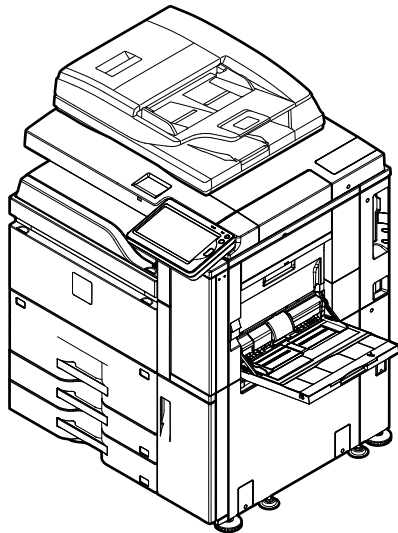


# SHARP SERVICE MANUAL

CODE: 00ZMX7040/S8E



## DIGITAL FULL COLOR MULTIFUNCTIONAL SYSTEM

**MX-6240N**  
**MODEL MX-7040N**

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

SHARP CORPORATION

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

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# NOTE FOR 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 your hands by the chain, the belt, the gear, and other driving sections.
- Do not leave the machine with the cabinet disassembled.  
Do not allow any person other than a serviceman to touch inside the machine. It may cause an electric shock, a burn, or an injury.
- When servicing, do not breathe toner, developer, and ink excessively. Do not get them in the eyes.  
If toner, developer, or ink enters your eyes, wash it away with water immediately, and consult a doctor if necessary.
- The machine has got sharp edges inside. Be careful not to damage fingers when servicing.
- Do not throw toner or a toner cartridge in a fire. Otherwise, toner may ignite and burn you.
- When replacing a lithium battery on a PWB, only use the specified replacement battery.  
If a battery of different specification is used, it may cause a machine malfunction or breakdown.
- When carrying a unit with PWB or electronic parts installed to it, be sure to put it in an anti-static-electricity bag.  
It may otherwise cause a machine breakdown or malfunction.

CAUTION  
DOUBLE POLE/NEUTRAL FUSING

(200V series only)

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

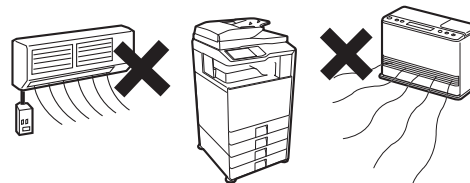
## 3. Note for installing site

Do not install the machine at the following sites.

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

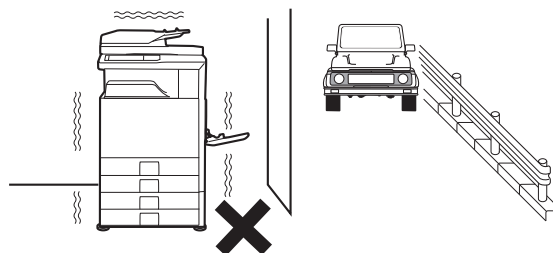
Paper may get damp and form condensation inside the machine, causing paper jam or copy dirt.

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



- Place of extreme vibrations**

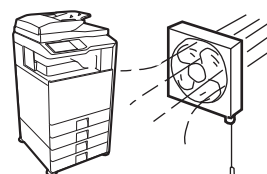
It may cause a breakdown.



- Poorly ventilated place**

An electrostatic type copier will produce ozone.

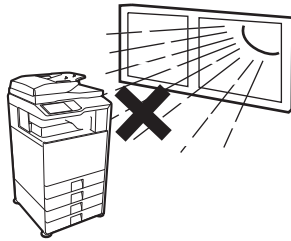
The quantity of ozone produced is designed to a low level so as not to affect human bodies. However, continuous use of such a machine may produce an ozone smell. Install the machine in a well ventilated place.



- **Place of direct sunlight.**

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

It may cause a breakdown or output quality problems.



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

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

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

\* 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**

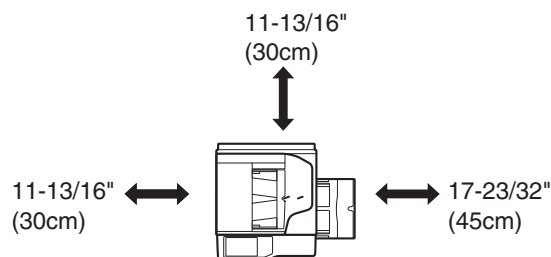
When dust or contaminants enters the machine, it may cause a breakdown or poor quality output.



- **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.

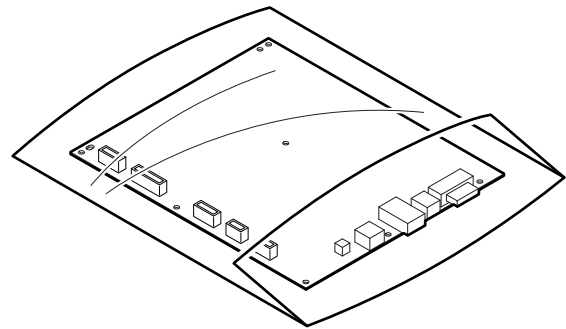
Use an optional desk or an exclusive-use desk.

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.

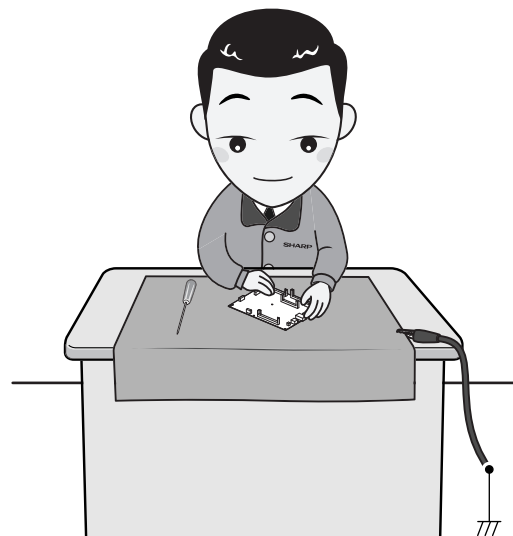
- When in transit or storing, put the parts in an anti-static bag or an anti-static case and do not touch them with bare hands.



- 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, ones 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)

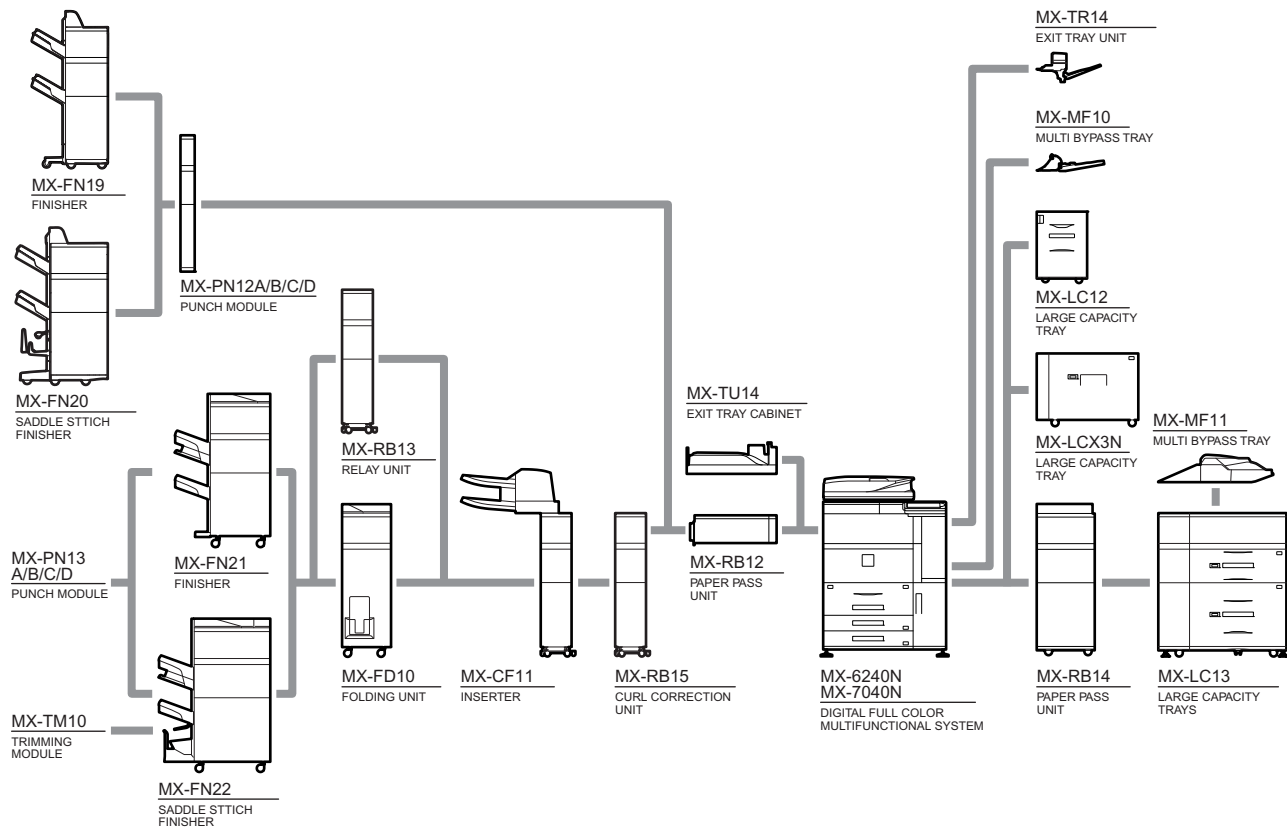
Screw diameter	Material to be fixed	Tightening torque (N·m)	Tightening torque (kgf·cm)	Tightening torque (lbft)
M3	Steel plate (Plate thickness 0.8mm or above)	1.0 - 1.2	10 - 12	0.7 - 0.9
M4	Steel plate (Plate thickness 0.8mm or above)	1.6 - 1.8	16 - 18	1.2 - 1.3
M3	Steel plate (Plate thickness less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



<b>MX-PUX1</b> XPS EXPANSION KIT	<b>MX-PF10</b> BARCODE FONT KIT	<b>MX-FX11</b> FACSIMILE EXPANSION KIT	<b>AR-SU1</b> STAMP UNIT	<b>MX-FWX1</b> INTERNET FAX EXPANSION KIT	<b>MX-EB11</b> ENHANCED COMPRESSION KIT	<b>MX-FR36</b> DATA SECURITY KIT
<b>MX-FR36U</b> DATA SECURITY KIT	<b>MX-EC50</b> CARD SOLUTION KIT	<b>MX-EB15</b> MIRRORING KIT	<b>MX-USX1</b> SHARPDESK 1 LICENSE KIT	<b>MX-USX5</b> SHARPDESK 5 LICENSE KIT	<b>MX-US10</b> SHARPDESK 10 LICENSE KIT	<b>MX-US50</b> SHARPDESK 50 LICENSE KIT
<b>MX-USA0</b> SHARPDESK 100 LICENSE KIT	<b>MX-UN01A</b> Sharp OSA Network Scanner Tool 1 License Kit	<b>MX-UN05A</b> Sharp OSA Network Scanner Tool 5 License Kit	<b>MX-UN10A</b> Sharp OSA Network Scanner Tool 10 License Kit	<b>MX-AMX1</b> APPLICATION INTEGRATION MODULE	<b>MX-AMX2</b> APPLICATION COMMUNICATION MODULE	<b>MX-AMX3</b> EXTERNAL ACCOUNT MODULE
<b>MX-UN50A</b> Sharp OSA Network Scanner Tool 50 License Kit	<b>MX-UN1HA</b> Sharp OSA Network Scanner Tool 100 License Kit	<b>MX-KB13</b> KEYBOARD	<b>MX-AM10</b> WEB BROWSING EXPANSION KIT	<b>AR-SC3</b> STAPLE CARTRIDGE	<b>AR-SC2</b> STAPLE CARTRIDGE	<b>MX-SCX1</b> STAPLE CARTRIDGE (For 50 sheets binding)
<b>MX-SCX2</b> STAPLE CARTRIDGE (For 100 sheets binding)	<b>AR-SV1</b> STAMP CARTRIDGE					

## 2. Option list

	Model name	Name	MX-6240N MX-7040N	Remarks
Paper feed system	MX-LC12	LARGE CAPACITY TRAY	OPT	A4
	MX-LCX3N	LARGE CAPACITY TRAY	OPT	A3
	MX-MF10	MULTI BYPASS TRAY	OPT	For Main unit Option set for North America and Europe, standard for other areas.
	MX-LC13	LARGE CAPACITY TRAYS	OPT	A3
	MX-RB14	PAPER PASS UNIT	OPT	For large capacity trays
	MX-MF11	MULTI BYPASS TRAY	OPT	For large capacity trays
Paper exit system	MX-TR14	EXIT TRAY UNIT	OPT	
	MX-TU14	EXIT TRAY CABINET	OPT	Cannot install the MX-TU14 and the MX-RB12 concurrently.
	MX-RB12	PAPER PASS UNIT	OPT	Cannot install the MX-RB12 and the MX-TU14 concurrently.
	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/saddle 15 sheets binding
	MX-PN12A	PUNCH MODULE	OPT	For 50 sheets binding
	MX-PN12B	PUNCH MODULE	OPT	For 50 sheets binding
	MX-PN12C	PUNCH MODULE	OPT	For 50 sheets binding
	MX-PN12D	PUNCH MODULE	OPT	For 50 sheets binding
	MX-FN21	FINISHER	OPT	100 sheets binding
	MX-FN22	SADDLE STITCH FINISHER	OPT	100 sheets binding/saddle 25 sheets binding
	MX-PN13A	PUNCH MODULE	OPT	For 100 sheets binding
	MX-PN13B	PUNCH MODULE	OPT	For 100 sheets binding
	MX-PN13C	PUNCH MODULE	OPT	For 100 sheets binding
	MX-PN13D	PUNCH MODULE	OPT	For 100 sheets binding
	MX-TM10	TRIMMING MODULE	OPT	For 100 sheets binding saddle
	MX-CF11	INSERTER	OPT	
	MX-RB15	CURL CORRECTION UNIT	OPT	
	MX-FD10	FOLDING UNIT	OPT	
Printer expansion	MX-PUX1	XPS EXPANSION KIT	OPT	
Image send expansion	MX-PF10	BARCODE FONT KIT	OPT	
	MX-FX11	FACSIMILE EXPANSION KIT	OPT	
	AR-SU1	STAMP UNIT	OPT	
	MX-FWX1	INTERNET FAX EXPANSION KIT	OPT	
	MX-EB11	ENHANCED COMPRESSION KIT	OPT	
Authentication/ Security	MX-FR36	DATA SECURITY KIT	OPT	Authentication version
	MX-FR36U	DATA SECURITY KIT	OPT	Non-authentication version
	MX-EC50	CARD SOLUTION KIT	OPT	Option set for North America.
	MX-EB15	MIRRORING 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	OPT	Standard for North America.
	MX-AMX3	EXTERNAL ACCOUNT MODULE	OPT	
	MX-UN01A	Sharp OSA Network Scanner Tool 1 License Kit	OPT	
	MX-UN05A	Sharp OSA Network Scanner Tool 5 License Kit	OPT	
	MX-UN10A	Sharp OSA Network Scanner Tool 10 License Kit	OPT	
	MX-UN50A	Sharp OSA Network Scanner Tool 50 License Kit	OPT	
	MX-UN1HA	Sharp OSA Network Scanner Tool 100 License Kit	OPT	
	MX-KB13	KEYBOARD	OPT	Standard for North America.
	MX-AM10	WEB BROWSING EXPANSION KIT	OPT	Standard for North America.
Service	AR-SC3	STAPLE CARTRIDGE	OPT	For saddle staple (50 sheets saddle finisher)
	AR-SC2	STAPLE CARTRIDGE	OPT	For staple (50 sheets saddle finisher / 50 sheets finisher)
	MX-SCX1	STAPLE CARTRIDGE	OPT	For saddle staple (100 sheets saddle finisher)
	MX-SCX2	STAPLE CARTRIDGE	OPT	For staple (100 sheets saddle finisher / 100 sheets finisher)
	AR-SV1	STAMP CARTRIDGE	OPT	

STD: Standard equipment

OPT: Installable option



### 3. Paper feed/Paper exit Option combinations list

		Necessary option										
		MX-FN19	MX-FN20	MX-FN21	MX-FN22	MX-FD10	MX-CF11	MX-RB12	MX-RB13	MX-RB14	MX-RB15	MX-LC13
Install model	MX-FN19							○				
	MX-FN20							○				
	MX-FN21							○			○	
	MX-FN22							○			○	
	MX-TM10				○			○			○	
	MX-FD10							○			○	
	MX-CF11					△		○	△		○	
	MX-RB13							○			○	
	MX-MF11									○		○
	MX-LC13									○		
	MX-PN12	△	△					○				
	MX-PN13			△	△			○			○	

○: Necessary option

△: Necessary option (Use any one of them)

## [2] SPECIFICATIONS

### 1. Basic specifications

#### A. Engine Specification

Photo-conductor kind	OPC (Diameter: Black: $\phi$ 50mm Color (Y/M/C): $\phi$ 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
Recommended Paper	HAMMERMILL Laser Print (24lb) Mondi Color Copy (90g)

#### B. Engine speed (ppm)

##### (1) Tray 1 - 4, LCC, LCT

###### Plain Paper

Paper	70cpm machine		62cpm machine	
	Monochrome	Color	Monochrome	Color
A3W	33	33	31	31
A3/11" x 17"/8K	35	35	32	32
B4/8.5" x 14"/8.5" x 13"/8.5" x 13.4"/8.5" x 13.5"	40	40	36	36
A4/B5/16K	70	70	62	62
8.5" x 11"	70	70	62	62
A4R/8.5" x 11"/R/B5R/7.25" x 10.5"/R/16KR	46	46	42	42
A5R/5.5" x 8.5"/R	46	46	43	43
Extra	33	33	31	31
SRA3	34	34	31	31
SRA4	56	56	52	52
A4W	55	55	51	51

###### Heavy Paper 1/2 (Low speed 1)

Paper	70cpm machine		62cpm machine	
	Monochrome	Color	Monochrome	Color
A4/B5/16K/A5R/8.5" x 11"/5.5" x 8.5"/R	38	38	38	38
A4R/8.5" x 11"/R/16KR/B5R/7.25" x 10.5"/R	31	31	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	23	23
A3W/Extra	22	22	22	22
SRA3	22	22	22	22
SRA4	37	37	37	37
A4W	37	37	37	37

###### Heavy Paper 3/4 (Low speed 2)

Paper	70cpm machine		62cpm machine	
	Monochrome	Color	Monochrome	Color
A4/B5/16K/A5R/8.5" x 11"/5.5" x 8.5"/R	30	30	30	30
A4R/8.5" x 11"/R/16KR/B5R/7.25" x 10.5"/R	24	24	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	18	18
A3W/Extra	17	17	17	17
SRA3	17	17	17	17
SRA4	29	29	29	29
A4W	29	29	29	29

## (2) Multi Bypass

### Plain Paper

Paper	70cpm machine		62cpm machine	
	Monochrome	Color	Monochrome	Color
A3W	32	27	29	25
A3/11" x 17"/8K	33	28	31	26
B4/8.5" x 14"/8.5" x 13"/8.5" x 13.4"/8.5" x 13.5"	38	32	35	29
A4R/8.5" x 11"/R/B5R/7.25" x 10.5"/R/16KR	44	42	41	38
A5R/5.5" x 8.5"/R	44	44	41	41
B5	70	55	62	50
A4/16K	70	53	62	49
8.5" x 11"	70	53	62	48
Extra	32	27	29	25
SRA3	32	28	30	25
SRA4	53	50	49	45
A4W	52	49	48	45

### Heavy Paper 1/2 (Low speed 1)

Paper	70cpm machine		62cpm 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
A3W/Extra	21	18	21	18
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
OHP (other)	21	18	21	18

### Heavy Paper 3/4 (Low speed 2)

Paper	70cpm machine		62cpm machine	
	Monochrome	Color	Monochrome	Color
Envelope *1	19	15	19	15
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/Extra	16	13	16	13
SRA3	16	13	16	13
SRA4	28	24	28	24
A4W	27	24	27	24
OHP (A4/8.5" x 11")	28	25	28	25
OHP (A4R/8.5" x 11"/R)	23	20	23	20
OHP (other)	16	13	16	13

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

## C. Printable area

A3 Wide *	297 x 420mm	12" x 18" *	297 x 432mm
SRA3	297 x 420mm	11" x 17"	275 x 424mm
A3	293 x 412mm	8.5" x 14"	212 x 348mm
B4	253 x 356mm	8.5" x 13.5"	212 x 335mm
SRA4	297 x 210mm	8.5" x 13.4"	212 x 332mm
A4	206 x 289mm	8.5" x 13"	212 x 322mm
B5	178 x 249mm	Executive	180 x 259mm
A5	144 x 202mm	8.5" x 11"	212 x 271mm
Postcard	96 x 140mm	5.5" x 8.5"	136 x 208mm
8K	266 x 382mm	16K	191 x 262mm
Custom	Min: 86mm x 133mm / Max: 310mm x 1192mm		

\* When printing 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 1,200mm.

Void area	Lead edge: 4mm ± 1mm
Image loss	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



## D. Engine resolution

Resolution *1	Copy	Writing 600 x 600dpi 9,600 (equivalent) x 600dpi
	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 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 600 x 400dpi (default)	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: 75-sheet/min. (600 x 400dpi, 1bit) 51-sheet/min. (600 x 600dpi, 1bit) Double: 150-page/min. (600 x 400dpi, 1bit) 100-page/min. (600 x 600dpi, 1bit)	Single: 51-sheet/min. (600 x 600dpi, 4bit) Double: 100-page/min. (600 x 600dpi, 4bit)
FAX	Single: 75-sheet/min. (8 x 3.85 line/mm) Double: 150-page/min. (8 x 3.85 line/mm)	NA

Internet FAX	Single: 75-sheet/min. (200 x 200dpi, 1bit) Double: 150-page/min. (200 x 200dpi, 1bit)	NA
Scanner	Single: 75-sheet/min. (200 x 200dpi, 1bit) Double: 150-page/min. (200 x 200dpi, 1bit)	Single: 75-sheet/min. (Full color: RGB, 8bit for each color) Double: 150-page/min. (Full color: RGB, 8bit for each color)
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 <sup>2</sup> ) Plain paper: 13 - 34 lb bond (50 - 128 g/m <sup>2</sup> ) * Thin paper mode (45-sheet/min. (600 x 400dpi), 33-sheet/min. (600 x 600dpi) (A4, 8.5" x 11")) is set up for the thin paper. Duplex: 13 - 34 lb bond (50 - 128 g/m <sup>2</sup> )	
Max. loading capacity of documents	Max. 150 sheets (21lbs Bond, 80g/m <sup>2</sup> ), 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 (Necessary option exclusive against LCT, and Standard for the other destinations.)
	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 (Option *1)
Paper capacity	Plain paper (80g/m <sup>2</sup> )	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 *2		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				

\*1: Option for North America/Europe, Standard for the other destinations

\*2: 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 (Option)
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 (Option)
Minimum weight		60g/m <sup>2</sup>	60g/m <sup>2</sup>	60g/m <sup>2</sup>	60g/m <sup>2</sup>	55g/m <sup>2</sup>
Maximum weight		105g/m <sup>2</sup>	105g/m <sup>2</sup>	220g/m <sup>2</sup>	220g/m <sup>2</sup>	300g/m <sup>2</sup>
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 <sup>2</sup>	No	No	Yes	Yes	Yes
	Heavy paper 2 177 - 220g/m <sup>2</sup>	No	No	Yes	Yes	Yes
	Heavy paper 3 221 - 256g/m <sup>2</sup>	No	No	No	No	Yes
	Heavy paper 4 257 - 300g/m <sup>2</sup>	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
	Glossy 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 (Option)
Paper size	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	1200mm/ 47.24inch
		Min Y (main scan)	No	No	No	100mm/4inch	90mm/ 3.625inch
		Max Y (main scan)	No	No	No	305mm/12inch	320mm/ 12.5inch
	Special - Uncertain paper size		No	No	No	No	Yes
	Long size paper	Width: 90 - 305 Length: 458 - 1200	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 <sup>2</sup> )	100 sheets (A4/8.5" x 11": 80g/m <sup>2</sup> )

## (2) Size of paper which can be discharged

Paper exit section			Duplex	Main unit center tray	Right exit tray
Minimum weight			60g/m <sup>2</sup>	55g/m <sup>2</sup>	55g/m <sup>2</sup>
Maximum weight			256g/m <sup>2</sup>	300g/m <sup>2</sup>	256g/m <sup>2</sup>
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 <sup>2</sup>		Yes	Yes	Yes
	Heavy paper 2 177 - 220g/m <sup>2</sup>		Yes	Yes	Yes
	Heavy paper 3 221 - 256g/m <sup>2</sup>		Yes	Yes	Yes
	Heavy paper 4 257 - 300g/m <sup>2</sup>		No	Yes	No
	Embossed paper		No	Yes	Yes
	Tab paper*1		No	Yes	No
	OHP Transparency		No	Yes	Yes
	Label		No	Yes	Yes
	Grossy paper		No	Yes	Yes
	User settings 1 - 9		Yes	Yes	Yes
Paper size	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)	182 (7)	140 (5.5)	140
		Max X (sub scan)	457 (18)	1200	457
		Min Y (main scan)	140 (5.5)	90	90
		Max Y (main scan)	320 (12)	320	320
	Special - Uncertain paper size		No	Yes	Yes
	Long size paper	Width: 90 - 305 Length: 458 - 1200	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 D525 1.8GHz
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/ PC)	1port
Memory	See the section "Memory/Hard disk".
Memory slot	5 slot (1 slot: empty)

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

## K. Memory/Hard disk

SD card	CF card	ICU (MainReus) PWB	ICU (SubReus) PWB	SOC		HDD*1
		Slot1	Slot1	Slot1	Slot2	
4GB	8GB	1GB (STD)	1GB (STD)	2GB (STD)	1GB (STD)	1TB

