the PCU PWB, the FAX PWB, and each option.

It is basically same as SIM 49-01, but differs in the following points.

- The update target ROM is automatically selected.
- When the power is shut down or an abnormality occurs in a section other than the boot program for some reasons during firmware update operation of other method than the CN update.

If, however, an abnormality occurs in the boot program, this method cannot be used. On that case, the SD card and CompactFlash must be replaced with a new one having the normal boot program.

When the boot animation is displayed but "Copying is enabled" is not displayed on the copier basic menu, there is an abnormality in the main program (SD card or CompactFlash).

a-1. Necessary items

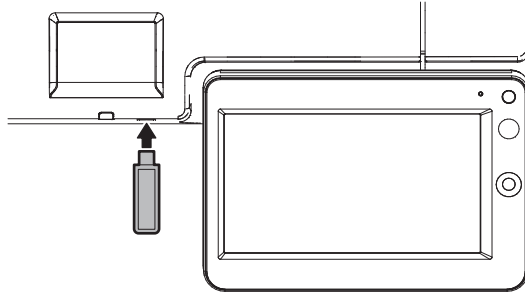
- Insert the SD card and CompactFlash to the MFP PWB of the machine.
- USB memory with the firmware file (SFU) saved in it.

NOTE: Save the firmware file in the main directory or in a one-level lower directory.

a-2. Procedures

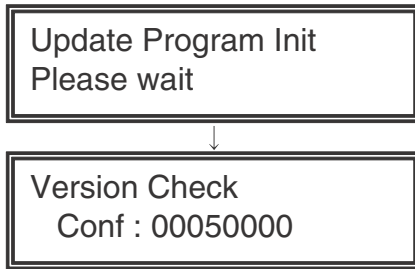
- 1) Turn OFF the power, and remove the cabinet and the MFP PWB cover.
- 2) Turn ON the DIP SW of the MFP PWB UP DATE.
- 3) Install the USB memory into the USB port.

USB memory installing position



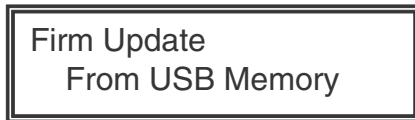
- 4) Turn ON the power.
- 5) Check to confirm that the machine starts booting. (It takes more than ten seconds to display the menu.)

Display when booting is completed



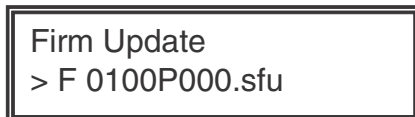
- 6) Select the firmware update mode.
Select the update mode with [MENU] key and [BACK] key.

Display of the firmware update mode



- 7) Press [OK] key.
The firmware file saved in the USB memory is retrieved, and the file selection menu is displayed.

Display of file selection

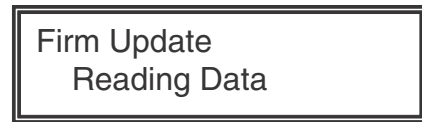


- 8) Select the firmware file (SFU).
Select the target firmware file (SFU) with [UP] key and [DOWN] key.
When [OK] key is pressed with a directory name (the head: "> D") displayed, the menu goes to the one-stage lower directory.
When [BACK] key is pressed in the lower-stage directory, the menu returns to the original upper directory.

- 9) Press [OK] key.

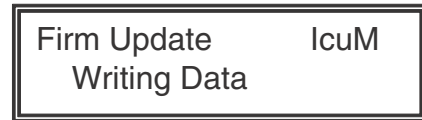
The selected firmware file (SFU) is read. It takes about one minute.

Display of file reading



- 10) After completion of reading, the firmware update process is continued.

Display of the firmware update process

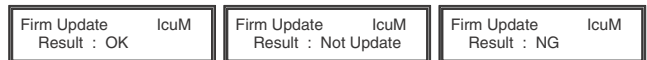


- * The abbreviated name of the firmware which is under update process is indicated on the right upper corner of the display.
- * During the update process, the display may flash instantaneously. It is a normal operation.

- 11) Check the update result.

Use [UP] key and [DOWN] key to display the results of all the firmware programs.

Display of the firmware update result



- OK: Update is completed successfully.
- NG: Update is failed.
- Not Update: Update is not executed.

- 12) Turn OFF the power.
- 13) Turn OFF the DIP SW of the 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 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 to 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 upgrade it as needed. (SIM49-1)

D. Confirmation, adjustment

After completion of part replacement and cleaning, etc, execute the following procedures.

Items necessary to execute

Item				SIM to be used
ADJ 3	Print engine image distortion adjustment / OPC drum phase adjustment / Color registration adjustment (Print engine section)	ADJ 3A	Print engine image distortion adjustment (Manual adjustment) / OPC drum phase adjustment (Automatic adjustment) / Color registration adjustment (Automatic adjustment)	50-22
ADJ 7/SET1	Color balance/density adjustment		Copy image quality check	
			Printer image quality check	
		ADJ 7B	Copy/Printer color balance and density adjustment (Automatic adjustment) (Basic adjustment)	46-74

Items to execute as needed

Item				SIM to be used
ADJ 2	High voltage adjustment	ADJ 2A	Adjust the main charger grid voltage	8-2
		ADJ 2B	Adjust the developing bias voltage	8-1
		ADJ 2C	Transfer current/voltage adjustment	8-6
ADJ 7/SET1	Color balance/density adjustment	ADJ 7A	Scanner calibration (CCD calibration)	63-3 (63-5)

2. Display of maintenance execution timing

The message of maintenance execution timing is displayed when each counter reaches the set value.

The display content is "Maintenance execution timing Code: OO."

The relations between the messages and the counters are shown below.

A. Maintenance counter

Code	Counter name	Display condition	SIM26-38-A set value	Print JOB Enable/Disable
TA	Maintenance counter (Total)	When 90% of the set value of SIM21-1 is reached.	No relation	Enable
		When the set value of SIM21-1 is reached.	0 (Print continue)	Enable
			1 (Print stop)	Disable
CA	Maintenance counter (Color)	When 90% of the set value of SIM21-1 is reached.	No relation	Enable
		When the set value of SIM21-1 is reached.	0 (Print continue)	Enable
			1 (Print stop)	Disable
AA	Maintenance counter (Both of Total and Color)	When 90% of the set value of SIM21-1 is reached.	No relation	Enable
		When the set value of SIM21-1 is reached.	0 (Print continue)	Enable
			1 (Print stop)	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

Code	Counter name	Display condition	SIM26-38-A set value	Print JOB Enable/Disable
TK1	Primary transfer unit print counter	When 300K is reached.	No relation	Enable

* After execution of the maintenance, execute SIM24-4 to clear the primary transfer unit print counter, the accumulated number of rotations counter, and the use day counter.

C. Secondary transfer unit

Code	Counter name	Display condition	SIM26-38-A set value	Print JOB Enable/Disable
TK2	Secondary transfer unit print counter	When 300K is reached.	No relation	Enable

* After execution of the maintenance, execute SIM24-4 to clear the secondary transfer print counter, the accumulated number of rotations counter, and the use day counter.

D. Fusing unit

Code	Counter name	Display condition	SIM26-38-A set value	Print JOB Enable/Disable
FK1	Fusing belt print counter	When 300K is reached.	No relation	Enable
FK2	Pressure roller print counter	When 300K is reached.	No relation	Enable

Code	Counter name	Display condition	SIM26-38-B set value	Print JOB Enable/Disable
FK3	Fusing web send counter	When 300K is reached.	No relation	Enable
FK3	Fusing web send counter	When the fusing web end detection is ON.	0 (Print continue)	Enable
			1 (Print stop)	Disable

* After execution of the maintenance, execute SIM24-4 to clear the fusing roller counter, the fusing belt counter, the fusing web print counter, the accumulated rotation number counter, and the use day counter.

E. OPC drum

Code	Counter name	Display condition	SIM26-38-A set value	Print JOB Enable/Disable
DK	OPC drum print counter (K)	When 300K sheets is reached, or	No relation	Enable
	OPC drum accumulated number of rotations (K)	when 1,000K rotations is reached.		
D (C/M/Y)	OPC drum print counter (C/M/Y)	When 200K sheets is reached, or	No relation	Enable
	OPC drum accumulated number of rotations (C/M/Y)	when 1,000K rotations is reached.		

* After execution of the maintenance, execute SIM24-4 to clear the OPC drum print counter, the accumulated number of rotations counter, and the use day counter.

F. Developer

Code	Counter name	Display condition	SIM26-38-A set value	Print JOB Enable/Disable
VK	Developer print counter (K) DV unit accumulated number of rotations (K)	When 600K sheets is reached, or when 2,000K rotations is reached.	No relation	Enable
V (C/M/Y)	Developer print counter (C/M/Y) DV unit accumulated number of rotations (C/M/Y)	When 400K sheets is reached, or when 2,000K rotations is reached.	No relation	Enable

* After execution of the maintenance, execute SIM24-4 to clear the developer print counter, the accumulated number of rotations counter, and the use day counter.

G. Waste toner box

Code	Counter name	Display condition	Display message	SIM26-38-A set value	Print JOB Enable/Disable
-	When near end is detected.	Waste toner full detection switch ON	The waste toner bottle will be needed soon. (Prepare a new one.)	No relation	Enable
-	The pixel count from near end reaches the specified value.	Specified pixel count	Please replace the waste toner bottle.	No relation	Disable

* When the waste toner box is replaced with an empty one, the message disappears.

H. Toner cartridge

Code	Counter name	Display condition	Display message	SIM26-38-A set value	Print JOB Enable/Disable
-	Toner motor rotation time	Specified time of rotations	(K/C/M/Y) Prepare a toner (Near near end)	No relation	Enable
-	Toner supply amount is decreasing.	Toner remaining quantity sensor output	(K/C/M/Y) Replace the toner cartridge. (Near end)	No relation	Enable
-	The Hopper Remaining Toner after detection of near end reaches the specified level.	Specified hopper remaining count	Replace the toner cartridge. (K) (End)	No relation	Disable for a JOB which requires K toner
-	The Hopper Remaining Toner after detection of near end reaches the specified level.	Specified hopper remaining count	Replace the toner cartridge. (C/M/Y) (End)	No relation	Enable for monochrome, Disable for color

3. Maintenance list

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

Section	Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
DSPF section	Document feed tray unit	1	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	Document feed unit	2	Document pickup roller	O		O			Replace according to each paper feed counter value: Replace at 100K or after one-year use.
		3	Paper feed roller	O		O			
		4	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	Lamp unit	5	Second scan section, scanning glass	O		O			
		6	Scanner lamp	O		O			Air-blow the LED section.
	Optical unit	7	Mirror	O		O			
		8	Lens	O		O			
		9	CCD	O		O			
	DSPF unit	10	Separation roller	O		O			Replace according to each paper feed counter value: Replace at 100K or after one-year use.
		11	Torque limiter	X		X			Replace according to each paper feed counter value: 800K
		12	No. 1 registration roller	O		O			
		13	Transport roller 1	O		O			
		14	No. 2 registration roller	O		O			
		15	Transport roller 2	O		O			
		16	Transport roller 3	O		O			
		17	Paper exit roller	O		O			
		18	No. 1 scanning plate	O		O			
		19	No. 2 scanning section white reference glass	O		O			
		20	Discharge brush	X		X			Replacement reference: When the brush bundle is remarkably deformed.
		21	OC mat	O		O			
		22	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	Drive unit	23	Gears	X		X			Apply to the specified position as needed when checking. (UKOG-0299FCZZ)
		24	Belts	-		X			
	Transport drive unit	25	Belts	-		X			
Scanner section	Scanner unit	1	Table glass	O		O			
		2	SPF glass	O		O			
		3	Rails	☆		☆			Apply to the specified position.
		4	Drive belt	X		X			
		5	Drive wire	X		X			
		6	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	Lamp unit	7	Mirror	O		O			
		8	Scanner lamp	O		O			Air-blow the LED section.
	Mirror unit	9	Mirror	O		O			
	CCD unit	10	Lens	O		O			
		11	CCD	O		O			
Tray paper feed section	Tandem paper feed tray	1	Paper pickup roller	X		O			Replace according to each paper feed counter value: Replace at 200K or after one-year use.
		2	Paper feed roller	X		O			
		3	Separation roller	X		O			
		4	Torque limiter	X		X			Replace according to each paper feed counter value: 800K
		5	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
		-	Transport paper guides	O		O			

Section	Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Tray paper feed section	Tray paper feed unit	6	Paper pickup roller	X		O			Replace according to each paper feed counter value: Replace at 100K or after one-year use.
		7	Paper feed roller	X		O			
		8	Separation roller	X		O			
		9	Torque limiter	X		X			Replace according to each paper feed counter value: 800K
		10	Transport roller 9, 10	X		O			
		11	Transport roller 2, 3	X		O			
		12	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	-	Transport paper guides	O		O				
Manual paper feed section	Manual paper feed unit	13	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
		1	Paper pickup roller	X		O			
		2	Paper feed roller	X		O			Replace according to each paper feed counter value: Replace at 100K or after one-year use.
		3	Separation roller	X		O			
		4	Torque limiter	X		X			
		5	Transport roller 8	X		O			Replace according to each paper feed counter value: 800K
		6	Sensors	X		X			
	-	Transport paper guides	O		O				
Paper transport section	Interface unit	1	Transport roller 6	X		O			For the reflection-type sensor, the other side must be also cleaned.
		2	Transport roller 7	X		O			
		3	Sensors	X		X			
		-	Transport paper guides	O		O			
	Right vertical transport unit	4	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
		-	Transport paper guides	O		O			
	Vertical transport unit	5	Transport roller 11	X		O			For the reflection-type sensor, the other side must be also cleaned.
		6	Transport roller 12	X		O			
		7	Sensors	X		X			
		-	Transport paper guides	O		O			
	LCC transport unit	8	Transport roller 14	X		O			For the reflection-type sensor, the other side must be also cleaned.
		9	Transport roller 15	X		O			
		10	Transport roller 16	X		O			
		11	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
		-	Transport paper guides	O		O			
	PS lower unit	12	Transport roller 13	X		O			
		-	Transport paper guides	O		O			
	PS unit	13	Transport roller 17	X		O			For the reflection-type sensor, the other side must be also cleaned.
		14	Registration roller (drive)	X		O			
		15	Registration roller (idle)	X		O			
		16	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
		17	Paper dust removing unit	O		▲			
LSU section	LSU	1	Dust-proof glass	X		X			Clean as needed.
	LSU cleaning rod	2	Cleaning base	X		X			
Toner supply section		1	Toner cartridge	User replacement for every toner empty.					The storage period is 2 years.
Developing section	Developing unit (monochrome)	1	Developer	X				▲	
		2	DV blade	X		X			Replace at 600K or at the specified rotation number. The storage period is 2 years.
		3	DV side seals F/R	X		X			
		4	Toner filter	X		▲			Replace as needed.
		5	Bias pin	X		X			
		6	Connector	X		X			
	Developing unit (color)	1	Developer	X				▲	Replace at 400K or at the specified rotation number. The storage period is 2 years.
		2	DV blade	X	X				
		3	DV side seals F/R	X	X				Replace as needed.
		4	Toner filter	X	▲				
		5	Bias pin	X	X				
		6	Connector	X	X				

Section	Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
OPC drum section	OPC drum unit (monochrome)	1	Drum	-		▲			Replace according to the drum counter value or when the specified rotation number is reached. The storage period is 3 years.
		2	Cleaner blade	-		▲			Recommendable to replace according to the blade counter value or when the specified rotation number is reached.
		3	MC unit	X		▲			
		4	Side seals F/R	-		X			Replace as needed.
		5	Toner reception seat	-		X			Replace as needed.
		6	Cleaning brush	-		X			Check for clogging of the brush. If cleaning cannot delete the trouble, replace.
		7	DL unit (Discharge lamp unit)	-		X			Clean the DL protection cover of the light shielding surface as needed.
		8	TCDL unit (After-transfer discharge lamp unit)	-		X			Clean the TCDL protection cover of the light shielding surface as needed.
		9	HP sensor	X		X			Clean as needed.
		10	Process suction port moltopen	X		X			Clean as needed.
	OPC drum unit (color)	1	Drum	-	▲				Replace according to the drum counter value or when the specified rotation number is reached. The storage period is 3 years.
		2	Cleaner blade	-	▲				Recommendable to replace according to the blade counter value or when the specified rotation number is reached.
		3	MC unit	X	▲				
		4	Side seals F/R	-	X				Replace as needed.
		5	Toner reception seat	-	X				Replace as needed.
		6	Cleaning brush	-	X				Check for clogging of the brush. If cleaning cannot delete the trouble, replace.
		7	DL unit (Discharge lamp unit)	-	X				Clean the DL protection cover of the light shielding surface as needed.
		8	TCDL unit (After-transfer discharge lamp unit)	-	X				Clean the TCDL protection cover of the light shielding surface as needed.
		9	HP sensor	X	X				Clean as needed.
		10	Process suction port moltopen	X	X				Clean as needed.
Transfer section	Primary transfer unit	1	Primary transfer belt	-		▲			When replacing, apply CKOG-0345DS51(Y toner).
		2	Primary transfer cleaner blade	-		▲			When 300K is reached, replace together with the primary transfer belt.
		3	Primary transfer roller	-		X			Replace as needed.
		4	Primary transfer belt drive gear	-		X			Replace as needed.
		5	Primary transfer belt drive roller	-		O			Clean with alcohol.
		6	Primary transfer belt follower roller	-		O			Clean with alcohol.
		7	Primary transfer belt tension roller	-		O			Clean with alcohol.
		8	Primary transfer idle roller	-		O			Clean with alcohol.
		9	PTC opposed roller	-		O			Clean with alcohol.
		10	Transfer separation pawl	-		▲			Replace together with the primary transfer belt.
		11	Y auxiliary roller	-		O			Clean with alcohol.
		12	Primary transfer cleaner seals F/R	-		X			Replace as needed.
		13	Primary transfer toner reception seal	-		X			Replace as needed.
		14	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
		15	Resist backup shaft	-		O			Clean with alcohol.
		16	Primary transfer cleaning brush roller	-		O			
		17	Primary transfer cleaning roller	-		▲			
		18	Shatterproof seal	-		X			Replace as needed.

Section	Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Transfer section	PTC unit	19	Charger wire	-		▲			Do not touch the wire with bare hand.
		20	PTC cleaner	-		▲			
		21	PTC cleaner B	-		▲			
	Registration sensor unit	22	Image registration/density sensor	-		O			After the sensors were cleaned, never forget to execute Sim44-2 then execute Sim46-74 "Copy color balance adjustment".
		23	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	Secondary transfer unit	24	Secondary transfer belt	-		▲			Never use alcohol or solvents for cleaning. When replacing, apply CKOG-0345DS51(Y toner).
		25	Secondary transfer cleaner blade	-		▲			When 300K is reached, replace together with the secondary transfer belt.
		26	Secondary transfer roller	-		X			Replace as needed.
		27	Secondary transfer idle gear	-		X			Replace as needed.
		28	Secondary transfer belt drive roller	-		O			Clean with alcohol.
		29	Secondary transfer belt follower roller	-		O			Clean with alcohol.
		30	Secondary transfer blade contact roller	-		O			Clean with alcohol.
		31	Secondary transfer backup roller	-		O			Clean with alcohol.
		32	Secondary transfer cleaning brush roller	-		O			
		33	Secondary transfer cleaner seals F/R	-		X			Replace as needed.
		34	Secondary transfer toner reception seal	-		X			Replace as needed.
Waste toner collection section		1	Waste toner box	X		X			Replacement reference: 100K under the standard environmental conditions (20 - 25 degrees C 65 +/- 5%) at the color ratio of "7 : 3 (Black : Color)" in the print ratio 5% document mode.
		2	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
Fusing section	Fusing unit	1	Fusing belt	-		▲			
		2	Fusing roller	-		▲			When replacing, apply grease (UKOG-0235FCZZ) to the shaft section.
		3	Pressure roller	-		▲			When replacing, apply grease (UKOG-0235FCZZ) to the shaft section.
		4	Separation plate	-		▲			Clean when a foreign material is attached.
		5	Lower separation pawl	-		▲			Clean when a foreign material is attached.
		6	Meandering suppress collar	-		▲			
		7	Heating roller	-		▲			
		8	Fusing roller bearing	-		▲			
		9	Heating roller bearing	-		▲			
		10	Pressure roller bearing	-		▲			
		11	Heat-insulating bush	-		▲			When replacing, apply grease UKOG-0235FCZZ) to the shaft section.
		12	Pressure roller gear	-		▲			
		13	24T Gear	-		▲			Packed in Pressure roller lit "MX-750LH"
		14	Main thermistor	X		X			
		15	Sub thermistor 1	X		X			
		16	Sub thermistor 2	X		X			Replace or clean with alcohol as needed.
		17	Lower thermistor 1	X		X			
		18	Lower thermistor 2	X		X			Replace or clean with alcohol as needed.
		19	Transport roller 18	X		O			
		20	Gears	X		X			
		21	Web roller	-		▲			

Section	Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Fusing section	Fusing unit	22	Web guide shaft	-		▲			
		23	Web pressure roller	-		▲			
		24	Web pressure roller bearing	-		▲			
		25	Fusing paper exit detector	-		X			
		26	Fusing front paper pass detector	-		X			For the reflection-type sensor, the other side must be also cleaned.
		27	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
		-	Paper guides	O		O			
		-	Fusing unit	-		▲			Replace at 300K when replacing the unit.
Paper exit/ reverse section	Right door unit	1	Transport roller 19	X		O			
		2	Transport roller 20	X		O			
		3	Transport roller 21	X		O			
		4	Transport roller 22	X		O			
		5	Paper exit roller 2	X		O			
		6	Discharge brush	X		X			
		7	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
		-	Transport paper guides	O		O			
	Paper exit unit	8	Paper exit roller 1	X		O			
		9	Discharge brush	X		X			
		10	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
		-	Transport paper guides	O		O			
Drive section	Tandem paper feed drive unit	1	Gears	-		X			Apply to the specified position as needed when checking.
		2	Belts	-		X			
	Paper feed drive unit	3	Gears	-		X			Apply to the specified position as needed when checking.
		4	Belts	-		X			
	Transport drive unit	5	Gears	-		X			Apply to the specified position as needed when checking.
		6	Belts	-		X			
	Main drive unit (BK)	7	Gears	-		X			Apply grease (UKOG-0307FCZZ) to the specified position as needed when checking.
		8	Shaft earth sections	-		X			Apply grease (UKOG-0012QSZZ) to the specified position as needed when checking.
		9	Belts	-		X			
		10	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	Main drive unit (CL)	11	Gears	-		X			Apply grease (UKOG-0307FCZZ) to the specified position as needed when checking.
		12	Shaft earth sections	-		X			Apply grease (UKOG-0012QSZZ) to the specified position as needed when checking.
		13	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	Other	14	Fusing motor	-		X			Replace at the specified number of rotations: about 2,300K.
Filter section		1	Deodorant filter	X		▲			
		2	Toner filter	X		▲			
		3	Ozone filter	X		▲			
		4	UFP filter	X		▲			For Europe
		5	VOC filter	X		▲			For Europe

Memo:

Note for cleaning the image registration/density sensor

In maintenance (DV/Drum) or in case of a service call (F2-78), clean the image registration/density sensors.

After the sensors were cleaned, never forget to execute Sim44-2 then execute Sim46-74 "Copy color balance adjustment".

Greasing

Greasing is not always required for every maintenance. In the following cases, check and grease.

- When there are some noises.
- When a lot of jams occur frequently. (Check the jam history.)

Cleaning of sensors and detectors in the paper feed/transport system

Cleaning of sensors and detectors in the paper feed/transport system is not always required for every maintenance. In the following cases, check and clean.

- When a trouble or a jam occurs due to a sensor or a detector. (Check the jam history.)

Torque limiter check and replacement

Torque limiter check and replacement is not always required for every maintenance. In the following cases, check and replace.

- When there are some noises.
- When a lot of jams occur frequently. (Check the jam history.)

Alcohol for cleaning

Be sure to use ethanol for cleaning.

Cleaning of the primary transfer mode detector (CL/BK)

- When replacing the OPC drum, remove the primary transfer unit and the developing unit, and clean them.
- Blow air to the light emitting section and light receiving section to remove the attached toner.
- Blow air also when the sensor is wiped and cleaned with waste cloth.

A. DSPF section

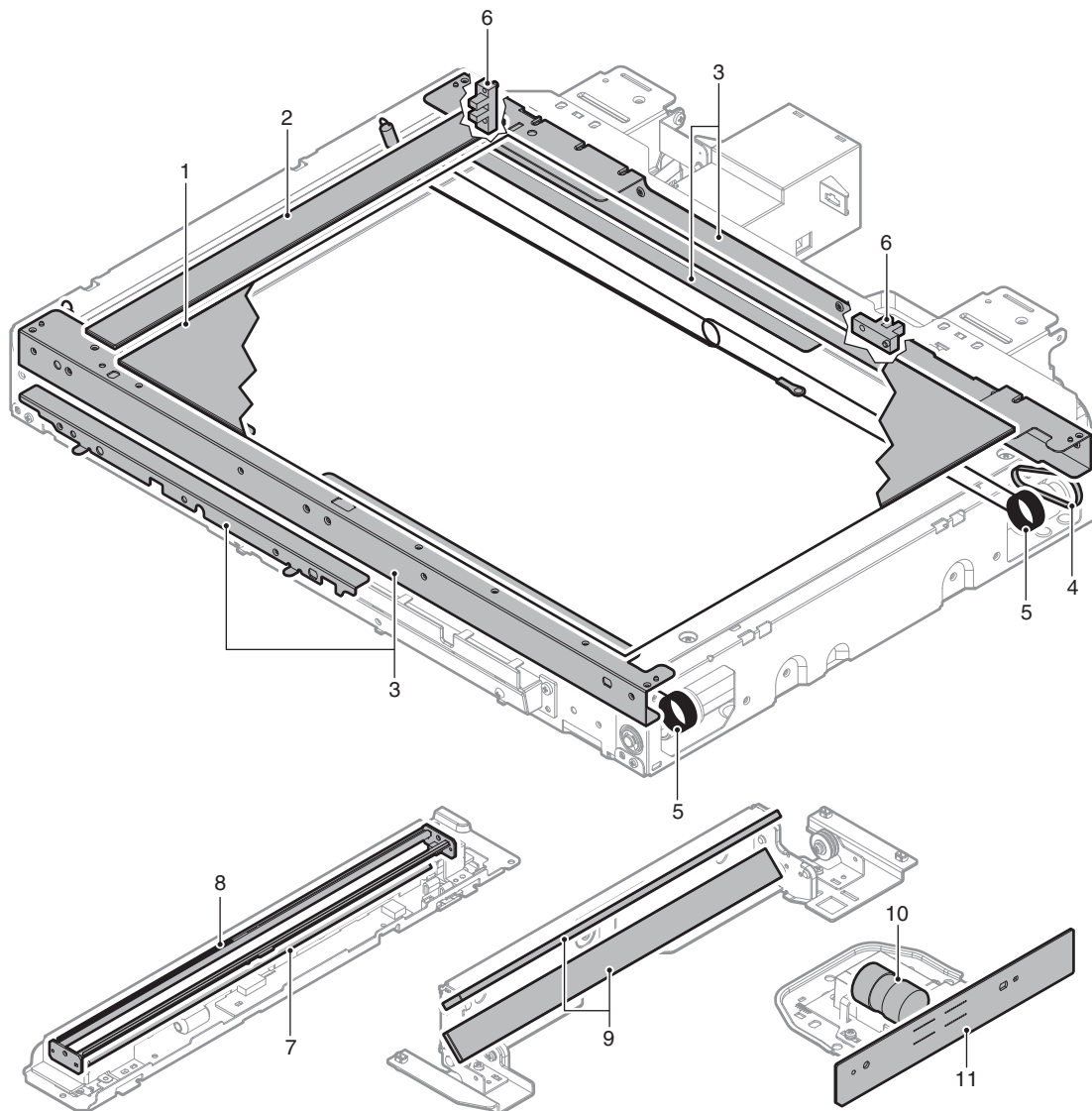
X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Document feed tray unit	1	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
Document feed unit	2	Document pickup roller	O		O			Replace according to each paper feed counter value: Replace at 100K or after one-year use.
	3	Paper feed roller	O		O			
	4	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
Lamp unit	5	Second scan section, scanning glass	O		O			
	6	Scanner lamp	O		O			Air-blow the LED section.
Optical unit	7	Mirror	O		O			
	8	Lens	O		O			
	9	CCD	O		O			
DSPF unit	10	Separation roller	O		O			Replace according to each paper feed counter value: Replace at 100K or after one-year use.
	11	Torque limiter	X		X			Replace according to each paper feed counter value: 800K
	12	No. 1 registration roller	O		O			
	13	Transport roller 1	O		O			
	14	No. 2 registration roller	O		O			
	15	Transport roller 2	O		O			
	16	Transport roller 3	O		O			
	17	Paper exit roller	O		O			
	18	No. 1 scanning plate	O		O			
	19	No. 2 scanning section white reference glass	O		O			
	20	Discharge brush	X		X			Replacement reference: When the brush bundle is remarkably deformed.
	21	OC mat	O		O			
Drive unit	22	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	23	Gears	X		X			Apply to the specified position as needed when checking. (UKOG-0299FCZZ)
Transport drive unit	24	Belts	-		X			
	25	Belts	-		X			

B. Scanner section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

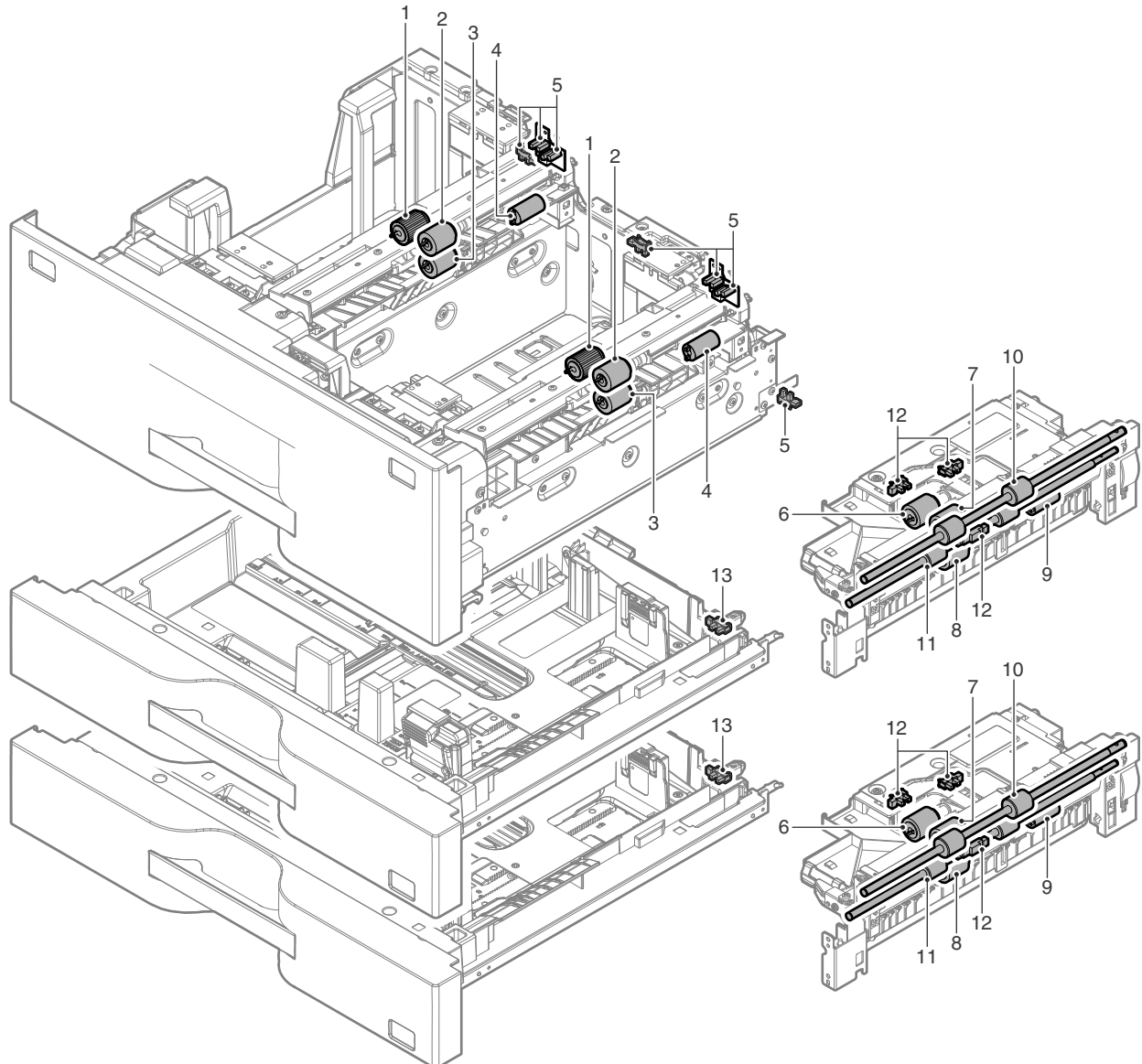
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Scanner unit	1	Table glass	O		O			
	2	SPF glass	O		O			
	3	Rails	☆		☆			Apply to the specified position.
	4	Drive belt	X		X			
	5	Drive wire	X		X			
	6	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
Lamp unit	7	Mirror	O		O			
	8	Scanner lamp	O		O			Air-blow the LED section.
Mirror unit	9	Mirror	O		O			
CCD unit	10	Lens	O		O			
	11	CCD	O		O			



C. Tray paper feed section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

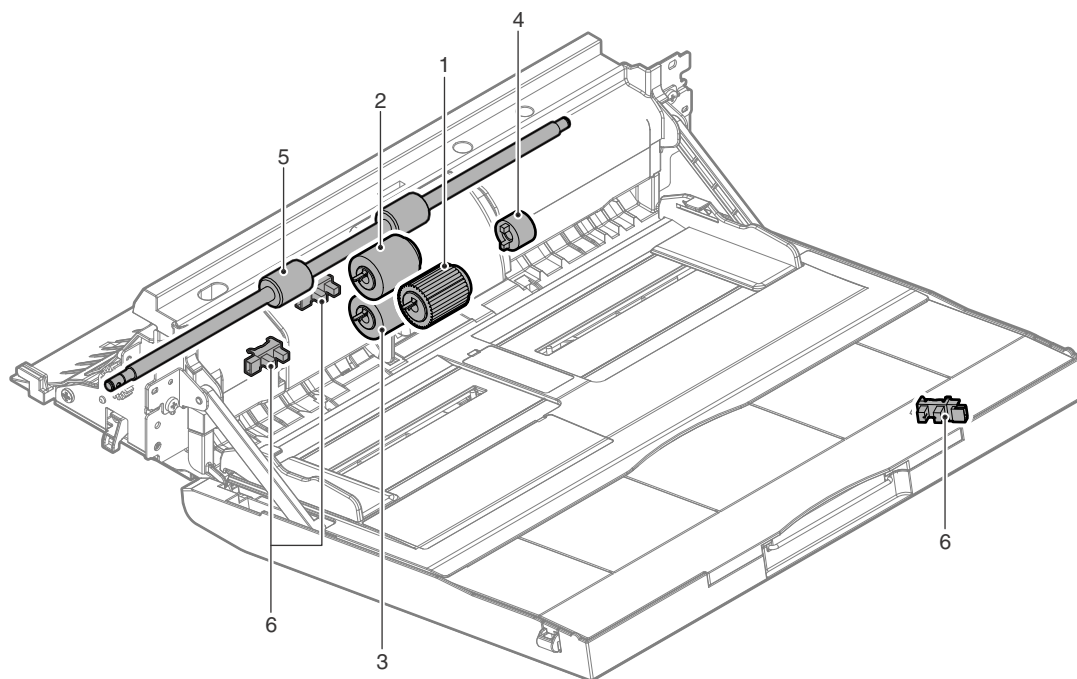
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Tandem paper feed tray	1	Paper pickup roller	X		O			Replace according to each paper feed counter value: Replace at 200K or after one-year use.
	2	Paper feed roller	X		O			
	3	Separation roller	X		O			
	4	Torque limiter	X		X			Replace according to each paper feed counter value: 800K
	5	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
Tray paper feed unit	—	Transport paper guides	O		O			
	6	Paper pickup roller	X		O			Replace according to each paper feed counter value: Replace at 100K or after one-year use.
	7	Paper feed roller	X		O			
	8	Separation roller	X		O			
	9	Torque limiter	X		X			Replace according to each paper feed counter value: 800K
	10	Transport roller 9, 10	X		O			
	11	Transport roller 2, 3	X		O			
Paper feed tray	12	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	—	Transport paper guides	O		O			
Paper feed tray	13	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.



D. Manual paper feed section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

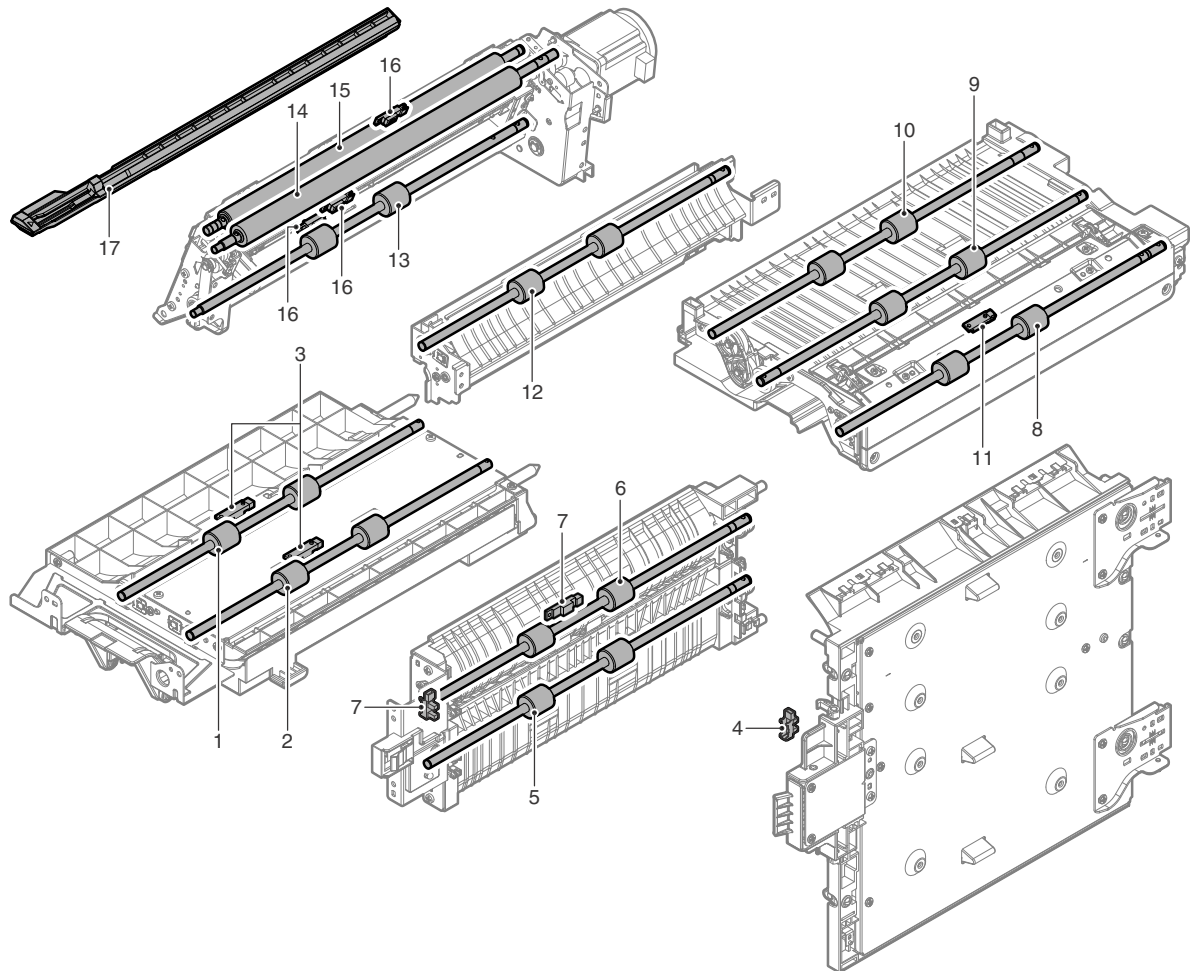
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Manual paper feed unit	1	Paper pickup roller	X		O			Replace according to each paper feed counter value: Replace at 100K or after one-year use.
	2	Paper feed roller	X		O			
	3	Separation roller	X		O			
	4	Torque limiter	X		X			Replace according to each paper feed counter value: 800K
	5	Transport roller 8	X		O			
	6	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	—	Transport paper guides	O		O			



E. Paper transport section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

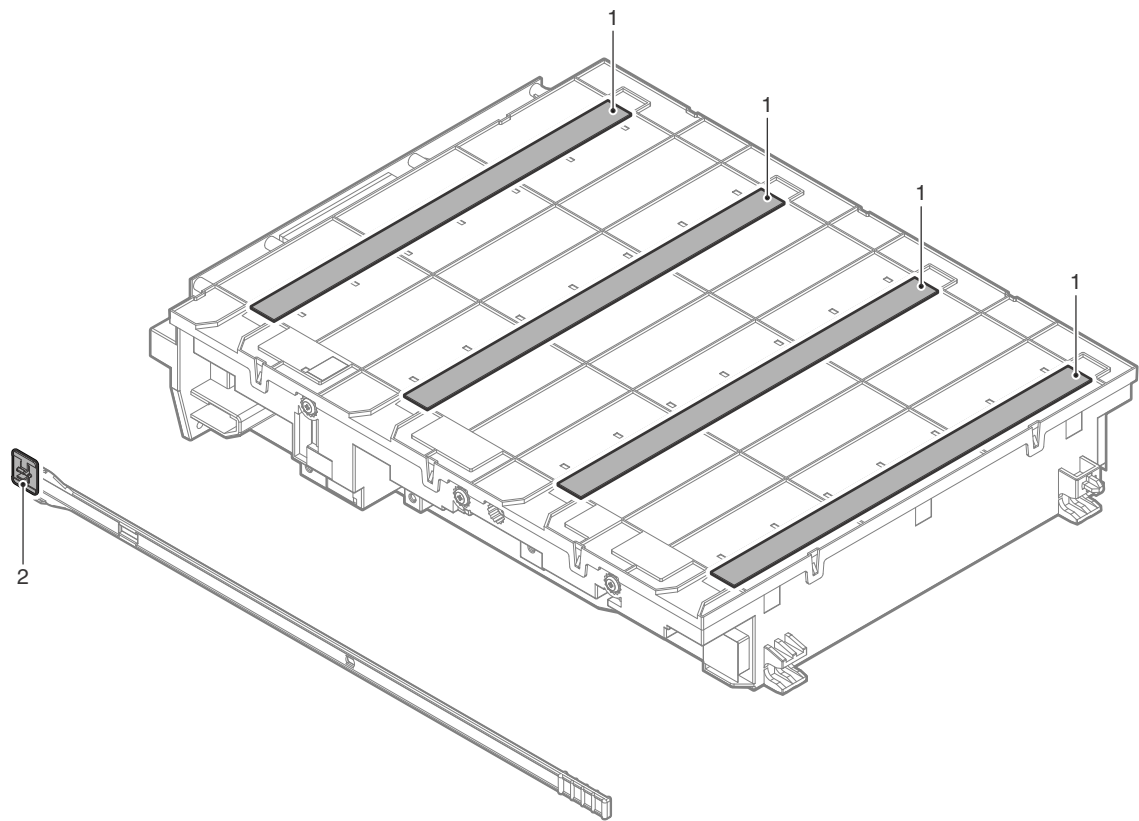
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Interface unit	1	Transport roller 6	X		O			
	2	Transport roller 7	X		O			
	3	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	—	Transport paper guides	O		O			
Right vertical transport unit	4	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	—	Transport paper guides	O		O			
Vertical transport unit	5	Transport roller 11	X		O			
	6	Transport roller 12	X		O			
	7	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	—	Transport paper guides	O		O			
LCC transport unit	8	Transport roller 14	X		O			
	9	Transport roller 15	X		O			
	10	Transport roller 16	X		O			
	11	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	—	Transport paper guides	O		O			
PS lower unit	12	Transport roller 13	X		O			
	—	Transport paper guides	O		O			
PS unit	13	Transport roller 17	X		O			
	14	Registration roller (drive)	X		O			
	15	Registration roller (idle)	X		O			
	16	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	17	Paper dust removing unit	O		▲			
	—	Transport paper guides	O		O			



F. LSU section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆ : Lubricate

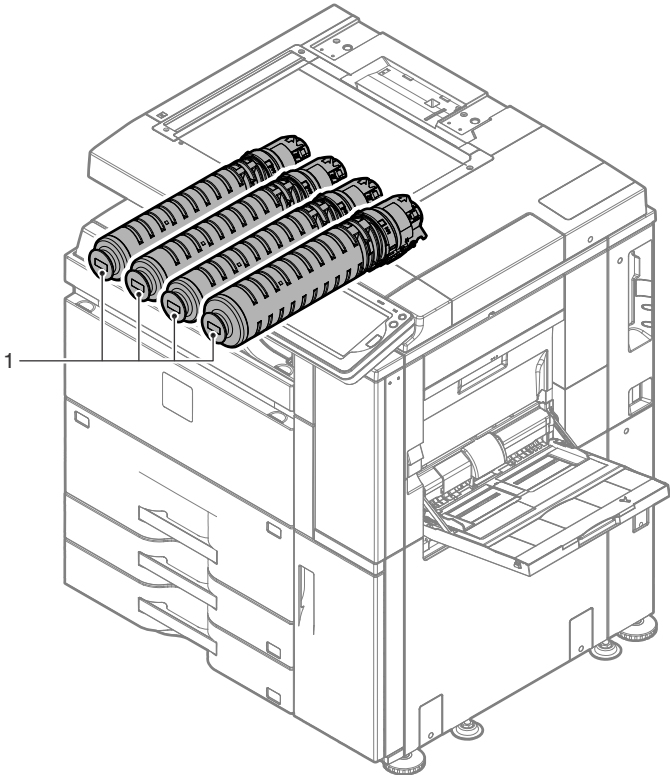
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
LSU	1	Dust-proof glass	X		X			Clean as needed.
LSU cleaning rod	2	Cleaning base	X		X			



G. Toner supply section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆ : Lubricate

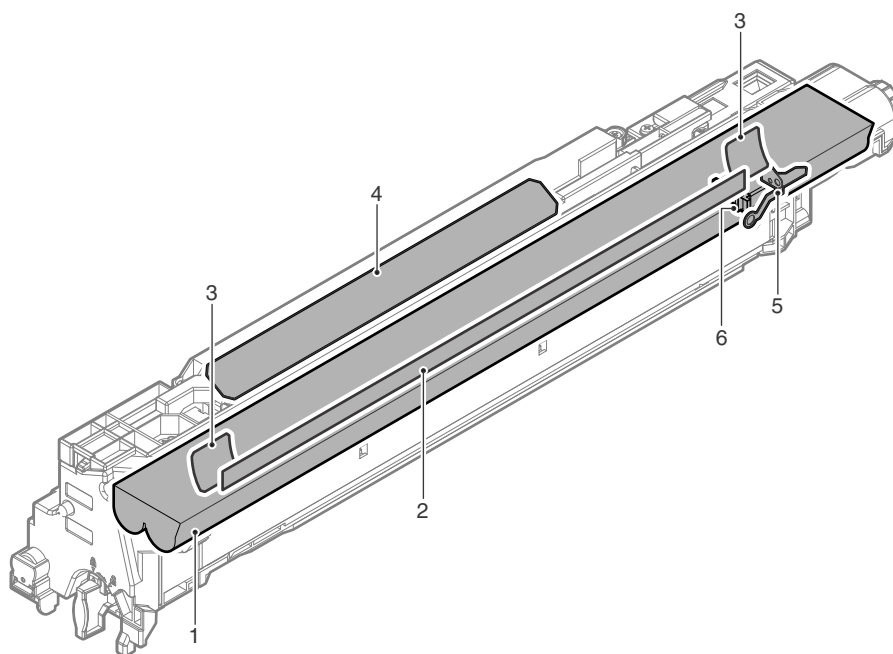
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
	1	Toner cartridge	User replacement for every toner empty.					The storage period is 2 years.



H. Developing section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

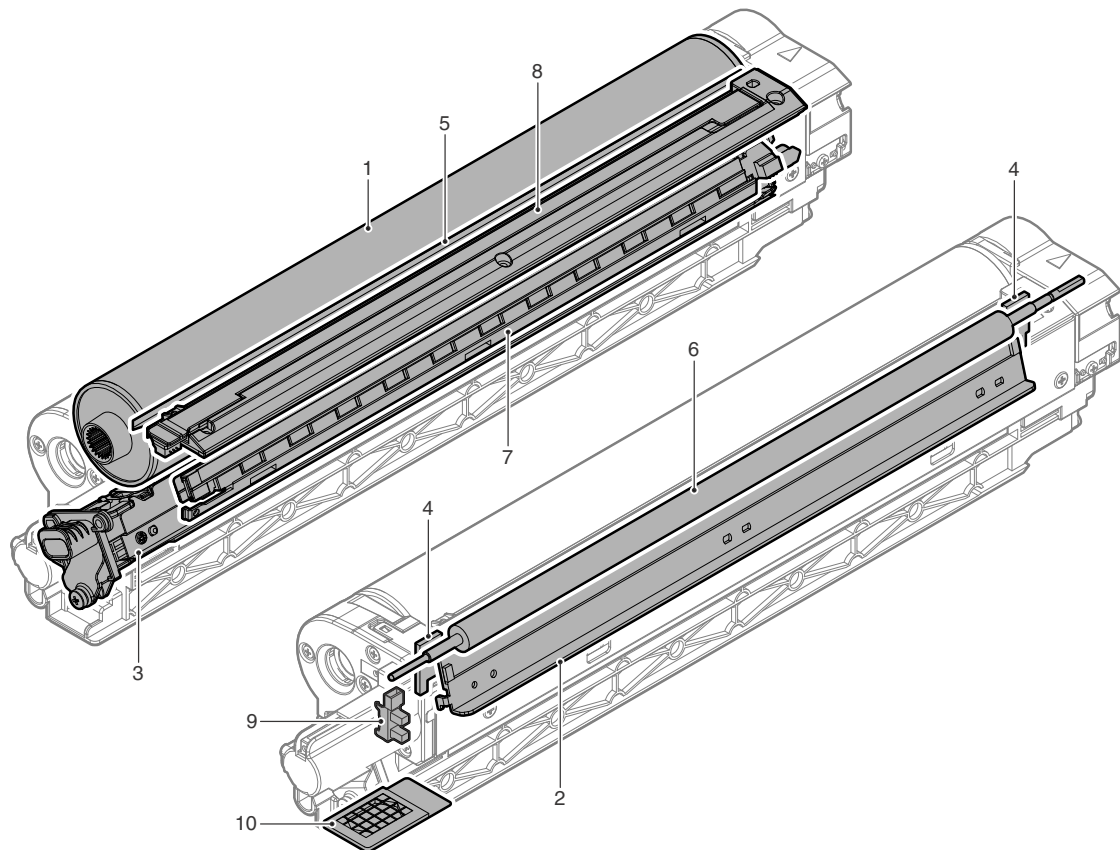
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Developing unit (monochrome)	1	Developer	X				▲	Replace at 600K or at the specified rotation number. The storage period is 2 years.
	2	DV blade	X		X			Replace as needed.
	3	DV side seals F/R	X		X			Replace as needed.
	4	Toner filter	X		▲			
	5	Bias pin	X		X			
	6	Connector	X		X			
Developing unit (color)	1	Developer	X			▲		Replace at 400K or at the specified rotation number. The storage period is 2 years.
	2	DV blade	X	X				Replace as needed.
	3	DV side seals F/R	X	X				Replace as needed.
	4	Toner filter	X	▲				
	5	Bias pin	X	X				
	6	Connector	X	X				



I. OPC drum section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

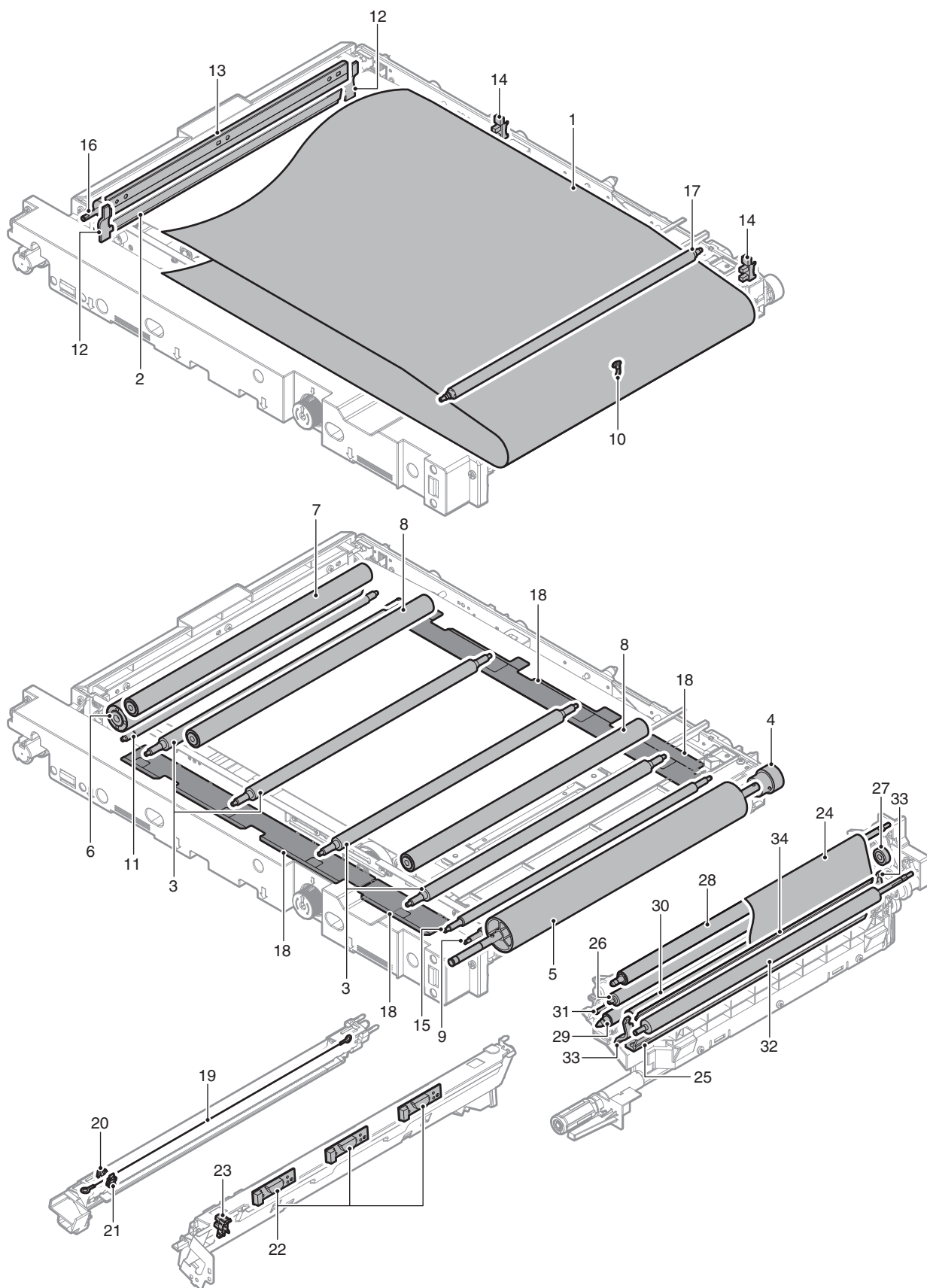
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
OPC drum unit (monochrome)	1	Drum	-		▲			Replace according to the drum counter value or when the specified rotation number is reached. The storage period is 3 years.
	2	Cleaner blade	-		▲			Recommendable to replace according to the blade counter value or when the specified rotation number is reached.
	3	MC unit	X		▲			
	4	Side seals F/R	-		X			Replace as needed.
	5	Toner reception seat	-		X			Replace as needed.
	6	Cleaning brush	-		X			Check for clogging of the brush. If cleaning cannot delete the trouble, replace.
	7	DL unit (Discharge lamp unit)	-		X			Clean the DL protection cover of the light shielding surface as needed.
	8	TCDL unit (After-transfer discharge lamp unit)	-		X			Clean the TCDL protection cover of the light shielding surface as needed.
	9	HP sensor	X		X			Clean as needed.
	10	Process suction port moltopren	X		X			Clean as needed.
OPC drum unit (color)	1	Drum	-	▲				Replace according to the drum counter value or when the specified rotation number is reached. The storage period is 3 years.
	2	Cleaner blade	-	▲				Recommendable to replace according to the blade counter value or when the specified rotation number is reached.
	3	MC unit	X	▲				
	4	Side seals F/R	-	X				Replace as needed.
	5	Toner reception seat	-	X				Replace as needed.
	6	Cleaning brush	-	X				Check for clogging of the brush. If cleaning cannot delete the trouble, replace.
	7	DL unit (Discharge lamp unit)	-	X				Clean the DL protection cover of the light shielding surface as needed.
	8	TCDL unit (After-transfer discharge lamp unit)	-	X				Clean the TCDL protection cover of the light shielding surface as needed.
	9	HP sensor	X	X				Clean as needed.
	10	Process suction port moltopren	X	X				Clean as needed.



J. Transfer section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

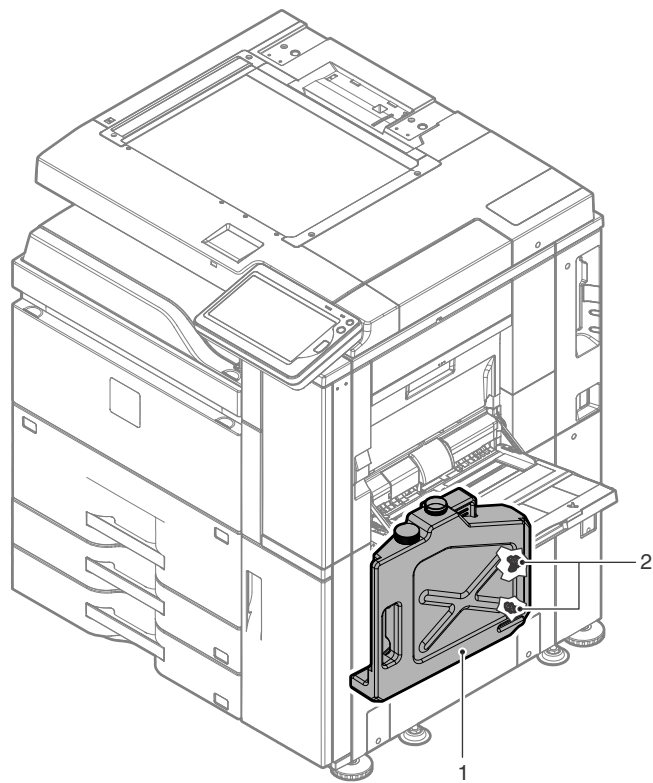
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Primary transfer unit	1	Primary transfer belt	-		▲			When replacing, apply CKOG-0345DS51(Y toner).
	2	Primary transfer cleaner blade	-		▲			When 300K is reached, replace together with the primary transfer belt.
	3	Primary transfer roller	-		X			Replace as needed.
	4	Primary transfer belt drive gear	-		X			Replace as needed.
	5	Primary transfer belt drive roller	-		O			Clean with alcohol.
	6	Primary transfer belt follower roller	-		O			Clean with alcohol.
	7	Primary transfer belt tension roller	-		O			Clean with alcohol.
	8	Primary transfer idle roller	-		O			Clean with alcohol.
	9	PTC opposed roller	-		O			Clean with alcohol.
	10	Transfer separation pawl	-		▲			Replace together with the primary transfer belt.
	11	Y auxiliary roller	-		O			Clean with alcohol.
	12	Primary transfer cleaner seals F/R	-		X			Replace as needed.
	13	Primary transfer toner reception seal	-		X			Replace as needed.
	14	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	15	Resist backup shaft	-		O			Clean with alcohol.
	16	Primary transfer cleaning brush roller	-		O			
	17	Primary transfer cleaning roller	-		▲			
	18	Shatterproof seal	-		X			Replace as needed.
PTC unit	19	Charger wire	-		▲			Do not touch the wire with bare hand.
	20	PTC cleaner	-		▲			
	21	PTC cleaner B	-		▲			
Registration sensor unit	22	Image registration/density sensor	-		O			After the sensors were cleaned, never forget to execute Sim44-2 then execute Sim46-74 "Copy color balance adjustment".
	23	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
Secondary transfer unit	24	Secondary transfer belt	-		▲			Never use alcohol or solvents for cleaning. When replacing, apply CKOG-0345DS51(Y toner).
	25	Secondary transfer cleaner blade	-		▲			When 300K is reached, replace together with the secondary transfer belt.
	26	Secondary transfer roller	-		X			Replace as needed.
	27	Secondary transfer idle gear	-		X			Replace as needed.
	28	Secondary transfer belt drive roller	-		O			Clean with alcohol.
	29	Secondary transfer belt follower roller	-		O			Clean with alcohol.
	30	Secondary transfer blade contact roller	-		O			Clean with alcohol.
	31	Secondary transfer backup roller	-		O			Clean with alcohol.
	32	Secondary transfer cleaning brush roller	-		O			
	33	Secondary transfer cleaner seals F/R	-		X			Replace as needed.
	34	Secondary transfer toner reception seal	-		X			Replace as needed.



K. Waste toner collection section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

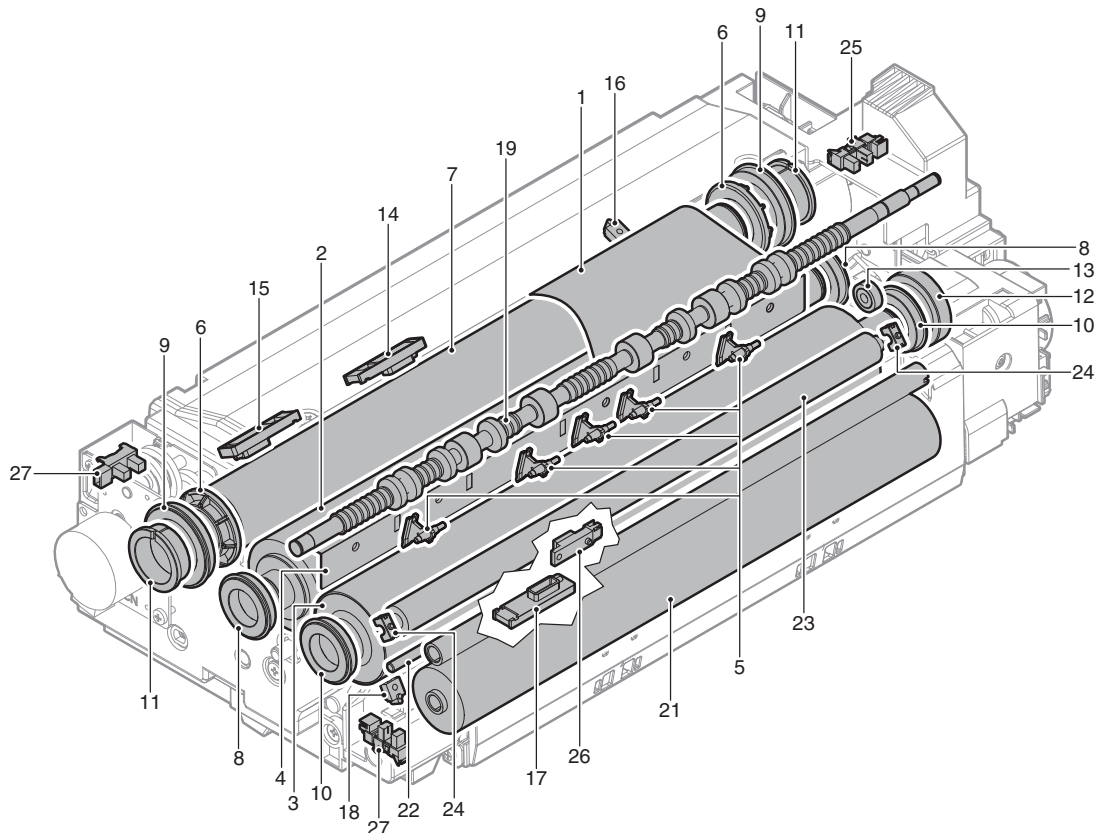
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
	1	Waste toner box	X		X			Replacement reference: 100K
	2	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.



L. Fusing section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Fusing unit	1	Fusing belt	-		▲			
	2	Fusing roller	-		▲			When replacing, apply grease (UKOG-0235FCZZ) to the shaft section.
	3	Pressure roller	-		▲			When replacing, apply grease (UKOG-0235FCZZ) to the shaft section.
	4	Separation plate	-		▲			Clean when a foreign material is attached.
	5	Lower separation pawl	-		▲			Clean when a foreign material is attached.
	6	Meandering suppress collar	-		▲			
	7	Heating roller	-		▲			
	8	Fusing roller bearing	-		▲			
	9	Heating roller bearing	-		▲			
	10	Pressure roller bearing	-		▲			
	11	Heat-insulating bush	-		▲			When replacing, apply grease (UKOG-0235FCZZ) to the shaft section.
	12	Pressure roller gear	-		▲			
	13	24T Gear	-		▲			Packed in Pressure roller lit "MX-750LH"
	14	Main thermistor	X		X			
	15	Sub thermistor 1	X		X			
	16	Sub thermistor 2	X		X			Replace or clean with alcohol as needed.
	17	Lower thermistor 1	X		X			
	18	Lower thermistor 2	X		X			Replace or clean with alcohol as needed.
	19	Transport roller 18	X		O			
	20	Gears	X		X			Apply to the specified position.
	21	Web roller	-		▲			
	22	Web guide shaft	-		▲			
	23	Web pressure roller	-		▲			
	24	Web pressure roller bearing	-		▲			
	25	Fusing paper exit detector	-		▲			
	26	Fusing front paper pass detector	-		▲			For the reflection-type sensor, the other side must be also cleaned.
	27	Sensors	-		▲			For the reflection-type sensor, the other side must be also cleaned.
	-	Paper guides	-		▲			
	-	Fusing unit	-		▲			Replace at 300K when replacing the unit.



M. Paper exit/reverse section

X: Check (Clean, replace, or adjust according to necessity.)

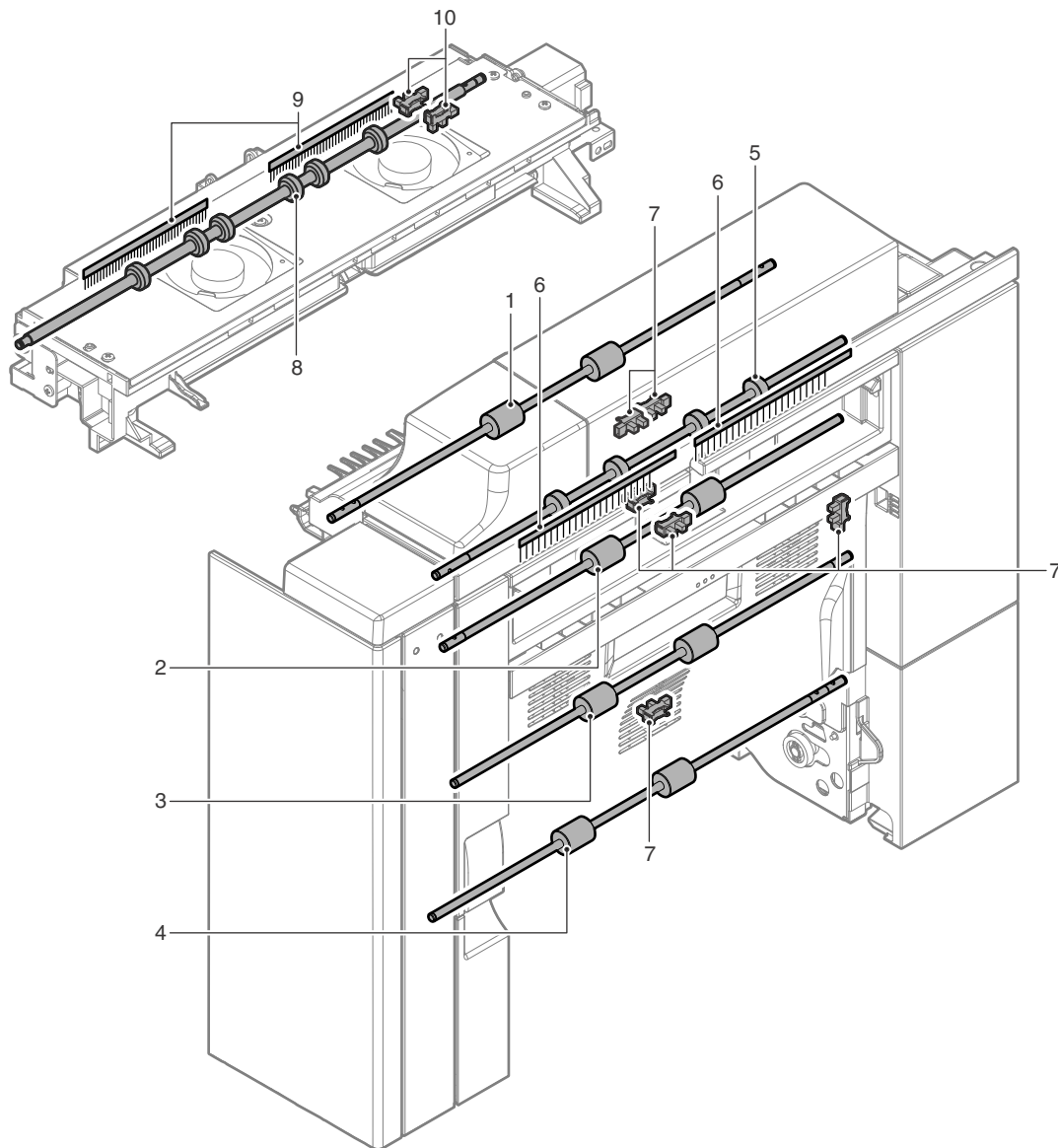
O: Clean

▲: Replace

△: Adjust

☆: Lubricate

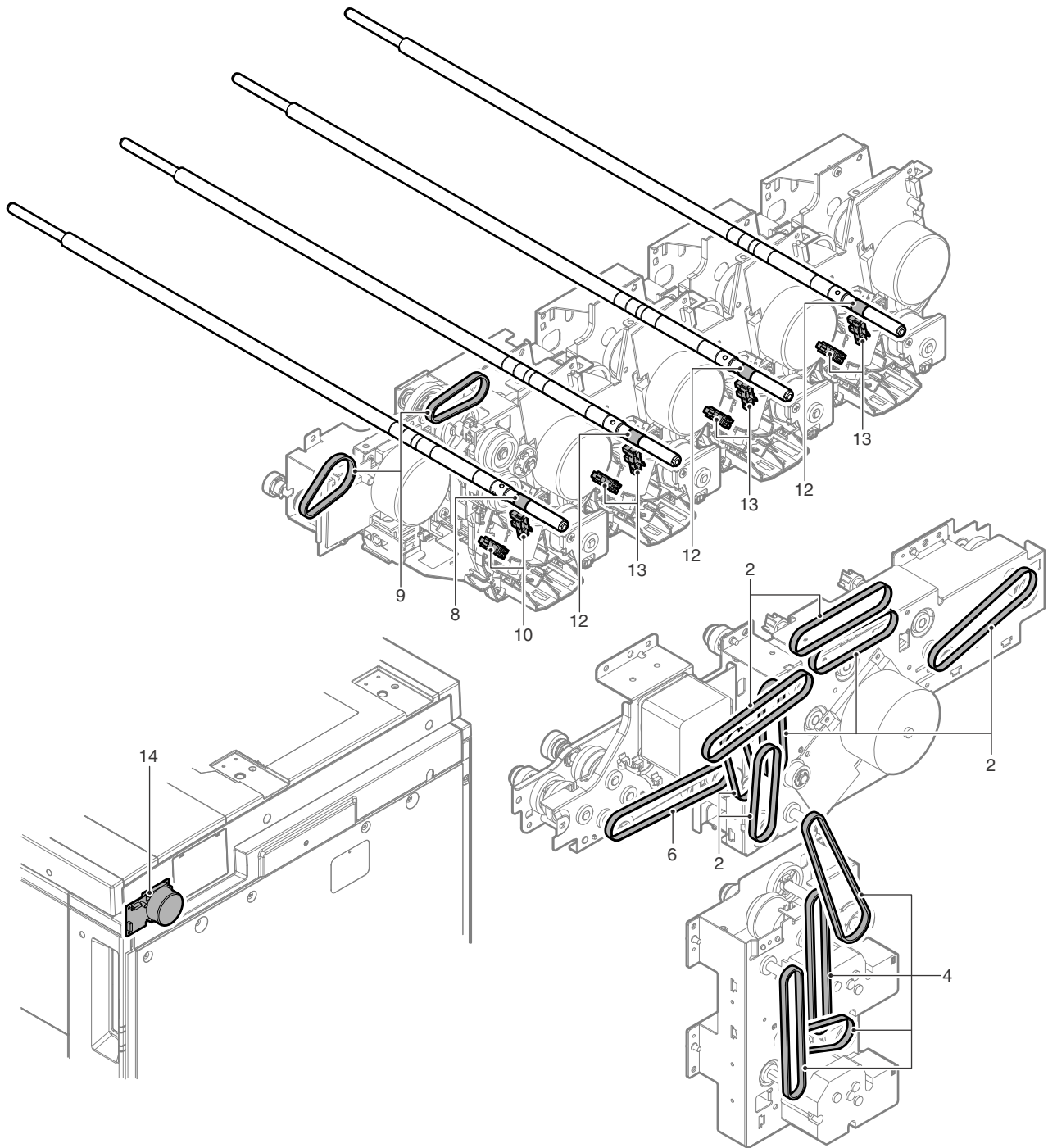
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Right door unit	1	Transport roller 19	X		O			
	2	Transport roller 20	X		O			
	3	Transport roller 21	X		O			
	4	Transport roller 22	X		O			
	5	Paper exit roller 2	X		O			
	6	Discharge brush	X		X			
	7	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
Paper exit unit	—	Transport paper guides	O		O			
	8	Paper exit roller 1	X		O			
	9	Discharge brush	X		X			
	10	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
	—	Transport paper guides	O		O			



N. Drive section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

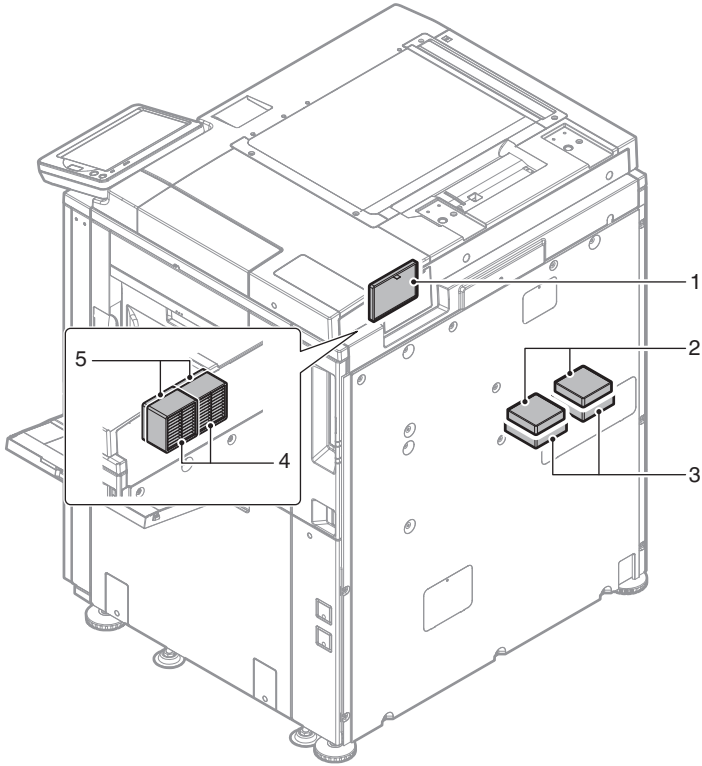
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
Tandem paper feed drive unit	1	Gears	-		X			Apply to the specified position as needed when checking.
	2	Belts	-		X			
Paper feed drive unit	3	Gears	-		X			Apply to the specified position as needed when checking.
	4	Belts	-		X			
Transport drive unit	5	Gears	-		X			Apply to the specified position as needed when checking.
	6	Belts	-		X			
Main drive unit (BK)	7	Gears	-		X			Apply grease (UKOG-0307FCZZ) to the specified position as needed when checking.
	8	Shaft earth sections	-		X			Apply grease (UKOG-0012QSZZ) to the specified position as needed when checking.
	9	Belts	-		X			
	10	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
Main drive unit (CL)	11	Gears	-		X			Apply grease (UKOG-0307FCZZ) to the specified position as needed when checking.
	12	Shaft earth sections	-		X			Apply grease (UKOG-0012QSZZ) to the specified position as needed when checking.
	13	Sensors	X		X			For the reflection-type sensor, the other side must be also cleaned.
Other	14	Fusing motor	-		X			Replace at the specified number of rotations: about 2,300K.



O. Filter section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆ : Lubricate

Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Remark
	1	Deodorant filter	X		▲			
	2	Toner filter	X		▲			
	3	Ozone filter	X		▲			
	4	UFP filter	X		▲			For Europe
	5	VOC filter	X		▲			For Europe

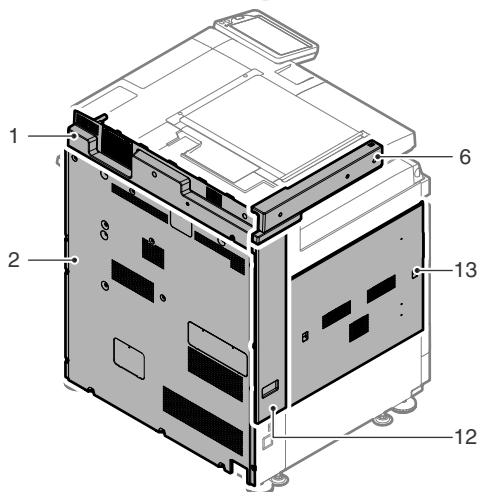
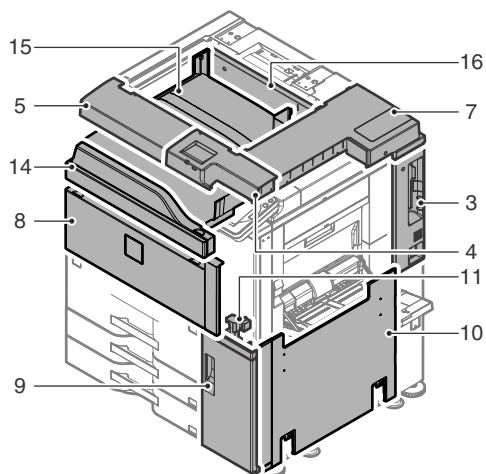


[10] DISASSEMBLY AND ASSEMBLY

1. Disassembly of Units

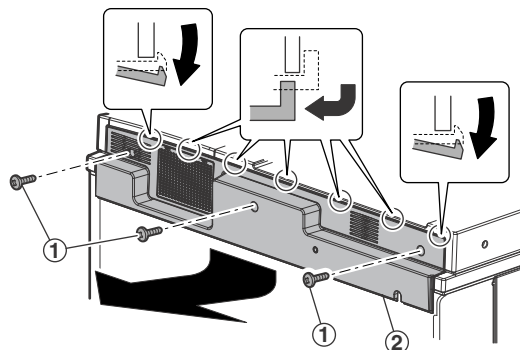
A. External view section

No.	Name
1	Upper cabinet rear cover
2	Rear cabinet
3	Right cabinet rear
4	Upper cabinet front right
5	Upper cabinet front left
6	Upper cabinet left
7	Upper cabinet right
8	Front cover
9	Right lower door
10	Right cabinet lower
11	Right lower door cover
12	Left cabinet rear
13	Left cabinet upper
14	Toner cover
15	Paper exit tray
16	Paper exit tray rear connection cabinet



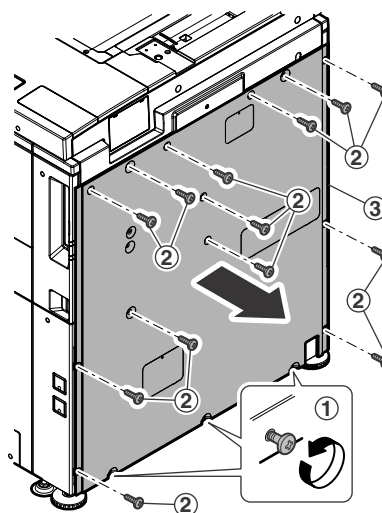
(1) Upper cabinet rear cover

- 1) Remove the screw, and remove the upper cabinet rear cover.



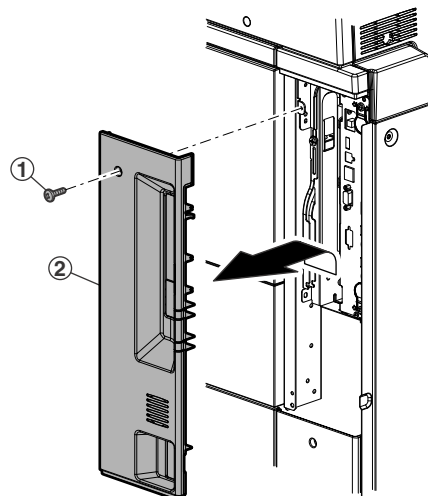
(2) Rear cabinet

- 1) Loosen the screw at the bottom of the rear cabinet, and remove the rear cabinet.



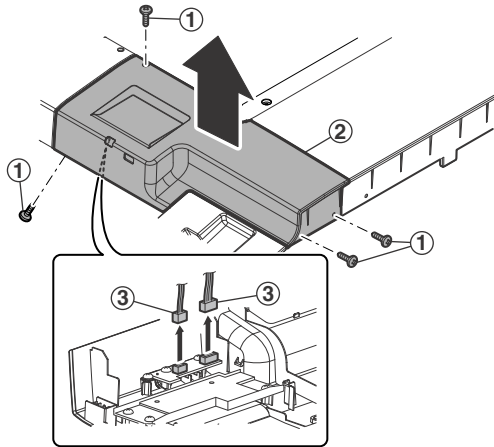
(3) Right cabinet rear

- 1) Remove the screw, and remove the right cabinet rear.



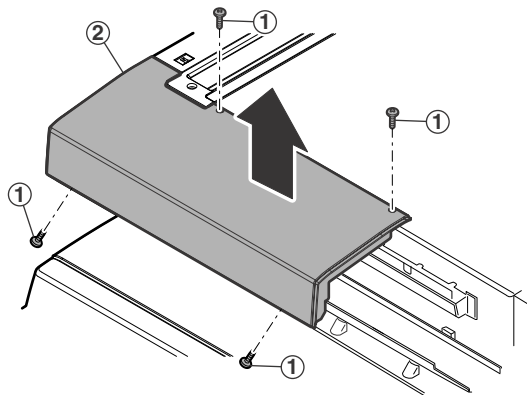
(4) Upper cabinet front right

- 1) Remove the screw, and remove the upper cabinet front right. Disconnect the connector from the USB I/F PWB.



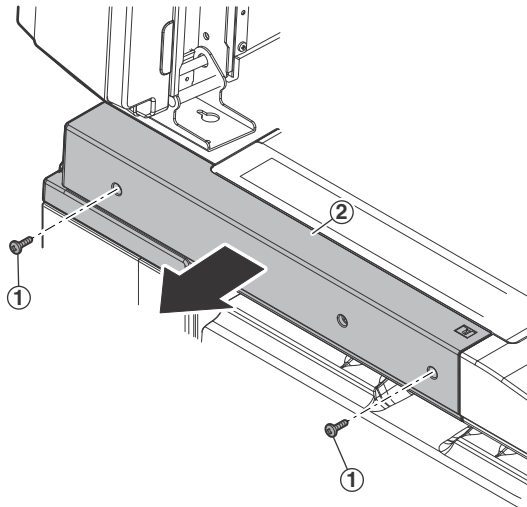
(5) Upper cabinet front left

- 1) Remove the screw, and remove the upper cabinet front left.



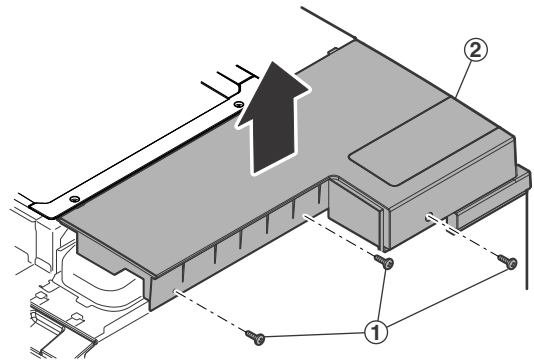
(6) Upper cabinet left

- 1) Remove the screw, and remove the upper cabinet left.



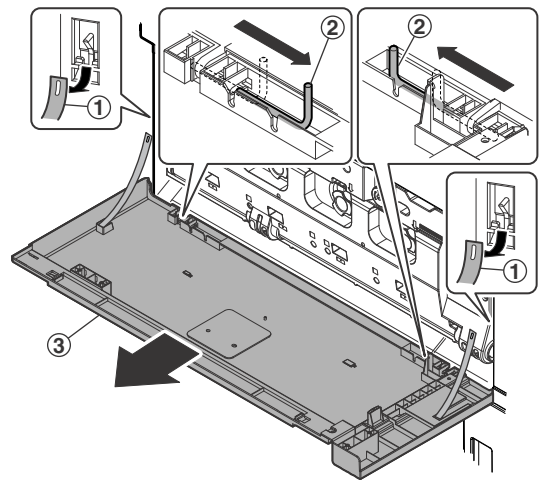
(7) Upper cabinet right

- 1) Open the right door.
- 2) Remove the screw, and remove the upper cabinet right.



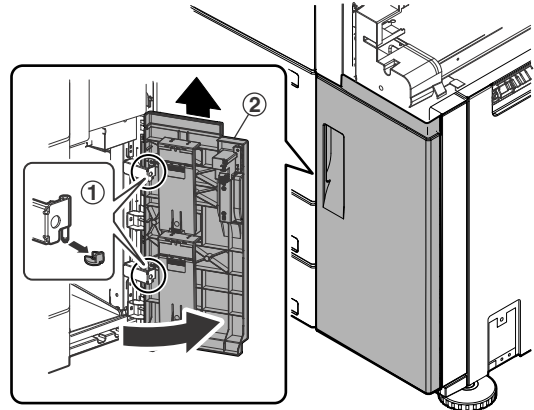
(8) Front cover

- 1) Remove the band. Slide the shaft, and remove the front cover.

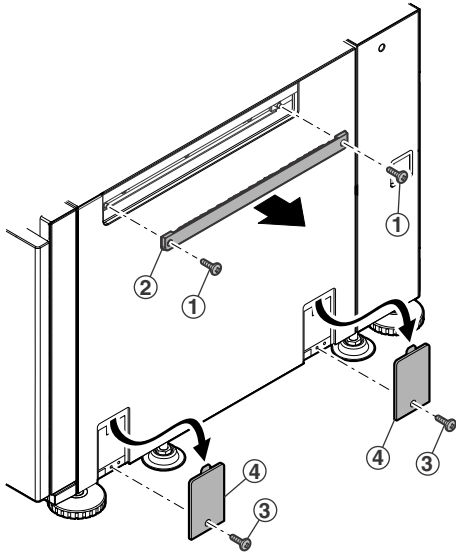


(9) Right lower door, Right cabinet lower

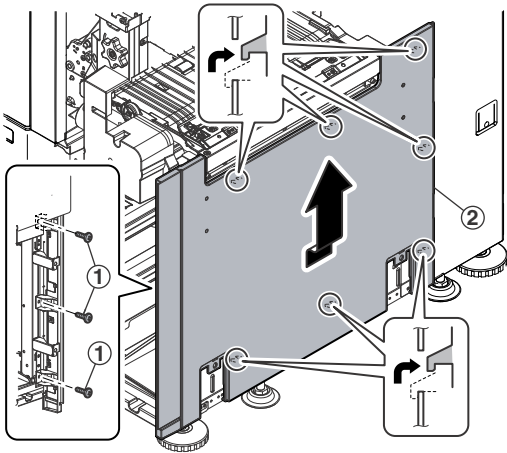
- 1) Remove the resin E-ring, and remove the right lower door.



- 2) Remove the screw, and remove the cover.

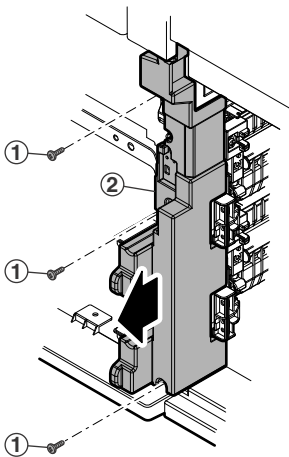


- 3) Remove the screw, and right cabinet lower.



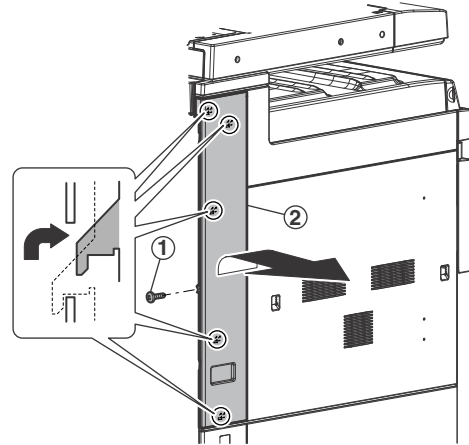
(10) Right lower door cover

- 1) Pull out the tandem paper feed tray, paper feed tray.
- 2) Open the right lower door.
- 3) Remove the screw, and remove the right lower door cover.



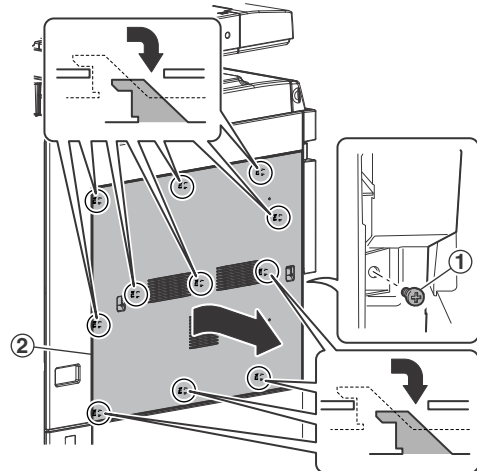
(11) Left cabinet rear

- 1) Remove the rear cabinet.
- 2) Remove the screw, and remove the left cabinet rear.



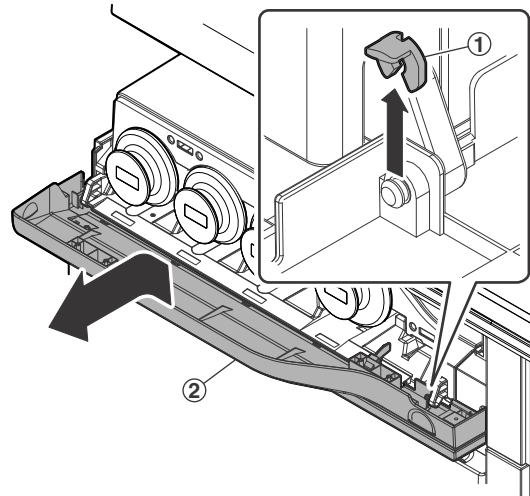
(12) Left cabinet upper

- 1) Open the front cover.
- 2) Open the tandem paper feed tray.
- 3) Remove the screw, and remove the left cabinet upper.

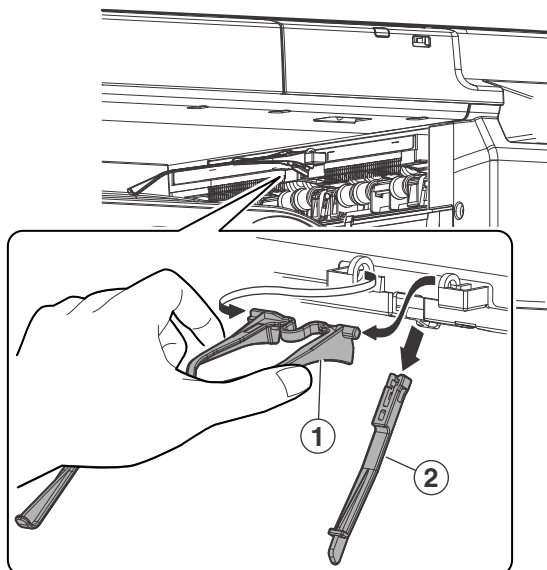


(13) Toner cover, Paper exit tray, Paper exit tray rear connection cabinet

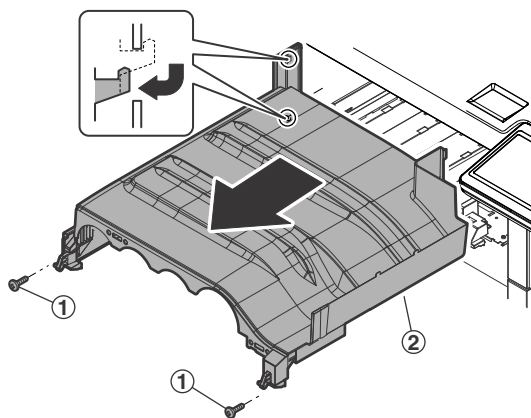
- 1) Open the toner cover. Remove the resin E-ring, and remove the toner cover.



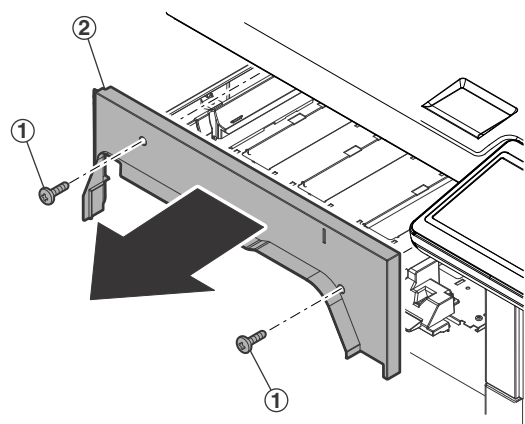
- 2) Remove the paper holding arm, and remove the actuator.



- 3) Remove the screw, and remove the paper exit tray.

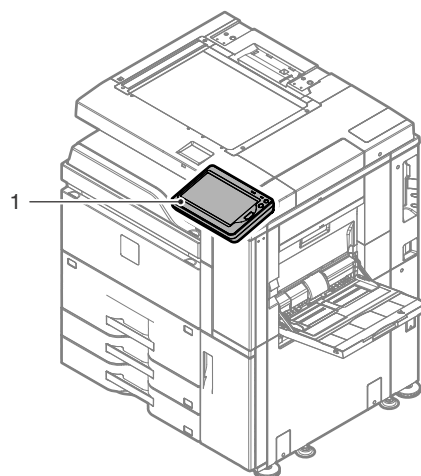


- 4) Remove the screw, and remove the paper exit tray rear connection cabinet.



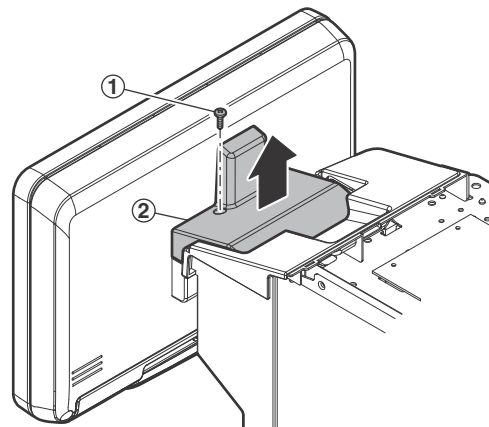
B. Operation panel section

No.	Name
1	Operation panel unit

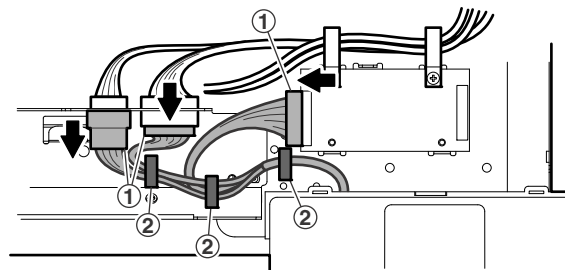


(1) Operation panel unit

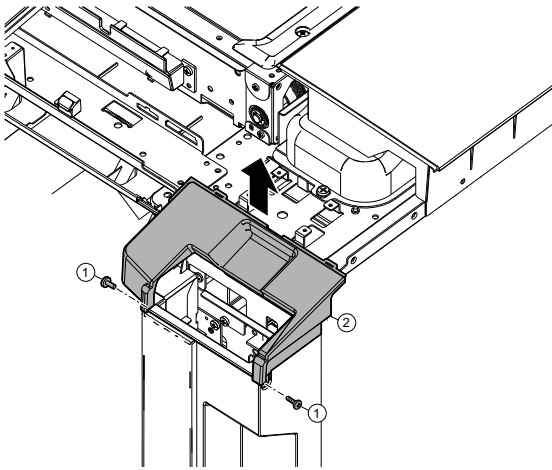
- 1) Remove the upper cabinet front right.
- 2) Remove the screw, and remove the cover.



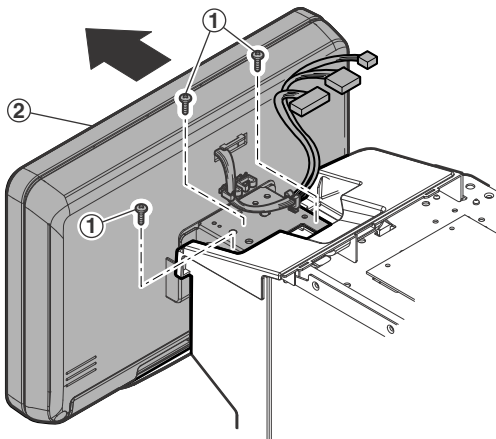
- 3) Disconnect the connector of the operation panel unit, and remove the harness from the wire saddle.



- 4) Remove the screws, and remove the cabinet.

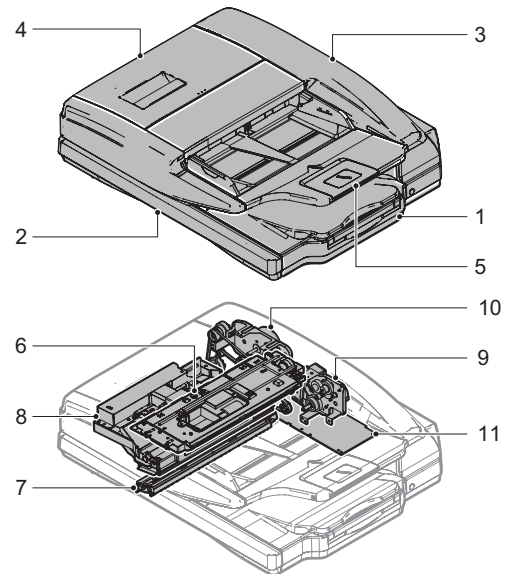


- 5) Remove the screw, and remove the operation panel unit.



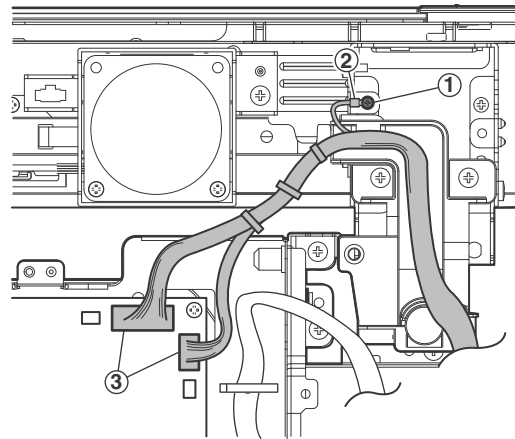
C. DSPF section

No.	Name
1	DSPF unit
2	Front cabinet
3	Rear cabinet upper
4	Upper door unit
5	Document feed tray
6	Paper feed unit
7	Lamp unit
8	Optical unit
9	Delivery drive unit
10	Paper feed drive unit
11	DSPF control PWB

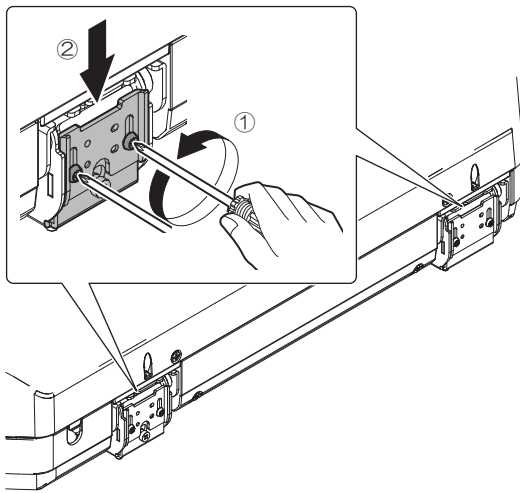


(1) DSPF unit

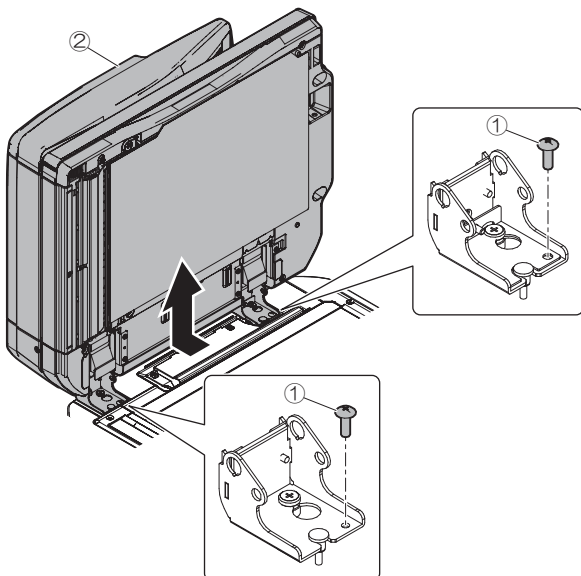
- 1) Remove the upper cabinet rear cover.
- 2) Remove the screw, and remove the earth wire. Disconnect the connector from the SCN Mother PWB.



- 3) Loosen the screw, and lower the angle adjustment plate.

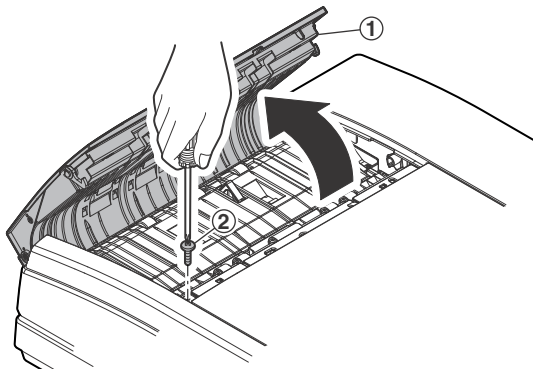


- 4) Remove the screws, and remove the DSPF unit from the machine.

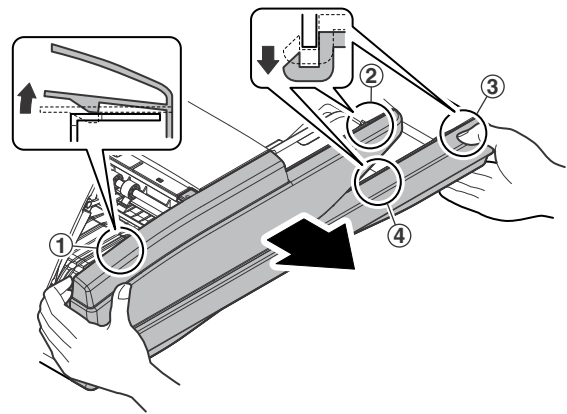


(2) Front cabinet

- 1) Open the upper door, and remove the screw.

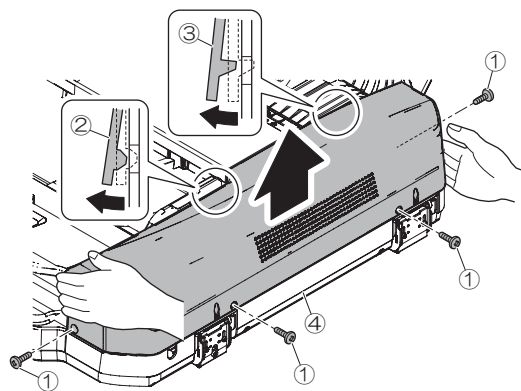


- 2) Remove the front cabinet.



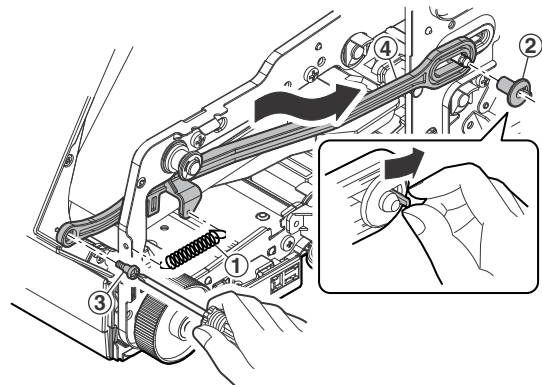
(3) Rear cabinet upper

- 1) Open the upper door. Remove the screw, and remove the rear cabinet.

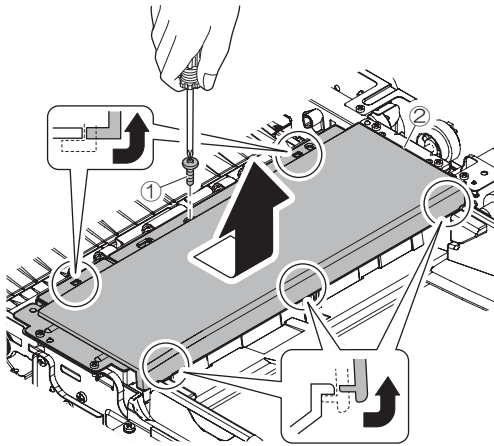


(4) Upper door unit

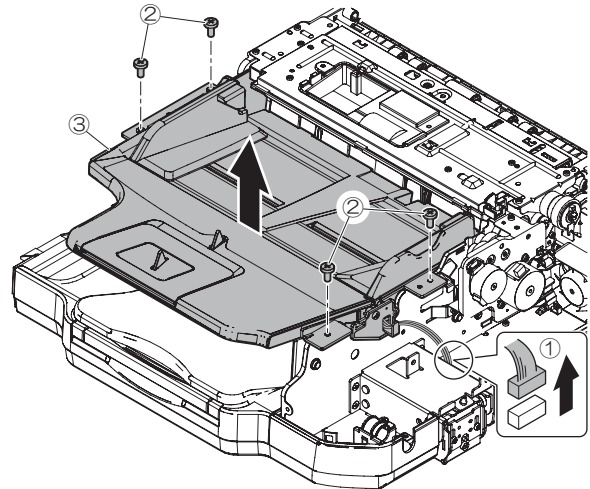
- 1) Remove the front cabinet.
- 2) Remove the sprig. Remove the pressure release axis holder and the screw, and remove the pressure release link lever.



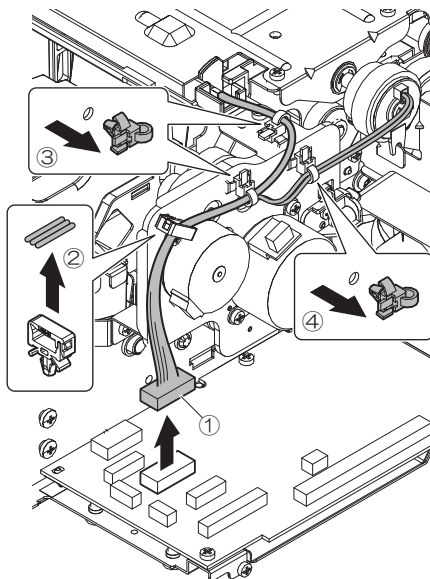
- 3) Remove the screw and remove the paper feed cover.



- 3) Disconnect the connector. Remove the screw, and remove the document feed tray.

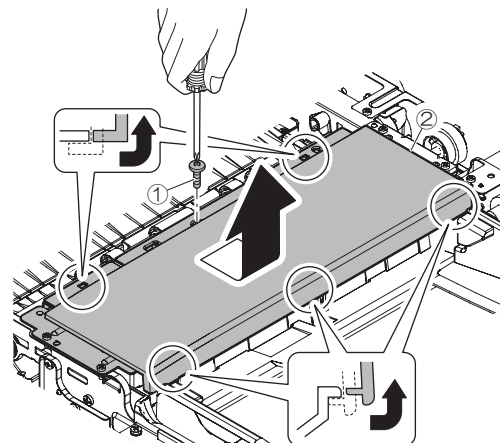


- 4) Disconnect the connector. Open the wire saddle and remove the snap band.

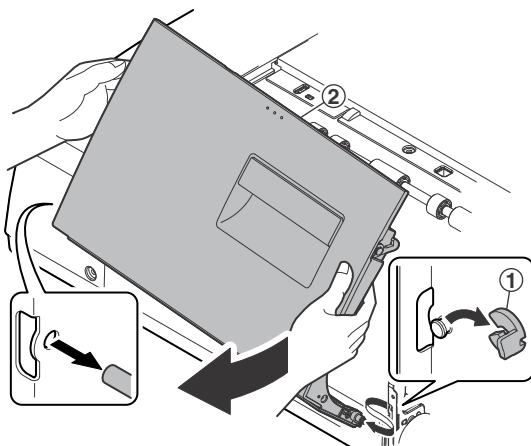


(6) Paper feed unit

- 1) Remove the front cabinet.
- 2) Remove the rear cabinet upper.
- 3) Remove the screw and remove the paper feed cover.

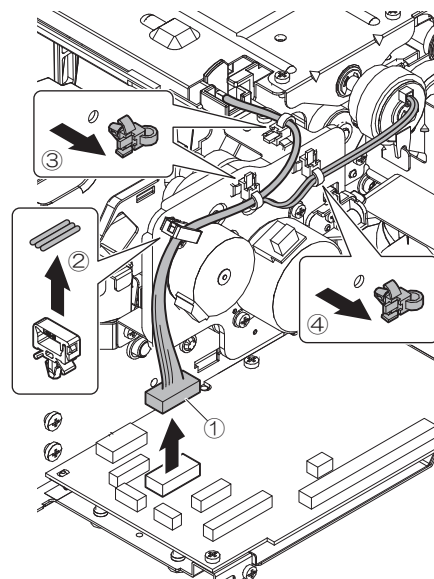


- 5) Remove the resin E-ring, and remove the upper door unit.

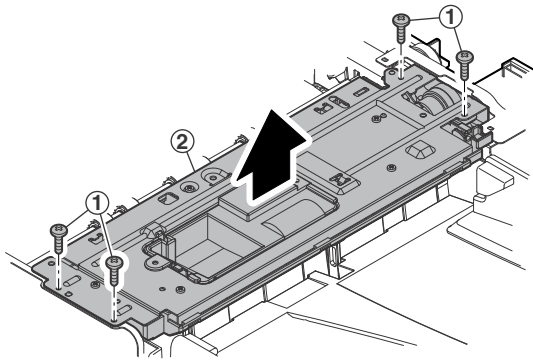


(5) Document feed tray

- 1) Remove the front cabinet.
- 2) Remove the rear cabinet.

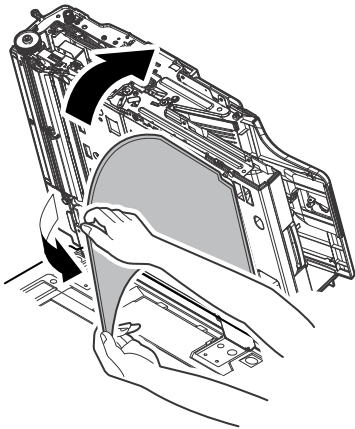


- 5) Remove the screw, and remove the document feed unit.

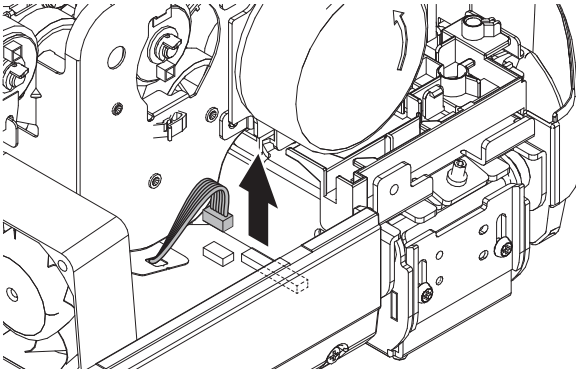


(7) Lamp unit

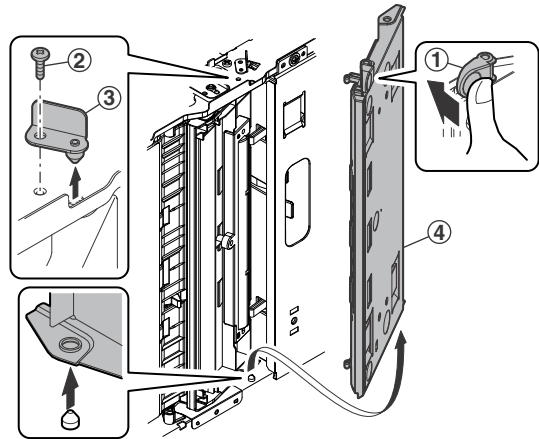
- 1) Remove the front cabinet.
- 2) Remove the rear cabinet.
- 3) Open the OC mat.



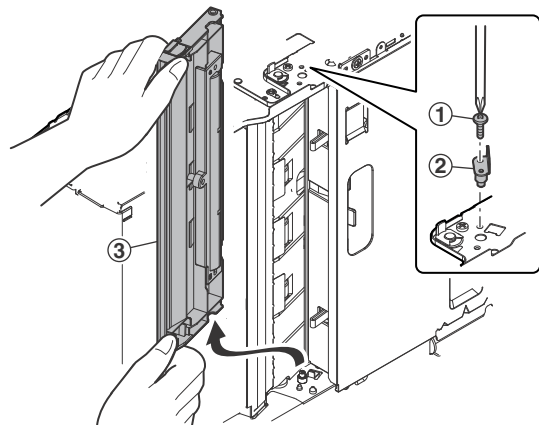
- 4) Disconnect the connector for lamp unit from the CONTROL PWB



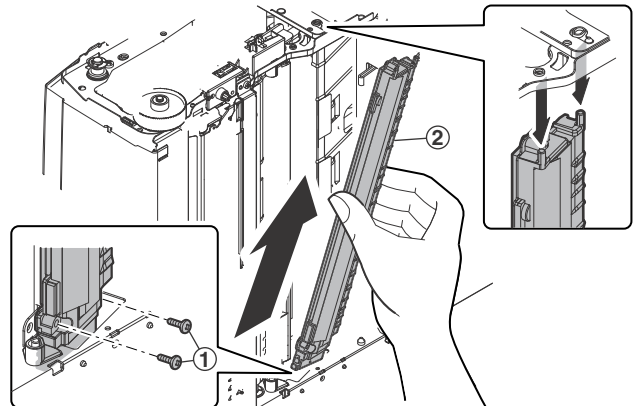
- 5) Open the lower door. Remove the screw, and remove the fulcrum plate. Remove the lower door.



- 6) Remove the screw, and remove the fulcrum plate. Remove the white reference plate.

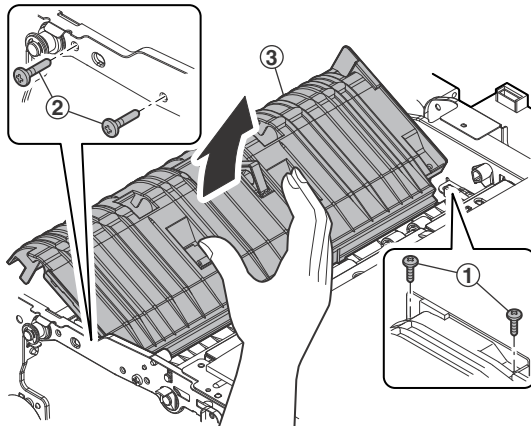


- 7) Remove the screw, and remove the lamp unit.

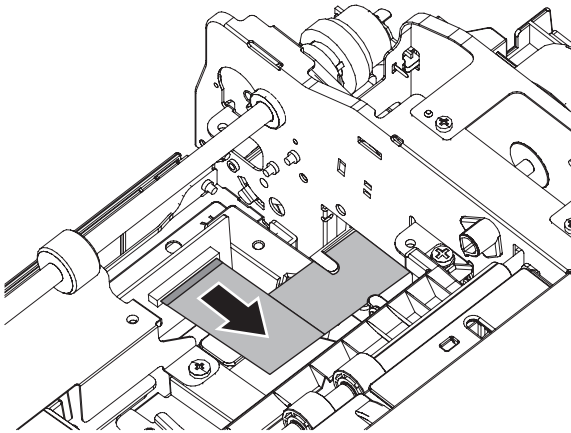


(8) Optical unit

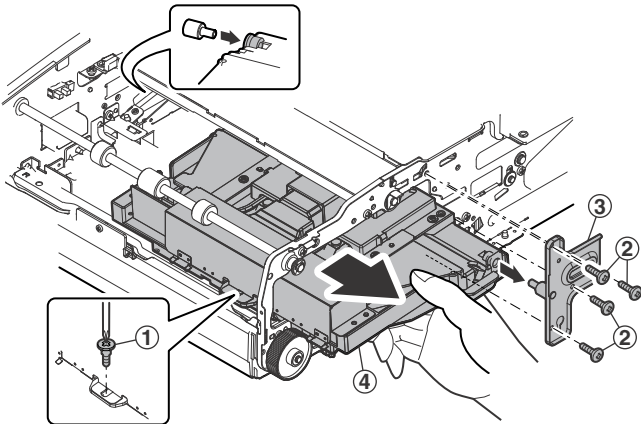
- 1) Remove the upper door.
- 2) Remove the lamp unit.
- 3) Remove the screw, and remove the paper guide.



- 4) Remove the CCD FFC from the CCD PWB.

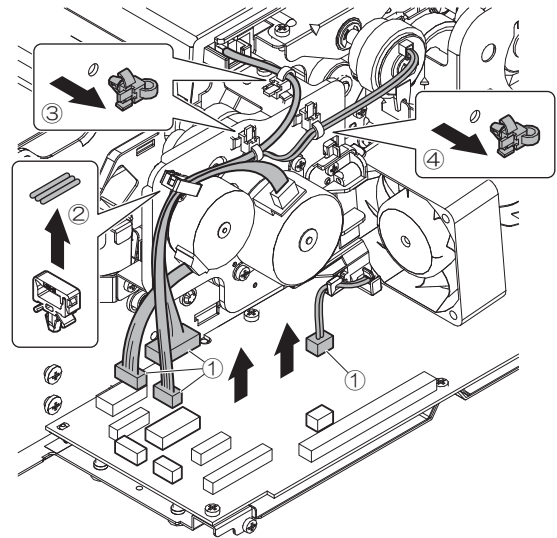


- 5) Remove the screw, and remove the optical fixing plate. Remove the optical unit.



(9) Delivery drive unit

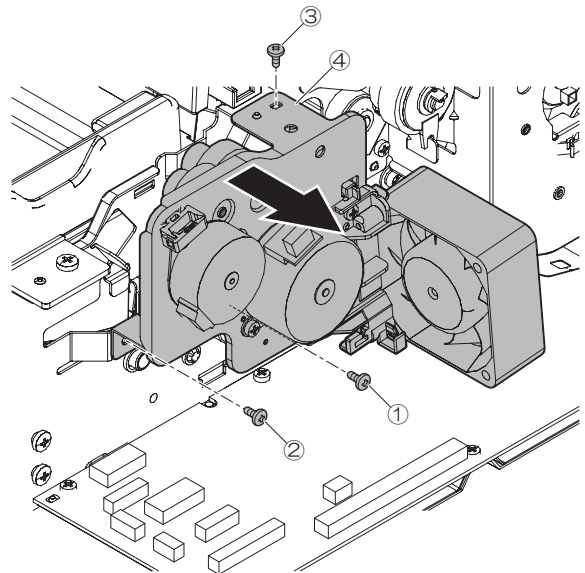
- 1) Remove the rear cabinet upper.
- 2) Disconnect the connector and open the edge saddle. Remove the snap band.



- 3) Remove the screws and the drive unit.

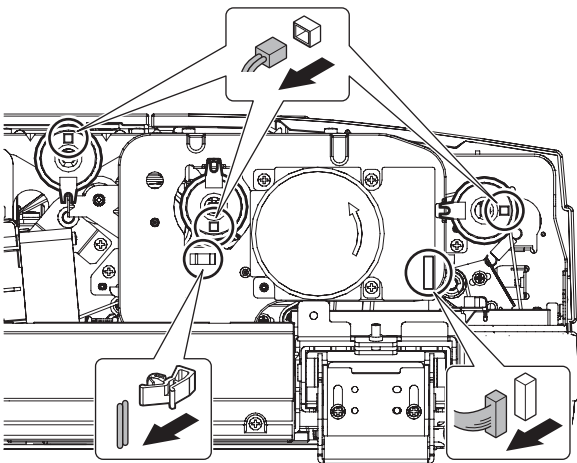
Important

When attaching the delivery drive unit, tighten the screw in the order of (1) - (3).



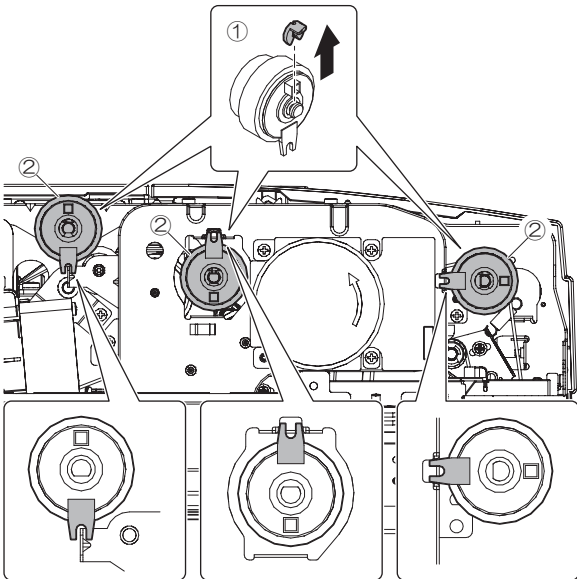
(10) Paper feed drive unit

- 1) Remove the rear cabinet upper.
- 2) Disconnect the connectors. Remove the harness from the wire saddle.

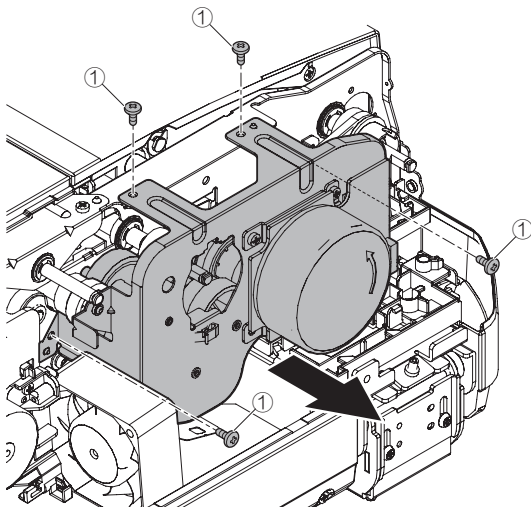


- 3) Remove resin E-ring, separation clutch and transport clutch.

NOTE: make sure that stopping section in the clutch is fit into the plate during the assembly.

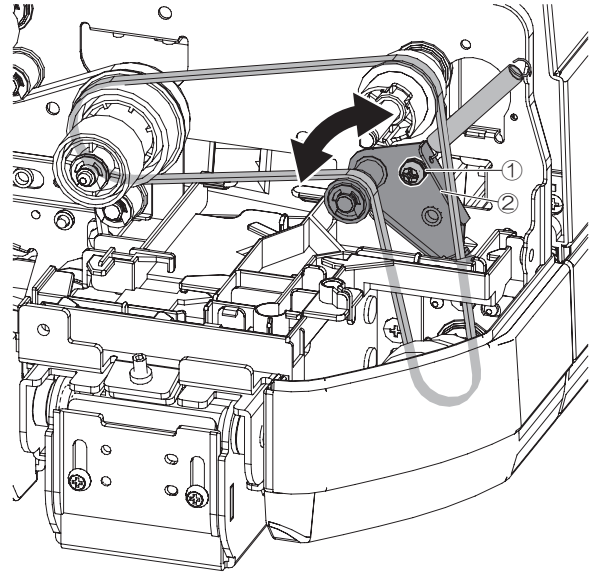


- 4) Remove screws and the paper feed drive unit.

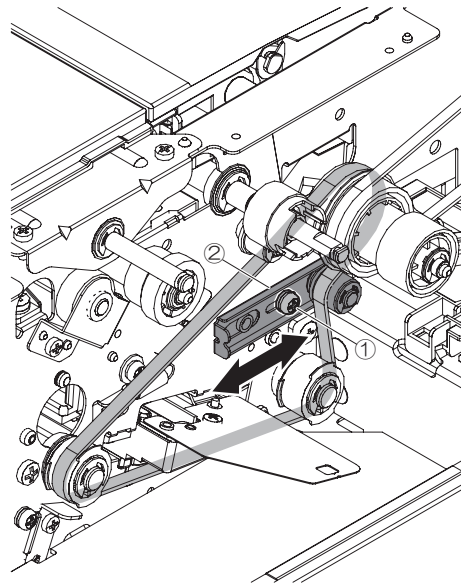


a. Attachment of belts

- 1) Loosen the screw. Tighten the screw while applying tension.

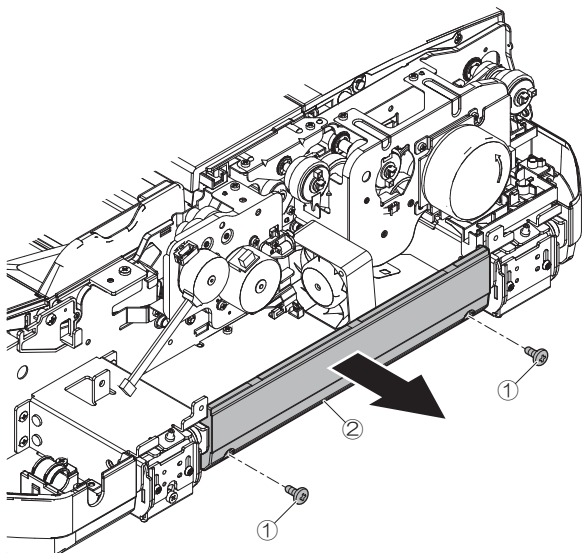


- 2) Loosen the screw. Tighten the screw again after reapplying tension in the direction of the arrow.

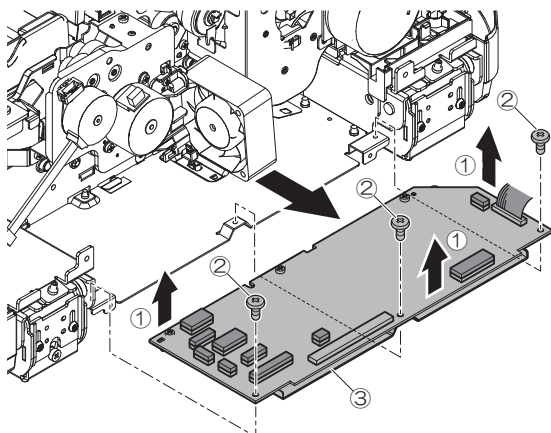


(11) DSPF control PWB

- 1) Remove the rear cabinet upper.
- 2) Remove the rear cabinet lower.

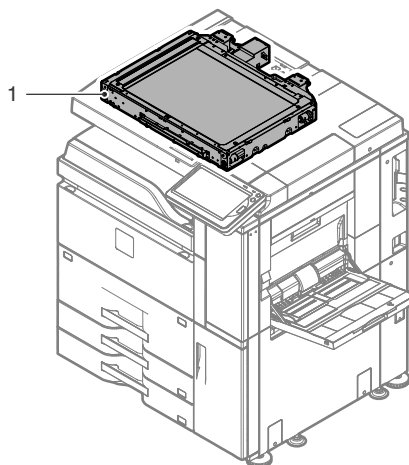


- 3) Disconnect the connector and remove the screws. Remove the DSPF control PWB.



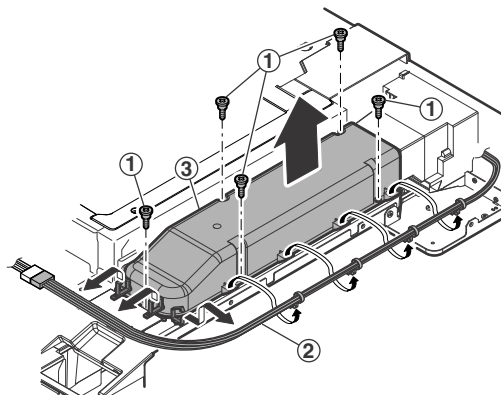
D. Scanner section

No.	Name
1	Scanner unit

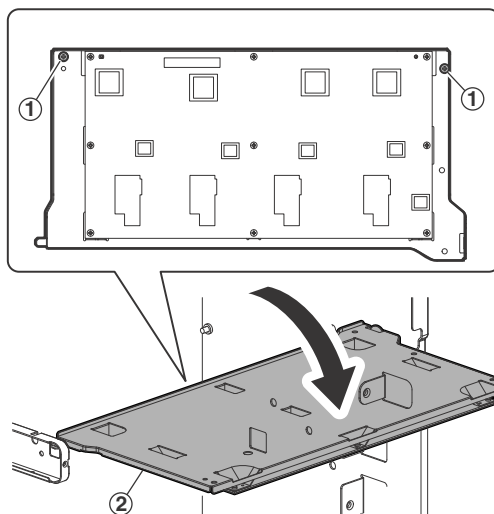


(1) Scanner unit

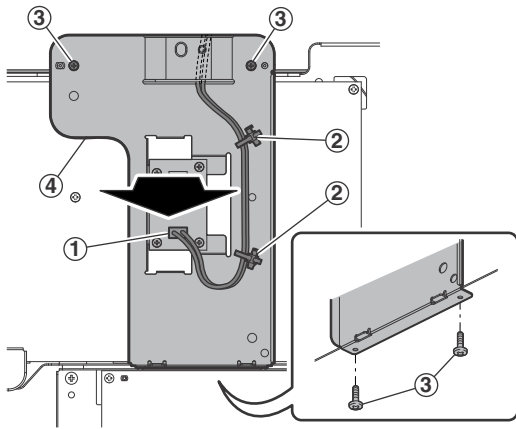
- 1) Remove the DSPF unit.
- 2) Remove the upper cabinet rear cover, and remove the rear cabinet.
- 3) Remove the left cabinet rear.
- 4) Remove the upper cabinet front right, upper cabinet front left, upper cabinet left, and the upper cabinet right.
- 5) Remove the snap band. Remove the step screw, and remove the duct unit.



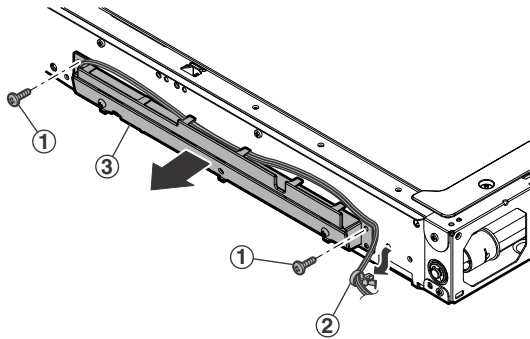
- 6) Remove the screw, and open the high voltage MC PWB mounting plate downward.



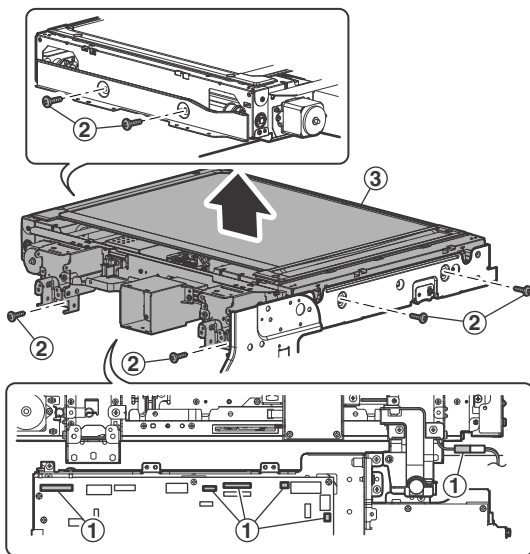
- 7) Disconnect the connector from PCI interface PWB, and remove the snap band.



- 8) Remove the screw and the snap band, and remove the document detection unit.

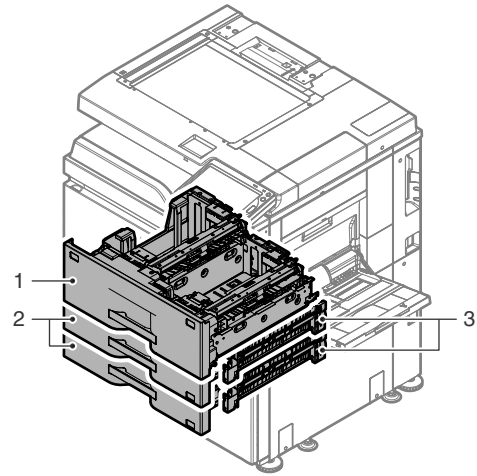


- 9) Remove the connector and the screw, and remove the scanner unit.



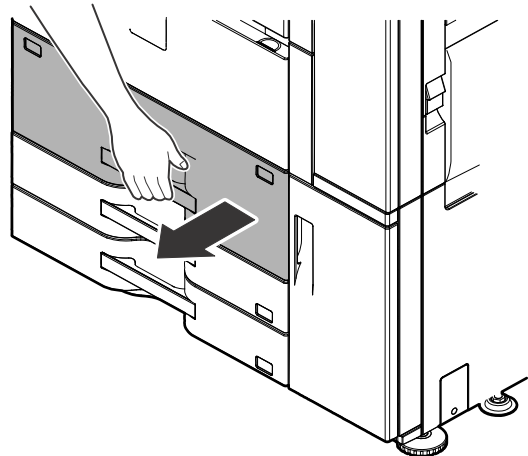
E. Tray paper feed section

No.	Name
1	Tandem paper feed tray
2	Paper feed tray
3	Tray paper feed unit

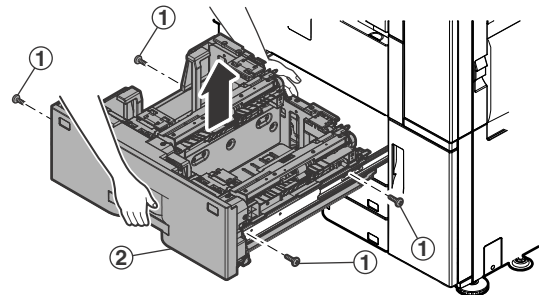


(1) Tandem paper feed tray

- 1) Pull out the tandem paper feed tray.

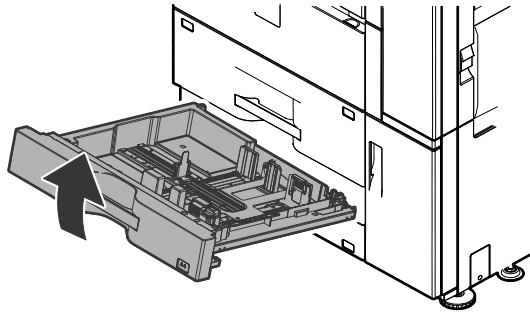


- 2) Remove the screw, and remove the tandem paper feed tray.



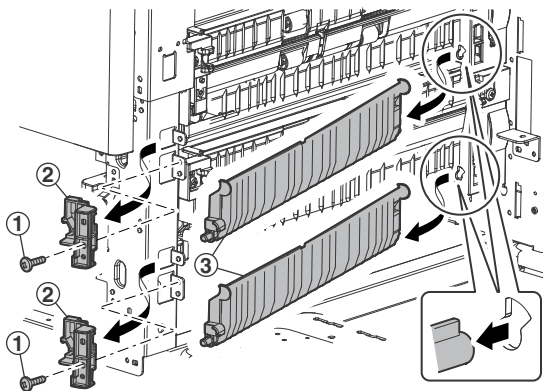
(2) Paper feed tray

- 1) Pull out the paper feed tray, and lift and remove it.

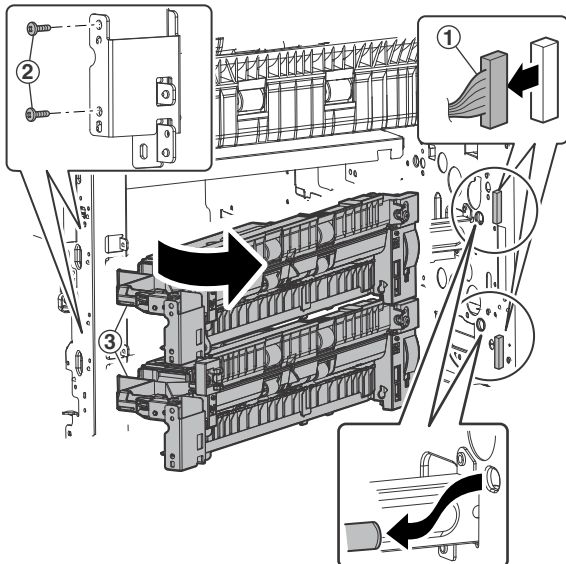


(3) Tray paper feed unit

- 1) Remove the right vertical transport unit.
- 2) Remove the right lower door cover.
- 3) Remove the screw, and remove the fulcrum, and the paper guide.

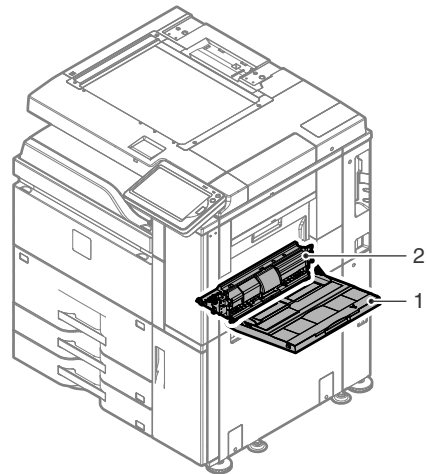


- 4) Disconnect the connector. Remove the screw, and remove the tray paper feed unit.



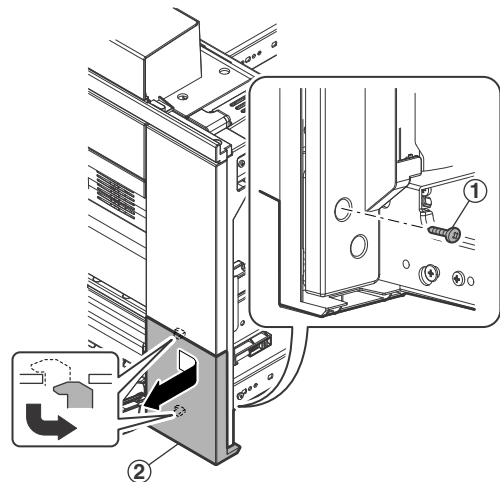
F. Manual paper feed section

No.	Name
1	Manual paper feed tray
2	Manual paper feed unit

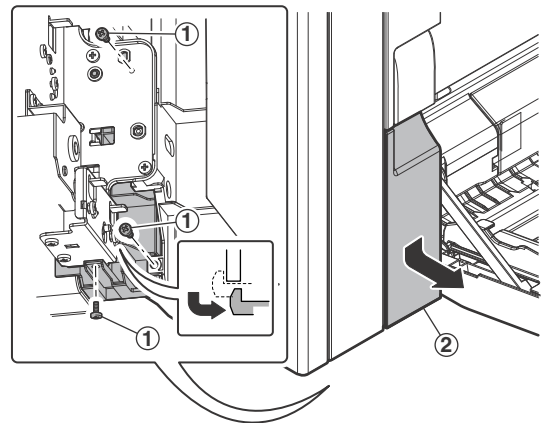


(1) Manual paper feed tray

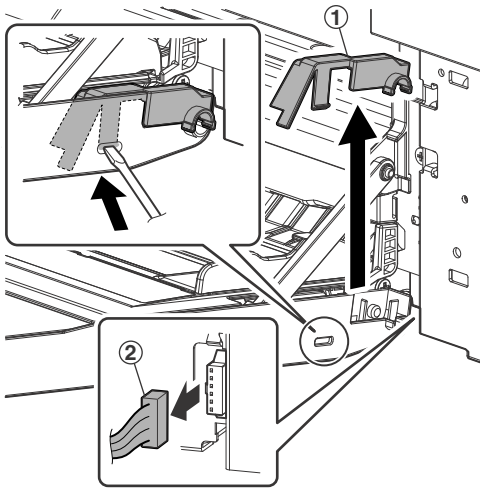
- 1) Open the right door unit.
- 2) Remove the screw, and remove the right door rear cabinet.



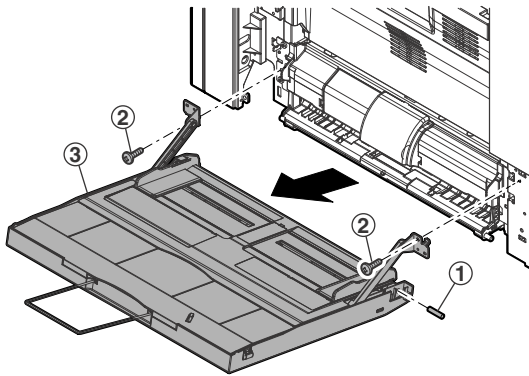
- 3) Remove the screw, and remove the right door front cabinet lower.



- 4) Remove the cover. Disconnect the connector.

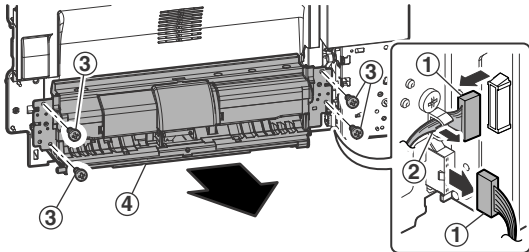


- 5) Remove the shaft. Remove the screw, and remove the manual paper feed tray.



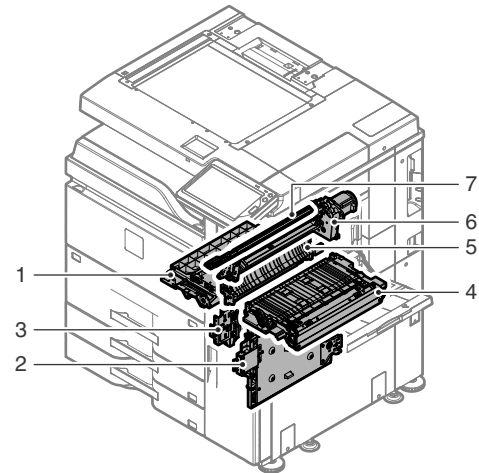
(2) Manual paper feed unit

- 1) Remove the manual paper feed unit.
- 2) Disconnect the connector. Remove the screw, and remove the manual paper feed unit.



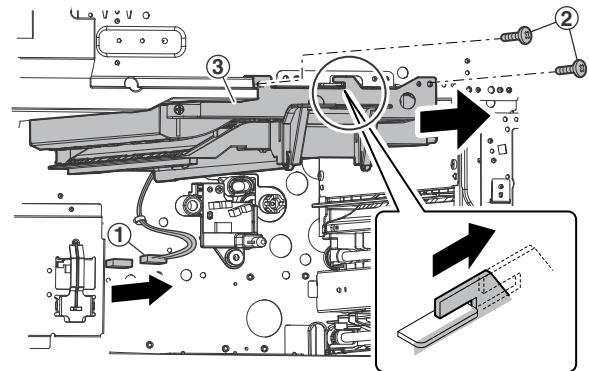
G. Paper transport section

No.	Name
1	Interface unit
2	Right vertical transport unit
3	Vertical transport unit
4	LCC transport unit
5	PS lower unit
6	PS unit
7	Paper dust cleaner unit



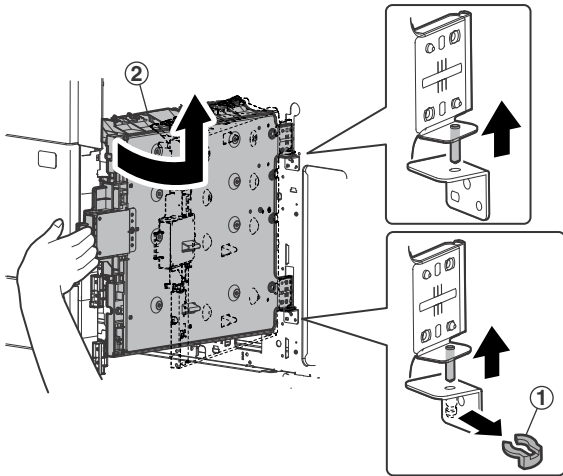
(1) Interface unit

- 1) Remove the tandem paper feed tray.
- 2) Remove the front cover.
- 3) Disconnect the connector. Remove the screw, and remove the interface unit.



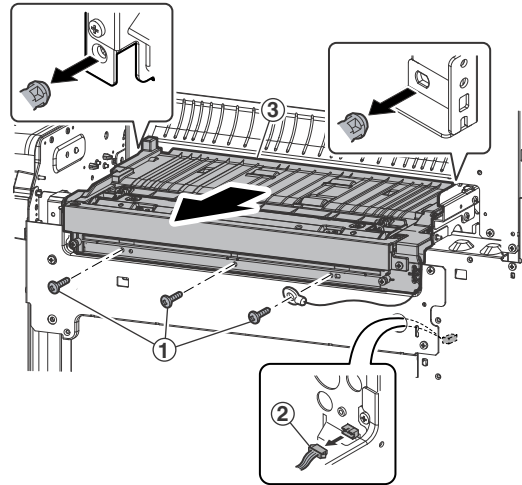
(2) Right vertical transport unit

- 1) Remove the waste toner bottle.
- 2) Remove the resin E-ring, and remove the right vertical transport unit.



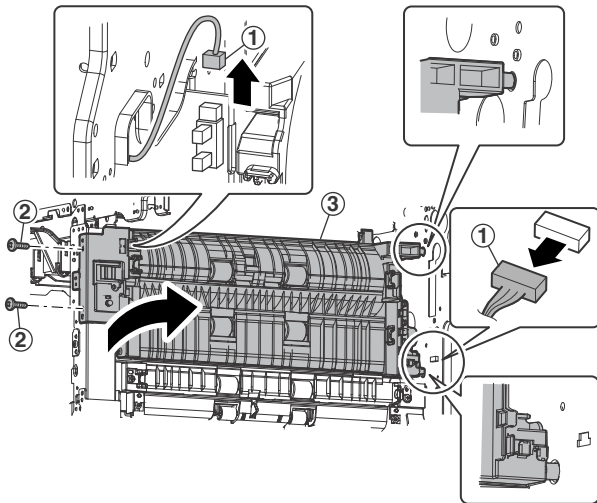
(4) LCC transport unit

- 1) Remove the right lower door and the right cabinet lower.
- 2) Remove the screw and the connector, and remove the LCC transport unit.



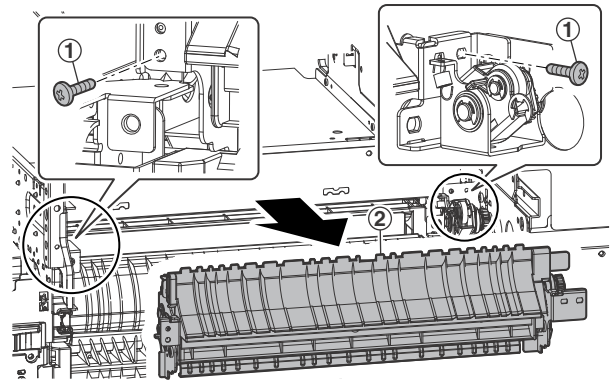
(3) Vertical transport unit

- 1) Remove the right vertical transport unit.
- 2) Open the right door unit.
- 3) Disconnect the connector. Remove the screw, and remove the vertical transport unit.



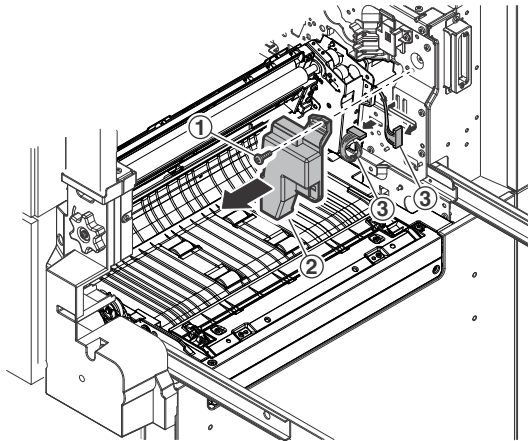
(5) PS lower unit

- 1) Remove the LCC transport unit.
- 2) Remove the PS unit.
- 3) Remove the screw, and remove the PS lower unit.

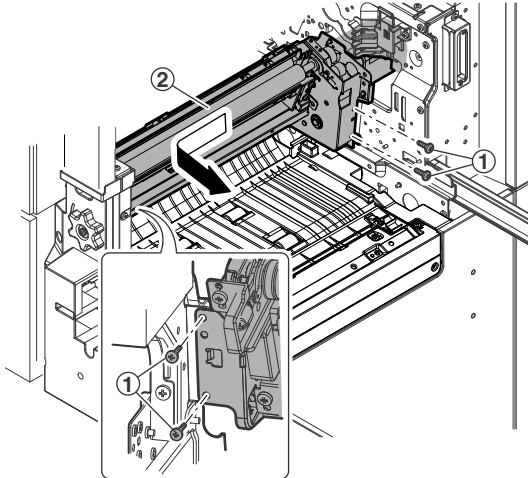


(6) PS unit

- 1) Remove the paper dust cleaner unit.
- 2) Open the right door unit.
- 3) Remove the screw, and remove the cover. Disconnect the connector.

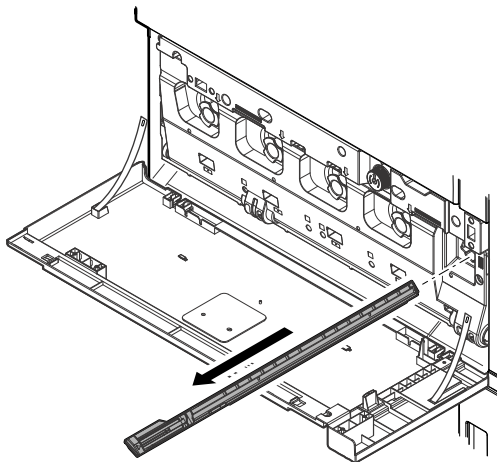


- 4) Remove the screw, and slide the PS unit to the front side and remove it.



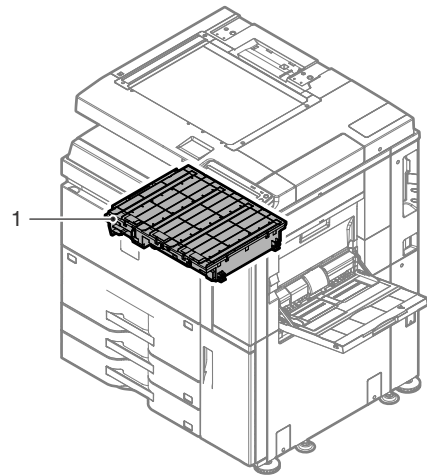
(7) Paper dust cleaner unit

- 1) Open the front cover.
- 2) Pull out and remove the paper dust removing unit.



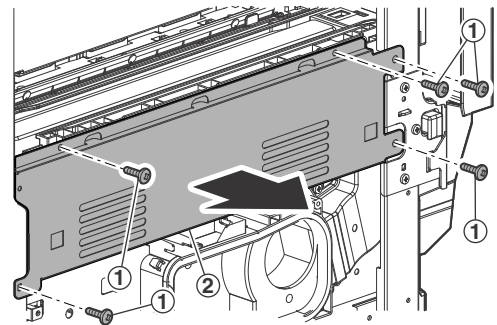
H. LSU section

No.	Name
1	LSU

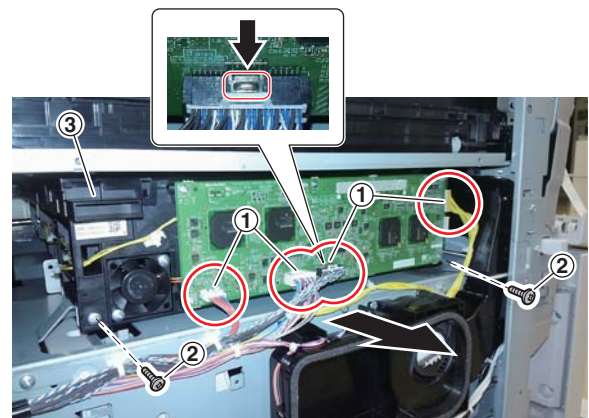


(1) LSU

- 1) Remove the left cabinet upper.
- 2) Remove the screw, and remove the cover.



- 3) Disconnect the connector from LSU. Remove the screw, and pull out the LSU.



Note for disassembling the LSUcnt PWB

Do not hold the right and left edges of the LSUcnt PWB when disassembling.

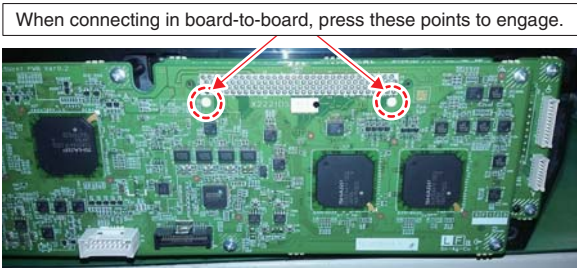
* The board may be warped, resulting in solder separation of built-in parts.



Be sure to hold the upper and lower edges of the LSUcnt PWB when disassembling.

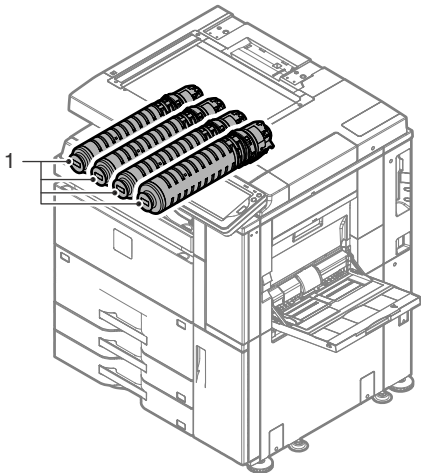


Note for assembling the LSUcnt PWB



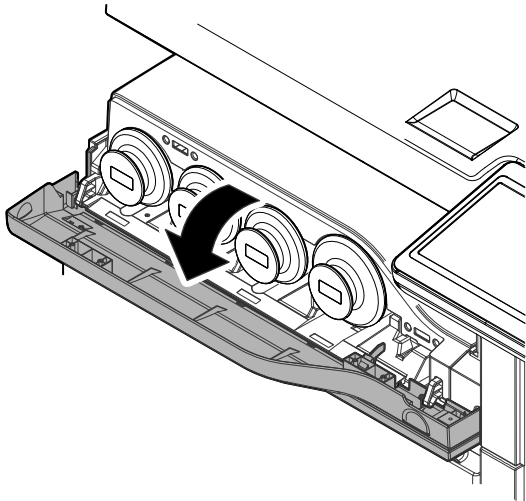
I. Toner supply section

No.	Name
1	Toner cartridge



(1) Toner cartridge

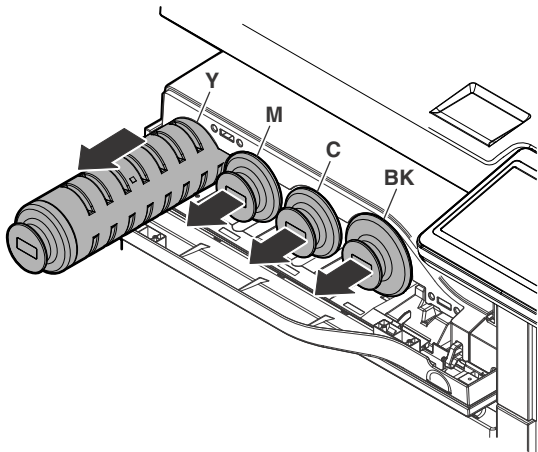
- 1) Open the cover.



- 2) Pull out and remove the toner cartridge.

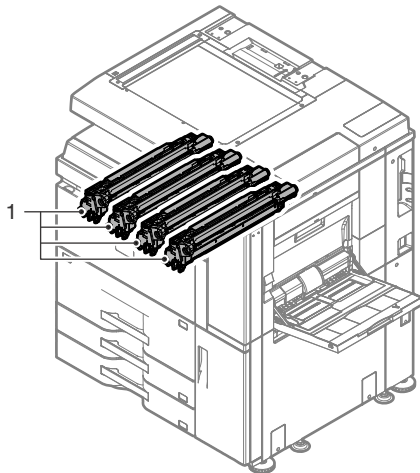
CAUTION: When assembling, do not push abruptly. Insert slowly and horizontally with your hand on it until it is inserted to the bottom.

CAUTION: Do not install a toner cartridge of a different color. Be sure to install a toner cartridge of the same color.



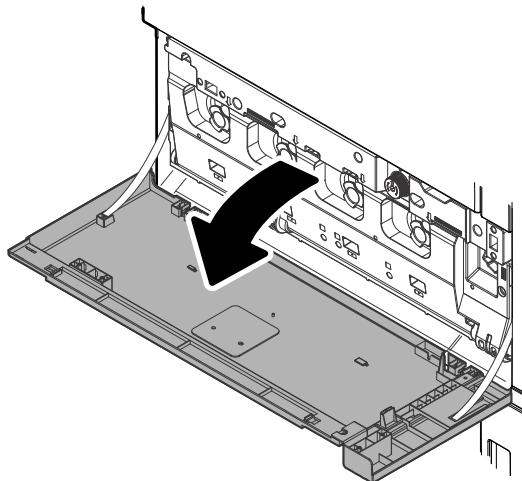
J. Developing section

No.	Name
1	Development unit

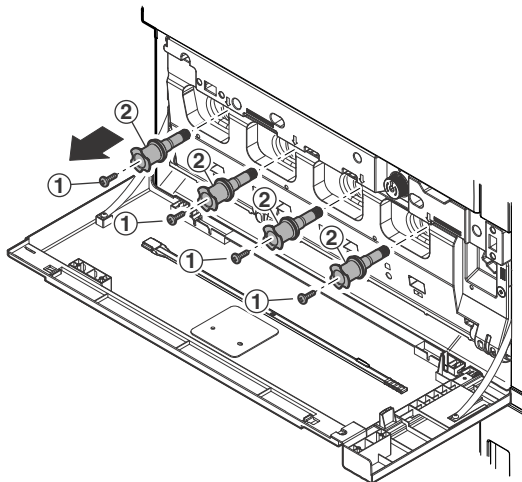


(1) Development unit

- 1) Open the front cover.



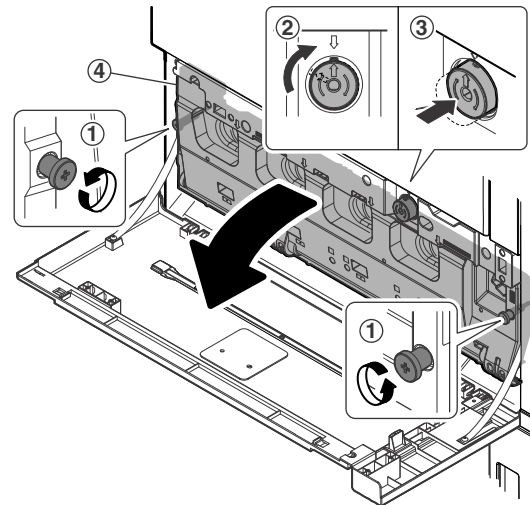
- 2) Remove the screw, and remove the positioning shaft.



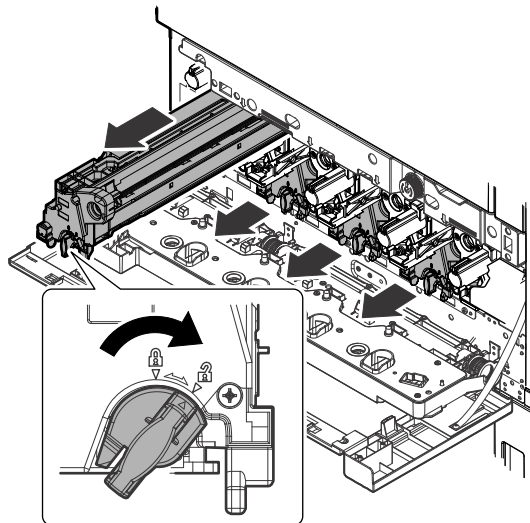
- 3) Remove the screw of the positioning unit. Check to confirm that the arrow marks of the positioning release button are aligned together, and push the positioning release button to open the positioning unit.

CAUTION: Remove the screw of the positioning unit. Check to confirm that the arrow marks of the positioning release button are aligned together, and push the positioning release button to open the positioning unit.

If the operation is executed without aligning the arrow marks of the positioning release button, the primary transfer belt may be damaged.



- 4) Release the lock, and pull out the developing unit and remove it.



CAUTION: If the drum unit is abruptly inserted, developer may splash. Insert slowly and horizontally by putting your hand on it.

CAUTION: Always keep the DV unit with developer in it horizontal when handling.

Since this unit employs the developer refresh method, if the DV unit is tilted, developer may fall into the waste toner transport section because of its structure.

CAUTION: When installing the DV unit, check if the lock is certainly “Unlocked” as a figure below and insert the unit to the main unit and then lock the lock lever.

Unlocked

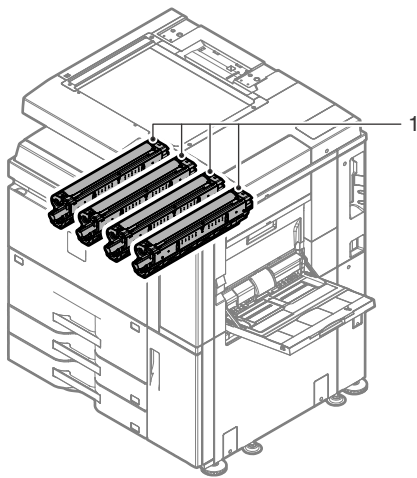


Locked



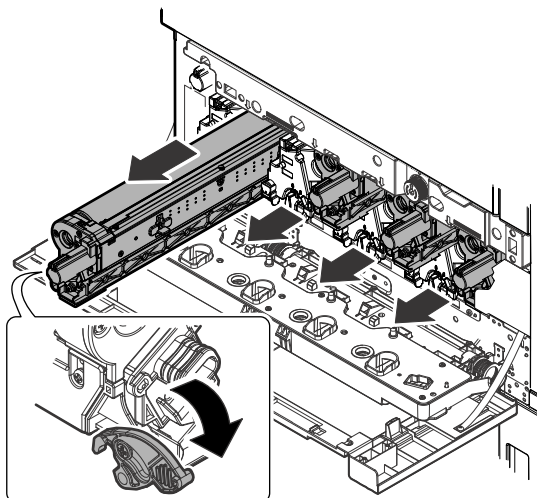
K. OPC drum section

No.	Name
1	OPC drum unit



(1) OPC drum unit

- 1) Remove the developing unit.
- 2) Release the lock, and pull out the OPC drum unit and remove it.