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

Memory area (SD card)	Boot/Program area
	FAX data storage area
	1GB

## L. Warm-up time

	Main power SW
Warm-up time *1	62cpm machine: 55sec. or less 70cpm machine: 70sec. 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	70cpm machine		62cpm 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	70cpm machine		62cpm machine	
	Monochrome	Color	Monochrome	Color
S to S	70cpm (100%)	51cpm (72%)	62cpm (100%)	51cpm (82%)

### C. Job Effectiveness

BLI Standard (DSPF)

Engine	70cpm machine		62cpm machine	
	Monochrome	Color	Monochrome	Color
S to S	56cpm (80.0%)	52cpm (74.3%)	50cpm (80.6%)	48cpm (77.4%)
S to D	56cpm (80.0%)	52cpm (74.3%)	50cpm (80.6%)	48cpm (77.4%)
D to D	62cpm (88.6%)	59cpm (84.3%)	55cpm (88.7%)	53cpm (85.5%)

\* 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	XP	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	XP (x 64)	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2003	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	Server 2003 (x 64)	CD-ROM	No	CD-ROM	CD-ROM	CD-ROM	CD-ROM
	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
Mac	X 10.4.11	No	No	No	CD-ROM	No	No
	X 10.5-10.5.8	No	No	No	CD-ROM	Web*1	No
	X 10.6.5 - 10.6.8	No	No	No	CD-ROM	Web*1	No
	X 10.7 - 10.7.2	No	No	No	CD-ROM	Web*1	No

\*1: Japan only

#### 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 = 136 styles	—

### 4. FAX function

#### A. Transmission method

Transmission time	Less than 3 sec (Super G3) Less than 7 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))
-----------------------------------	-------------------------------------------------------------------------------------

#### 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	2000 items including the group dialing items
Group dialing	2000 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 (SD card: Mirror)

## 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): Low compression, Medium compression, 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	No
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	Yes (SEC only)
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
	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	Yes

### 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	Yes
Metadata Set List	Yes
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	No

## 7. Power consumption

### A. Power consumption

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

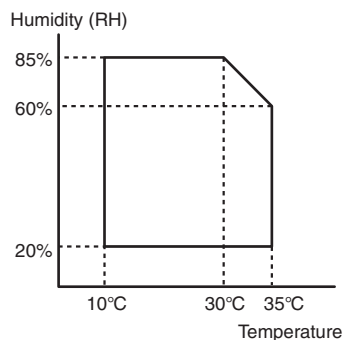
		200 V (North America, etc.)	200 V (Europe, etc.)
Maximum rated power Consumption*1		2880W	1920W + 1920W
Energy consumption rate		Not applicable	
TEC value (Measured result)	62cpm machine	7.26kWh	7.32kWh
	70cpm machine	7.58kWh	7.76kWh
TEC value (Standard) Tier2	62cpm machine	18.7kWh (0.35kwh * 62 - 3.0 kwh)	
	70cpm machine	24.0kWh (0.70kwh * 70 - 25.0 kwh)	
Network/Fax waiting power consumption: 1W or less * The network protocol is TCP/IP only.		No	
Moving time to pre-heat mode		1 minutes (default)	
Recovery time from pre-heat mode		30 sec.	
Moving time to sleep mode		15 minutes (default)	16 minutes (Europe)
		* Printer mode: 10sec. (default)	
Recovery time from sleep mode		Warm-up time or less	

\*1: Power switch ON, dehumidity heater OFF

## 8. Dimensions and Weight

Outer dimension (Included operation panel)	W845 x D844 x H1222mm (Operation panel default position) W845 x D832 x H1222mm (When the operation panel is put down.)
Footprint	W845 x D844mm
Dimension occupied by the machine (When the bypass tray is extended)	W1242 x D844mm (When the bypass tray is extended/ Operation panel default position)
Weight Main Unit (including photoreceptor / not including consumables)	222kg

## 9. Ambient conditions



## [3] CONSUMABLE PARTS

### 1. Supply system table

#### A. North America, Middle America, South America

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner cartridge (Black)	Toner cartridge (Black) 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. Brazil

Item	Content	Life	Model name	Quantity in collective package	Remarks
Toner cartridge (Black)	Toner cartridge (Black) x 1	65K	MX-62BT-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-62BT-CA	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Magenta)	Toner cartridge (Magenta) x 1	40K	MX-62BT-MA	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Yellow)	Toner cartridge (Yellow) x 1	40K	MX-62BT-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	

#### 2 C. Europe, Eastern Europe, Russia, Australia, New Zealand, Korea

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-CA	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Magenta)	Toner cartridge (Magenta) x 1	40K	MX-62GT-MA	10	* Life: A4/Letter size at area coverage 5%
Toner cartridge (Yellow)	Toner cartridge (Yellow) x 1	40K	MX-62GT-YA	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-SA	5	
Drum	OPC drum x 1	300K (Black) 200K (Color)	MX-62GR-SA	10	

## D. 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	

## E. Middle East, Taiwan, Africa, Israel, 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. U.S.A/Canada/South and Central America

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing belt kit	MX-620FB	Fusing belt x 1 Meandering suppress collar x 2	300K	10	
Fusing roller kit	MX-750HK	Fusing roller x 1 Fusing roller BRG x 2 Heating roller x 1 Heating roller BRG x 2 Insulation bush x 2	300K	10	
Pressure roller kit	MX-620LH	Pressure roller x 1 Pressure roller gear x 1 Pressure roller BRG x 2 Lower separation pawl x 4 Lower separation pawl SP x 4	300K	10	
Web cleaning kit	MX-620WB	Web roller x 1 Web guide shaft x 1 Web pressure roller x 1 Web pressure roller bearing x 2	300K	10	
Primary transfer belt kit	MX-620B1	Primary transfer belt x 1 Transfer separation pawl x 1	300K	10	
Primary transfer blade kit	MX-620TL	Primary transfer blade x 1	300K	10	
PTC kit	MX-620CU	Charger wire x 1 PTC cleaner x 1 PTC cleaner B x 1	300K	10	
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-750FK	Filter folder unit x 1	Black: 300K Color: 200K	10 10	
Filter kit	MX-620FL	Ozone filter x 2 Toner filter x 2 Deodorant filter x 1	300K	10	
Toner collection container	MX-700HB	Toner collection container unit 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-750MK	Main charger unit x 1 Drum cleaning blade x 1	Black: 300K Color: 200K	10	
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-620U1	Primary transfer belt unit (For servicing rotation) x 1	-	1	
Secondary transfer belt unit	MX-620U2	Secondary transfer belt unit (For servicing rotation) x 1	-	1	
Fusing unit	MX-620FU1	Fusing unit 230S (For servicing rotation) (Heater lamp 230V) 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/East Europe/Russia

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing belt kit	MX-620FB	Fusing belt x 1 Meandering suppress collar x 2	300K	10	
Fusing roller kit	MX-750HK	Fusing roller x 1 Fusing roller BRG x 2 Heating roller x 1 Heating roller BRG x 2 Insulation bush x 2	300K	10	Correspond to new Blue Angel
Pressure roller kit	MX-620LH	Pressure roller x 1 Pressure roller gear x 1 Pressure roller BRG x 2 Lower separation pawl x 4 Lower separation pawl SP x 4	300K	10	
Pressure roller kit	MX-750LH	Pressure roller x 1 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	300K	10	Correspond to new Blue Angel
Web cleaning kit	MX-620WB	Web roller x 1 Web guide shaft x 1 Web pressure roller x 1 Web pressure roller bearing x 2	300K	10	
Primary transfer belt kit	MX-620B1	Primary transfer belt x 1 Transfer separation pawl x 1	300K	10	
Primary transfer blade kit	MX-620TL	Primary transfer blade x 1	300K	10	
PTC kit	MX-620CU	Charger wire x 1 PTC cleaner x 1 PTC cleaner B x 1	300K	10	
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-750FK	Filter folder unit x 1	Black: 300K Color: 200K	10 10	
Filter kit	MX-620FL	Ozone filter x 2 Toner filter x 2 Deodorant filter x 1	300K	10	
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-750MK	Main charger unit x 1 Drum cleaning blade x 1	Black: 300K Color: 200K	10	
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-620U1	Primary transfer belt unit (For servicing rotation) x 1	-	1	
Secondary transfer belt unit	MX-620U2	Secondary transfer belt unit (For servicing rotation) x 1	-	1	
Fusing unit	MX-621FU	Fusing unit 230W (For servicing rotation) x 1 (Heater lamp 230V)	-	1	Correspond to new Blue Angel

\*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.

## 2 C. Australia / New Zealand / Korea / Taiwan

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing belt kit	MX-620FB	Fusing belt x 1	300K	10	
		Meandering suppress collar x 2			
Fusing roller kit	MX-750HK	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-620TL	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	
PS paper dust removing unit	MX-620PD	PS paper dust removing unit x 1	300K	10	
DV filter kit	MX-750FK	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-750MK	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-620U1	Primary transfer belt unit (For servicing rotation) x 1	-	1	
Secondary transfer belt unit	MX-620U2	Secondary transfer belt unit (For servicing rotation) x 1	-	1	
Fusing unit	MX-620FU	Fusing unit 230W (For servicing rotation) (Heater lamp 230V) 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.



## D. Asia/Middle East/Africa

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing belt kit	MX-620FB	Fusing belt x 1	300K	10	
		Meandering suppress collar x 2			
Fusing roller kit	MX-750HK	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-620TL	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	
PS paper dust removing unit	MX-620PD	PS paper dust removing unit x 1	300K	10	
DV filter kit	MX-750FK	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-750MK	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-620U1	Primary transfer belt unit (For servicing rotation) x 1	-	1	
Secondary transfer belt unit	MX-620U2	Secondary transfer belt unit (For servicing rotation) x 1	-	1	
Fusing unit	MX-620FU	Fusing unit 230W (For servicing rotation) (Heater lamp 230V) 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.

## E. Hong Kong

Item	Model name	Content	Life	Quantity in collective package	Remarks
Fusing belt kit	MX-620FB	Fusing belt x 1	300K	10	
		Meandering suppress collar x 2			
Fusing roller kit	MX-750HK	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-620TL	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	
PS paper dust removing unit	MX-620PD	PS paper dust removing unit x 1	300K	10	
DV filter kit	MX-750FK	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-750MK	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-620U1	Primary transfer belt unit (For servicing rotation) x 1	-	1	
Secondary transfer belt unit	MX-620U2	Secondary transfer belt unit (For servicing rotation) x 1	-	1	
Fusing unit	MX-620FU	Fusing unit 230W (For servicing rotation) (Heater lamp 230V) 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.

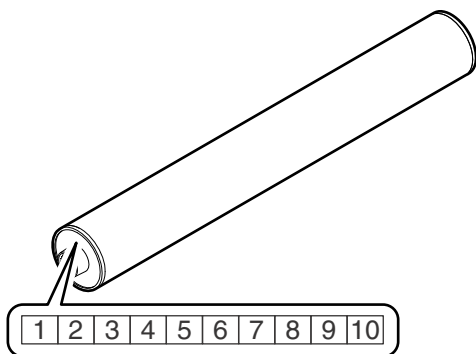
Therefore, the developer/drum consuming level cannot be determined only by the copy/print quantity. When, therefore, the rpm reaches the specified amount, it is judged as life end.

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

		Developer/drum counter		Developer/drum rpm	
		B/W	Full color	B/W	Full color
Drum	62cpm/70cpm	300K	200K	1000K rotations	1000K rotations
Developer		600K	400K	2000K rotations	2000K rotations

### 4. Production number identification

#### A. OPC drum

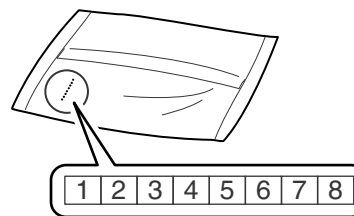


The lot number is comprised of 10 digits. Each digit indicates the content as follows.

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



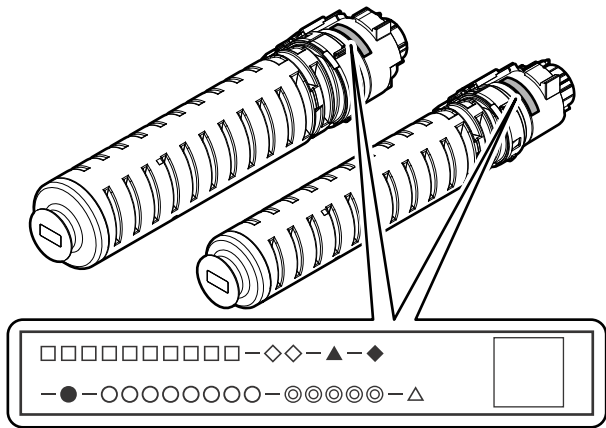
The lot number is 8 digits in length. Each digit indicates the content as follows.

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.

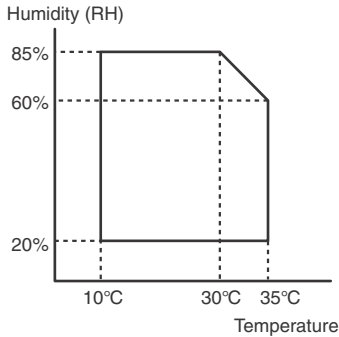
C. Toner cartridge

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

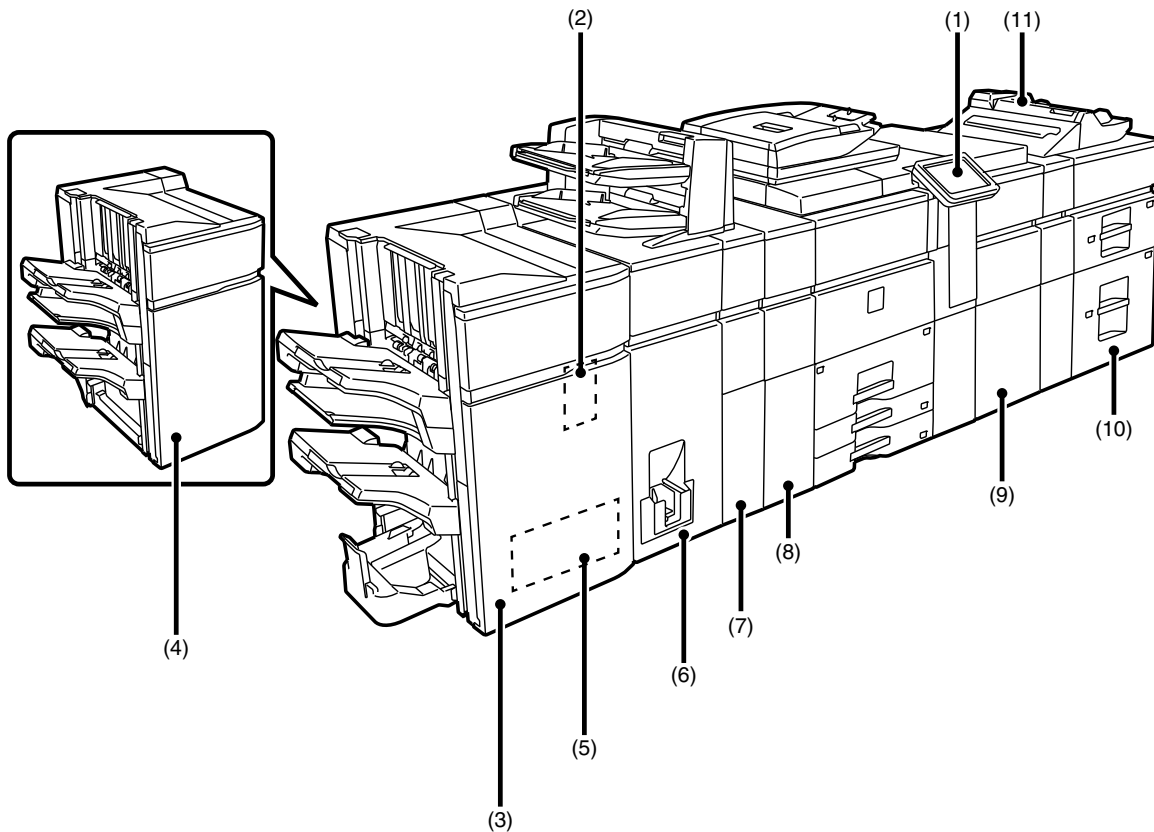
5. Environmental conditions



Standard environmental conditions	Temperature	20 – 25 °C
	Humidity	65 ± 5 %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	

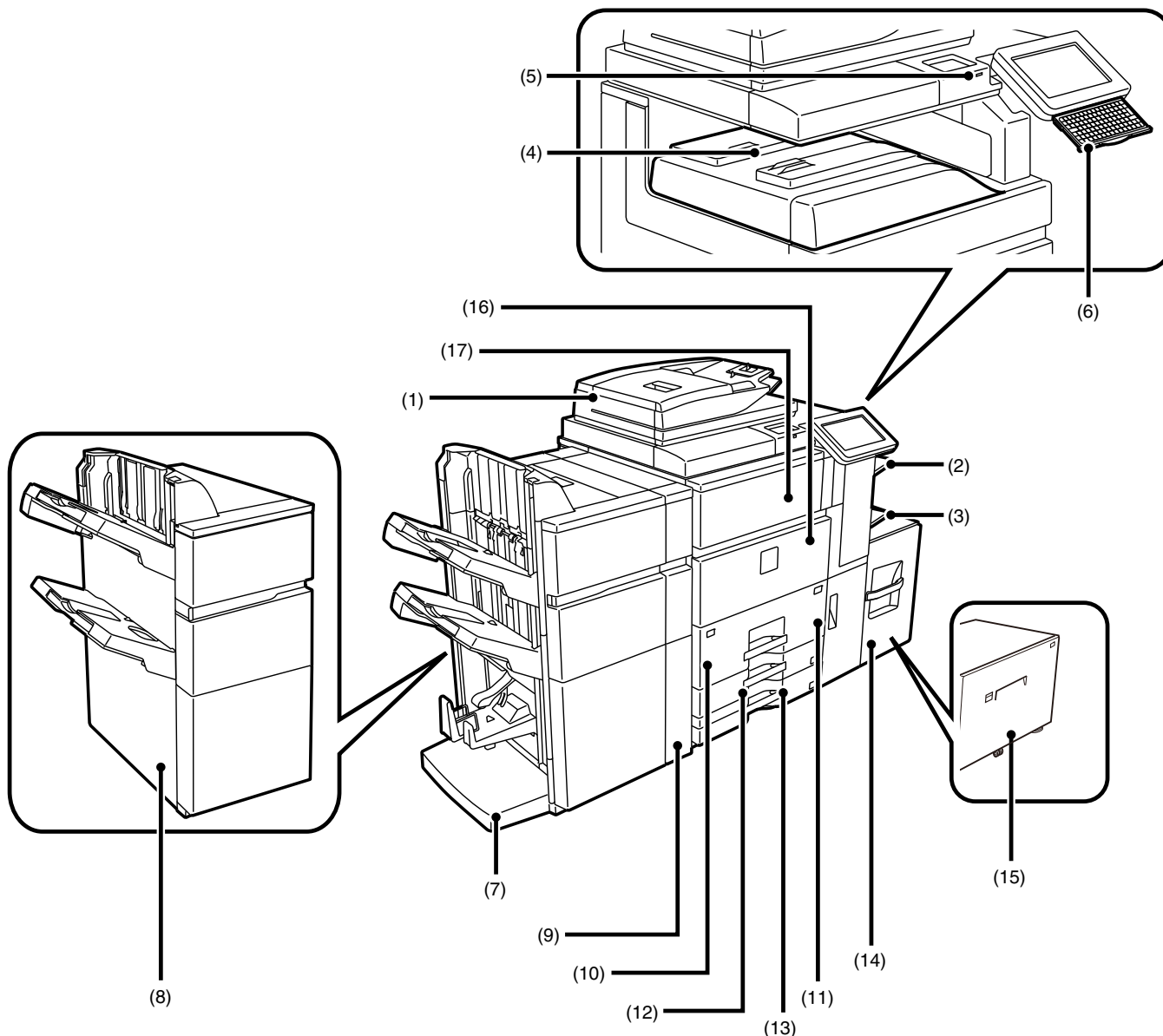
## [4] EXTERNAL VIEW AND INTERNAL STRUCTURE

### 1. External view



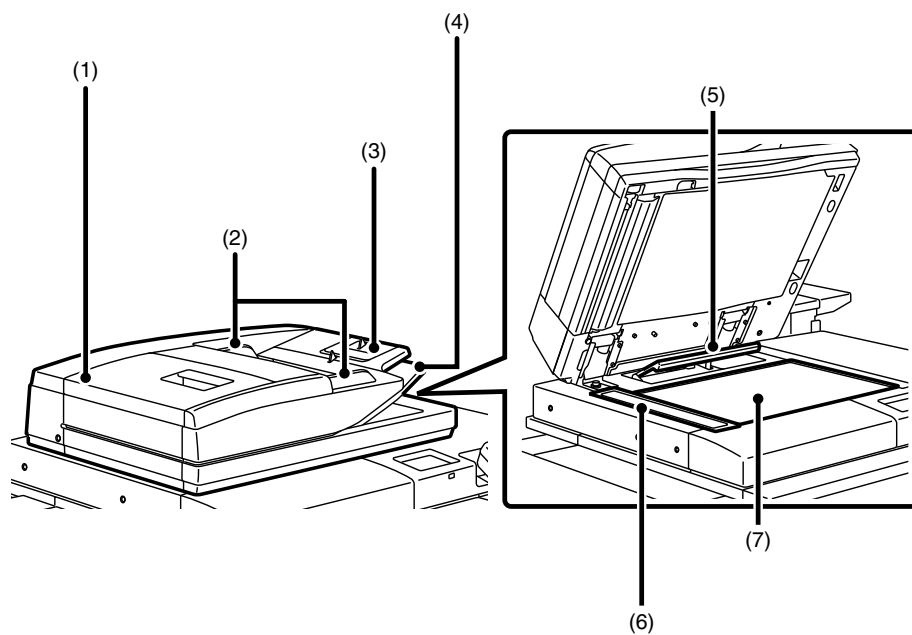
No.	Name	Function/Operation
1	Operation panel	This is used to select functions and enter the number of copies.
2	Punch module *	This is used to punch holes in output. Requires the finisher (large stacker) or the saddle stitch finisher (large stacker).
3	Saddle stitch finisher (100-sheet stapling) *	This 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.



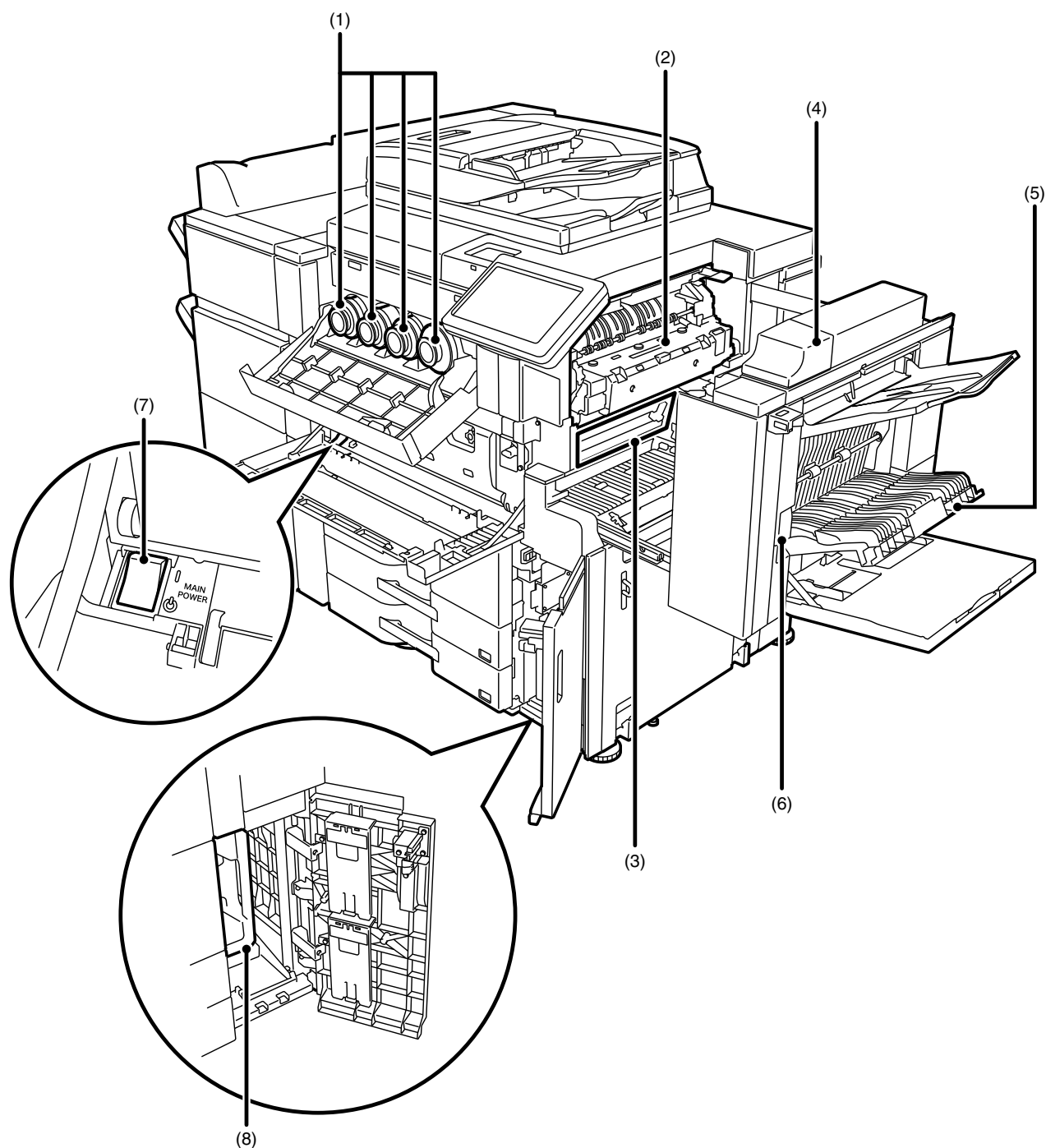
No.	Name	Function/Operation
1	Automatic document feeder	This automatically feeds and scans multiple originals. Both sides of 2-sided originals can be automatically scanned.
2	Right tray *	When installed, output can be delivered to this tray.
3	Bypass tray (Standard for some destinations) *	In manual 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	Front cover (upper) *	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

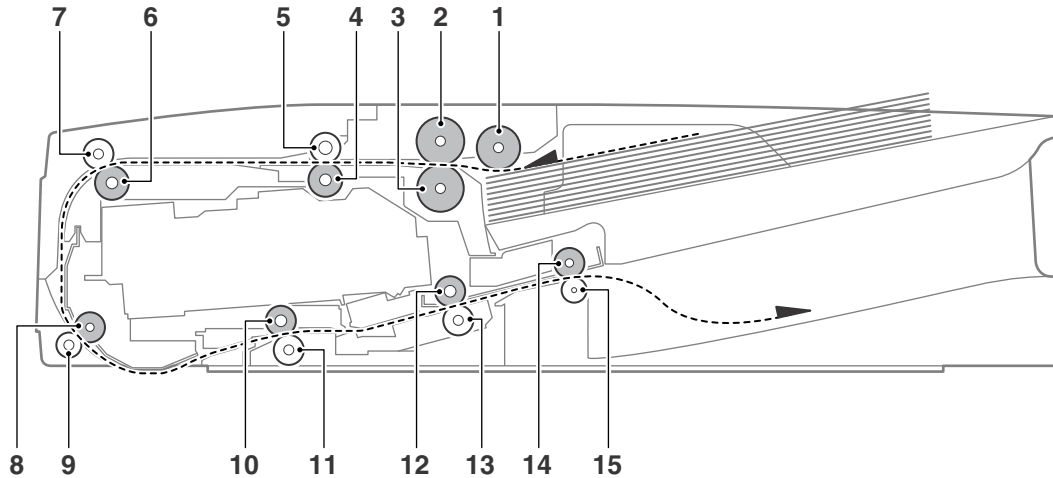


No.	Name	Function/Operation
1	Toner cartridges	These contain toner for printing. When the toner runs out in a cartridge, the cartridge of the color that ran out must be replaced.
2	Fusing unit	Heat is applied here to fuse the transferred image onto the paper.
3	Transfer belt	During full color printing, 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.