Note for installing the OPC drum unit

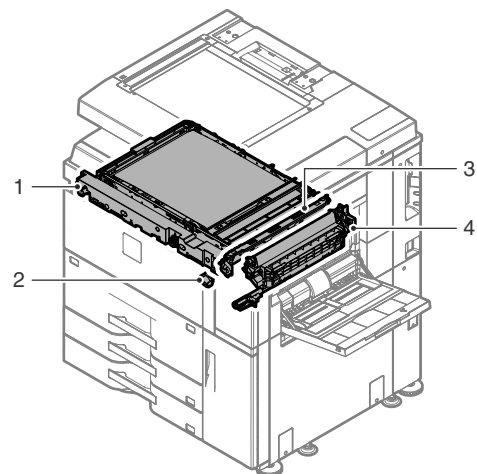
CAUTION: Fit the marks a shown below to insert.

CAUTION: Check that the bottom of the OPC drum unit is engaged in the machine rail before insertion.



L. Transfer section

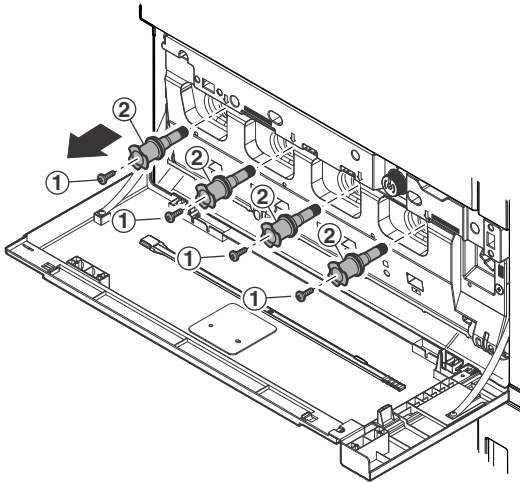
No.	Name
1	Primary transfer unit
2	PTC unit
3	Registration sensor unit
4	Secondary transfer unit



(1) Primary transfer unit

- 1) Open the front cover.

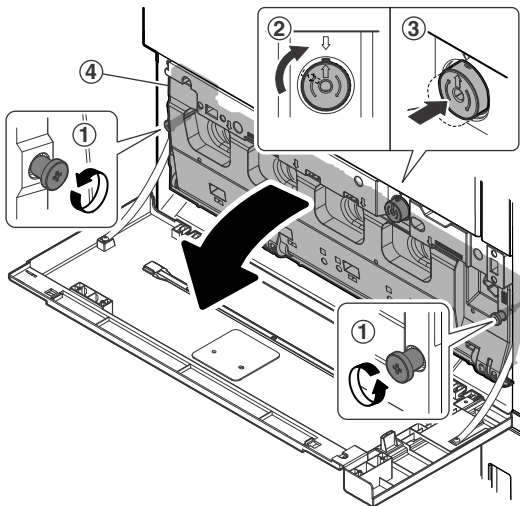
- 2) Remove the screw, and remove the positioning shaft.



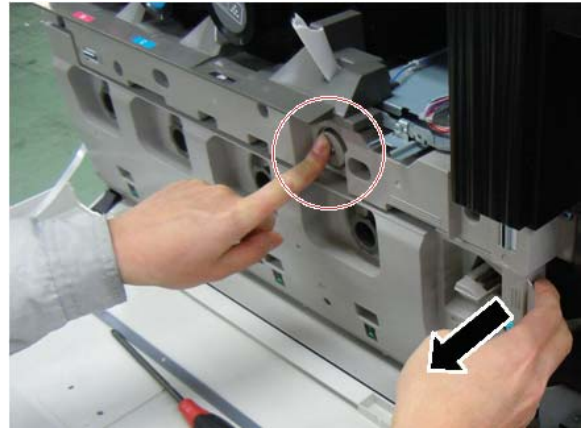
- 3) Remove the screw of the positioning unit. Check to confirm that the arrow marks of the positioning release button are aligned together, and push the positioning release button to open the positioning unit.

CAUTION: When the power is turned OFF normally, the arrow marks of the positioning release button are aligned. If, however, the power is abruptly interrupted such as pulling the power cord during operation, the arrow marks may not be aligned. In such a case, turn the positioning release button clockwise to align the arrow marks.

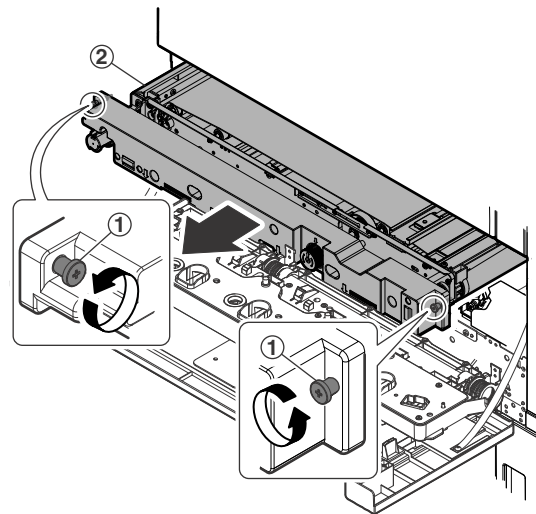
If the operation is executed without aligning the arrow marks of the positioning release button, the primary transfer belt may be damaged.



CAUTION: Press the positioning release button securely before opening the positioning unit.

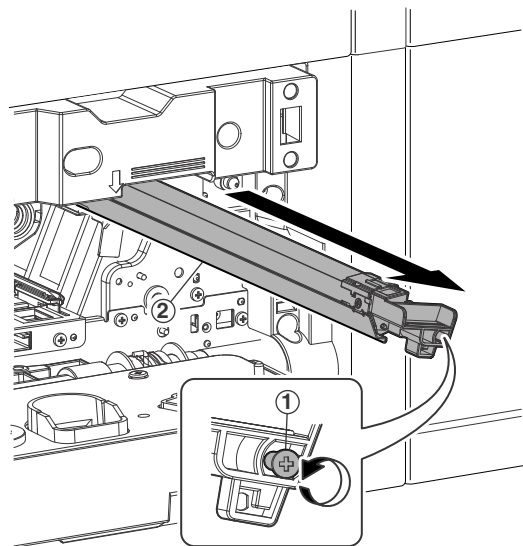


- 4) Remove the screw, and pull out the primary transfer unit and remove it.



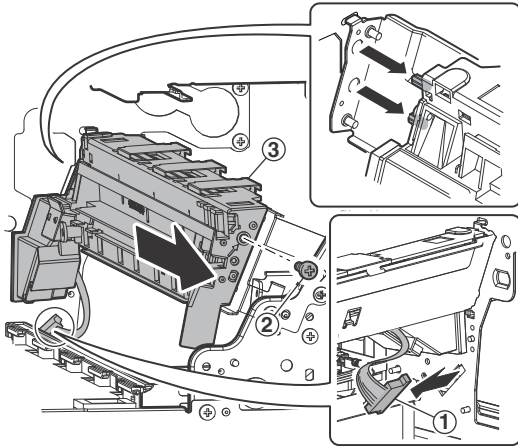
(2) PTC unit

- 1) Open the positioning unit.
- 2) Remove the screw, and pull out the PTC unit.



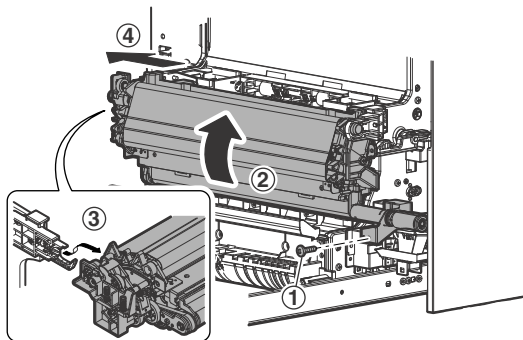
(3) Registration sensor unit

- 1) Remove the developing unit (BK).
- 2) Remove the OPC drum unit (BK).
- 3) Remove the primary transfer unit.
- 4) Remove the PTC unit.
- 5) Remove the PS unit.
- 6) Disconnect the connector on the registration sensor. Remove the screw, and remove the registration sensor unit.



(4) Secondary transfer unit

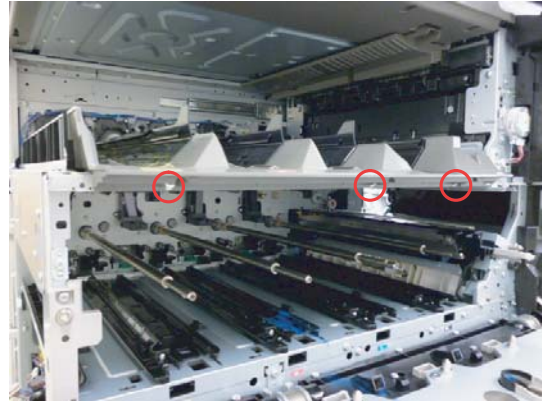
- 1) Open the right door unit.
- 2) Remove the screw, turn the secondary transfer unit by 90° to remove it to the rear side.



M. Tone hopper section

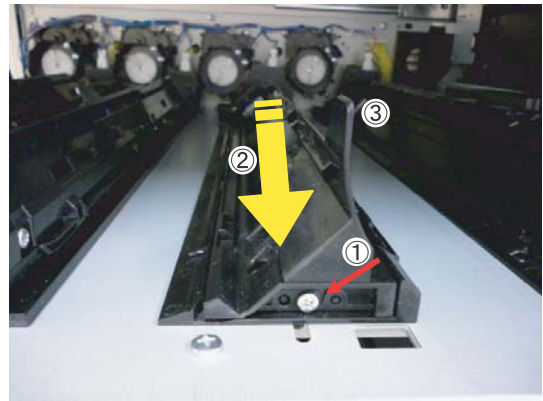
No.	Name
1	Tone hopper unit

- 1) Remove the toner cartridge.
- 2) Remove the developing unit.
- 3) Remove the OPC drum unit.
- 4) Remove the primary transfer unit.
- 5) Remove the screw, and remove the front frame bottle cover.



(1) Hopper cover unit

- 1) To remove only the hopper cover unit, remove the screw, pull the cover toward the front side, and lift the right side of the unit to remove.

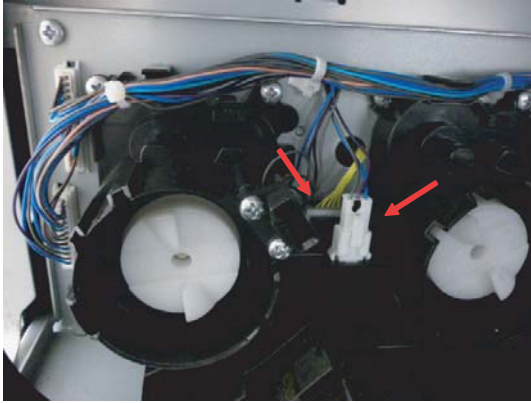


CAUTION: When attaching the cover, insert the pawls (4 positions) on the left side of the cover securely.



(2) Hopper unit

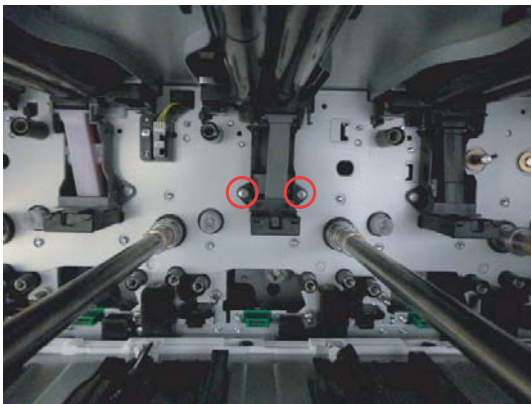
- 1) Disconnect the connector (2 positions).



- 2) Remove the screw (3 pcs.).

CAUTION: When removing the screw, be careful not to hit the drum drive shaft.

If the drum shaft is bent by applying a stress to it, the picture quality may be affected.



- 3) Pull the unit to the front side, lift it upward, and remove the unit.

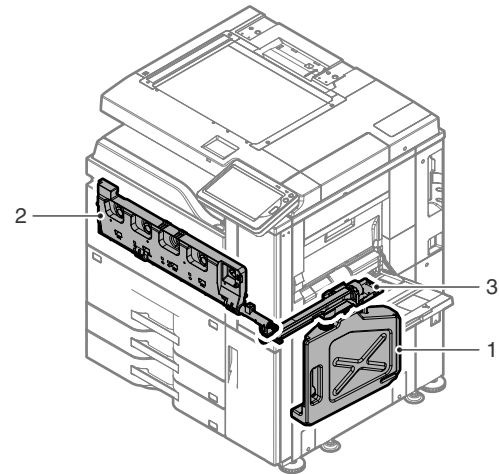
CAUTION: When attaching the unit, insert the boss at the back of the pipe securely before tightening the screw.

- 4) When a new unit is installed, execute HP_K - Y of SIM24-5 to clear the remaining quantity counter.
- 5) The hopper motor and the remaining quantity sensor can be checked with SIM10-1 and 10-2.

When a new unit is installed, if the name of sensor corresponding to SIM10-2 is highlighted in black, it may be connection failure of the connector.

N. Waste toner collection section

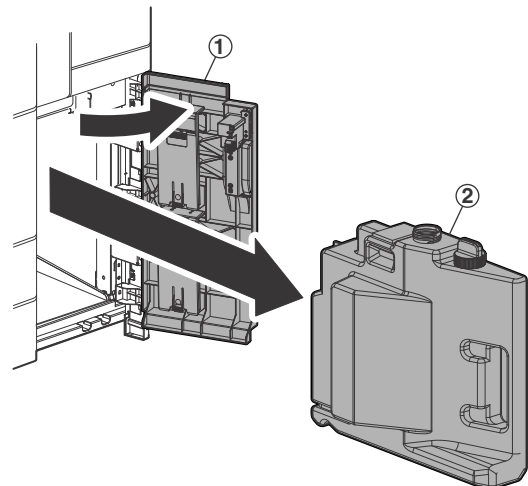
No.	Name
1	Waste toner bottle
2	Positioning unit (Waste toner collection)
3	Waste toner transport unit



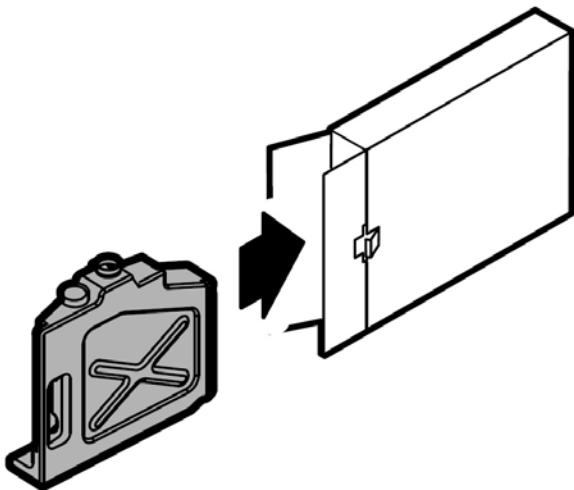
(1) Waste toner bottle

- 1) Open the right lower door. Remove the waste toner bottle.

CAUTION: When removing the waste toner bottle or when attaching the bottle cap, be careful of dirt on the waste toner bottle.

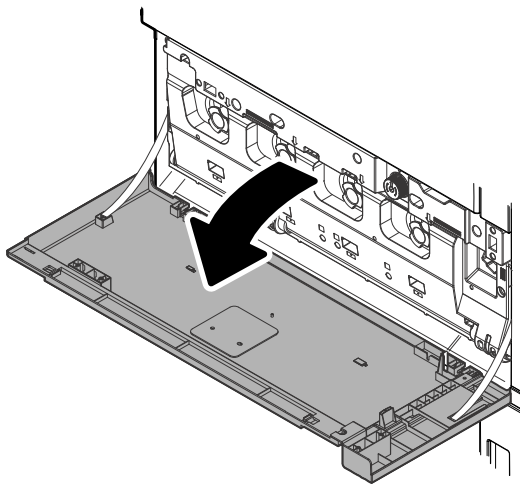


CAUTION: Since the removed waste toner bottle is dirty, attach the bottle cap to it and put in the package of the spare waste toner bottle.

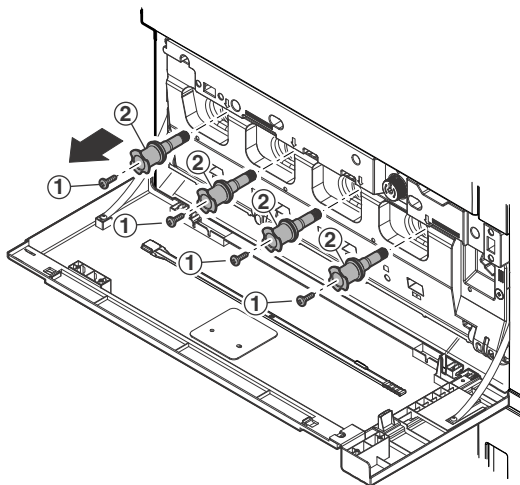


(2) Positioning unit (Waste toner collection)

- 1) Open the front cover.



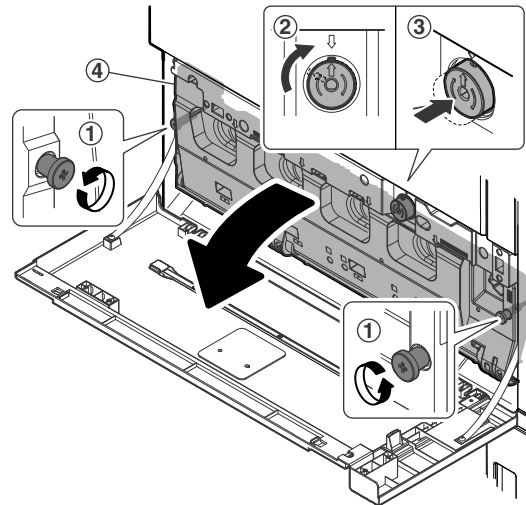
- 2) Remove the screw, and remove the positioning shaft.



- 3) Remove the screw of the positioning unit. Check to confirm that the arrow marks of the positioning release button are aligned together, and push the positioning release button to open the positioning unit.

CAUTION: When the power is turned OFF normally, the arrow marks of the positioning release button are aligned. If, however, the power is abruptly interrupted such as pulling the power cord during operation, the arrow marks may not be aligned. In such a case, turn the positioning release button clockwise to align the arrow marks.

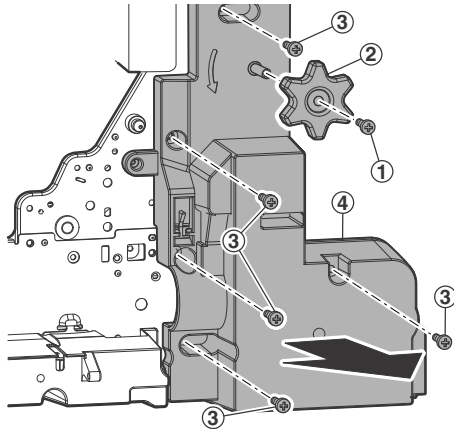
If the operation is executed without aligning the arrow marks of the positioning release button, the primary transfer belt may be damaged.



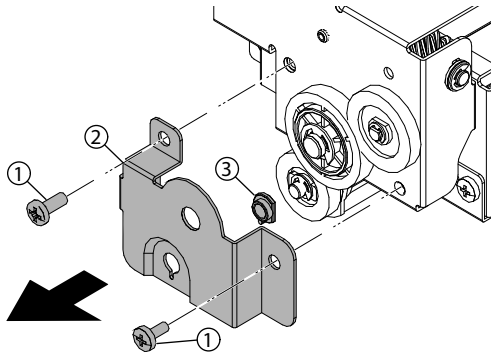
CAUTION: Press the positioning release button securely before opening the positioning unit.



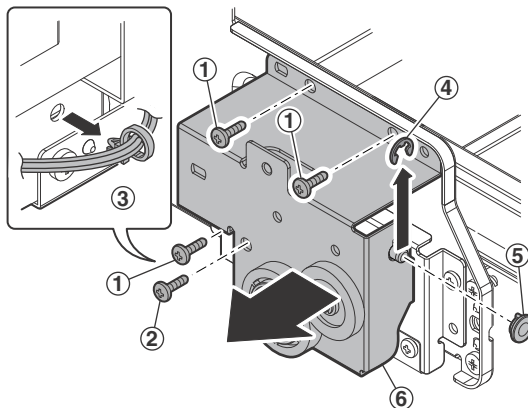
- 4) Remove the front cover and the left cabinet.
- 5) Remove the screw, and remove the cover.



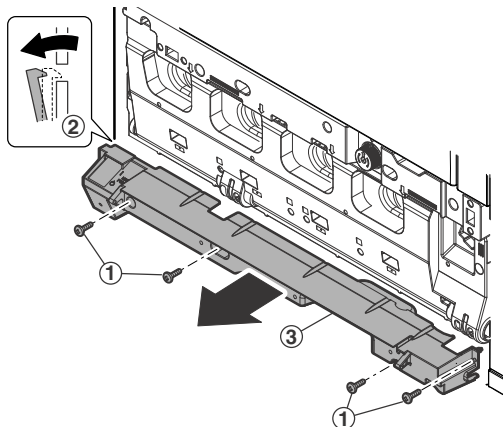
- 6) Remove the screws, the plate and the bearing.



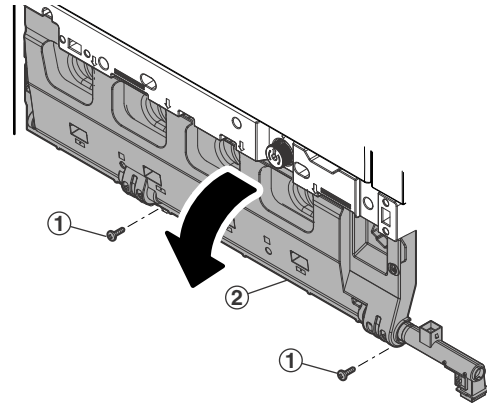
- 7) Remove the screw and the snap band and the E-ring and the bearing, and remove the gear cover.



- 8) Remove the screw, and remove the cover.

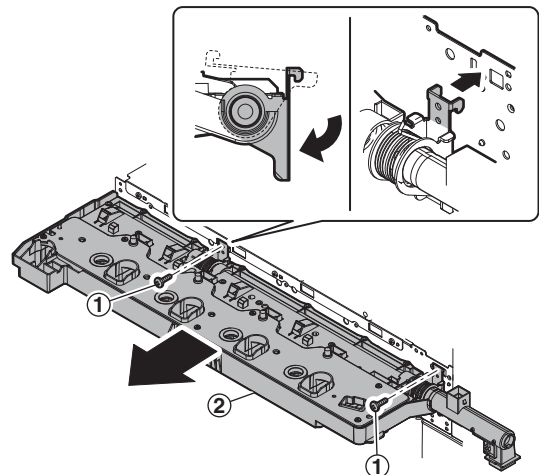


- 9) Close the positioning unit. Remove the screw, and open the positioning unit again.



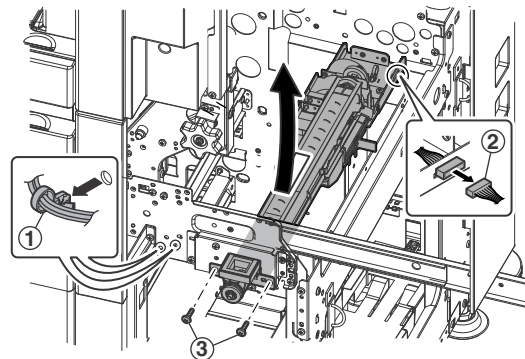
- 10) Remove the screw, and remove the positioning unit.

CAUTION: When the positioning unit is installed, the hook of the positioning unit is jumped by the spring. Therefore, press the unit downward with your fingers to engage it with the main body and install.



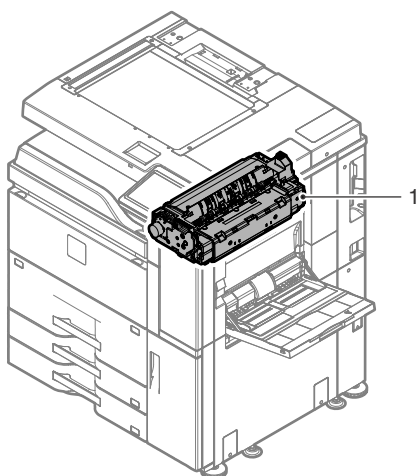
(3) Waste toner transport unit

- 1) Remove the LCC transport unit.
- 2) Remove the positioning unit.
- 3) Remove the snap band. Disconnect the connector from waste toner transport unit. Remove the screw, and remove the waste toner transport unit.



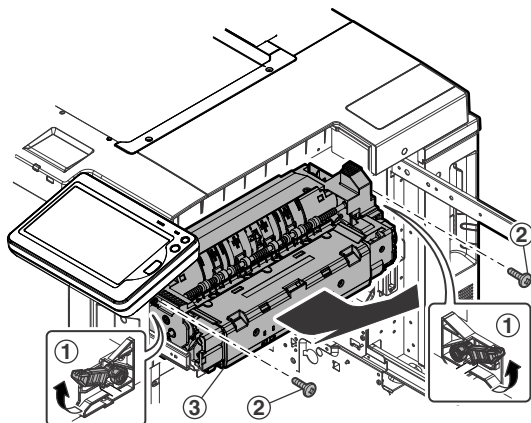
O. Fusing section

No.	Name
1	Fusing unit



(1) Fusing unit

- 1) Open the right door unit.
- 2) Release the lock. Remove the screw, and pull out the fusing unit to the right side.
- 3) Lift the front side of the fusing unit, store the rail in the front side, then hold the handle of the unit to remove.



Check to confirm that the fusing pressure is released.

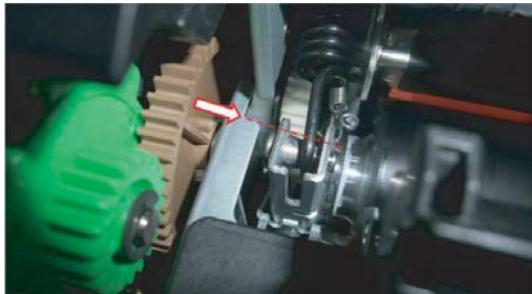
If the pressure is not released, the fusing unit cannot be removed.



The pressure lever is in front of the dotted line section.
(No pressure is applied.)

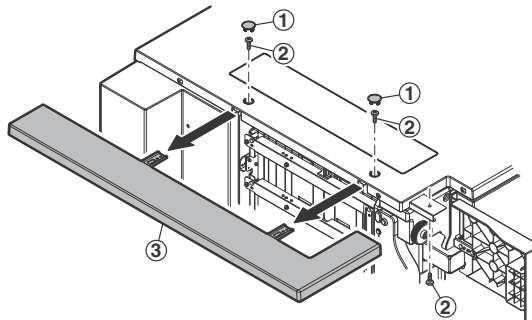


The pressure lever is over the dotted line section.
(A pressure is applied.)



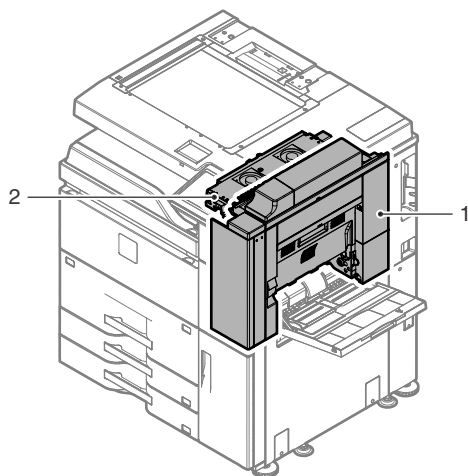
[For MX-RB14, LC13 installed]

- 1) Remove the cap from the top screw.
- 2) Remove the screw (x3).
- 3) Remove the left top cover.



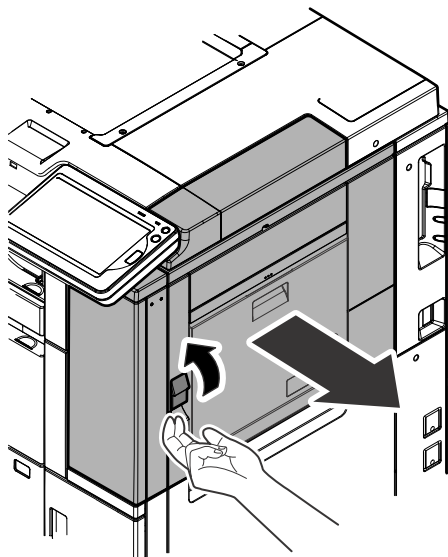
P. Paper exit/Reverse section

No.	Name
1	Right door unit
2	Paper exit unit

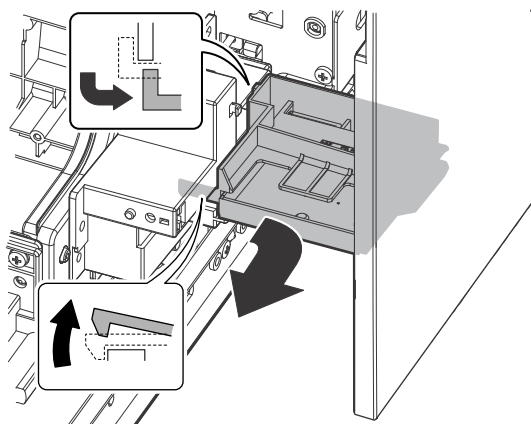


(1) Right door unit

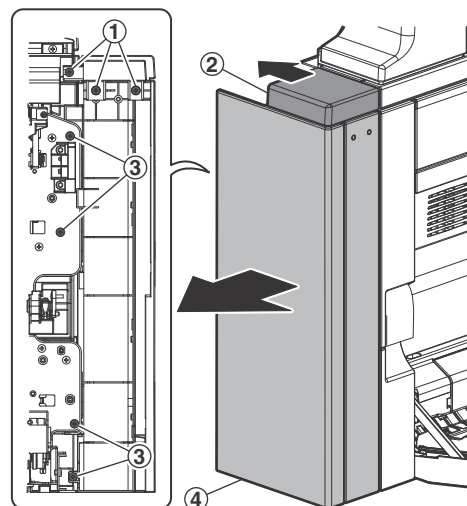
- 1) Release the lock. Open the right door unit.



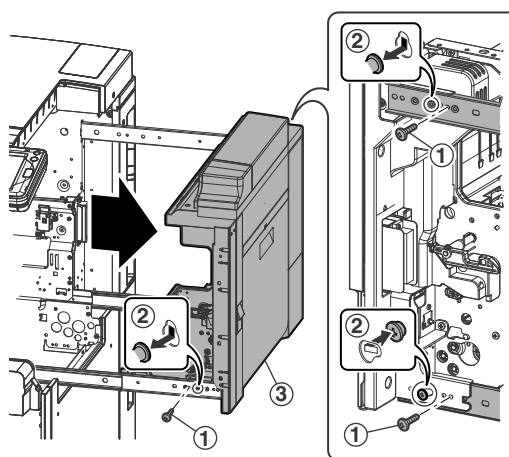
- 2) Remove the waste toner tray.



- 3) Remove the screw, and remove the right door upper cabinet and the right door front cabinet.

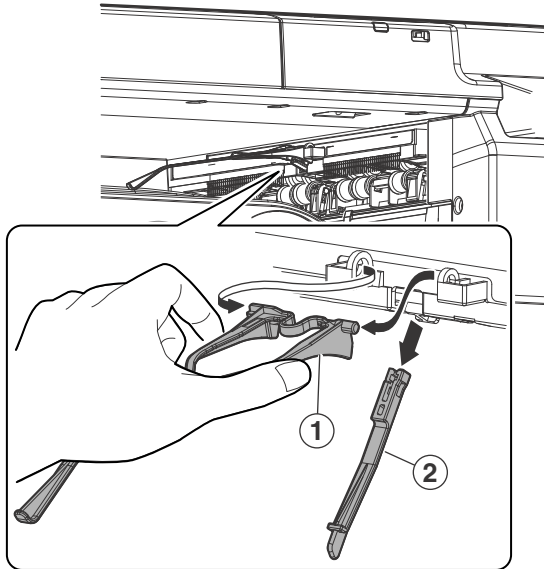


- 4) Remove the screw. Remove the rail from step screw, and remove the right door unit.

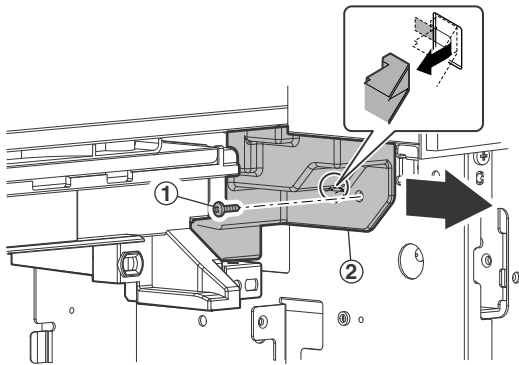


(2) Paper exit unit

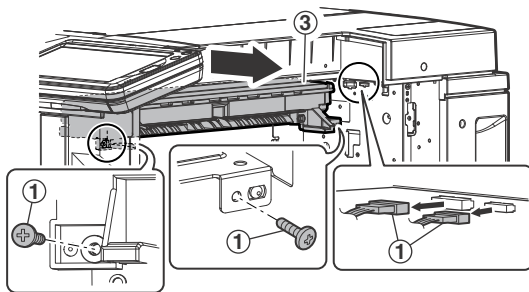
- 1) Remove the fusing unit.
- 2) Remove the paper holding arm and the actuator.



- 3) Remove the screw, and remove the cover.

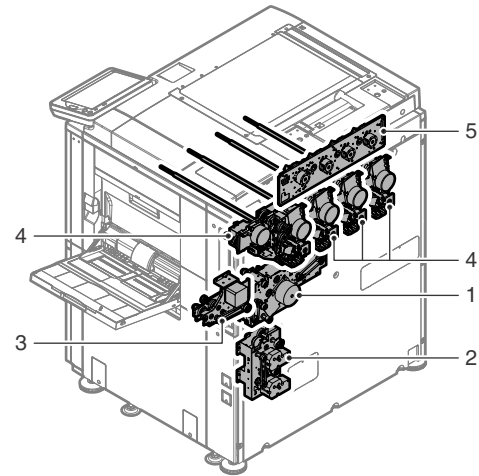


- 4) Disconnect the connector. Remove the screw, and remove the paper exit unit.



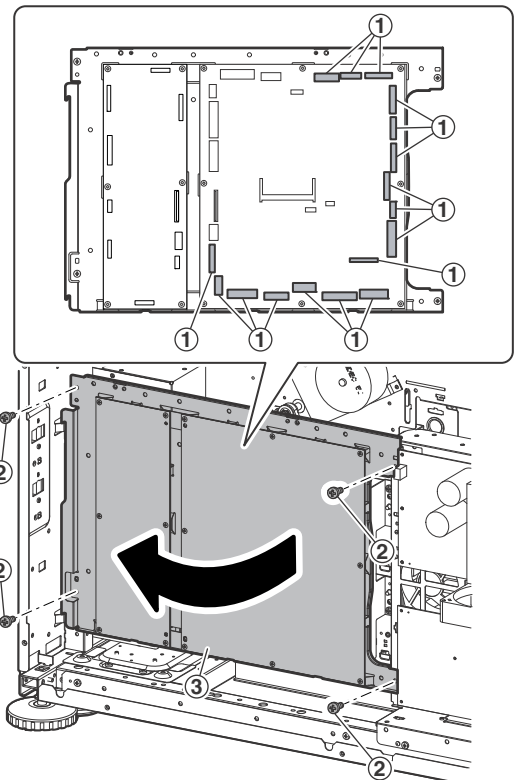
Q. Drive section

No.	Name
1	Tandem paper feed drive unit
2	Paper feed drive unit
3	Transport drive unit
4	Main drive unit (BK), Main drive unit (CL)
5	Toner transport drive unit

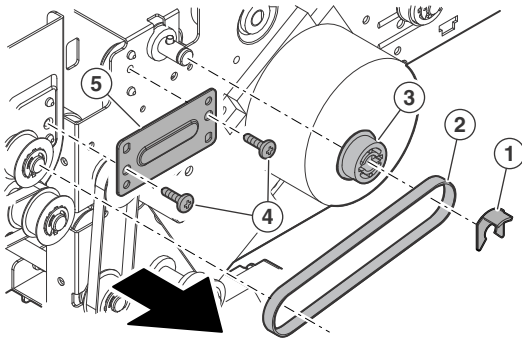


(1) Tandem paper feed drive unit

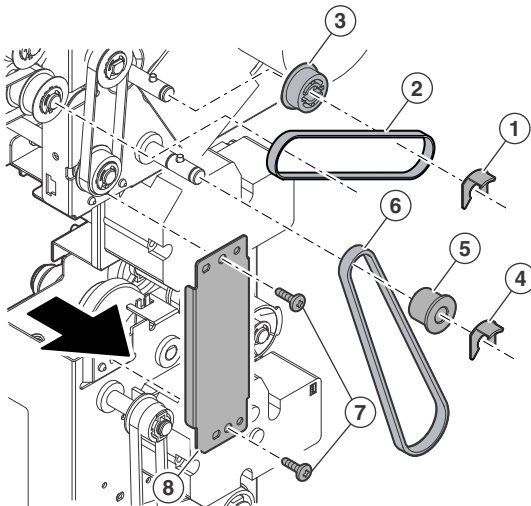
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Disconnect the connector, and remove the screw and open the PCU PWB mounting plate.



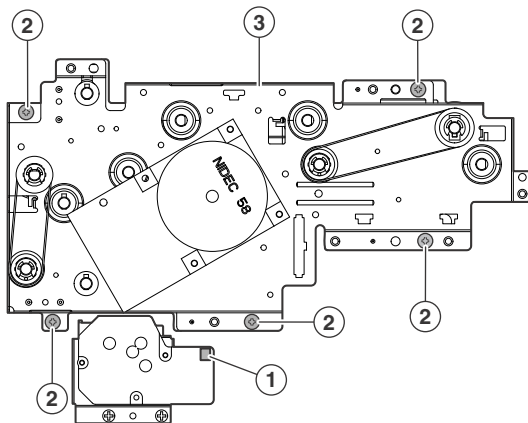
- 3) Remove the resin ring, and remove the belt, and remove the pulley. Remove the screw, and remove the plate.



- 4) Remove the resin ring, and remove the belt, and remove the pulley. Remove the resin ring, and remove the pulley, and remove the belt. Remove the screw, and remove the plate.

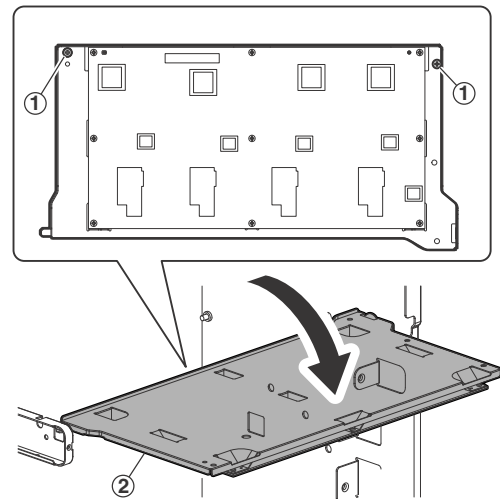


- 5) Disconnect the connector. Remove the screw, and remove the tandem paper feed drive unit.

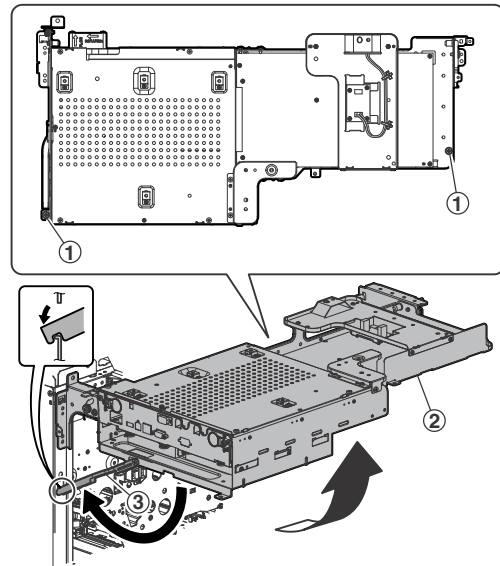


(2) Paper feed drive unit

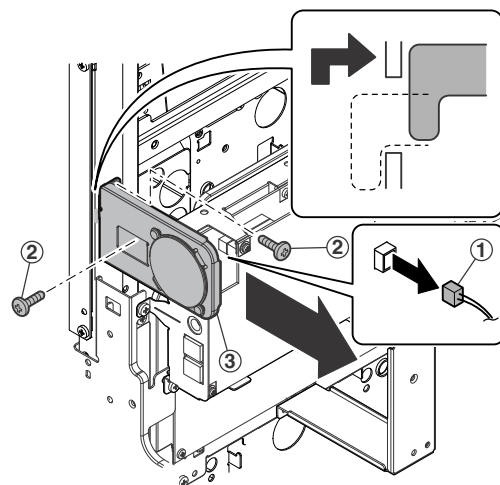
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



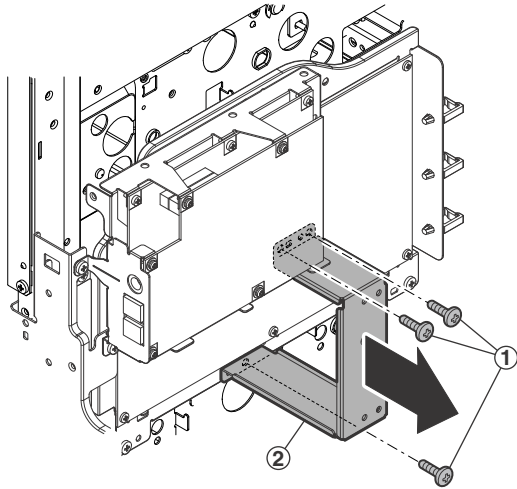
- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



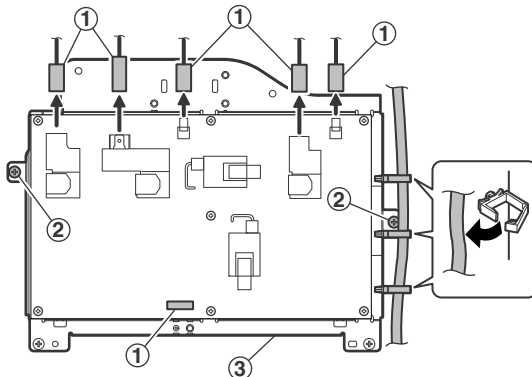
- 4) Disconnect the connector. Remove the screw, and remove the speaker mounting plate.



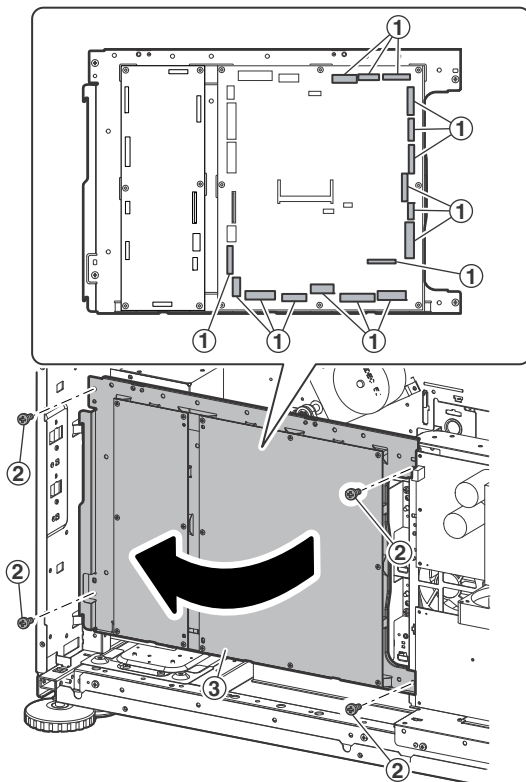
- 5) Remove the screw, and remove the angle.



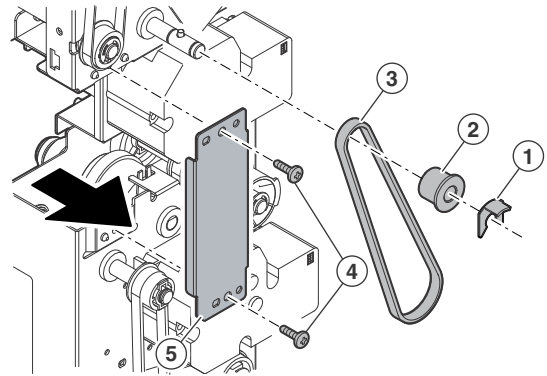
- 6) Disconnect the connector, and remove the PCU harness from saddle. Remove the screw, and remove the high voltage 2TC PWB mounting plate.



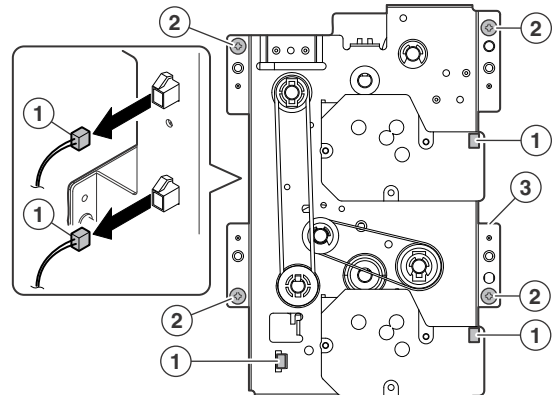
- 7) Disconnect the connector. Remove the screw, and open the PCU PWB mounting plate.



- 8) Remove the resin ring, and remove the belt, and remove the pulley. Remove the screw, and remove the plate.

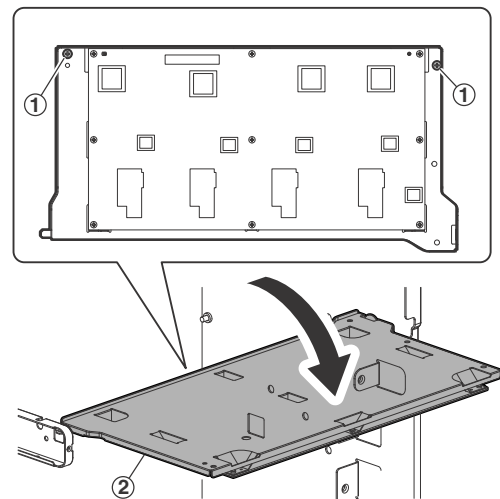


- 9) Disconnect the connector. Remove the screw, and remove the paper feed drive unit.

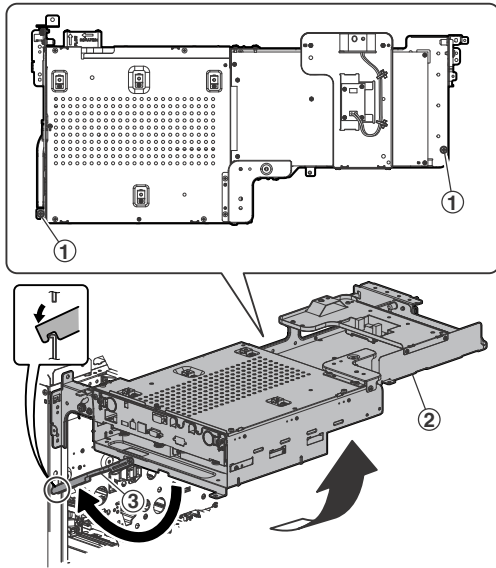


(3) Transport drive unit

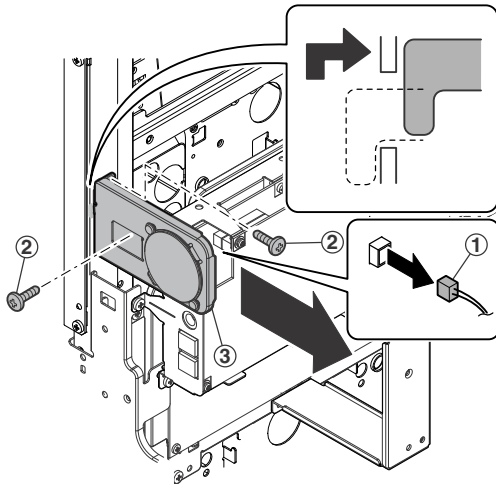
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



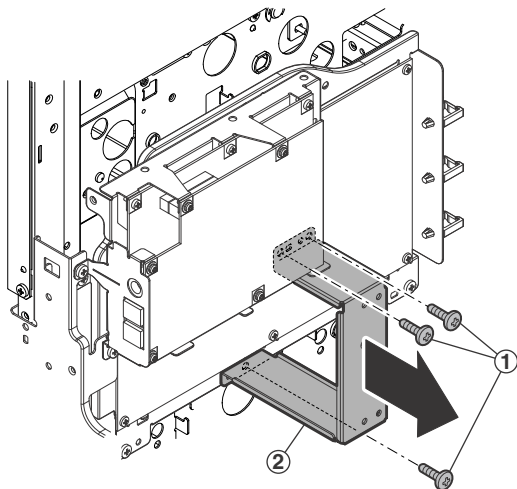
- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



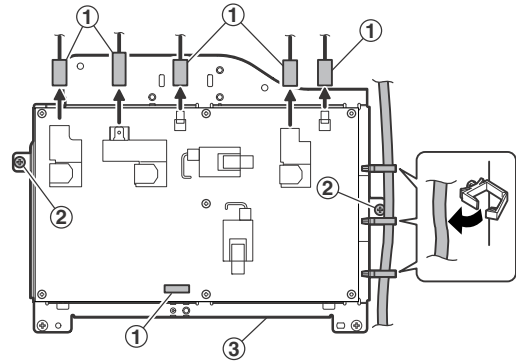
- 4) Disconnect the connector. Remove the screw, and remove the speaker mounting plate.



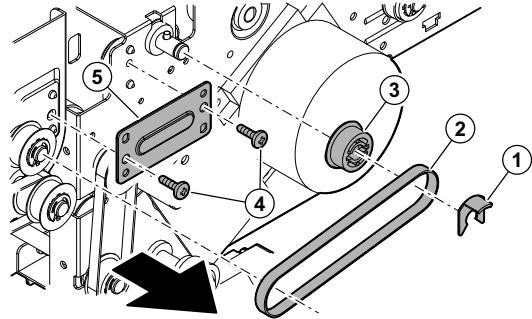
- 5) Remove the screw, and remove the angle.



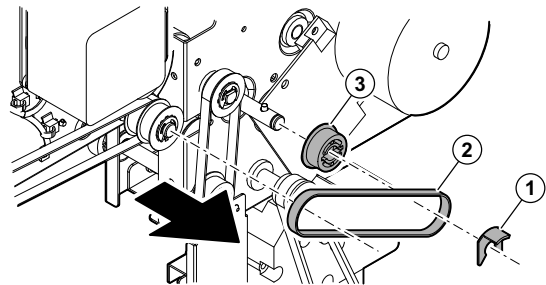
- 6) Disconnect the connector, and remove the PCU harness from saddle. Remove the screw, and remove the high voltage 2TC PWB mounting plate.



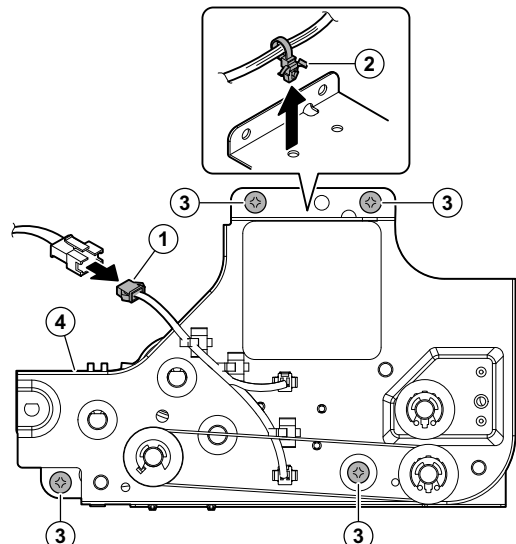
- 7) Remove the resin ring, and remove the belt, and remove the pulley. Remove the screw, and remove the plate.



- 8) Remove the resin ring, and remove the belt, and remove the pulley.

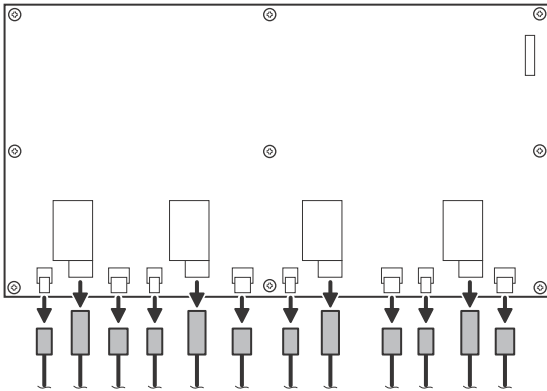


- 9) Disconnect the connector, and remove the clamp. Remove the screw, and remove the transport drive unit.

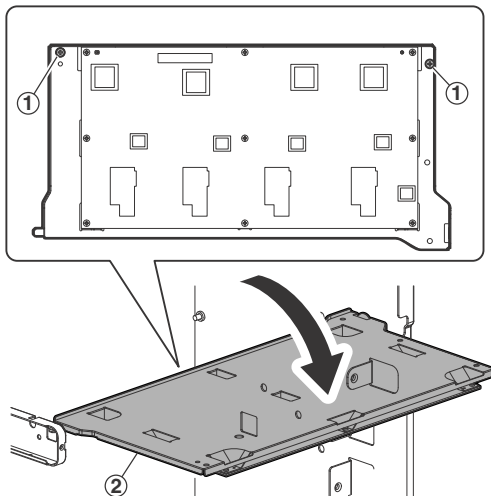


(4) Main drive unit (BK), Main drive unit (CL)

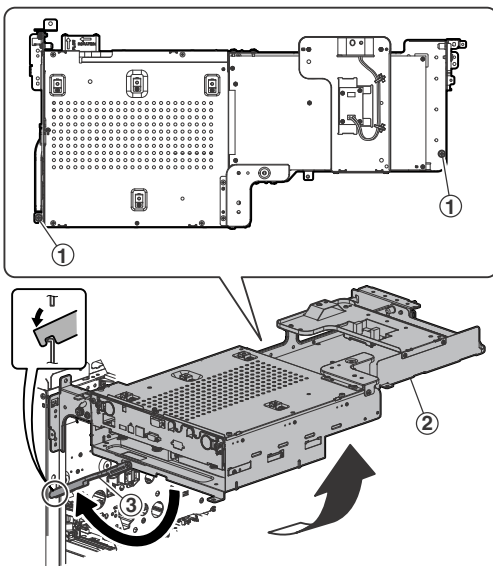
- 1) Remove the primary transfer unit.
- 2) Remove the developing unit.
- 3) Remove the process unit.
- 4) Remove the PTC unit.
- 5) Remove the upper cabinet rear cover, and the rear cabinet.
- 6) Disconnect the connector.



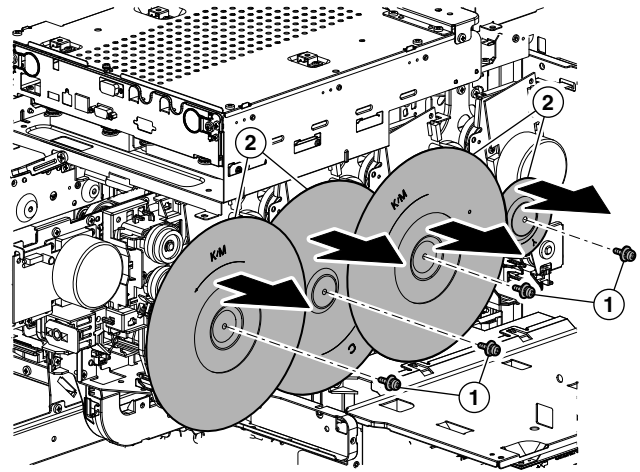
- 7) Remove the screw, and open the high voltage MC PWB mounting plate downward.



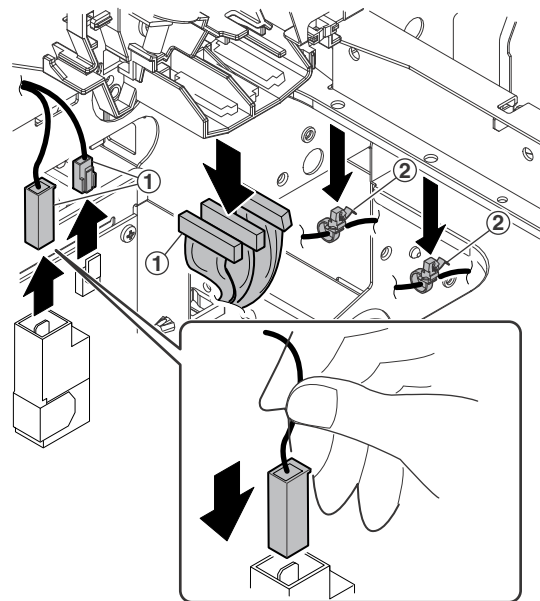
- 8) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



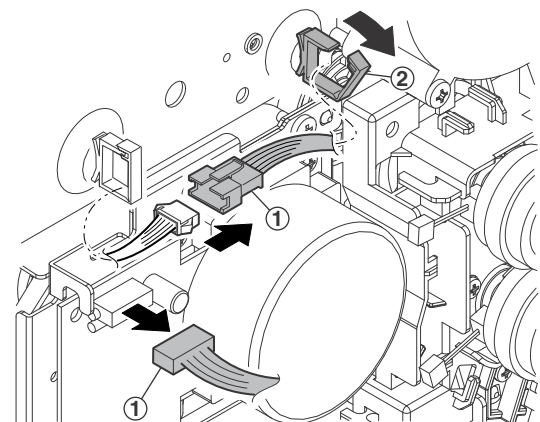
- 9) Remove the screw, and remove the flywheel.



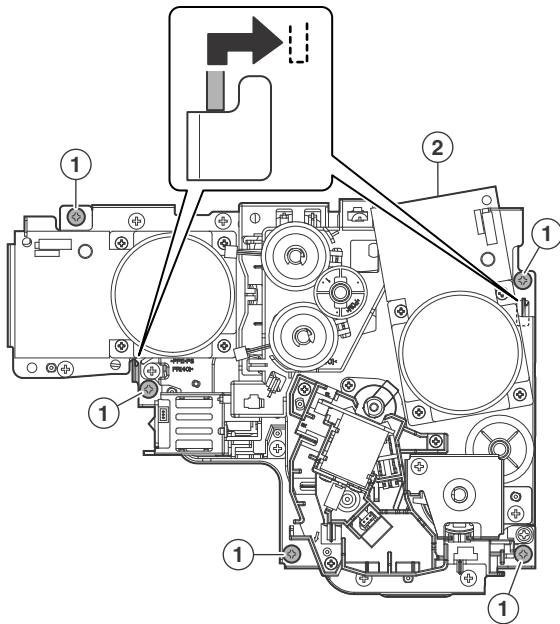
- 10) Disconnect the connector, and remove snap band.



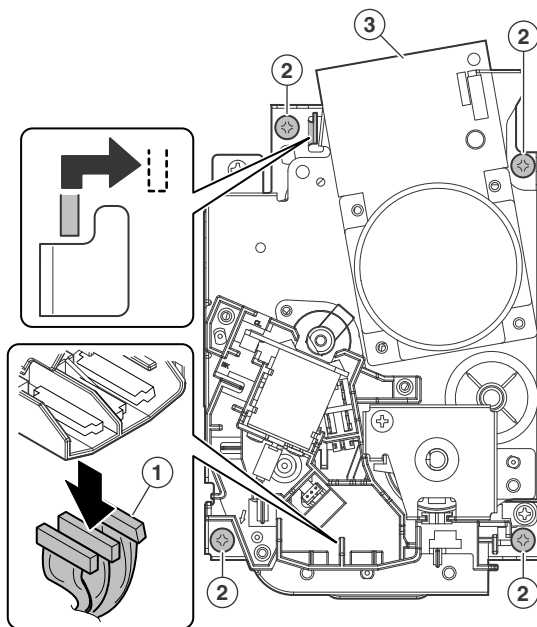
- 11) Disconnect the connector. Open the clamp, and set the harness free.



12) Remove the screw, and pull out the main drive unit (BK).

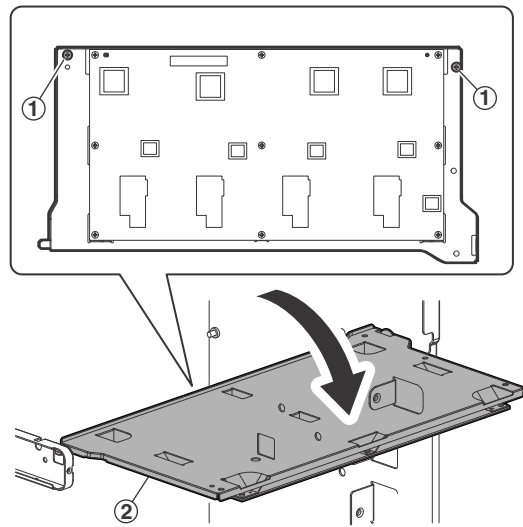


13) Disconnect the connector. Remove the screw, and pull out the main drive unit (CL).

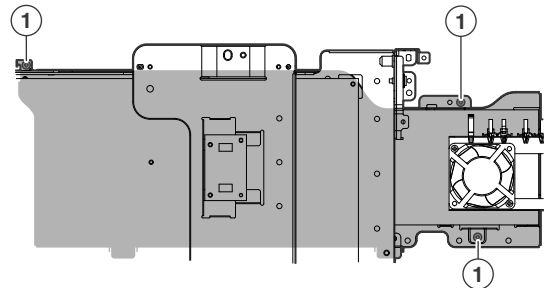


(5) Toner transport drive unit

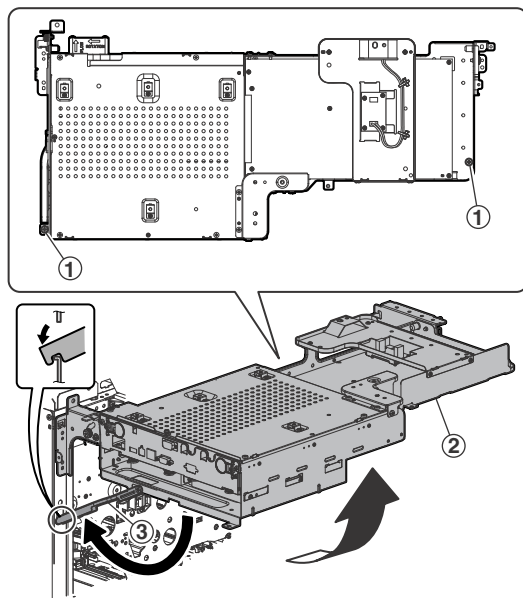
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



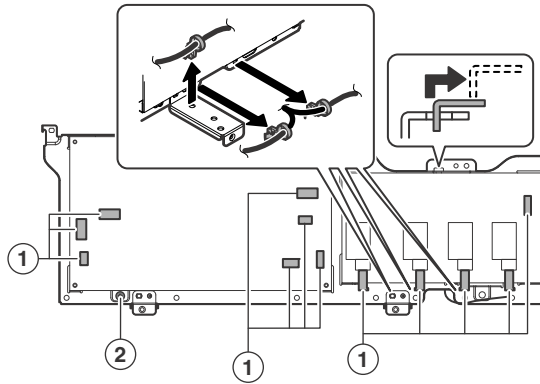
3) Remove the screw.



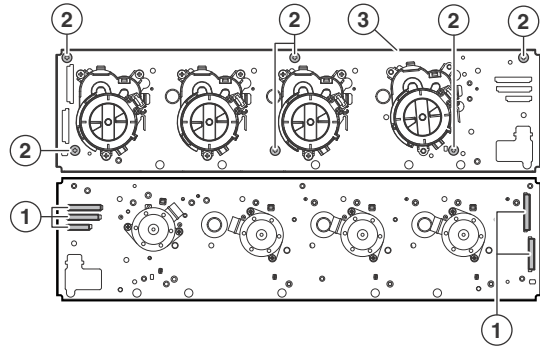
4) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



- 5) Disconnect the connector, and remove the clamp. Remove the screw, and remove the HL-TC1 PWB mounting plate.

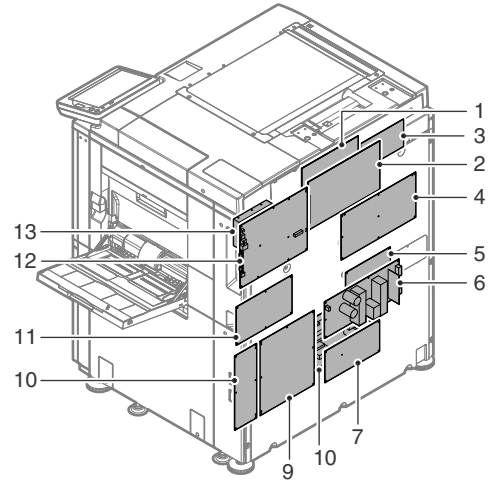


- 6) Disconnect the connector. Remove the screw, and remove the toner transport drive unit.



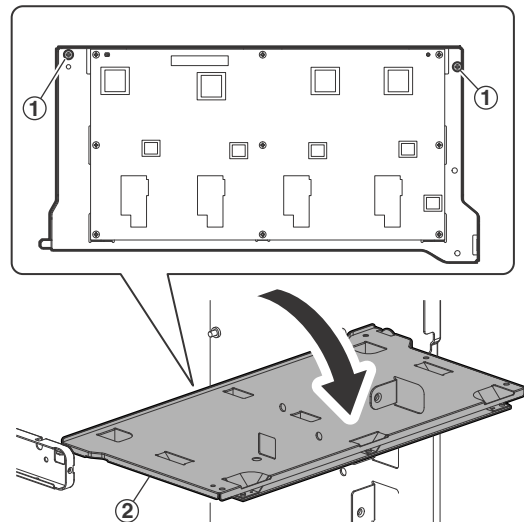
R. PWB section

No.	Name
1	HL control PWB
2	SCN Mother PWB
3	High voltage 1TC PWB
4	High voltage MC PWB
5	SUB AC POWER PWB
6	SUB DC POWER PWB
7	AC POWER PWB
8	DC POWER PWB
9	PCU PWB
10	Driver PWB
11	High voltage 2TC PWB
12	MFP control PWB
13	HDD

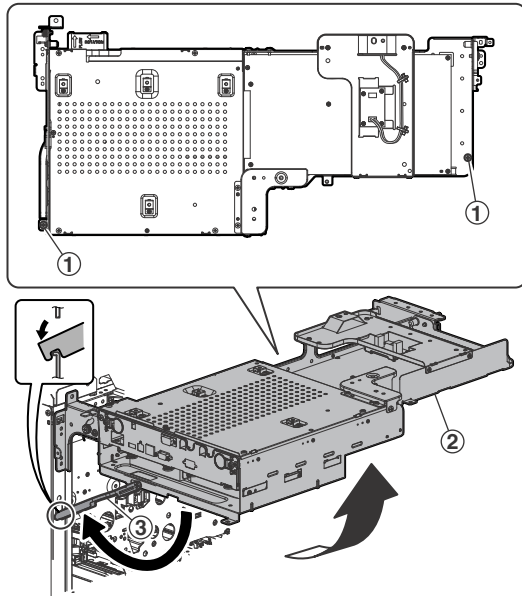


(1) HL control PWB, High voltage 1TC PWB

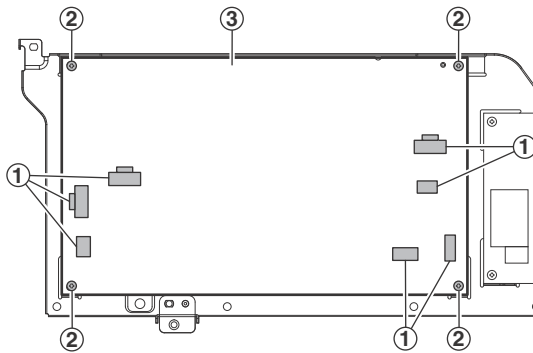
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



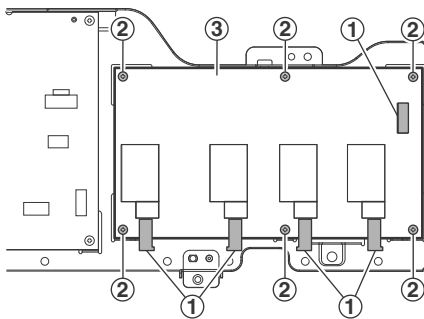
- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



- 4) Disconnect the connector. Remove the screw, and remove the HL control PWB.

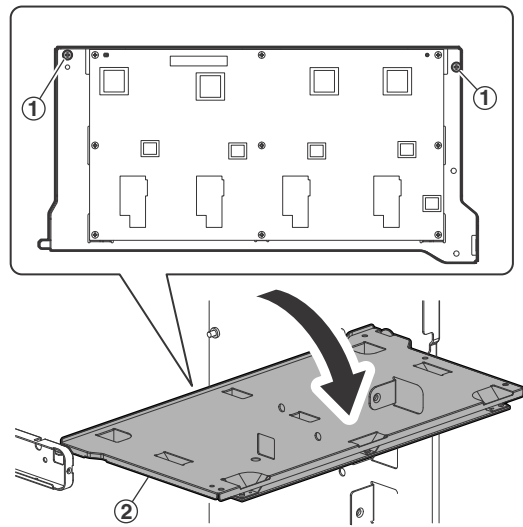


- 5) Disconnect the connector. Remove the screw, and remove the high voltage 1TC PWB.

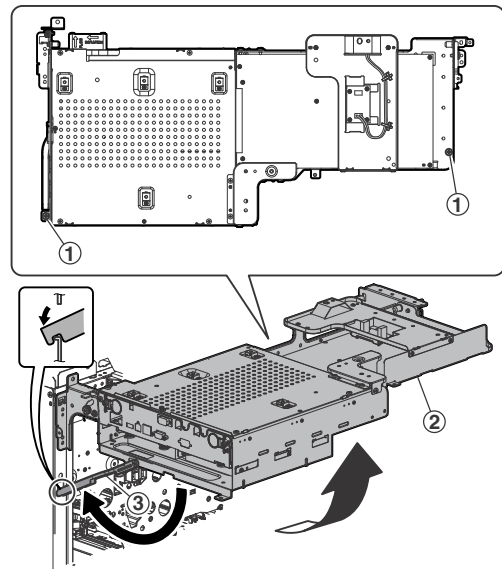


(2) SCN Mother PWB

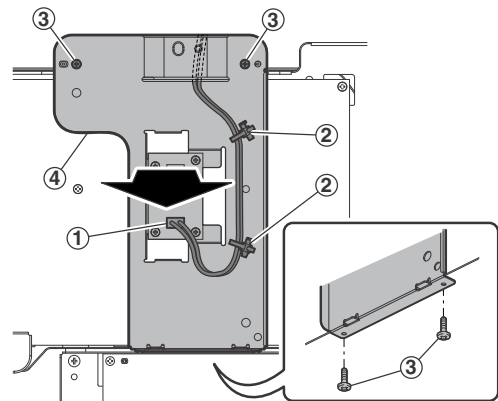
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.

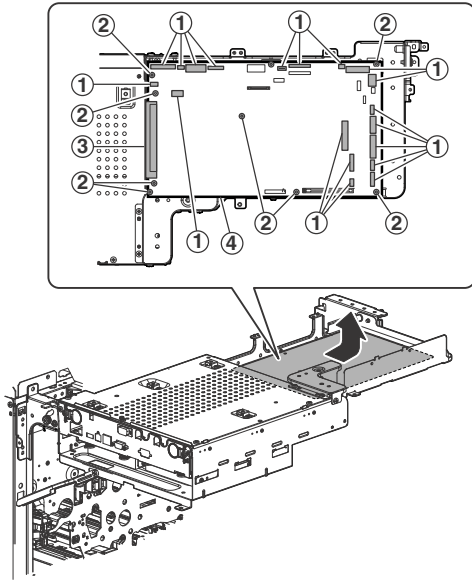


- 4) Disconnect the connector, and remove the snap band. Remove the screw, and remove the PCI support plate.



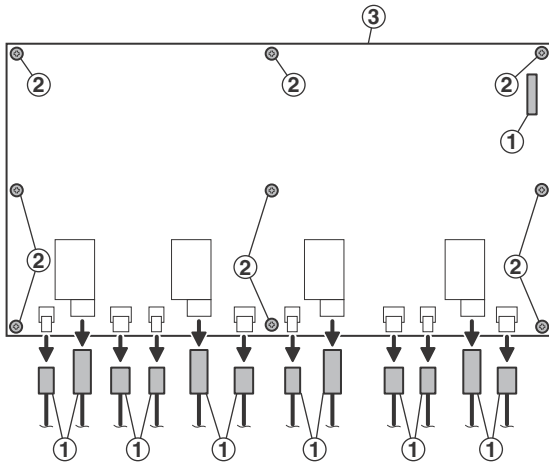
- 5) Disconnect the connector, and remove the screw. Disconnect the connector, and remove the SCN Mother PWB.

CAUTION: Since the MFP control PWB and the SCN Mother PWB are connected in board to board, be careful when disassembling and assembling.



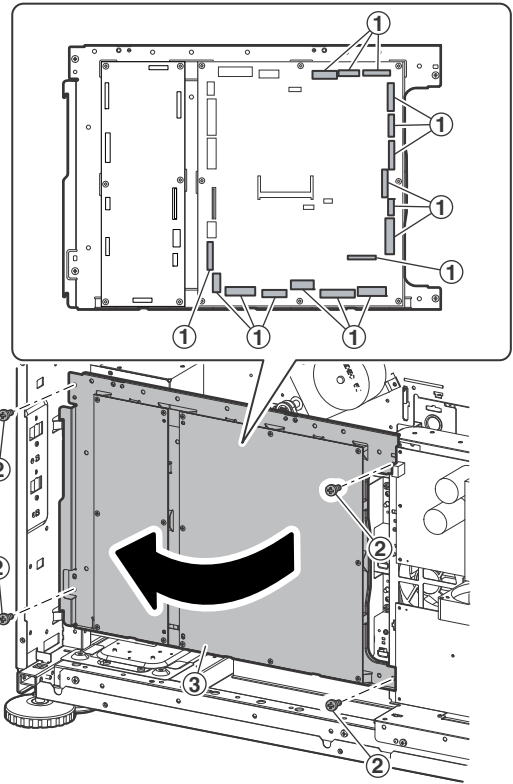
(3) High voltage MC PWB

- 1) Remove the rear cabinet.
- 2) Disconnect the connector. Remove the screw, and remove the high voltage MC PWB.

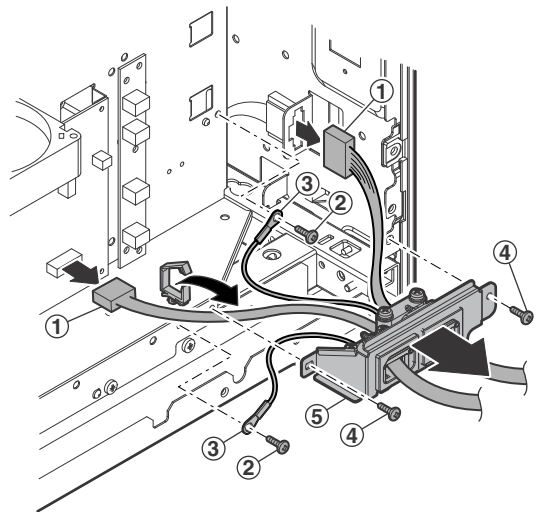


(4) SUB AC POWER PWB, DC POWER PWB

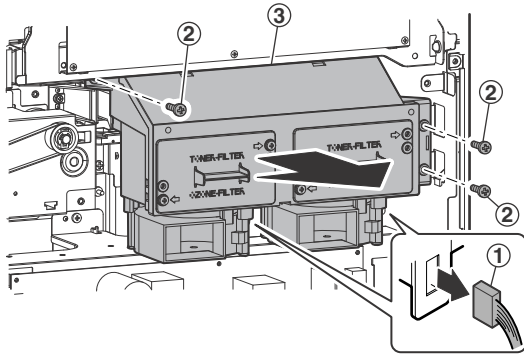
- 1) Remove the rear cabinet.
- 2) Disconnect the connector. Remove the screw, and remove the PCU PWB mounting plate.



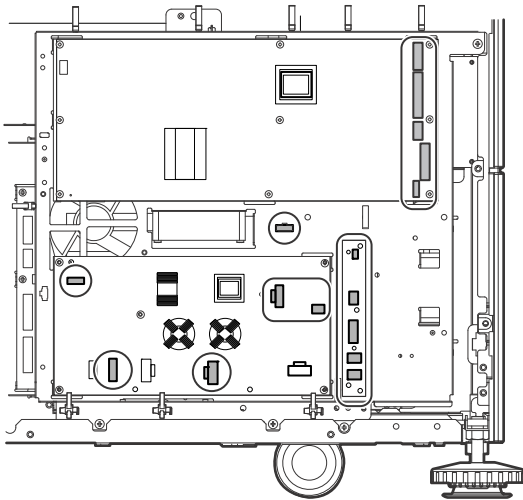
- 3) Disconnect the connector. Remove the screw, and remove the AC cord mounting plate.



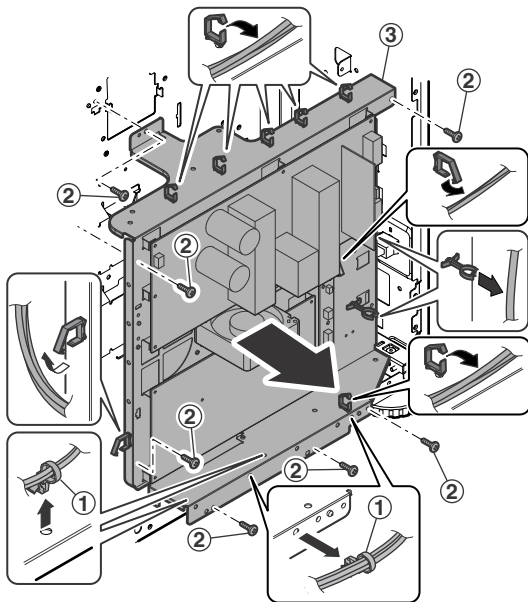
- 4) Disconnect the connector. Remove the screw, and remove the duct unit.



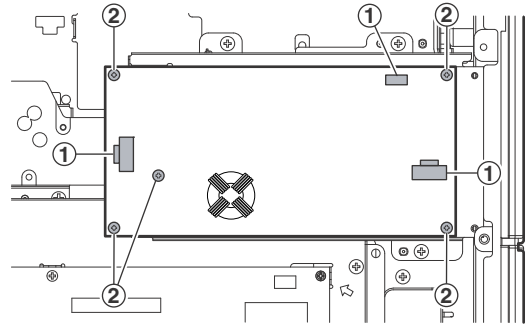
- 5) Disconnect the connector.



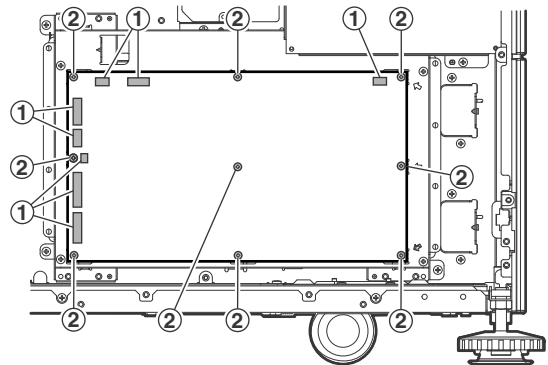
- 6) Remove the harness from saddle, and remove the snap band. Remove the screw, and remove the AC PWB mounting plate.



- 7) Disconnect the connector. Remove the screw, and remove the SUB AC POWER PWB.

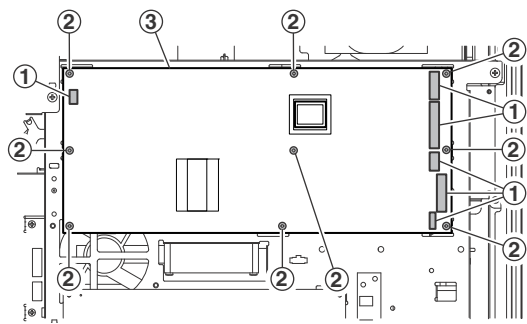


- 8) Disconnect the connector. Remove the screw, and remove the DC POWER PWB.



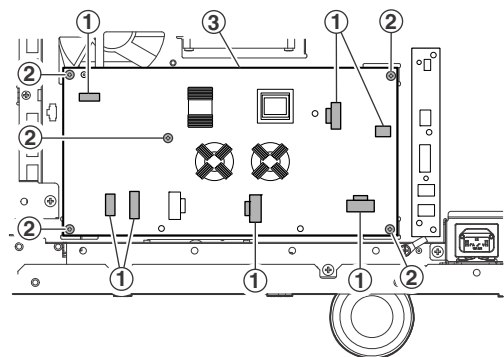
(5) SUB DC POWER PWB

- 1) Remove the rear cabinet.
- 2) Disconnect the connector. Remove the screw, and remove the SUB DC POWER PWB.



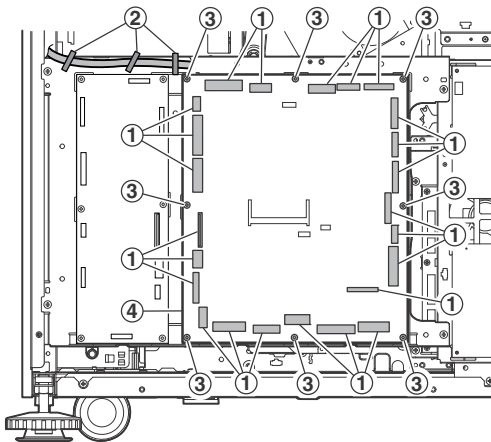
(6) AC POWER PWB

- 1) Remove the rear cabinet.
- 2) Disconnect the connector. Remove the screw, and remove the AC POWER PWB.

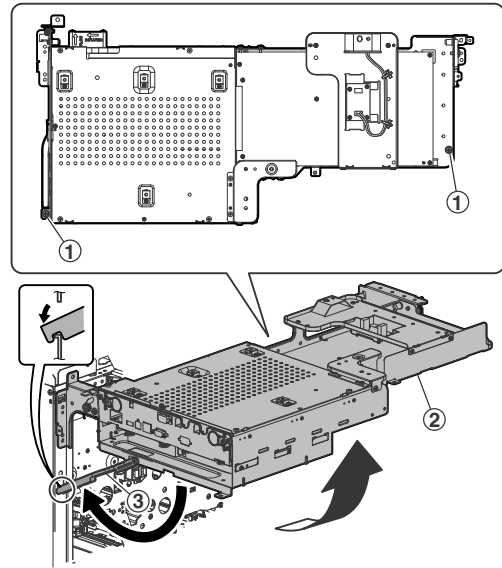


(7) PCU PWB

- 1) Remove the rear cabinet.
- 2) Disconnect the connector, and remove the harness from saddle. Remove the screw, and remove the PCU PWB.

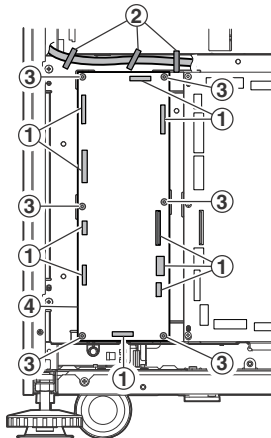


- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.

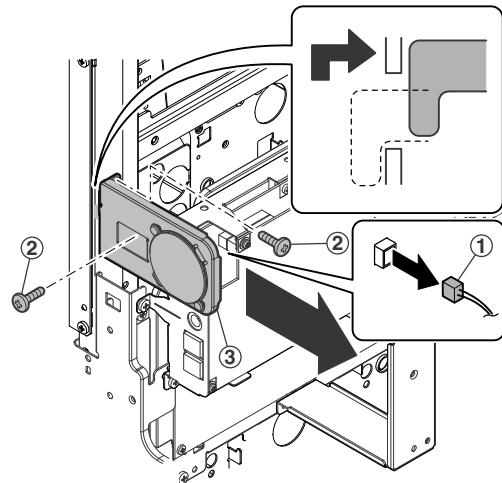


(8) Driver PWB

- 1) Remove the rear cabinet.
- 2) Disconnect the connector, and remove the harness from saddle. Remove the screw, and remove the driver PWB.

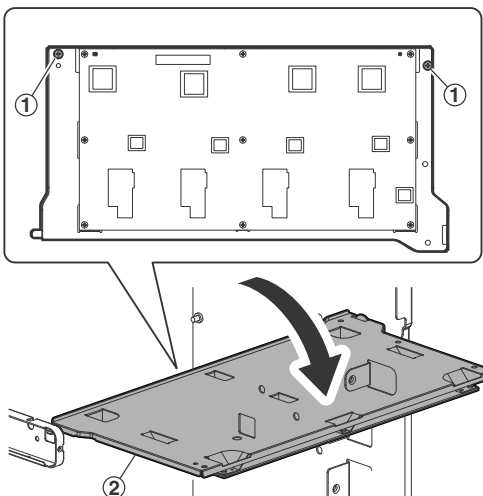


- 4) Disconnect the connector. Remove the screw, and remove the speaker mounting plate.

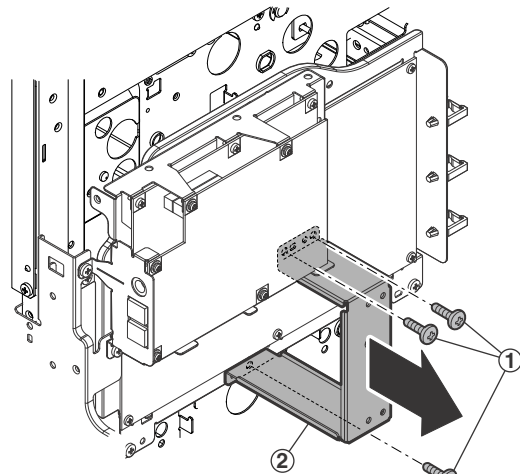


(9) High voltage 2TC PWB

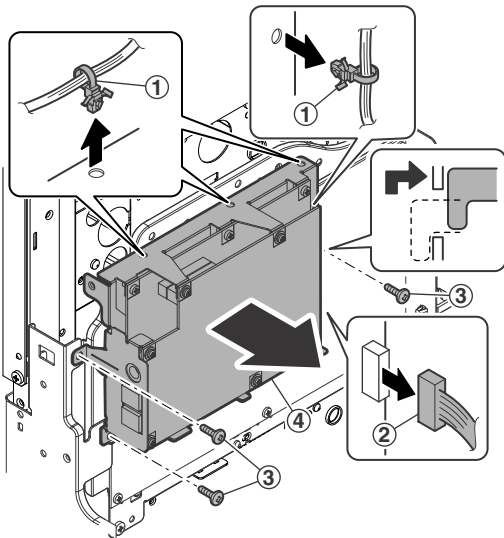
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



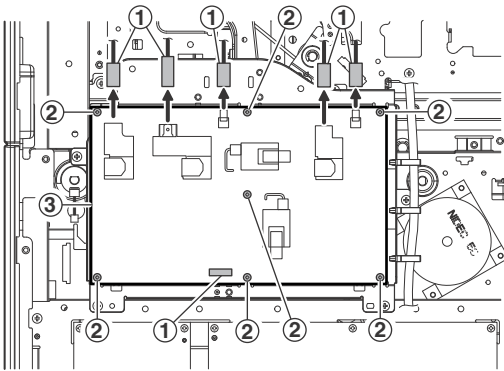
- 5) Remove the screw, and remove the angle.



- 6) Disconnect the connector, and remove the clamp. Remove the screw, and remove the FAX PWB unit.

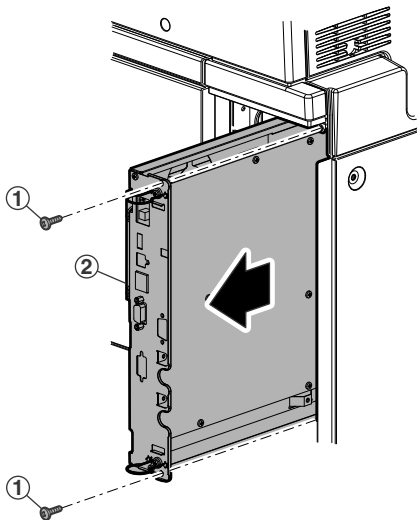


- 7) Disconnect the connector. Remove the screw, and remove the high voltage 2TC PWB.

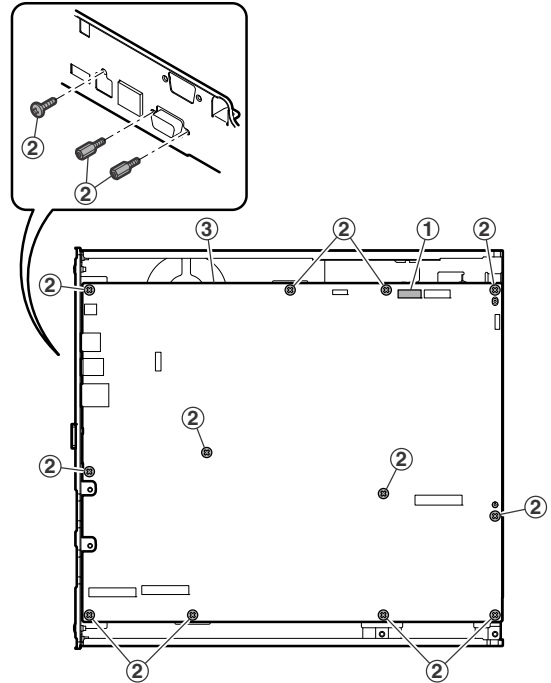


(10) MFP control PWB, HDD

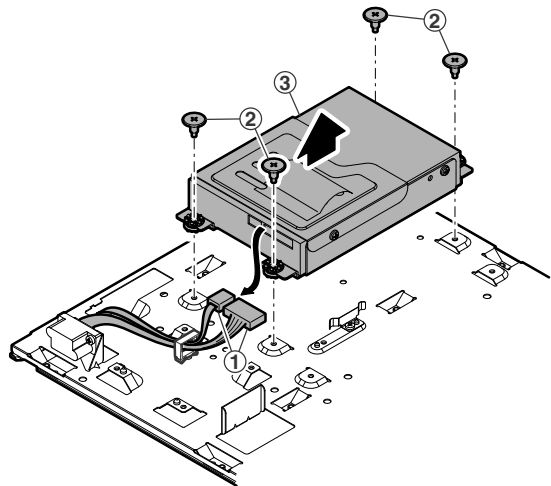
- 1) Remove the right cabinet rear.
- 2) Remove the screw, and pull out the MFP control unit.



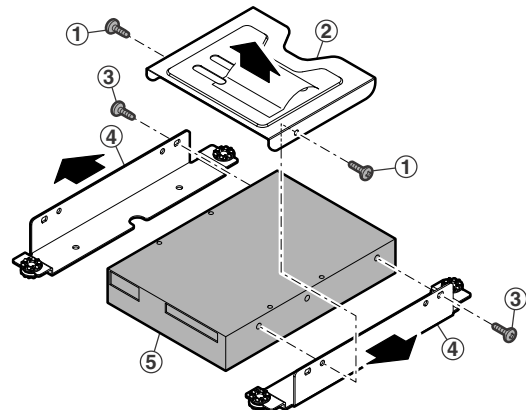
- 3) Disconnect the connector from MFP control PWB. Remove the screw, and remove the MFP control PWB.



- 4) Disconnect the connector from HDD. Remove the screw, and remove the HDD unit.



- 5) Remove the screw from HDD, and remove the angle.



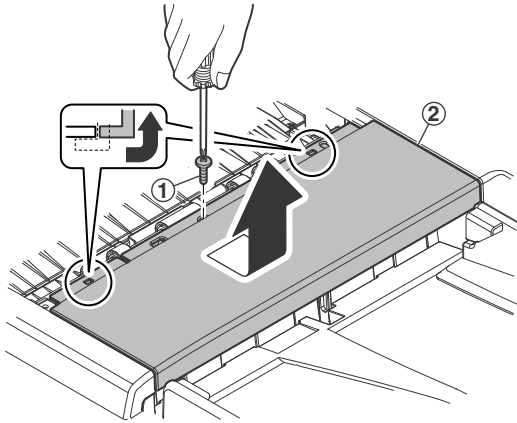
2. Maintenance

A. DSPF section

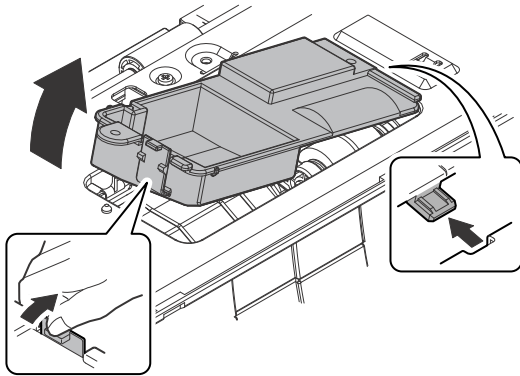
(1) Document feed unit

a. Document pickup roller, Paper feed roller

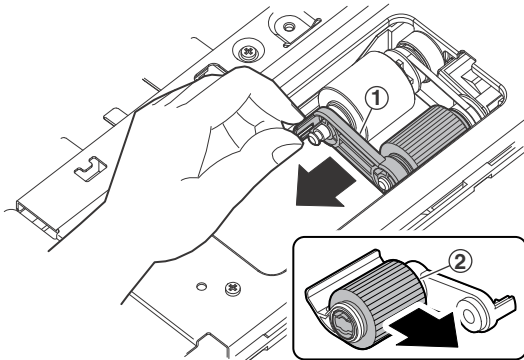
- 1) Remove the screw, and remove the paper feed cover.



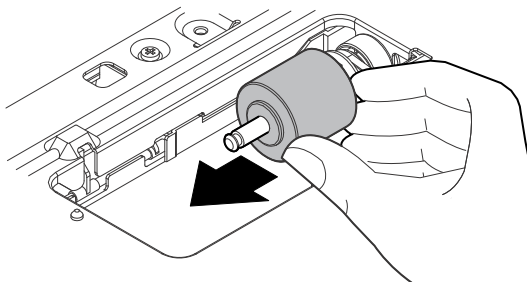
- 2) Remove the paper feed PG upper cover.



- 3) Remove the pickup roller holder. Remove the document pickup roller from the pickup roller holder.



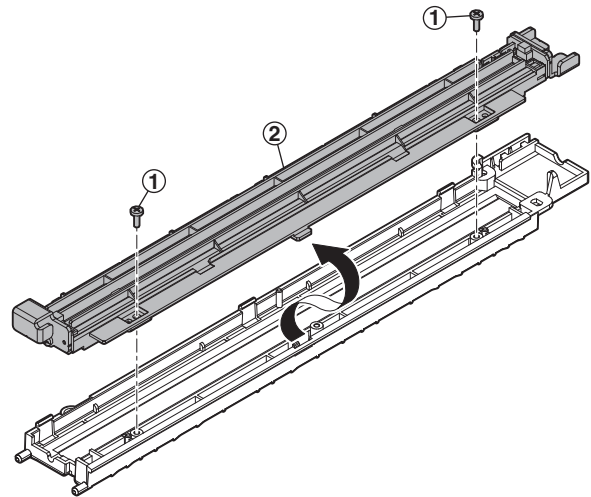
- 4) Remove the paper feed roller.



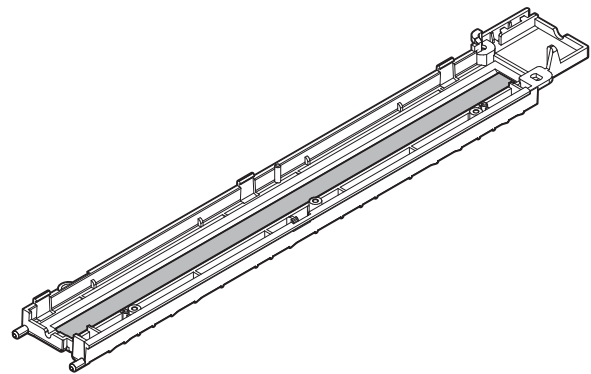
(2) Lamp unit

a. Second scan section scanning glass, scanner lamp

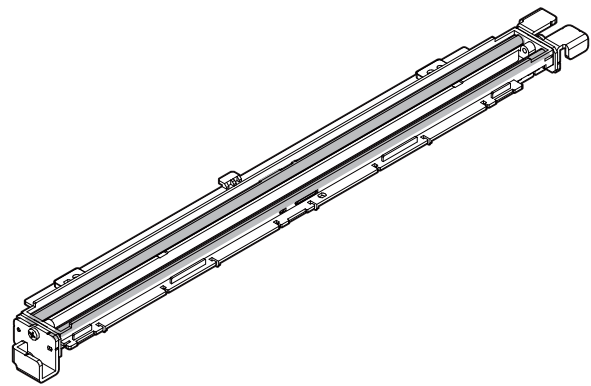
- 1) Remove the screw, and remove the lamp mounting plate.



- 2) Clean the second scan section scanning glass.



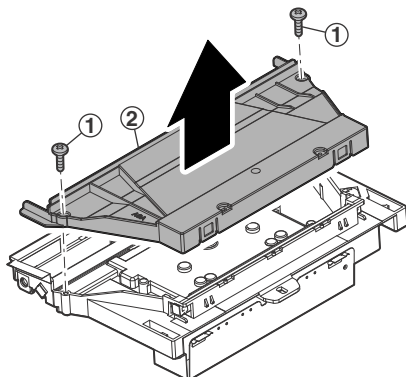
- 3) Clean the scanner lamp.



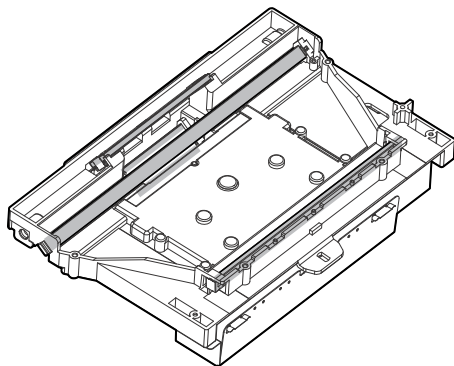
(3) Optical unit

a. Mirror

- 1) Remove the screw, and remove the mirror base cover.

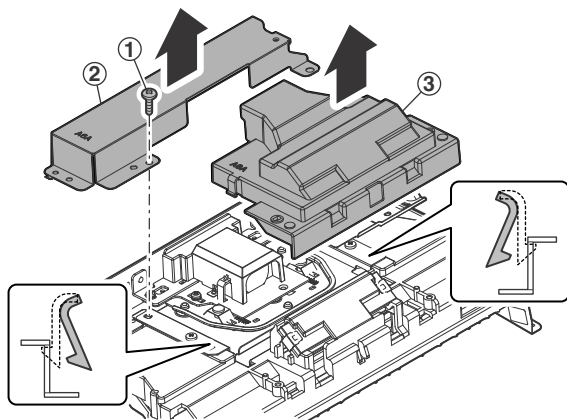


- 2) Clean the mirror.

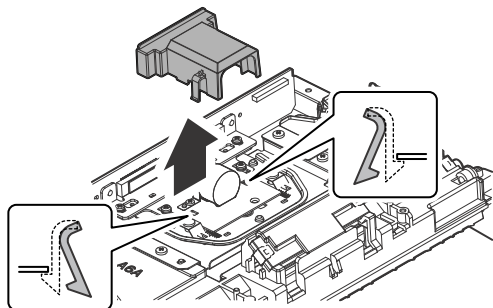


b. Lens, CCD

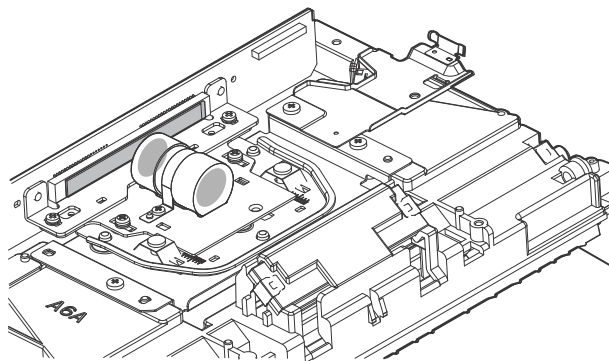
- 1) Remove the screw, and remove the dark box. Remove the dust-proof cover.



- 2) Remove the lens cover.



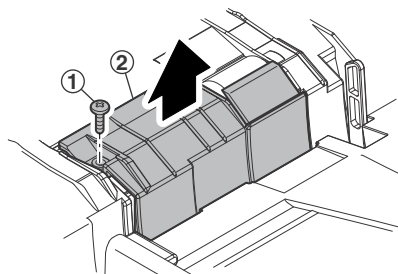
- 3) Clean the lens and CCD.



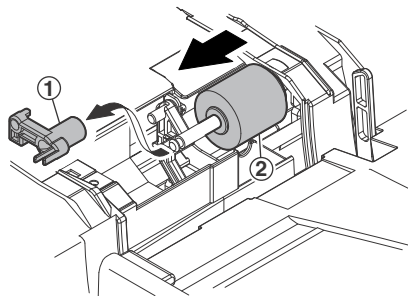
(4) DSPF unit

a. Separation roller

- 1) Remove the document feed unit.
- 2) Remove the screw, and remove the paper feed PG lower cover.

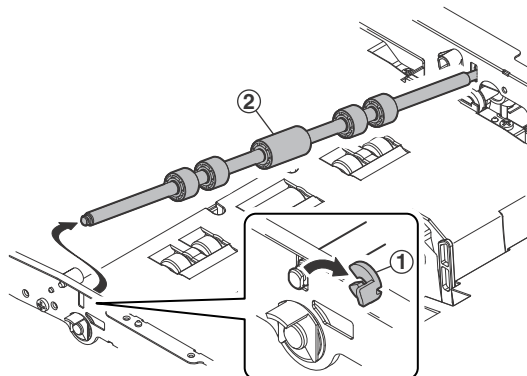


- 3) Remove the reverse pressure release lever, and remove the separation roller.

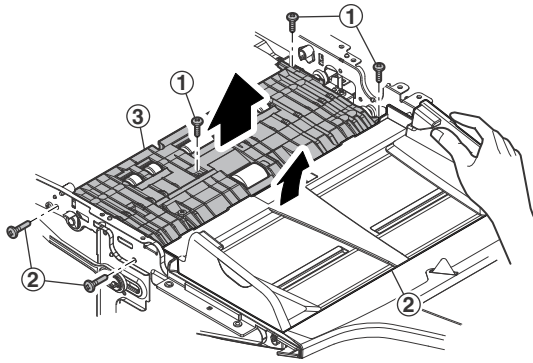


b. Torque limiter

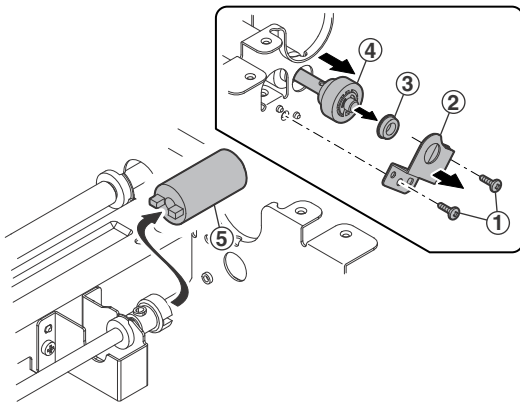
- 1) Remove the document feed unit.
- 2) Remove the drive unit.
- 3) Remove the resin E-ring, and remove the No. 1 registration roller (Idle).



- 4) Remove the screw. Lift the document paper feed tray and remove the paper guide.

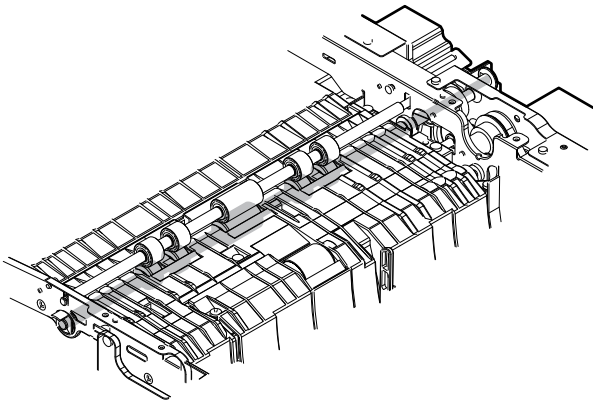


- 5) Remove the screw, and remove the support plate and the bearing. Remove the roller shaft, and remove the torque limiter.



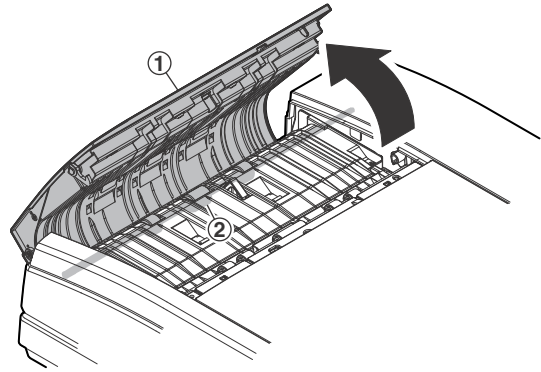
c. No. 1 registration roller

- 1) Remove the document feed unit.
- 2) Clean the No. 1 registration roller.



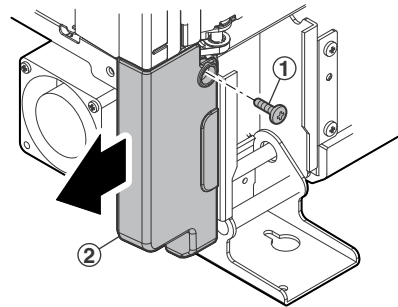
d. Transport roller 1

- 1) Open the upper door unit.
- 2) Clean the transport roller 1.

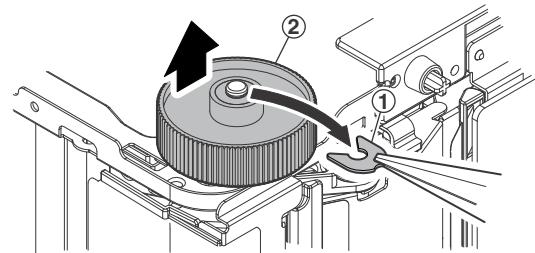


e. No. 2 registration roller

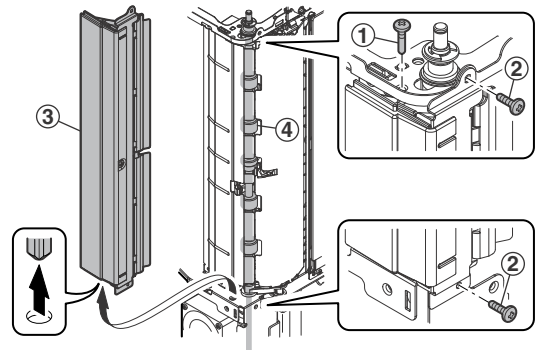
- 1) Remove the front cabinet.
- 2) Remove the rear cabinet.
- 3) Remove the screw, and remove the left rear lower cabinet.



- 4) Remove the resin E-ring, and remove the PS knob.

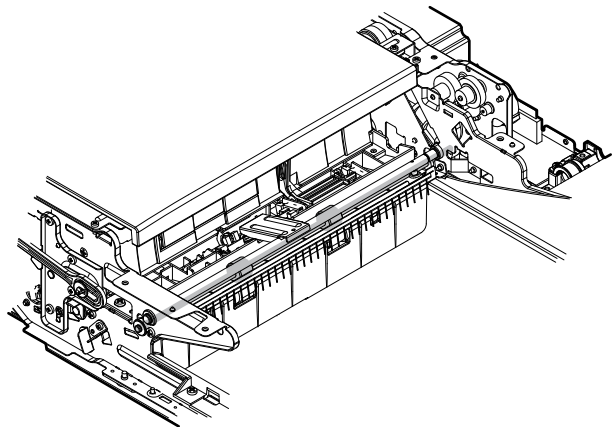


- 5) Remove the screw, and remove the paper guide. Clean the No. 2 registration roller.



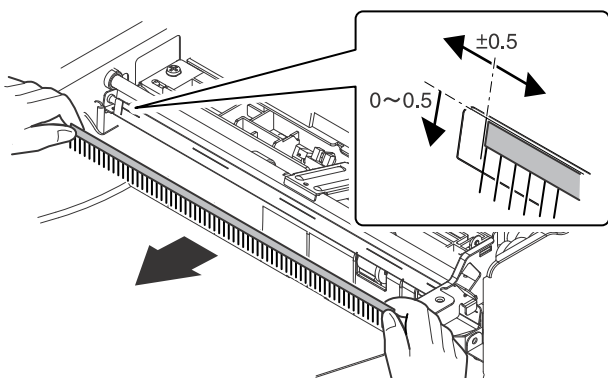
f. Paper exit roller, discharge brush

- 1) Remove the document feed tray.
- 2) Clean the paper exit roller.



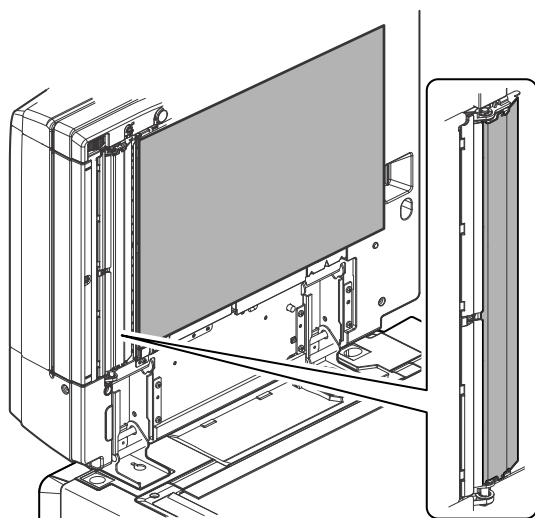
- 3) Check the discharge brush.

CAUTION: when replacing the discharge brush, attach to the attachment reference.



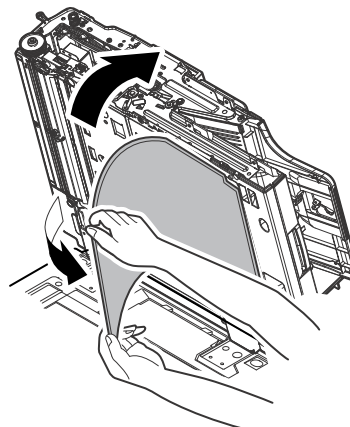
g. OC mat, No. 1 scan plate

- 1) Open the DSPF unit.
- 2) Clean the OC mat and No. 1 scan plate.

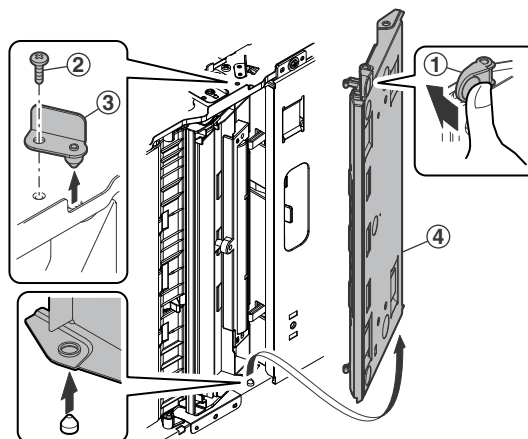


h. Second scan section white reference glass, transport roller 2, transport roller 3

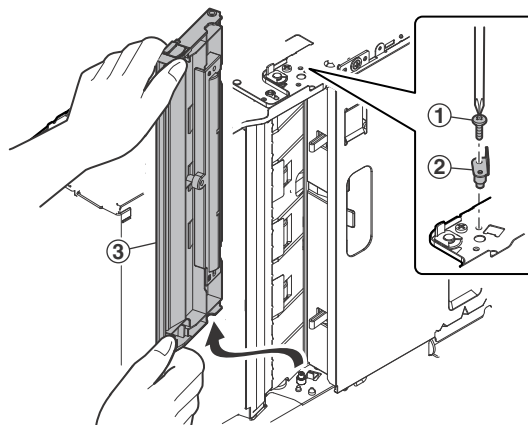
- 1) Open the OC mat.



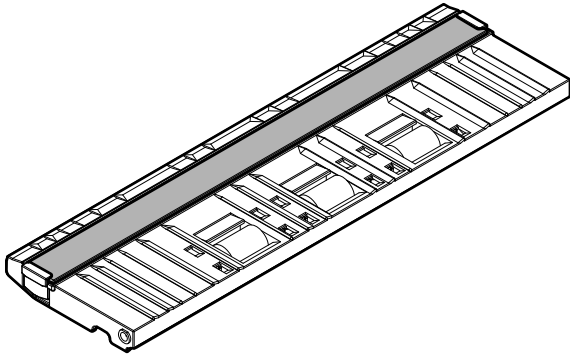
- 2) Open the lower door. Remove the screw, and remove the fulcrum plate. Remove the lower door.



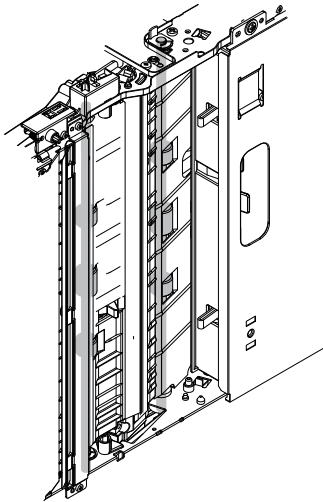
- 3) Remove the screw, and remove the fulcrum plate. Remove the white reference plate.



- 4) Use cleaner to clean the second scan section white reference glass.



- 5) Clean the transport roller 2 and transport roller 3.

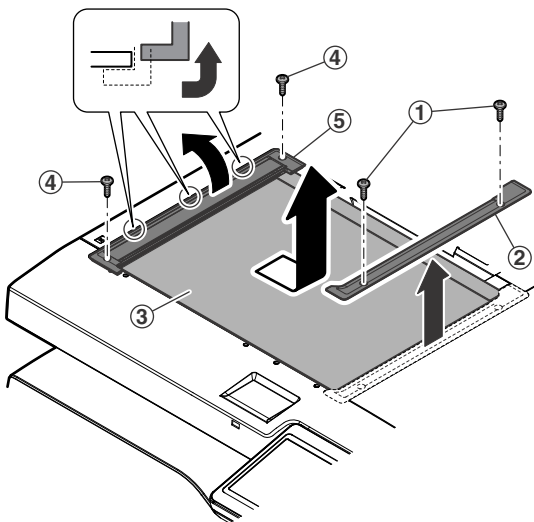


B. Scanner section

(1) Scanner unit

a. Table glass, SPF glass

- 1) Remove the screw, and remove the glass holder. Remove the table glass. Remove the screw, and remove the SPF glass. Clean the table glass and SPF glass.

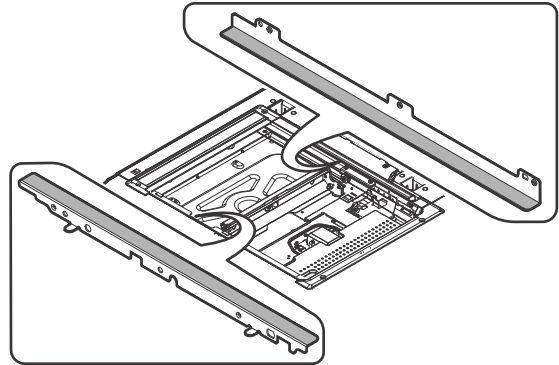


b. Rails

- 1) Remove the table glass.
- 2) Apply grease to each rail.

CAUTION: Be careful not to apply grease to the drive wire.

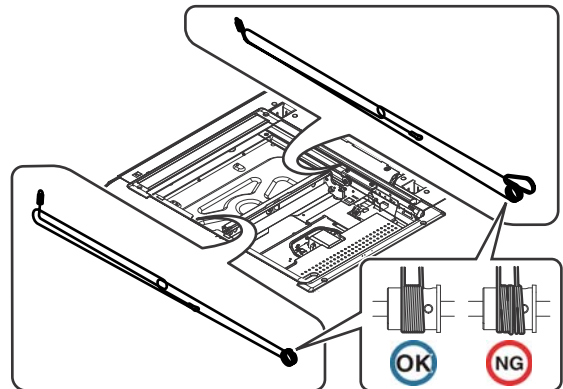
If grease is attached to the drive wire, clean it deliberately.



c. Drive belt, Drive wire

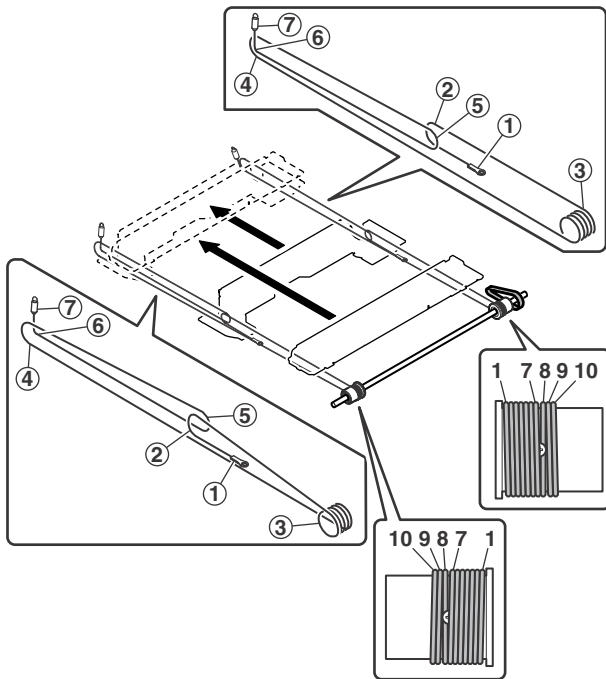
- 1) Remove the table glass.
- 2) Check the tension of the wire belt and the drive wire.

Also check to confirm that the drive wire in the winding pulley section is tightly wound without clearance.



CAUTION: Set and fix the drive wires in the sequence of ① - ⑦ as shown below.

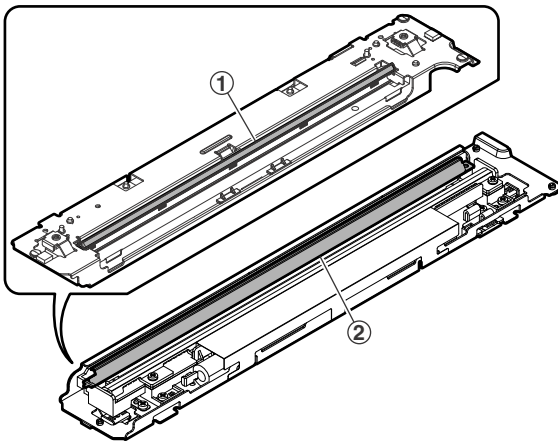
When winding the drive wire around the pulley, shift the mirror unit to the vicinity of the home position. Wind the wire seven turns as shown in the figure, and fix the eighth turn section with the screw. Then wind two turns furthermore around the pulley.



(2) Lamp unit

a. Mirror, reflector

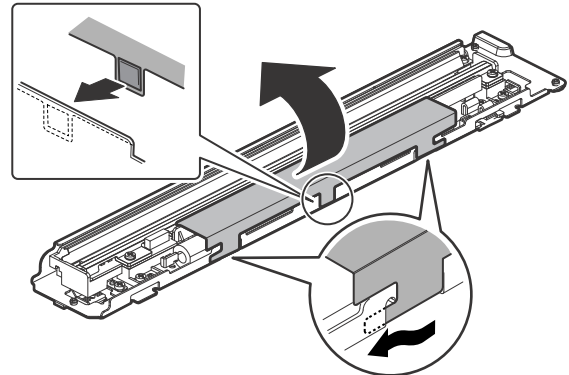
- 1) Clean the mirror and the reflector.



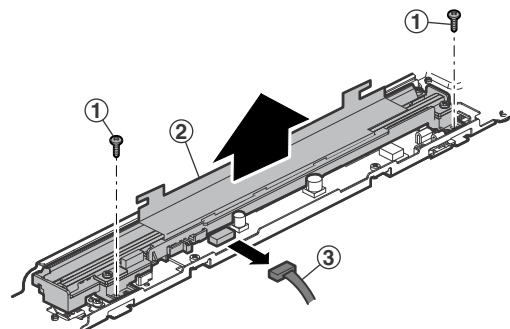
b. Scanner lamp

- 1) Turn over the sheet.

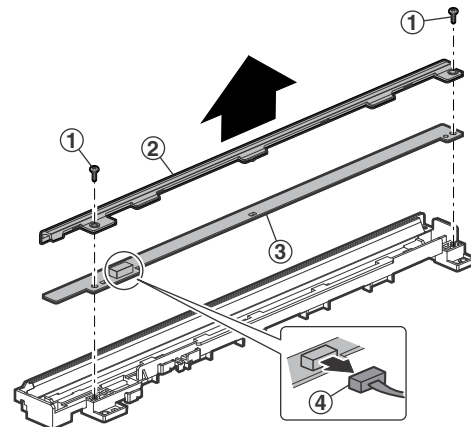
CAUTION: When attaching the sheet to the original position, insert the L-shape sections into the inside of the metal plate and attach the center portion to the metal plate with double-stick tape.



- 2) Remove the screw, and remove the lamp guide. Disconnect the connector from the LED driver PWB.

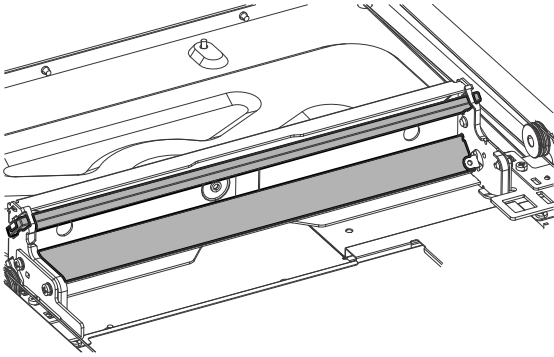


- 3) Remove the screw, and remove the light guide plate and the scanner lamp. Disconnect the connector from the scanner lamp.
Clean the scanner lamp.



(3) Mirror unit

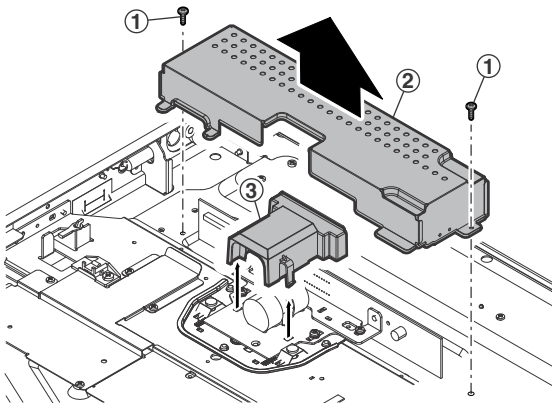
- 1) Remove the table glass.
- 2) Clean the mirror.



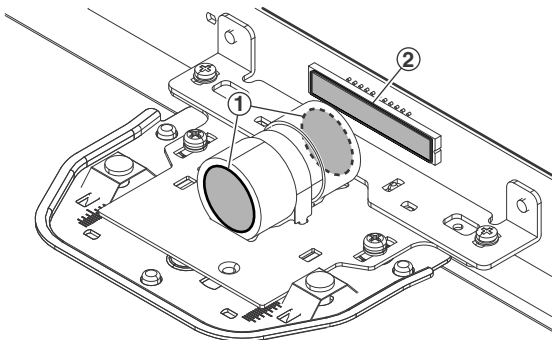
(4) CCD unit

a. Lens, CCD

- 1) Remove the table glass.
- 2) Remove the screw, and remove the dark box.



- 3) Clean the lens and CCD.

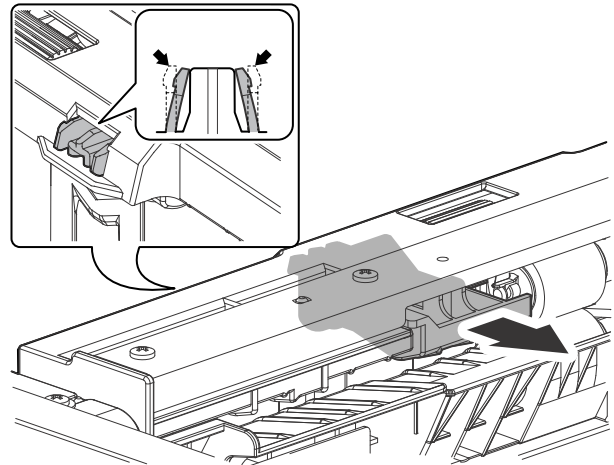


C. Tray paper feed section

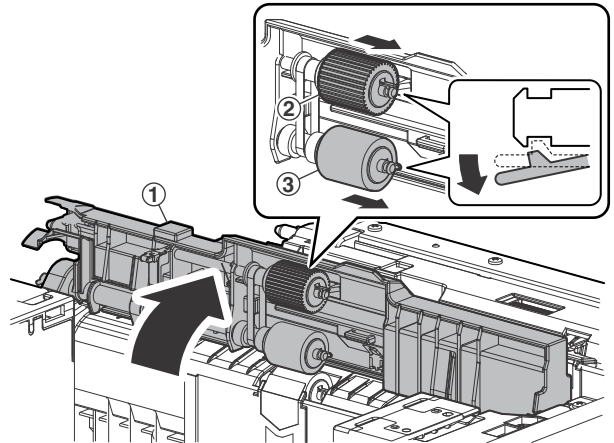
(1) Tandem paper feed tray

a. Paper pickup roller, Paper feed roller

- 1) Remove the paper guide.

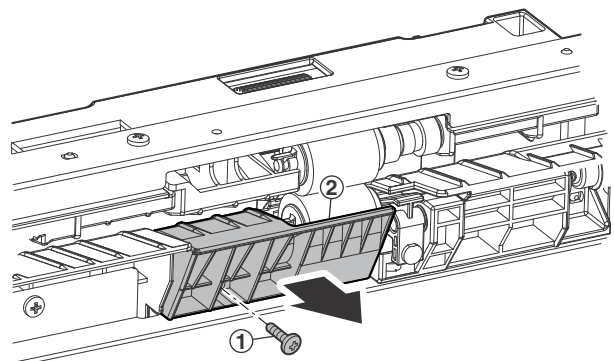


- 2) Lift the tandem paper feed. Remove the paper pickup roller and the paper feed roller.

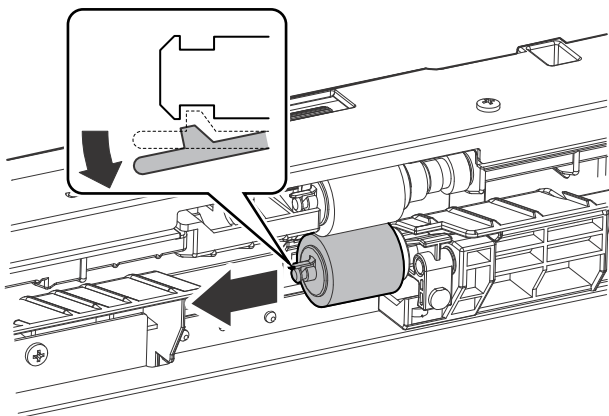


b. Separation roller

- 1) Remove the screw, and remove the paper guide.

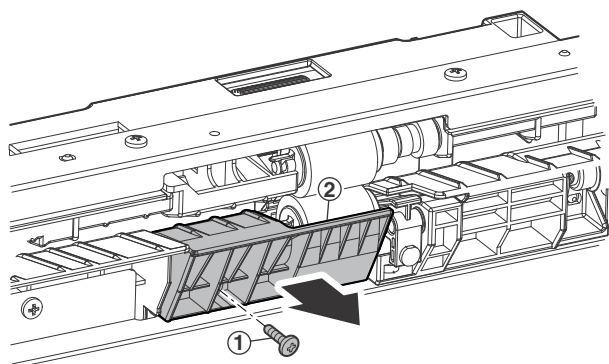


- 2) Remove the separation roller.

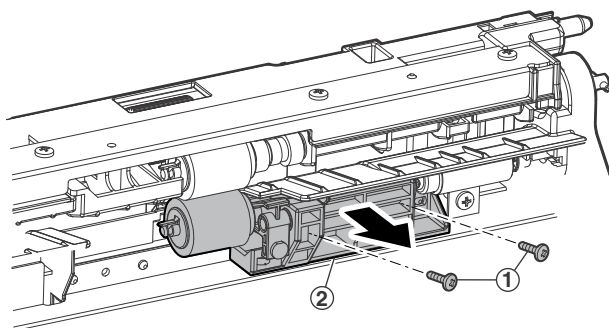


c. Torque limiter

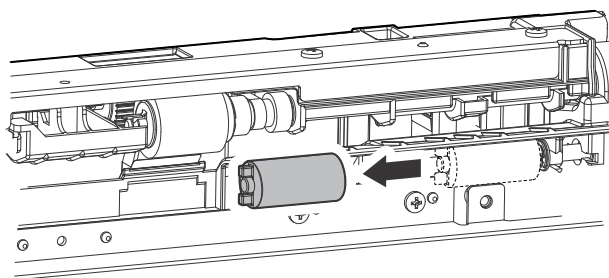
- 1) Remove the screw, and remove the paper guide.



- 2) Remove the screw, and remove the separation roller.



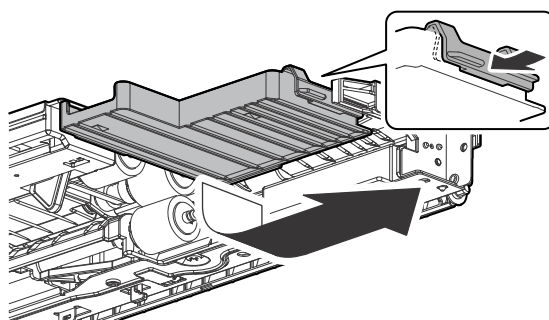
- 3) Remove the torque limiter.



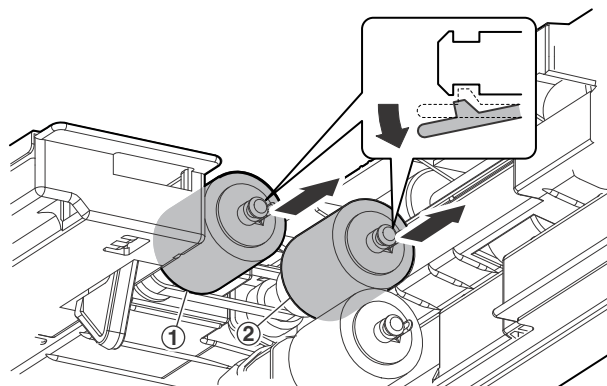
(2) Tray paper feed unit

a. Paper pickup roller, Paper feed roller

- 1) Remove the paper feed tray.
- 2) Remove the paper guide.

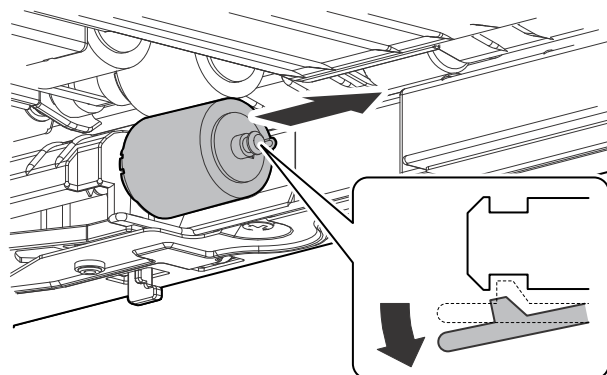


- 3) Remove the paper pickup roller and the paper feed roller.



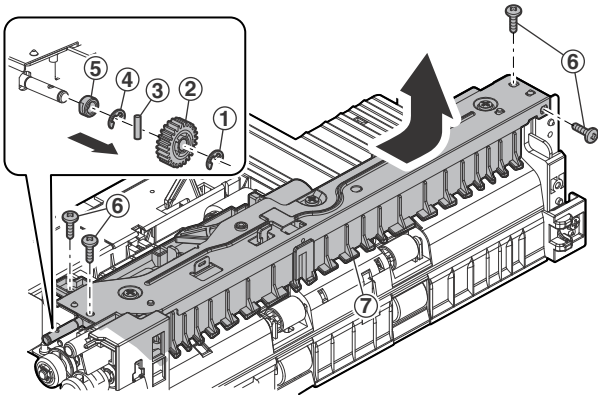
b. Separation roller

- 1) Remove the paper feed tray.
- 2) Remove the separation roller.

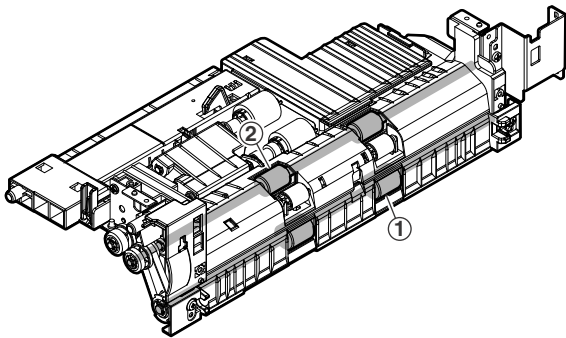


c. Transport roller 9/10, Transport roller 2/3

- 1) Remove the E-ring, the gear, the parallel pin, and the baring. Remove the screw, and remove the paper feed lower unit.

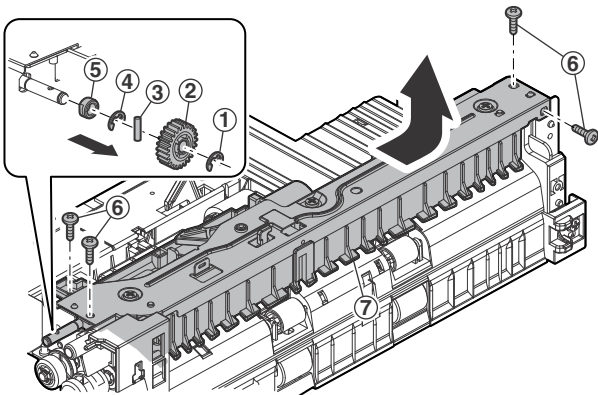


- 2) Clean the transport roller 9/10 and the transport roller 2/3.

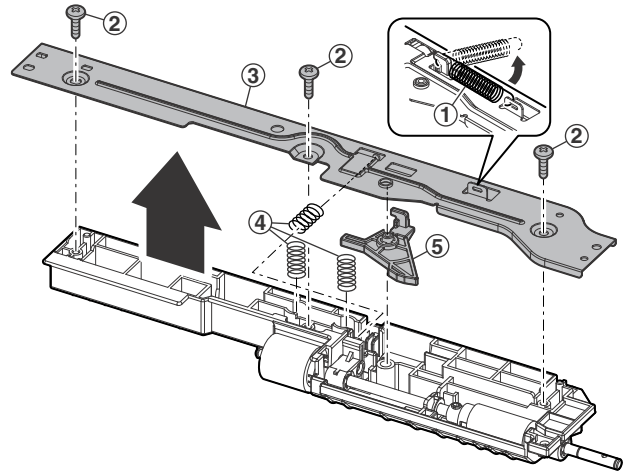


d. Torque limiter

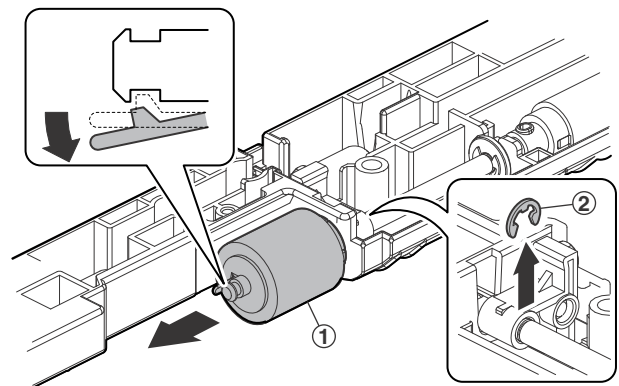
- 1) Remove the E-ring, the gear, the parallel pin, and the baring. Remove the screw, and remove the paper feed lower unit.



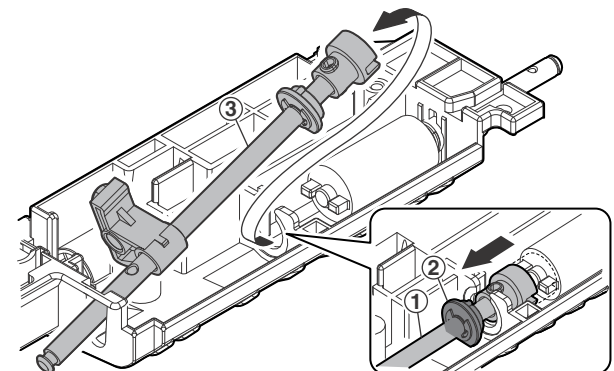
- 2) Remove the spring. Remove the screw, and remove the reinforcement plate. Remove the lever.



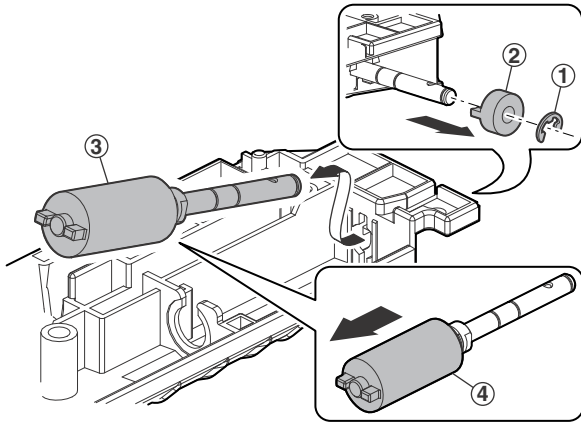
- 3) Remove the separation roller. Remove the E-ring.



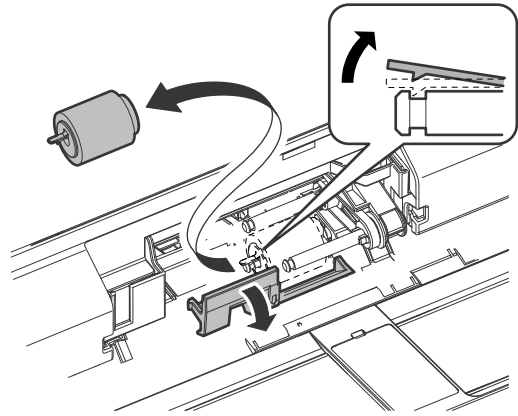
- 4) Shift the separation shaft, remove the bearing, and remove the separation shaft.



- 5) Remove the E-ring and the coupling. Remove the separation shaft, and remove the torque limiter.



- 3) Remove the cover. Remove the separation roller.

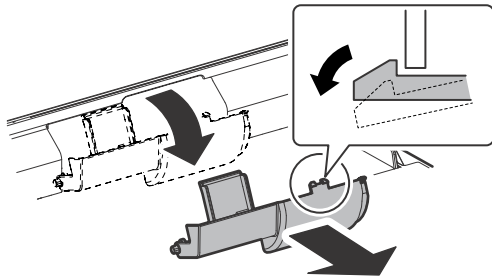


D. Manual paper feed section

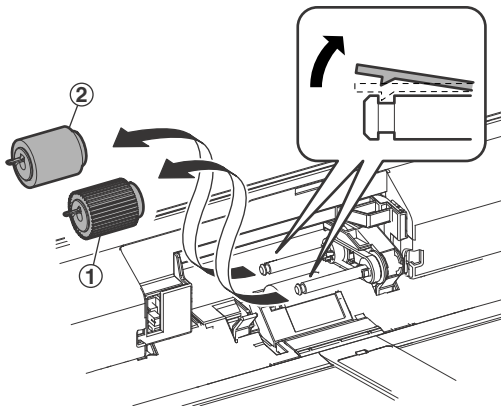
(1) Manual paper feed unit

a. Paper pickup roller, Paper feed roller, Separation roller

- 1) Remove the cover.

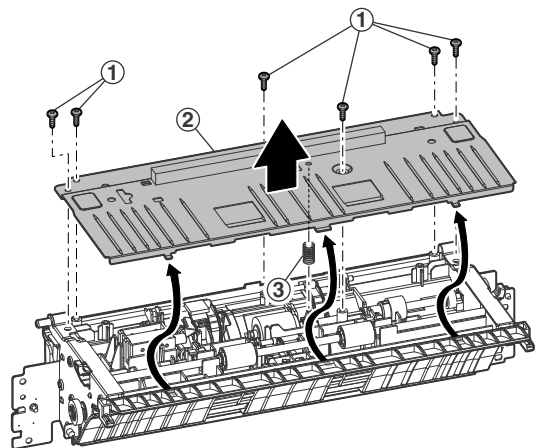


- 2) Remove the paper pickup roller and the paper feed roller.

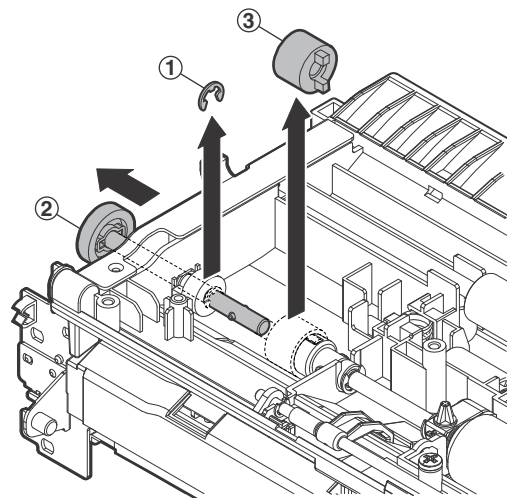


b. Torque limiter

- 1) Remove the screw, and remove the reinforcement plate. Remove the spring.

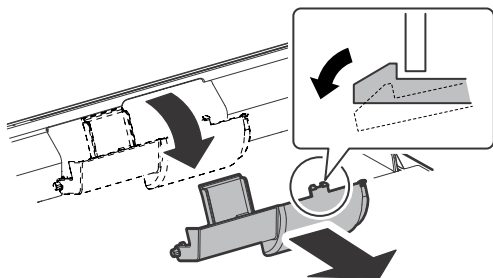


- 2) Remove the E-ring, and slide the shaft. Remove the torque limiter.

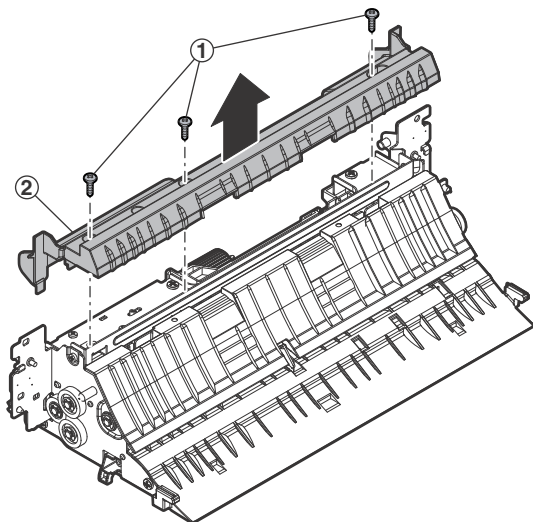


c. Transport roller 8

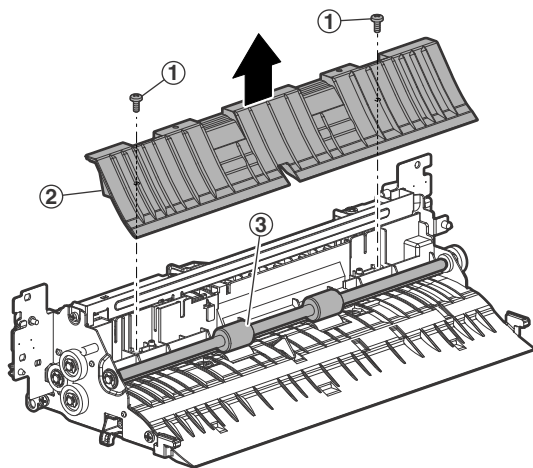
- 1) Remove the cover.



- 2) Remove the screw, and remove the paper guide.



- 3) Remove the screw, and remove the paper guide.
Clean the transport roller 8

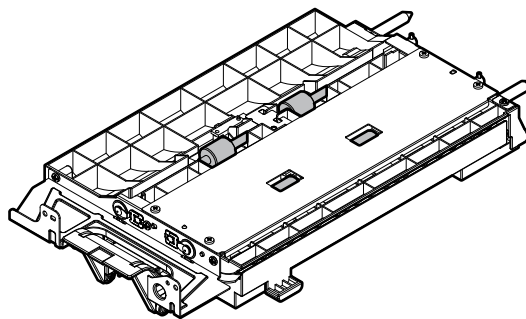


E. Paper transport section

(1) Interface unit

a. Transport roller 6, Transport roller 7

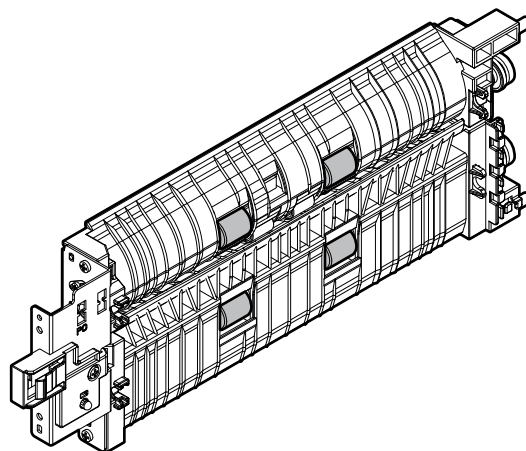
- 1) Clean the transport roller 6 and the transport roller 7.



(2) Vertical transport unit

a. Transport roller 11, Transport roller 12

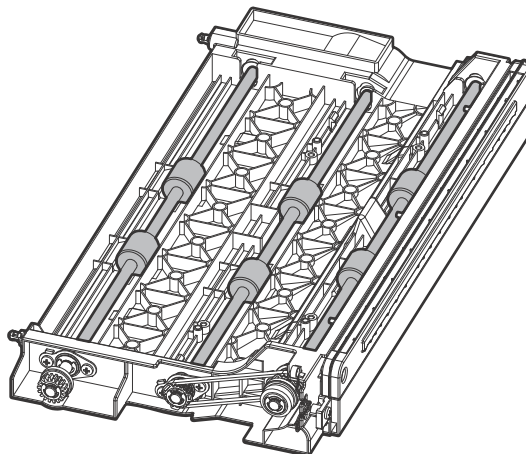
- 1) Clean the transport roller 11 and the transport roller 12.



(3) LCC transport unit

a. Transport roller 14, Transport roller 15, Transport roller 16

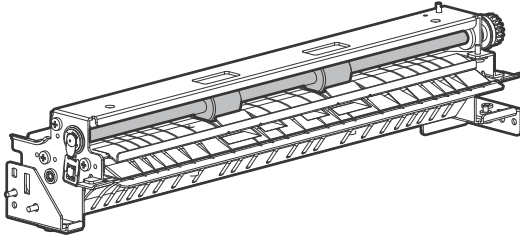
- 1) Clean the transport roller 14 and the transport roller 15 and the transport roller 16.



(4) PS lower unit

a. Transport roller 13

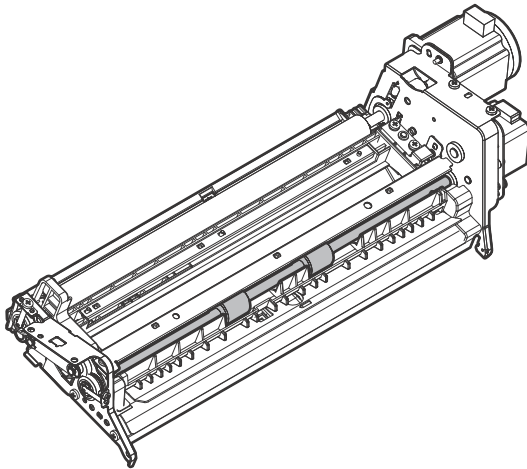
- 1) Clean the transport roller 13.



(5) PS unit

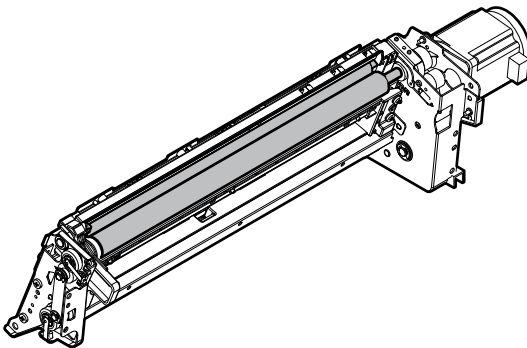
a. Transport roller 17

- 1) Clean the transport roller 17.



b. Registration roller (Drive), Registration roller (Idle)

- 1) Clean the registration roller (Drive) and the registration roller (Idle).

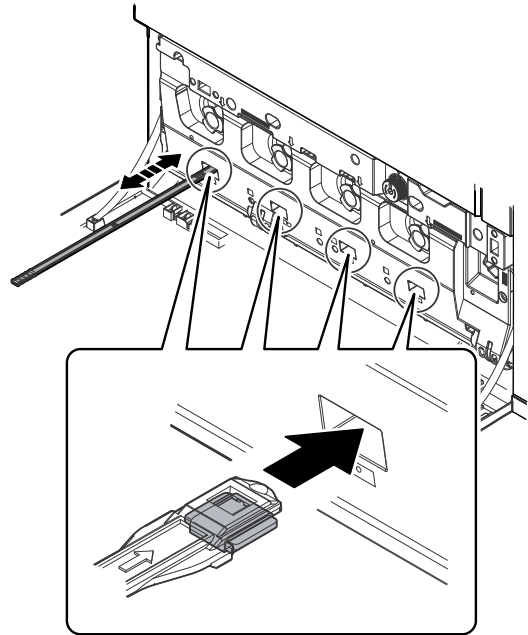


F. LSU section

(1) LSU

a. Dust-proof glass

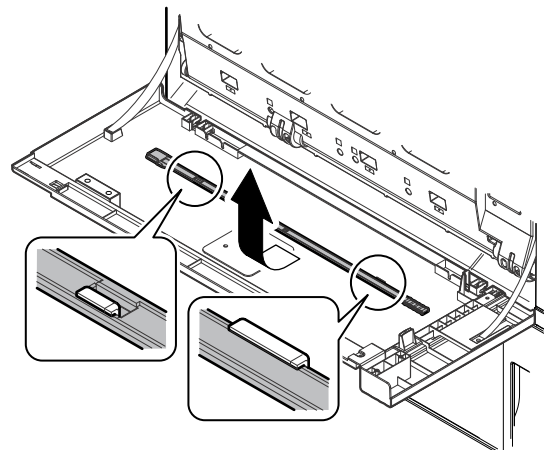
- 1) Open the front cover.
- 2) Insert the LSU cleaning rod into the LSU cleaning hole with the cleaning base faced downward, and clean the dust-proof glass.



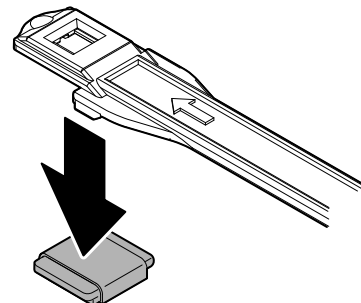
(2) LSU cleaning rod

a. Cleaning base

- 1) Open the front cover.
- 2) Remove the LSU cleaning rod from the front cover.



- 3) Remove the cleaning base from the lead edge of the LSU cleaning rod.



G. Developing section

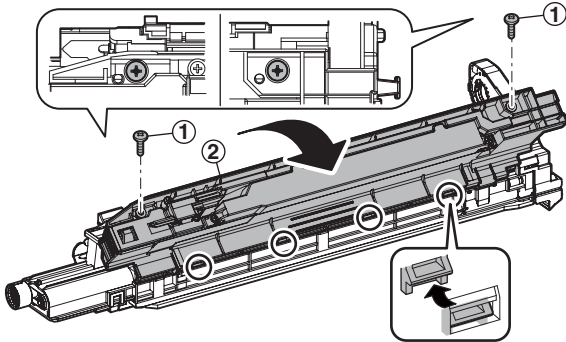
(1) Development unit

a. Developer

CAUTION: Always keep the DV unit with developer in it horizontal when handling.

Since this unit employs the developer refresh method, if the DV unit is tilted, developer may fall into the waste toner transport section because of its structure.

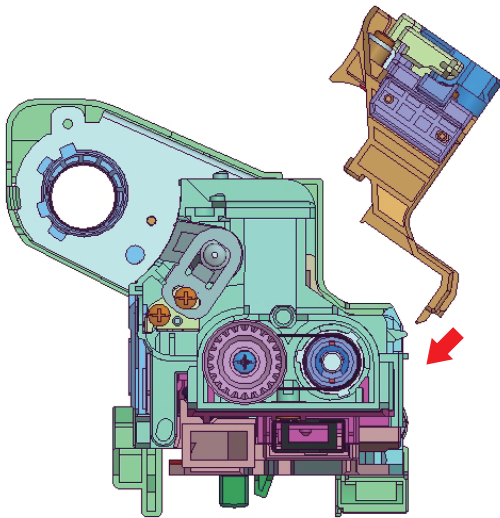
- 1) Remove the screw, and remove the DV cover.



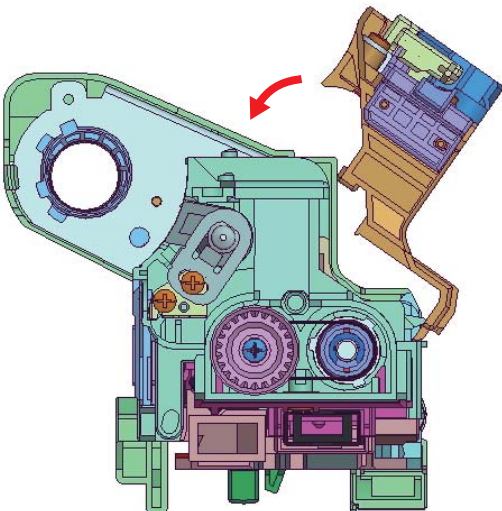
[Note for attaching the DV cover]

When attaching the DV cover, be careful of the following items:

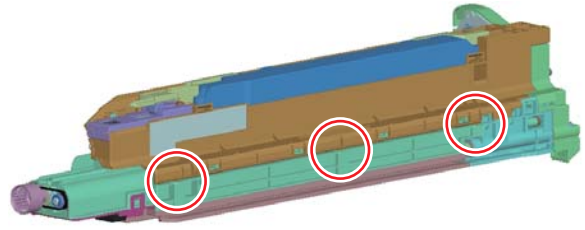
1. Insert the convex portion in the angle shown below.



2. Turn the cover to attach.

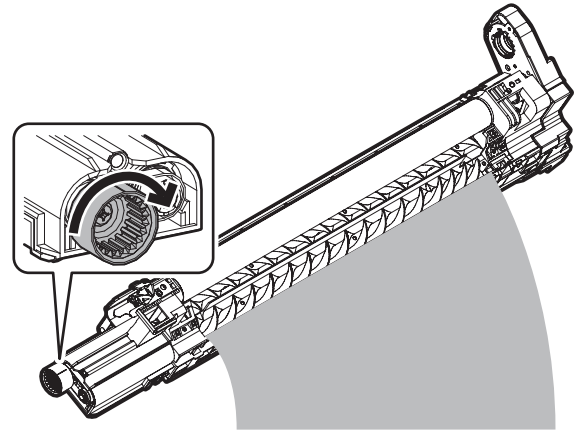


3. Check to confirm that three convex portions are securely engaged.



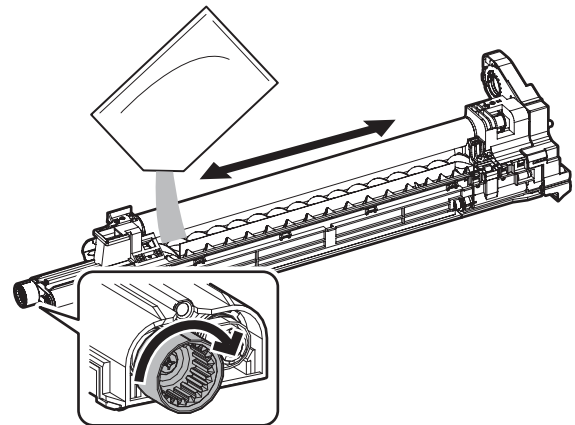
- 2) Discharge old developer from the DV unit.

CAUTION: When discharging developer, rotate the coupling pulley in the rear side of the DV unit in the arrow direction while the operation.



- 3) Supply new developer into the DV unit.

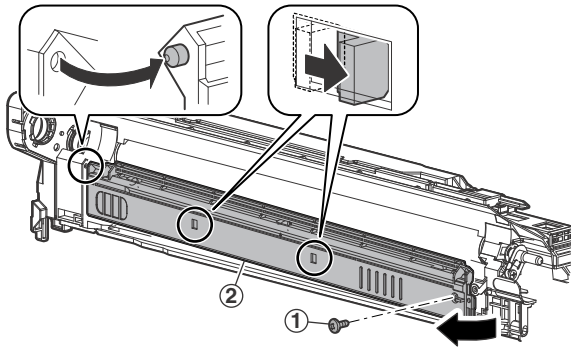
CAUTION: When supplying developer, rotate the coupling pulley in the rear side of the DV unit in the arrow direction while the operation.



b. DV blade

- 1) Remove the screw, and remove the DV doctor cover.

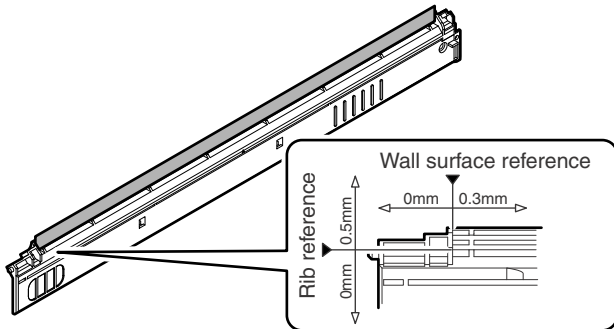
CAUTION: When installing, check to confirm that the hook of the DV doctor cover is securely engaged with the positioning boss.



- 2) Check the DV blade.

CAUTION: When replacing the DV blade, attach it to the attachment reference.

CAUTION: After attaching the DV blade, check the DV blade for any deformation or wavering.

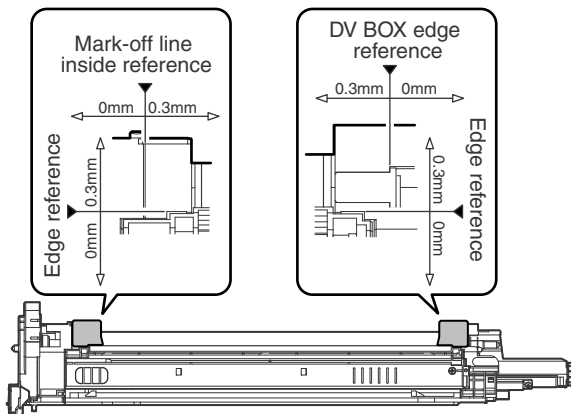


c. DV side seals F/R

- 1) Check the DV side seals F/R.

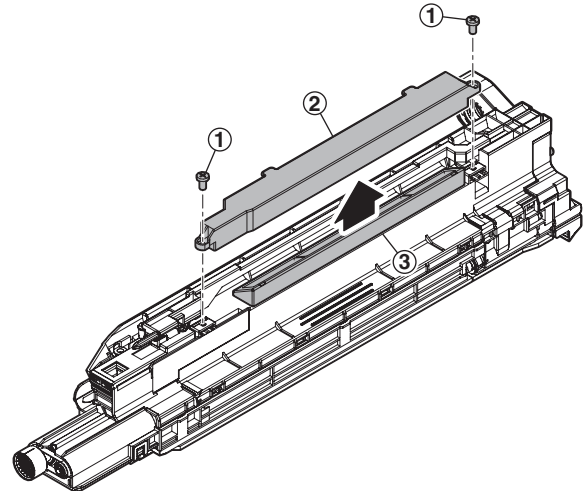
CAUTION: When replacing the DV side seals F/R, attach them to the attachment references.

CAUTION: When attaching the DV side seals F/R, be careful not to cover the DV blade with the DV side seals.

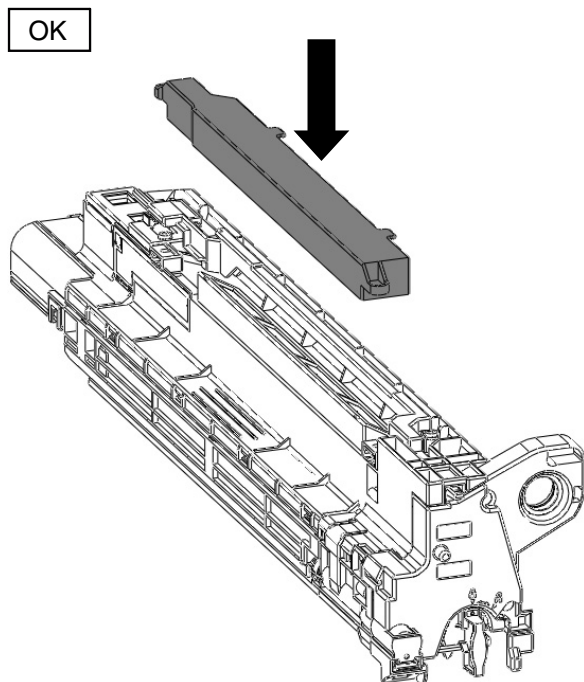


d. Toner filter

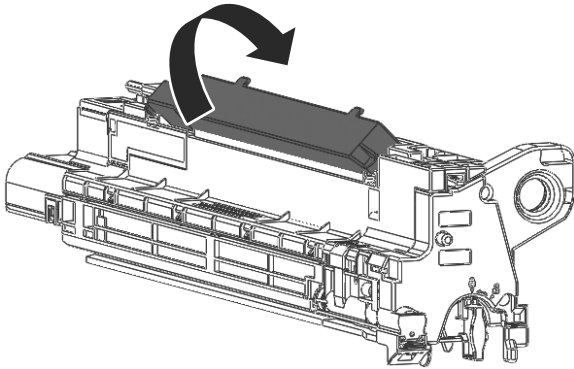
- 1) Remove the screw, and remove the filter cover. Remove the filter holder.



CAUTION: When attaching the filter cover, do not rotate but attach straight from the top. (See the figure below.)



NG



H. OPC drum section

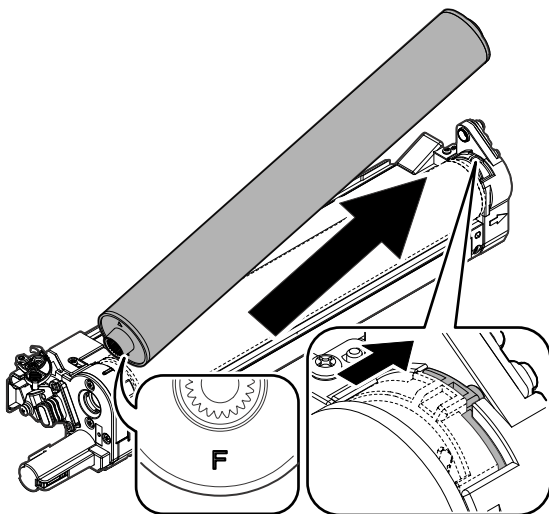
(1) OPC drum unit

a. Drum

- 1) Release the lock, and remove the drum.

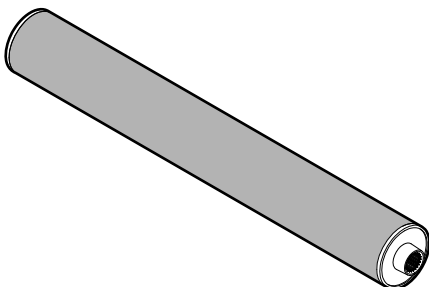
CAUTION: Since the drum has directional property, be careful not to mistake the installing direction when installing.