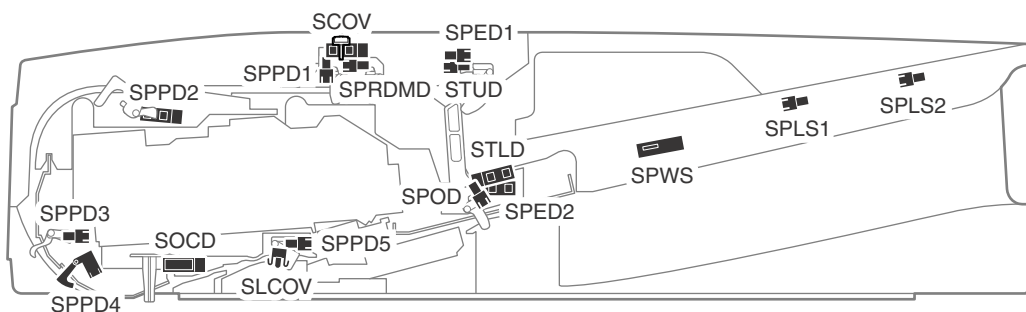
### 3. DSPF

#### A. Rollers



No.	Name	Function/Operation
1	Document pickup roller (DSPF)	Picks up a document to feed it to the paper feed roller.
2	Paper feed roller (DSPF)	Feeds a document to the transport section.
3	Separation roller (DSPF)	Separates a document to prevent double-feeding.
4	No. 1 registration roller (Drive) (DSPF)	Provides deflection between the paper feed roller and this roller to correct the document skew.
5	No. 1 registration roller (Idle) (DSPF)	Applied a pressure to document and the registration roller, and provides transport power of the registration roller to document.
6	Transport roller 1 (Drive) (DSPF)	Transports document from No. 1 registration roller to No. 2 registration roller.
7	Transport roller 1 (Idle) (DSPF)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.
8	No. 2 registration roller (Drive) (DSPF)	Controls the transport timing of the document and adjusts the document scanning timing.
9	No. 2 registration roller (Idle) (DSPF)	Applied a pressure to document and the registration roller, and provides transport power of the registration roller to document.
10	Transport roller 2 (Drive) (DSPF)	Transports document from the No. 1 scan section to the No. 2 scan section.
11	Transport roller 2 (Idle) (DSPF)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.
12	Transport roller 3 (Drive) (DSPF)	Transports document from the transport roller 2 to the document exit roller.
13	Transport roller 3 (Idle) (DSPF)	Apply a pressure to a document and the transport roller to provide the transport power of the transport roller to the document.
14	Paper exit roller (Drive) (DSPF)	Discharges document.
15	Paper exit roller (Idle) (DSPF)	Apply a pressure to a document and the paper exit roller to provide the transport power of the paper exit roller to the document.

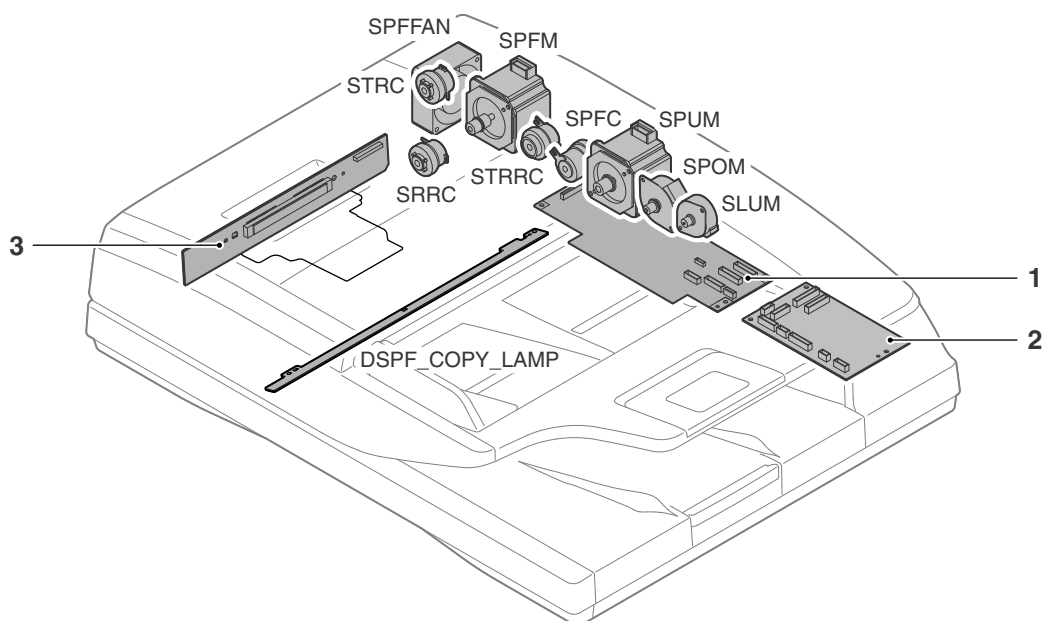
#### B. Sensors, detectors, and switches



Signal name	Name	Type	Function/Operation
SCOV	Upper cover open/close detector (DSPF)	Light transmission	Detects open/close of the upper cover.
SLCOV	Lower cover open/close detector (DSPF)	Micro switch	Detects open/close of the lower cover.
SOCD	DSPF open/close detector (DSPF)	Light transmission	Detects open/close of the DSPF unit.
SPED1	Document upper limit detector (DSPF)	Light transmission	Detects the upper limit lift position of a document in the document feed tray.
SPED2	Document detector (DSPF)	Light transmission	Detects documents on the document feed tray.
SPLS1	Document length detector 1 (DSPF)	Light transmission	Detects the document length on the document feed tray. (For short sizes)
SPLS2	Document length detector 2 (DSPF)	Light transmission	Detects the document length on the document feed tray. (For long sizes)
SPOD	Document exit detector (DSPF)	Light transmission	Detects document exit of the document.
SPPD1	Document pass sensor 1 (DSPF)	Light transmission	Detects document pass in front of the No. 1 registration roller.

Signal name	Name	Type	Function/Operation
SPPD2	Document pass sensor 2 (DSPF)	Light transmission	Detects document pass in front of the transport roller 1.
SPPD3	Document pass sensor 3 (DSPF)	Light transmission	Detects document pass in front of the No. 2 registration roller.
SPPD4	Document pass sensor 4 (DSPF)	Light transmission	Detects document pass in front of the front-surface document scan.
SPPD5	Document pass sensor 5 (DSPF)	Light transmission	Detects document pass in front of the back-surface document scan.
SPRDMD	Document size detector (DSPF)	Light transmission	Outputs the document size judgment signal when feeding random documents.
SPWS	Document width sensor (DSPF)	Resistance volume	Detects the document width on the document feed tray.
STLD	Document feed tray lower limit detector (DSPF)	Light transmission	Detects the lower limit position of the document feed tray.
STUD	Document feed tray upper limit detector (DSPF)	Light transmission	Detects the upper limit position of the document feed tray.

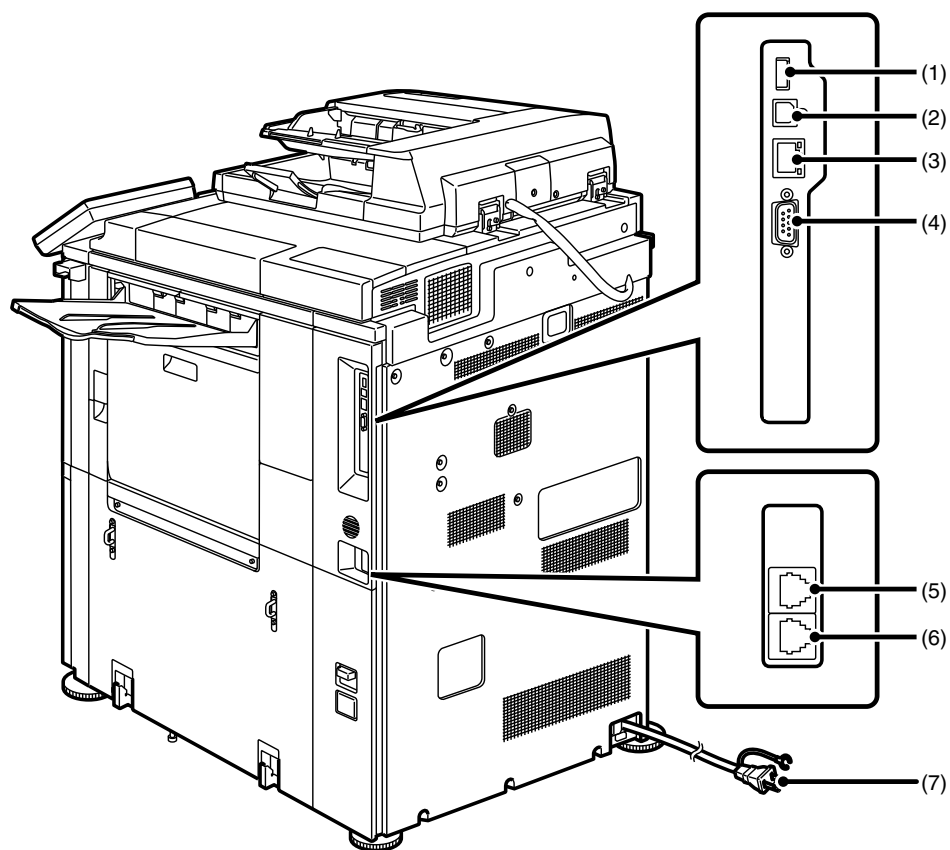
### C. Drive motors, clutches, PWB's, and lamps



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.
SPFM	Transport motor (DSPF)	Stepping motor	Drives the transport roller.
SPOM	Document exit motor (DSPF)	Stepping motor	Drives the document exit roller.
SPUM	Document feed/transport motor (DSPF)	Stepping motor	Drives the paper feed roller and the transport roller.
SRRC	No. 2 registration roller clutch (DSPF)	Electromagnetic clutch	Turns ON/OFF the No. 2 registration roller.
STRC	Transport roller clutch (DSPF)	Electromagnetic clutch	Turns ON/OFF the transport roller 1.
STRRC	No. 1 registration roller clutch (DSPF)	Electromagnetic clutch	Turns ON/OFF the No. 1 registration roller.

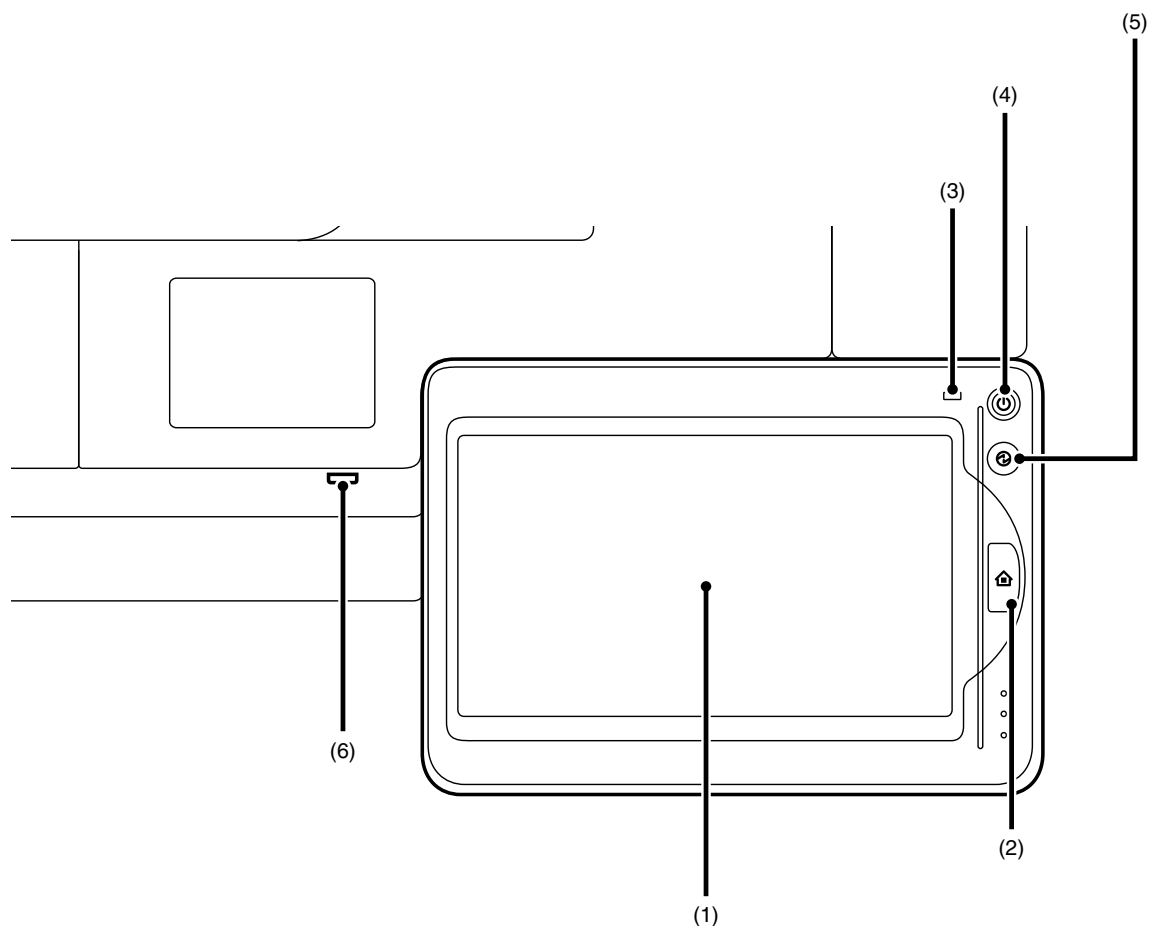
No.	Name	Function/Operation
1	Control PWB (DSPF)	Controls the image data process and all the DSPF.
2	Driver PWB (DSPF)	Drives the motors and the clutches in the DSPF section.
3	CCD PWB (DSPF)	Scans document images and performs A/D conversion of the scanning signal.

## 4. Connectors



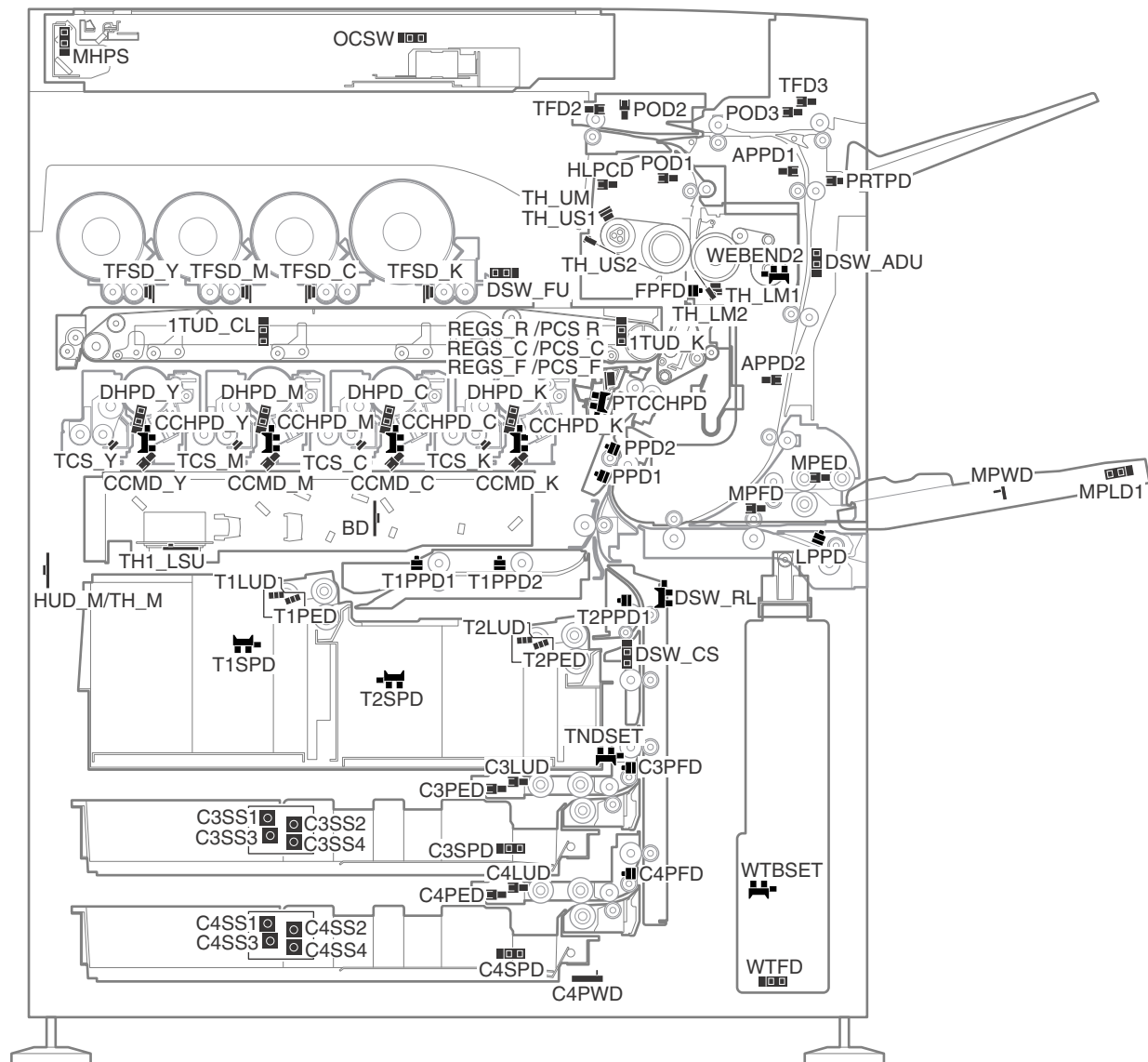
No.	Name	function/Operation
1	USB connector (A type)	N/A
2	USB connector (B type)	Supports USB 2.0 (Hi-Speed). A computer can be connected to this connector to use the machine as a printer. For the USB cable, use a shielded cable.
3	LAN connector	Connect the LAN cable to this connector when the machine 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	Extension phone socket	When the fax function of the machine is used, an extension phone can be connected to this socket.
6	Telephone line socket	When the fax function of the machine is used, the telephone line is connected to this socket.
7	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



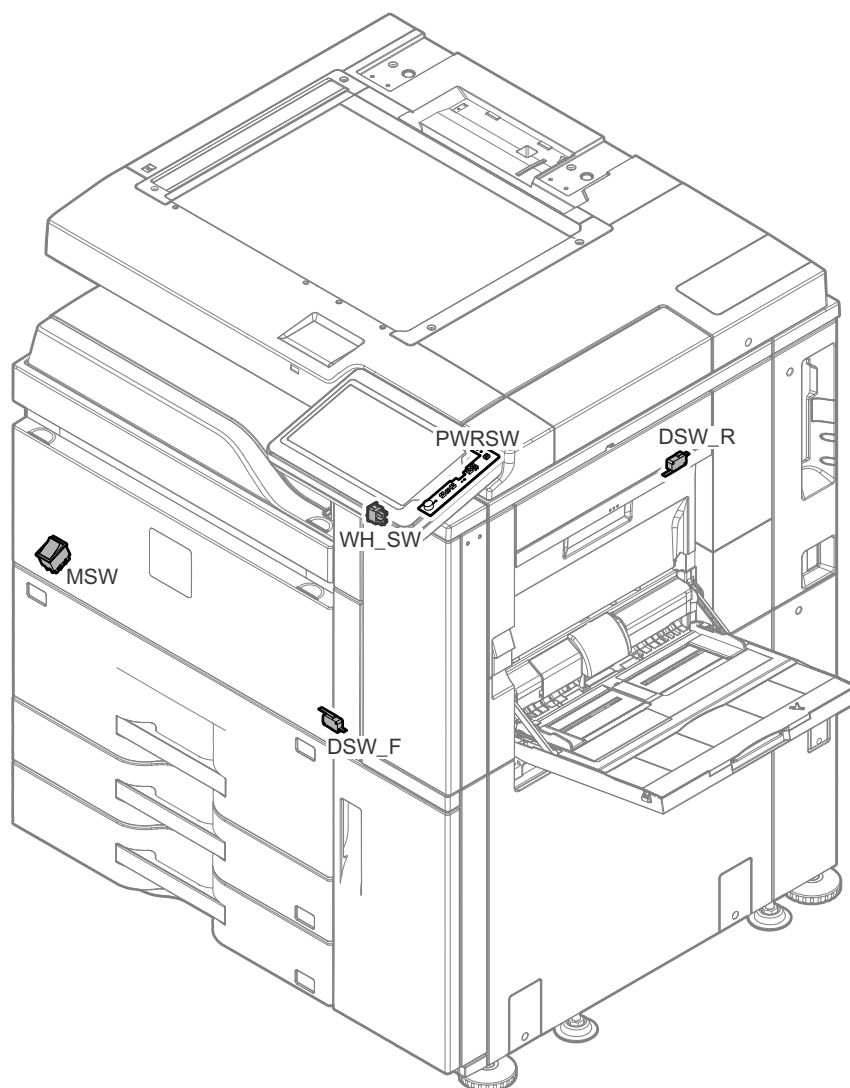
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Signal name	Name	Type	Function/Operation
1TUD_CL	Transfer mode detector (CL)	Light transmission	Detects separation of the transfer belt and the transfer mode. (Detection is made by combination of 1TUD_CL/1TUD_K signals.)
1TUD_K	Transfer mode detector (BK)	Light transmission	Detects separation of the transfer belt and the transfer mode. (1TUD_K) (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.
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.

Signal name	Name	Type	Function/Operation
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.
HLPCD	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.
POD3	Right 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.
PRTPD	Paper exit tray paper detector (Right paper exit tray)	Light transmission	Detects paper in the paper exit tray.
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.
TFD3	Paper exit full detector (Right paper exit tray)	Light transmission	Detects paper full in the right paper exit tray.
TFSD_C	Toner remaining quantity sensor (C)	Piezoelectric sensor	Detects the remaining quantity of toner in the toner hopper.

Signal name	Name	Type	Function/Operation
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.
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. (Used for correction of distortion.)
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



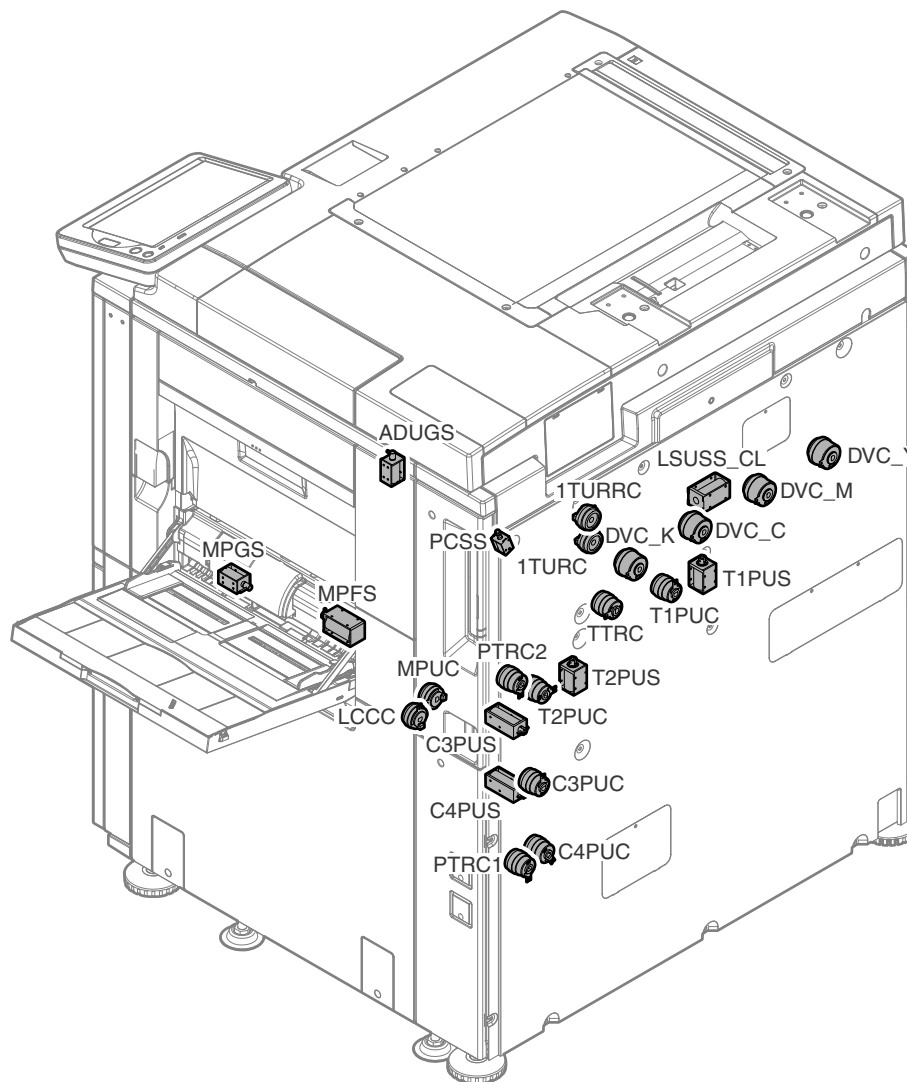
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Signal name	Name	Type	Function/Operation
DSW_F	Front door open/close switch	Micro switch	Detects open/close of the front door. Opens/closes the power lines of the fusing section, the motor, and the LSU laser. (DSW_FL)
DSW_R	Right door open/close switch	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.
WH_SW *	Dehumidifier heater switch	Seesaw switch	Turns ON/OFF the power line of the dehumidifier heater.

\*: Option

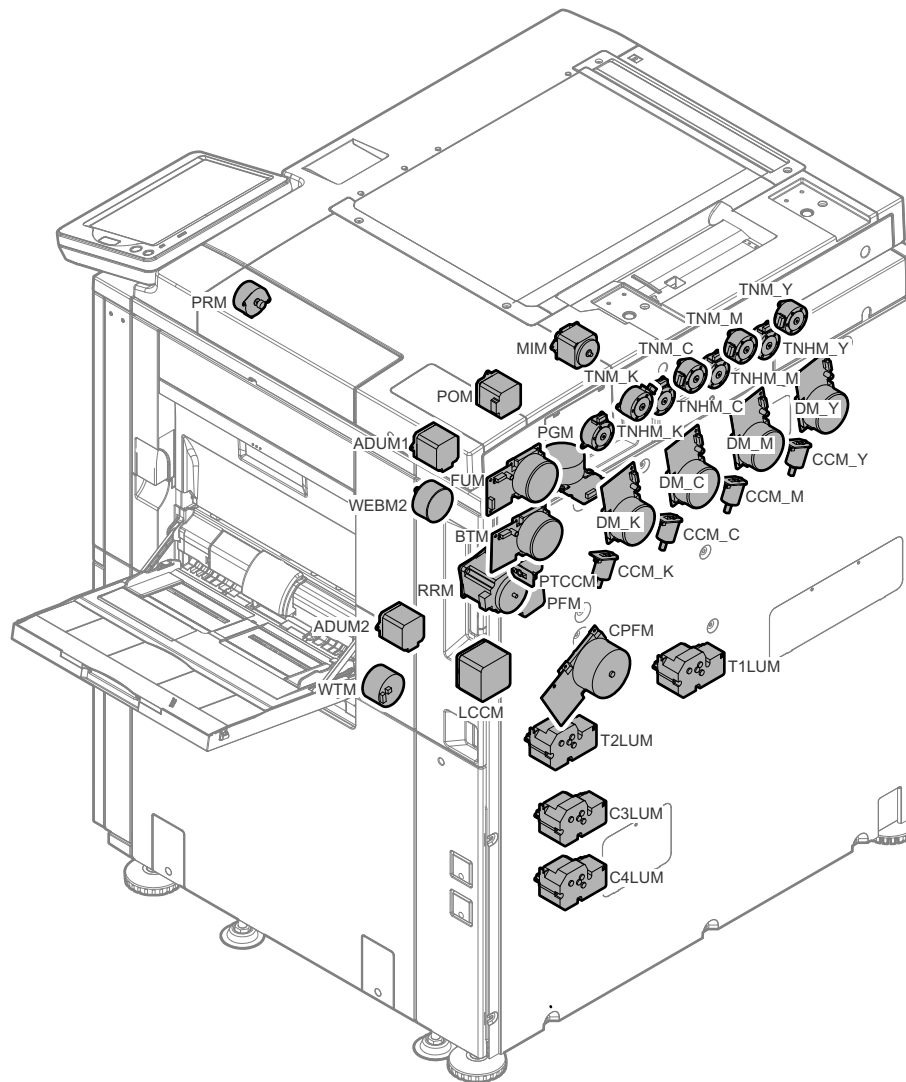


## 8. Clutches and solenoids



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.
LSUSS_CL	LSU shutter solenoid	Electromagnetic solenoid	Opens/closes the LSU shutter.
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.

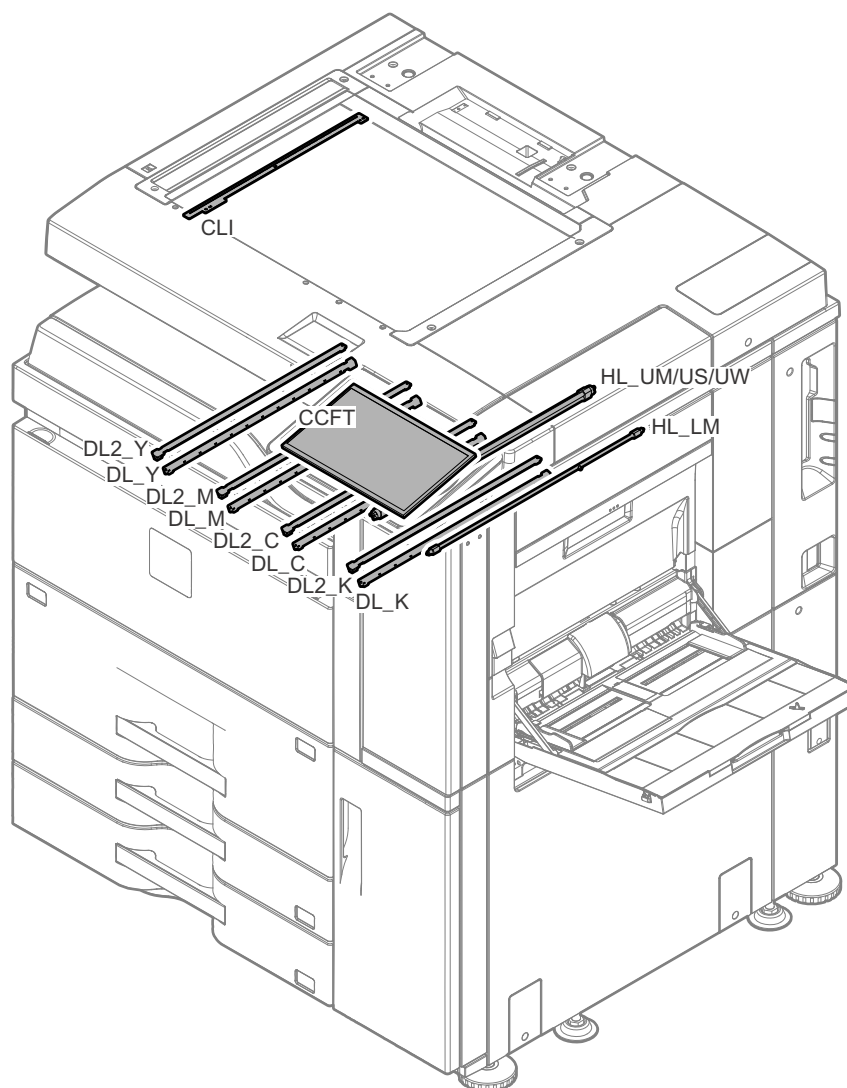
## 9. Drive motors



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.
TNHM_K	Tone hopper motor (K)	Stepping motor	Sends toner to the DV unit.

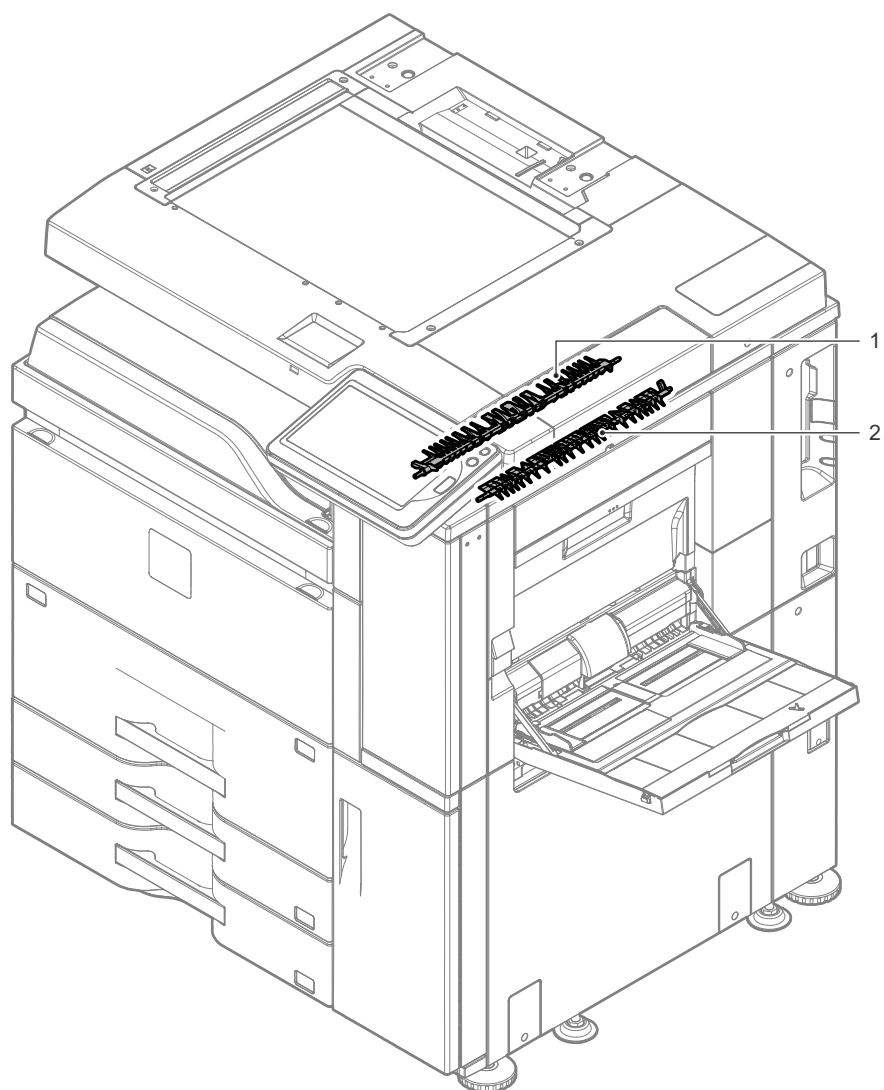
Signal name	Name	Type	Function/Operation
TNHM_M	Tone hopper motor (M)	Stepping motor	Sends toner to the DV unit.
TNHM_Y	Tone hopper motor (Y)	Stepping motor	Sends toner to the DV unit.
TNM_C	Toner motor (C)	Stepping motor	Sends toner to the toner hopper.
TNM_K	Toner motor (K)	Stepping motor	Sends toner 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



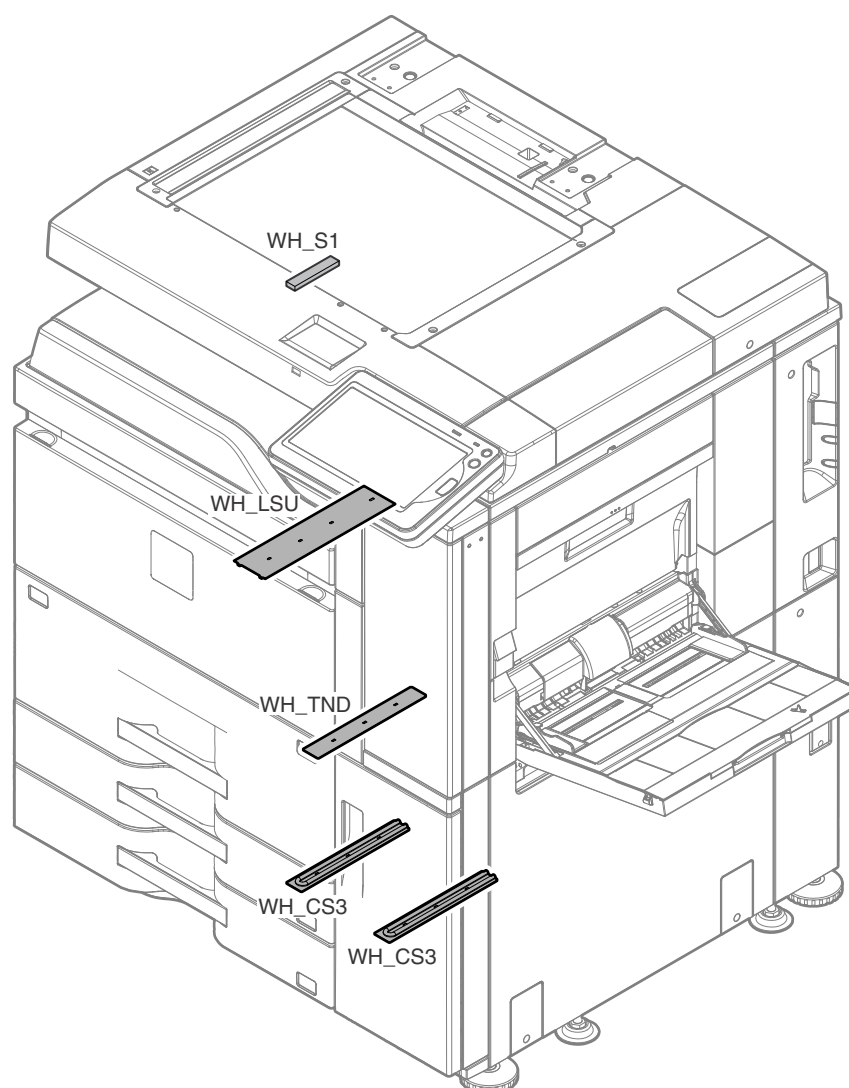
Signal name	Name	Type	Function/Operation
CCFT	LCD backlight	LED	Backlight for LCD.
CLI	Scanner lamp	LED	Radiates light onto a document for the CCD to scan the document image.
DL_C	Discharge lamp 1 (C)	LED	Discharges electric charges on the OPC drum.
DL_K	Discharge lamp 1 (K)	LED	Discharges electric charges 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.

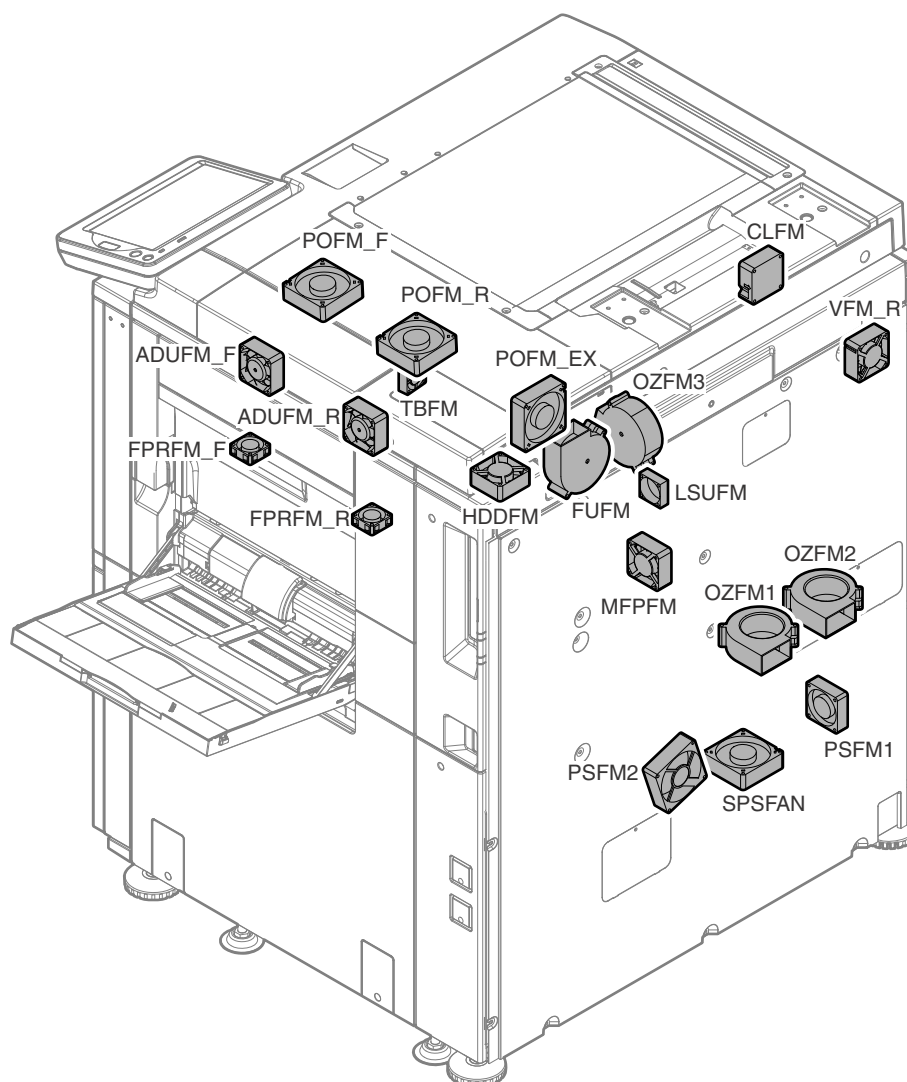
## 12. Heater



Signal name	Name	Function/Operation
WH_CS3 *	Paper dehumidifying heater (Paper feed tray 4)	Dehumidifies the paper feed tray section to prevent paper from absorbing humidity which causes degraded image quality and paper jams.
WH_LSU	LSU heat-retention heater	Dehumidifies the LSU section to prevent it from dew condensation.
WH_S1	Scanner heat-retention heater	Dehumidifies the scanner section to prevent it from dew condensation.
WH_TND *	Paper dehumidifying heater (Paper feed tray 1, 2)	Dehumidifies the paper feed tray section to prevent paper from absorbing humidity which causes degraded image quality and paper jams.

\*: Option

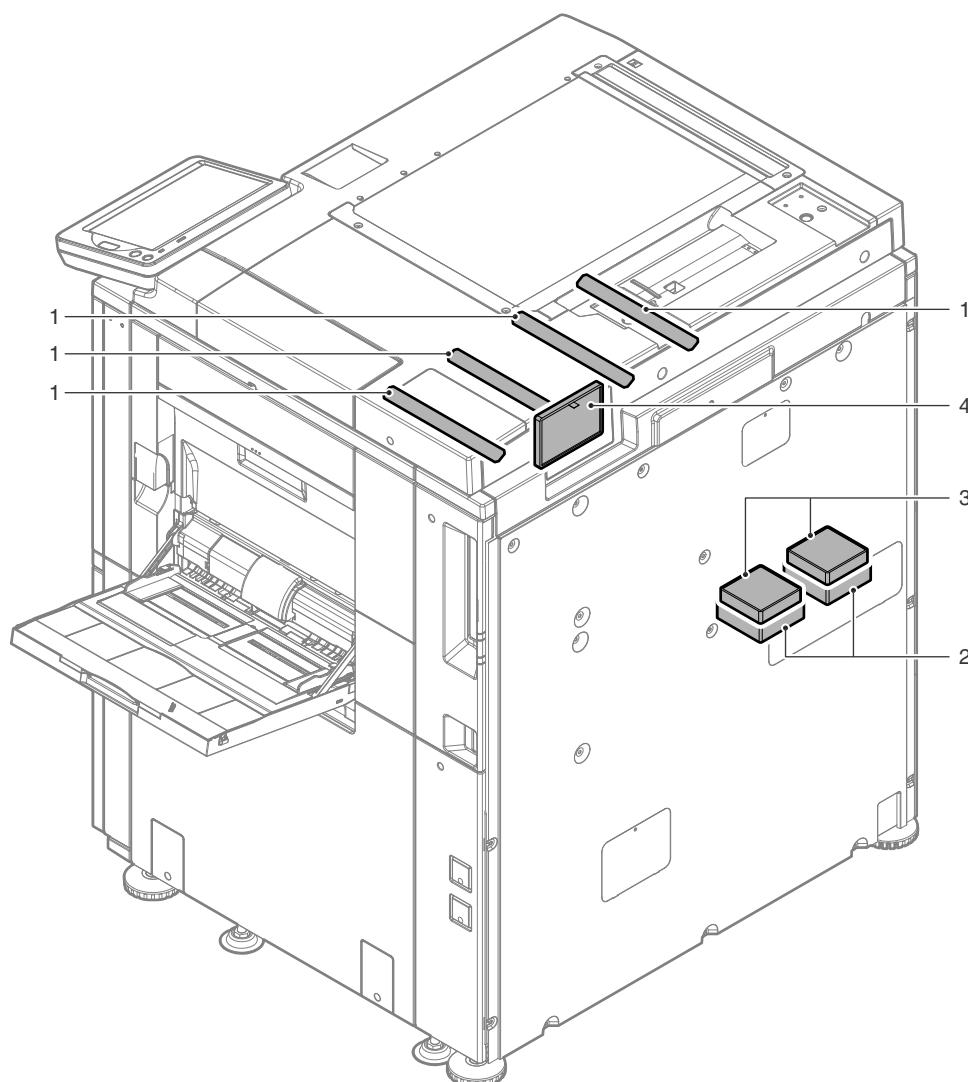
## 13. Fans



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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.
CLFM	Scanner cooling fan	Cools the scanner 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.
PSFM1	Power cooling fan 1	Cools the power unit.
PSFM2	Power cooling fan 2	Cools the power unit.
SPSFAN	Sub DC power cooling fan	Cools the sub DC power.
TBFM	Toner bottle cooling fan motor	Toner cooling fan motor
VFM_R	Machine ventilation fan	Ventilates air in the machine. (EFM2)

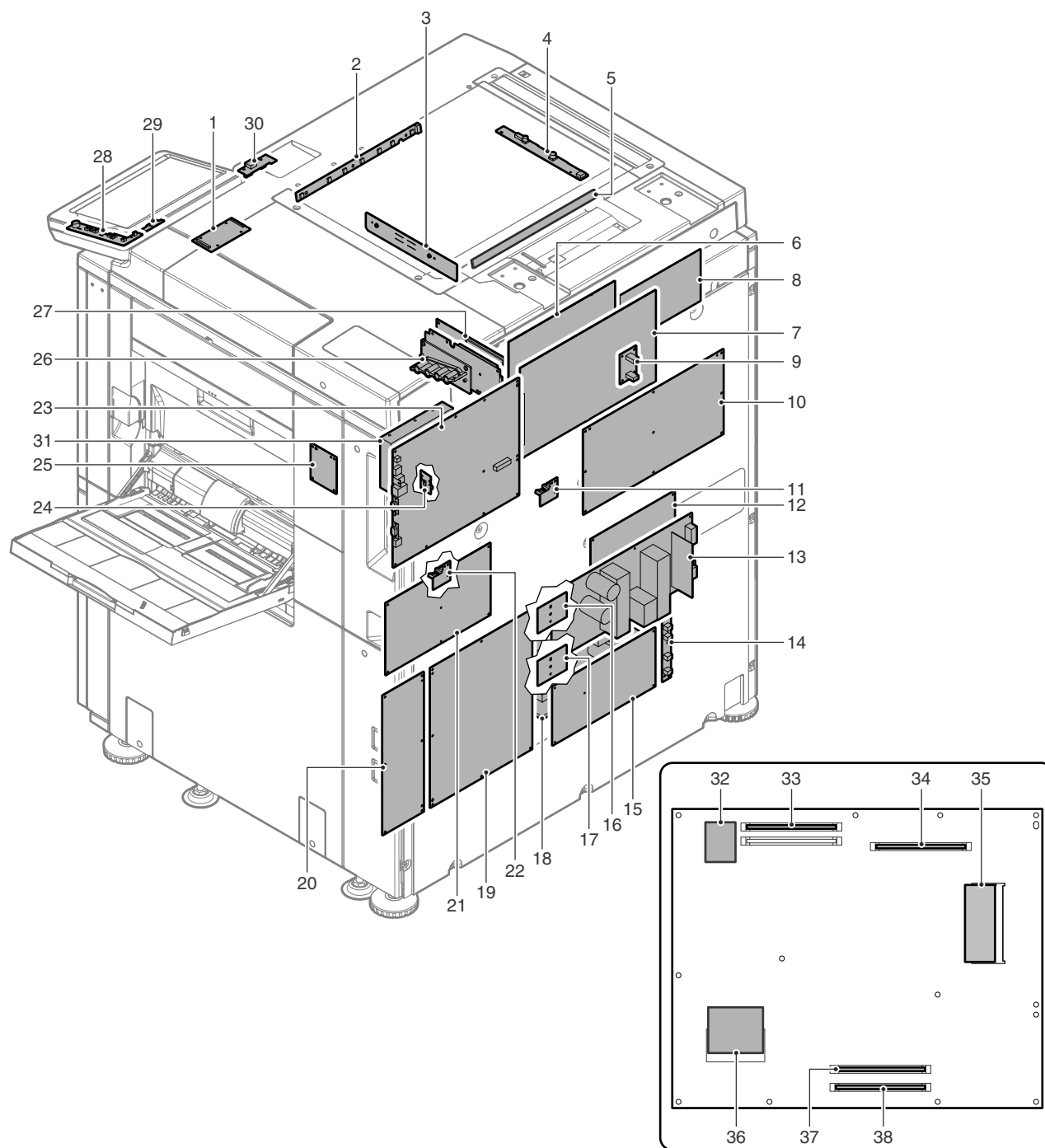
## 14. Filter



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.