"F" mark is put on the drum front side.

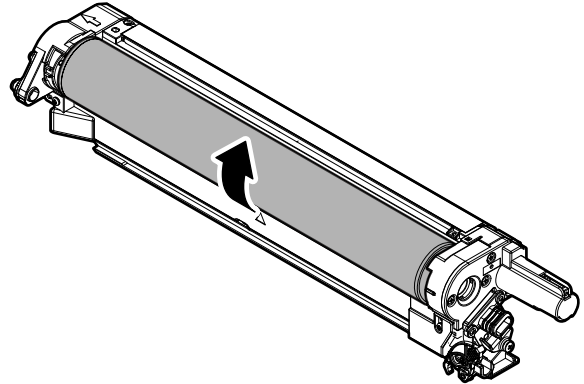


CAUTION: When the OPC drum is removed, perform the following procedures.

- 1) After removing the OPC drum, apply stearic acid powder (UKOG-0312FCZZ) to the whole surface of the OPC drum.

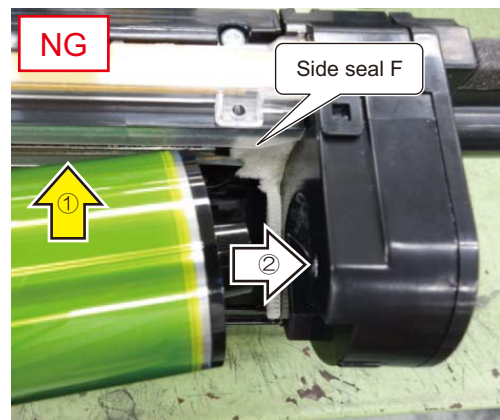


- 2) After attaching the OPC drum to the OPC drum frame, use the black protect sheet or copy paper, and manually rotate the OPC drum two turns in the forward direction to remove stearic acid powder applied to the OPC drum surface.

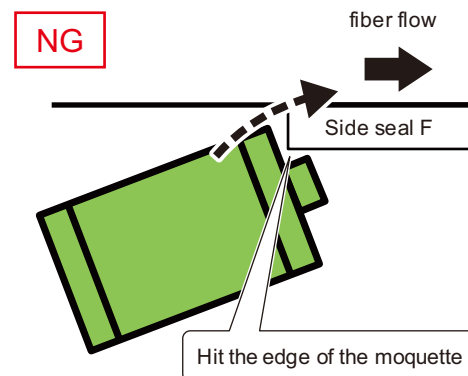


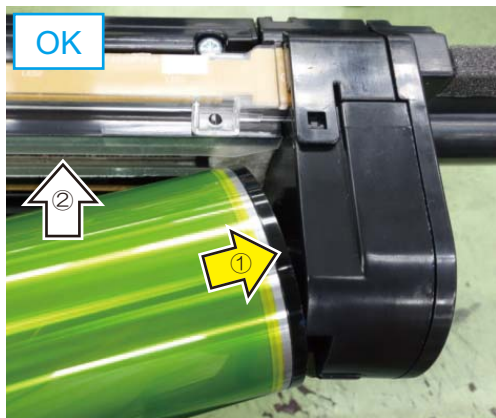
- Do not touch the OPC drum surface except for the both ends (5mm) of the OPC drum.
- Any section of the OPC drum may be touched from above the black protect sheet, but do not touch too strongly.

NOTE: When installing the drum, push the drum after inserting the F-side drum flange into the Process UN so as not to reverse the fiber flow of the side seal F.

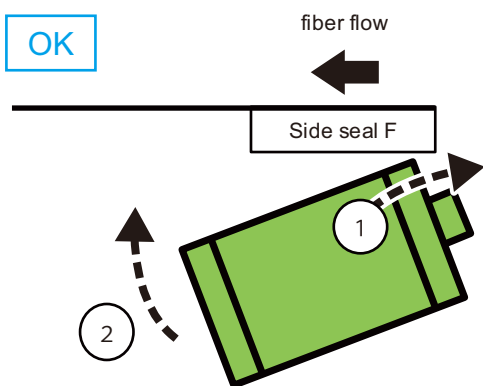


- 1) Before inserting the F-side drum flange into the process UN,
- 2) slide it sideways to deform the fiber flow of the side seal.



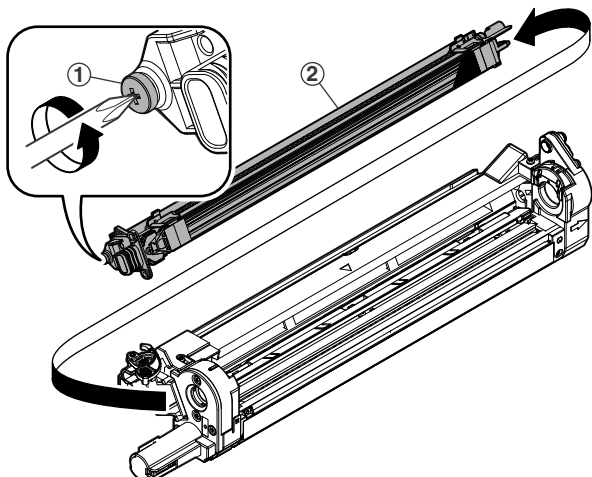


- 1) After inserting the F-side drum flange into the process UN,
- 2) push the drum.



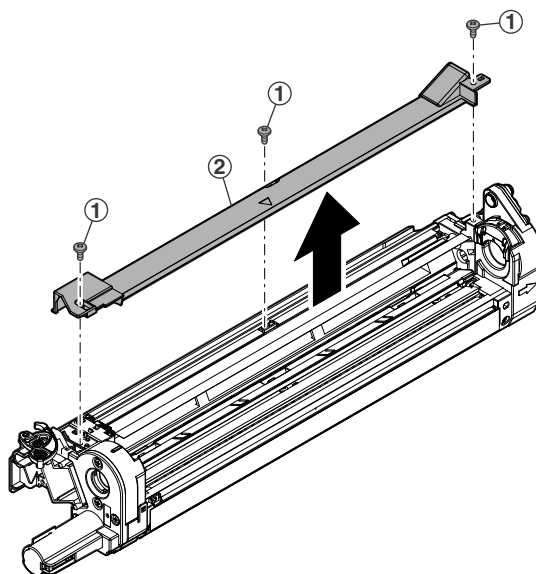
b. MC unit

- 1) Remove the drum.
 - 2) Remove the screw, and remove the MC unit.
- * When removing the MC unit only, there is no need to remove the drum.



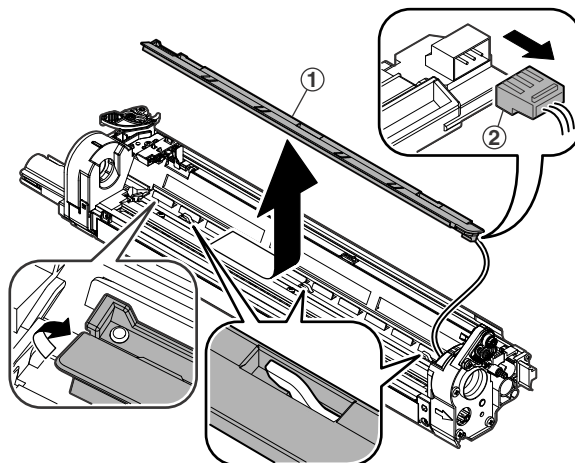
c. DL unit, Cleaner blade

- 1) Remove the MC unit.
- 2) Remove the drum.
- 3) Remove the screw, and remove the MC cover.



- 4) Remove the DL unit, and disconnect the connector from the DL unit.

CAUTION: When installing, check to confirm that the hook of the DL unit is securely engaged with the positioning boss.

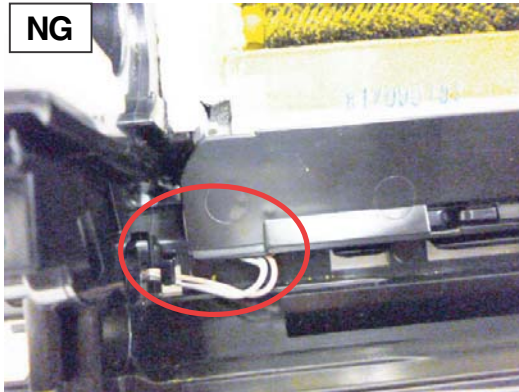
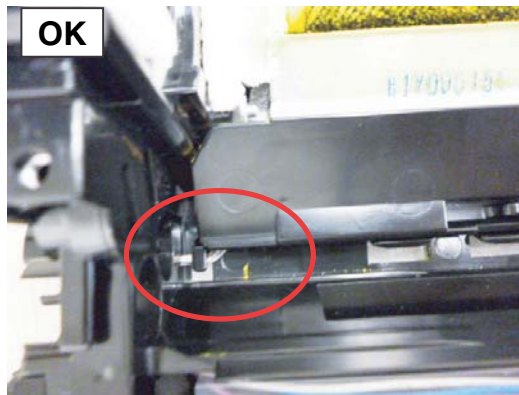


CAUTION: Arrange the harness as shown below.

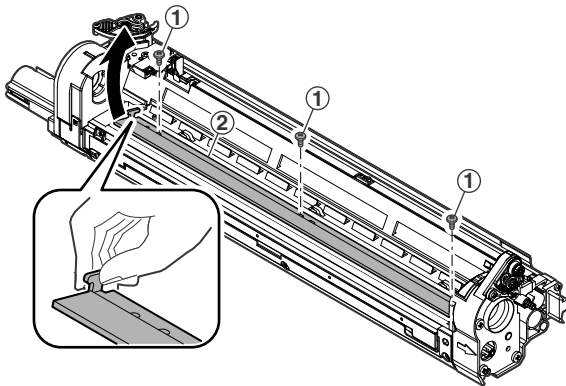
- 1) Bend the harness as shown below.



When attaching the cover, refer to the figure below.

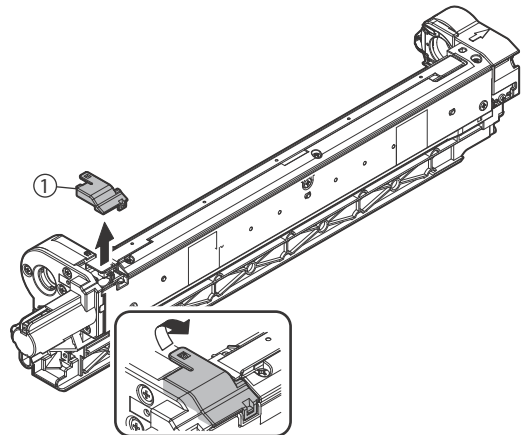


- 5) Remove the screw, hold the projection of the cleaner blade, and remove it.



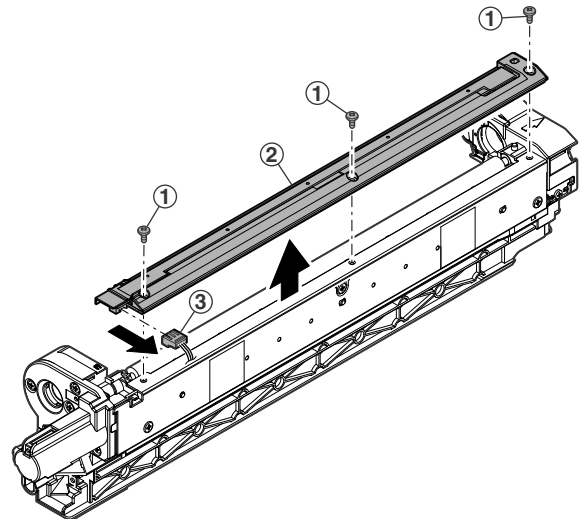
d. TCDL unit, Toner reception sheet, Side seals F/R

- 1) Remove the MC unit.
- 2) Remove the drum.
- 3) Remove the harness cover.



- 4) Remove the screw, and remove the TCDL unit. Disconnect the connector from the TCDL unit.

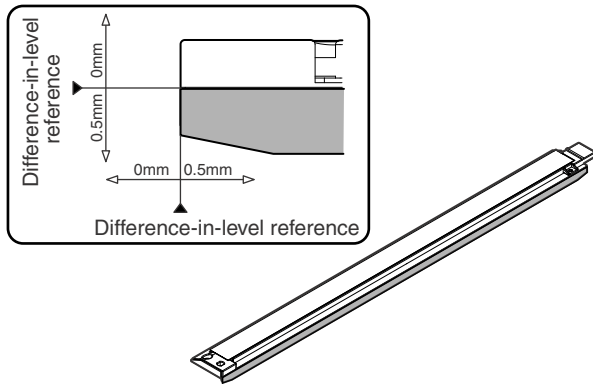
CAUTION: When the side seals F and R and the toner reception sheet are replaced, this procedure is not required.



5) Check the toner reception sheet.

CAUTION: When replacing the toner reception sheet, attach it to the attachment reference of the toner reception cover.

CAUTION: When replacing the toner reception sheet, it is not required to remove the toner reception cover.



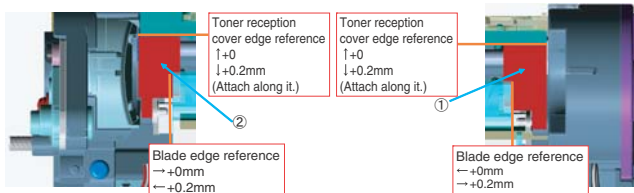
6) Check the side seals F/R.

CAUTION: When replacing the side seals F and R, it is not required to remove the toner reception cover.

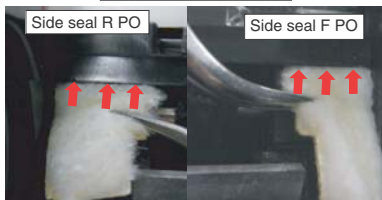
CAUTION: When there is a clearance in the edge section of the side seals after replacing the blade and when the side seal is replaced, attach the seal to the attachment reference.

Also attach so that the rubber section of the cleaner blade does not interfere with the side seal when the rubber section is pushed in.

Be careful not to step on the toner reception sheet. Especially when the side seals are replaced without changing the toner reception sheet, turn over the toner reception sheet and attach the seals as shown in the figure below.



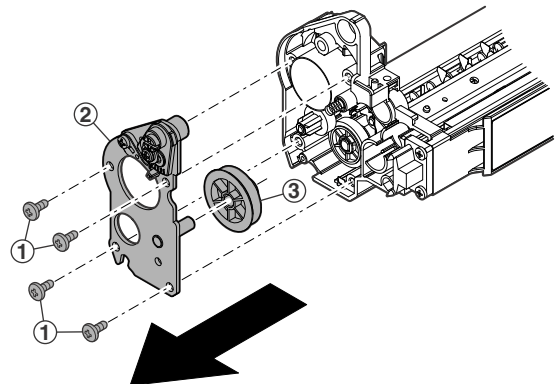
Sample of attachment



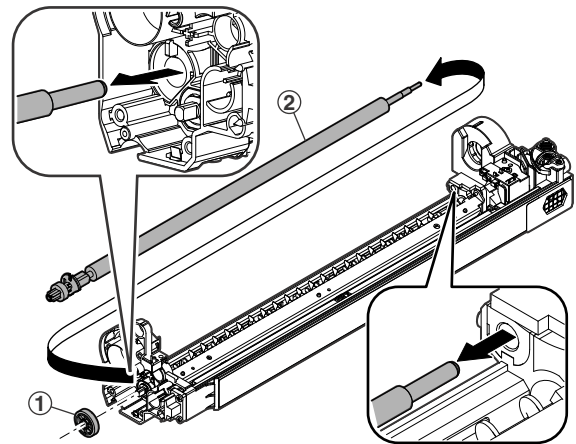
* When attaching the side moltopren, attach it by pushing it onto the side of the toner reception cover.

e. Cleaning brush

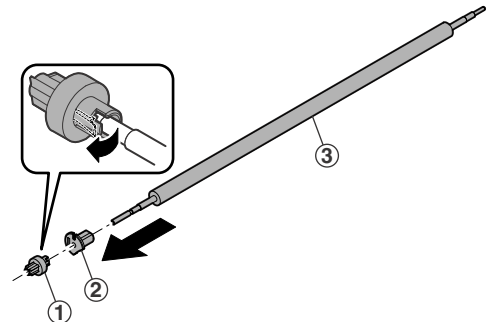
- 1) Remove the MC unit.
- 2) Remove the drum.
- 3) Remove the side seals R.
- 4) Remove the screw, and remove the plate and the gear.



5) Remove the screw, and remove the cleaning brush.



6) Remove the coupling and the bearing from the cleaning brush.



Note for servicing the OPC drums

1. Prevent contamination

Note

- Be careful not to leave fingerprints or oily dirt on the OPC drum surface. (Keep the unit away from oils and dust.)
- When replacing the OPC drum, cover the OPC drum with the protection sheet and hold the protection sheet.

If it is required to hold the OPC drum directly, use enough care not to touch the cleaning blade area, 5mm inside from both edges of the OPC drum. (If a fingerprint or oily dirt is attached to the cleaning blade area of the OPC drum, the cleaning blade may flip.)

Countermeasures

If a fingerprint is attached to the OPC drum surface erroneously, perform the following countermeasures.

- 1) Use dry cloth to clean and remove the dirt.
- 2) Apply stearic acid powder to prevent blade flip.

Check method

Check to confirm that the OPC drum is free from fingerprints or oily dirt and that the cleaning blade is completely cleaned by the following method.

- Make a print of a half tone image on all the surface of A4 (11" x 8.5") paper, and check the printed paper for any abnormality in the image.

2. Prior exposure prevention

Note

- Avoid servicing in a place where there is strong light.
- Do not expose the unit to light for a long time.
- Cover the OPC drum with light-blocking material. (When using paper, use about 10 sheets of paper to block light.)

Countermeasures

If the OPC drum is erroneously exposed to light too much (prior exposure), perform the following countermeasures.

- 1) Print half tone images on the whole surface of A4 (11" x 8.5") paper, and check to confirm that there is no irregular density area in the previously exposed section.
- 2) If the OPC drum is subject to stress by being exposed to strong light, it may be recovered by leaving it in a dark and cool place.

If it may not be recovered, replace it with a new one.

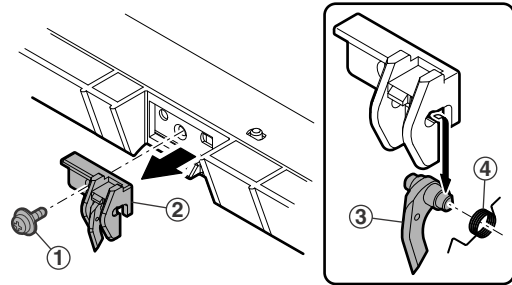
I. Transfer section

(1) Primary transfer unit

a. Transfer separation pawl

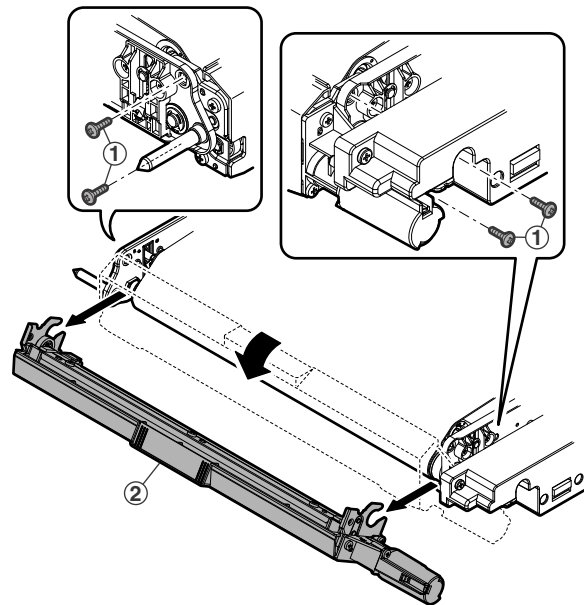
- 1) Remove the screw, and remove the holder. Remove the separation pawl and the spring from the holder.

CAUTION: When removing and installing, be careful not to scratch the transfer belt with the separation pawl.

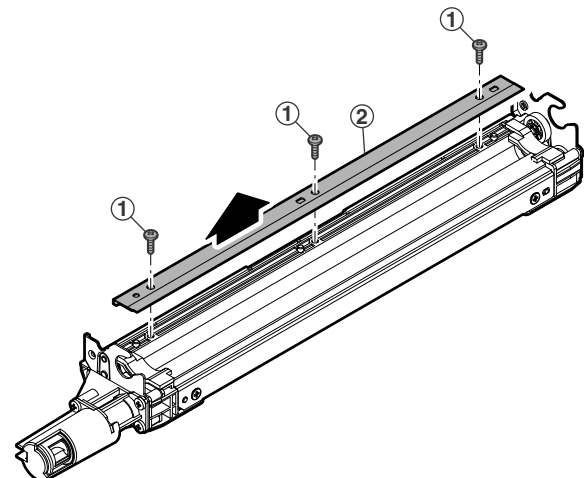


b. Primary transfer toner reception seal

- 1) Remove the screw, rotate the primary transfer cleaner unit and remove it.



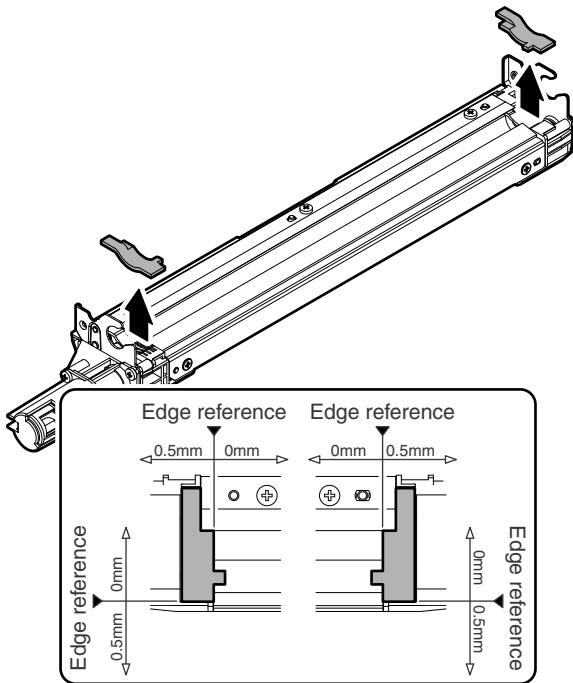
- 2) Remove the screw, and remove the primary transfer toner reception seal.



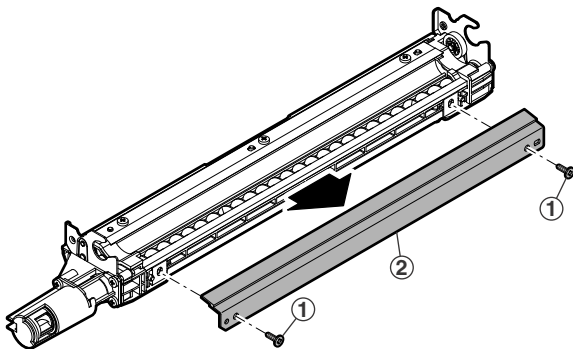
c. Primary transfer cleaner seal F/R, Primary transfer cleaner blade.

- 1) Remove the primary transfer cleaner unit.
- 2) Remove the primary transfer cleaner seal F/R.

CAUTION: When replacing the primary transfer cleaner seals F/R, attach them to the attachment reference.



- 3) Remove the screw, and remove the primary transfer cleaner blade.

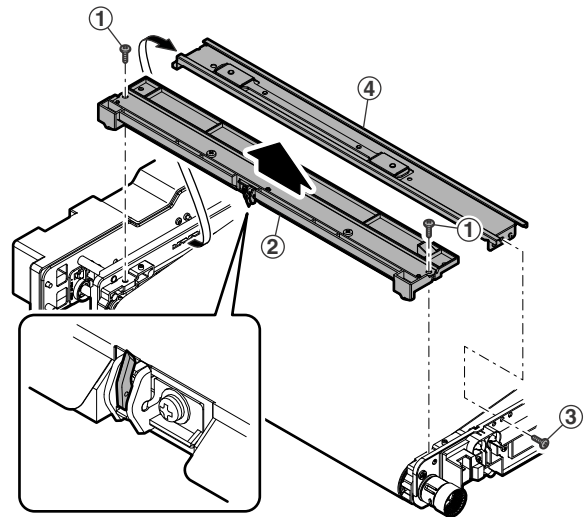


d. Primary transfer belt

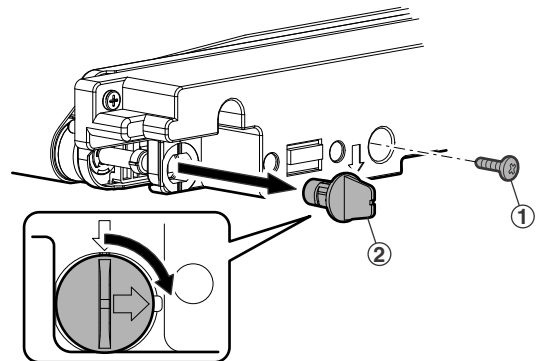
- 1) Remove the primary transfer cleaner unit.
- 2) Remove the screw, and remove the separation pawl unit. Remove the screw, and remove the guide rail.

CAUTION: When removing and installing, be careful not to scratch the transfer belt with the separation pawl.

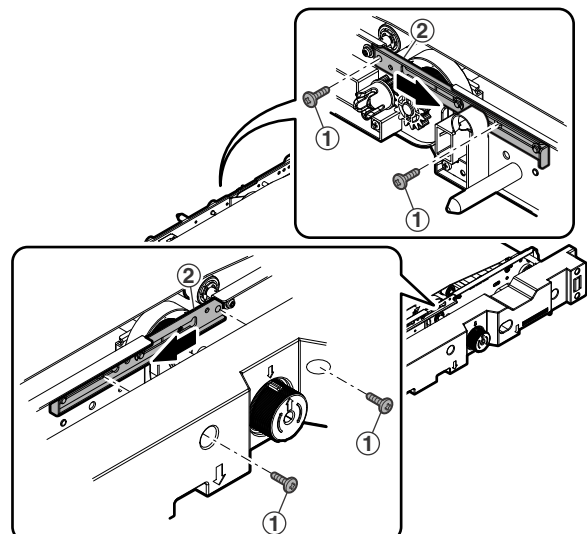
CAUTION: When putting the separation pawl unit on a flat surface, put it with the separation pawl facing upward in order to prevent against damage on the lead edge of the separation pawl.



- 3) Remove the screw on the front side of the primary transfer unit. Turn the bearing 90° to rotate.



- 4) Remove the screw, and slide the plate.

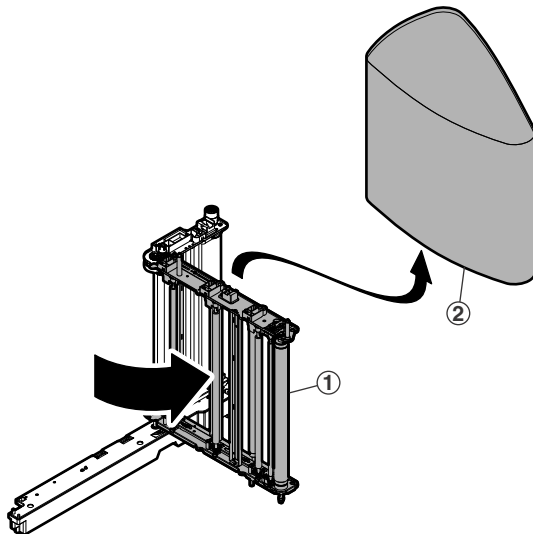


- 5) Fold the primary transfer unit 90° to remove the primary transfer belt.

CAUTION: Handle the primary transfer belt not to damage it. Also do not touch the surface of the primary transfer belt with bare hands.

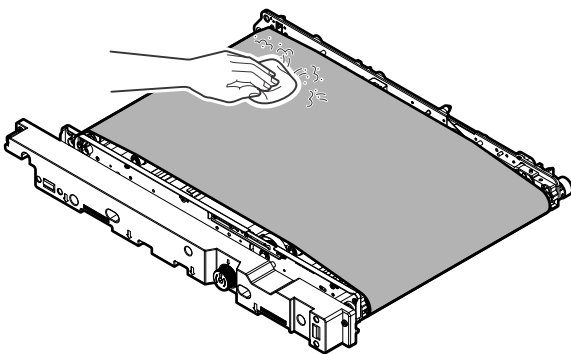
CAUTION: Install so that the lot number printed surface the primary transfer belt comes on the rear side.

CAUTION: When installing, check to confirm that the both ends of the primary transfer belt are not positioned over the transfer guide.

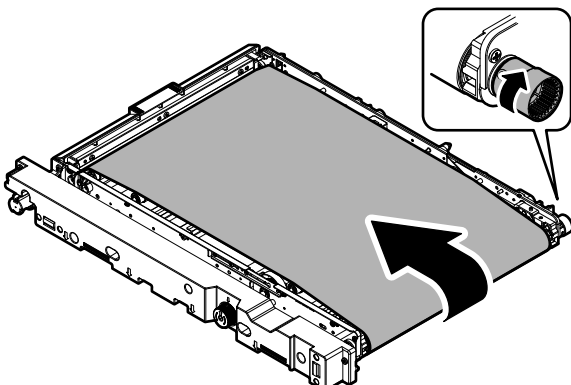


CAUTION: After replacement of the primary transfer belt, perform the following procedures.

- 1) With the primary transfer cleaner unit removed, apply yellow powder (CKOG-0345DS51) to the whole surface of the primary transfer belt.

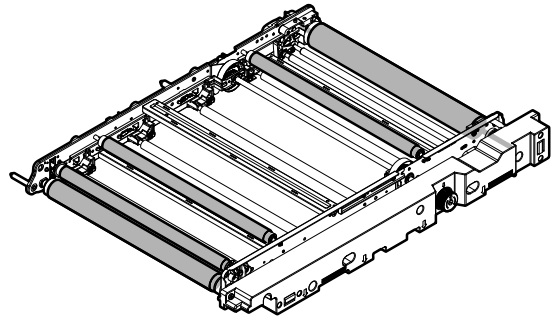


- 2) Attach the primary transfer cleaner unit.
- 3) Manually rotate the transfer belt drive gear to remove yellow powder from the primary transfer belt clearly.



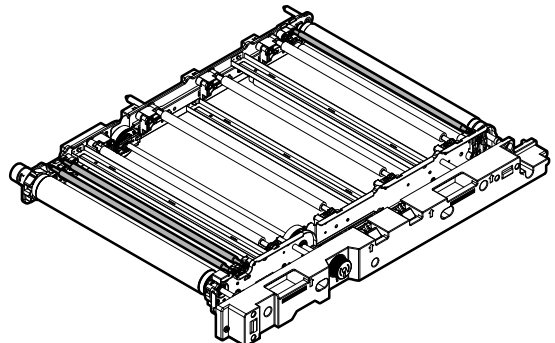
e. Primary transfer belt drive roller, Primary transfer belt follower roller, Primary transfer belt tension roller, Primary transfer belt idle roller

- 1) Remove the primary transfer belt.
- 2) Clean the primary transfer belt drive roller, the primary transfer belt follower roller, the primary transfer belt tension roller, and the primary transfer belt idle roller.



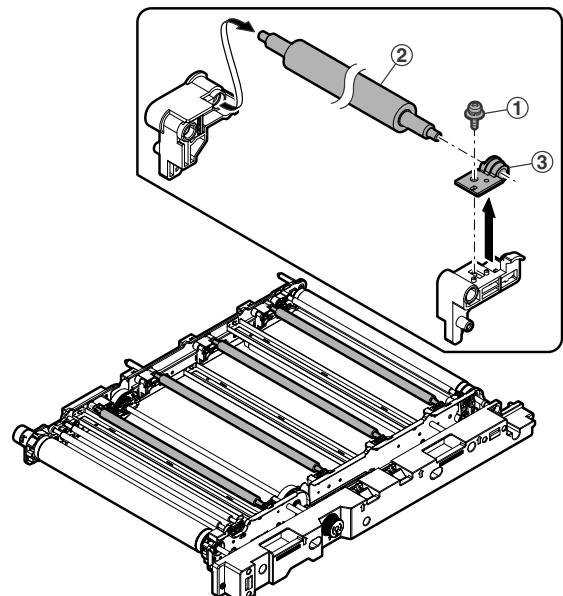
f. PTC-opposing roller, registration backup roller, Y support roller

- 1) Remove the primary transfer belt.
- 2) Turn back the primary transfer unit.
Clean the PTC-opposing roller, the registration backup roller, and the Y support roller.



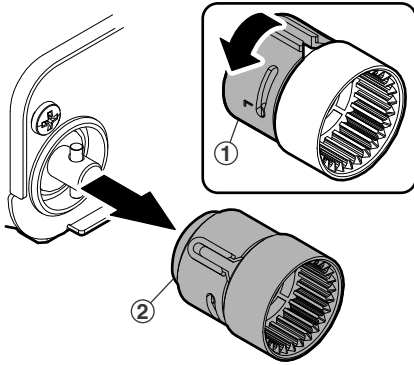
g. Primary transfer roller

- 1) Remove the primary transfer belt.
- 2) Turn back the primary transfer unit.
Remove the screw, and remove the primary transfer roller. Remove the primary transfer roller from the holder.



h. Primary transfer belt drive gear

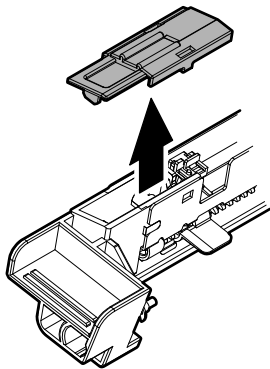
- 1) Turn the coupling lock 90° to remove the primary transfer belt drive gear.



(2) PTC unit

a. PTC cleaner B, PTC cleaner, Charger wire

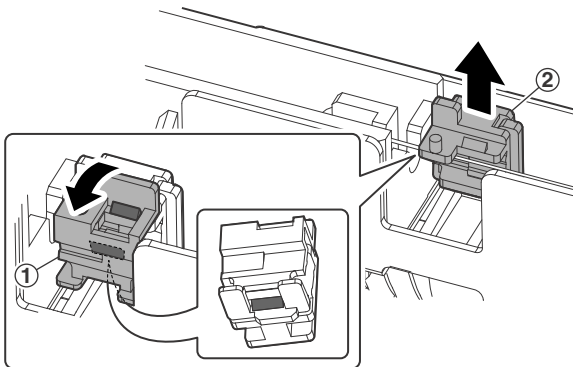
- 1) Remove the front side cover of the PTC unit.



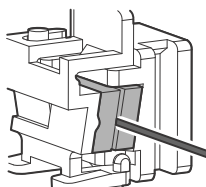
- 2) Remove the PTC cleaner B, and remove the PTC cleaner.

CAUTION: When removing and installing, be careful not to catch the PTC cleaner with the charger wire.

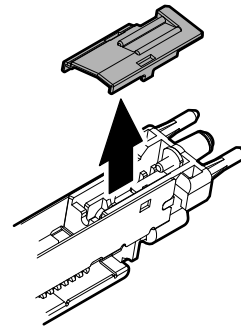
CAUTION: When installing the PTC cleaner B, check to confirm that the pawl of the PTC cleaner is securely engaged.



CAUTION: After installation, check to confirm that the charger wire is at the center of the cleaner pad.

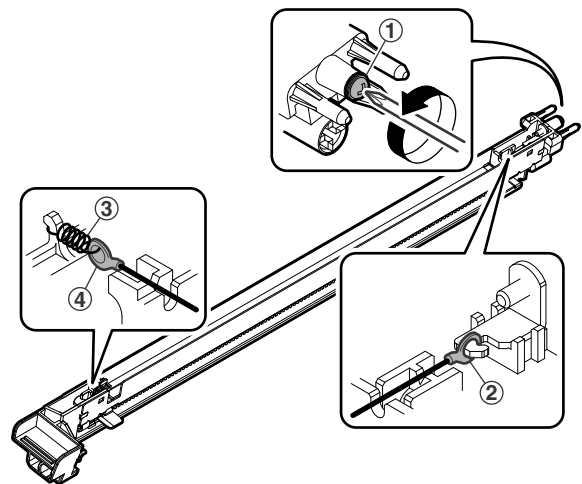


- 3) Remove the rear side cover of the PTC unit.



- 4) Loosen the screw, and remove the round terminal of the charger wire from the mounting plate. Remove the spring, and remove the charger wire.

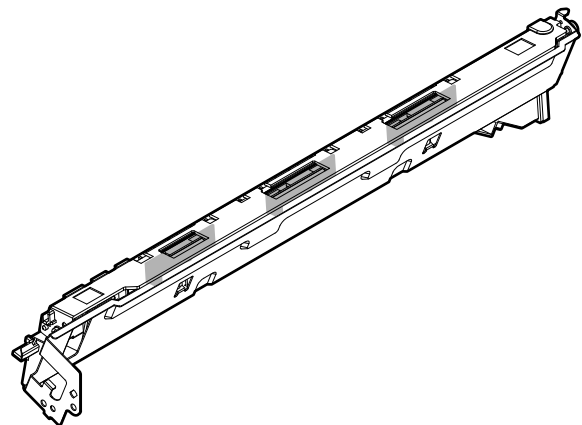
CAUTION: To handle the charger wire, hold the round terminal and do not touch the wire section directly. Be careful to keep the wire free from dirt, oil, or twist and bend.



(3) Registration sensor unit

a. Image registration/Density sensor

- 1) Open the shutter, and clean the image registration and the density sensor.

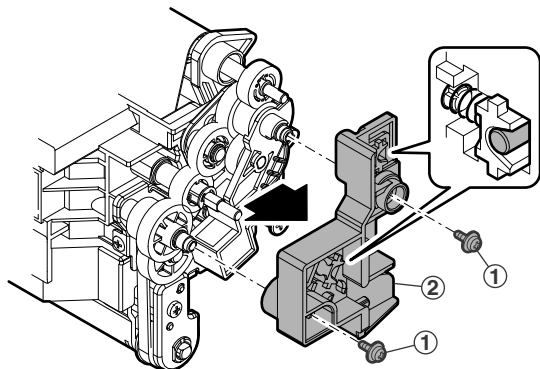


(4) Secondary transfer unit

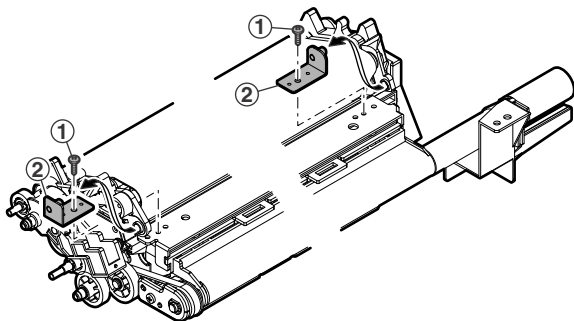
a. Secondary transfer belt follower roller, Secondary transfer belt

- 1) Remove the screw, and remove the electrode holder.

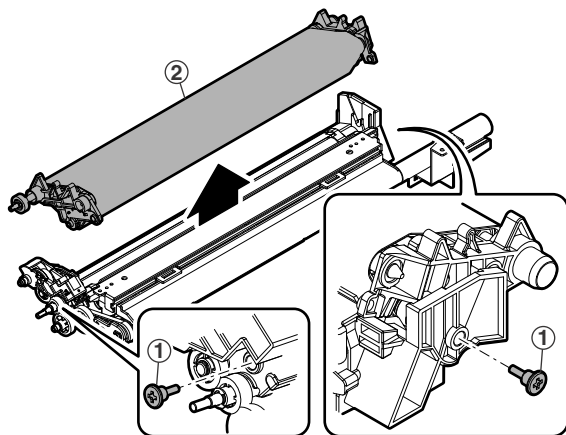
CAUTION: When attaching the electrode holder, check to confirm that the roller shaft is inserted into the bearing.



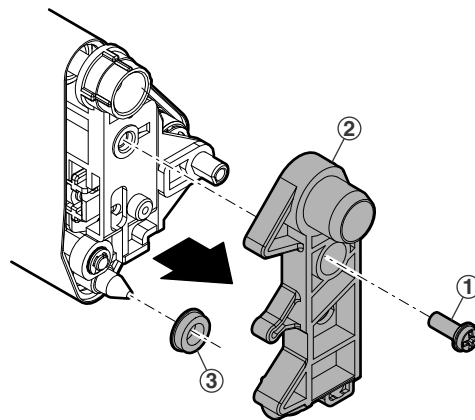
- 2) Remove the screw, and remove the positioning shaft.



- 3) Remove the step screw, and remove the secondary transfer belt unit.



- 4) Remove the screw, and remove the holder. Remove the bearing.

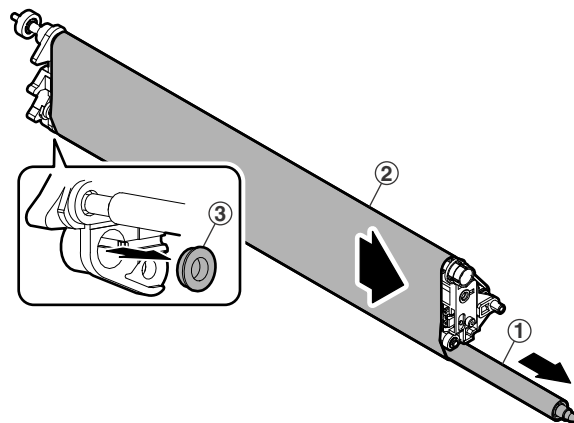


- 5) Remove the secondary transfer belt follower roller and the secondary transfer belt. Remove the bearing of the frame. Clean the secondary transfer belt follower roller and the secondary transfer belt.

CAUTION: When handling the transfer belt, use enough care to keep it free from scratches and dirt.

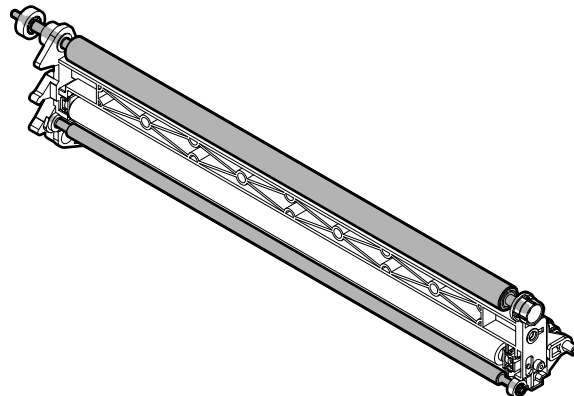
CAUTION: When installing, be careful not to bring the transfer belt in contact with the frame, etc., and not to break the transfer belt.

CAUTION: When attaching the secondary transfer belt follower roller, insert it from the vicinity of the secondary transfer belt contact roller.



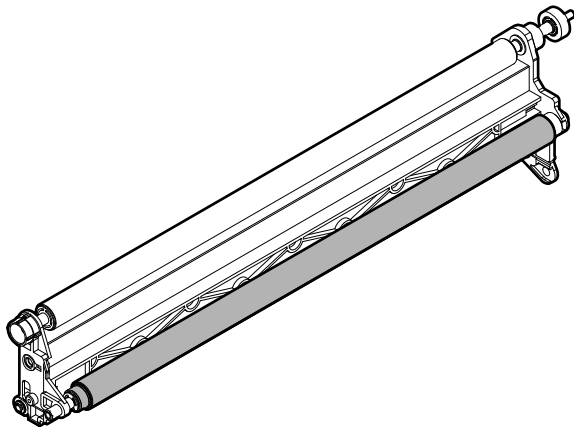
b. Secondary transfer belt drive roller, Secondary transfer belt backup roller, Secondary transfer blade contact roller

- 1) Remove the secondary transfer belt.
- 2) Clean the secondary transfer belt drive roller and the secondary transfer backup roller.



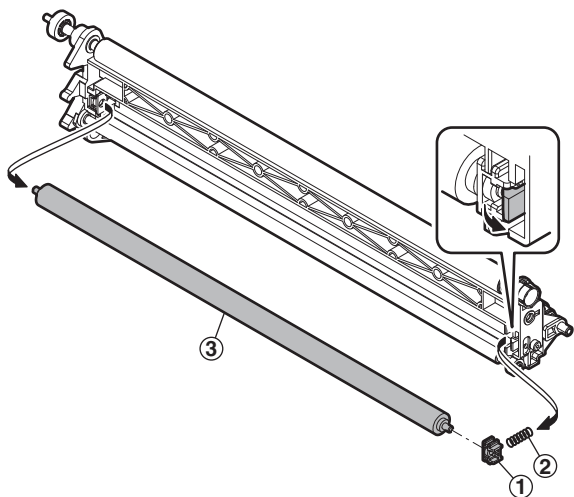
1 : '17/Apr.

- 3) Clean the secondary transfer blade contact roller.



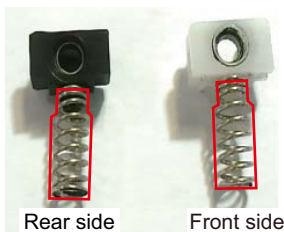
c. Secondary transfer roller

- 1) Remove the secondary transfer belt.
- 2) Remove the bearing and the spring, and remove the secondary transfer roller.



1

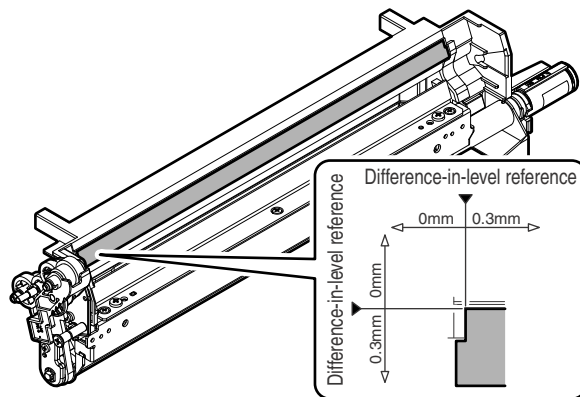
CAUTION: Spring has mounting direction.
Fit the spring in the boss of the bearing.



d. Secondary transfer toner reception seal

- 1) Remove the secondary transfer belt unit.
- 2) Check the secondary transfer reception seal.

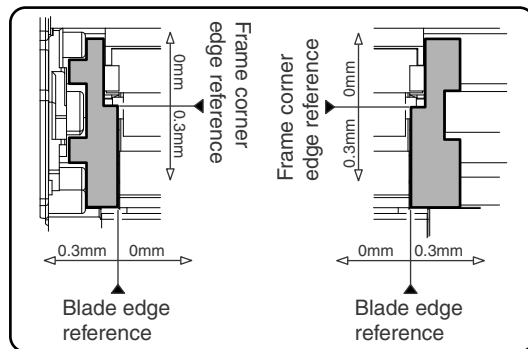
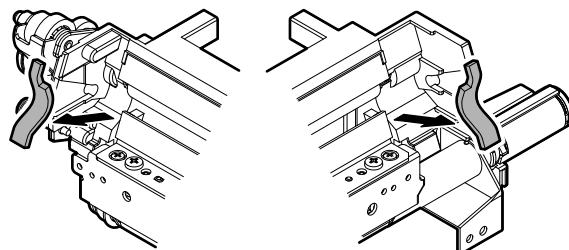
CAUTION: When replacing the secondary transfer toner reception seal, attach it to the attachment reference.



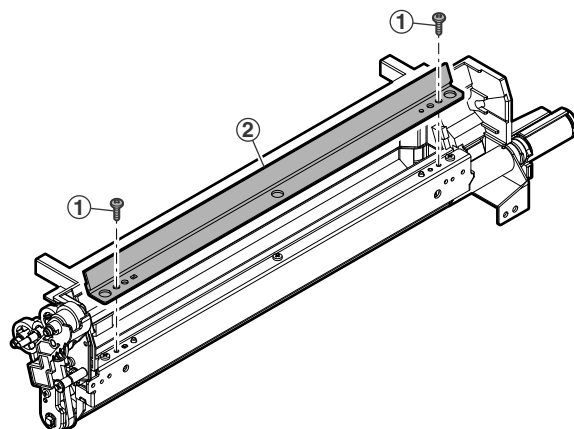
e. Secondary transfer cleaner seal F/R, Secondary transfer cleaner blade, Secondary transfer cleaning brush roller

- 1) Remove the secondary transfer belt unit.
- 2) Remove the secondary transfer cleaner seal F/R.

CAUTION: When replacing the secondary transfer cleaner seals F/R, attach them to the attachment reference. Also attach so that the secondary transfer cleaner seals F/R are not positioned over the secondary transfer cleaner blade.

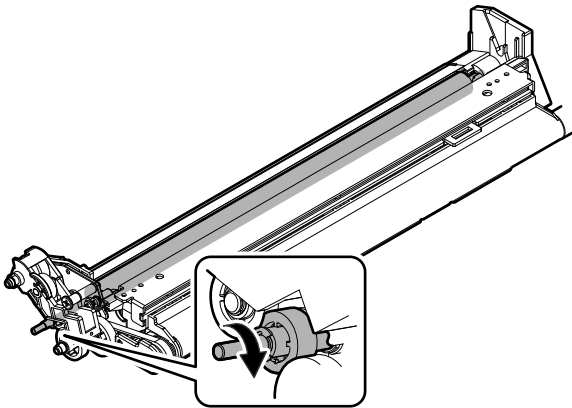


- 3) Remove the screw, and remove the secondary transfer cleaner blade.



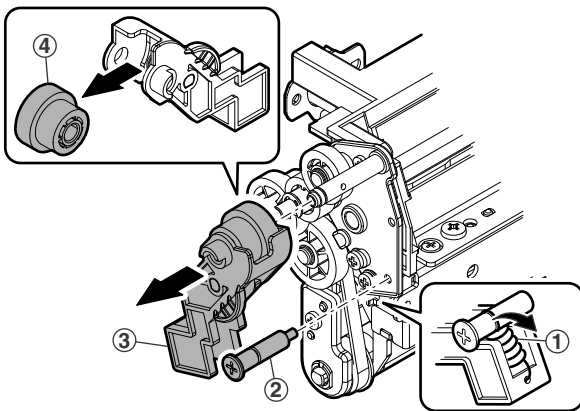
- 4) While rotating the secondary transfer cleaning brush roller in the arrow direction, clean it.

CAUTION: Do not rotate the secondary transfer cleaning brush roller in the reverse direction. If it is rotated reversely, the toner reception seal may be damaged.

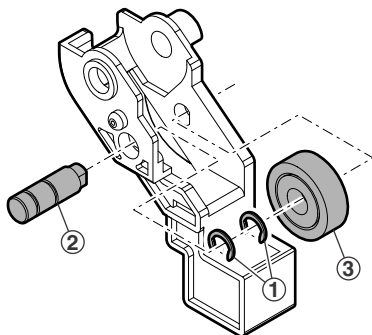


f. Secondary transfer idle gear

- 1) Remove the secondary transfer belt unit.
- 2) Remove the spring. Remove the step screw and the spring, and remove the gear holder. Remove the gear from the gear holder.



- 3) Remove the C-ring, and remove the shaft and the secondary transfer idle gear.



J. Fusing section

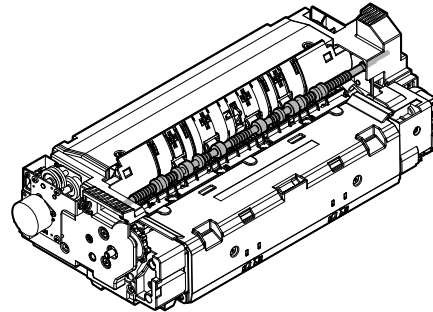
CAUTION: Handle the fusing belt unit integrally with the fusing unit case.

Never attach the fusing belt unit to another unit. If it should be attached to another unit, the meandering adjustment function of the fusing belt turns into an unbalanced state, resulting in breakage of the belt.

(1) Fusing unit

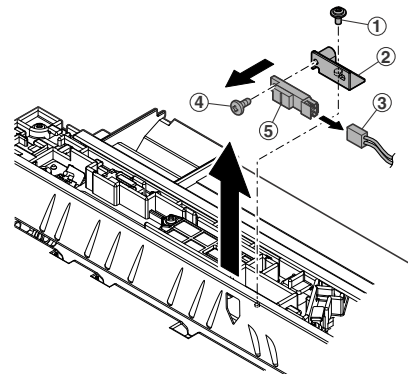
a. Transport roller 18

- 1) Clean the transport roller 18.



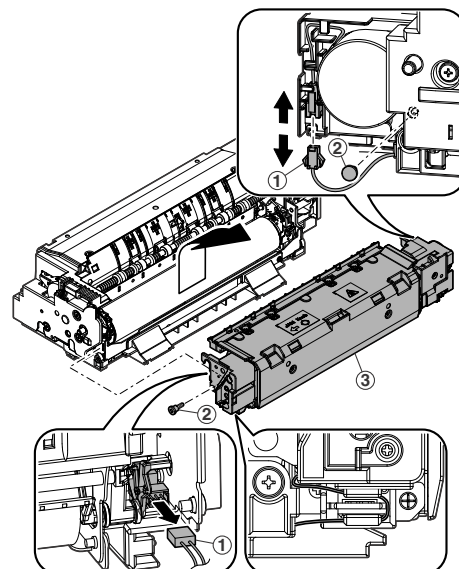
b. Fusing front paper pass detector

- 1) Remove the screw, and remove the mounting plate. Disconnect the connector and remove the screw, and remove the fusing front paper pass detector.

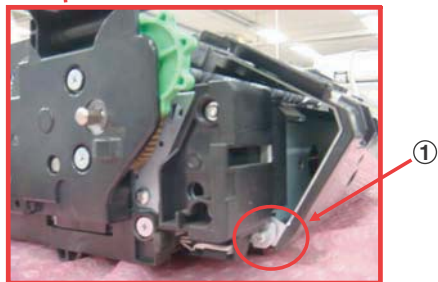
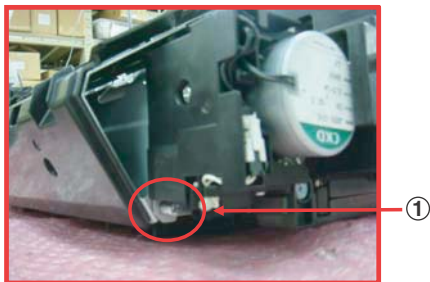


c. Web guide shaft, Web pressure roller bearing, Web pressure roller, Web roller

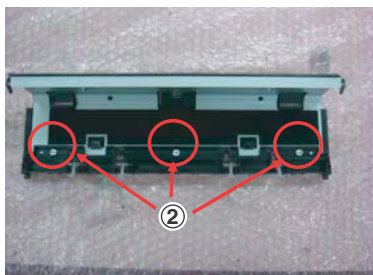
- 1) Disconnect the connector. Remove the screw, and remove the web unit.



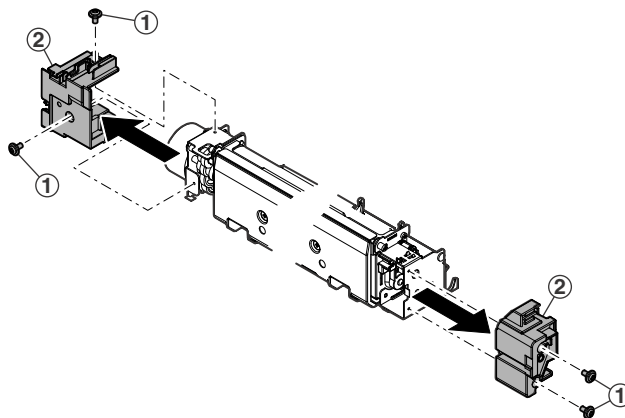
- 2) Remove the screws (①), and remove the rear lower paper guide.



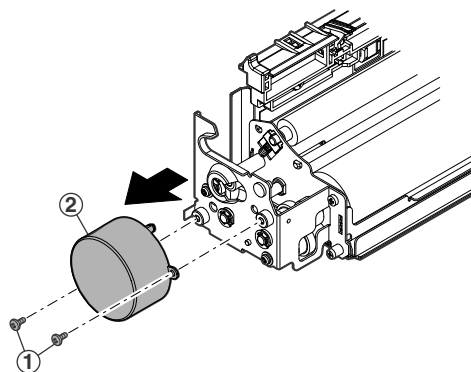
- 3) Remove the screws (②), and remove the lower separation pawl unit.



- 4) Remove the screw, and remove the cover.

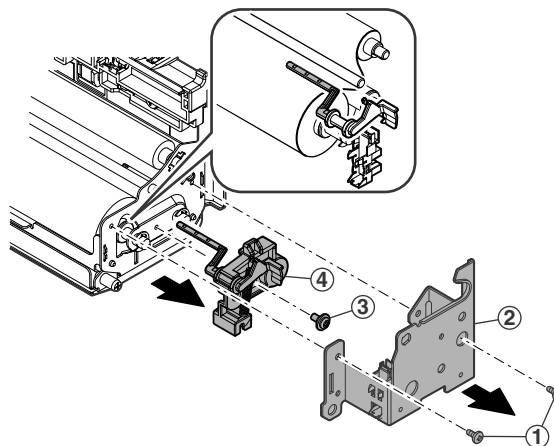


- 5) Remove the screw, and remove the web motor.



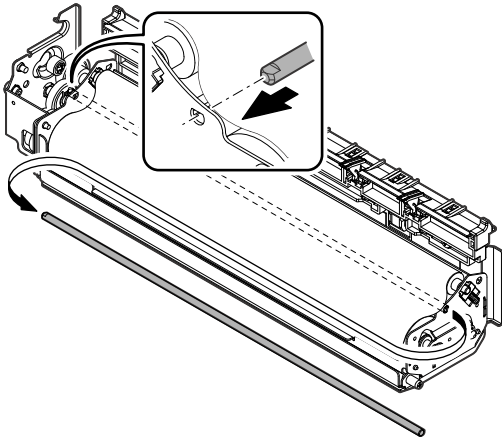
- 6) Remove the screw, and remove the frame. Remove the screw, and remove the holder.

CAUTION: When attaching the holder, adjust so that the actuator presses over the web roller sheet.

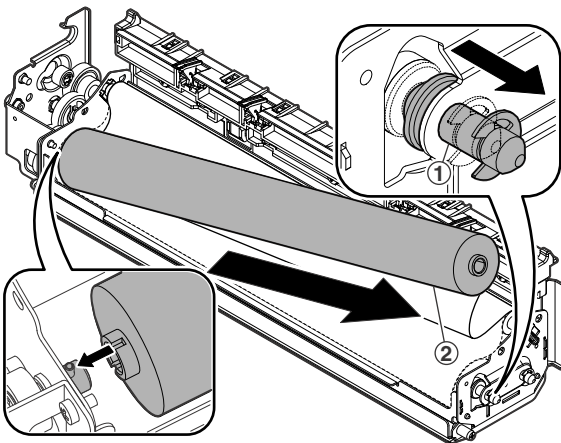


7) Remove the web guide shaft.

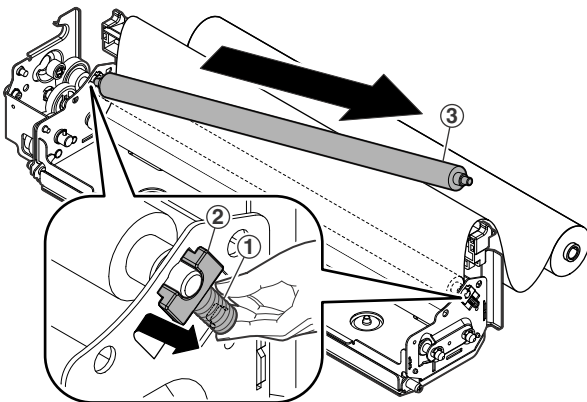
CAUTION: When installing, fit the web guide shaft with the D-cut of the mounting hole in the web guide shaft.



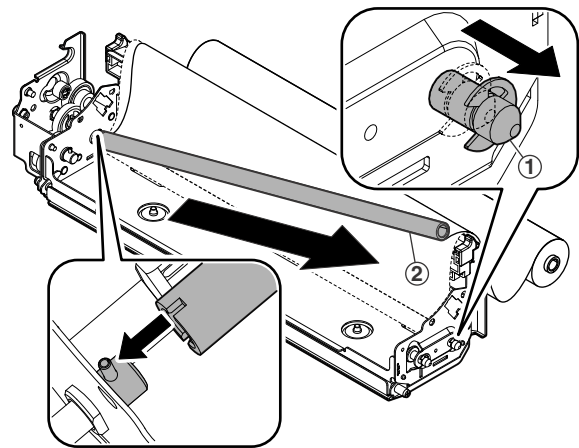
8) While pulling the web roller shaft, remove the web roller.



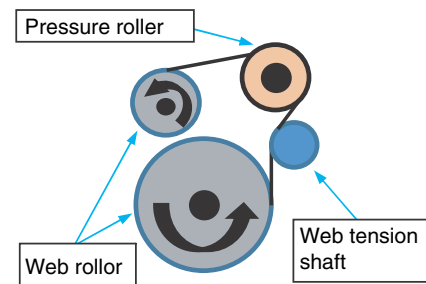
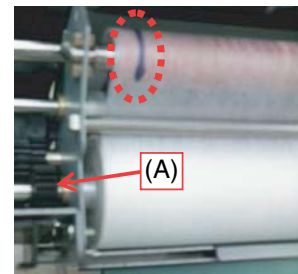
9) Remove the spring and the web pressure roller bearing, and remove the web pressure roller.



10) While pulling the web roller shaft, remove the web roller.

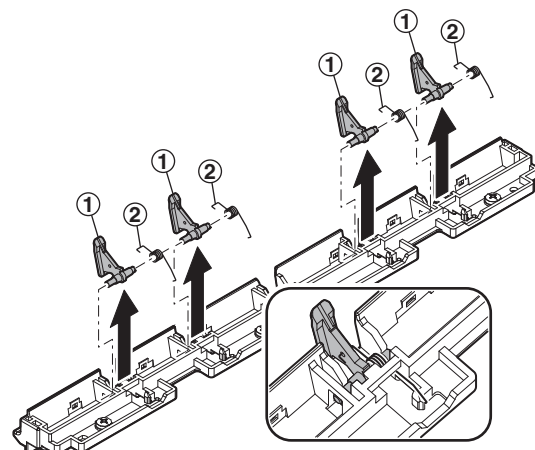


CAUTION: After installing the web roller, turn the gear (A) in the figure below until the blue line on the web sheet exceeds the pressure roller.



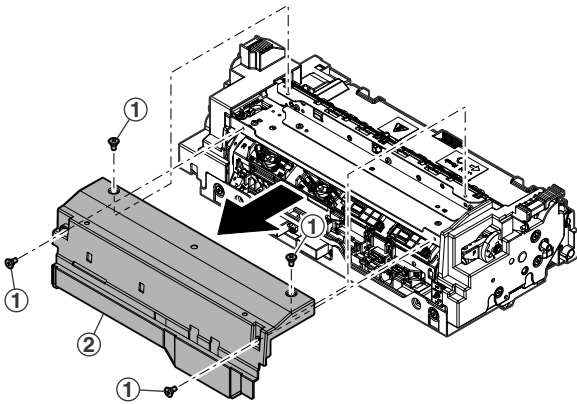
d. Lower separation pawl

- 1) Remove the web unit.
- 2) Remove the lower separation pawl and the spring.

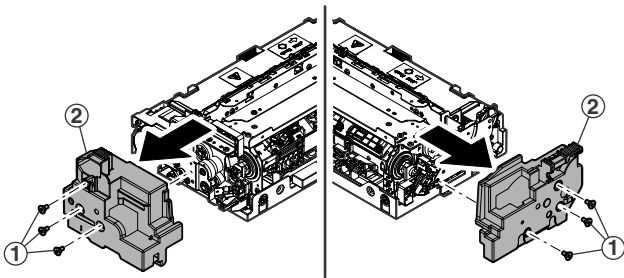


e. Pressure roller gear, Pressure roller bearing, Pressure roller

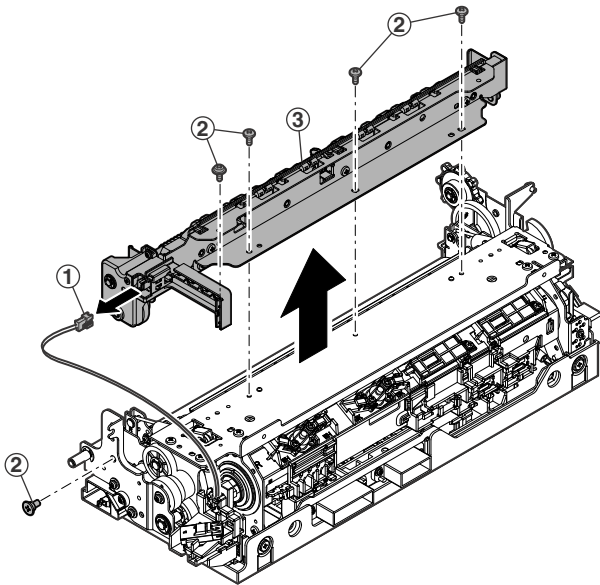
- 1) Remove the web unit.
- 2) Remove the screw, and remove the cover.



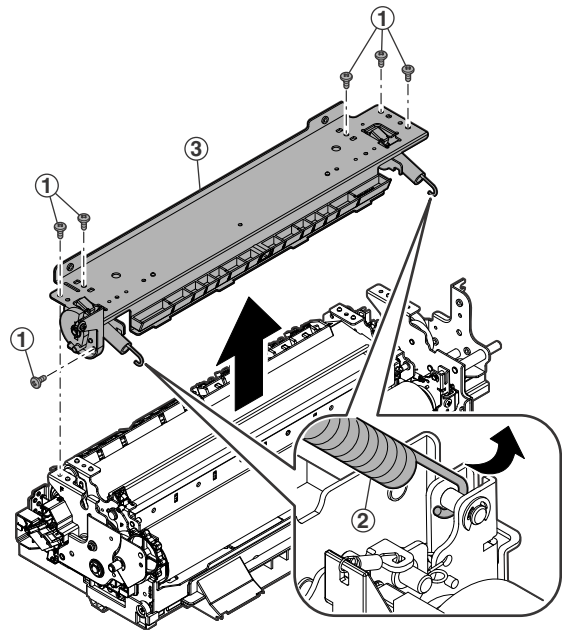
- 3) Remove the screw, and remove the cover.



- 4) Disconnect the connector from the sensor. Remove the screw, and remove the rear transport unit.

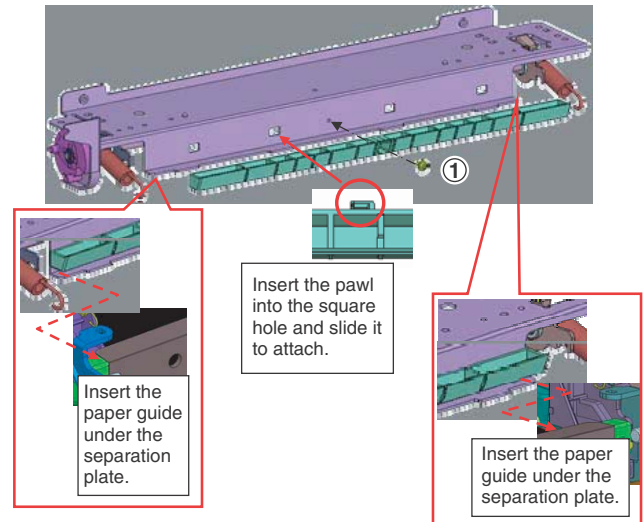


- 5) Remove the screw, and remove the pressure release unit.

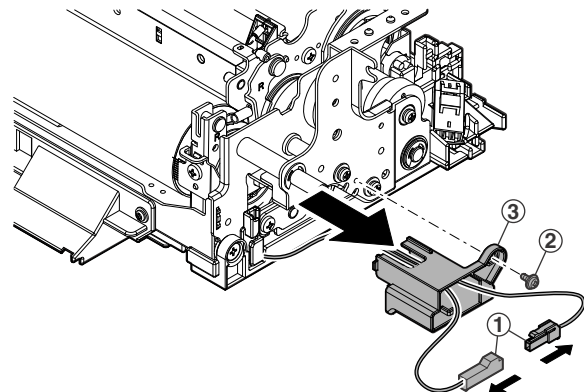


- 6) Remove the screw and remove the Fusing middle paper guide.

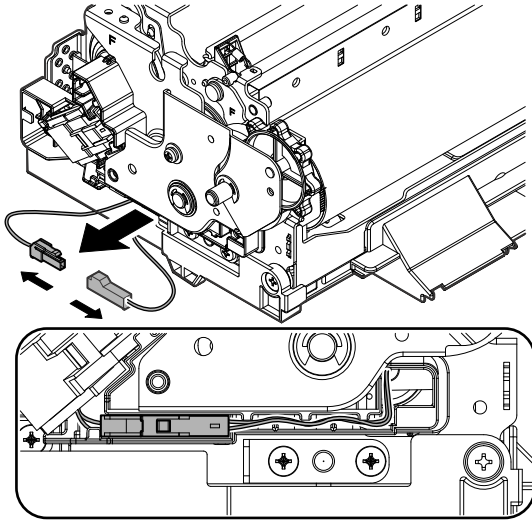
CAUTION: When attach the paper guide, insert the paper guide under the separation plate.



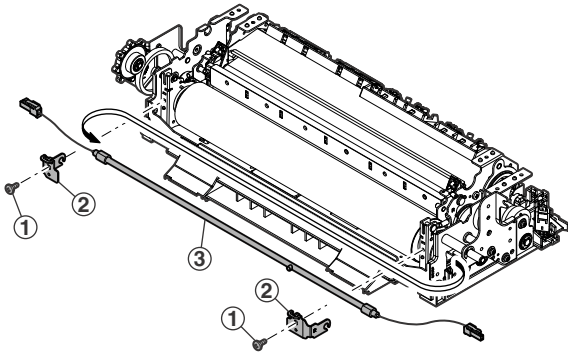
- 7) Disconnect the connector of the heater lamp. Remove the screw, and remove the holder.



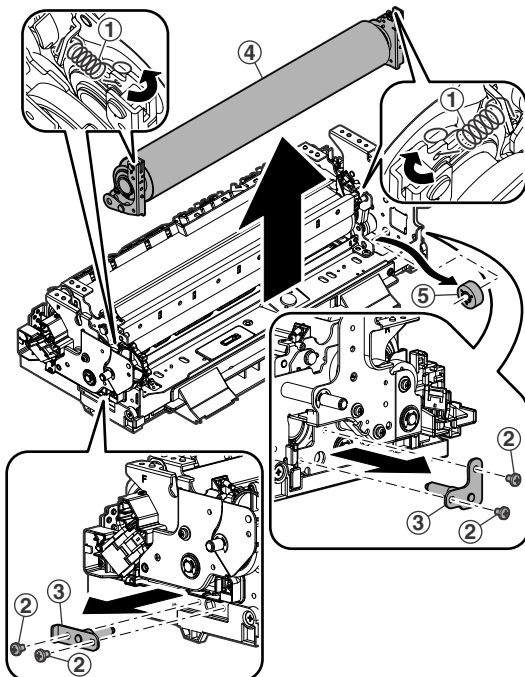
- 8) Disconnect the connector of the heater lamp.



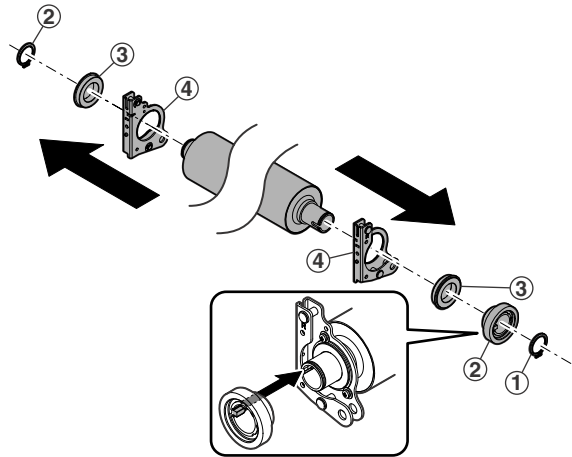
- 9) Remove the screw, and remove the lamp holder. Remove the heater lamp.



- 10) Remove the spring. Remove the screw, and remove the fixing plate. Remove the pressure roller unit. Remove the gear (No.5:24T Gear).

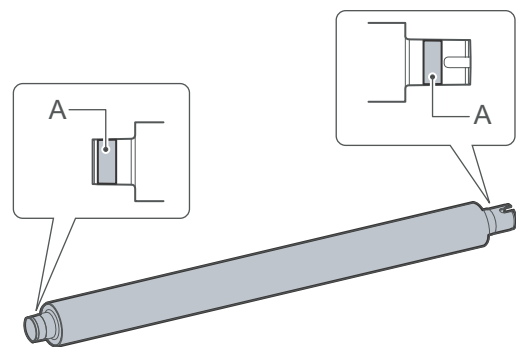


- 11) Remove the C-ring from the pressure roller, and remove the pressure roller gear. Remove the pressure roller gear, and the frame.



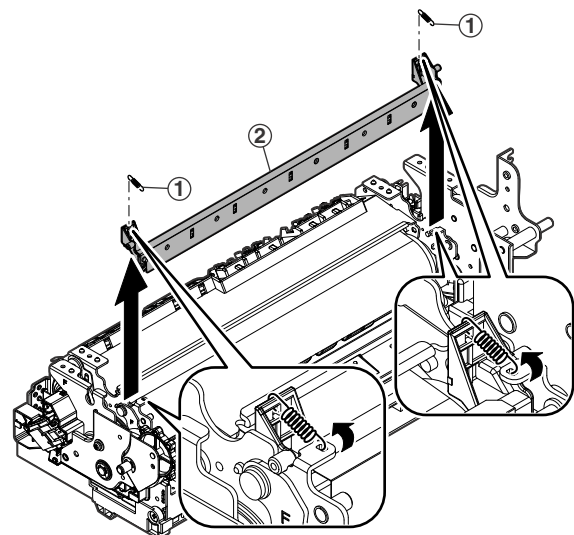
NOTE: When attaching the pressure roller, attach it with the protection sheet on it. After completion of assembly, remove the protection sheet.

NOTE: When replacing the pressure roller, apply grease (JFE552) to section A. In addition, wipe the pressure roller surface with alcohol.

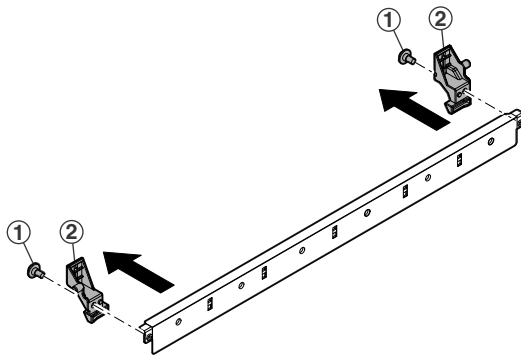


f. Separation plate

- 1) Remove the spring, and remove the separation plate.

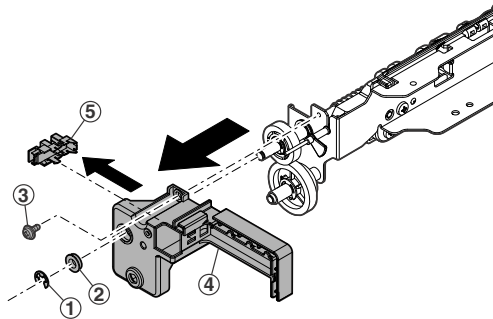


- 2) Remove the screw from the separation plate.



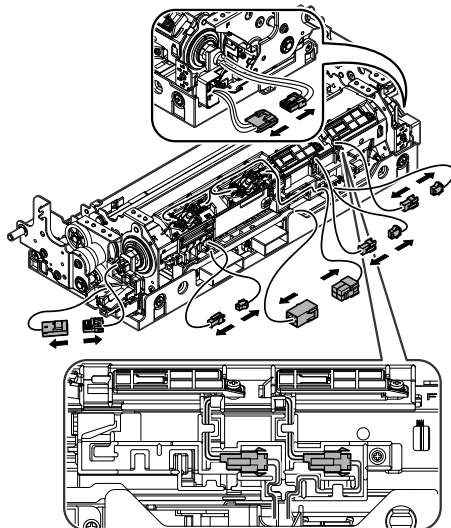
g. Fusing paper exit detector

- 1) Remove the rear transport unit.
- 2) Remove the E-ring and the bearing. Remove the screw, and remove the holder. Remove the fusing paper exit detector.

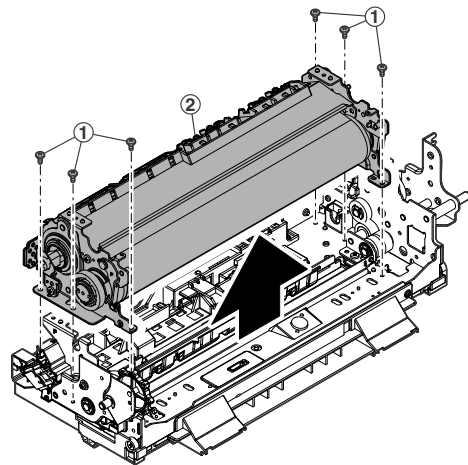


h. Heat insulation bushing, Heat roller bearing, Meandering suppression collar, Heat roller

- 1) Remove the web unit.
- 2) Remove the pressure roller unit.
- 3) Remove the separation plate.
- 4) Disconnect the connector of the fusing belt unit.



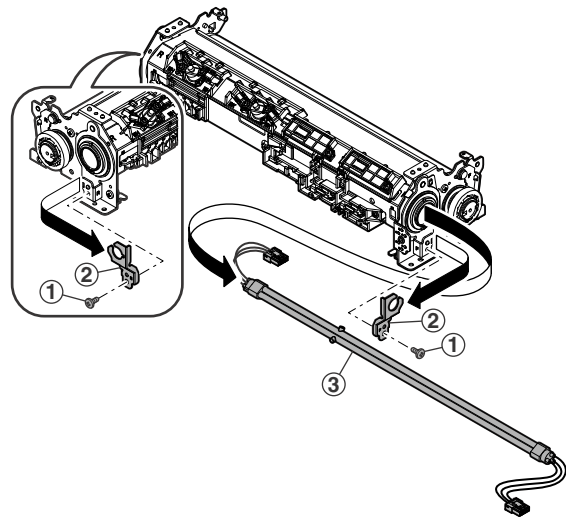
- 5) Remove the screw, and remove the fuser belt unit.



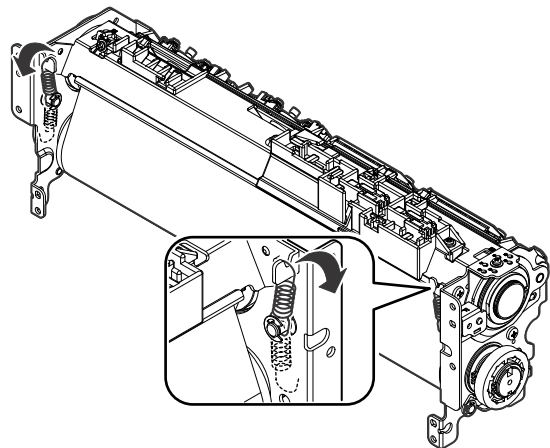
CAUTION: Handle the fusing belt unit integrally with the fusing unit case.

Never attach the fusing belt unit to another unit. If it should be attached to another unit, the meandering adjustment function of the fusing belt turns into an unbalanced state, resulting in breakage of the belt.

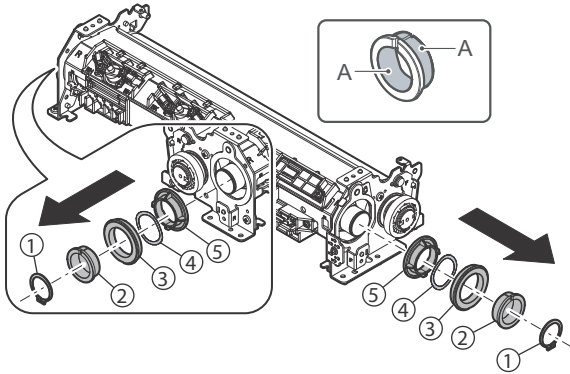
- 6) Remove the screw, and remove the lamp holder. Remove the heater lamp.



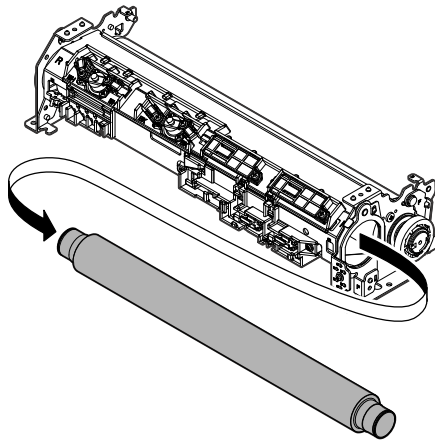
- 7) Remove the spring.



- 8) Remove the C-ring, the heat insulation bushing, the heat roller bearing, and the meandering suppression collar.
When replacing the insulation bush, apply grease (JFE552) to section A.

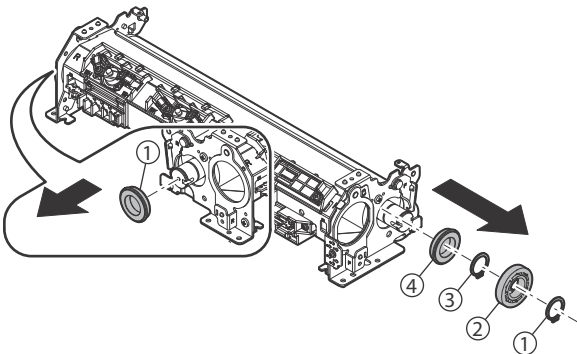


- 9) Remove the heating roller.