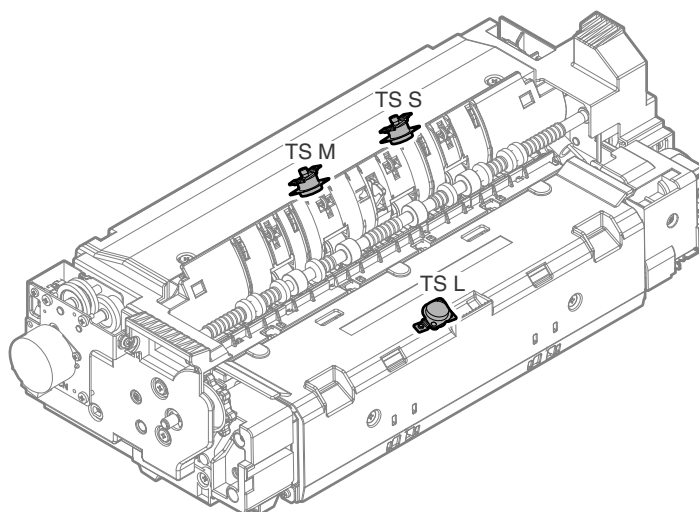
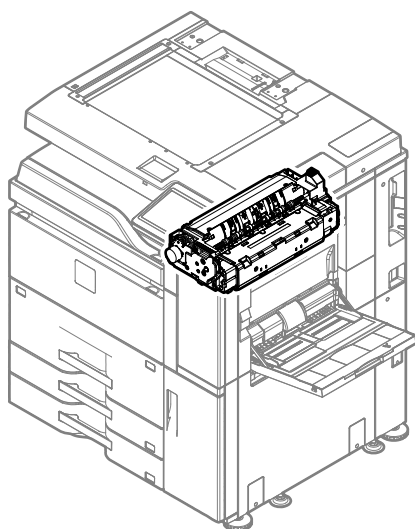
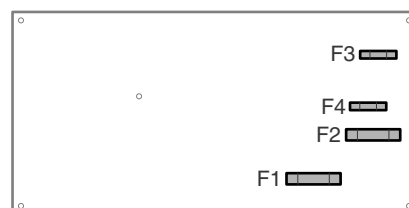
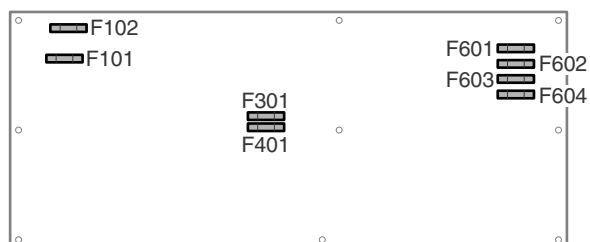
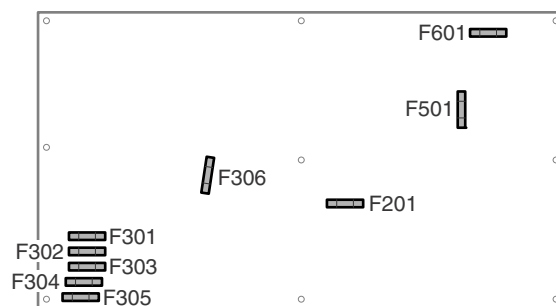
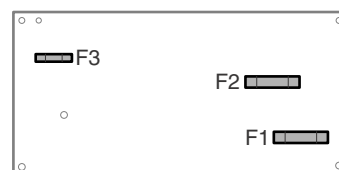
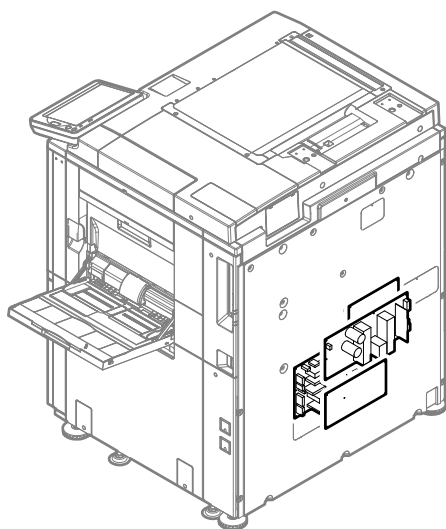
## 15. PWB/Memory device



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 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	TC1 PWB (High voltage TC1 PWB)	Generates the primary transfer voltage.
9	PCI interface PWB	Interfaces the PCI power.
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)
13	SUB DC POWER PWB	Generates the power for the SPF and options.
14	Dehumidifier heater PWB	Controls the dehumidifier heater.

No.	Name	Function/Operation
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	DC power PWB	AC cord 1 power monitor signal (FW signal output)
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	LSU PWB	Controls the LSU.
28	KEY PWB	Outputs the key operation signal.
29	Power lamp PWB	Power display lamp
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	SD card memory	Stores the Main Reus program data.
33	DIMM 1	Main Reus memory (1GB)
34	DIMM 3	Sub Reus memory (1GB)
35	Sub Reus Flash memory	Stores the Sub Reus program data.
36	CF card memory	Stores the SOC program data.
37	SOCKET 1	SOC memory (2GB)
38	SOCKET 2	SOC memory (1GB)

## 16. Fuses and thermostats



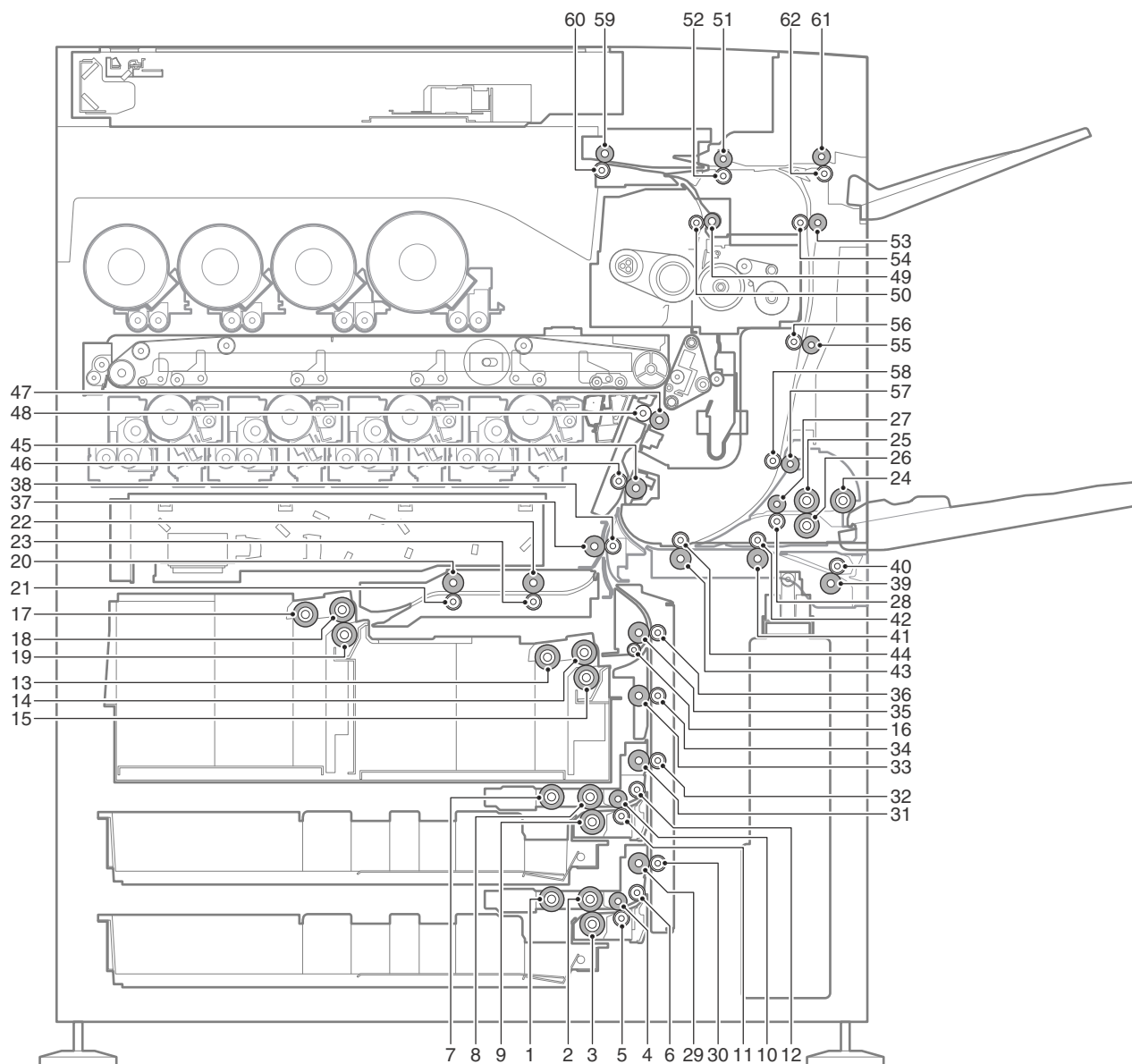
## Fuses

Signal name	Name	Type			Location
		100V series	200V series (North America)	200V series (Other than North America)	
F1	Fuse	T10AH 250V	–	–	SUB AC POWER PWB
F2	Fuse	T10AH 250V	–	–	SUB AC POWER PWB
F3	Fuse	T2.0AH 250V	–	–	SUB AC POWER PWB
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	T12AH AC250V			SUB DC POWER PWB
F102	Fuse	T3.15AH AC250V			SUB DC POWER PWB
F301	Fuse	T5AH AC250V			SUB DC POWER PWB
F401	Fuse	T3.15AH AC250V			SUB DC POWER PWB
F601	Fuse	T6.3AH AC250V			SUB DC POWER PWB
F602	Fuse	T6.3AH AC250V			SUB DC POWER PWB
F603	Fuse	T6.3AH AC250V			SUB DC POWER PWB
F604	Fuse	T6.3AH AC250V			SUB DC POWER PWB
F201	Fuse	F5AH 250V			DC POWER PWB
F301	Fuse	T6.3AH AC250V			DC POWER PWB
F302	Fuse	T6.3AH AC250V			DC POWER PWB
F303	Fuse	T6.3AH AC250V			DC POWER PWB
F304	Fuse	T6.3AH AC250V			DC POWER PWB
F305	Fuse	T6.3AH AC250V			DC POWER PWB
F306	Fuse	F8AH 250V			DC POWER PWB
F501	Fuse	T2AH 250V			DC POWER PWB
F601	Fuse	T12AH 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.

## 17. 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.
61	Paper exit roller 2 (Drive)	Discharges paper to the right side.
62	Paper exit roller 2 (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/scan image automatic magnification ratio adjustment, Print/scan image automatic position adjustment (Automatic adjustment)	3A	Print image automatic magnification ratio adjustment (Main scanning direction) (Print engine)	50-28
		3B	Print image automatic position adjustment (Main scanning direction, sub scanning direction) (Print engine) (Each paper feed tray)	50-28
		3C	Scan image automatic magnification ratio adjustment (Sub scanning direction) (Scanner), Scan image automatic position adjustment (Main scanning direction, sub scanning direction) (Scanner)	50-28
		3D	Scan image automatic magnification ratio adjustment (Sub scanning direction) (DSPF), Scan image automatic position adjustment (Main scanning direction, sub scanning direction) (DSPF)	50-28
ADJ 4	Print engine image distortion adjustment / OPC drum phase adjustment / Color registration adjustment (Print engine section)	4A	Print engine image distortion adjustment (Manual adjustment) / OPC drum phase adjustment (Automatic adjustment) / Color registration adjustment (Automatic adjustment)	50-22
		4B	Print engine image skew (LSU skew) adjustment (Manual adjustment) (No need to adjust normally)	50-20
		4C	Color registration offset adjustment (No need to adjust normally)	50-20
ADJ 5	Scan image distortion adjustment (Document table mode)	5A	Scanner (reading) unit parallelism adjustment	
		5B	Scan image (sub scanning direction) distortion adjustment	
		5C	Scan image (main scanning direction) distortion adjustment	
		5D	Scan image distortion adjustment (Whole scanner unit)	
ADJ 6	Scanner image skew adjustment (DSPF mode)	6A	DSPF parallelism adjustment	
		6B	DSPF skew adjustment (Front surface mode)	64-2
		6C	DSPF skew adjustment (Back surface mode)	64-2
ADJ 7	Scan image focus adjustment	7A	Image focus adjustment (Document table mode/DSPF front surface mode)	48-1
		7B	Image focus adjustment (DSPF back surface mode)	
ADJ 8	Print lead edge image position adjustment (Printer mode)			50-5
ADJ 9/ SET 1	Color balance/density adjustment		Note before execution of the image quality adjustment	
			Copy image quality check	
			Printer image quality check	
		9A	Scanner calibration (CCD calibration)	63-3 (63-5)
		SET 1	Color balance adjustment target setup	63-7/8/11
			1B Printer color balance adjustment target setup	67-26/27/28
		9B	Copy/Printer color balance and density adjustment (Automatic adjustment) (Basic adjustment)	46-74
		9C	Copy quality adjustment (Basic adjustment)	46-24
			9C (1) Copy color balance and density adjustment (Automatic adjustment)	46-21
			9C (2) Copy color balance and density adjustment (Manual adjustment)	46-21
		9D	Copy / Image send / FAX image quality adjustment (Individual adjustment)	46-1
			9D (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)	46-1
			9D (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)	46-2
			9D (3) Color copy color balance, gamma adjustment (for each color copy mode) (No need to adjust normally)	46-10
			9D (4) Monochrome copy density, gamma adjustment (for each monochrome copy mode) (No need to adjust normally)	46-16
			9D (5) Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)	46-19
			9D (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)	46-32

Job No	Adjustment item list					Simulation
ADJ 9/ SET1	Color balance/density adjustment	9D	Copy / Image send / FAX image quality adjustment (Individual adjustment)	9D (7)	Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally)	46-63
				9D (8)	Color copy, text, line image reproduction adjustment (edge gamma, density adjustment) (Text, Map mode) (No need to adjust normally)	46-27
				9D (9)	Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)	46-37
				9D (10)	Color copy mode dark area gradation (black component quantity) adjustment (No need to adjust normally)	46-38
				9D (11)	Color (Copy/Scan) mode sharpness adjustment (No need to adjust normally)	46-60
				9D (12)	Copy high density image density reproduction setting (Normally unnecessary to the setting change)	46-23
				9D (13)	Copy color balance adjustment (Single color copy mode) (No need to adjust normally)	46-25
				9D (14)	DSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)	46-9
				9D (15)	Automatic color balance adjustment by the user (Copy color balance automatic adjustment ENABLE setting and adjustment)	26-53
				9D (16)	Copy gamma, color balance adjustment for each dither (Automatic adjustment)	46-54
				9D (17)	Dropout color adjustment (Normally not required)	46-55
				9D (18)	Watermark adjustment (Normally not required)	46-66
		9E	Printer image quality adjustment (Basic adjustment)	9E (1)	Printer color balance adjustment (Automatic adjustment)	67-24
				9E (2)	Printer color balance adjustment (Manual adjustment)	67-25
		9F	Printer image quality adjustment (Individual adjustment)	9F (1)	Printer density adjustment (Low density section density adjustment) (No need to adjust normally)	67-36
				9F (2)	Printer high density image density reproduction setting (Supporting the high density section tone gap) (No need to adjust normally)	67-34
				9F (3)	Printer gamma adjustment for each dither (Automatic adjustment) (No need to adjust normally)	67-54
				9F (4)	Automatic color balance adjustment by the user (Printer color balance automatic adjustment ENABLE setting and adjustment) (Normally unnecessary to the setting change)	26-53
ADJ 10	Manual paper feed tray paper size (width) sensor adjustment					40-2
ADJ 11	DSPF tray paper size (width) sensor adjustment					53-6
ADJ 12	Document size detection adjustment	12A	Document size sensor detection point adjustment			41-1
		12B	Adjust the sensitivity of the original size sensor			41-2
ADJ 13	Touch panel coordinate setting					65-1
ADJ 14	Fusing paper guide position adjustment					
ADJ 15	Print image manual magnification ratio, area, position adjustment (Manual adjustment)	15A	Print image manual magnification ratio adjustment (Main scanning direction) (Print engine)			50-10
		15B	Print image manual area adjustment (Main scanning direction, sub scanning direction) (Print engine)			50-10 / 50-1
		15C	Print image manual position adjustment (Main scanning direction, sub scanning direction) (Print engine) (Each paper feed tray)			50-10
ADJ 16	Scan image magnification ratio adjustment (Manual adjustment)	16A	Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (Document table mode)			48-1
		16B	Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (Document table mode)			48-1
		16C	Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (DSPF mode)			48-1
		16D	Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (DSPF mode)			48-1
ADJ 17	Scan image off-center adjustment (Manual adjustment)	17A	Scan image off-center adjustment (Manual adjustment) (Document table mode)			50-12
		17B	Scan image off-center adjustment (Manual adjustment) (DSPF mode)			50-12 / 50-6
ADJ 18	Copy image position and image loss adjustment (Manual adjustment)	18A	Copy image position, image loss, and void area adjustment (Manual adjustment) (Document table mode)			50-1
		18B	Image scanning position adjustment (Manual adjustment) (DSPF mode)			53-8
		18C	Copy image position, image loss, void area adjustment (Manual adjustment) (DSPF mode)			50-6
ADJ 19	Finisher and punch unit adjustments (alignment, punch hole position, staple position)					3-10
ADJ 20	DSPF CCD calibration	20A	Shading adjustment (Calibration) (DSPF mode)			63-2
		20B	CCD gamma adjustment (CCD calibration) (DSPF mode)			63-3
ADJ 21	DSPF back surface color balance exposure adjustment (Manual adjustment)					46-9
ADJ22	FR density variation correction	22A	FR density unevenness automatic correction: all 32-point adjustment (Correction by OC scan)			61-11
		22B	FR density unevenness visual inspection correction: 4-point adjustment for each of CMYK (with the center fixed) or 31-point adjustment (with the center fixed)			61-12



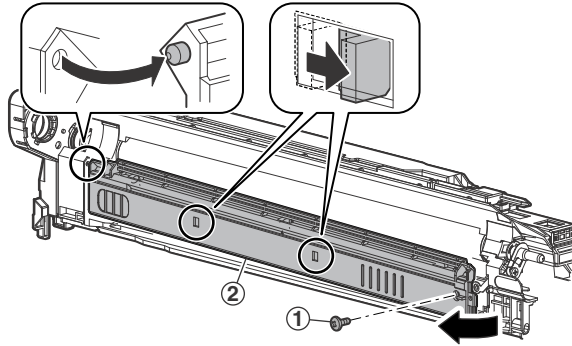
### 3. Details of adjustment

#### ADJ 1 Adjust the developing unit

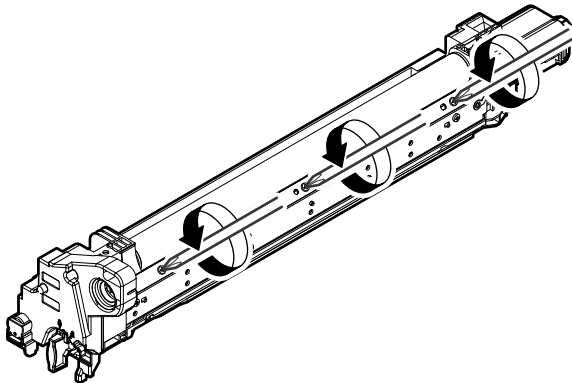
##### 1-A Adjust the developing doctor gap

This adjustment must be performed in the following cases:

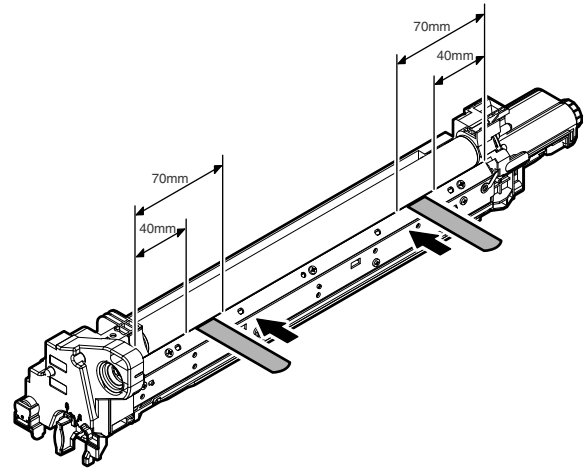
- \* The developing unit has been disassembled.
  - \* When the print image density is low.
  - \* When there is a blur on the print image.
  - \* When there is unevenness in the print image density.
  - \* The toner is excessively dispersed.
- 1) Remove the developing unit from the main unit, and remove the developing unit upper cover and the developing doctor cover.



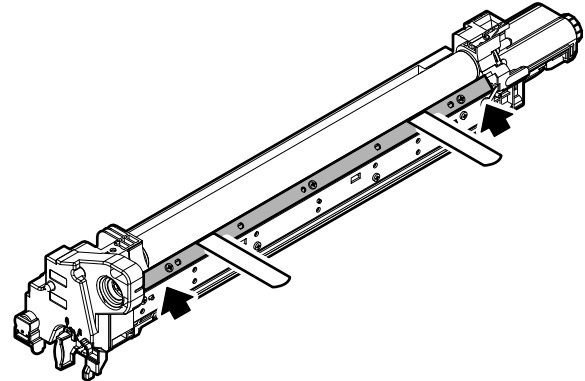
- 2) Loosen the developing doctor fixing screw.



- 3) Insert a thickness gauge of 0.775mm in between 40mm - 70mm from the edge of the developing doctor.

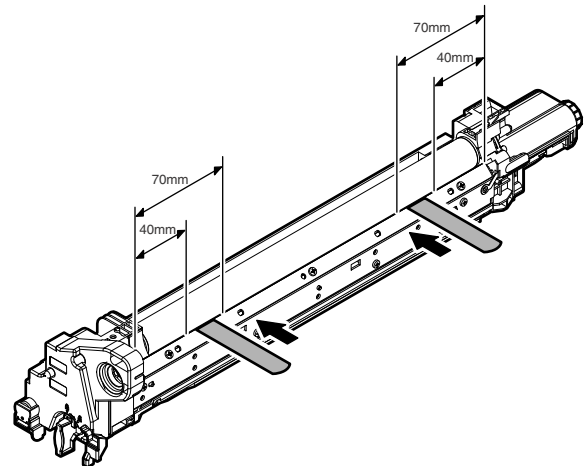


- 4) Push the developing doctor in the arrow direction, and tighten the fixing screw of the developing doctor. (Perform the similar procedure for the front frame and the rear frame.)



- 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 0.775 +/- 0.05mm.

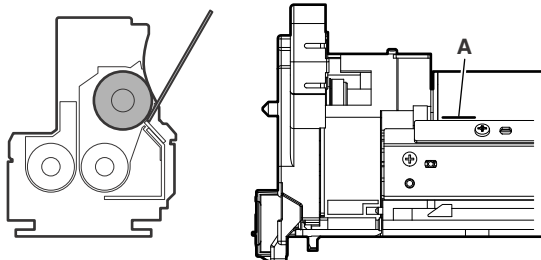
\* When inserting a thickness gauge, be careful not to scratch the developing doctor and the developing roller.



**Note for use of a thickness gauge**

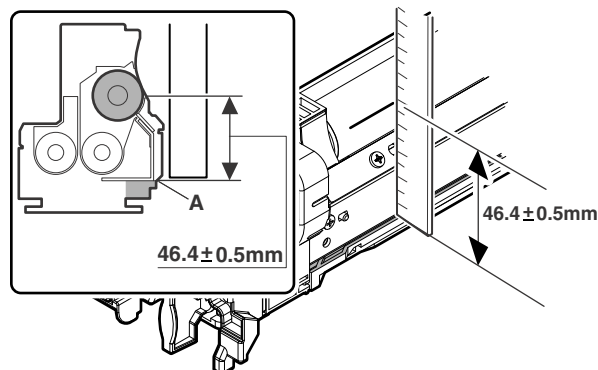
- Do not insert the gauge diagonally.
- The gauge must pass freely.
- The advisable point of measurement is the MIN point of the MG roller oscillation.

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  $46.4 \pm 0.5\text{mm}$ .

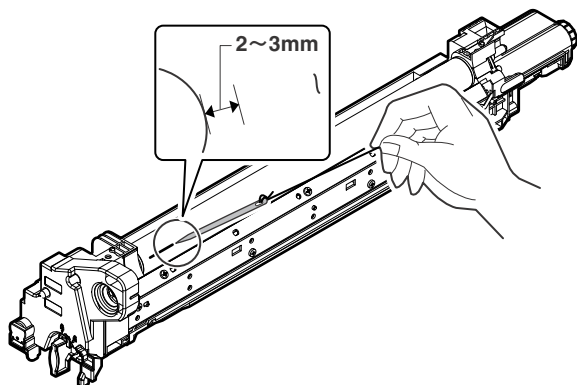
If the distance is not within the above range, adjust the developing roller main pole position in the following procedures.



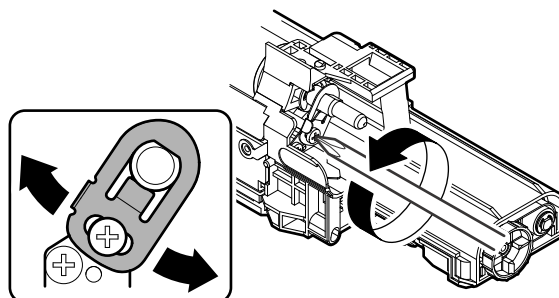
## 1-B Adjust the developing roller main pole position

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.

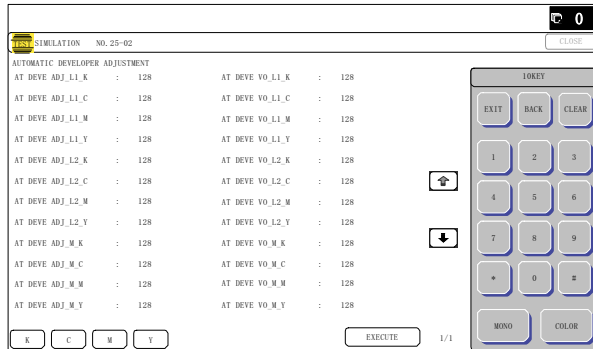
## 1-C Toner density control reference value setting

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.



K C M Y

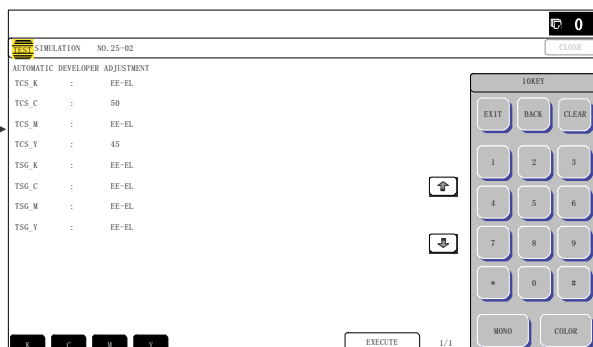
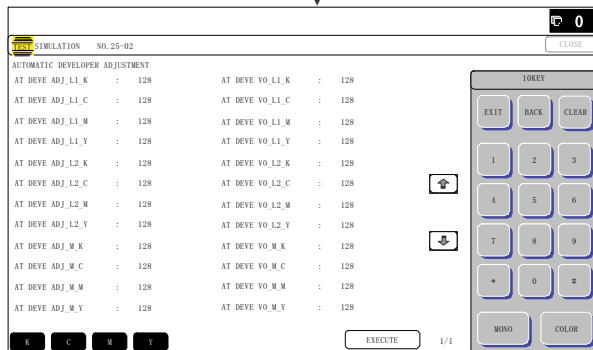
EXECUTE

EXECUTE  
or INTERRUPT



Abnormal end

Adjustment completed



- 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.

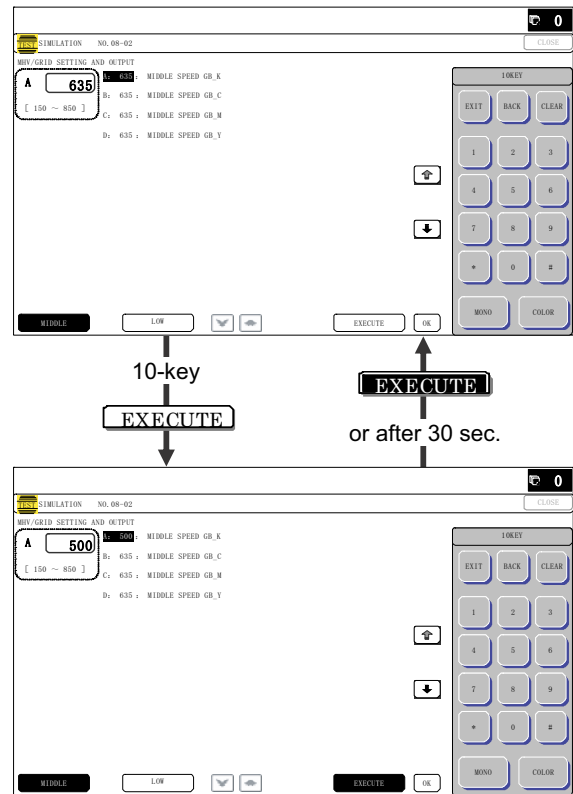
## ADJ 2 High voltage adjustment

### 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.



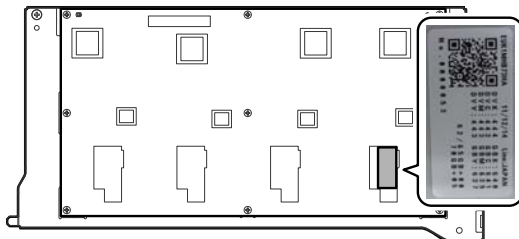
- 2) Select an output mode to be adjusted with the mode key and the scroll key.
- 3) Enter the adjustment value (specified value) of the middle speed mode and press [OK] key.

Item/Display (mode)			Content	Setting range	Default value	Actual voltage	
						62cpm machine	70cpm machine
MIDDLE	A	MIDDLE SPEED GB_K	K charging/grid bias set value at middle speed	150 - 850	635	-635V +/- 5V	-640V +/- 5V
	B	MIDDLE SPEED GB_C	C charging/grid bias set value at middle speed	150 - 850	635	-635V +/- 5V	-640V +/- 5V
	C	MIDDLE SPEED GB_M	M charging/grid bias set value at middle speed	150 - 850	635	-635V +/- 5V	-640V +/- 5V
	D	MIDDLE SPEED GB_Y	Y charging/grid bias set value at middle speed	150 - 850	635	-635V +/- 5V	-640V +/- 5V
LOW	A	LOW1 SPEED GB_K	K charging/grid bias set value at low speed 1	150 - 850	625	-625V +/- 5V	-625V +/- 5V
	B	LOW1 SPEED GB_C	C charging/grid bias set value at low speed 1	150 - 850	625	-625V +/- 5V	-625V +/- 5V
	C	LOW1 SPEED GB_M	M charging/grid bias set value at low speed 1	150 - 850	625	-625V +/- 5V	-625V +/- 5V
	D	LOW1 SPEED GB_Y	Y charging/grid bias set value at low speed 1	150 - 850	625	-625V +/- 5V	-625V +/- 5V
	E	LOW2 SPEED GB_K	K charging/grid bias set value at low speed 2	150 - 850	620	-620V +/- 5V	-620V +/- 5V
	F	LOW2 SPEED GB_C	C charging/grid bias set value at low speed 2	150 - 850	620	-620V +/- 5V	-620V +/- 5V
	G	LOW2 SPEED GB_M	M charging/grid bias set value at low speed 2	150 - 850	620	-620V +/- 5V	-620V +/- 5V
	H	LOW2 SPEED GB_Y	Y charging/grid bias set value at low speed 2	150 - 850	602	-620V +/- 5V	-620V +/- 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:

- 62cpm machine: + 0
- 70cpm 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.

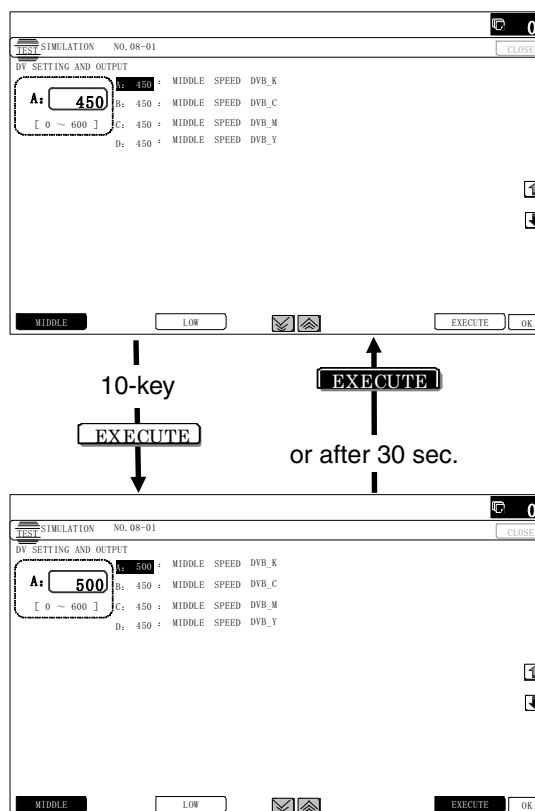
**CAUTION:** Since the high voltage output cannot be checked with a digital multi meter in this model, a judgment of the output must be made by checking the print image quality.

## 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.



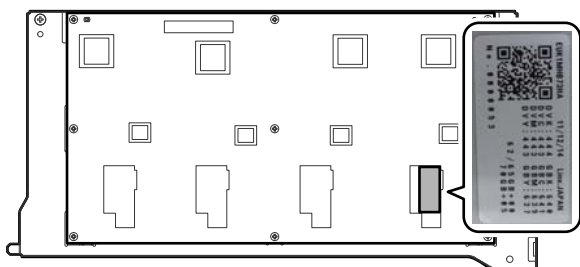
- 2) Select an output mode to be adjusted with the mode key and the scroll key.
- 3) Enter the adjustment value (specified value) of the middle speed mode and press [OK] key.

Item/Display (mode)			Content	Setting range	Default value	Actual voltage	
						62cpm machine	70cpm machine
MIDDLE	A	MIDDLE SPEED DVB_K	K developing bias set value at middle speed	0 - 600	450	-450V +/- 5V	-450V +/- 5V
	B	MIDDLE SPEED DVB_C	C developing bias set value at middle speed	0 - 600	450	-450V +/- 5V	-450V +/- 5V
	C	MIDDLE SPEED DVB_M	M developing bias set value at middle speed	0 - 600	450	-450V +/- 5V	-450V +/- 5V
	D	MIDDLE SPEED DVB_Y	Y developing bias set value at middle speed	0 - 600	450	-450V +/- 5V	-450V +/- 5V
LOW	A	LOW1 SPEED DVB_K	K developing bias set value at low speed 1	0 - 600	450	-450V +/- 5V	-450V +/- 5V
	B	LOW1 SPEED DVB_C	C developing bias set value at low speed 1	0 - 600	450	-450V +/- 5V	-450V +/- 5V
	C	LOW1 SPEED DVB_M	M developing bias set value at low speed 1	0 - 600	450	-450V +/- 5V	-450V +/- 5V
	D	LOW1 SPEED DVB_Y	Y developing bias set value at low speed 1	0 - 600	450	-450V +/- 5V	-450V +/- 5V
	E	LOW2 SPEED DVB_K	K developing bias set value at low speed 2	0 - 600	450	-450V +/- 5V	-450V +/- 5V
	F	LOW2 SPEED DVB_C	C developing bias set value at low speed 2	0 - 600	450	-450V +/- 5V	-450V +/- 5V
	G	LOW2 SPEED DVB_M	M developing bias set value at low speed 2	0 - 600	450	-450V +/- 5V	-450V +/- 5V
	H	LOW2 SPEED DVB_Y	Y developing bias set value at low speed 2	0 - 600	450	-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.

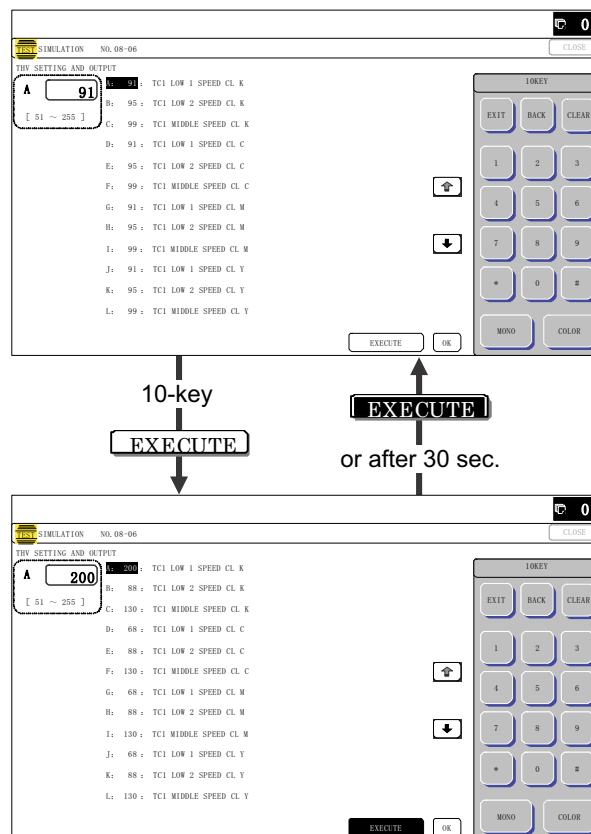
CAUTION: Since the high voltage output cannot be checked with a digital multi meter in this model, a judgment of the output must be made by checking the print image quality.

## 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	
							62 cpm machine	70 cpm machine
A	TC1 LOW 1 SPEED CL K	Primary transfer bias reference value	Color	K	Low speed 1	51 - 255	91	91
B	TC1 LOW 2 SPEED CL K				Low speed 2	51 - 255	95	95
C	TC1 MIDDLE SPEED CL K				Middle speed	51 - 255	99	109
D	TC1 LOW 1 SPEED CL C			C	Low speed 1	51 - 255	91	91
E	TC1 LOW 2 SPEED CL C				Low speed 2	51 - 255	95	95
F	TC1 MIDDLE SPEED CL C				Middle speed	51 - 255	99	109
G	TC1 LOW 1 SPEED CL M			M	Low speed 1	51 - 255	91	91
H	TC1 LOW 2 SPEED CL M				Low speed 2	51 - 255	95	95
I	TC1 MIDDLE SPEED CL M				Middle speed	51 - 255	99	109
J	TC1 LOW 1 SPEED CL Y			Y	Low speed 1	51 - 255	91	91
K	TC1 LOW 2 SPEED CL Y				Low speed 2	51 - 255	95	95
L	TC1 MIDDLE SPEED CL Y				Middle speed	51 - 255	99	109
M	TC1 LOW 1 SPEED BW K		Black and white	K	Low speed 1	51 - 255	91	91
N	TC1 LOW 2 SPEED BW K				Low speed 2	51 - 255	95	95
O	TC1 MIDDLE SPEED BW K				Middle speed	51 - 255	99	109

Item/Display			Content			Setting range	Default value		
							62 cpm machine	70 cpm machine	
P	TC2 PLAIN CL SPX	Secondary transfer bias reference value	Color	Standard paper	Front surface	51 - 255	124	145	
Q	TC2 PLAIN CL DPX				Back surface	51 - 255	124	145	
R	TC2 PLAIN BW SPX		Black and white		Front surface	51 - 255	117	138	
S	TC2 PLAIN BW DPX				Back surface	51 - 255	117	138	
T	TC2 HEAVY1 CL SPX		Color	Heavy paper 1	Front surface	51 - 255	110	110	
U	TC2 HEAVY1 CL DPX				Back surface	51 - 255	103	103	
V	TC2 HEAVY1 BW SPX		Black and white		Front surface	51 - 255	110	110	
W	TC2 HEAVY1 BW DPX				Back surface	51 - 255	103	103	
X	TC2 HEAVY2 CL SPX		Color	Heavy paper 2	Front surface	51 - 255	96	96	
Y	TC2 HEAVY2 CL DPX				Back surface	51 - 255	87	87	
Z	TC2 HEAVY2 BW SPX		Black and white		Front surface	51 - 255	96	96	
AA	TC2 HEAVY2 BW DPX				Back surface	51 - 255	87	87	
AB	TC2 OHP CL		OHP			Color	51 - 255	110	110
AC	TC2 OHP BW					Black and white	51 - 255	110	110
AD	TC2 ENVELOPE CL		Envelope			Color	51 - 255	83	83
AE	TC2 ENVELOPE BW					Black and white	51 - 255	83	83
AF	TC2 THIN CL		Thin paper			Color	51 - 255	117	138
AG	TC2 THIN BW					Black and white	51 - 255	117	138
AH	TC2 GLOSSY CL		Glossy paper			Color	51 - 255	110	110
AI	TC2 GLOSSY BW					Black and white	51 - 255	110	110
AJ	TC2 EMBOSS CL		Embossed paper			Color	51 - 255	96	96
AK	TC2 EMBOSS BW					Black and white	51 - 255	80	80
AL	TC2 CLEAN LOW 1 SPEED	Bias reference value between papers	In low speed 1 print			51 - 255	76	76	
AM	TC2 CLEAN LOW 2 SPEED		In low speed 2 print			51 - 255	76	76	
AN	TC2 CLEAN MIDDLE SPEED		In middle speed print			51 - 255	76	76	
AO	TC2 COUNTER	Counter bias reference value	Counter bias (positive pole)			26 - 255	179	179	
AP	PTC LOW 1 SPEED CL	PTC current reference value	Color	Low speed 1	51 - 255	119	119		
AQ	PTC LOW 2 SPEED CL			Low speed 2	51 - 255	119	119		
AR	PTC MIDDLE SPEED CL			Middle speed	51 - 255	119	119		
AS	PTC LOW 1 SPEED BW		Black and white	Low speed 1	51 - 255	119	119		
AT	PTC LOW 2 SPEED BW			Low speed 2	51 - 255	119	119		
AU	PTC MIDDLE SPEED BW			Middle speed	51 - 255	119	119		
AV	PTC EMBOSS	Both	Low speed 2	51 - 255	187	187			
AW	CASE VOLT LOW 1 CL	PTC case voltage reference value	Color	Low speed 1	0 - 255	0	0		
AX	CASE VOLT LOW 2 CL			Low speed 2	0 - 255	0	0		
AY	CASE VOLT MIDDLE CL			Middle speed	0 - 255	0	0		
AZ	CASE VOLT LOW 1 BW		Black and white	Low speed 1	0 - 255	0	0		
BA	CASE VOLT LOW 2 BW			Low speed 2	0 - 255	0	0		
BB	CASE VOLT MIDDLE BW			Middle speed	0 - 255	0	0		
BC	CASE VOLT EMBOSS	Both	Low speed 2	0 - 255	0	0			
BD	TC2 DRIVEROLL LOW 1 SPEED CL	Secondary transfer drive roller bias reference value	Color	Low speed 1	51 - 255	196	196		
BE	TC2 DRIVEROLL LOW 2 SPEED CL			Low speed 2	51 - 255	196	196		
BF	TC2 DRIVEROLL MIDDLE SPEED CL			Middle speed	51 - 255	196	196		
BG	TC2 DRIVEROLL LOW 1 SPEED BW		Black and white	Low speed 1	51 - 255	196	196		
BH	TC2 DRIVEROLL LOW 2 SPEED BW			Low speed 2	51 - 255	196	196		
BI	TC2 DRIVEROLL MIDDLE SPEED BW			Middle speed	51 - 255	196	196		
BJ	TC2 CLEAN BRUSH(+) LOW 1 SPEED	Secondary transfer cleaning brush bias reference value	(+)	Low speed 1	51 - 255	0	0		
BK	TC2 CLEAN BRUSH(+) LOW 2 SPEED			Low speed 2	51 - 255	0	0		
BL	TC2 CLEAN BRUSH(+) MIDDLE SPEED			Middle speed	51 - 255	0	0		
BM	TC2 CLEAN BRUSH(-) LOW 1 SPEED		(-)	Low speed 1	51 - 255	0	0		
BN	TC2 CLEAN BRUSH(-) LOW 2 SPEED			Low speed 2	51 - 255	0	0		
BO	TC2 CLEAN BRUSH(-) MIDDLE SPEED			Middle speed	51 - 255	0	0		

### ADJ 3 Print/scan image automatic magnification ratio adjustment, Print/scan image automatic position adjustment (Automatic adjustment)

The following adjustment items can be executed automatically with SIM50-28. (All paper feed trays including the option desk/LCC)

- \* ADJ 15  
Print image position, image magnification ratio, void area, off-center adjustment (Print engine) (Manual adjustment)
- \* ADJ 16  
Scan image magnification ratio adjustment (Manual adjustment)
- \* ADJ 17

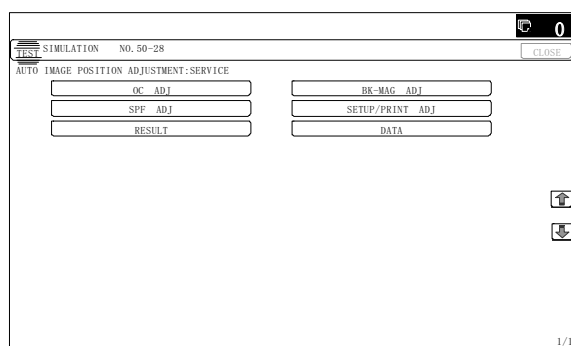
- Scan image off-center adjustment (Manual adjustment)
- \* ADJ 18  
Copy image position and image loss adjustment (Manual adjustment)

#### Menu in SIM50-28 mode

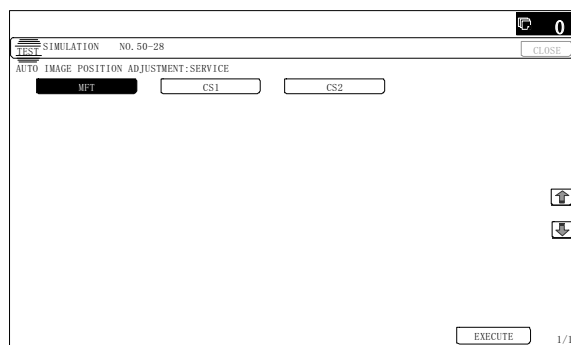
Display/Item	Content
OC ADJ	Image loss off-center sub scanning direction image magnification ratio adjustment (Document table mode)
BK-MAG ADJ	Main scanning direction image magnification ratio adjustment
SPF ADJ	Image loss off-center sub scanning direction image magnification ratio adjustment (DSPF mode)
SETUP/PRINT ADJ	Print lead edge adjustment, image off-center (each paper feed tray, duplex mode) adjustment
RESULT	Adjustment result display
DATA	Display of data used when an adjustment is executed

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

- 1) Enter the SIM50-28 mode.



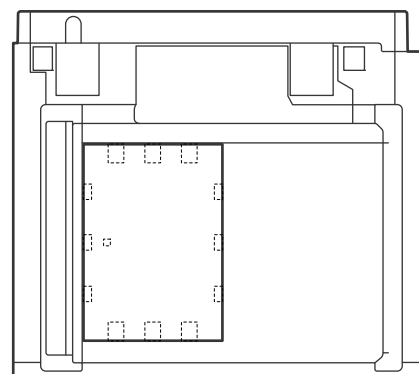
- 2) Select [BK-MAG ADJ] with the key.
- 3) Select the paper feed tray with paper in it with the key. (Any paper size will do.)



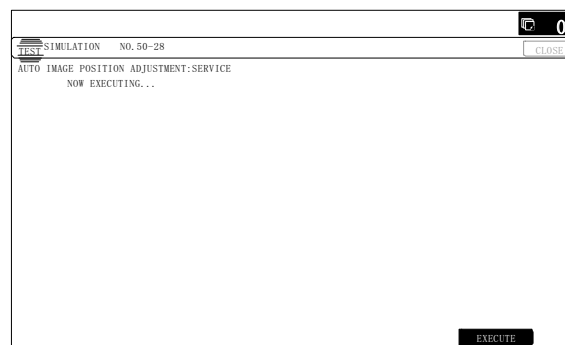
- 4) Press [EXECUTE] key.  
The adjustment pattern is printed out.
- 5) Set the adjustment pattern on the document table.

**CAUTION:** Fit the adjustment pattern correctly with the document guide.

In this case, put 5 sheets of white paper on the printed adjustment pattern.



- 6) Press [EXECUTE] key.

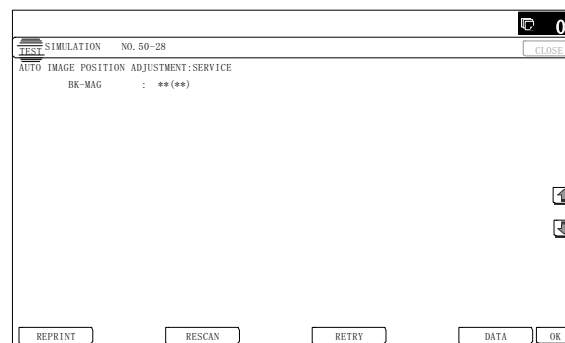


The following item is automatically adjustment.

- \* Print image main scanning direction image magnification ratio.

- 7) Press [OK] key.

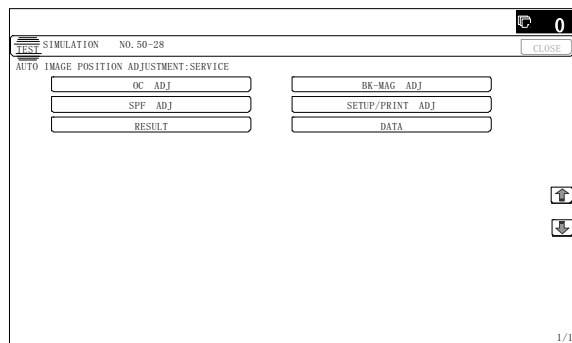
The adjustment result becomes valid.



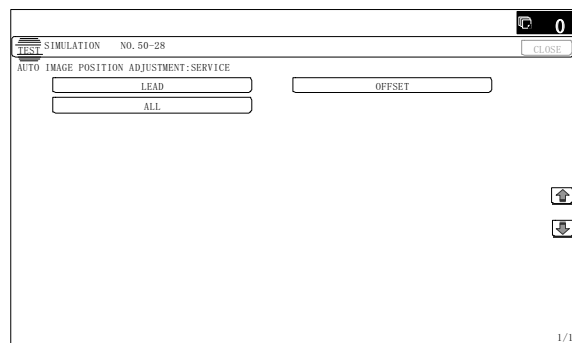


### 3-B Print image automatic position adjustment (Main scanning direction, sub scanning direction) (Print engine) (Each paper feed tray)

- 1) Enter the SIM50-28 mode.



- 2) Select [SETUP/PRINT ADJ] with the key.
- 3) Select [ALL] with the key.