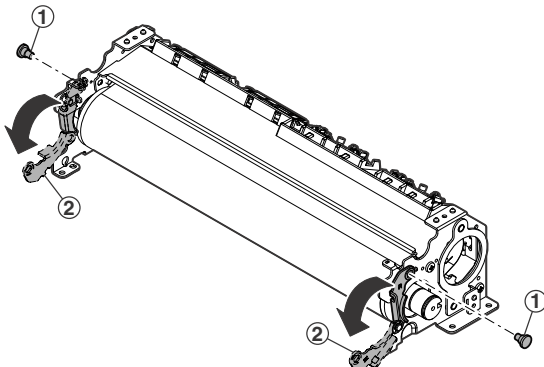


i. Fusing roller bearing, Fusing roller, Fusing belt

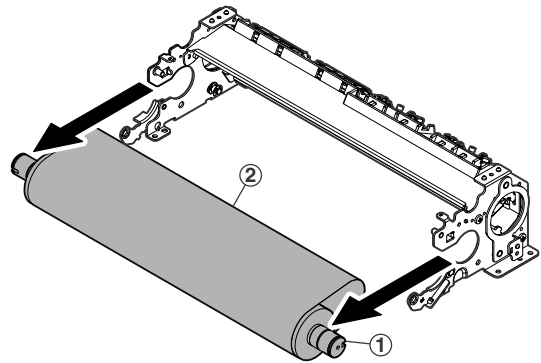
- 1) Remove the C-ring, and remove the gear. Remove the C-ring, and remove the fusing roller bearing.



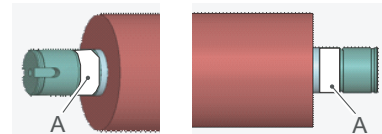
- 2) Remove the screw, and remove the holder.



- 3) Remove the fusing roller, and the fusing belt.



NOTE: When replacing the fusing roller, apply grease (JFE552) to section A.



[Handling of the fusing belt]

Note that the fusing belt used in this model is different from the conventional ones, and use enough care when handling as described below.

A. Removal from the package

- 1) Insert your fingers inside the belt surface, and extend it with your fingers to slowly lift and remove.



- 2) When putting the fusing belt on a work table, put it vertically to the work table without making a sound.
3) Never touch the outer surface of the fusing belt.

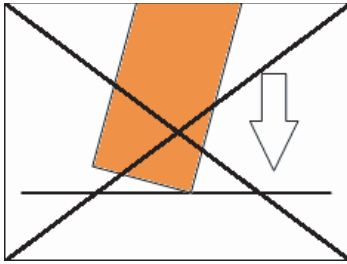
B. How to hold the belt when checking the belt surface

- 1) After removing the fusing belt as in A-1, stretch the belt surface with your fingers from the inside for check.

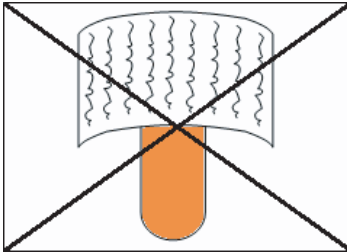


C. Other cautions

- 1) Do not put the fusing belt diagonally onto a work table.



- 2) Do not put anything on the fusing belt which is standing.



- 3) When inserting the fusing belt and the heat roller, be careful not to hit them on the belt edge.



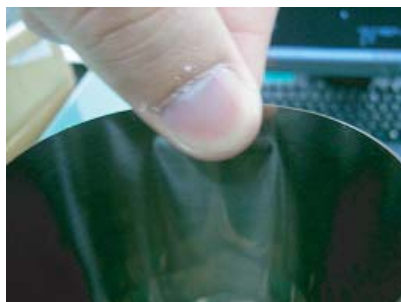
D. Inhibition

Never execute the following items, which may cause breakage of the belt.

- 1) Never press the surface with your fingers.



- 2) Never hold the edge.

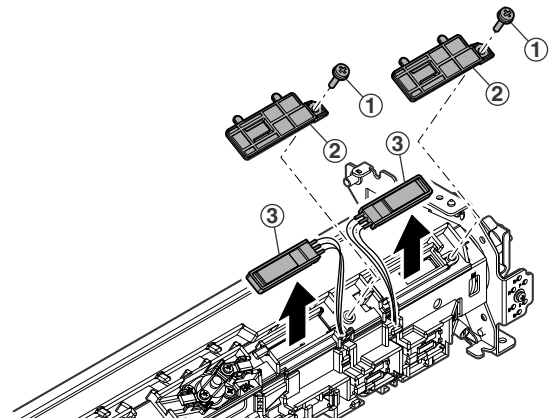


- 3) Never hit on the edge.

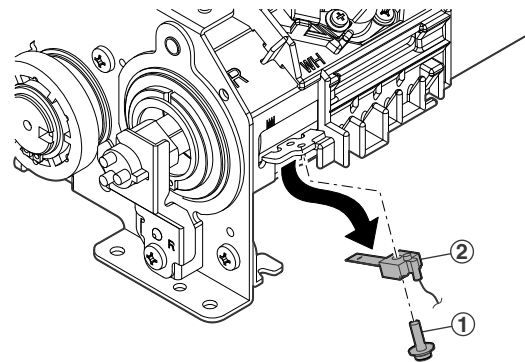


j. Main thermistor, Sub thermistor 1, Sub thermistor 2

- 1) Remove the fusing belt.
- 2) Remove the screw, and remove the cover. Remove the main thermistor, and the sub thermistor 1. Check the main thermistor, and the sub thermistor 1.

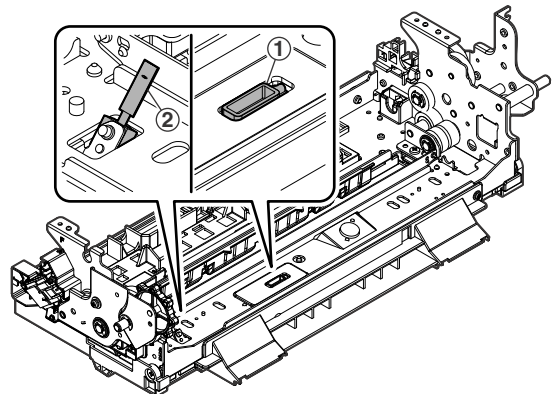


- 3) Remove the screw, and remove the sub thermistor 2. Check the sub thermistor 2.



k. Lower thermistor 1, Lower thermistor 2

- 1) Remove the fusing belt unit.
- 2) Check the lower thermistor 1, and the lower thermistor 2.

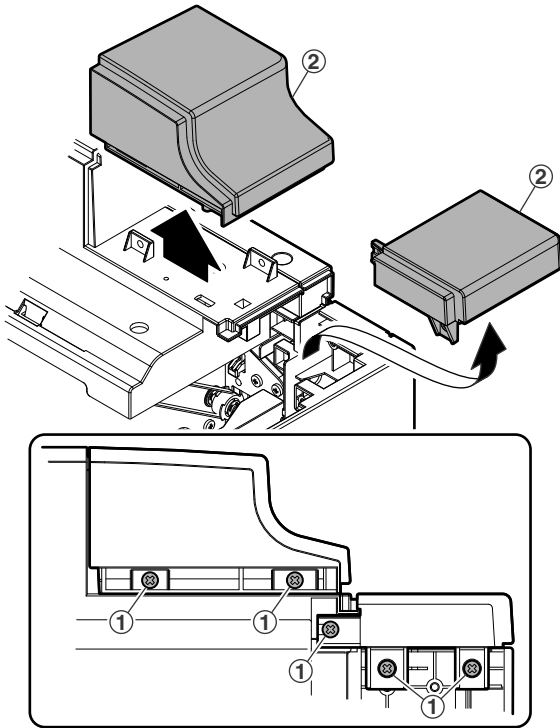


K. Paper exit/reverse section

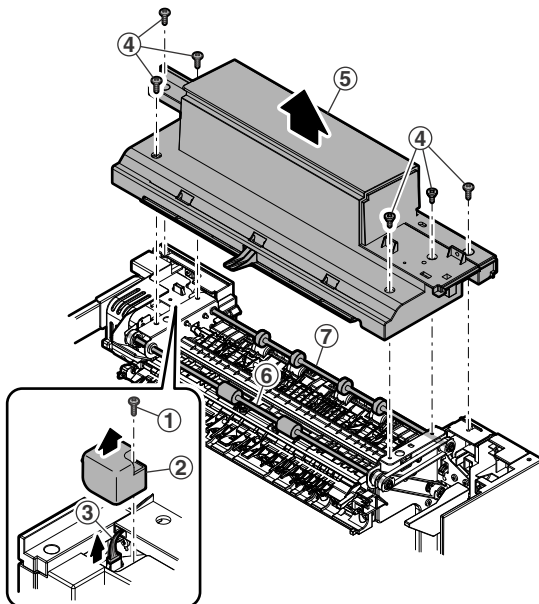
(1) Right door unit

a. Transport roller 19, Paper exit roller 2, Discharge brush

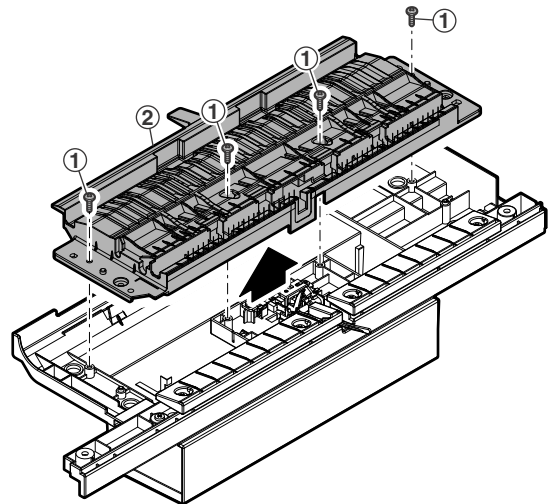
- 1) Remove the screw, and remove the cover.



- 2) Remove the screw, and remove the cover. Disconnect the connector of the right paper exit upper unit. Remove the screw, and remove the right paper exit upper unit. Clean the transport roller 19, and the paper exit roller 2.

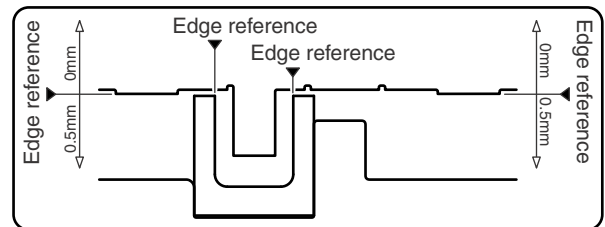
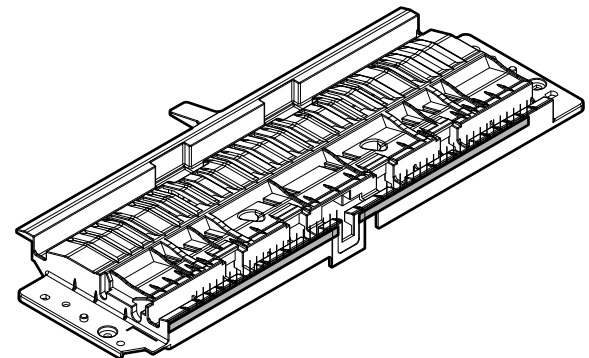


- 3) Remove the screw of the right paper exit upper unit, and remove the paper guide.



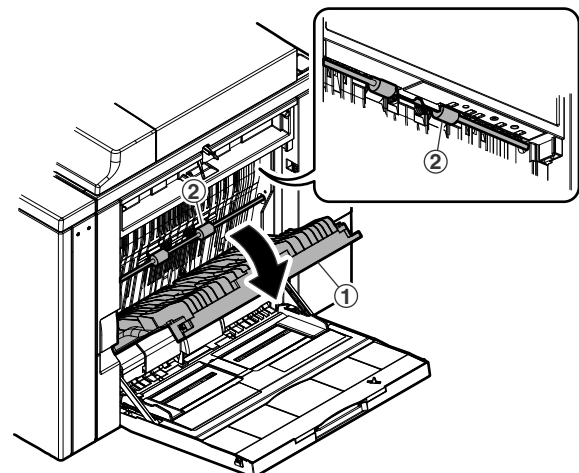
- 4) Check the discharge brush.

CAUTION: When replacing the discharge brush, attach to the attachment reference.



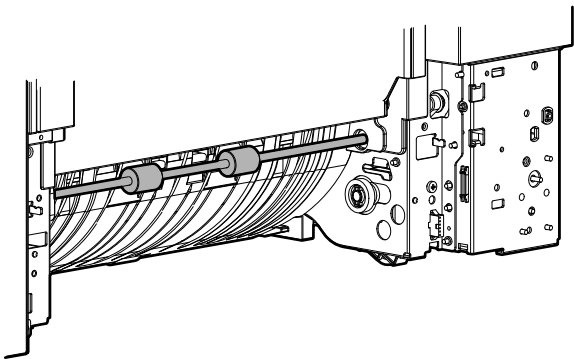
b. Transport roller 20, Transport roller 21

- 1) Open the ADU open/close door, and clean the transport roller 20, and the transport roller 21.



c. Transport roller 22

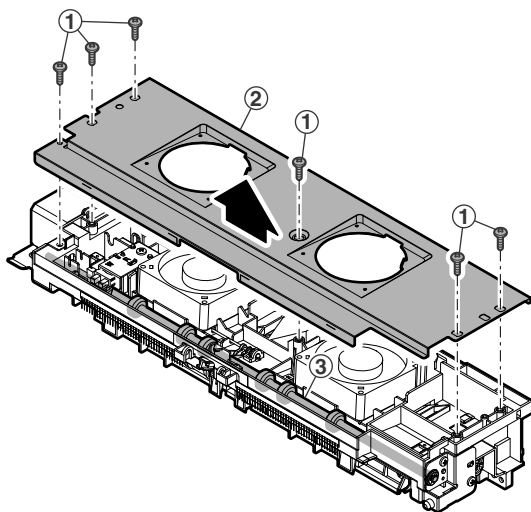
- 1) Remove the manual paper feed unit.
- 2) Clean the transport roller 22.



(2) Paper exit unit

a. Paper exit roller 1

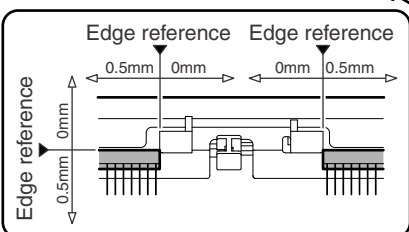
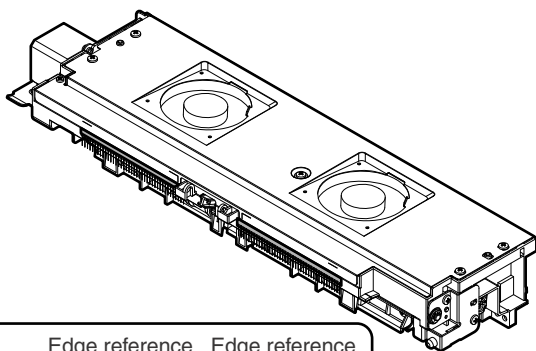
- 1) Remove the screw, and remove the fan cover.
Clean the paper exit roller 1.



b. Discharge brush

- 1) Check the discharge brush.

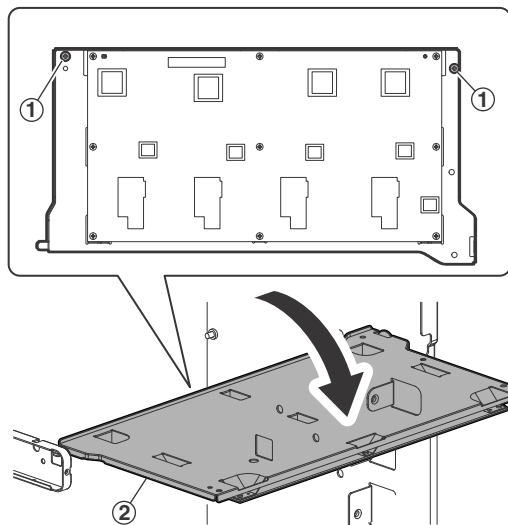
CAUTION: When replacing the discharge brush, attach to the attachment reference.



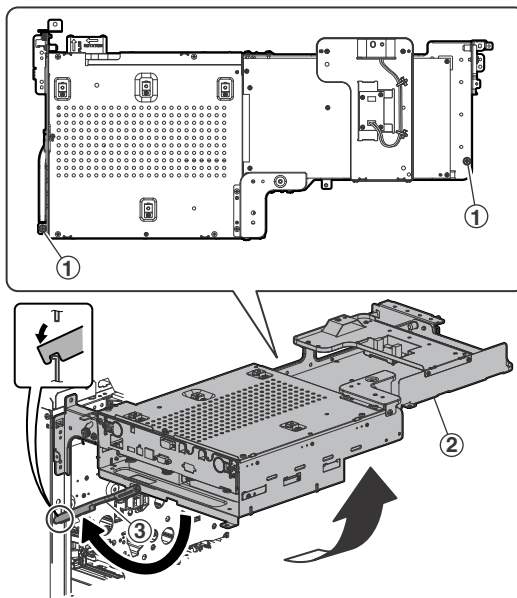
L. Drive section

(1) Fusing motor

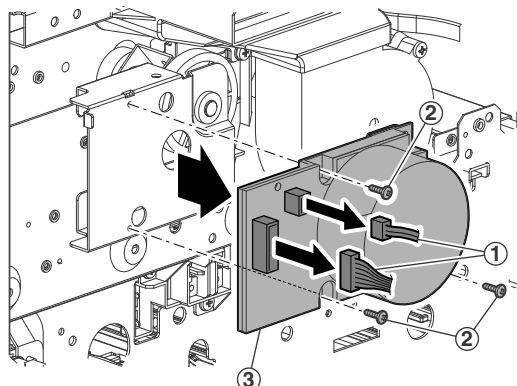
- 1) Remove the rear cabinet and the upper cabinet rear cover and the right cabinet rear.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



- 4) Disconnect the connector from fusing motor. Remove the screw, and remove the fusing motor.

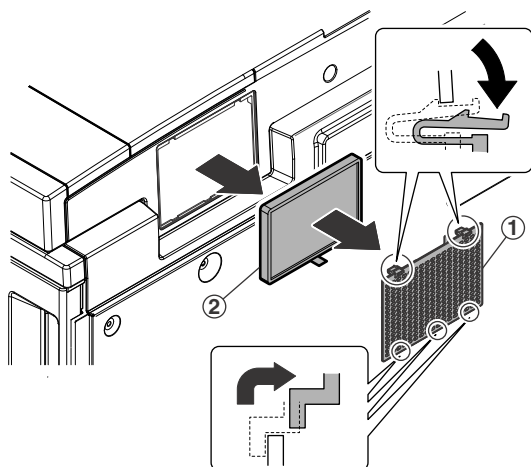


1 : '17/Apr.

M. Filter section

1 (1) Deodorizing filter (Other than for Europe)

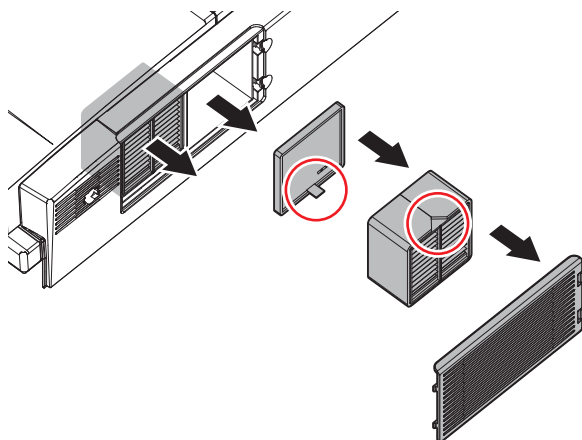
- 1) Remove the filter cover from the upper rear cabinet, and remove the deodorizing filter.



1 (2) UFP filter and VOC filter (For Europe only)

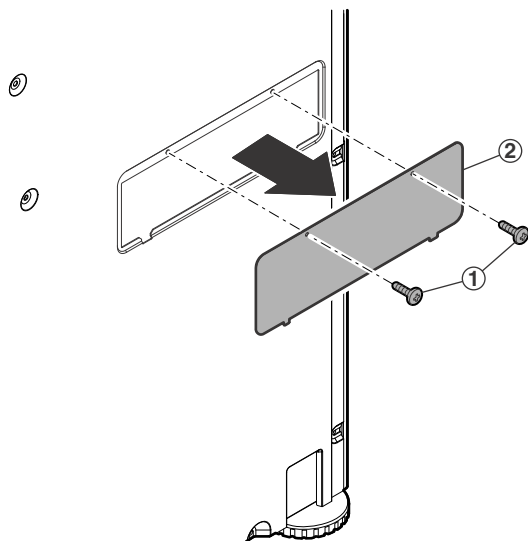
- 1) Remove the filter cover from the upper rear cabinet, and remove the UFP filter(X2) and VOC filter (X2).

CAUTION: Each filter has mounting direction.

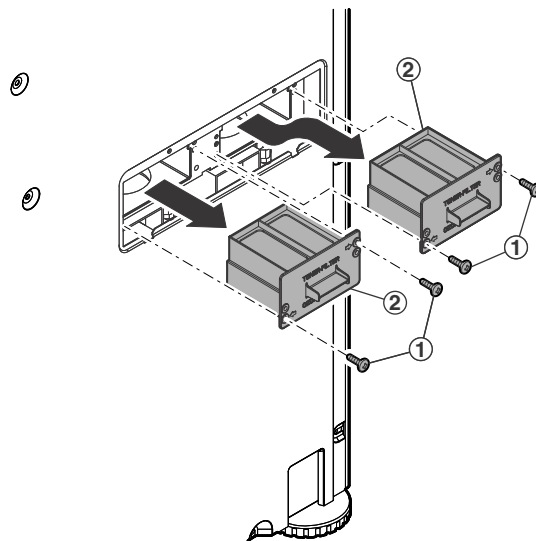


(3) Toner filter, Ozone filter

- 1) Remove the screw from the rear cabinet, and remove the filter cover.

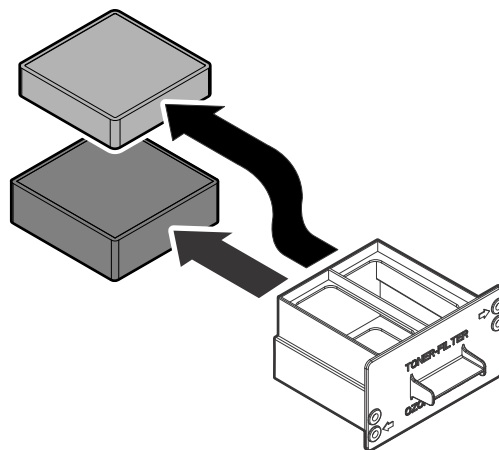


- 2) Remove the screw, and remove the filter box.



- 3) Remove the toner filter and the ozone filter from the filter box.

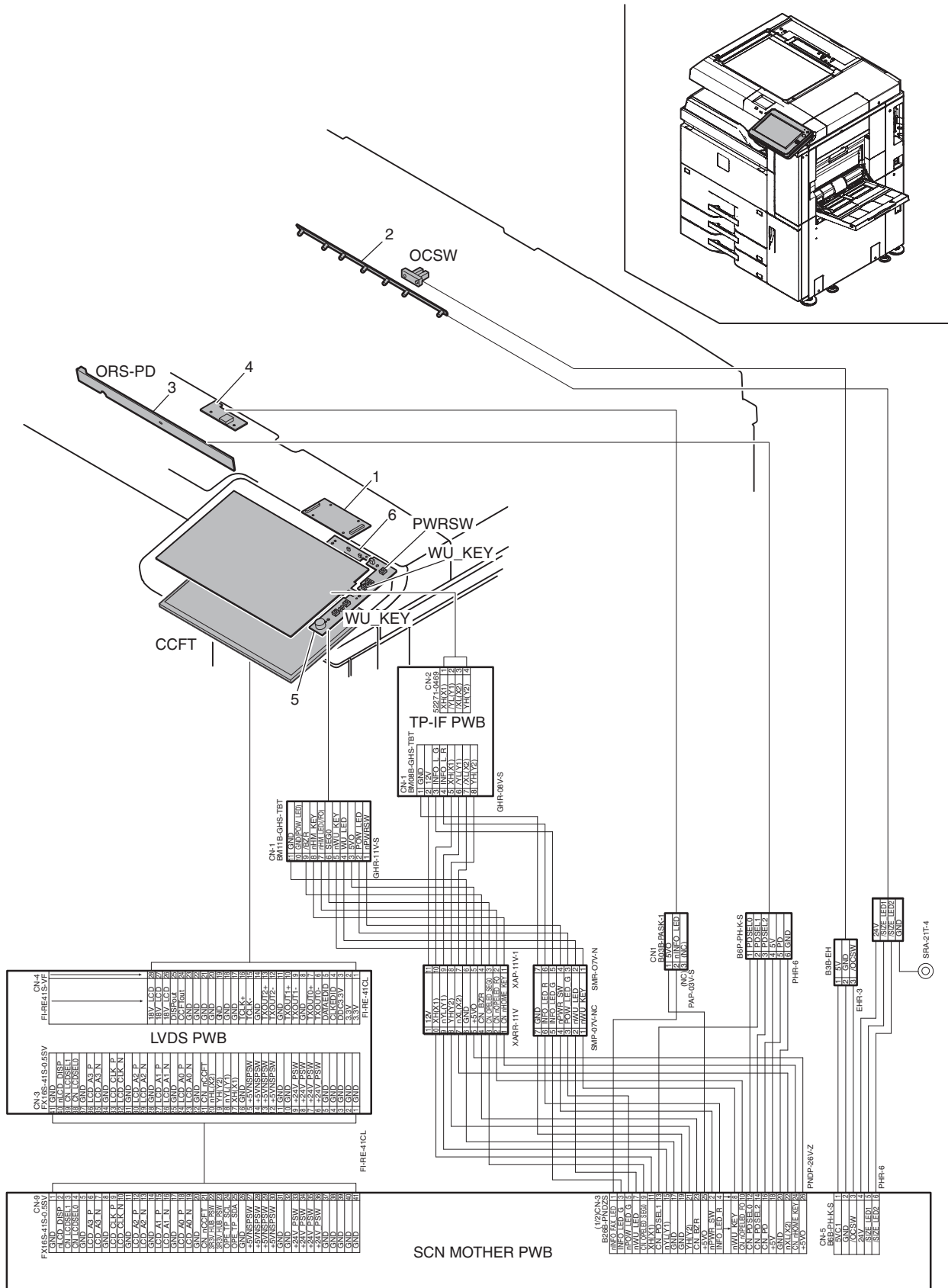
CAUTION: When attaching the ozone filter, slide it to the toner filter side and insert it.



[11] OPERATIONAL DESCRIPTIONS

1. Operation panel section

A. Electrical and mechanism relation diagram



Signal name	Name	Function/Operation
HM_KEY	Home Screen key	Switch for home screen
OCSW	Document size detection trigger sensor	Generates the document size detection trigger signal.
PWRSW	Operation panel power switch	Turns ON/OFF the power on the secondary side.
WU_KEY	Power Save key	Switch for power save

No.	Name	Function/Operation
1	LVDS PWB	Converts the display data signal to the LCD display signal. / Controls the touch panel.
2	Document size detection PWB (Light emitting)	Drives the LED for the document size detection.
3	Document size detection PWB (Light receiving)	Outputs the document size detection signal.
4	USB I/F PWB	USB Interface
5	KEY PWB	Outputs the key operation signal.
6	Power lamp PWB	Power lamp display
7	Touch panel	Touch panel
8	LCD	LCD

B. Operational descriptions

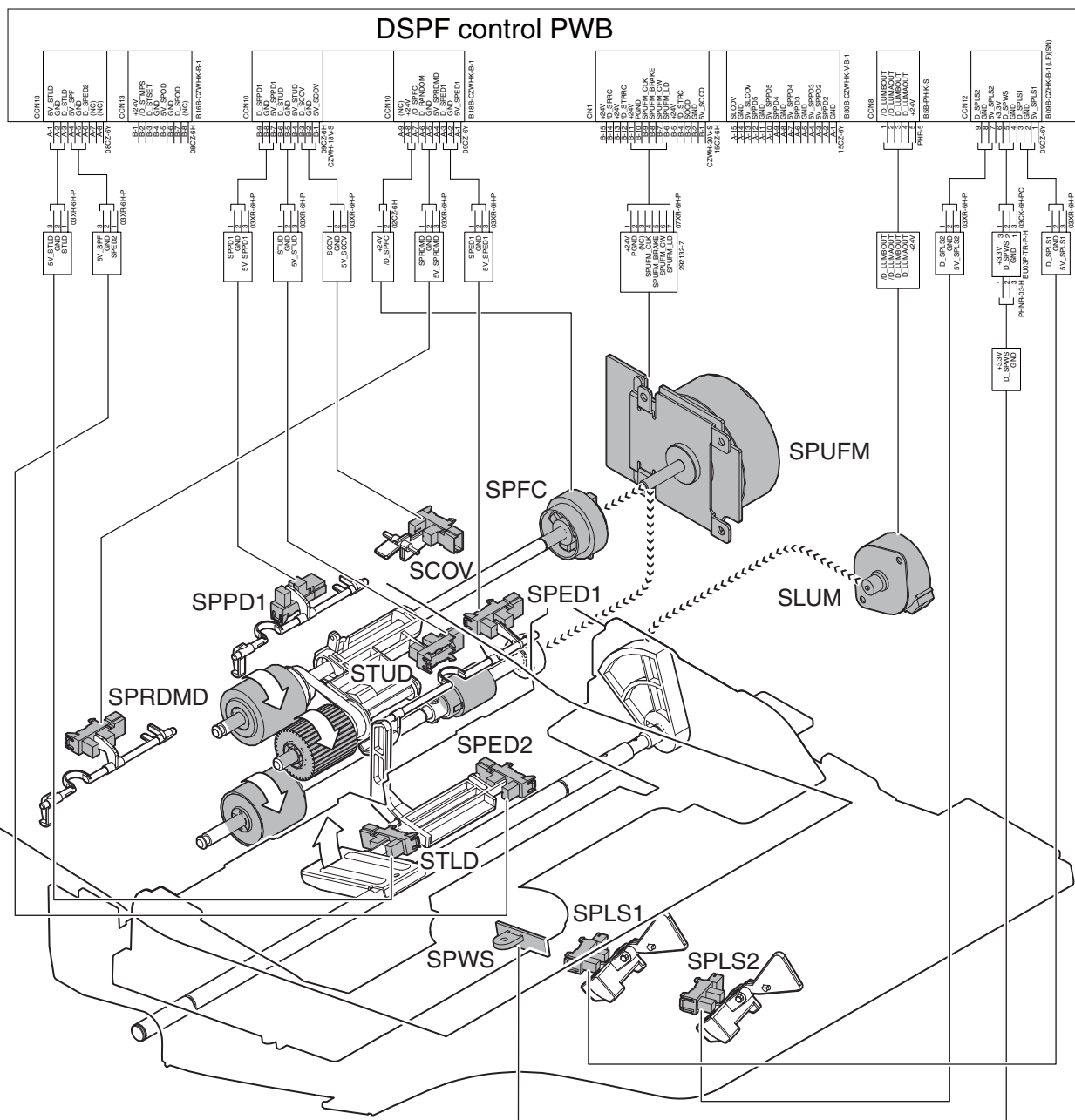
The operation panel unit is composed of the LCD unit, the LVDS PWB, the USB I/F PWB, and the KEY PWB. It displays the machine operation. It is provided with the USB I/F which is used for the firmware update, USB print, and Scan to USB.

In addition, the USB I/F line is provided inside the operation panel to connect with the keyboard and the IC card reader.

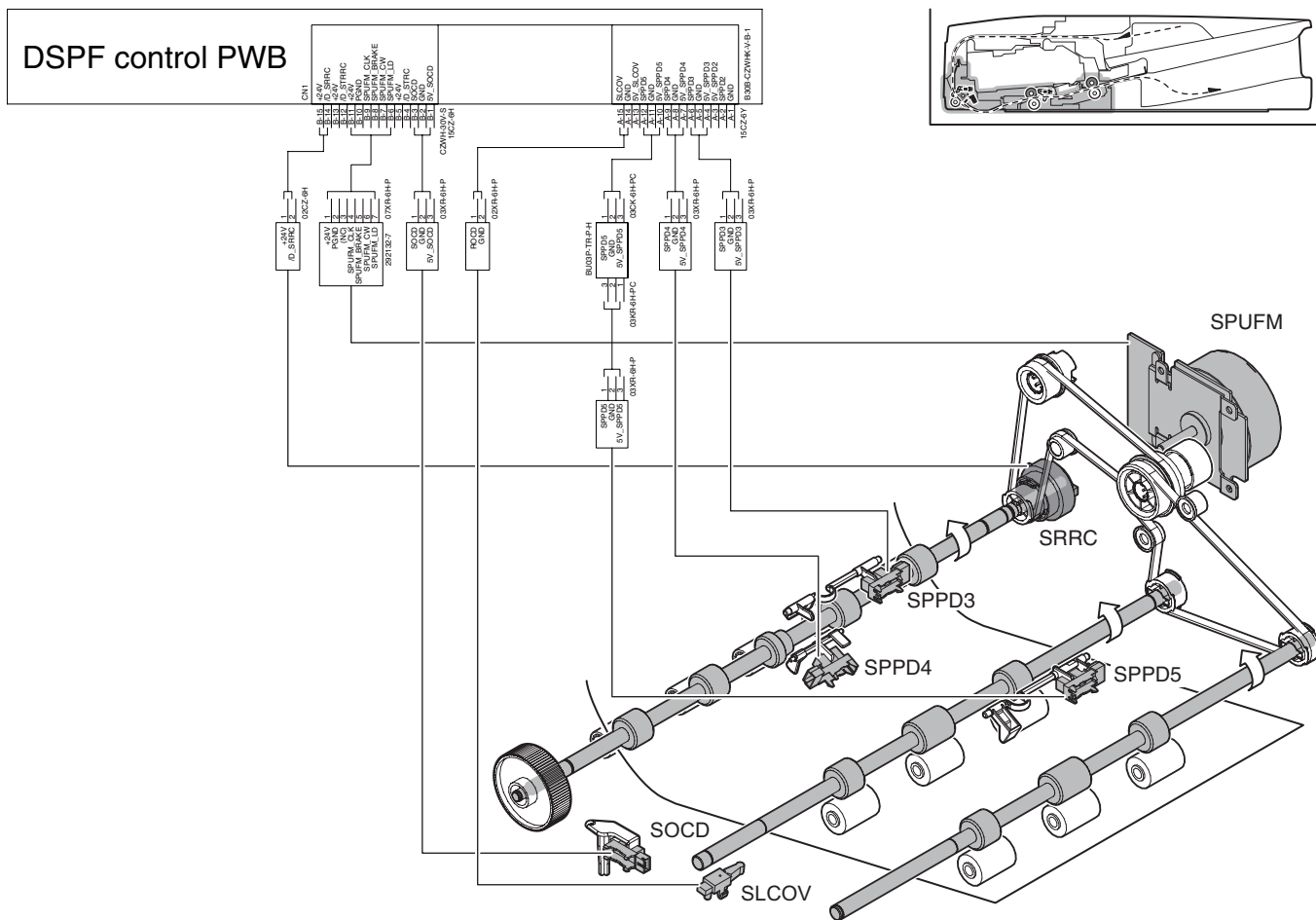
A document size is detected by the document size detection PWB (light emitting) and the document size detection PWB (light receiving).

The detection timing of document size is determined according to the document size detection trigger sensor signal.

(1) Paper feed section



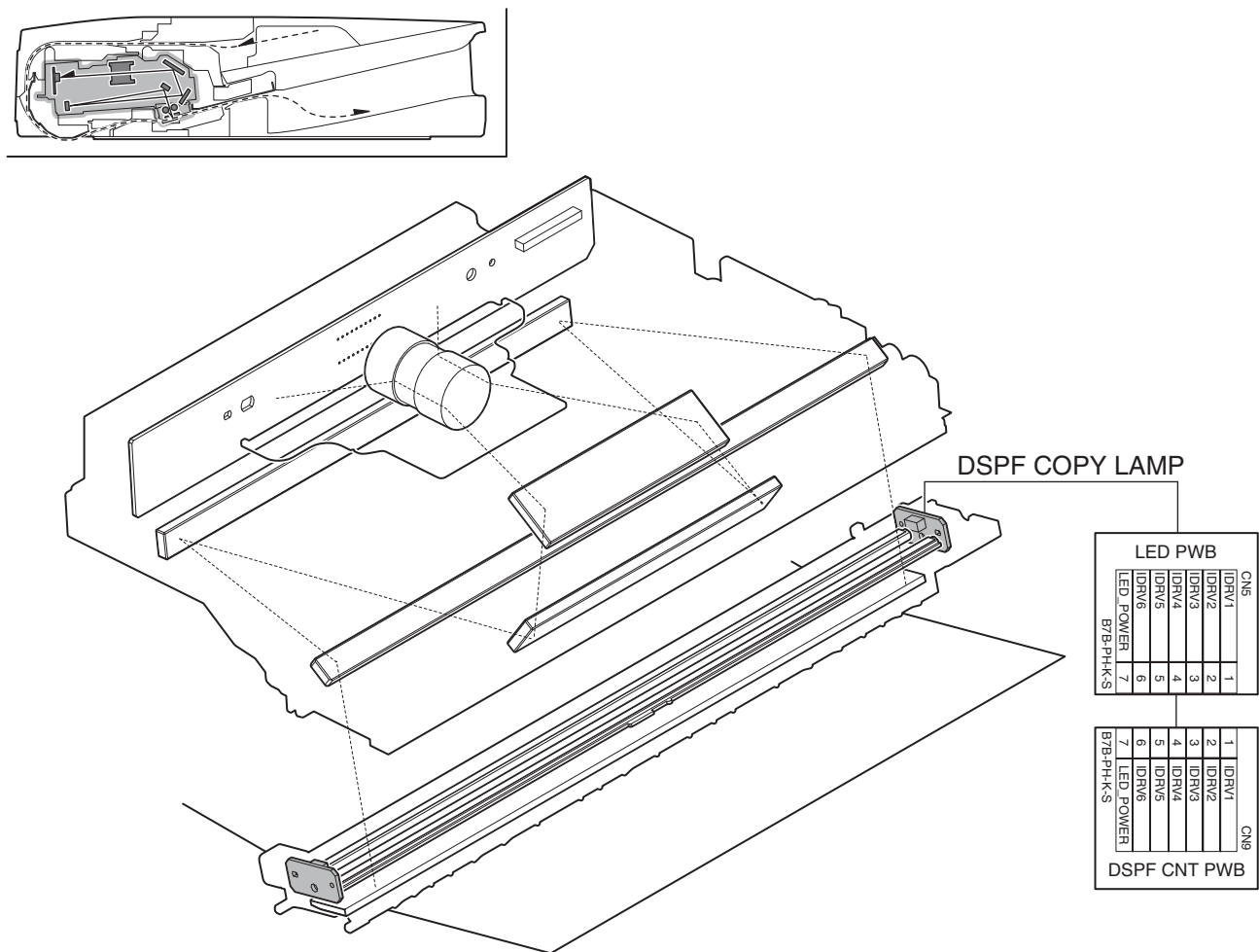
(3) Lower transport section



Signal name	Name	Function/Operation
SLCOV	Lower door open/close sensor	Detects open/close of the lower door
SOCD	DSPF open/close sensor	Detects open/close of the DDPF unit
SPUFM	DSPF transport motor	Drives the transport roller.
SPPD3	DSPF document pass sensor 3	Detects pass of the document.
SPPD4	DSPF document pass sensor 4	Detects pass of the document.
SPPD5	DSPF document pass sensor 5	Detects pass of the document.
SRRC	DSPF No.2 registration roller clutch	Controls ON/OFF of No. 2 registration roller.

No.	Name	Function/ Operation
1	No. 2 registration roller (Drive)	Make synchronization between the lead edge of a document and the scan start position.
2	Platen roller	A pressure is applied to document to prevent fluctuations of document.
3	Transport roller 2 (Drive)	Transports document from the platen roller to the transport roller 3.
4	Transport roller 3 (Drive)	Transports document from the transport roller 2 to the document exit roller.

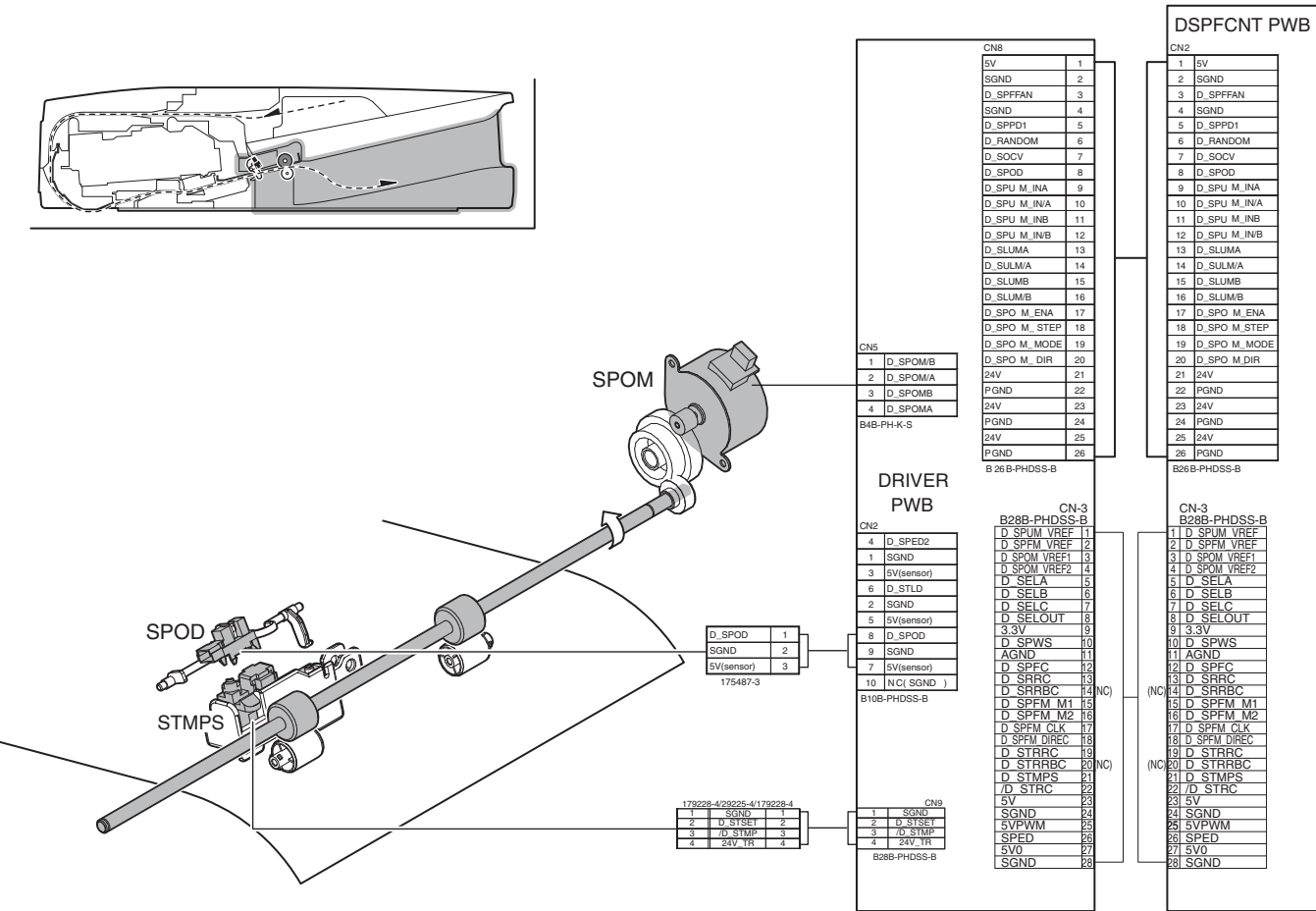
(4) Optical section



Signal name	Name	Function/Operation
DSPF COPY LAMP	DSPF copy lamp	Radiates light onto a document to allow the CCD to scan document images.

No.	Name	Function/Operation
1	Mirror	Sends the document image to the lens.
2	Lens	Reduces the document image (light) and reflects it onto the CCD.
3	DSPF CCD PWB	Scans the document image (optical signals) and converts it into electrical signals.

(5) Paper exit section



Signal name	Name	Function/Operation
SPOD	DSPF document exit sensor	Detects document exit of the document.
SPOM	DSPF document exit motor	Drives the document exit roller.
STMPs	Stamp solenoid	Drives the stamp solenoid.

No.	Name	Function/ Operation
1	Document exit roller (Drive)	Discharges document.

B. Operational descriptions

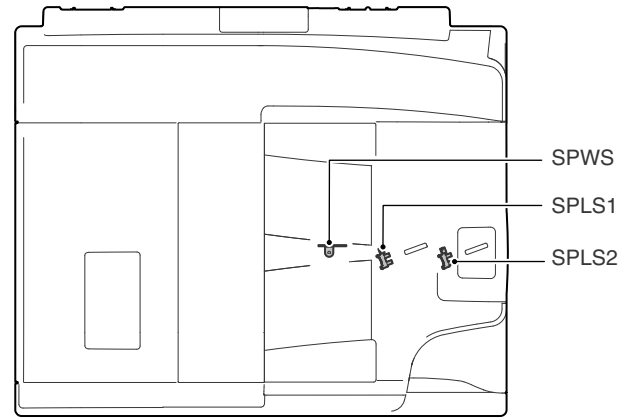
(1) Document size detection

Size detection on the document tray

The document size is detected by the DSPF document width sensor (SPWS), and the document length is detected by the DSPF document length sensors (SPLS1, SPLS2). The document size is judged from the document width and the document length as shown in the table below.

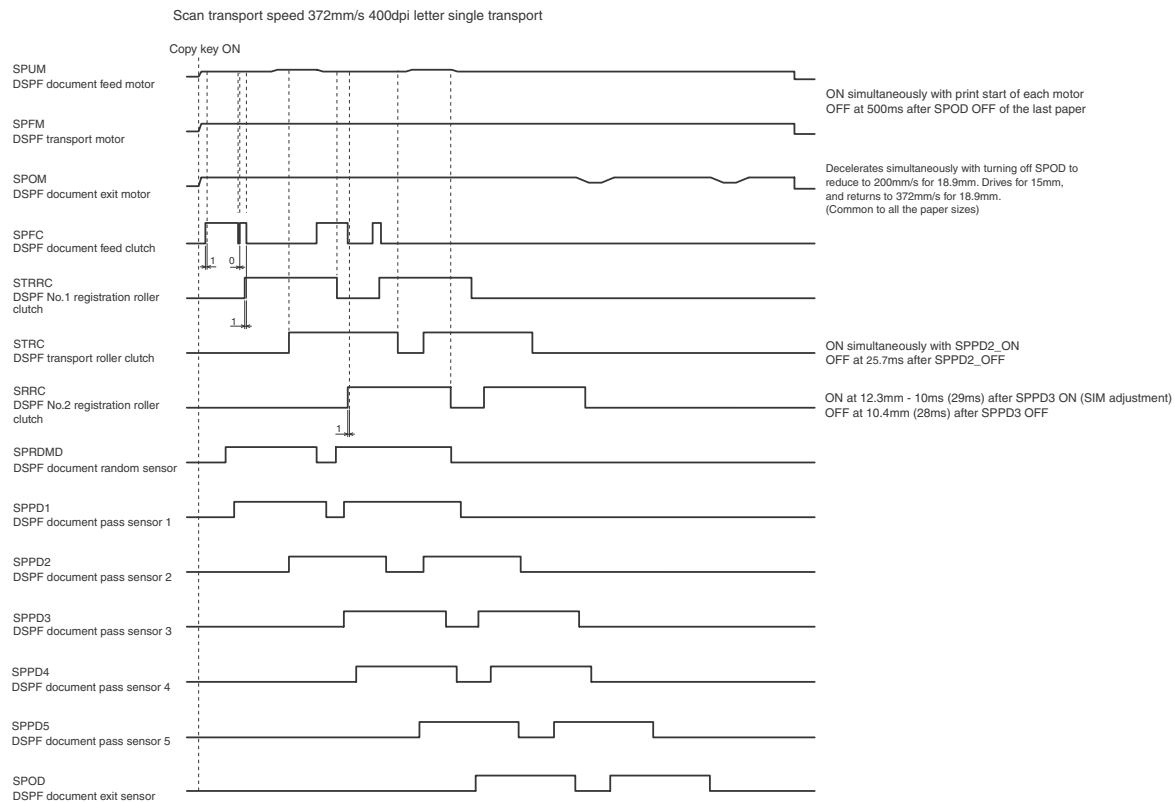
When, however, documents of different sizes are mixed and set on the document tray, the largest size is detected.

	Document size	Document length sensor	
		SPLS1	SPLS2
AB series	A5	OFF	OFF
	B5	OFF	OFF
	11" x 8.5"	OFF	OFF
	A4	OFF	OFF
	B5R	ON	OFF
	A4R	ON	OFF
	8.5" x 13"	ON	ON
	B4	ON	ON
	A3	ON	ON
	11" x 17"	ON	ON
	8.5" x 14"	ON	ON
	8.5" x 13.4"	ON	ON
Inch series	8.5" x 5.5"	OFF	OFF
	11" x 8.5"	OFF	OFF
	A4	OFF	OFF
	11" x 8.5"R	ON	OFF
	8.5" x 13"	ON	ON
	8.5" x 14"	ON	ON
	A3	ON	ON
	11" x 17"	ON	ON
	8.5" x 13.4"	ON	ON

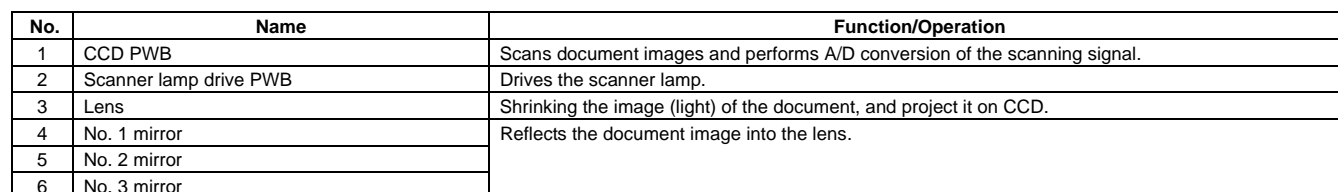


(2) Timing chart

To increase the document replacement speed, pre-feed of the second and the later documents is performed for documents of A4/Letter or smaller sizes. Therefore, a clutch is provided for each transport roller to perform individual control.



A. Electrical and mechanical relation diagram



B. Operational descriptions

(1) Outline

This section performs the following functions.

- 1) Light is radiated to the document by the scanner lamp, and the contrast of the reflected light is read by the CCD elements of three lines of RGB to be converted into the image signal (analog).
- 2) The image signals (analog) are converted into 10bit digital signals by the A/D converter.
- 3) The image signals (digital) are sent to the image process section (scanner control PWB).

(2) Detail description

a. Optical section drive

The optical section drive power is transmitted from the scanner motor (MIM) to the drive pulley and the wire through the belt, to drive the copy lamp unit and the mirror base which are attached by the drive wires.

The scanner motor (MIM) is controlled by the drive signal sent from the scanner control PWB.

b. Scanner lamp drive

The scanner lamp (CLI) is driven by the scanner lamp drive voltage generated in the CL inverter PWB according to the control signal sent from the scanner control PWB.

c. Image scan/color separation

Light is radiated to the document by the scanner lamp, and the contrast of the reflected light is read by the CCD elements of three lines of RGB to be converted into the image signal (analog).

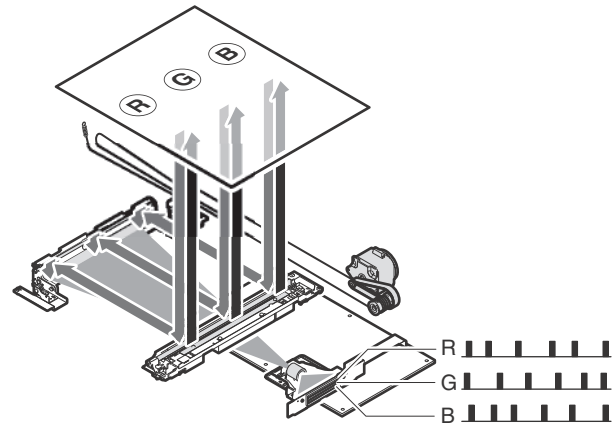
The color components of document images are extracted to R, G, and B separately by the three kinds of CCD elements (R,G,B).

The red CCD extracts the red component of document images, the green CCD green the components, and the blue CCD the blue components. This operation is called the color separation.

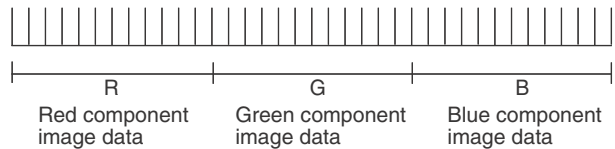
The CCD unit looks like one unit, but it includes three kinds of CCD elements, R, G, and B.

The document scan in the main scanning direction is performed by the CCD element. The document scan in the sub scanning direction is performed by shifting the scanner unit with the scanner motor. Document images are optically reduced by the lens and reflected to the CCD.

The scan resolution is 600 dpi.

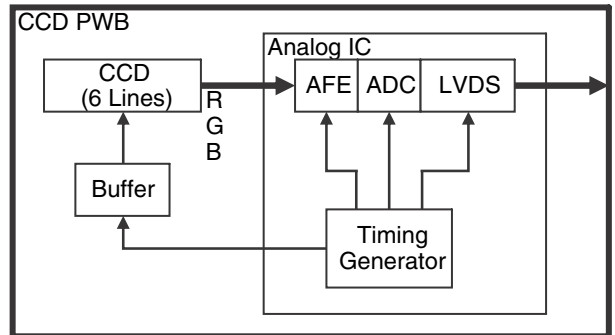


(Image data for 1 line)



d. Image signal A/D conversion

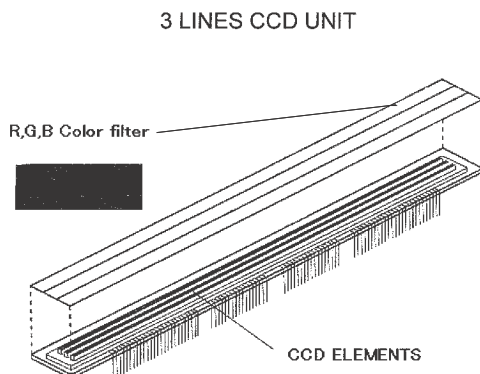
- 1) The image signal (analog) for each of R, G, and B is converted into 10bit digital signal by the A/D converter. Each color pixel has 10bit information.
- 2) The 10bit digital image signals of R, G, B are sent to the image process section.



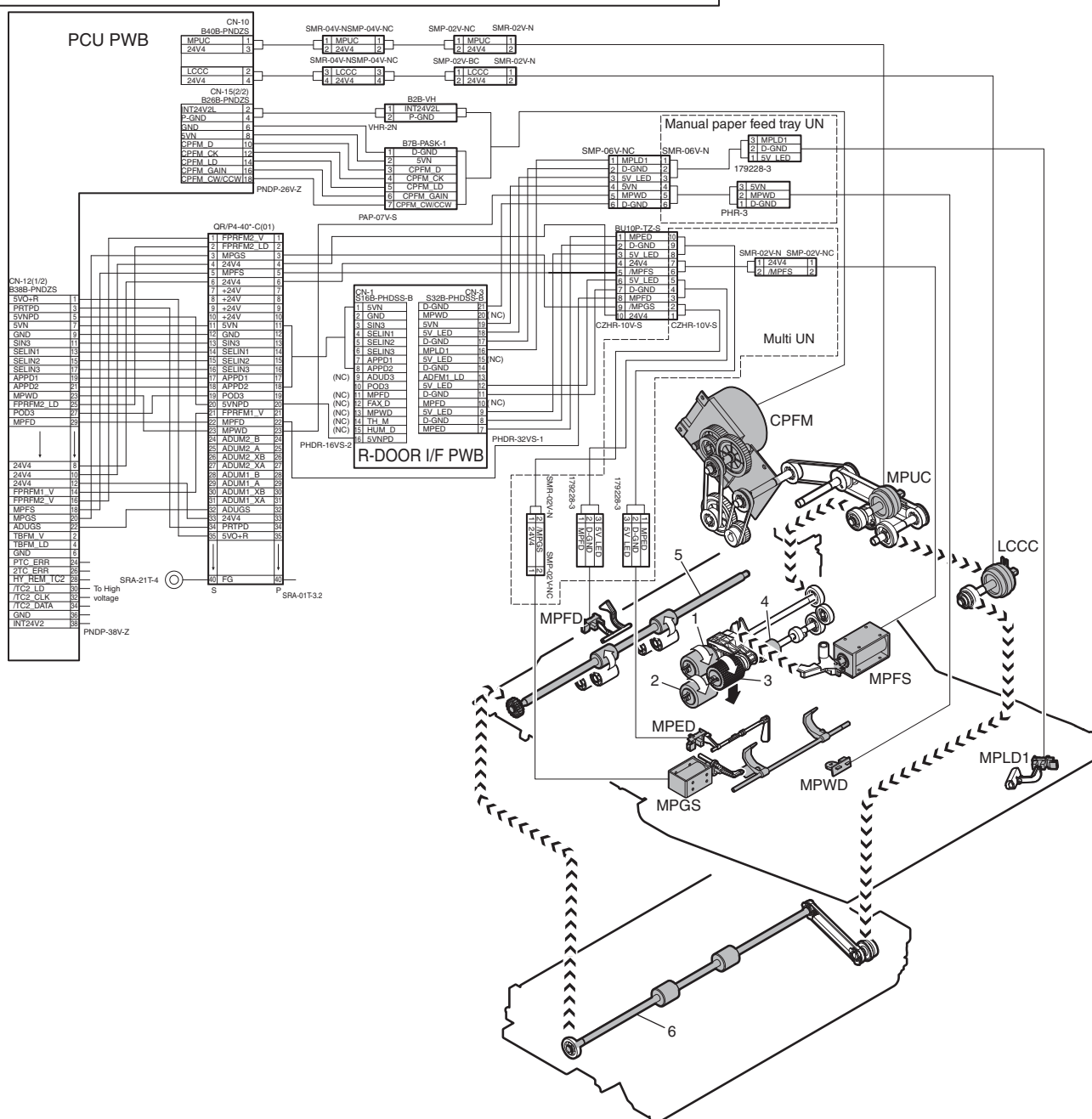
e. Zooming operation

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 performed optically, but performed with the image process technology (by the software).



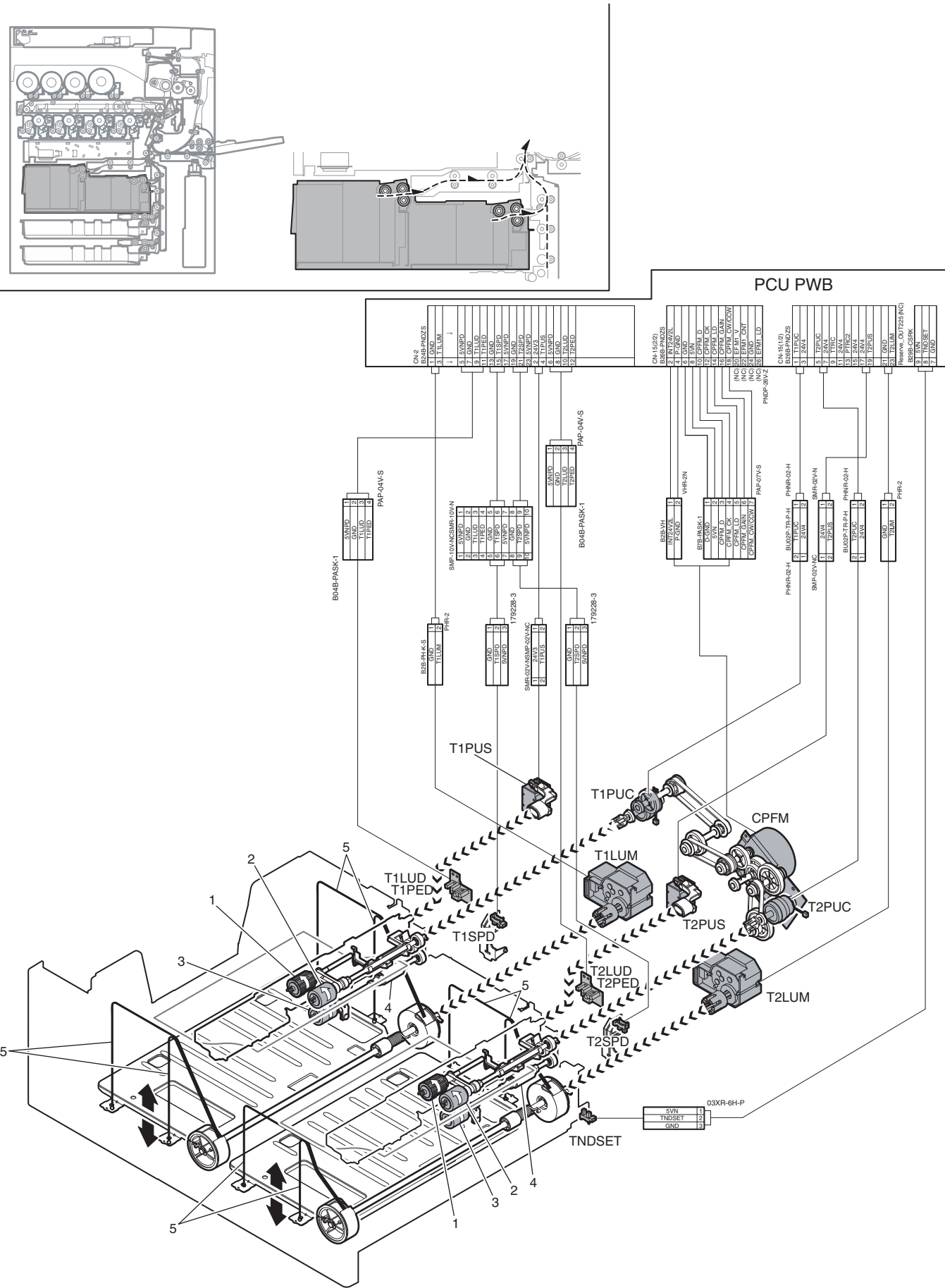
(1) Manual paper feed section



Signal name	Name	Function/Operation
CPFM	Paper feed motor	Drives the paper feed section.
LCCC	LCC paper entry clutch	Controls ON/OFF of the roller in the LCC transport section.
MPED	Manual feed paper empty detector	Detects presence of paper in the manual paper feed tray.
MPFD	Manual feed paper entry detector	Detects entry of paper into the manual paper feed tray.
MPFS	Paper pickup solenoid (Manual paper feed)	Controls pickup of paper. (Manual paper feed)
MPGS	Manual paper feed gate solenoid	Controls open/close of the manual paper feed gate.
MPLD1	Manual paper feed length detector	Detects the manual paper feed tray paper length.
MPUC	Manual paper feed clutch	Controls ON/OFF of the paper feed roller in the manual paper feed section.
MPWD	Manual paper feed tray paper width detector	Detects the manual paper feed tray paper width.

No.	Name	Function/Operation
1	Paper feed roller (Manual paper feed tray)	Feeds paper to the paper transport section.
2	Separation roller (Manual paper feed tray)	Separates paper to prevent double feed.
3	Paper pickup roller (Manual paper feed tray)	Picks up paper to send to the paper feed roller.
4	Torque limiter	A certain level of resistance force is supplied to the rotation of the separation roller to prevent double feed.
5	Transport roller 8 (Drive)	Transports paper fed from the manual paper feed tray to the transport roller 16.
6	Transport roller 14 (Drive)	Transports paper fed from the LCC to the transport roller 15.

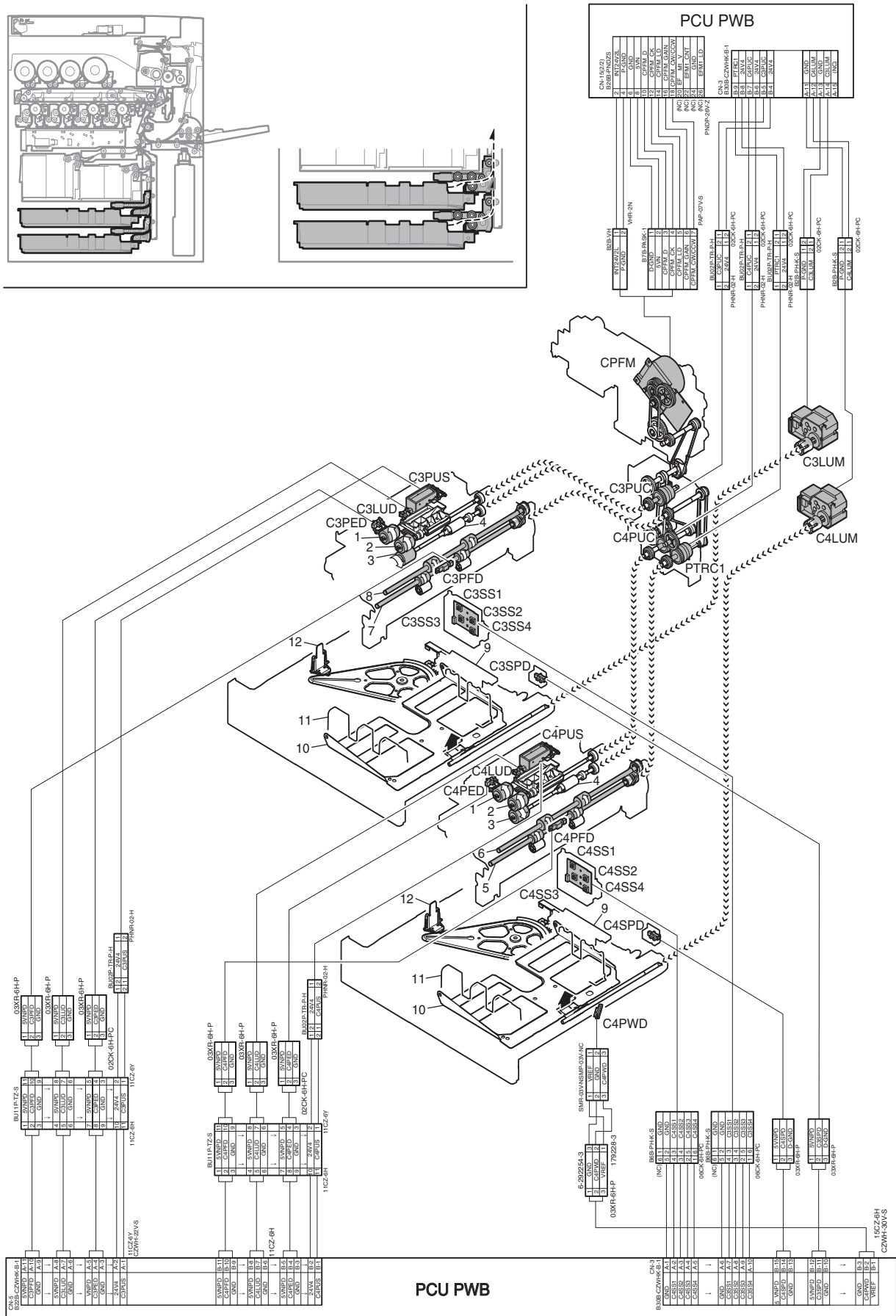
(2) Tandem paper feed tray unit



Signal name	Name	Function/Operation
CPFM	Paper feed motor	Drives the paper feed section and the transport section.
T1LUD	Tandem tray 1 upper limit detector	Detects the upper limit position of the upper limit tandem tray 1.
T1LUM	Paper tray lift motor (Tandem tray 1)	Drives the lift of the paper tray.
T1PED	Tandem tray 1 paper empty detector	Detects presence of paper in tandem tray 1
T1PUC	Tandem tray 1 paper feed clutch	Controls ON/OFF of the paper feed roller in the tandem tray 1 paper feed section.
T1PUS	Paper pickup solenoid (Tandem tray 1)	Controls the paper pickup.
T1SPD	Tandem tray 1 paper remaining quantity detector	Detects the remaining paper quantity in tandem tray 1.
T2LUD	Tandem tray 2 upper limit detector	Detects the upper limit position of tandem tray 2.
T2LUM	Paper tray lift motor (Tandem tray 2)	Drives the lift of the paper tray.
T2PED	Tandem tray 2 paper empty detector	Detects paper presence in tandem tray 2.
T2PUC	Tandem tray 2 paper feed clutch	Controls ON/OFF of the paper feed roller in the tandem tray 1 paper feed section.
T2PUS	Paper pickup solenoid (Tandem tray 2)	Controls the paper pickup.
T2SPD	Tandem tray 1 paper remaining quantity detector	Detects the remaining paper quantity in tandem tray 2.
TNDSET	Tandem tray installation detector	Detects installation of tandem tray.

No.	Name	Function/Operation
1	Paper pickup roller (Tandem 1, 2 paper feed tray)	Picks up paper to send to the paper feed roller.
2	Paper feed roller (Tandem 1, 2 paper feed tray)	Feeds paper to the paper transport section.
3	Separation roller (Tandem 1, 2 paper feed tray)	Separates paper to prevent double-feeding.
4	Torque limiter	Applies a certain level of resistance power to rotation of the separation roller in order to prevent against double feed.
5	Lift wire	Transmits the drive power of the paper tray lift motor to the paper feed tray.

(3) Tray paper feed section



Signal name	Name	Function/Operation
C3LUD	Tray 3 upper limit detector (Lift home position detection)	Detects the upper limit position of tray 3.
C3LUM	Paper tray lift motor (Tray 3)	Drives the lift of the paper tray.
C3PED	Tray 3 paper empty detector	Detects paper presence in tray 3.
C3PFD	Tray 3 paper entry detector	Detects paper entry from tray 3.
C3PUC	Tray 3 paper feed clutch	Controls ON/OFF of the paper feed roller in the tray 3 paper feed section.
C3PUS	Paper pickup solenoid (Tray 3)	Controls pickup of paper.
C3SPD	Tray 3 remaining quantity detector	Detects the remaining paper quantity in tray 3.
C3SS1	Tray 3 rear edge detector 1	Either of rear edge 1 - 4 of tray 3 is detected to detect tray insertion. The paper size of tray 3 is detected.
C3SS2	Tray 3 rear edge detector 2	
C3SS3	Tray 3 rear edge detector 3	
C3SS4	Tray 3 rear edge detector 4	
C4LUD	Tray 4 upper limit detector (Lift home position detection)	Detects the upper limit position of tray 4.
C4LUM	Paper tray lift motor (Tray 4)	Drives the lift of the paper tray.
C4PED	Tray 4 paper empty detector	Detects paper presence in tray 4.
C4PFD	Tray 4 paper entry detector	Detects paper entry from tray 4.
C4PUC	Tray 4 paper feed clutch	Controls ON/OFF of the paper feed roller in the tray 4 paper feed section.
C4PUS	Paper pickup solenoid (Tray 4)	Controls pickup of paper.
C4PWD	Cassette 4 width detection	Cassette 4 width detection
C4SPD	Tray 4 remaining quantity detector	Detects the remaining paper quantity in tray 4.
C4SS1	Tray 4 rear edge detector 1	Either of rear edge 1 - 4 of tray 4 is detected to detect tray insertion. The paper size of tray 4 is detected.
C4SS2	Tray 4 rear edge detector 2	
C4SS3	Tray 4 rear edge detector 3	
C4SS4	Tray 4 rear edge detector 4	
CPFM	Paper feed motor	Drives the paper feed section.
PTRC1	Cassette Vertical transport clutch	Cassette Vertical transport clutch control

No.	Name	Function/Operation
1	Paper pickup roller (Paper feed tray 3, 4)	Picks up paper to send to the paper feed roller.
2	Paper feed roller (Paper feed tray 3, 4)	Feeds paper to the paper transport section.
3	Separation roller (Paper feed tray 3, 4)	Separates paper to prevent double-feeding.
4	Torque limiter	Applies a certain level of resistance power to rotation of the separation roller in order to prevent against double feed.
5	Transport roller 1 (Drive)	Transports paper fed from the paper feed tray 4 to the transport roller 2.
6	Transport roller 2 (Drive)	Transports paper from the transport roller 1 to the transport roller 4.
7	Transport roller 3 (Drive)	Transports paper fed from the paper feed tray 3 to the transport roller 4.
8	Transport roller 4 (Drive)	Transports paper from the transport roller 2 and the transport roller 3 to the transport roller 5.
9	Paper size detection plate	This plate shifts its position in conjunction with the rear edge plate, and the rear edge is detected to detect the paper size.
10	Lift plate	Lifts paper to maintain the paper feed position at a certain level.
11	Regulation plate	Regulates paper in the transverse direction.
12	Rear edge plate	Regulates paper in the longitudinal direction.

B. Operational descriptions

(1) Bypass

The pickup roller moves up and down to press the paper surface, separating the paper on the top of the paper bundle and sending it to the paper feed roller section.

The paper feed roller feeds paper to the transport section to prevent against double feed with the separation roller. The manual paper feed clutch controls ON/OFF of the pickup roller and the paper feed roller. Paper is sent to the registration roller by the manual transport roller.

(2) Tandem paper feed

a. Paper size for each paper feed tray

Paper tray 1 accepts paper of A4, 11" x 8.5", or B5. Paper tray 2 accepts paper of A4 (11" x 8.5") only.

b. Paper feed operation

- When the copy/print operation is started, the motor (CPFM) and the clutch (T1PUC) are turned ON to turn ON the solenoid (T1PUS) at the timing of paper pickup. This rotates the takeup roller and lowers it to pick up paper.
- At the same time, the paper feed roller rotates to feed paper to the transport section. At that time, the separation roller rotates to prevent double feed of paper.

(3) Tray paper feed

a. Paper feed front operation

- Set paper and insert the paper feed tray, and the pickup roller falls to turn ON the paper feed tray sensor.
- The lift-up motor drives the rotating plate to move it up.
- The paper upper limit sensor turns ON, and the rotation plate stops at the specified position.

b. Paper feed operation

- When copy/print operation is started, the motor and the clutch are turned ON to rotate the pickup roller in the paper pickup timing, feeding paper.
- At the same time, the paper feed roller rotates to transport paper to the transport section. At that time, the separation roller rotates to prevent against double feed of paper.

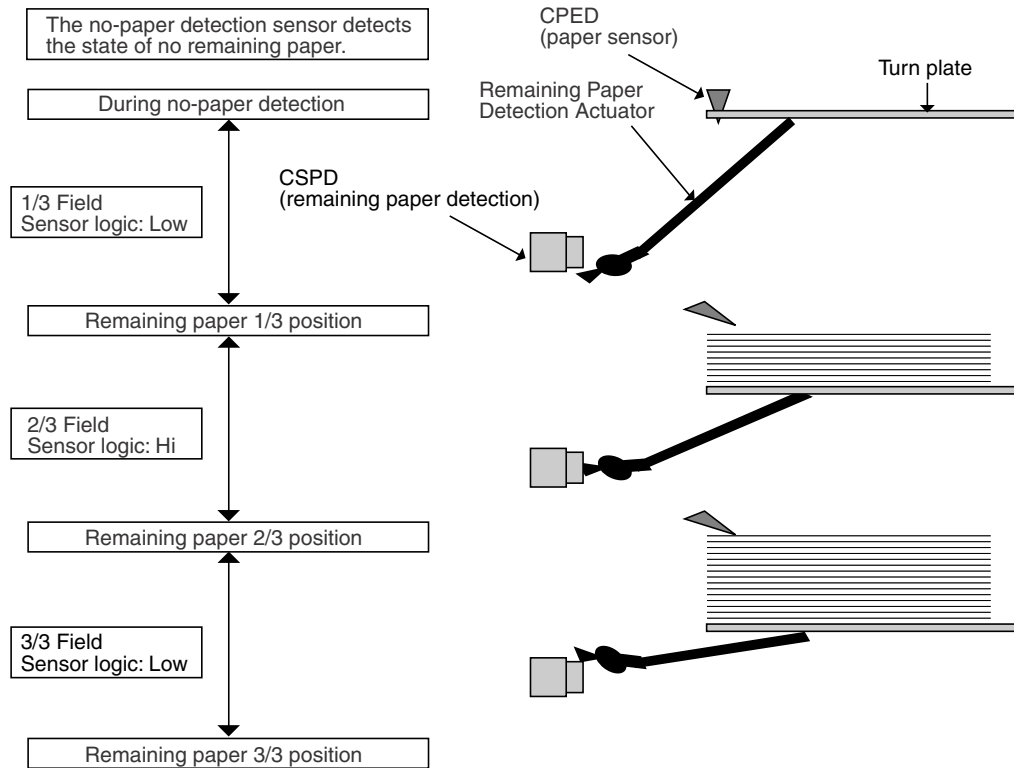
c. Paper remaining detection

- The notifying levels of paper remaining quantity are 4 steps in total; 3 steps of paper remaining quantity and 1 step of paper empty. The result is displayed.

d. Paper remaining quantity detection method

- The paper remaining quantity is judged from the number of rotations of the remaining quantity sensor from starting the lift-up operation of the paper feed tray to turning ON the upper limit sensor.