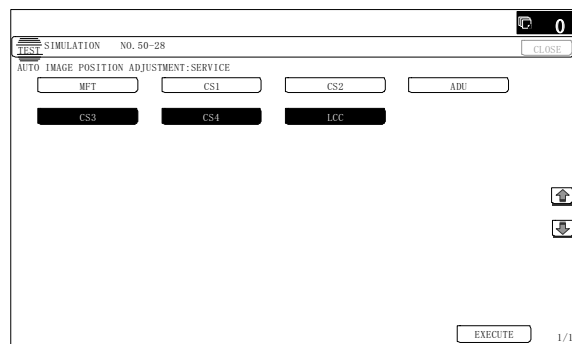
#### NOTE:

By pressing [LEAD] or [OFFSET] key, the following items can be executed individually.

- \* [LEAD]: Print image lead edge image position adjustment
- \* [OFFSET]: Print image off-center adjustment

When [ALL] is selected, both of the above two items are executed simultaneously.

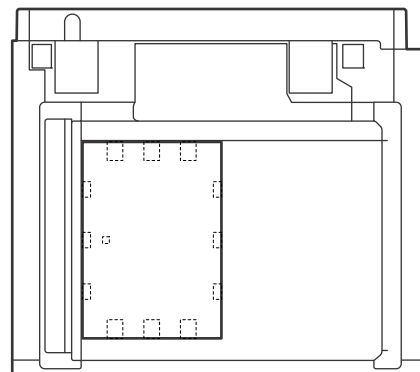
- 4) Select a paper feed tray to be adjusted.



- 5) Press [EXECUTE] key.  
The adjustment pattern is printed out.
- 6) Set the adjustment pattern on the document table.

**CAUTION:** Fit the adjustment pattern correctly with the document guide.

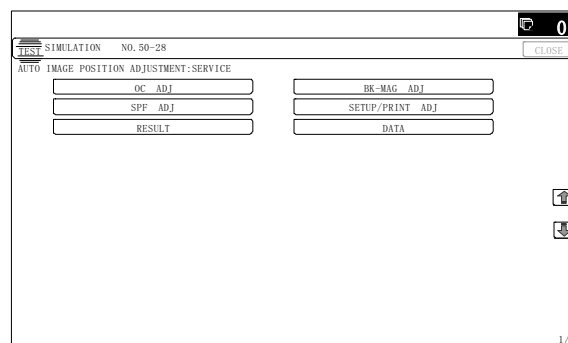
In this case, put 5 sheets of white paper on the printed adjustment pattern.



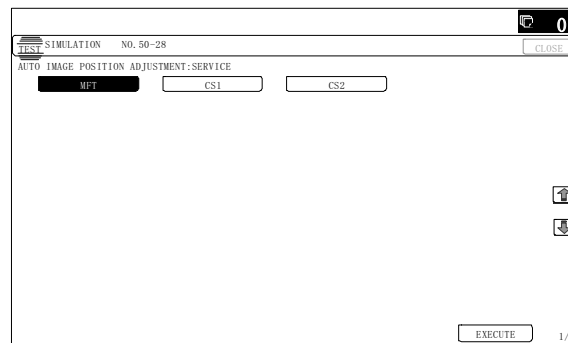
- 7) Press [EXECUTE] key.  
The following item is automatically adjustment.  
\* Print image lead edge image position adjustment  
\* Print image off-center adjustment
  - 8) Press [OK] key.  
The adjustment result becomes valid.
- Perform procedures 4) to 7) for each paper feed tray.

### 3-C Scan image automatic magnification ratio adjustment (Sub scanning direction) (Scanner), Scan image automatic position adjustment (Main scanning direction, sub scanning direction) (Scanner)

- 1) Enter the SIM50-28 mode.



- 2) Select [OC ADJ] with the key.
- 3) Select the paper feed tray with paper in it with the key.  
(Any paper size will do.)

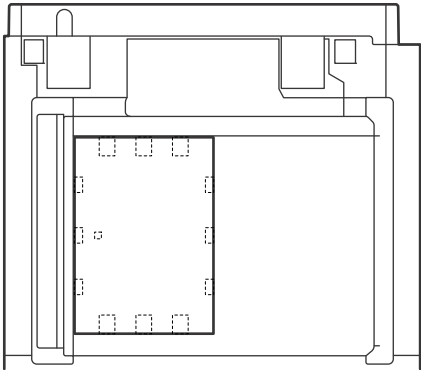


- 4) Press [EXECUTE] key.  
The adjustment pattern is printed out.

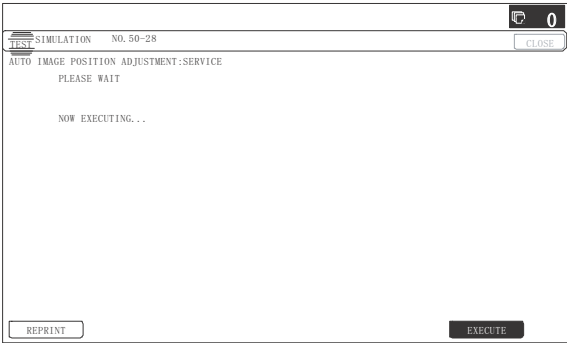
5) Set the adjustment pattern on the document table. (Either direction will do.)

CAUTION: Fit the adjustment pattern correctly with the document guide.

In this case, put 5 sheets of white paper on the printed adjustment pattern.



6) Press [EXECUTE] key.

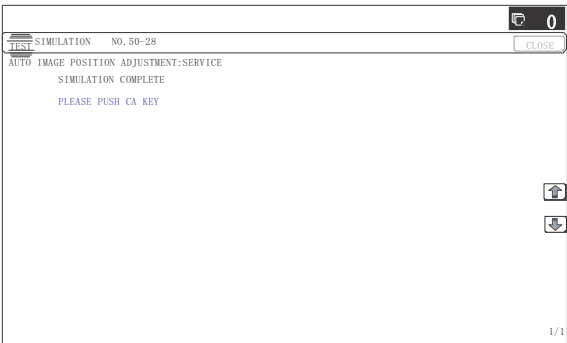


The following item is automatically adjustment.

- \* Copy lead edge image reference position adjustment, image off-center, sub scanning direction image magnification ratio automatic adjustment

7) Press [OK] key.

The adjustment result becomes valid.



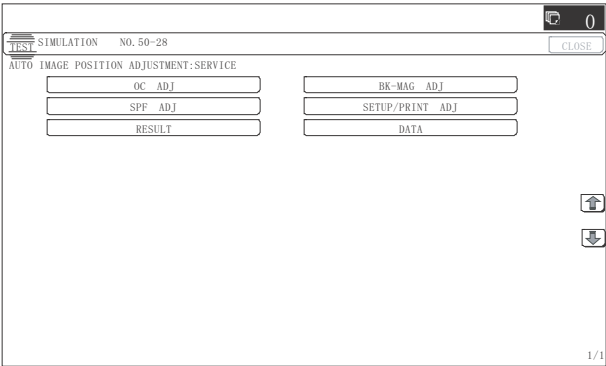
### 3-D Scan image automatic magnification ratio adjustment (Sub scanning direction) (DSPF), Scan image automatic position adjustment (Main scanning direction, sub scanning direction) (DSPF)

This adjustment must be performed in the following cases:

- \* The scan control PWB has been replaced.
- \* The EEPROM on the scan control PWB has been replaced.
- \* The scanner (reading) section has been disassembled.
- \* The scanner (reading) unit has been replaced.
- \* When a U2 trouble occurs.
- \* The PF section has been disassembled.
- \* The DSPF unit has been replaced.

This adjustment is used to adjust the DSPF (front/back) document lead edge, off-center, sub operation magnification ratio.

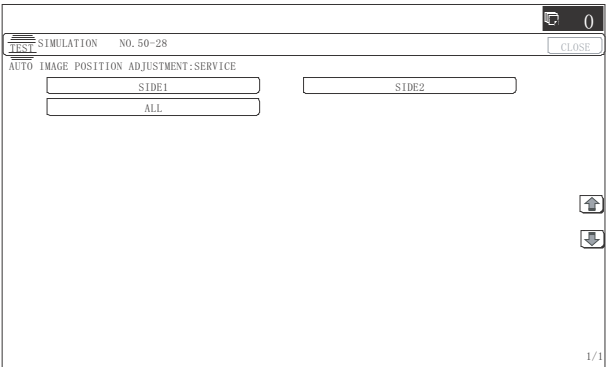
1) Enter the simulation mode 50-28 to select [SPF ADJ].



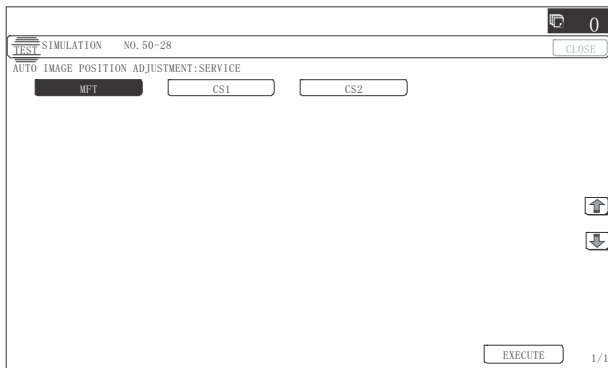
2) Select an adjustment item (front, back, both).

#### <List of adjustment items>

Menu display item	Content
SIDE1	DSPF adjustment front surface
SIDE2	DSPF adjustment back surface
ALL	DSPF adjustment front/back surface



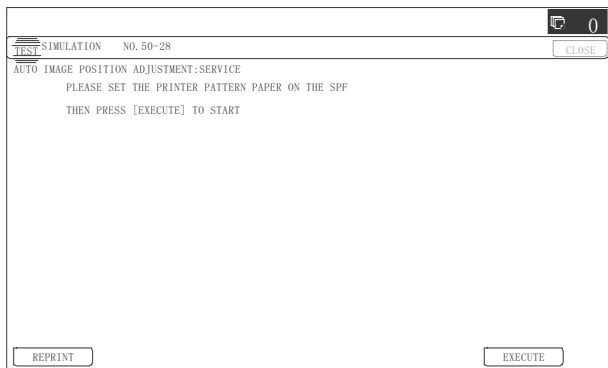
- 3) The display shows the tray select screen for printing the DSPF adjustment pattern. Select a tray for DSPF adjustment printing.



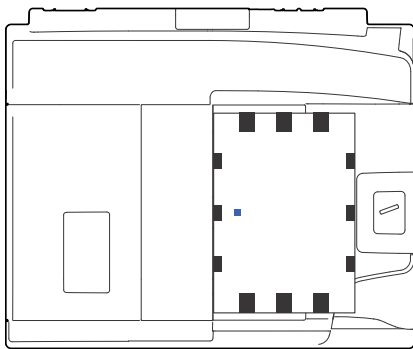
- 4) Self-print of the DSPF adjustment pattern is performed.



- 5) After completion of printing, the DSPF adjustment start screen is displayed.



- 6) Load the DSPF adjustment pattern on the DSPF.



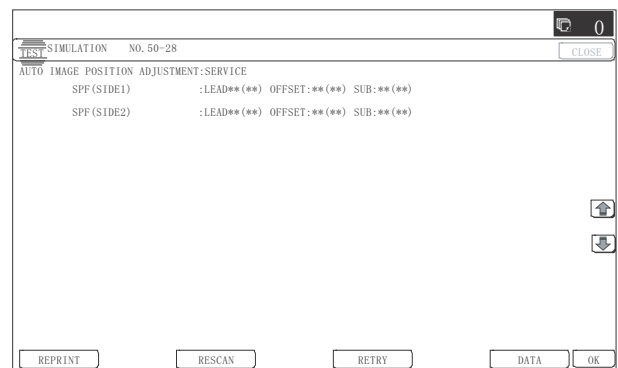
- 7) Press [EXECUTE] key, and scanning of the DSPF adjustment pattern selected in step 2) is started.



- 8) When [ALL] is selected, load the DSPF adjustment pattern on the DSPF again, and perform the adjustment of the back surface in the similar procedures.

- 9) The adjustment result screen is displayed.

The value of this time is displayed, and the value of the last time is displayed in the parenthesis ( ).



- \* When [REPRINT] button is pressed, the display returns to the cassette select screen to allow self-print of the DSPF adjustment pattern (front, back) again.
- \* When [RESCAN] button is pressed, the DSPF adjustment pattern (front, back) is scanned again.
- \* When [RETRY] button is pressed, the adjustment value is not saved in EEPROM and RAM and shifted to the top menu screen.
- \* When [DATA] button is pressed, the data used in execution of the adjustment are displayed.

- 10) When [OK] button is pressed, the adjustment value is saved in EEPROM and RAM and the display is shifted to the end screen.



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

This adjustment must be performed in the following cases:

- \* When the color shift occurs.
- \* When the LSU is replaced.
- \* When the LSU is removed from the main unit.
- \* When the unit is installed or when the installing place is changed.
- \* When maintenance work is performed. (Replacement of the OPC drum, the OPC cartridge, the transfer unit, the transfer belt, etc.)
- \* When [ADJ3A] / [ADJ15A] 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.

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

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

- 1) Enter SIM50-22 mode.

SIMULATION NO. 50-22

AUTO ADJUSTMENT OF REGISTRATION/DRUM POSITION

	MAIN F	MAIN R	SUB	SKEW
C	105.0( 0.2)	110.0( -0.1)	103.0( 0.4)	L4.5(OK)
M	100.0( 0.0)	99.0( -0.2)	99.0( 0.2)	L4.5(OK)
Y	98.0( 0.3)	98.0( 0.1)	105.0( 0.0)	L4.5(OK)

START AMP ALL ROTATE R0.5(OK)

K 71(71) 12.00(12.00)

C 71(71) 12.00(12.00)

M 71(71) 12.00(12.00)

Y 71(71) 12.00(12.00)

EXECUTE 1/1

EXECUTE

Normal completion

SIMULATION NO. 50-22

AUTO ADJUSTMENT OF REGISTRATION/DRUM POSITION

NOW EXECUTING...

EXECUTE

Abnormal end

SIMULATION NO. 50-22

AUTO ADJUSTMENT OF REGISTRATION/DRUM POSITION

PRESS [EXECUTE] TO START

ERROR: TONNER EMPTY 01

EXECUTE

- 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 R1.5(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 - 71	
AMP	Modulation control amplitude ( ): Previous value		0 - 12.0	

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" indicates the number of rotations, and 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).

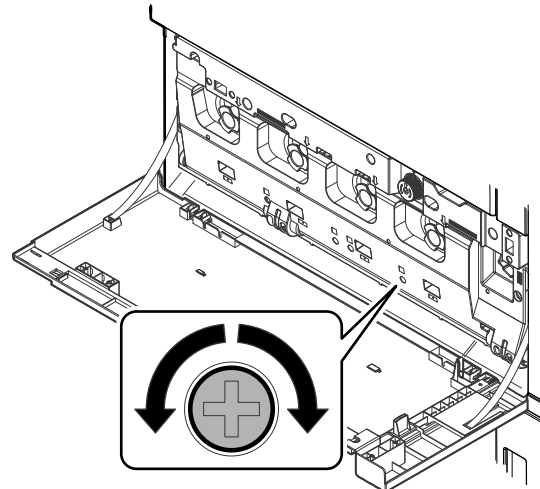
SKEW, ALL\_ROTATE: Judgment of the LSU skew adjustment result. OK or NG.

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).

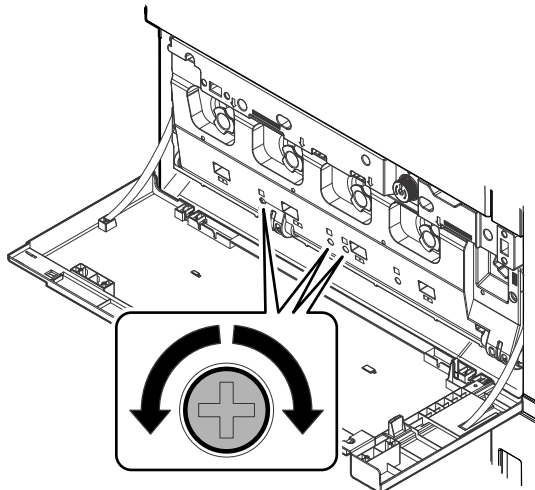
Repeat the procedures 2) to 5) until the display of ALL\_ROTATE becomes OK. If the display of ALL\_ROTATE is OK, go to the procedure 6).

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.

\* ADJ4B

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

\* ADJ4C

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 ADJ4C.)

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

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

If a more accurate adjustment than the automatic adjustment ADJ4A 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).

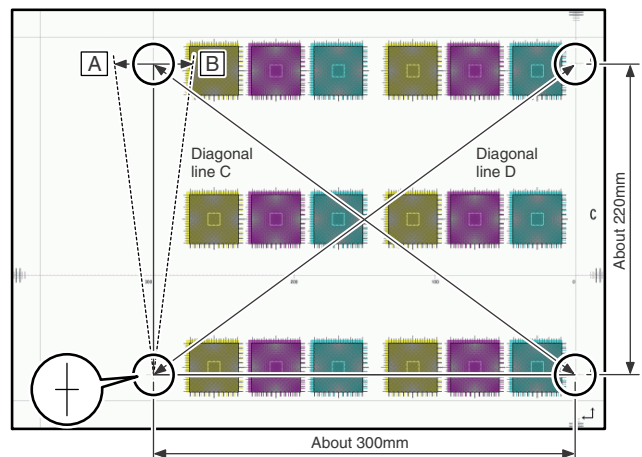
##### Method 1

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.

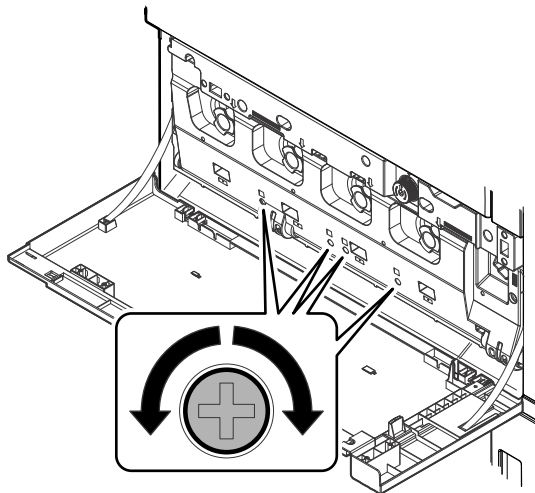
Measure the slant (skew) of the vertical side for the horizontal side of paper as shown in the figure.

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

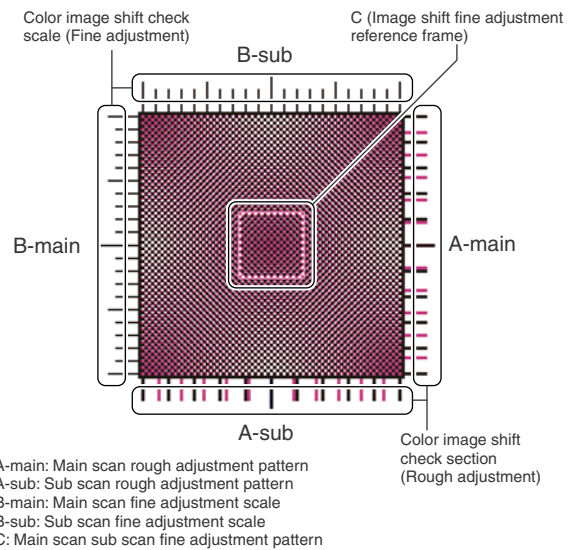
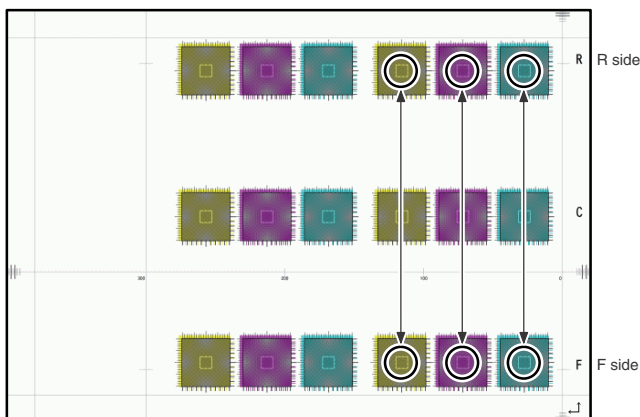
Repeat the procedures 2) to 6).

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.

**Rough adjustment pattern check:**

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

**Fine adjustment pattern check:**

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

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

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

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

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

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

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

**(Skew adjustment screw rotation direction)**

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

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

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

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

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

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

This adjustment is used to set the offset value for the automatic color registration adjustment (ADJ4A).

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.

\* ADJ4A or ADJ4B 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)

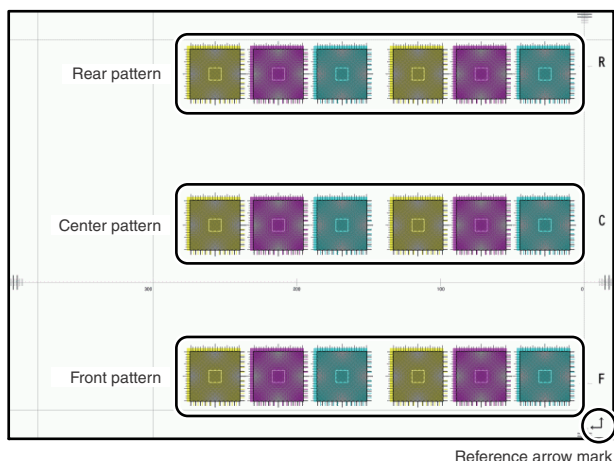
They are manual adjustment values and automatic adjustment values, and reflected when the automatic registration adjustment is executed. It varies for every operation of the automatic registration adjustment.

- 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.

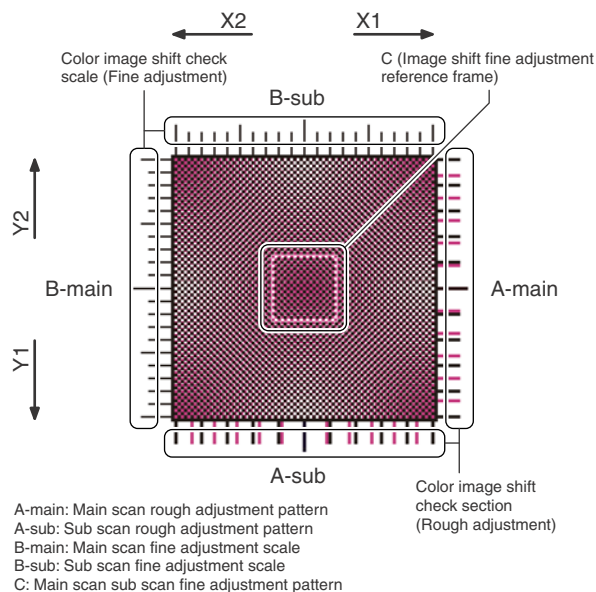
There are 6 color image registration patterns in total; two on each of the F side, the R side, and the center. Check all the patterns to confirm that they are within the specified range. Also check to confirm that there is not much shift in each color image registration check pattern.

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.

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

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 5A).



Check the print patterns of the rough adjustment and the fine adjustment of 18 check patterns.

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

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

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

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

The reference arrow on the check pattern faces the positive direction.

### (Reference adjustment value)

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

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

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

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

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

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

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

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



**(Reference adjustment value)**

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

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

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

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

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

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

**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

Display/Item	Content	Adjustment value range	Default value
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 5 Scan image distortion adjustment (Document table mode)

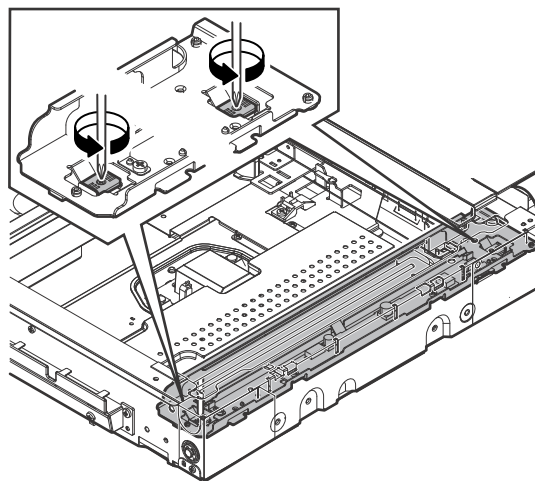
This adjustment must be performed in the following cases:

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

### 5-A Scanner (reading) unit parallelism adjustment

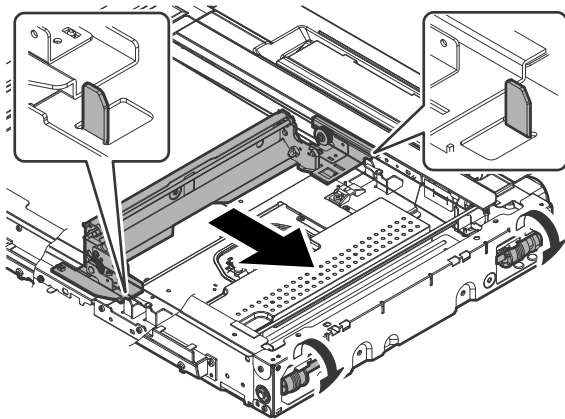
Before execution of this adjustment, remove the document table glass.

- 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.



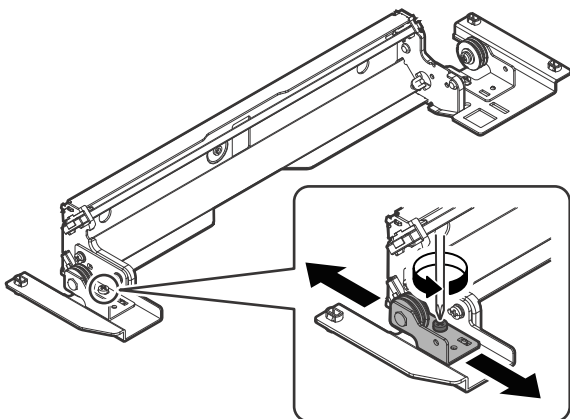
- 2) Turn the scanner drive pulley manually and shift the scanner unit B to bring it into contact with the stopper.