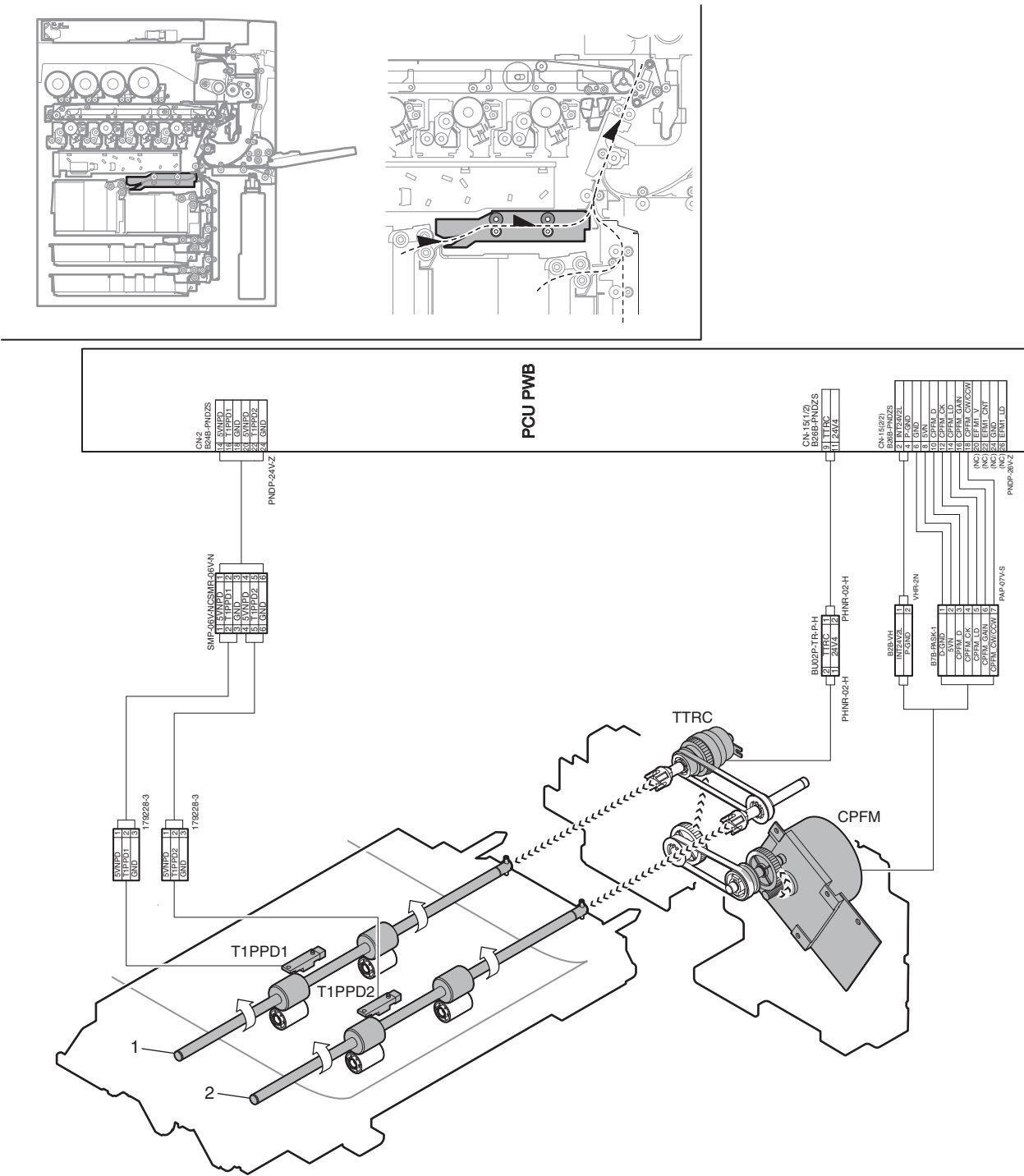
(Figure showing state transition of the remaining paper detection sensor during tray elevation and changes in status according to the number of remaining sheets)



5. Paper transport section

A. Electrical and mechanical relation diagram

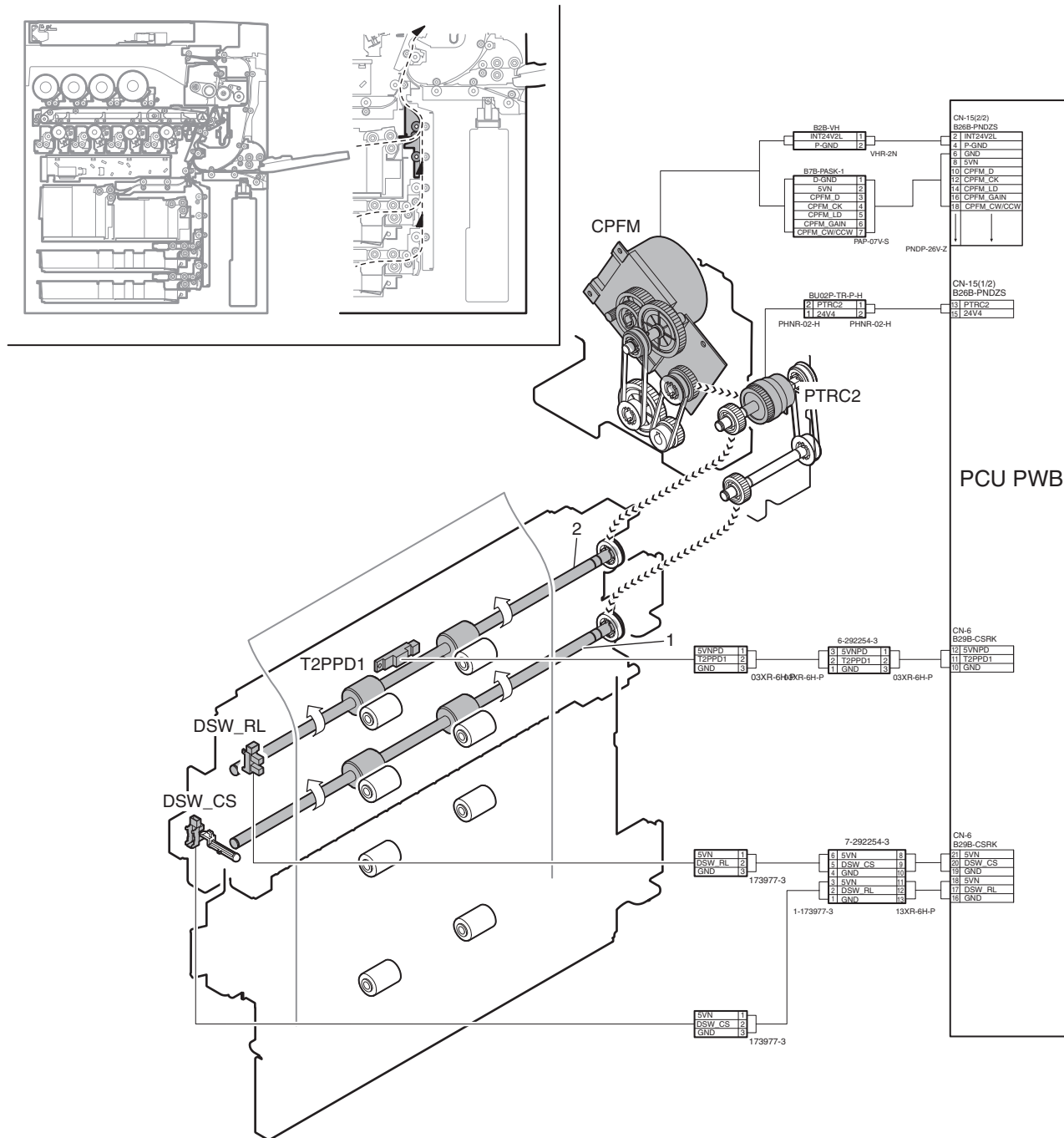
(1) Interface pass unit



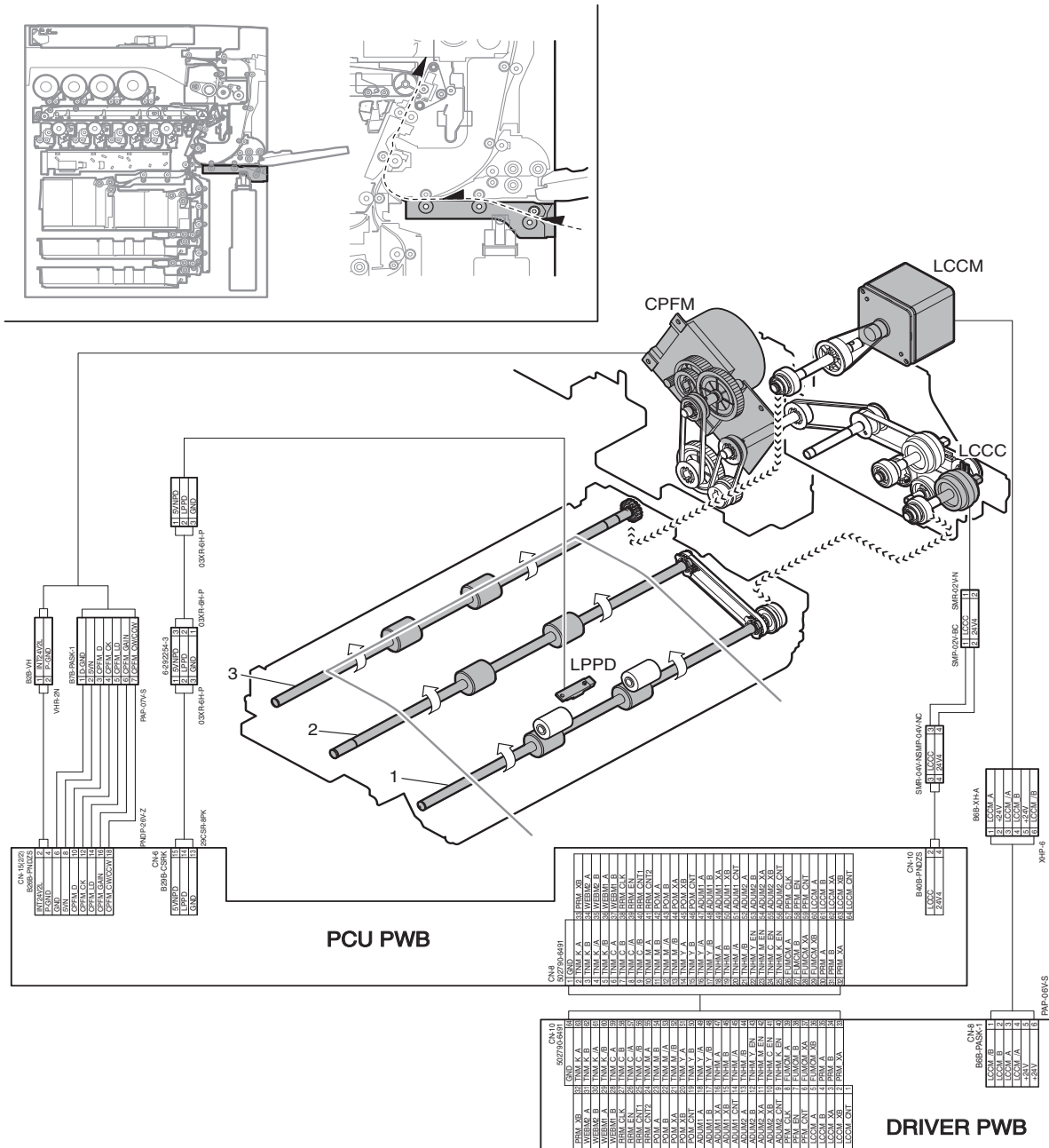
Signal name	Name	Function/Operation
CPFM	Paper feed motor	Drives the paper feed section.
T1PPD1	Tandem tray 1 transport sensor 1	Detects paper entry from tandem tray 1.
T1PPD2	Tandem tray 1 transport sensor 2	Detects paper pass from tandem tray 1.
TTRC	Tandem tray transport clutch	Controls ON/OFF of transport rollers 6/7.

No.	Name	Function/Operation
1	Transport roller 6 (Drive)	Transports paper from the tandem tray 1 to the transport roller 7.
2	Transport roller 7 (Drive)	Transports paper from the transport roller 6 to the transport roller 13.

(2) Vertical transport unit



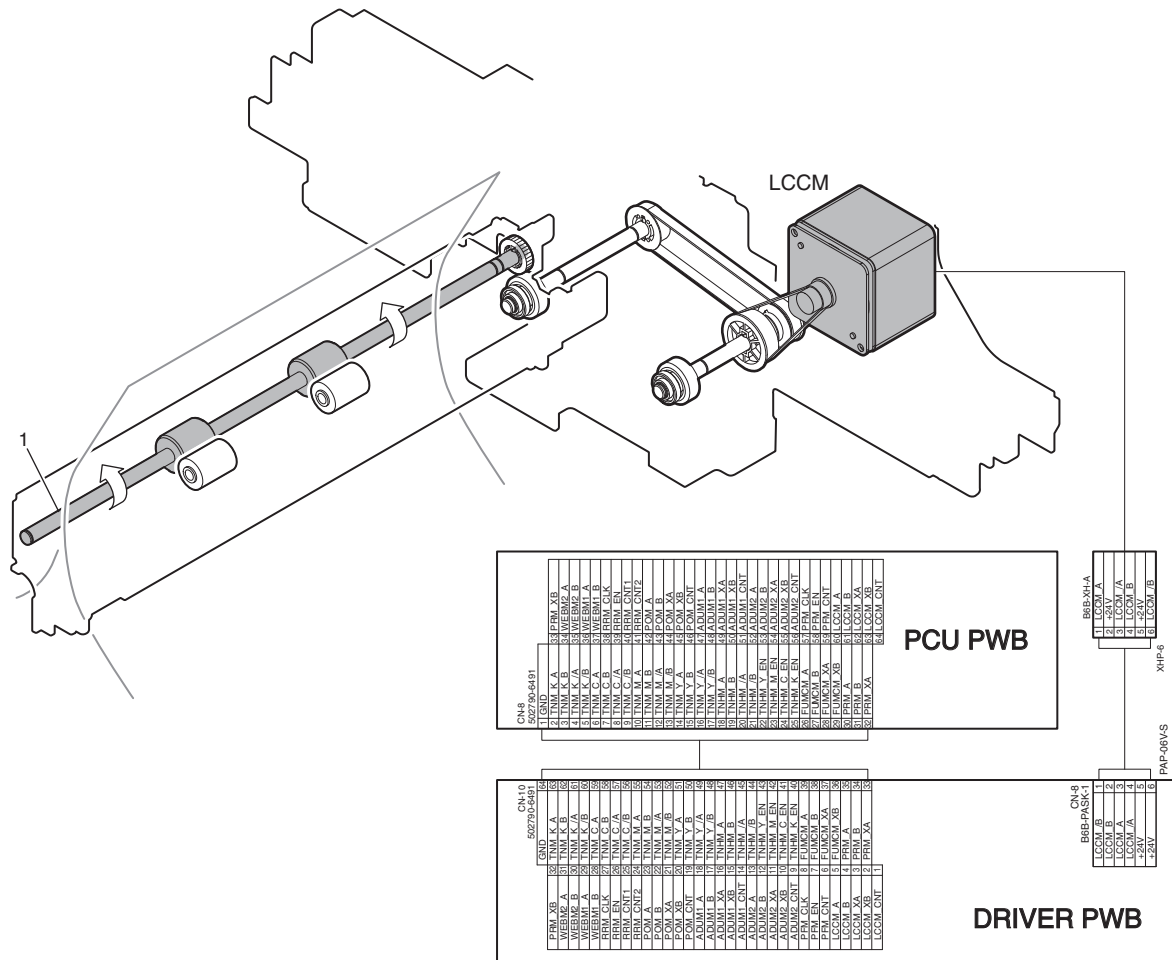
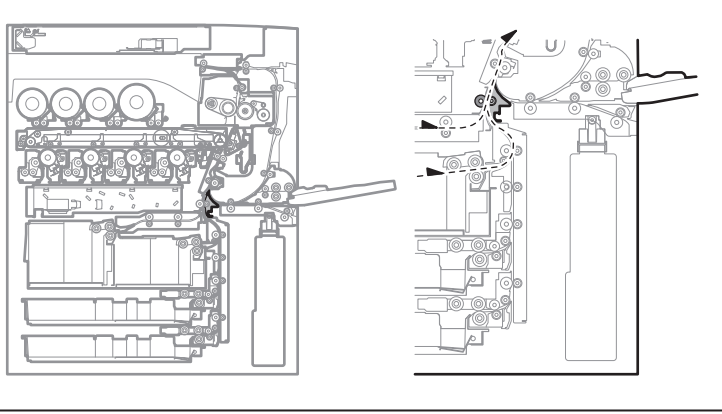
(3) LCC transport unit



Signal name	Name	Function/Operation
CPFM	Paper feed motor	Drives the paper feed section.
LCCC	LCC paper entry clutch	Controls ON/OFF of the roller in the LCC transport section.
LCCM	LCC transport motor	Drives the LCC transport section.
LPPD	LCC paper entry detector	Detects paper transported from the LCC.

No.	Name	Function/Operation
1	Transport roller 14 (Drive)	Transports paper fed from the LCC to the transport roller 15.
2	Transport roller 15 (Drive)	Transports paper to the transport roller 16.
3	Transport roller 16 (Drive)	Transports paper to the transport roller 17.

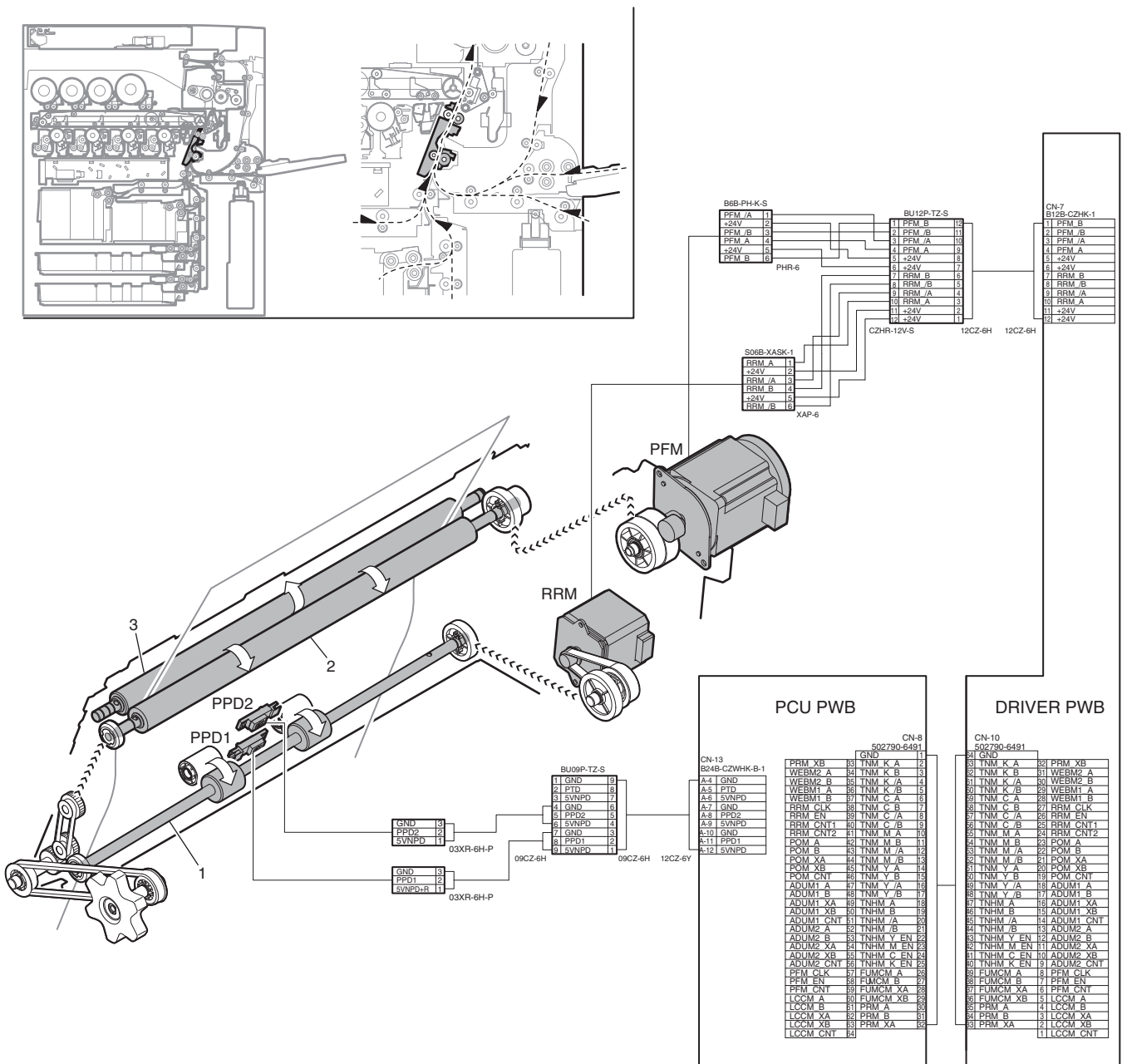
(4) PS lower unit



Signal name	Name	Function/Operation
LCCM	LCC transport motor	Drives the LCC transport section and the PS lower section.

No.	Name	Function/Operation
1	Transport roller 13 (Drive)	Transports paper to the transport roller 17.

(5) PS unit



Signal name	Name	Function/Operation
PFM	Transport motor	Transports and drives the registration roller.
PPD1	Registration pre-pre-detection	Detects the paper in front of transport roller 17.
PPD2	Registration pre-detection	Detects the paper in front of registration roller.
RRM	Registration motor	Drives the registration roller and controls ON/OFF.

No.	Name	Function/Operation
1	Transport roller 17 (Drive)	Transports paper from transport roller 13 to registration roller.
2	Registration roller (Drive)	Transports paper to the transfer section. Controls the transport timing of paper, and adjusts the relative relations between images and paper.
3	Registration roller (Idle)	Apply a pressure to paper and the registration roller to provide the transport power of the transport roller to paper.

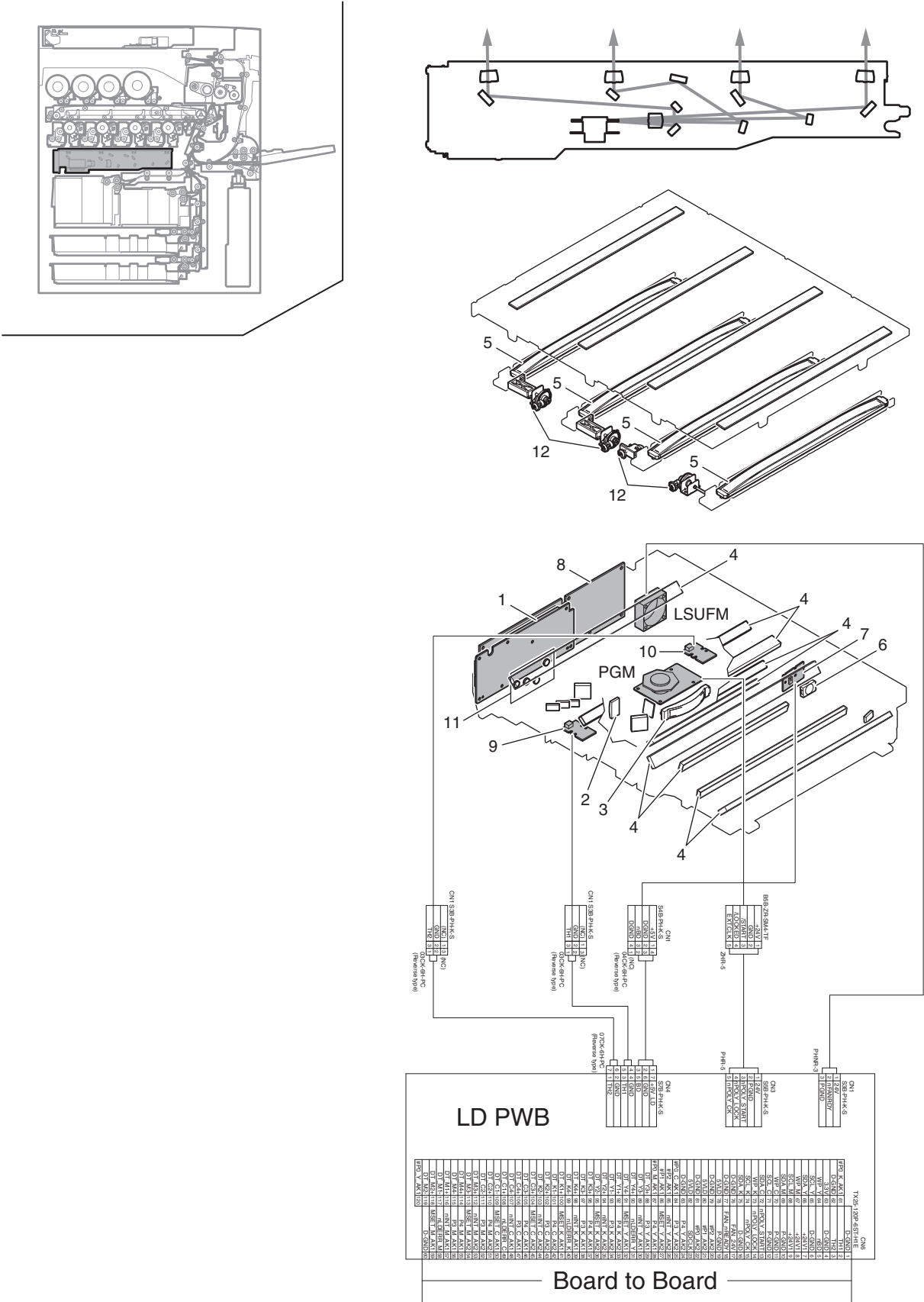
B. Operational descriptions

Transport paper from each paper feed section to the registration roller with two or more transport rollers. The paper transport clutch controls ON/OFF of each transport roller. The registration roller controls the relative positions of the transported paper and transfer images.

The registration roller controls the relative positions of the transported paper and transfer images. The registration roller is driven by the transport motor. The relative positions of the paper and the transfer images are determined by the ON timing of the transport motor.

6. LSU section

A. Electrical and mechanical relation diagram



Signal name	Name	Function/Operation
LSUFM	LSU cooling fan motor	Cools the section LSU.
PGM	Polygon motor	Reflects the laser beams at constant-speed rotating.
TH1_LSU	LSU temperature sensor 1	Detects the temperature in the LSU.
TH2_LSU	LSU temperature sensor 2	Detects the temperature in the LSU.

No.	Name	Function/Operation
1	LD PWB	Controls drive and power of the laser diode.
2	Cylindrical lens	Converges laser beams, and focuses on the polygon mirror. (sub scanning direction)
3	f θ lens 1	Converges laser beams on the OPC drum, making the laser scan speeds at both ends and the center the same.
4	Reflection mirror	Assures the optical path for laser.
5	f θ lens 3	Converges laser beams on the OPC drum, making the laser scan speeds at both ends and the center the same.
6	Collective lens for BD	Converges laser beams to the BD PWB.
7	BD PWB	Detects the timing for starting laser scanning.
8	LSU control PWB	Laser beams are controlled and the polygon motor control signal is generated according to the PCU PWB control signal and the MFPC PWB image data.
9	LSU thermistor 1	Measures the temperature in LSU.
10	LSU thermistor 2	Measures the temperature in LSU.
11	Collimator lens	Arranges laser beams.
12	Skew adjustment screw	This screw is used to adjust the radiation angle of laser beams for the OPC drum. By turning this adjustment screw, the image skew can be adjusted.

B. Operational descriptions

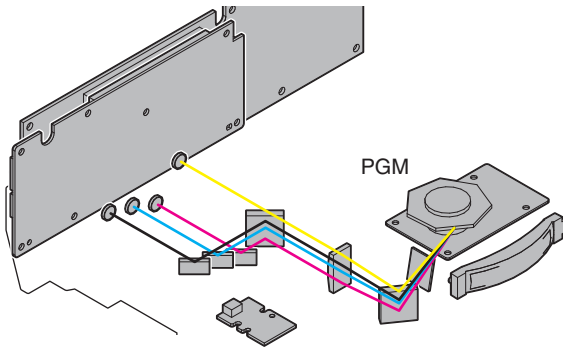
(1) Outline

Image data sent from the image process circuit are converted into laser beams which are radiated to the surface of the OPC drum.

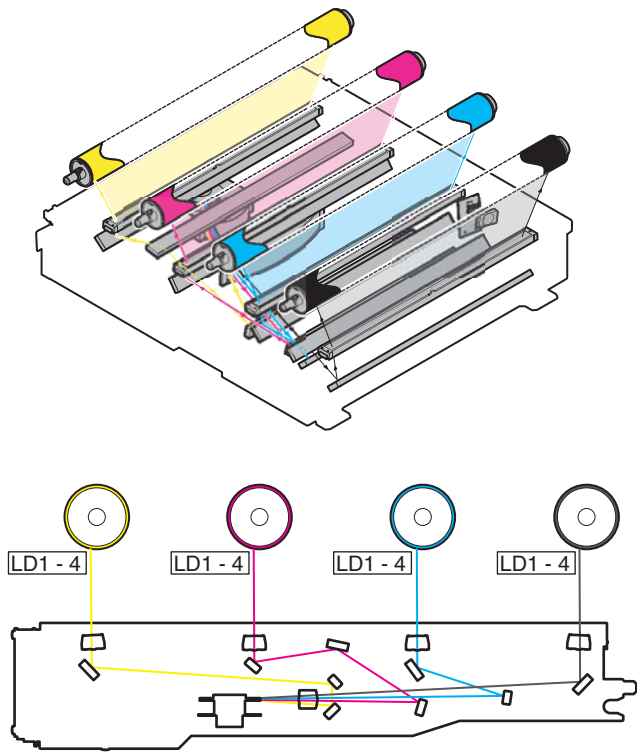
In this model, 4-laser system is employed where 4-laser diodes for each color are radiated. The LSU unit is composed of the optical element from laser to the polygon mirror, the primary system including the mirror which assures light path, and the main scanning system.

(2) Composition

Primary system

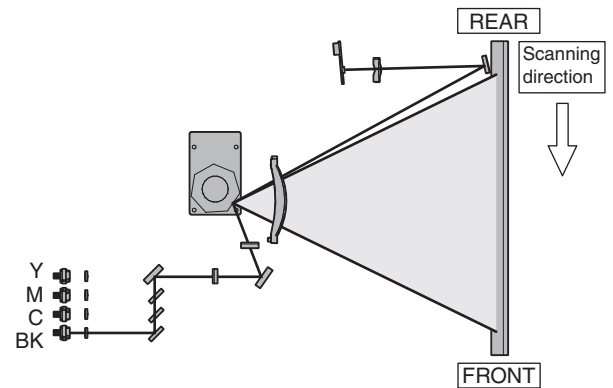


Scanning system



* Though four laser beams are actually radiated for one color, they are illustrated as one beam.

Main scanning direction



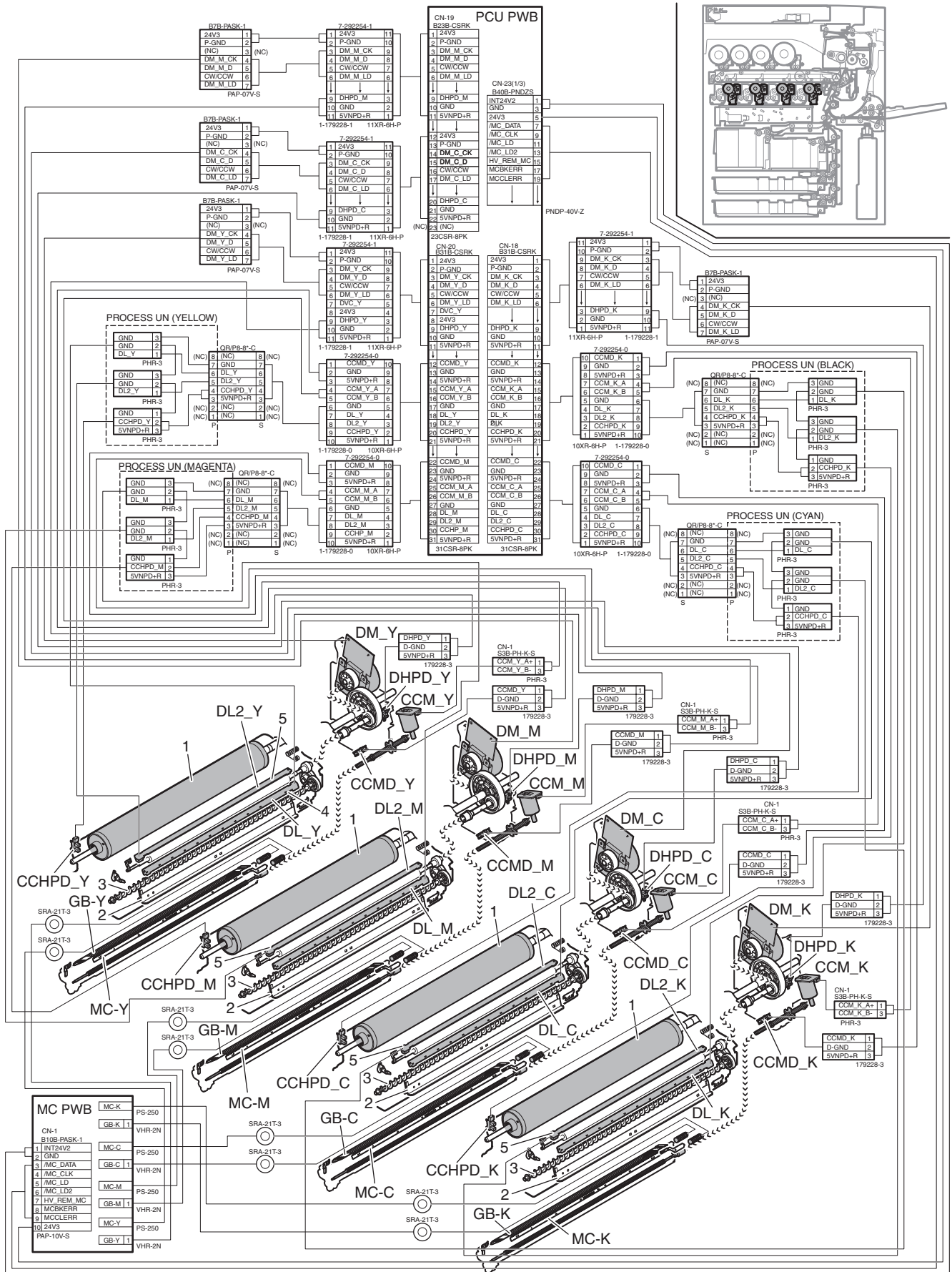
* Though four laser beams are actually radiated for one color, they are illustrated as one beam.

(3) Outline of LSU specifications

Scanning width:	329mm
Resolution:	1200dpi
Beam diameter:	Main scan = 50 to 80μm, Sub scan = 50 to 80μm
Laser power:	Max.0.375mW/1Beam
LD wavelength:	775 - 800nm

7. OPC drum section

A. Electrical and mechanical relation diagram



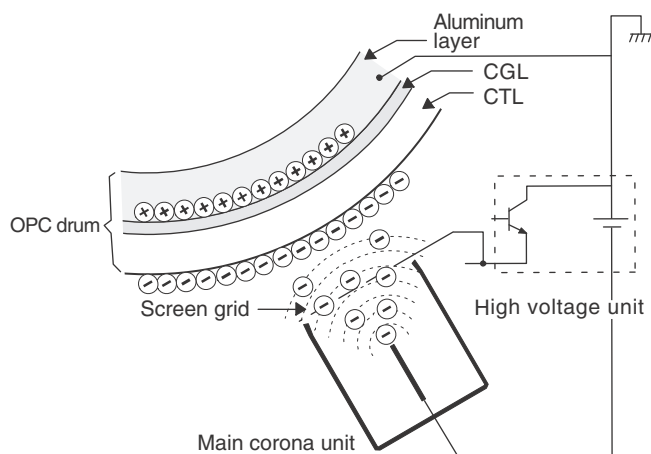
Signal name	Name	Function/Operation
CCHPD_KCMY	Charger cleaner home position sensor (K, C, M, Y)	Detects the charger cleaner home position. (CCHP_KCMY)
CCMD_KCMY	Charger cleaner shift sensor (K, C, M, Y)	Detects and controls shift of the charger cleaner.
DHPD_KCMY	OPC drum rotation sensor (K, C, M, Y)	Detects rotation and the phase of the OPC drum.
DL	Discharge lamp	Discharges the OPC drum surface.
DL2	After-transfer discharge lamp	Discharges the OPC drum surface immediately after transfer.
DM_KCMY	Drum motor	Drives the cyan OPC drum.
GB	Grid bias	The OPC drum surface potential is controlled.
MC	Main charger	The OPC drum surface is charged negatively.

No.	Name	Function/Operation
1	OPC drum	Latent electrostatic images are formed.
2	Cleaning blade	Cleans and remove residual toner from the OPC drum surface.
3	Waste toner transport screw	Transports remaining toner in the OPC drum unit to the waste toner collection section.
4	Discharge lamp	Reduces the surface potential of the OPC drum.
5	After-transfer discharge lamp	Reduces the surface potential of the OPC drum immediately after transfer.

B. Operational descriptions

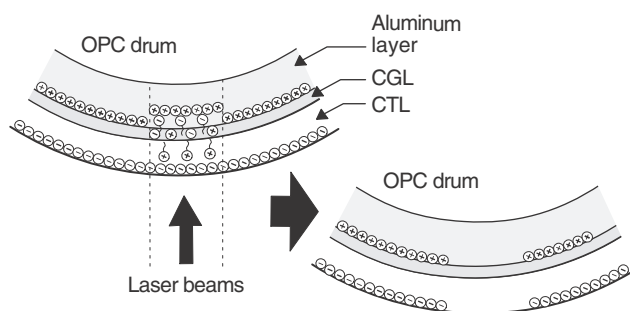
The OPC drum surface is negatively charged by the main charger. The laser beam images are radiated to the OPC drum surface by the laser (writing) unit to form latent electrostatic images.

- 1) The OPC drum surface is negatively charged by the 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 lights are radiated to the OPC drum surface by the laser (writing) unit to form latent electrostatic images.



When laser lights are radiated to the OPC drum CGL, negative and positive charges are generated.

Positive charges generated on the CGL are attracted by the negative charges on the OPC drum surface. On the other hand, negative charges are attracted by the positive charges in the aluminum layer of the OPC drum.

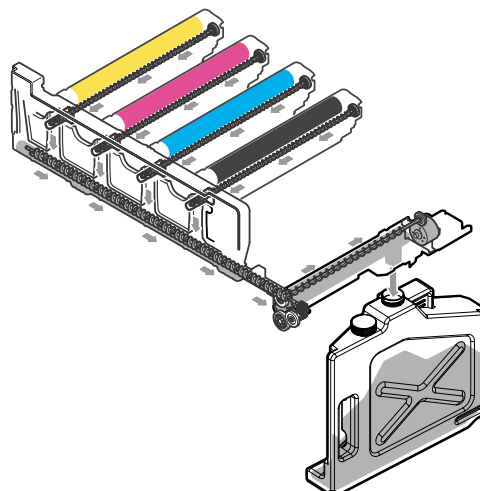
Therefore, positive charges and negative charges are balanced out on the OPC drum and in the aluminum layer, reducing positive and negative charges to decrease the OPC drum surface voltage.

Electric charges remain at a position where laser lights are not radiated.

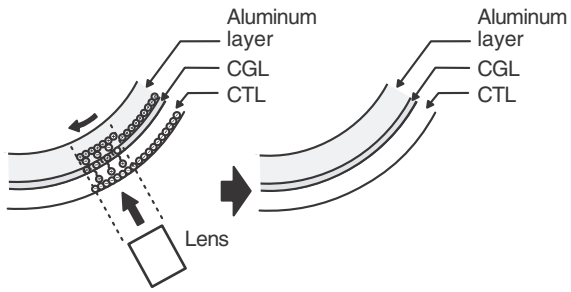
As a result, latent electrostatic images are formed on the OPC drum surface.

- 3) After transfer operation, remaining toner is removed by the cleaning blade.

Toner removed from the OPC drum surface is transported to the waste toner section by the waste toner transport screw.



- 4) The whole surface of the OPC drum is discharged.



By radiating the discharge lamp light to the discharge lens, light is radiated through the lens to the OPC drum surface.

When the discharge lamp light is radiated to the OPC drum CGL, positive and negative charges are generated.

Positive charges generated on the CGL are attracted by the negative charges on the OPC drum surface. On the other hand, negative charges are attracted by the positive charges in the aluminum layer of the OPC drum.

Therefore, positive 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.

(1) Toner supply section



Signal name	Name	Function/Operation
TBFM	Toner bottle fan motor	Cools the surrounding of the toner bottle.
TFSD_KCMY	Toner remaining quantity sensor	Detects the remaining toner quantity.
TNHM_KCMY	Hopper motor	Transports toner.
TNM_KCMY	Toner motor	Transports toner from the toner bottle to the toner hopper unit.

B. Operational descriptions

(1) Outline

Adoption of the rotating toner bottle enables large capacity with a compact toner cartridge size.

When the remaining toner detection sensor in the toner hopper unit detects no toner, the toner bottle turns to supply toner to the toner hopper.

After supplying, full or empty status is detected at the toner hopper inside. Therefore even if the toner cartridge becomes empty, copying is not immediately suspended because toner inside the toner hopper is used.

A. Electrical and mechanical relation diagram

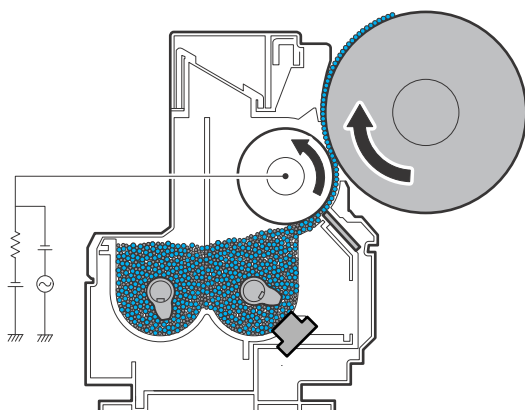


Signal name	Name	Function/Operation
DM_KCMY	Drum motor	Drives the developer and the drum.
DVC_KCMY	Development drive clutch	Clutch for development drive
GB-KCMY	Developing bias	Bias for development
TCS_KCMY	Toner density sensor	Controls the toner density in the developing unit.

No.	Name	Function/Operation
1	Developer roller	Latent electrostatic images on the OPC drum are changed to visible images.
2	Mixing roller	Mixing of developer
3	Toner filter	Prevents dispersing of toner

B. Operational descriptions

This converts the electrostatic latent images on the OPC drum generated by the laser (writing) unit into visible images with toner.



Toner and carrier in the developing unit are stirred and transported by the mixing roller.

By mixing and transporting, toner and carrier are negatively charged due to mechanical friction.

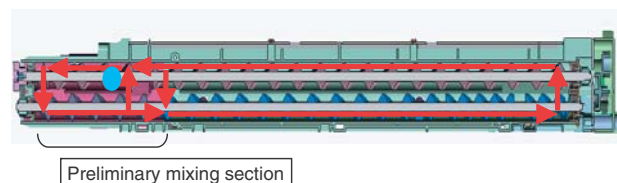
The developing bias voltage (AC component and negative DC component) is applied to the developing roller.

Negatively charged toner is attracted to the exposed section on the OPC drum where the negative potential falls due to the developing bias.

If the OPC drum is not exposed, the negative potential is higher than the developing bias voltage, and toner is not attracted.

(1) Preliminary mixing system

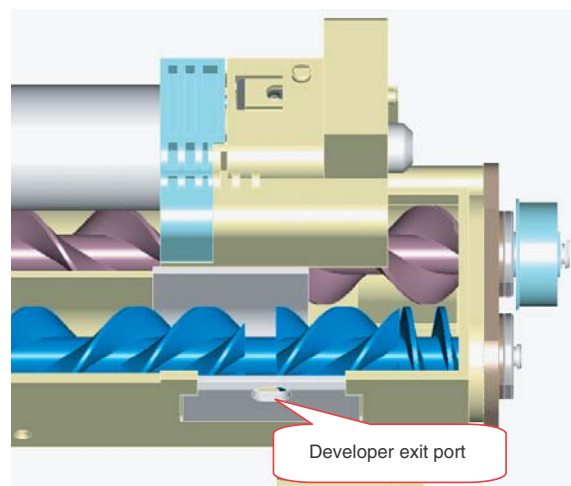
The preliminary mixing section is extended for rapid mixing of supply toner with developer and stable toner density.



(2) Developer refresh system

Developer deterioration suppression technology for the purpose of charging stability and long-life of developer.

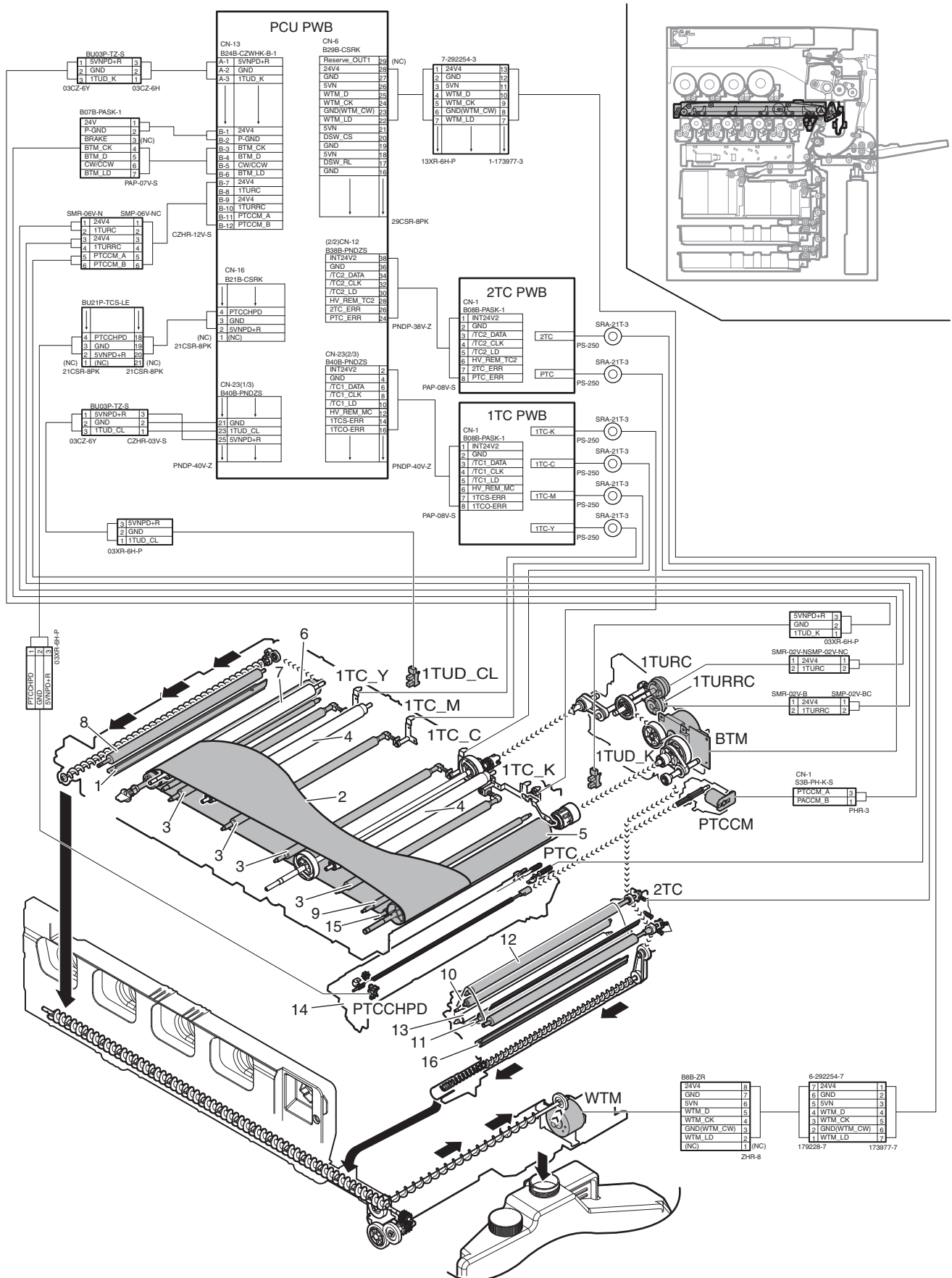
Waste developer is discharged from the developer exit port little by little as shown in the figure below to maintain developer fresh.



10. Transfer section

A. Electrical and mechanical relation diagram

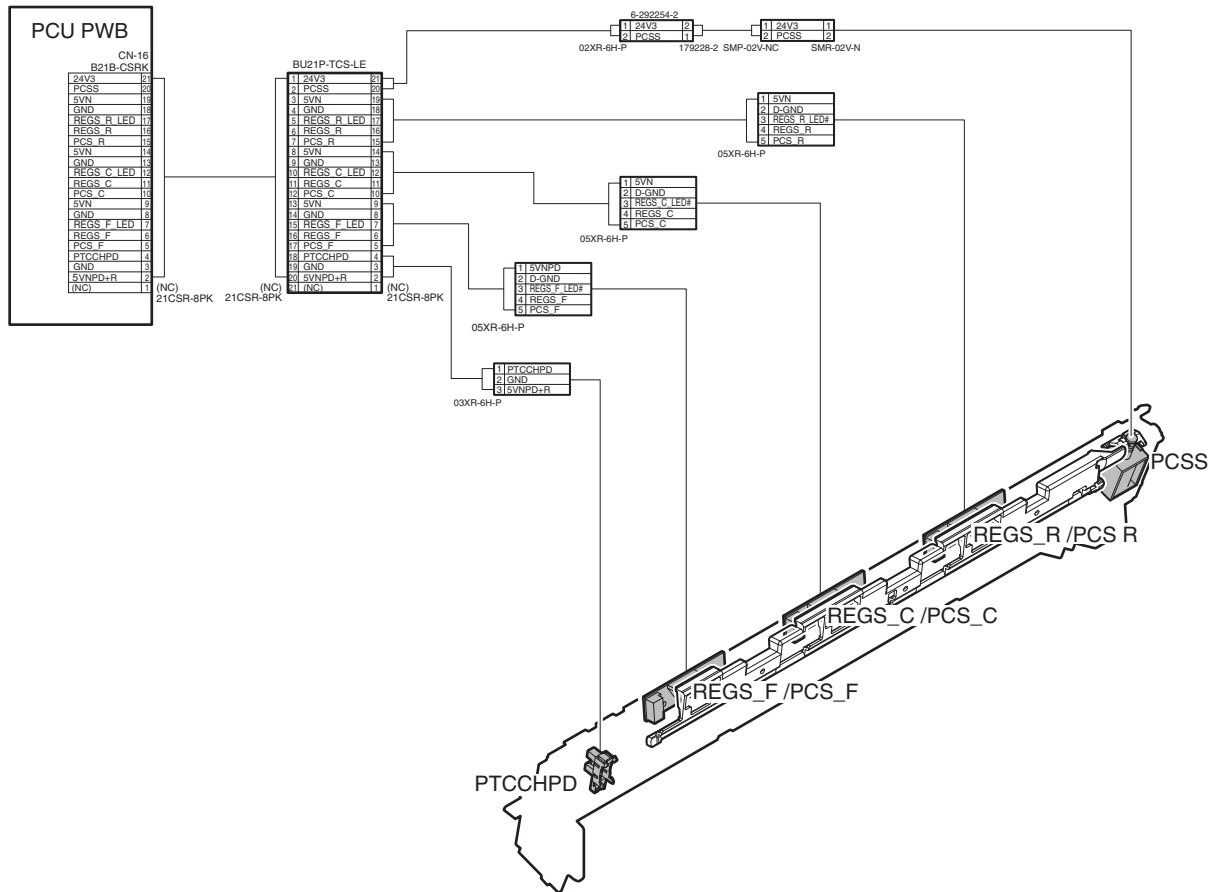
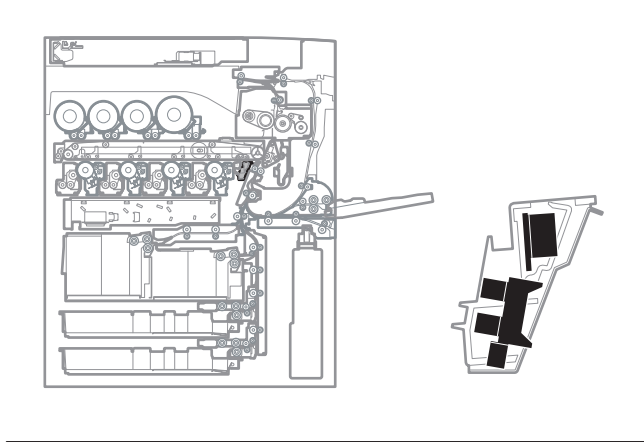
(1) Transfer section



Signal name	Name	Function/Operation
1TC-CMY	Primary transfer output (CMY)	Color transfer high voltage
1TC-K	Primary transfer output (K)	B/W transfer high voltage
1TUD_CL	Transfer mode detector (CL)	Color transfer roller position detection
1TUD_K	Transfer mode detector (BK)	B/W transfer roller position detection (1TUD_BK)
1TURC	Primary transfer separation clutch	Controls the primary transfer separation mode.
1TURRC	Primary transfer separation reverse clutch	Controls the primary transfer separation mode.
2CL	Secondary transfer brush roller output	Cleans the secondary transfer section.
2DR	Secondary transfer drive roller output	Reduces toner splash in separation.
2TC	Secondary belt transfer output	Secondary transfer high voltage
BTM	Transfer belt motor	Drives the transfer belt.
PTC	PTC output	PTC high voltage
PTCCHPD	PTC cleaner home position sensor	Detects the PTC cleaner home position. (PTCHP)
PTCCM	PTC cleaning motor	Drives the PTC cleaner.
WTM	Waste toner drive motor	Transports waste toner.

No.	Name	Function/Operation
1	Primary transfer cleaner blade	Clean and remove residual toner from the primary transfer belt.
2	Primary transfer belt	Toner on the drum is transferred to form toner images on the belt.
3	Primary transfer roller	Transfers toner images on the OPC drum to the primary transfer belt.
4	Primary transfer idle roller	Transfer belt follower.
5	Primary transfer belt drive roller	Drives the transfer belt.
6	Primary transfer belt follower roller	Transfer belt follower.
7	Primary transfer belt tension roller	Apply a tension to the transfer belt.
8	Belt CL brush	Transfer belt back surface cleaning.
9	PTC opposing roller	Roller to flow a PTC current.
10	Secondary transfer belt	Transfers toner images on the primary transfer belt to paper.
11	Secondary transfer roller	Transfers toner images on the primary transfer belt to paper.
12	Secondary transfer belt drive roller	Drives the transfer belt.
13	Secondary transfer belt follower roller	Transfer belt follower.
14	PTC unit	Reduces the positive charges on the primary transfer belt.
15	Registration backup roller	Holds the belt position in the registration section in the process control.
16	Secondary transfer blade	Cleans remaining toner on the secondary transfer belt.

(2) Process registration sensor section



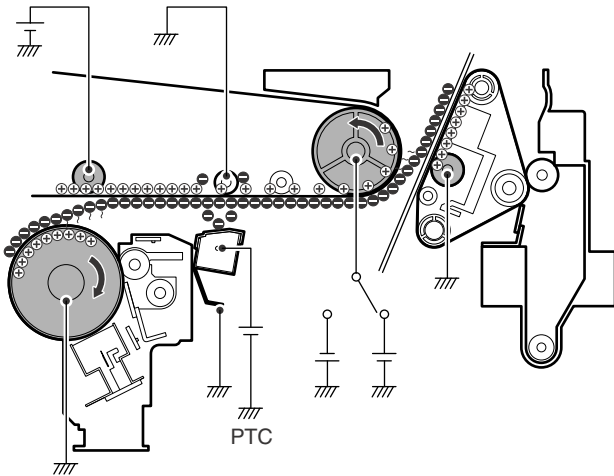
Signal name	Name	Function/Operation
PCSS	Color image density sensor PWB reflection plate shutter solenoid	Opens/closes the shutter of the process control and the registration sensor.
PTCCHPD	PTC cleaner home position detection	Detects the PTC cleaner home position.
REGS_C/PCS_C	Color image density sensor/Image registration sensor C	Detection of registration shift on the machine front (C) side, and detection of the M/BK toner patch density.
REGS_F/PCS_F	Color image density sensor/Image registration sensor F	Detection of registration shift on the machine front (F) side, and detection of the C toner patch density.
REGS_R/PCS_R	Color image density sensor/Image registration sensor R	Detection of registration shift on the machine front (R) side, and detection of the Y toner patch density.

B. Operational descriptions

(1) Transfer

a. Transfer operation

a-1. Transfer operation



Toner images on the OPC drum are transferred to the primary transfer belt by applying the positive high voltage to the primary transfer roller.

Negative charge is generated by the PTC unit, and this strengthens negative charges on the transfer belt, improving the secondary transfer efficiency.

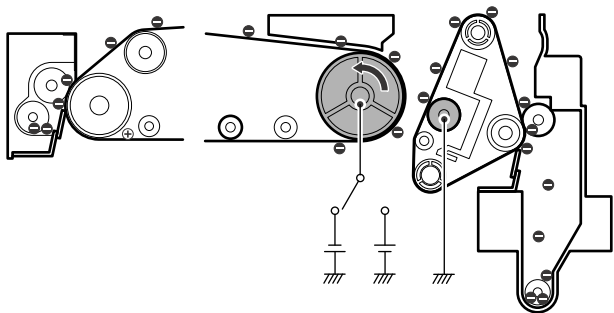
By this operation, the transfer efficiency in the secondary transfer is improved.

Then a high negative voltage is applied to the primary transfer belt to transfer the toner images from the primary transfer belt to paper. In the monochrome mode and the color mode, the black (K) transfer voltage is selected.

a-2. Cleaning operation

Toner is cleaned by the secondary transfer cleaning blade, and transported to the waste toner section.

Unnecessary toner remained on the secondary transfer belt is transferred to the primary transfer belt by making the polarity of the applying voltage to the primary transfer belt. Then it is cleaned by the primary transfer belt cleaning blade to be transported to the waste toner section.

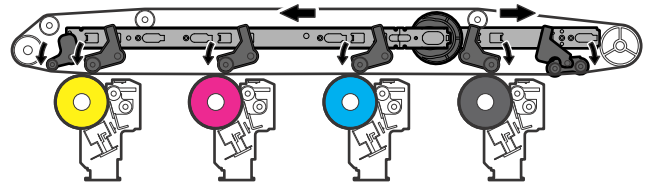


b. Primary (intermediate) transfer roller separation mechanism and contents

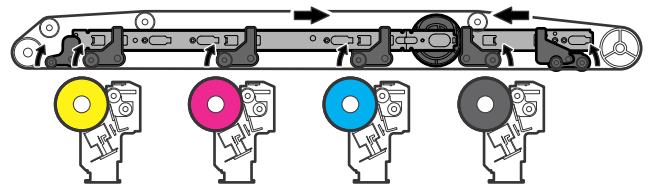
The primary transfer roller operates pressing all the rollers, separates all the rollers, or presses only black depending on the operation mode.

When the roller separation clutch (1TURC) turns ON, the transfer cam rotates to shift the primary transfer link and the primary transfer arm linked with the cam in the arrow direction, performing separation operation of the roller.

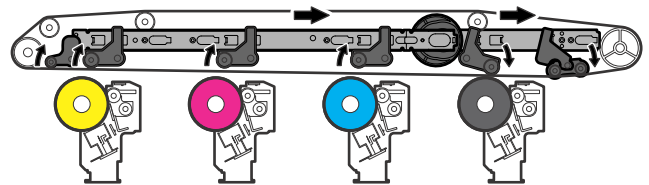
All pressing



All separating



Pressing only black



It also performs all pressing, all separating, or pressing only black with the roller separation sensors (1TUD_CL, 1TUD_K) and the separation detection arm.

	1TUD_CL	1TUD_BK
All pressing	ON	OFF
All separating	OFF	ON
Pressing only black	OFF	OFF

(2) Image density detection and registration detection

The image density and the image registration are detected by the sensors provided at the front, the center, and the rear of the frame.

a. Function and operation of the color image density sensor/ image registration sensor

a-1. Image registration sensor

The shift of the image registration (F, C, R) is detected.

a-2. Process control sensor/Image registration sensor

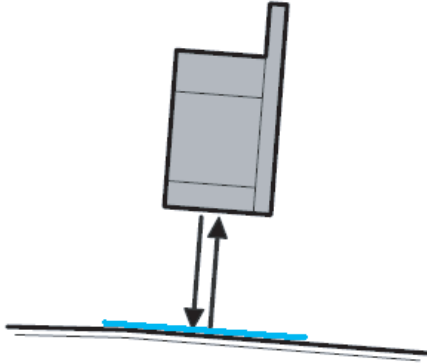
	Process control sensor	Image registration sensor
Rear	Y	R
Center	M/BK	C
Front	C	F

Sensitivity adjustment of the color sensor light receiving elements (Photo transistors)

Purpose: To maintain the sensitivity of the light receiving elements even if the environmental conditions (temperature and humidity) vary.

Execution timing: This adjustment is executed in the process control when the temperature or the humidity varies.

Method: Use the patch written on the primary transfer to adjust the sensor sensitivity.

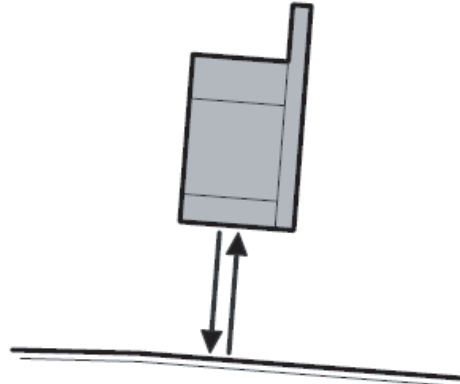


Light emitting current of the sensor LED (Light emitting diode)

Purpose: To maintain the light emitting quantity of the sensor even if the sensor LED is aged or the environmental conditions vary.

Execution timing: Every time when the process control is made.

Method: Reflection on the surface of the primary transfer belt is used to adjust the sensor sensitivity.



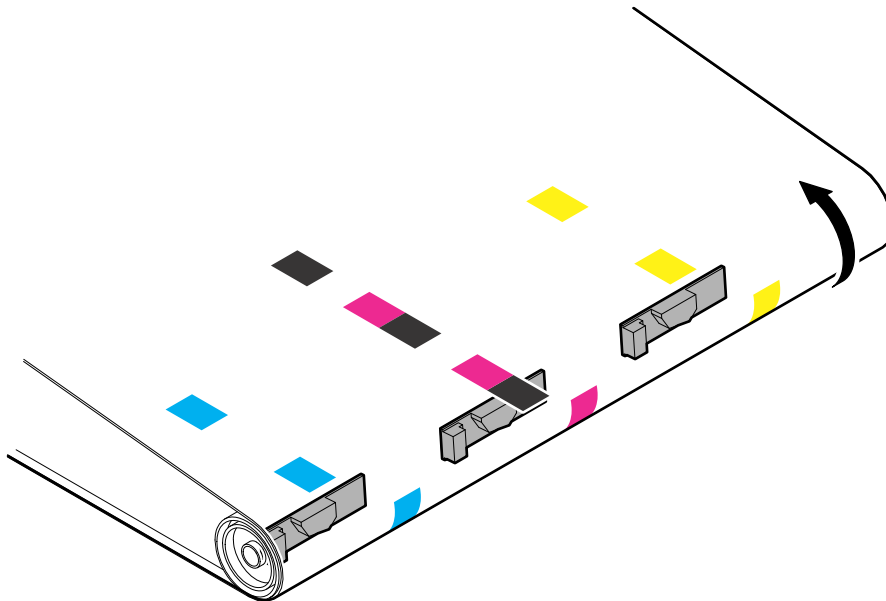
b. High density process control operation (Toner patch generation and density correction operations)

- 1) When the machine enters the high density process control mode, the secondary transfer unit remains in the printing position.
- 2) While changing the DV bias voltage step by step, a number of toner patches in different densities are generated on the primary transfer belt.

Front: The C toner patch is generated.

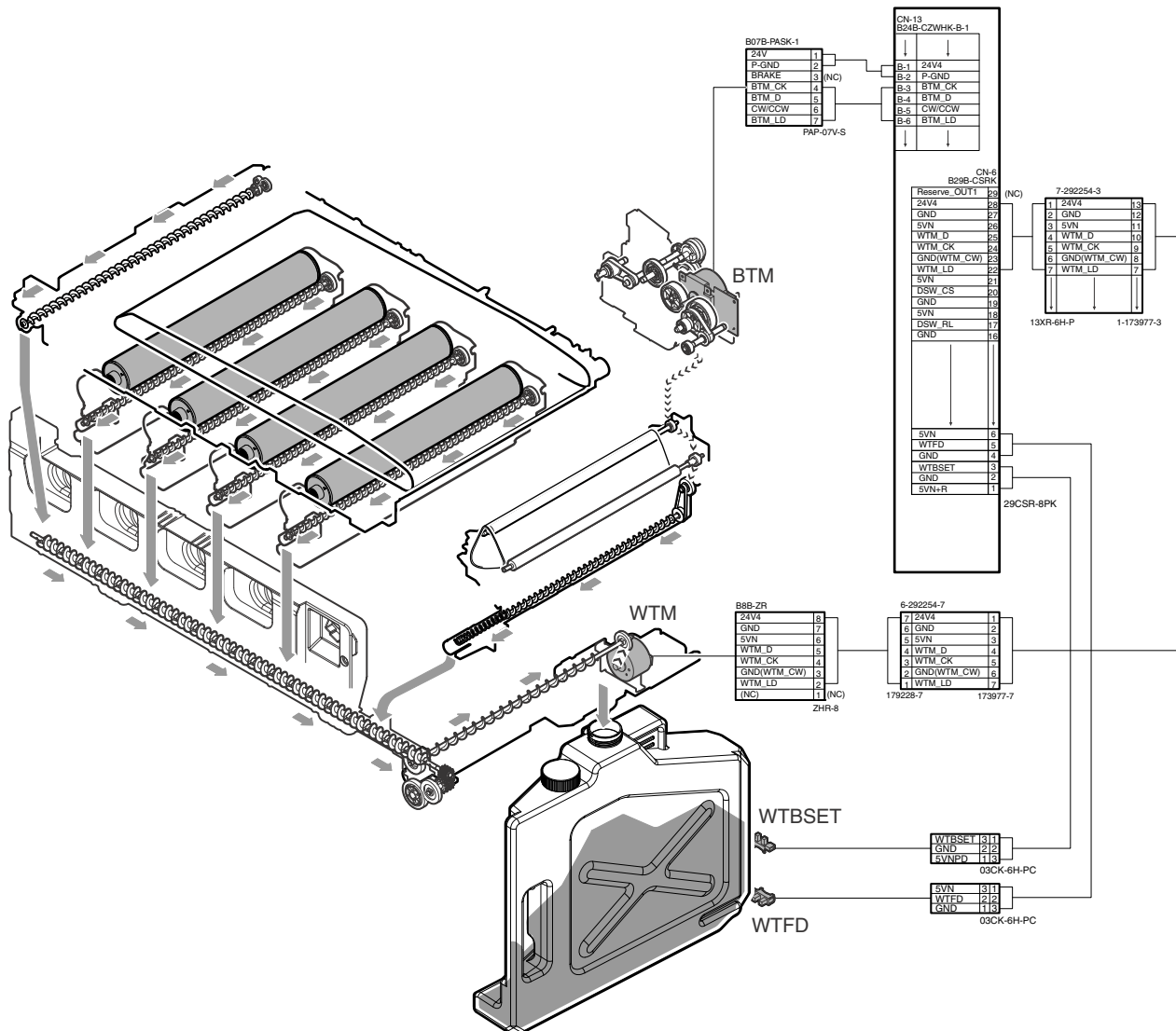
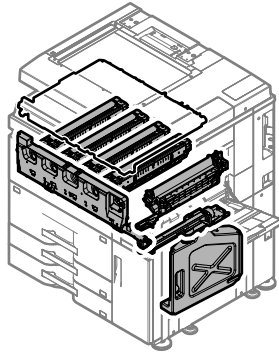
Center: The Bk, M toner patch is generated.

Rear: The Y toner patch is generated.



- 3) Each toner patch density is detected by the image density sensor, and the DV bias correction voltage is calculated in the PCU PWB so that the proper density is obtained from the relation between the DV bias voltage at the time when each toner patch is made and the toner patch density.

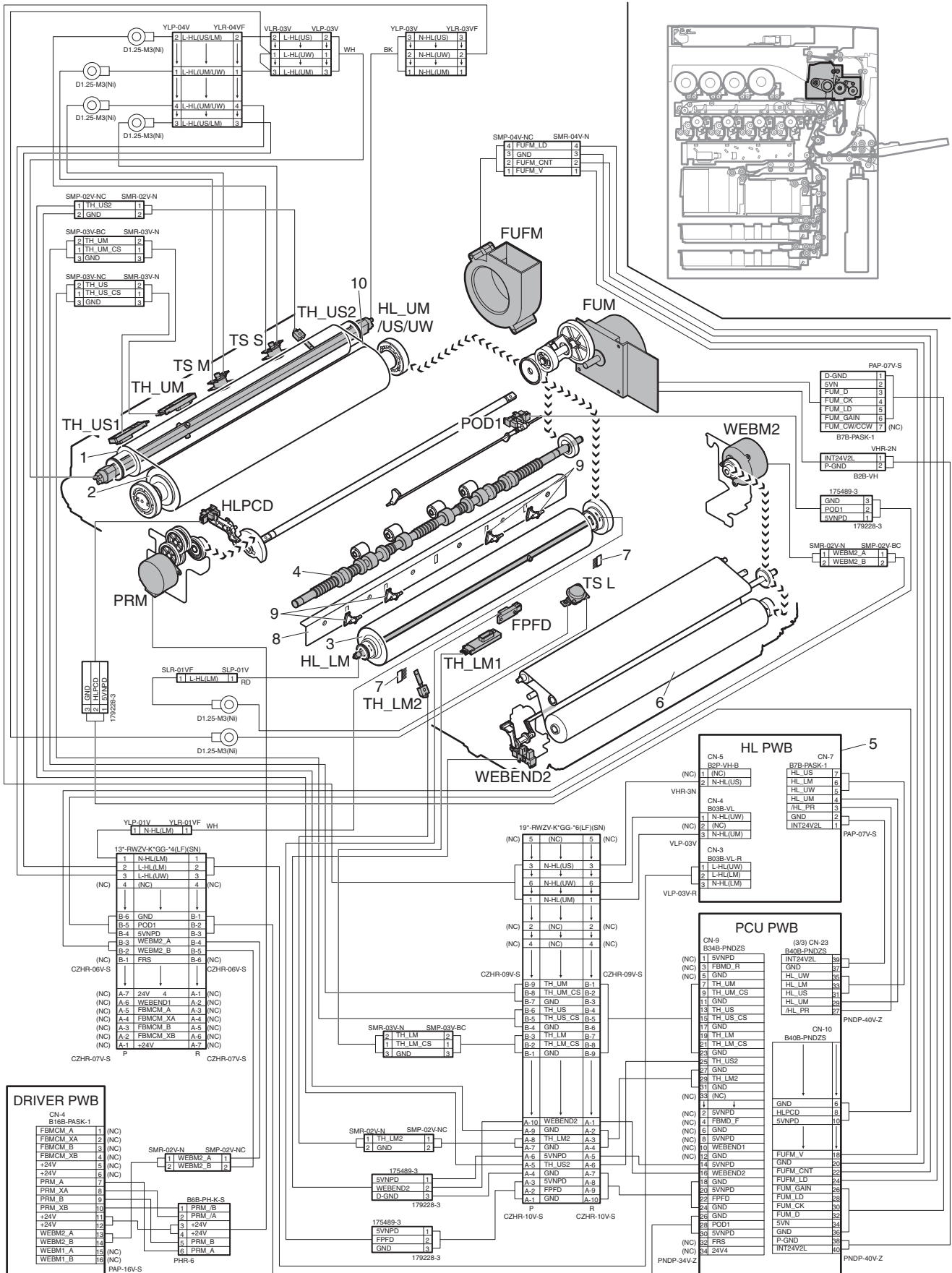
11. Waste toner section



Signal name	Name	Function/Operation
BTM	Transfer belt motor	Drives the transfer belt.
WTBSET	Waste toner bottle detector	Detects installation of the waste toner bottle.
WTFD	Waste toner full detector	Detects full of waste toner.
WTM	Waste toner motor	Transport waste toner.

12. Fusing section

A. Electrical and mechanical relation diagram



Signal name	Name	Function/Operation
FPPD	Fusing front paper pass detector	Detects paper pass in front of the fusing section.
FUFM	Fusing cooling fan	Cools the fusing section and the paper exit section.
FUM	Fusing motor	Drives the fusing section.
HL_LM	Heater lamp lower main	Heats the fusing roller (B).
HL_UM	Heater lamp upper main	Heats the fusing roller (F1) and the fusing belt.
HL_US	Heater lamp upper sub	Heats the fusing roller (F1) and the fusing belt.
HL_UW	Heater lamp assist	Heats the fusing roller (F1) and the fusing belt.
HLPCD	Fusing pressure detector	Detects the fusing pressure state.
POD1	Fusing paper exit detector	Detects paper pass in the fusing section.
PRM	Fusing pressure control motor	Controls ON/OFF of the fusing pressure.
TH_LM/TH_LM_CS	Fusing temperature sensor lower	Detects the surface temperature at the center of the fusing roller (B).
TH_LM2	Fusing temperature sensor lower (Sub)	Detects the suffered temperature at the edge section of the fusing roller (B).
TH_UM/TH_UM_CS	Fusing temperature sensor upper (Main)	Detects the surface temperature at the center of the fusing belt.
TH_US/TH_US_CS	Fusing temperature sensor upper (Sub)	Detects the suffered temperature at the edge section of the fusing belt.
TH_US2	Fusing temperature sensor upper (Sub 2)	Detects the suffered temperature at the edge section of the fusing belt.
TS_L	Thermostat lower (Main)	Shuts down the heater lamp circuit when the fusing section is overheated.
TS_M	Thermostat upper (Main)	Shuts down the heater lamp circuit when the fusing section is overheated.
TS_S	Thermostat upper (Sub)	Shuts down the heater lamp circuit when the fusing section is overheated.
WEBEND2	Web end detector	Detects web end of the fusing unit.
WEBM2	Fusing web motor	Drives the fusing web roller.

No.	Name	Function/Operation
1	Fusing roller (F1)	Heats the fusing belt.
2	Fusing roller (F2)	The cushion layer of the roller forms a wide nip between the fusing belt and fusing roller (B).
3	Fusing roller (B)	Heats the back surface of paper to fuse toner on the paper.
4	Transport roller	Includes silicon oil in it and improves fusing separation and cleaning capabilities.
5	HL control PWB	Drives the heater lamp.
6	Fusing web roller	Cleans the fusing roller (B).
7	Discharge brush	Discharges static electricity generated in the fusing section to the ground.
8	Separation plate	Separates paper.
9	Separation pawl	Separates fusing roller (B) when it is attached.
10	Fusing belt	Heats the front surface of paper to fuse toner on the paper.

B. Operational descriptions

(1) Outline of operations

This machine employs the fusing system by the belt.

The features of the belt-type fusing system are as follows:

- 1) Short warm-up time
- 2) Low power consumption
- 3) Wide nip providing high fusing capability

(2) Heater lamp driving

The surface temperature of the heat roller and the fusing belt detected by the fusing temperature sensor is sent to the PCU. If the temperature is lower than the specified temperature, the heater lamp lighting signal is sent from the PCU to the heater lamp drive circuit in the HL PWB.

When the power triac in the heater lamp drive circuit is turned ON, the AC power is supplied to the heater lamp to light the lamp and heat the fusing belt.

A thermostat is provided as a safety device against an abnormally high temperature in the heat roller and the fusing belt.

When the thermostat is opened, the AC power supply to the heater lamp is cut off.

The heater lamp is arranged to fusing roller (F1) and fusing roller (B).

In heater lamp (HL_UM/US/UW), three lamps are integrated into one.

Heater lamp operations

Heater lamp	Operation
Heater lamp upper main (HL_UM)	Heats the center of the fusing roller (F1) and the fusing belt.
Heater lamp upper sub (HL_US)	Heats the edges of the fusing roller (F1) and the fusing belt.
Heater lamp assist (HL_UW)	Heats fusing roller (F1) and the fusing belt. Turns ON when warming up.
Heater lamp lower main (HL_LM)	Heats fusing roller (B). Does not turn ON while heater lamp upper main (HL_UM) and heater lamp upper sub (HL_US) light up.

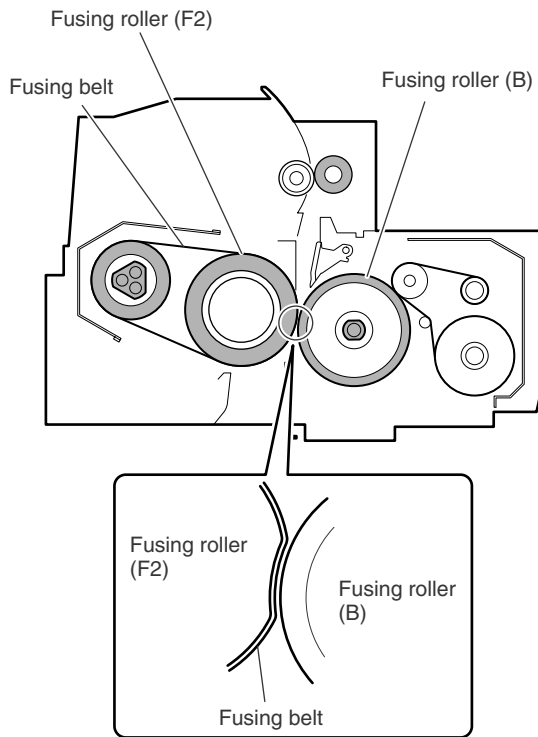
(3) Fusing operation

Color toner (Y, M, C, and K) on paper is heated and pressed by the fusing belt, fusing roller (F2), and fusing roller (B) to be fused on paper.

Toner in the four layers on the paper is fused by heating from up and down and both sides.

The fusing belt, fusing roller (F2) which is provided with the cushion layer, and fusing roller (B) realize the following operations.

- 1) The nip amount is increased and the heat capacity to paper is increased.
- 2) By pressing with the flexible roller, toner of many layers can be fused without being deformed.
- 3) An even pressure is applied to rough surface of toner (due to the multi-layer composition).



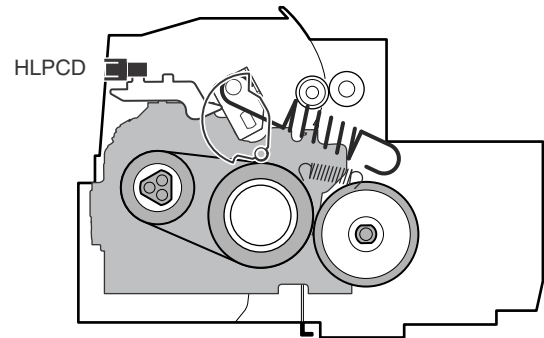
(4) Automatic pressure release system

Normally the upper and lower heat rollers are pressed. When, however, the following conditions are satisfied, the pressure is released.

- When the machine shifts to the preheat mode.
- When the machine shifts to the auto power shut off mode.
- When the power switch of the operation panel is turned OFF.
- When the machine is left for 90 sec under the ready state.
- When in the envelope mode.
- When a jam occurs.

a. Pressure release operation

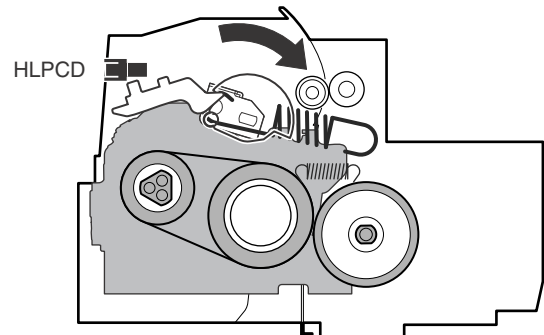
The fusing pressure control motor (PRM) rotates to turn ON the fusing pressure detector (HLPCD) (H level). When the specified time passes after turning ON the fusing pressure detector (HLPCD) (H level) by rotation of the fusing pressure control roller (PRM), the pressure release motor stops to complete the pressure release operation.



b. Pressing operation

When the end user makes some operations or when the machine receives the Job signal, the fusing pressure control motor (PRM) rotates reversely to drive the pressure release lever to the pressing state.

When the specified time passes from turning OFF the fusing pressure detector (HLPCD), the pressure release motor stops to complete the pressing operation.



When turning OFF the main power switch of the machine, be sure to turn OFF the power switch of the operation panel and check to confirm that the LCD display goes off before turning OFF the main power switch.

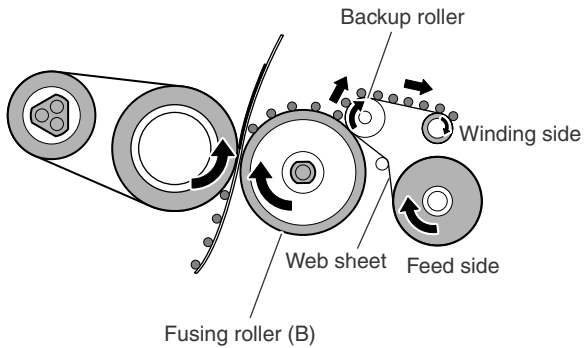
If the main power switch is turned OFF with the LCD lighted, the power is cut off before completion of the pressure release operation. If this state is kept for a long time, the fusing roller may be deformed.

(5) Fusing section cleaning

In this machine, the fusing roller (B) is cleaned by the web.

The cleaning unit is composed of the web feed roller, the winding roller, and the backup roller which presses the web onto the fusing roller (B) with the proper pressure.

Residual toner on the fusing roller (B) is cleaned by the web which contains silicon oil.



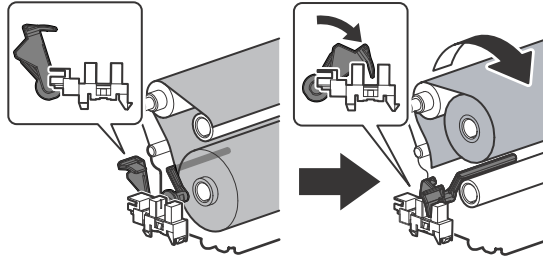
(6) Web life end detection

The web life near end is detected by the web print counter. When the life reaches 300K prints, the following message is displayed to notify that the replacement timing is approaching.

(Maintenance required.: FK3)

The web life end is detected by the web end detector. When the life end is detected, a job is forcibly interrupted even the job is being performed.

After replacing the web with a new one, reset the web life counter and the web send counter to clear the life end state.

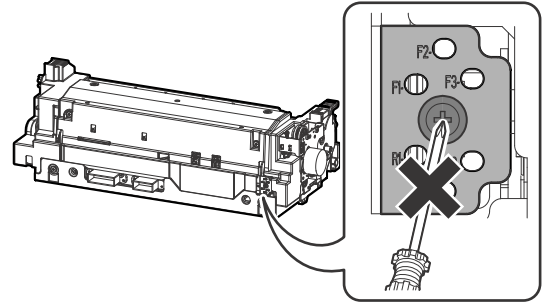


(7) Fusing belt meandering alignment adjustment

The fusing belt meandering alignment adjustment is executed in the production process.

This adjustment can be made only in the production process, and must not be performed by the serviceman.

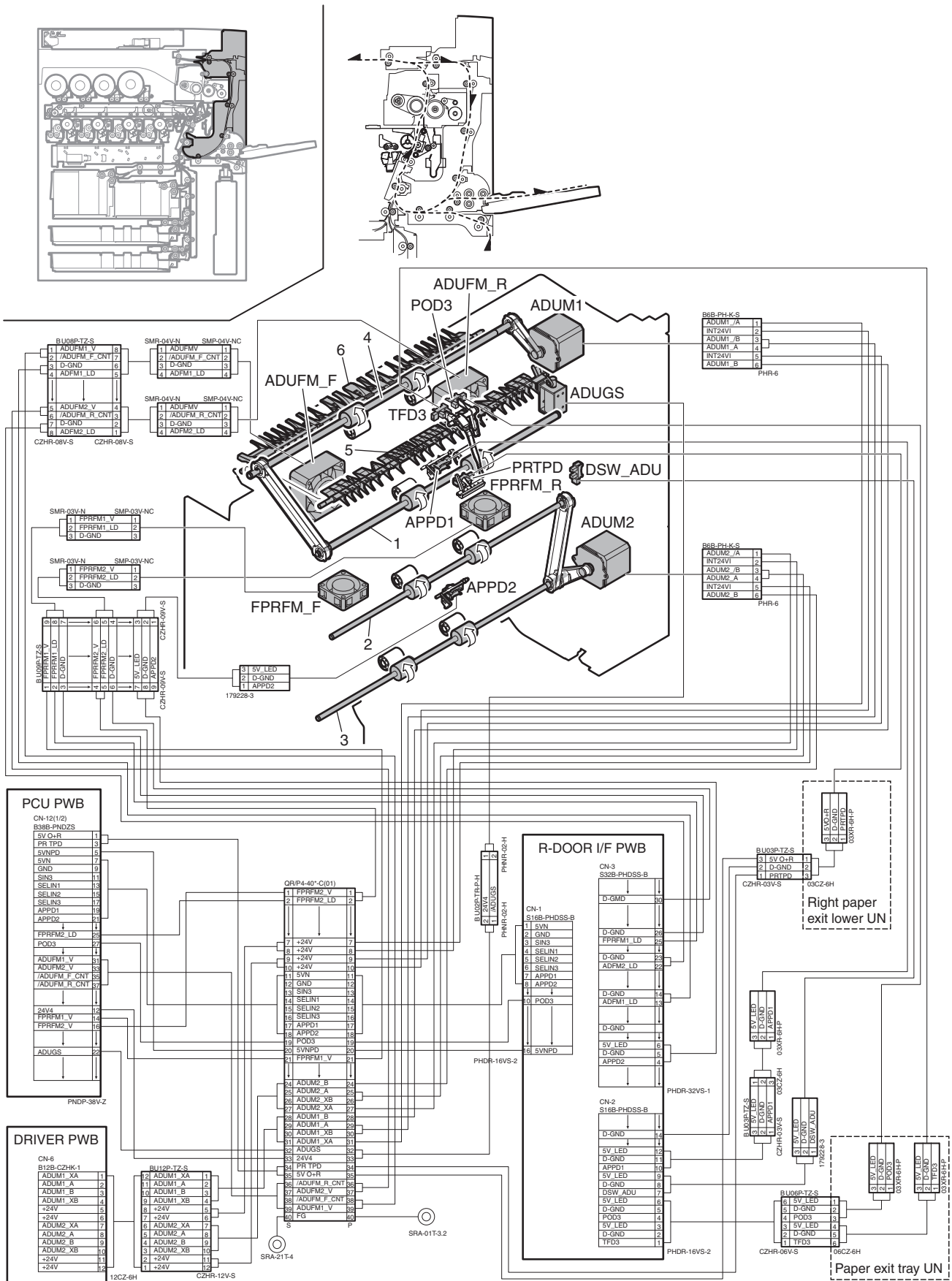
CAUTION: If a screw is tighten in a position which is not marked in red, the belt may be broken.



13. Duplex/paper exit section

A. Electrical and mechanical relation diagram

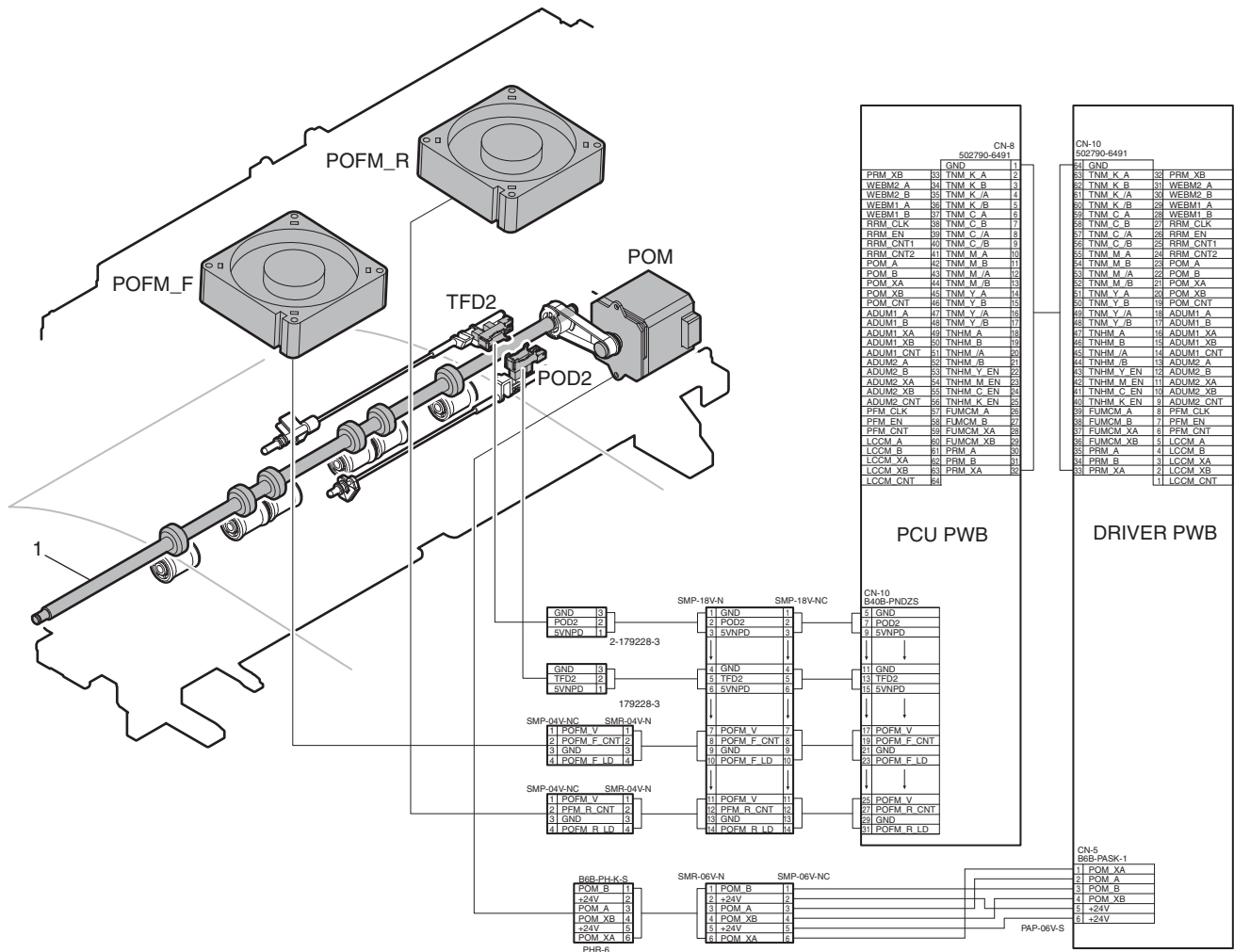
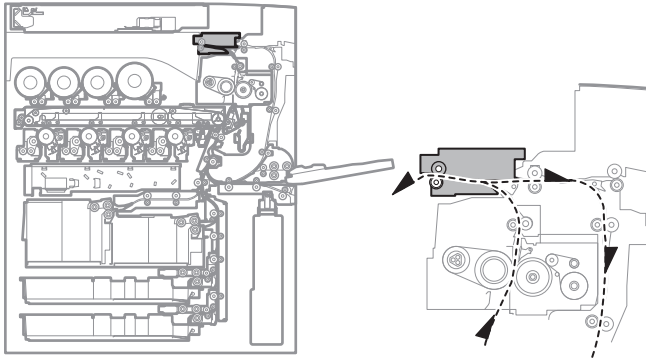
(1) Duplex section



Signal name	Name	Function/Operation
ADUFM_F	ADU transport cooling fan motor F	Cools the ADU transport path.
ADUFM_R	ADU transport cooling fan motor R	
ADUGS	ADU gate solenoid	Controls the ADU gate.
ADUM1	ADU motor lower	Drive the transport roller 19, 20 and the paper exit roller 2.
ADUM2	ADU motor upper	Drive the transport roller 21, 22.
APPD1	ADU paper pass detector 1	Detects paper pass in the upstream of the duplex (ADU).
APPD2	ADU paper pass detector 2	Detects paper pass in the midstream of the duplex (ADU).
DSW_ADU	ADU open/close detector	Detects open/close of the duplex (ADU) cover.
FPRFM_F	Fusing pressure roller cooling fan motor F	Cools the fusing pressure roller.
FPRFM_R	Fusing pressure roller cooling fan motor R	
POD3	Right paper exit detector	Detects the paper exit into the right tray.
PRTPD	Paper exit tray paper detector (Right paper exit tray)	Detects paper empty in the paper exit tray (Right paper exit tray).
TFD3	Paper exit tray full detector (Right paper exit tray)	Detects the right tray paper exit full.

No.	Name	Function/Operation
1	Transport roller 20 (Drive)	Transports paper transported from the transport roller 19 to the transport roller 21.
2	Transport roller 21 (Drive)	Transports paper transported from the transport roller 20 to the transport roller 22.
3	Transport roller 22 (Drive)	Transports paper transported from the transport roller 21 to the transport roller 16.
4	Transport roller 19 (Drive)	Transports paper to the right paper exit section or the ADU section.
5	Paper exit gate (ADU gate)	Selects the paper path: to transport paper to the ADU section or to the right tray.
6	Reverse gate	Discharges paper to the reverse gate right tray or selects the switchback transport path to the ADU section.

(2) Paper exit section



Signal name	Name	Function/Operation
POD2	Paper exit tray detector	Detects paper exit to the paper exit tray.
POFM_F	Paper exit cooling fan motor F	Cools paper after fusing.
POFM_R	Paper exit cooling fan motor R	
POM	Paper exit drive motor	Drives the paper exit roller.
TFD2	Paper exit full detector	Detects paper full in the paper exit tray.

No.	Name	Function/Operation
1	Paper exit roller 1 (Drive)	Discharges paper to the paper exit tray.

B. Operational descriptions

(1) Duplex

- Paper transported from the fusing section is sent from the transport roller 19 (which is driven by the paper exit drive motor) to the paper exit roller 1.

At that time, paper is passed under the ADU reverse gate guide.

- When the specified time passes from detection of the paper lead edge by POD1, the paper exit drive motor rotates normally, and rotates reversely after the specified time.
- By the reverse rotation of the paper exit drive motor, paper is sent to the reverse section. At that time, paper passes on the lower side of the ADU gate which lowers by its own weight.
- The transport rollers 21 and 22 are driven by the ADU motor lower to transport paper to the duplex paper feed position.
- Paper is stopped at the duplex paper feed position, and then transported to the machine again.

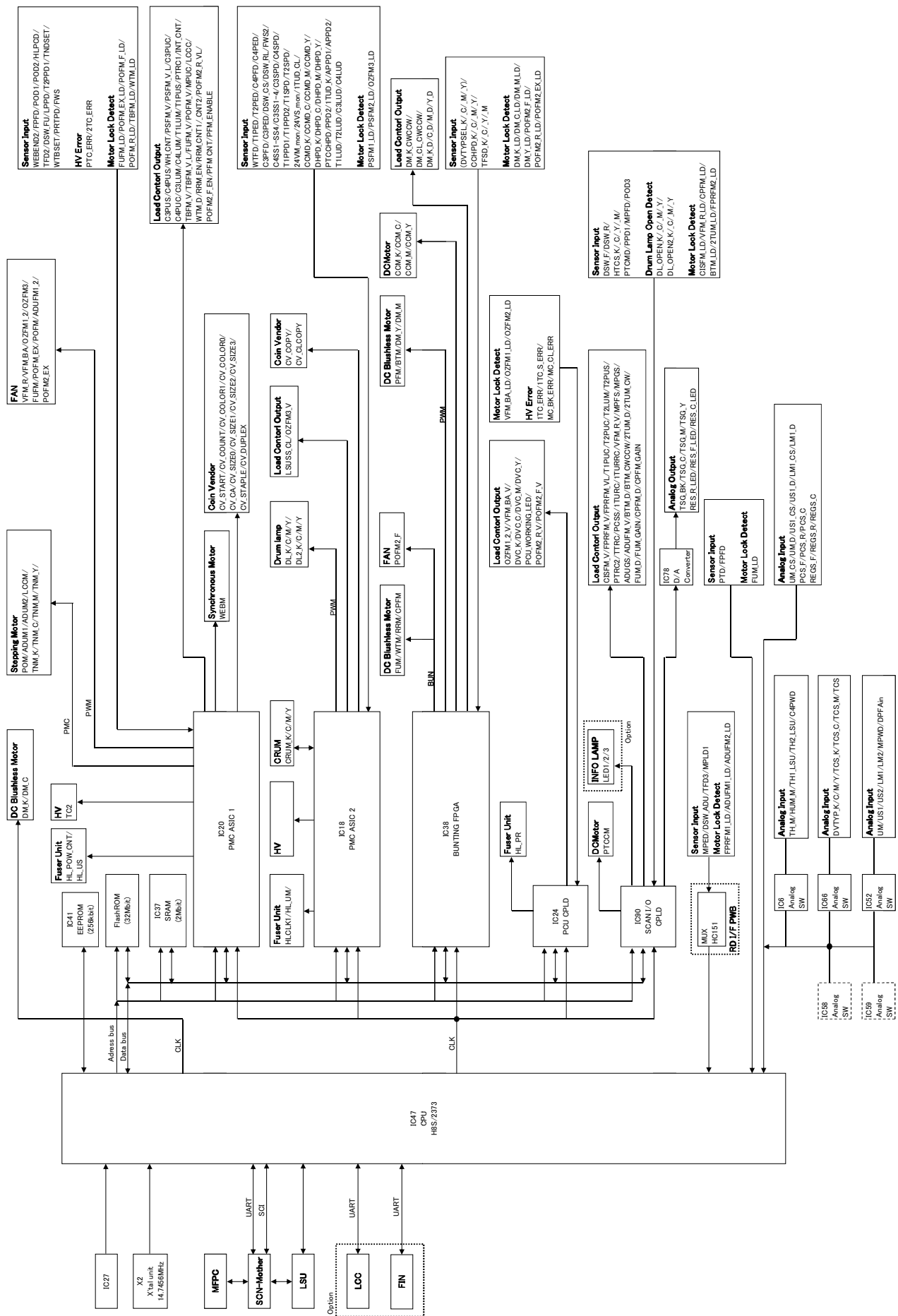
(2) Paper exit

- Paper transported from the fusing section is sent from the transport roller 19 (which is driven by the paper exit drive motor) to the paper exit roller 1, and discharged to the inner tray.

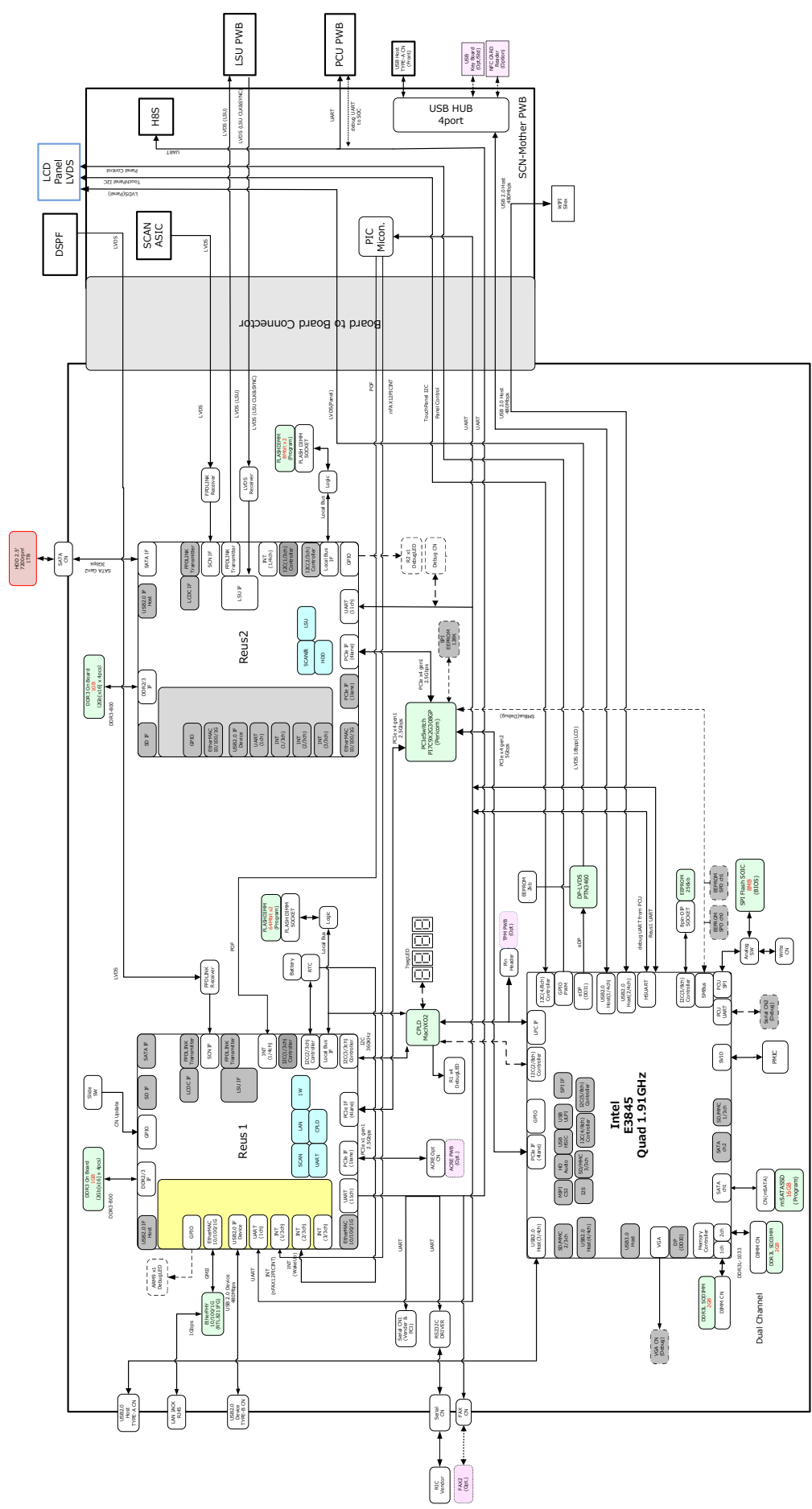
A. System block diagram



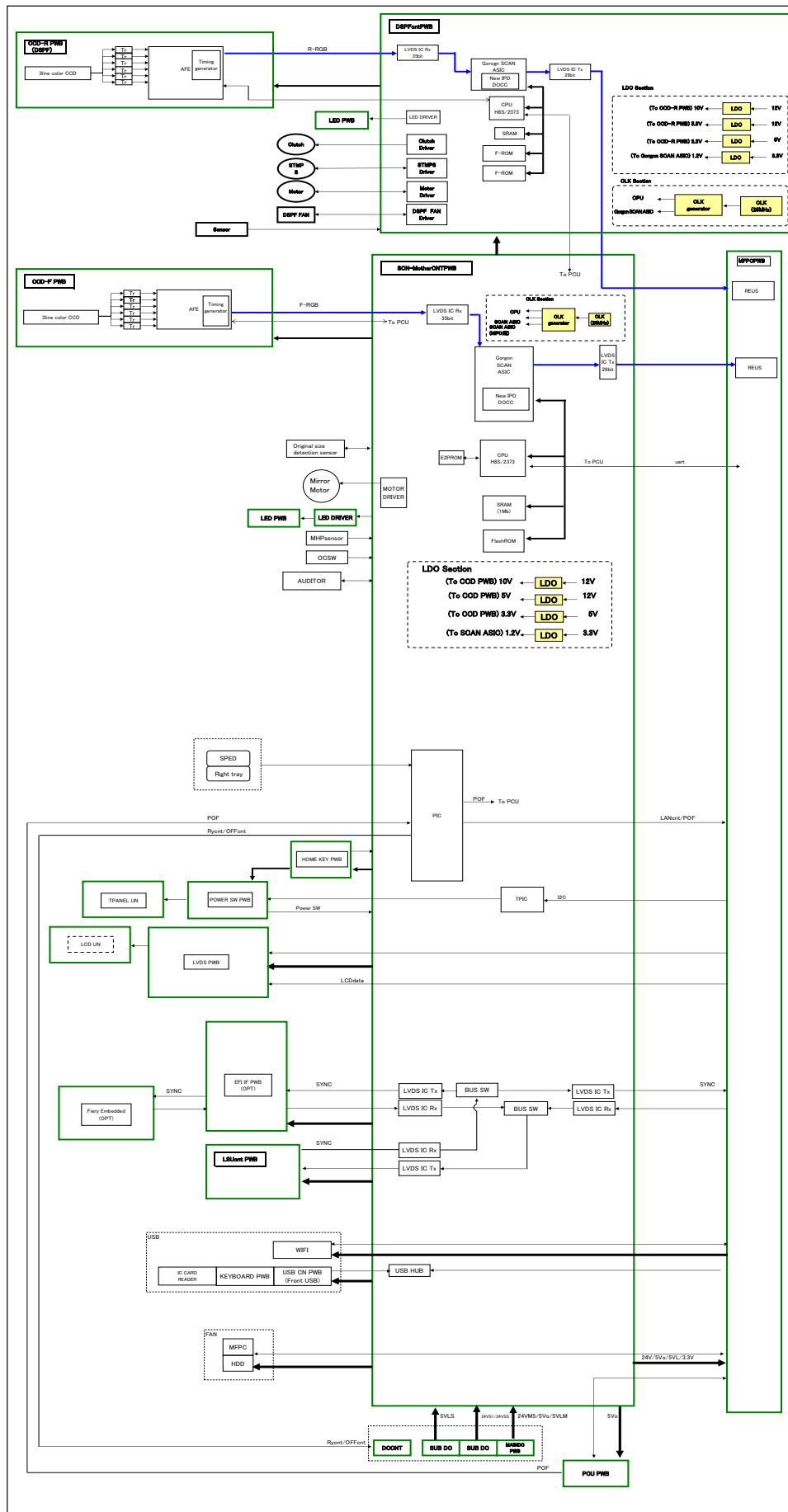
B. PCU PWB



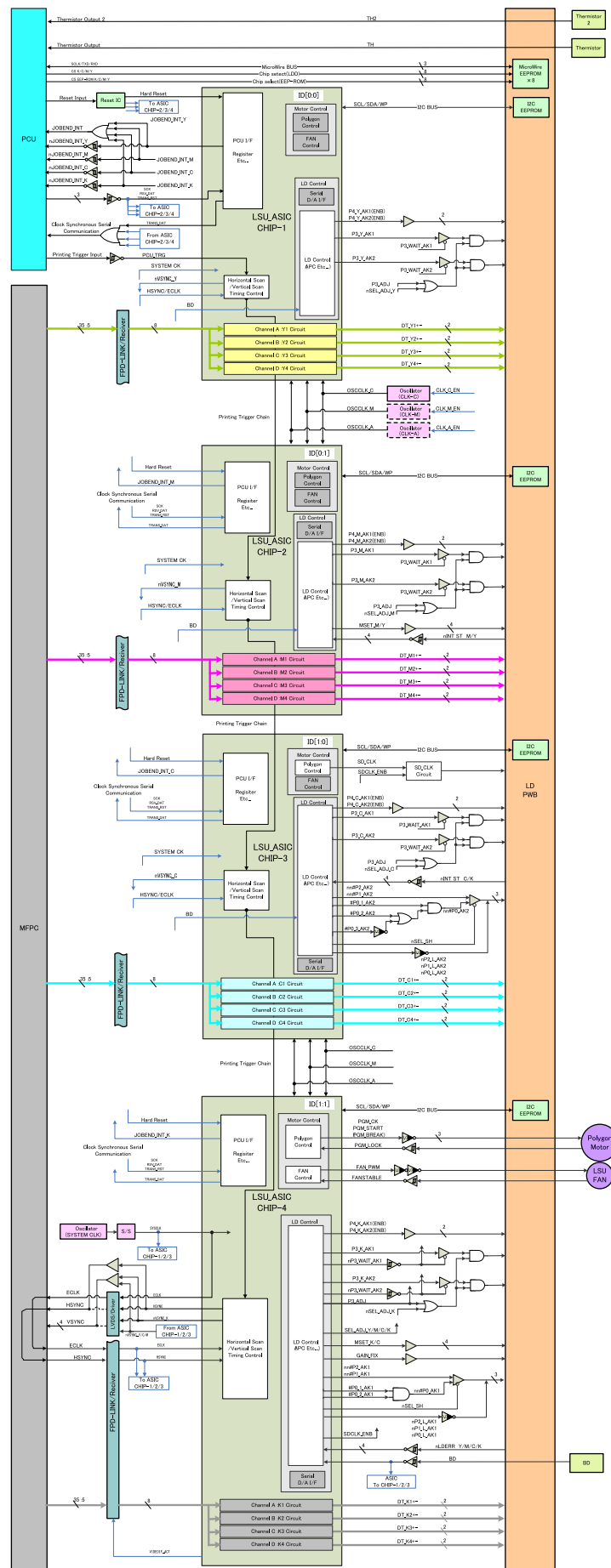
C. MFP control PWB



D. Scanner control PWB



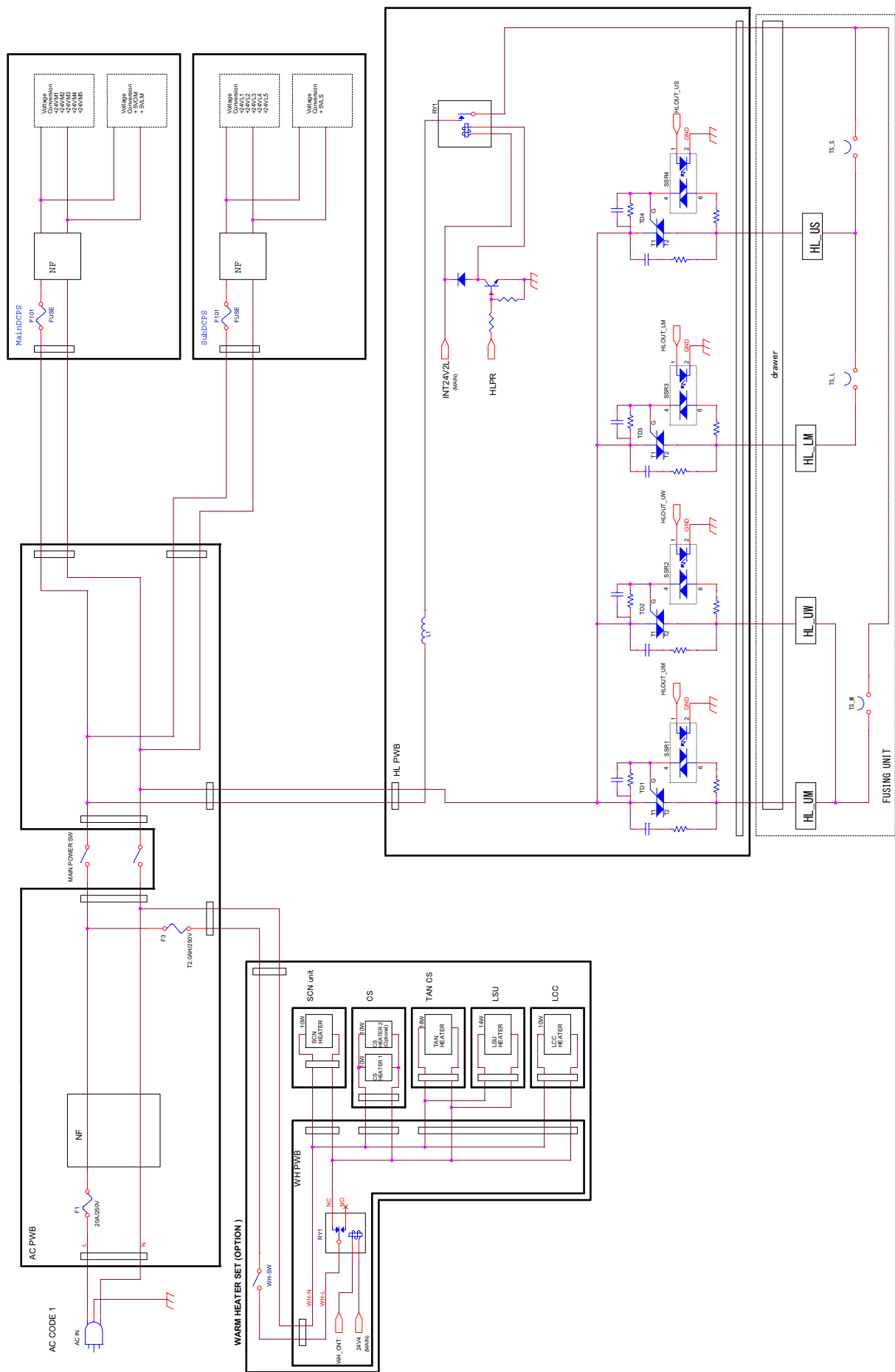
E. LSU PWB



(1) 200V series

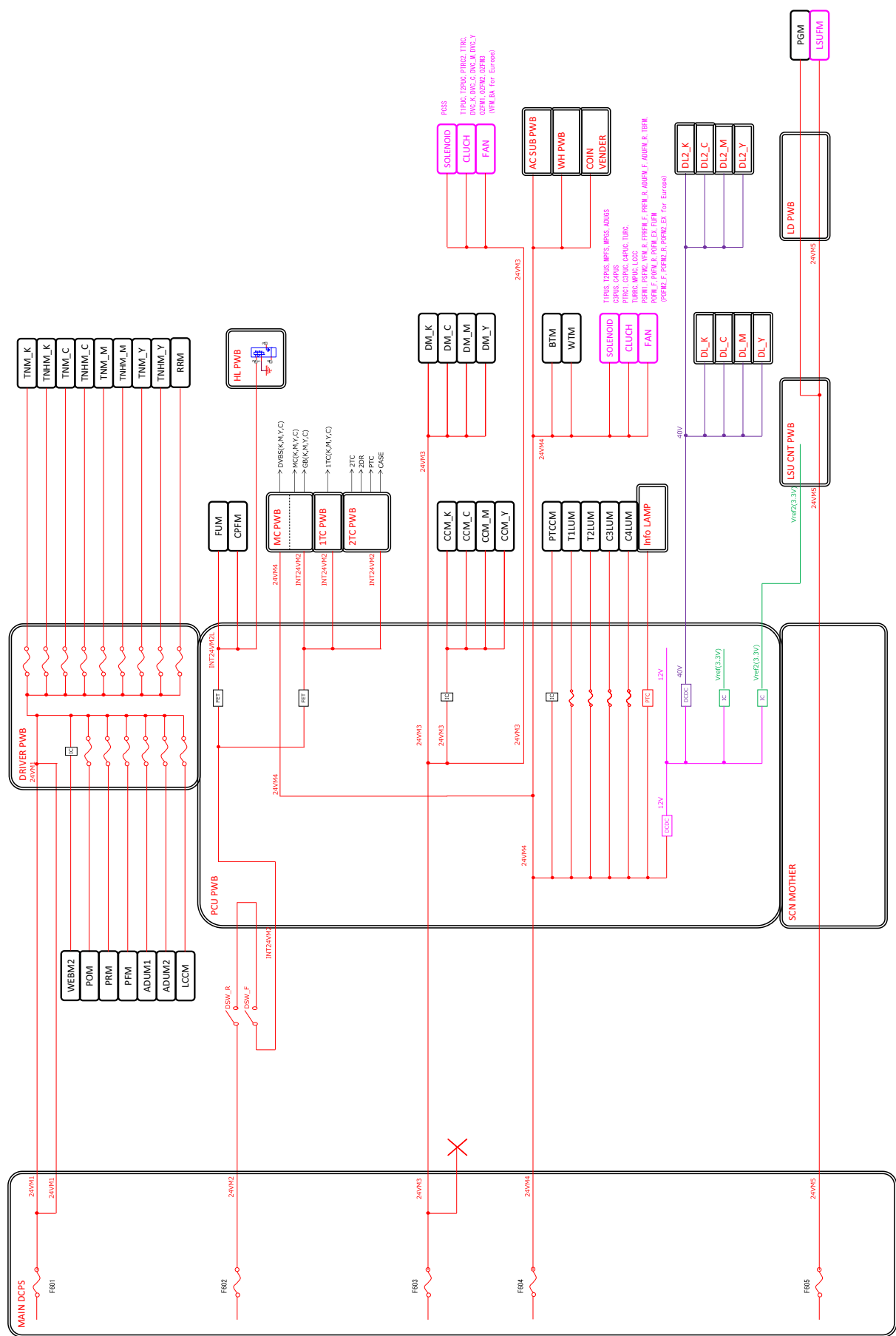


(2) North America

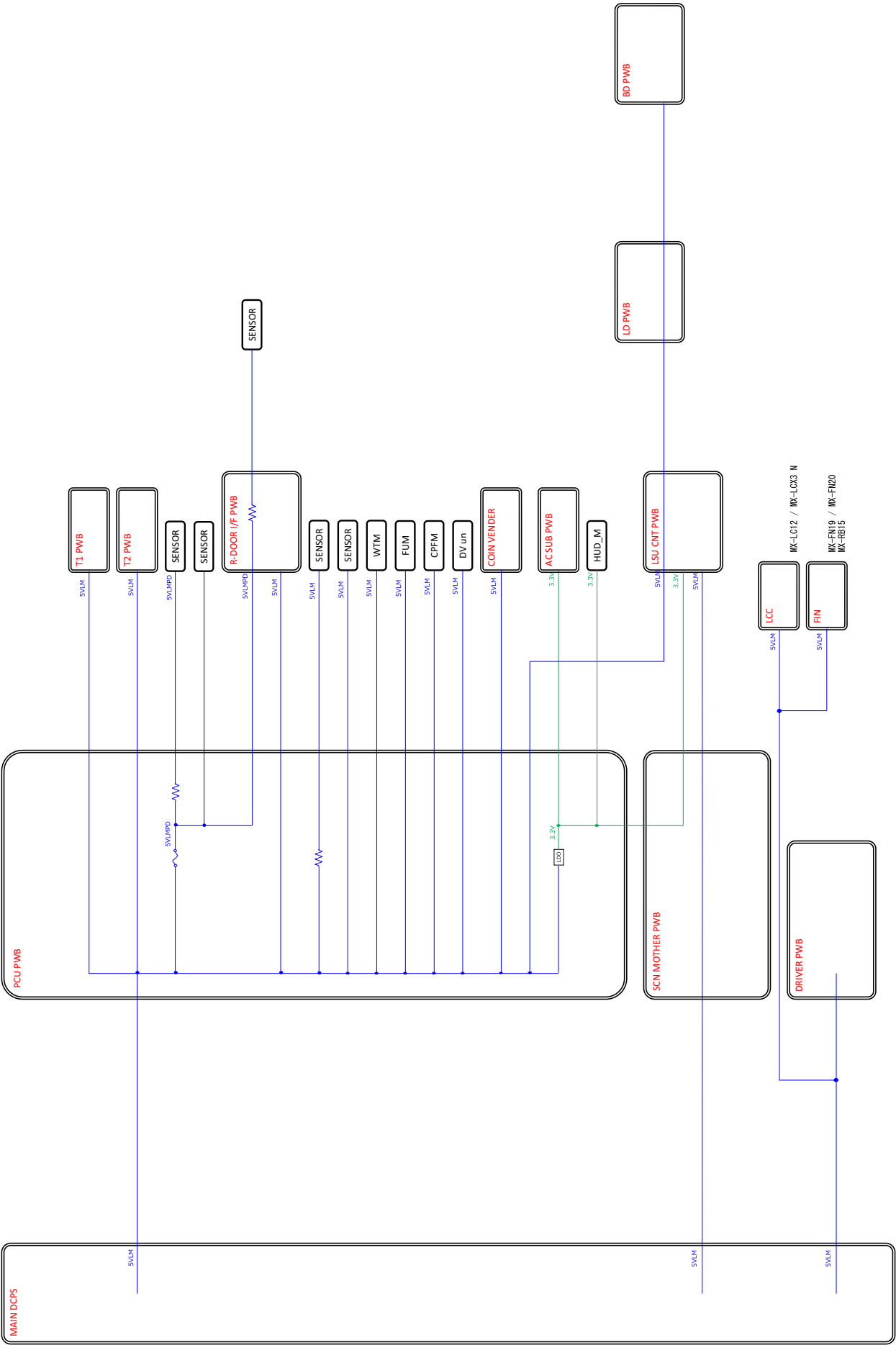


B. DC power line diagram

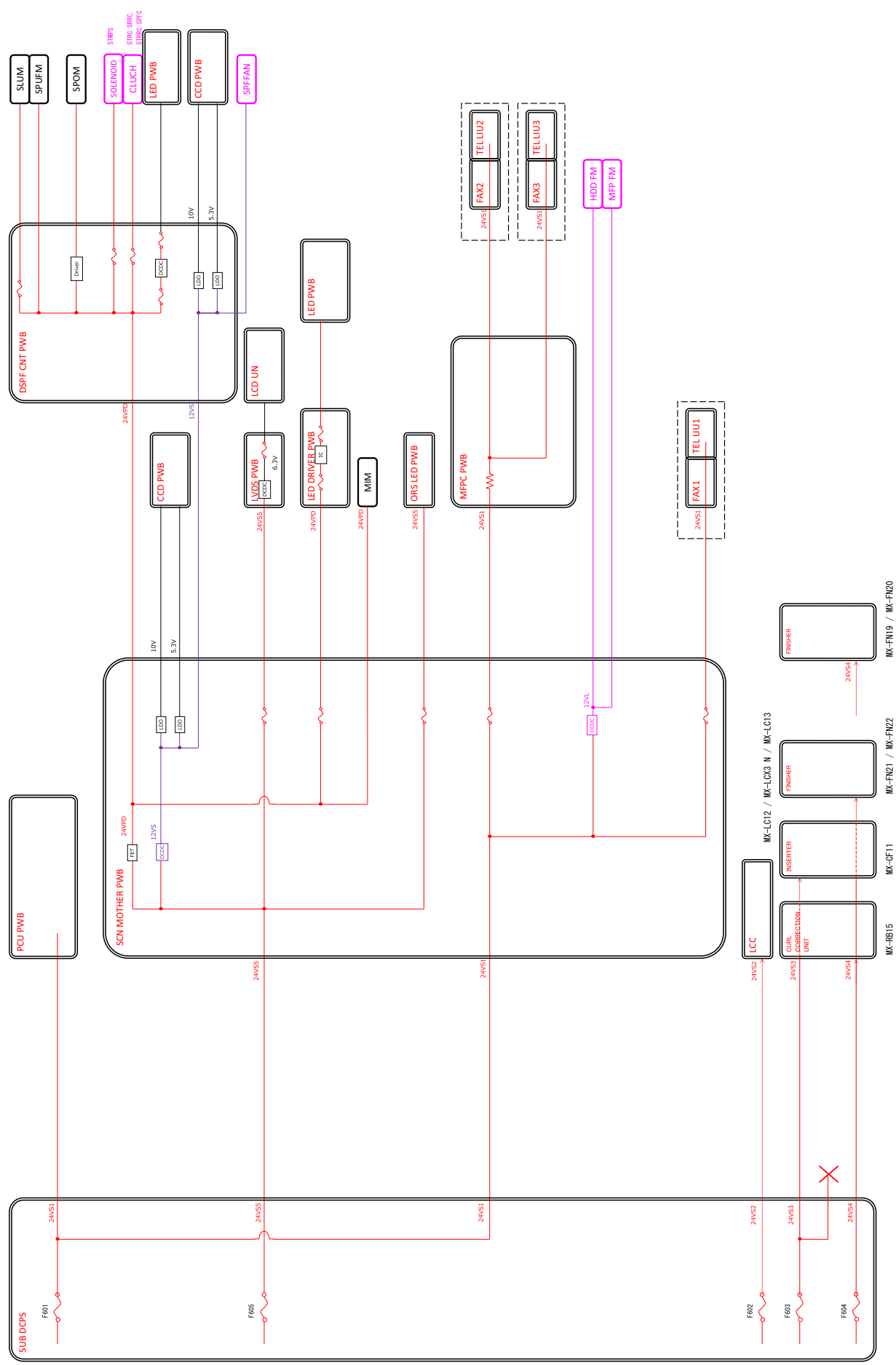
(1) Main power supply: 24V



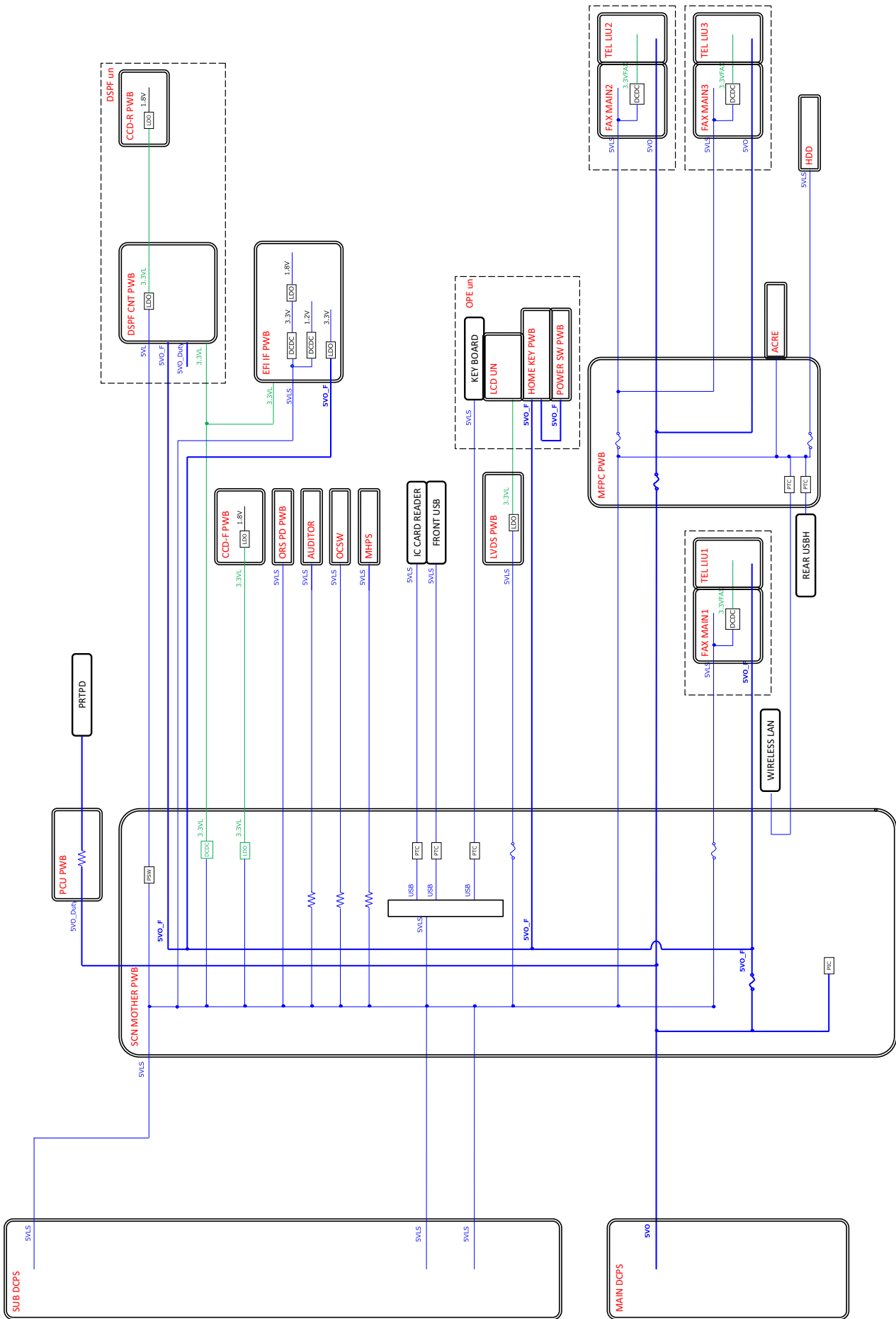
(2) Main power supply: 5VL



(3) Sub power supply: 24V



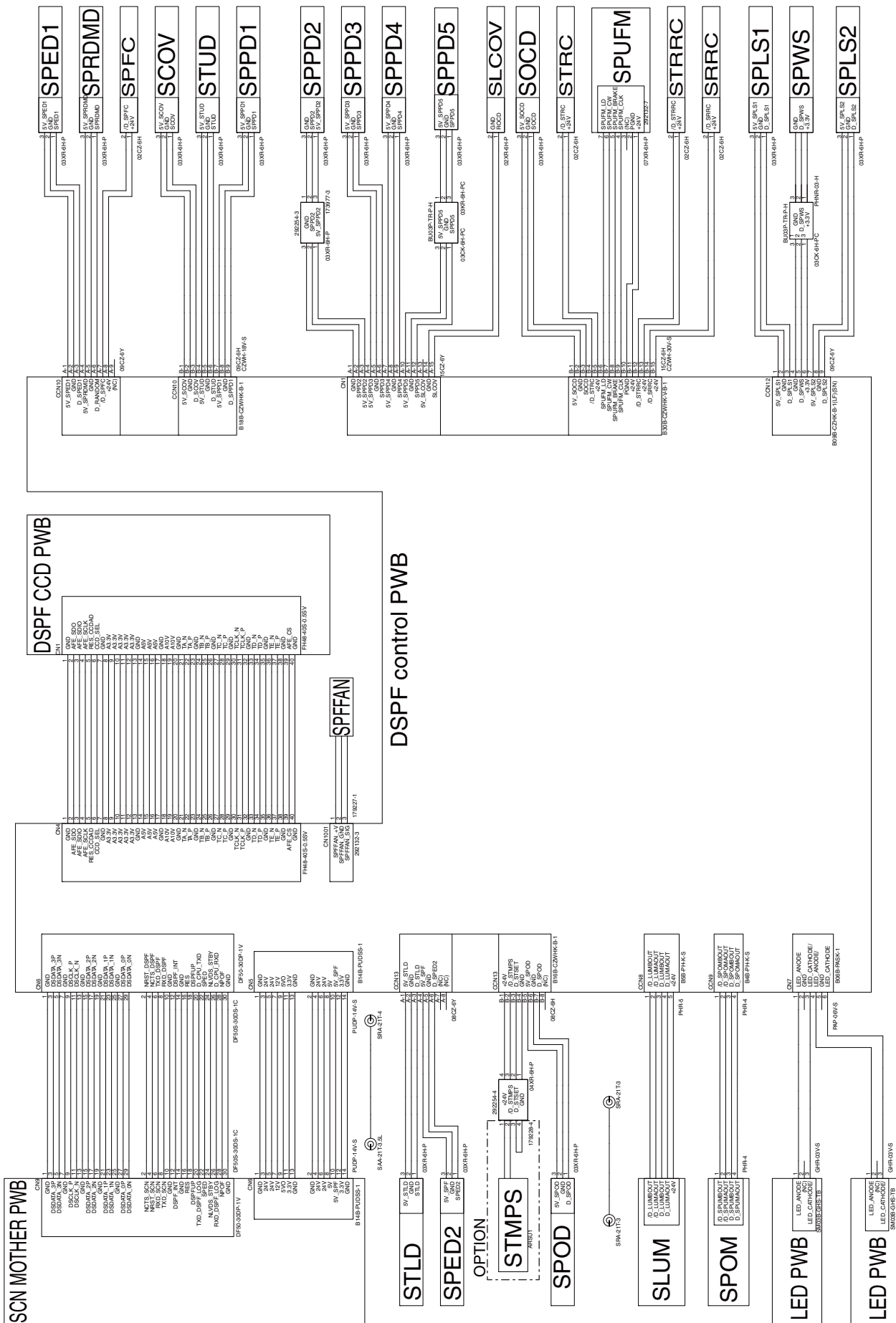
(4) Sub power supply: 5VL



A. LSU, MOTHER

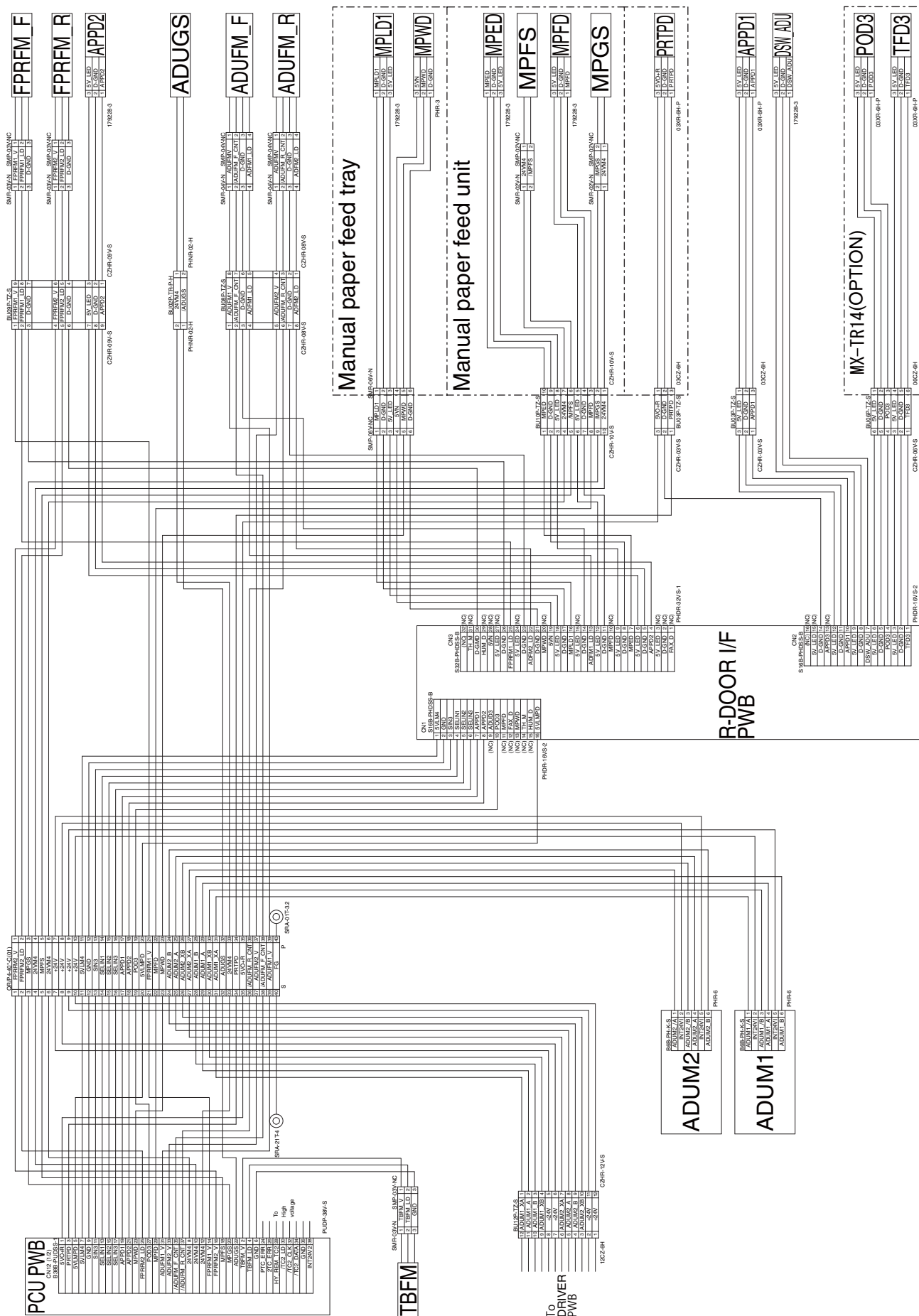




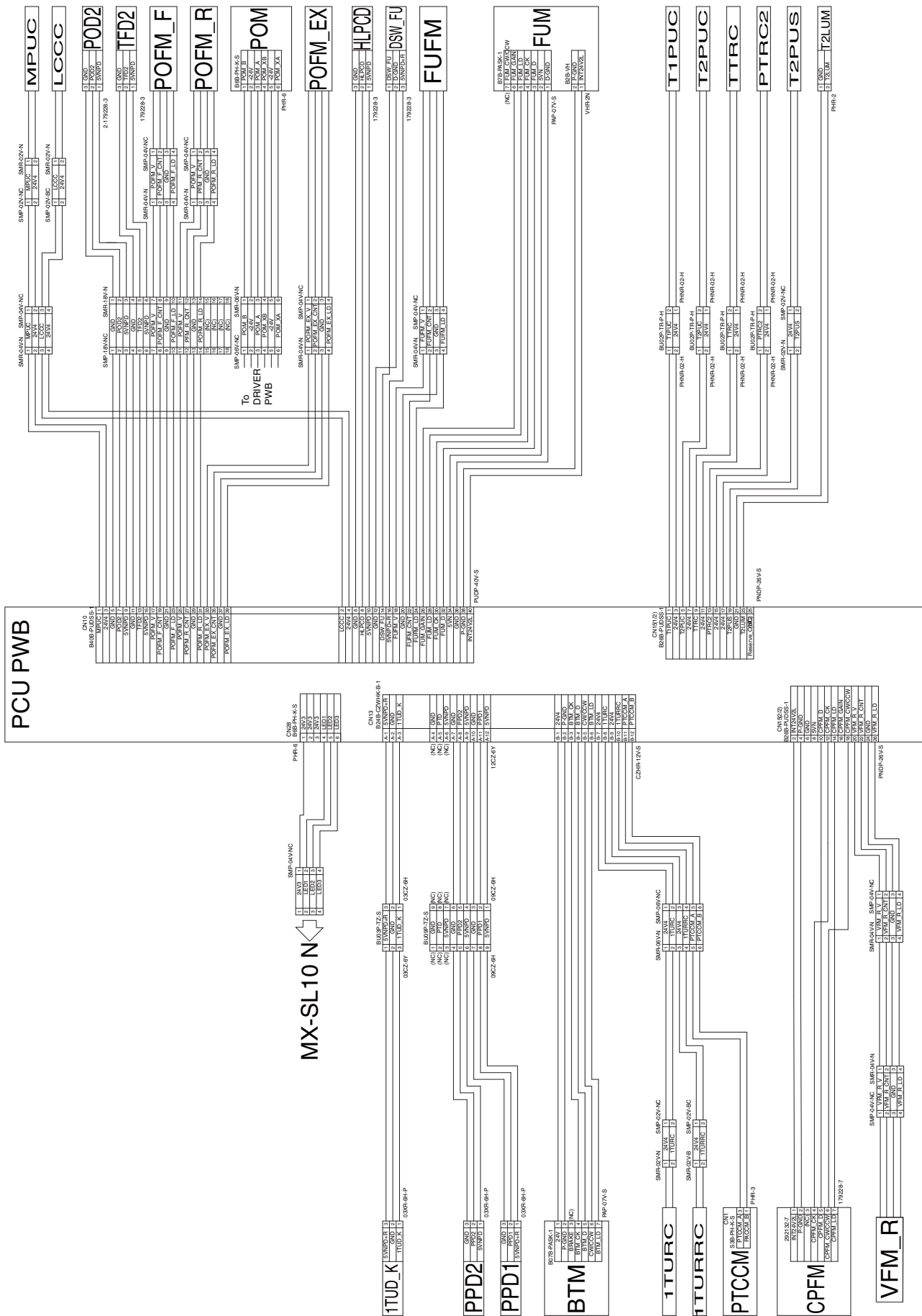




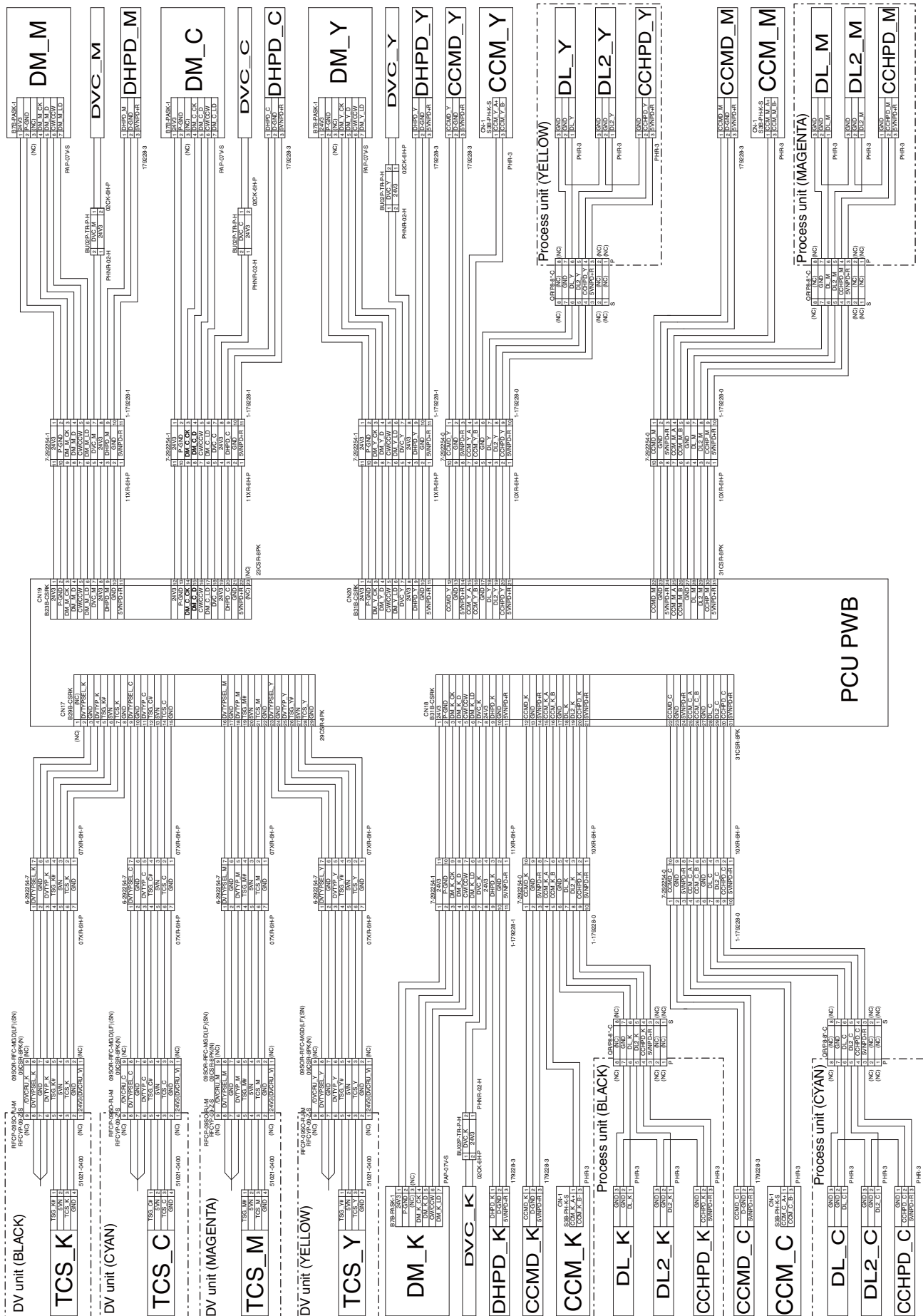
E. Right door, Manual paper feed



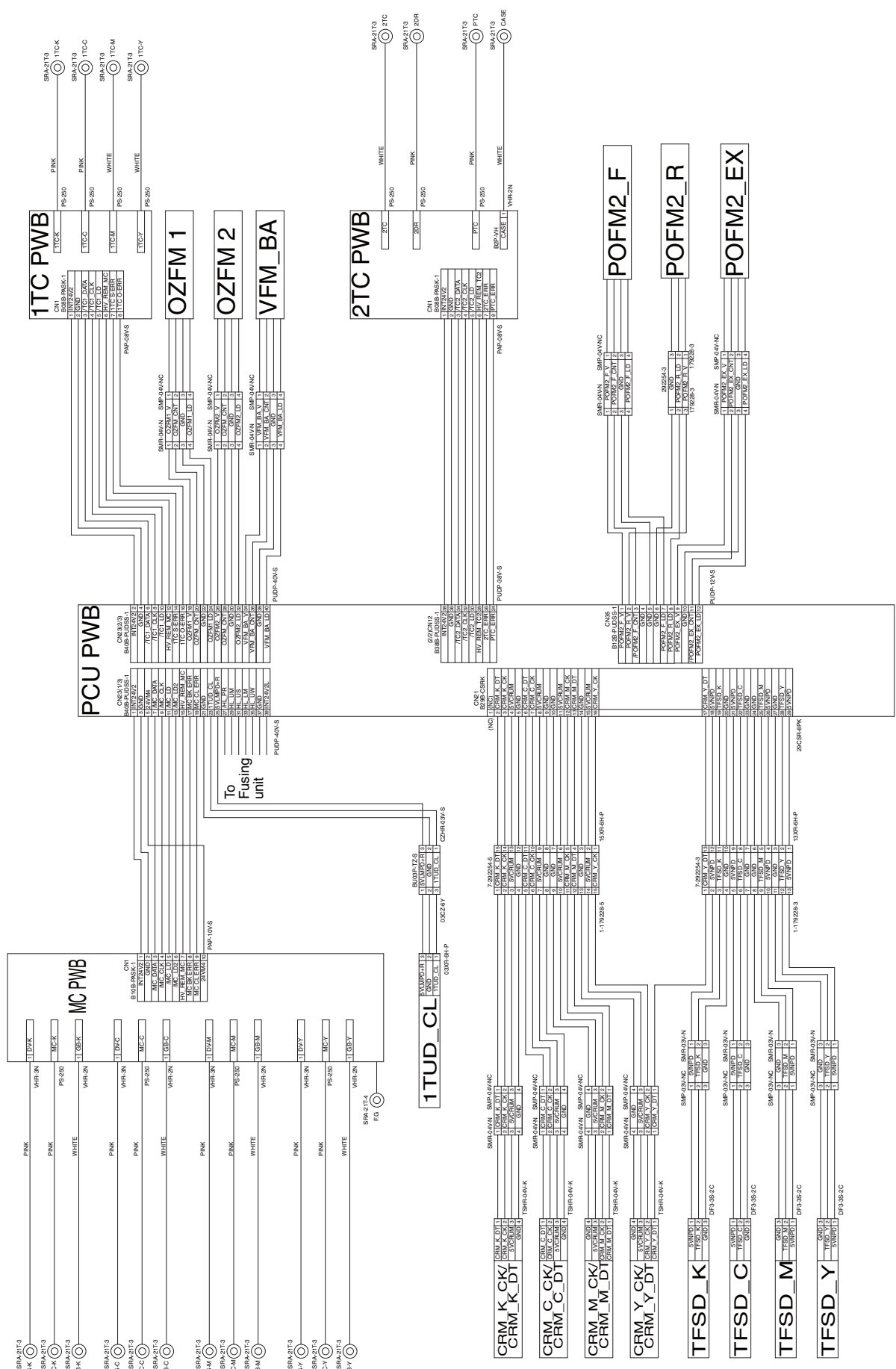
1 F. Delivery, Transport, PS





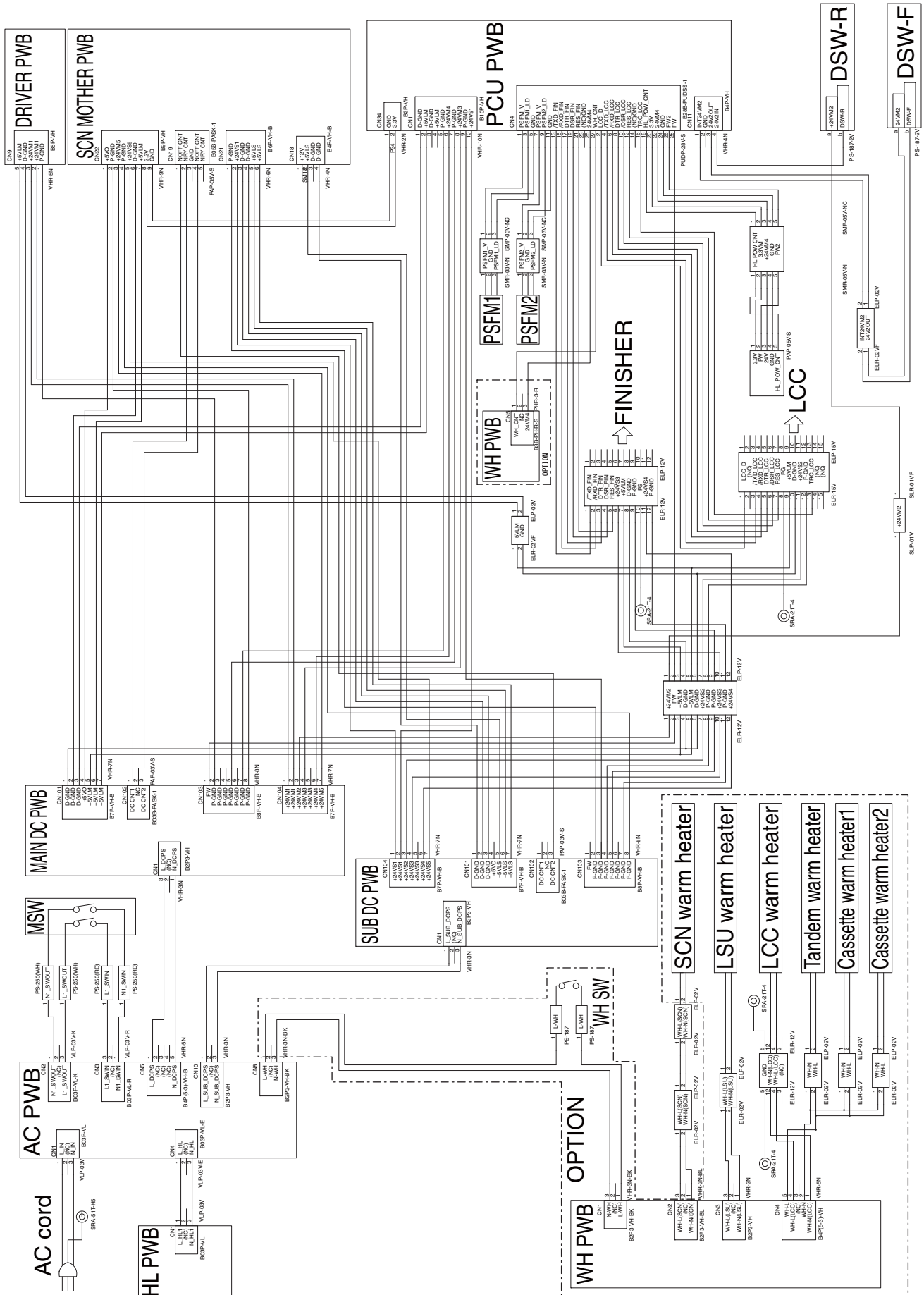


1 I. High voltage, CRUM



1 : '17/Apr.

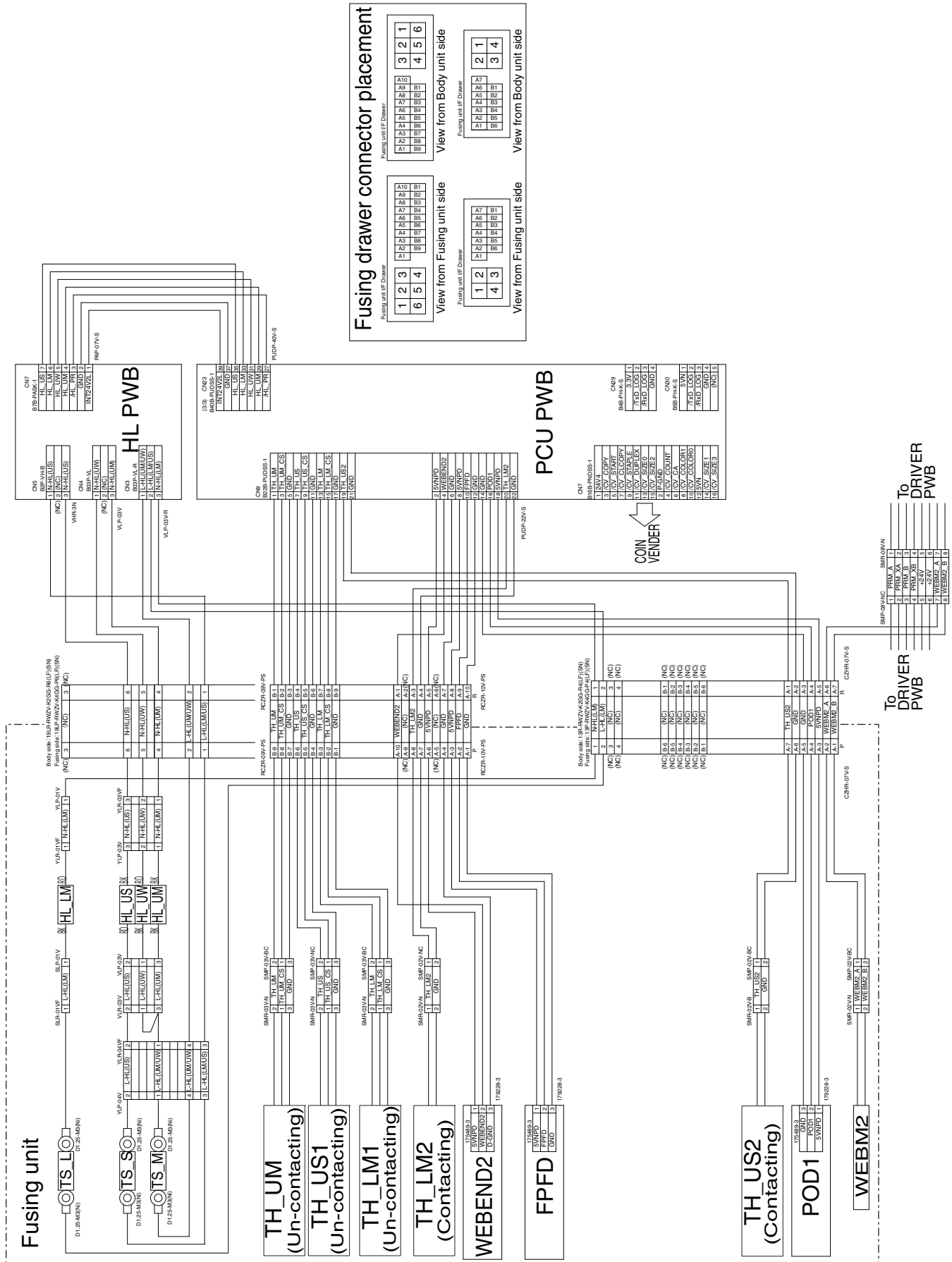
J. DC power supply (Americas)





1 : '17/Apr.

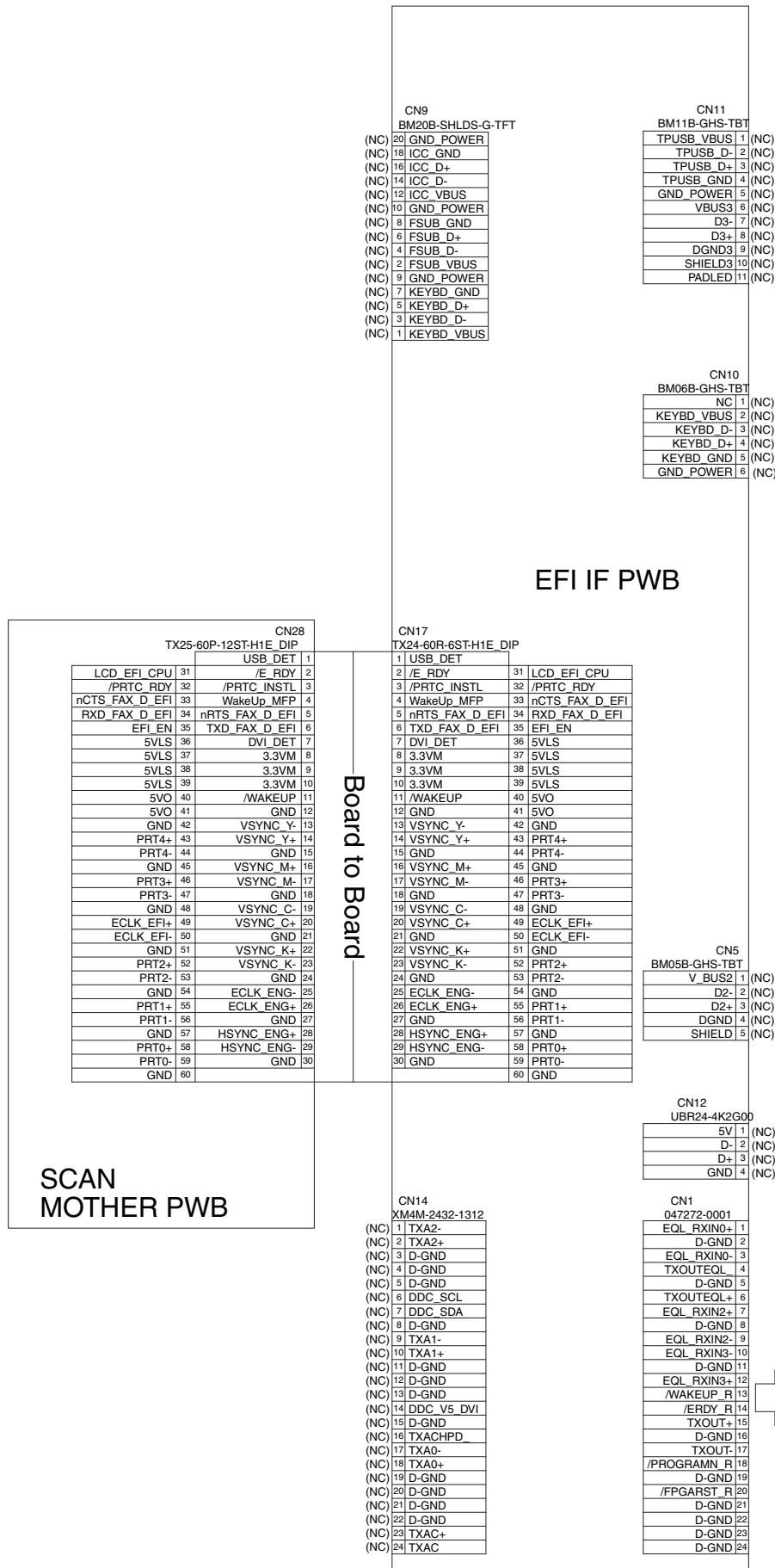
1 M. Fusing (Europe, Australia, Asia)





1 : '17/Apr.

O. USB, INTERFACE



EFI Display Port

[13] OTHERS

1. VARIOUS STORAGE DATA HANDLING

A. HDD / mSATA SSD memory contents

(1) HDD data contents

No.	File system	Stored data
S-1	Universal	System storage data (for backup)
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 receive images
L-1	Not available	ICU firmware
S-2	Universal	Download font User profile User macro Key operation storage data Database system file
S-3	Universal	System log
S-4	Universal	Document filing (Database) Job log (Database) Job completion list
S-5	Universal	Address book (database) Account management information (database) Paper property information (database) Billing account information (database) Individual setting information for direct web browsing Cookie file for OSA application
S-6	Universal	Database file
S-7	Universal	Spool area for printer
S-8	Universal	Print share stored data Print share file management information (database)
S-9	Universal	Work area for OCR
S-10	Universal	Work area for application (user file used in USB direct print)
S-11	Universal	eOSA application file
S-12	Universal	User file saved in the SMB server
S-13	Universal	Address book, account information User data of set value etc which must not be erased when installing the DSK
L-2	Not available	System storage data

(2) mSATA SSD data contents

No.	File system	Stored data
L-101	Universal	ICU firmware Log data Snapshot
S-101	Universal	Font Web help Spdl Option font ROM
S-102	Universal	e-manual data Watermark data
S-103	Universal	Backup data
S-104	Universal	System storage data
I-101	Image data	FAX / Internet FAX receive images (backup)
L-102	Not available	swap area

B. Necessary steps when replacing the PWB, HDD

(1) MFP substrate replacement procedure (work flow)

CAUTION: Registered user information will not be recovered if the MFP PWB is affected by U2-05 trouble. (*1)

- 1) Attach the flash ROM, the memory, the EEPROM etc. of the MFP PWB on the service parts MFP PWB and install it to the main unit.

CAUTION: Ground your body with grounding band during the work.

- 2) When U2 trouble occurs, use SIM16 to cancel it.

- 3) Set as follows after restarting the main unit.

At this timing, F6-21 may occur. Whether it may occur or not, go to execute procedure 1.

- (1) Set the appropriate country code by Sim66-02 (clear the software switches related to FAX).

CAUTION: Make sure to execute even if the fax option is not installed on the machine.

(2) Procedures necessary for HDD replacement

Note for HDD replacement

- Data of the following list are saved in the HDD of the complex machine. If the HDD operates normally and data backup is possible before replacement, perform data backup and then replace the HDD.
- If the HDD does not operate normally, data cannot be backed up.
- The HDD replacement procedures with a broken HDD differs from that with a normal HDD.

Contents of this chapter

- HDD storage data and backup
- Replacement procedures when HDD storage data can be backed up
- Replacement procedures when HDD storage data cannot be backed up due to breakdown of HDD

a. HDD storage data and backup

Some HDD storage data can be backed up, and some other data cannot. Some HDD storage data can be reinstalled, and some other storage data cannot.

If the HDD operates normally before replacement and data can be backed up, back up the data before replacement of the HDD referring to the HDD storage data list. Then reinstall the data after replacement of the HDD.

a-1. HDD storage data list

No.	Data kind	Before installation (When shipping from the factory)	After installation (After use by users)	Enable/ Disable of data backup	Backup means	Enable/ Disable of data reinstall	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
2	Image send series 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
3	User authentication Account management	Not available	Available	Enable	Sim56-2	Enable	Sim56-2	Service
4	Japanese FEP dictionary (Learning)	Not available	Available	Disable	Not available	Disable		—
5	Chinese FEP dictionary (Learning)	Not available	Available	Disable	Not available	Disable		—
6	JOB LOG	Not available	Available	Enable	Perform with WEB PAGE.	Disable		—
7	JOB completion list	Not available	Available	Disable	Not available	Disable		—
8	New N/A (FSS) information	Not available	Available	Disable	Not available	Disable		—
9	User font (Added)	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	Service or User
10	User macro	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	
11	Document filing	Not available	Available	Enable	Perform with WEB PAGE.	Enable	Perform with WEB PAGE.	
12	Some of system setting data	Not available	Available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
13	User color profile	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	Service
14	Individual setting information for direct WEB browsing	Not available	Available	Disable		Disable		Service
15	Cookie file for OSA application	Not available	Available	Disable		Disable		Service
16	eOSA application file	Not available	Installation of application	Disable		Enable	Reinstallation of application	Service
17	User file saved in the SMB server (NAS)	Not available	Available	Disable		Disable		Service
18	FAX/Internet FAX reception data	Not available	Available	Enable	Sim66-62	Disable		—

b. Replacement procedures when HDD data can be backed up

b-1. Work contents and procedures

Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *
Step 1	Back up the HDD storage data before replacement. (Servicing) Use SIM56-2 or the device cloning, or the storage backup function to backup the data. (Back up the data to the USB memory.) (Backup enable data: HDD storage data list No. 2, 3, 4 (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. 7, 10, 14 (Document filing data, JOB LOG data))	
Step 3	When there are some FAX or Internet Fax data, use SIM66-62 to backup the image data from the HDD (BACKUP DATA) 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. 2, 3, 4 (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.)	

c. Replacement procedures when the HDD storage data cannot be backed up due to breakdown

c-1. Display when HDD breakdown

When a trouble occurs in the HDD, the error code display of E7-03 is popped up.

In this case, the main power must be turned OFF and the HDD must be replaced.

c-2. Work contents and procedures

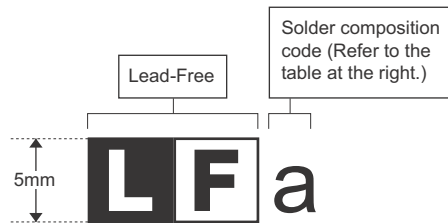
Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *
Step 1	Install a HDD to the machine, and boot the complex machine. → Formatting is automatically performed.	Install a HDD to the machine, and boot the complex machine.
Step 2		The trouble code, U2-05, is displayed. → Cancel with SIM16.
Step 3	Since a blank HDD is automatically formatted, there is no need to perform formatting procedure with SIM.	Use Sim62-1 to format the HDD.
Step 4	When there are some FAX or Internet Fax data, use SIM66-62 to backup the image data (ORIGINAL DATA) 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.

LEAD-FREE SOLDER

The PWB's of this model employs lead-free solder. The "LF" marks indicated on the PWB's and the Service Manual mean "Lead-Free" solder. The alphabet following the LF mark shows the kind of lead-free solder.

Example:



<Solder composition code of lead-free solder>

Solder composition	Solder composition code
Sn-Ag-Cu	a
Sn-Ag-Bi Sn-Ag-Bi-Cu	b
Sn-Zn-Bi	z
Sn-In-Ag-Bi	i
Sn-Cu-Ni	n
Sn-Ag-Sb	s
Bi-Sn-Ag-P Bi-Sn-Ag	p

(1) NOTE FOR THE USE OF LEAD-FREE SOLDER THREAD

When repairing a lead-free solder PWB, use lead-free solder thread.

Never use conventional lead solder thread, which may cause a breakdown or an accident.

Since the melting-point of lead-free solder thread is about 40°C higher than that of conventional lead solder thread, the use of the exclusive-use soldering iron is recommended.

(2) NOTE FOR SOLDERING WORK

Since the melting-point of lead-free solder is about 220°C, which is about 40°C higher than that of conventional lead solder, and its soldering capacity is inferior to conventional one, it is apt to keep the soldering iron in contact with the PWB for longer time. This may cause land separation or may exceed the heat-resistive temperature of components. Use enough care to separate the soldering iron from the PWB when completion of soldering is confirmed.

Since lead-free solder includes a greater quantity of tin, the iron tip may corrode easily. Turn ON/OFF the soldering iron power frequently.

If different-kind solder remains on the soldering iron tip, it is melted together with lead-free solder. To avoid this, clean the soldering iron tip after completion of soldering work.

If the soldering iron tip is discolored black during soldering work, clean and file the tip with steel wool or a fine filer.

CAUTION FOR BATTERY REPLACEMENT

(Danish)

ADVARSEL !

Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.

Udskiftning må kun ske med batteri

af samme fabrikat og type.

Levér det brugte batteri tilbage til leverandoren.

(English)

Caution !

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type

recommended by the manufacturer.

Dispose of used batteries according to manufacturer's instructions.

(Finnish)

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.

Vaihda paristo ainoastaan laitevalmistajan suosittelemaan

tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden

mukaisesti.

(French)

ATTENTION

Il y a danger d'explosion s' il y a remplacement incorrect

de la batterie. Remplacer uniquement avec une batterie du

même type ou d'un type équivalent recommandé par

le constructeur.

Mettre au rebut les batteries usagées conformément aux

instructions du fabricant.

(Swedish)

VARNING

Explosionsfara vid felaktigt batteribyte.

Använd samma batterityp eller en ekvivalent

typ som rekommenderas av apparattillverkaren.

Kassera använt batteri enligt fabrikantens

instruktion.

(German)

Achtung

Explosionsgefahr bei Verwendung inkorrektter Batterien.

Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder

vom Hersteller empfohlene Batterien verwendet werden.

Entsorgung der gebrauchten Batterien nur nach den vom

Hersteller angegebenen Anweisungen.

CAUTION FOR BATTERY DISPOSAL

(For USA, CANADA)

"BATTERY DISPOSAL"

THIS PRODUCT CONTAINS A LITHIUM PRIMARY
(MANGANESE DIOXIDE) MEMORY BACK-UP BATTERY
THAT MUST BE DISPOSED OF PROPERLY. REMOVE THE
BATTERY FROM THE PRODUCT AND CONTACT YOUR
LOCAL ENVIRONMENTAL AGENCIES FOR INFORMATION
ON RECYCLING AND DISPOSAL OPTIONS.

"TRAITEMENT DES PILES USAGÉES"

CE PRODUIT CONTIENT UNE PILE DE SAUVEGARDE DE
MÉMOIRE LITHIUM PRIMAIRE (DIOXYDE DE MANGANESE)
QUI DOIT ÊTRE TRAITÉE CORRECTEMENT. ENLEVEZ LA
PILE DU PRODUIT ET PRENEZ CONTACT AVEC VOTRE
AGENCE ENVIRONNEMENTALE LOCALE POUR DES
INFORMATIONS SUR LES MÉTHODES DE RECYCLAGE ET
DE TRAITEMENT.



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