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.

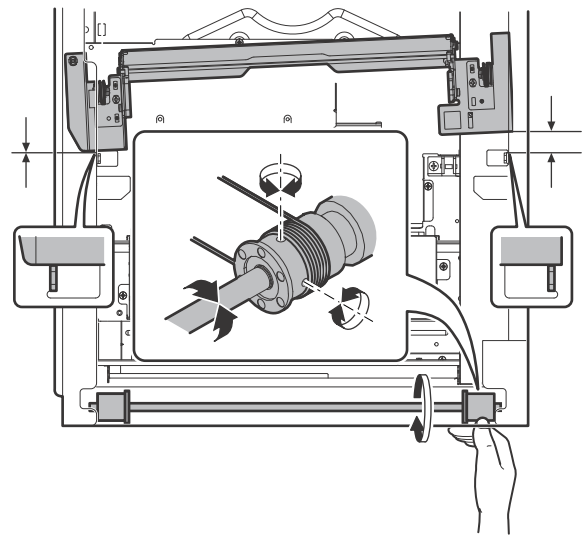


- 4) Adjust the position of the pulley angle on the front frame side of the scanner unit B so that it is in contact with two stoppers on the front and the rear frames simultaneously.
- 5) Fix the pulley angle on the front frame side of the scanner unit B.

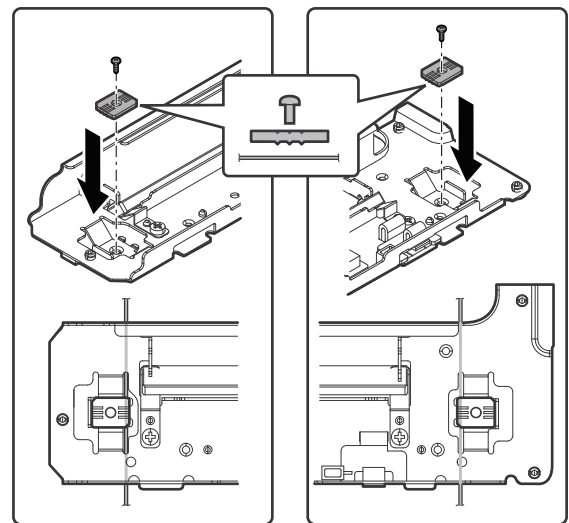
If a satisfactory result is not obtained from the above procedures, perform the following procedures.

Loosen the fixing screw of the scanner unit drive pulley which is not in contact.

Without moving the scanner unit drive shaft, turn the scanner unit drive pulley manually and adjust so that the scanner unit B is in contact with both stoppers on the front frame and the rear frame simultaneously. (Change the relative position of the scanner unit drive pulley and the drive shaft.) Fix the scanner unit drive pulley fixing screw.

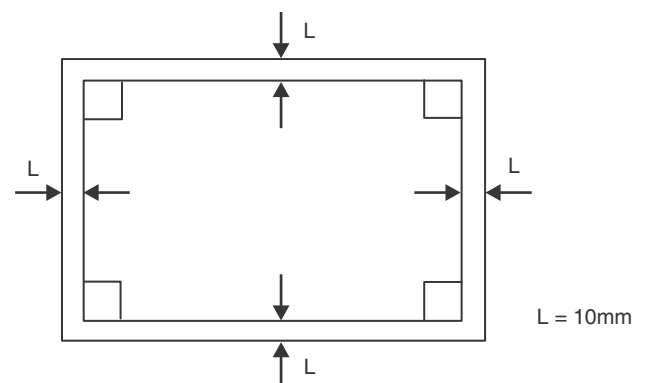


- 6) With the scanner unit B in contact with both stoppers, fit the edge of the scanner unit A with the right edge of the frame, and fix the scanner unit A with the fixing screw.

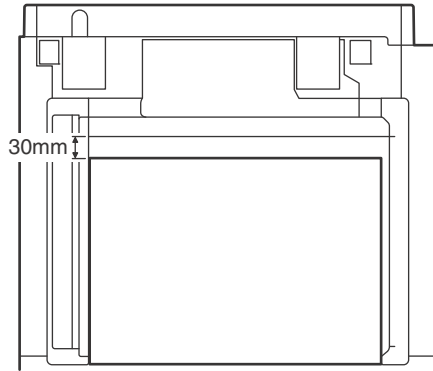


## 5-B Scan image (sub scanning direction) distortion adjustment

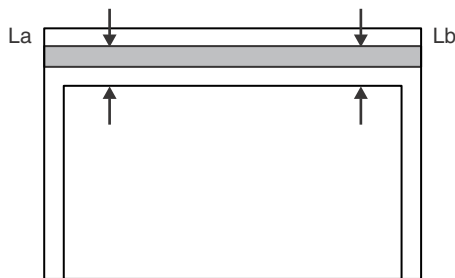
- 1) Make a test chart on A3 (11" x 17") paper as shown below. (Draw a rectangular with four right angles.)



- Set the test chart prepared in the procedure 1) on the document table. (Shift the test chart edge 30mm from the reference position as shown below.) With the document cover open, make a copy on A3 (11" x 17") paper.

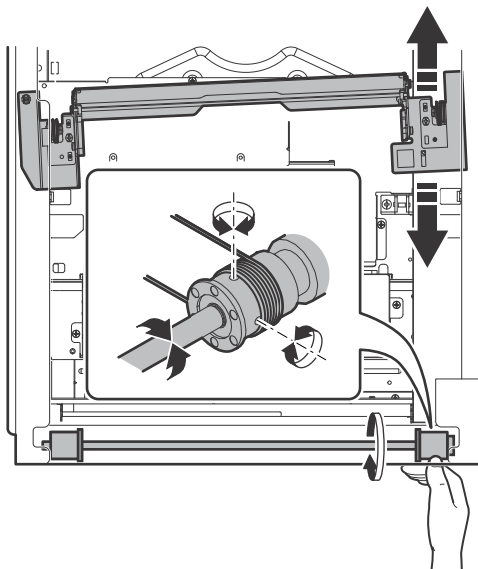


- Check for distortion in the sub scanning direction.  
If  $L_a = L_b$ , there is no distortion.



If there is any distortion in the sub scanning direction, perform the following procedures.

- Loosen either one of the fixing screws of the scanner unit drive pulley. (Either one on the front frame or on the rear frame will do.)

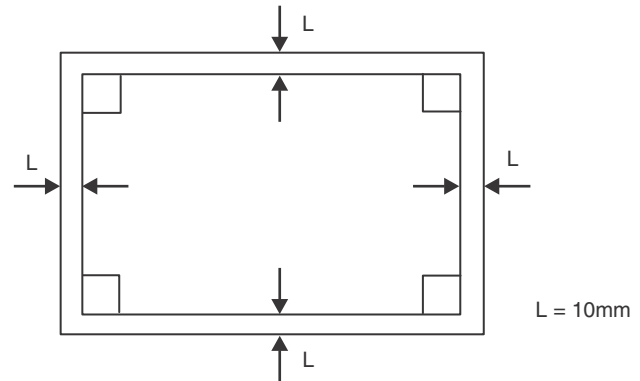


- Without moving the scanner unit drive shaft, manually turn the scanner unit drive pulley to change the parallelism of the scanner unit A and B. (Change the relative position of the scanner unit drive pulley and the drive shaft.)
- Tighten the scanner unit drive pulley fixing screw.  
Repeat the procedures 2) - 6) until the condition of the procedure 3) is satisfied.

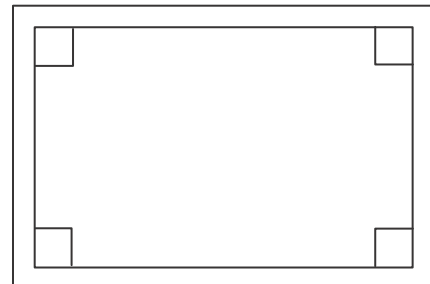
If the distortion in the sub scanning direction cannot be deleted with the above procedures, perform ADJ5D Scan image distortion adjustment (Whole scanner unit).

## 5-C Scan image (main scanning direction) distortion adjustment

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

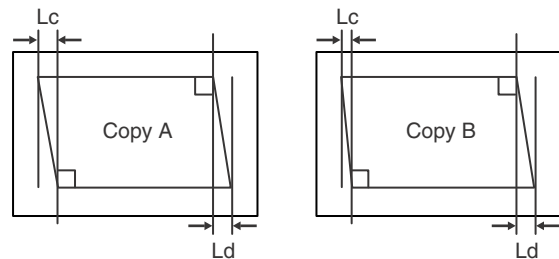


- Set the test chart prepared in the procedure 1) on the document table, and make a copy on A3 (11" x 17") paper.
- Check for distortion in the main scanning direction.  
If the four angles of the rectangle of the copy image are right angles, it is judged that there is no distortion. (The work is completed.)



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

- 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.

$$L_c = L_d$$

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

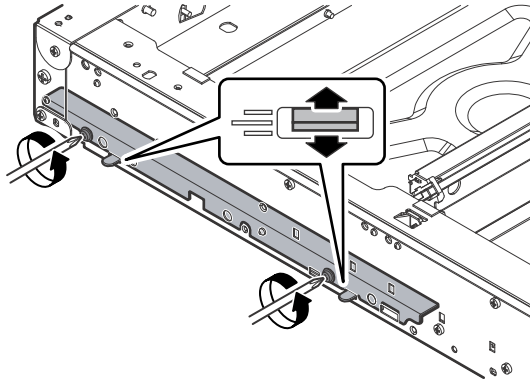
$$L_c \neq L_d$$

If  $L_c = L_d$ , 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.

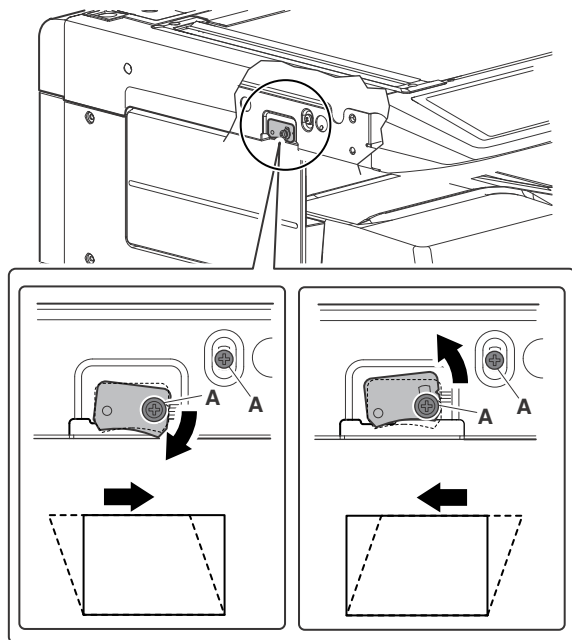
If the distortion in the sub scanning direction cannot be deleted with the above procedures, perform ADJ5D Scan image distortion adjustment (whole scanner unit).

#### 5-D Scan image distortion adjustment (Whole scanner unit)

This adjustment is executed when scan image distortion cannot be adjusted with ADJ5A, ADJ5B, and ADJ5C 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.



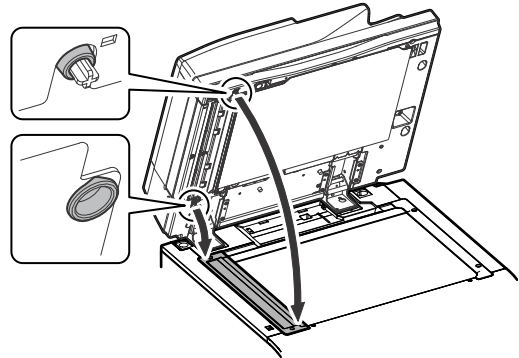
## ADJ 6 Scanner image skew adjustment (DSPF mode)

### 6-A DSPF parallelism adjustment

This adjustment must be performed in the following cases:

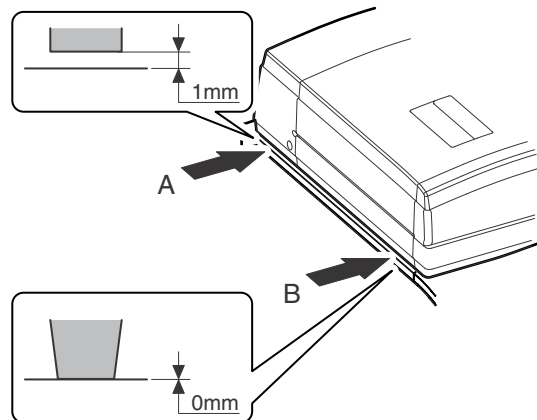
- \* The DSPF section has been disassembled.
- \* The DSPF unit has been replaced.
- \* When a DSPF JAM is generated.
- \* When a skew is generated in the document feed operation.
- \* When there is a distortion (skew) in the scan image in the DSPF unit.

- 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.

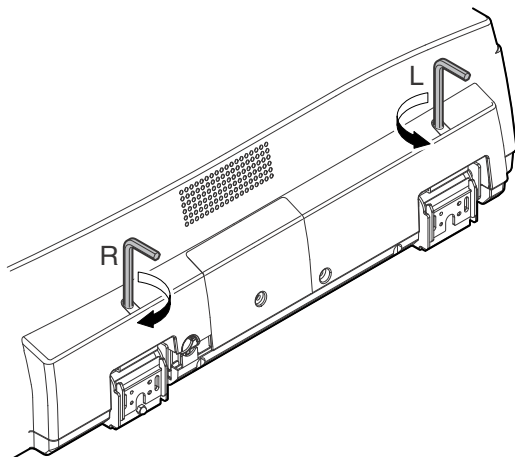


- 2) Visually check to insure that the clearance A is 1mm or less and the clearance B is 0mm (in contact).

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.

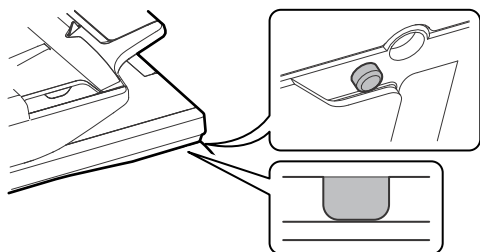


When the front frame side is higher (there is a clearance in B): Turn the height adjustment screw R of the DSPF rear frame clockwise.

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.



## 6-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.

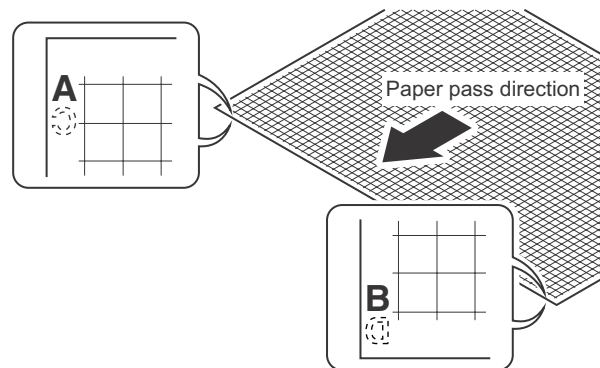
- 1) Make an adjustment chart.

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.



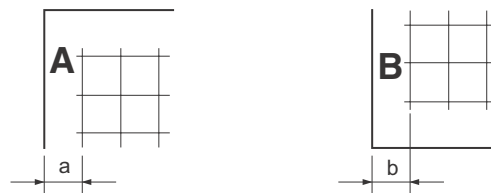
- 2) Copy the adjustment chart (created in step 1) to A3 (11" x 17") paper in DSPF duplex mode, and then check the image for skews (Set in the DSPF feed tray so that the mark on the adjustment chart is at the edge).

- Check with one of the following methods.

### [Check Method 1]

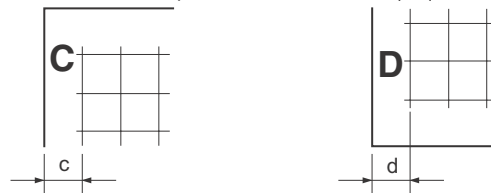
(Front side)

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



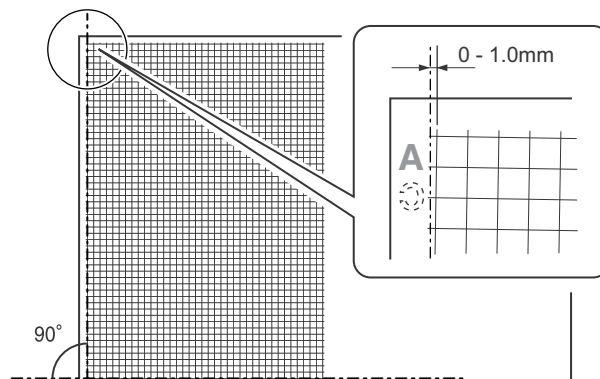
(Back side)

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



### [Check Method 2]

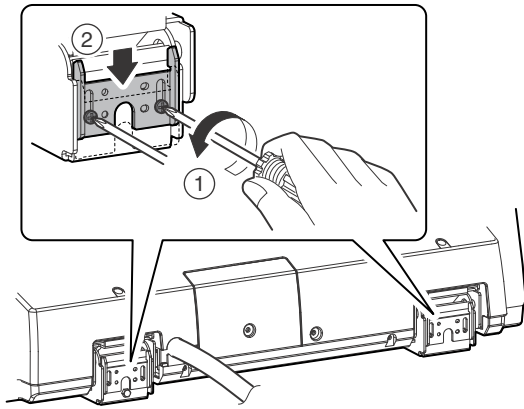
Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0mm.



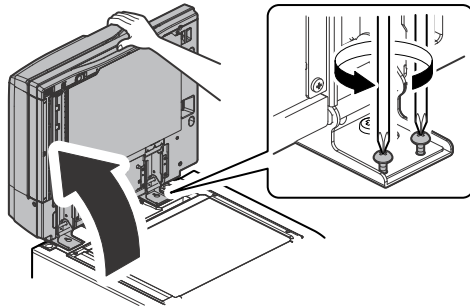
If the front surface copy image is as shown above and the back surface copy is not as shown above, go to the step 3) of "ADJ6C DSPF skew adjustment (Back surface mode)."

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

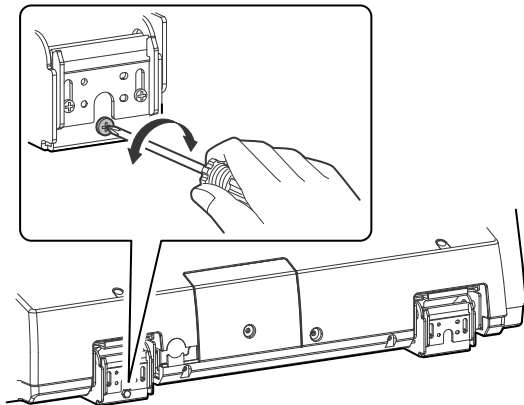
- 3) Loosen the hinge screws and lower the two attachments.



- 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.

## 6-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.

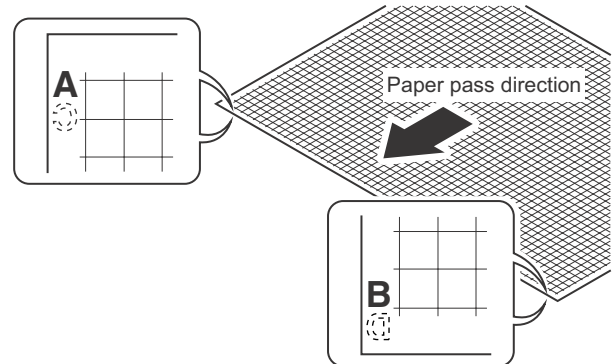
- 1) Make an adjustment chart.

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.



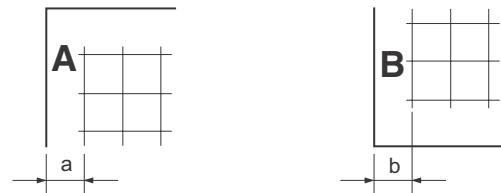
- 2) Copy the adjustment chart (created in step 1) to A3 (11" x 17") paper in DSPF duplex mode, and then check the image for skews (Set in the DSPF feed tray so that the mark on the adjustment chart is at the edge).

- Check with one of the following methods.

[Check Method 1]

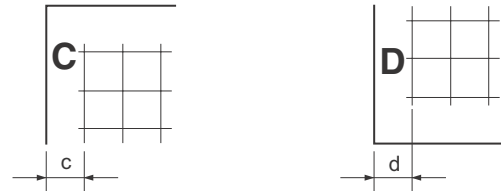
(Front side)

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



(Back side)

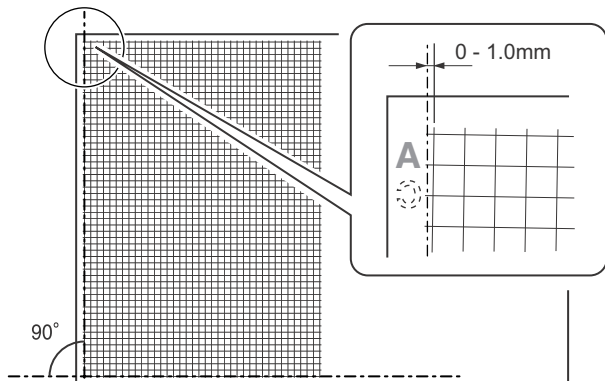
Make sure that the output satisfies the condition:  $|c-d| \pm 1 \text{ mm}$





[Check Method 2]

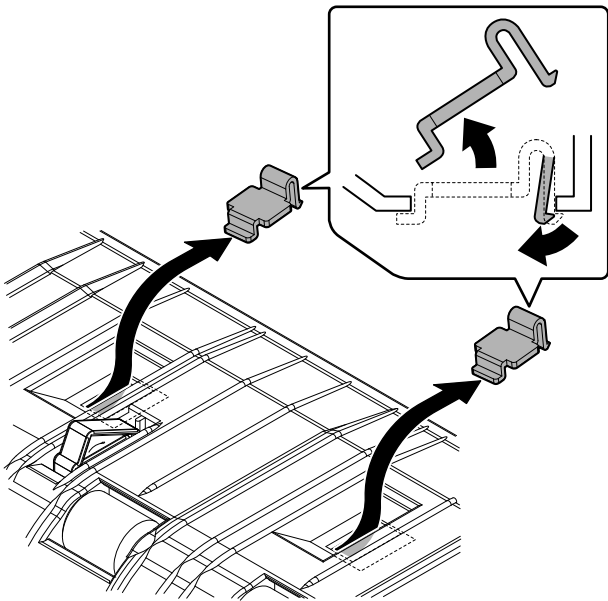
Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 1.0mm.



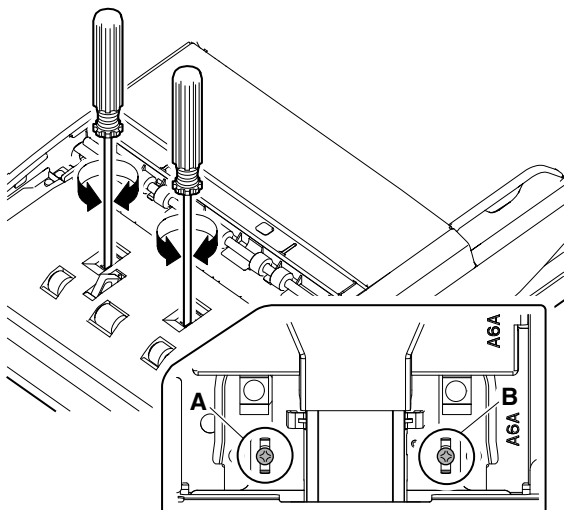
If the back surface copy image is as shown above and the front surface copy is not as shown above, go to the step 3) of "ADJ6B DSPF skew adjustment (Front surface mode)."

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.

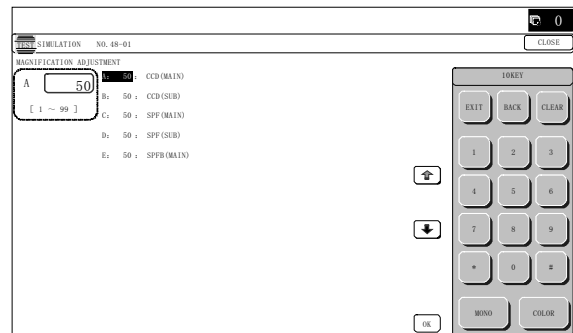
## ADJ 7 Scan image focus adjustment

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

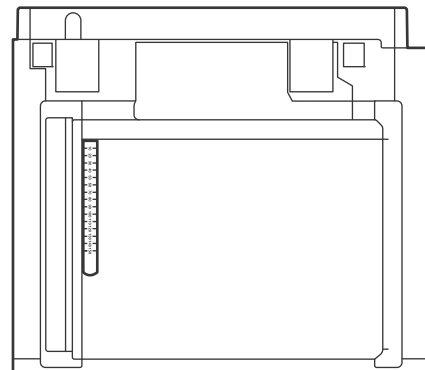
This adjustment must be performed in the following cases:

- \* 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.

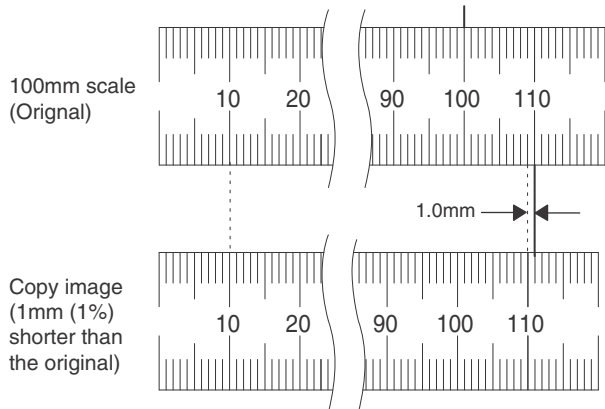
- 6) Obtain the copy magnification ratio correction ratio in the main scanning direction from the following formula.

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

(Example)

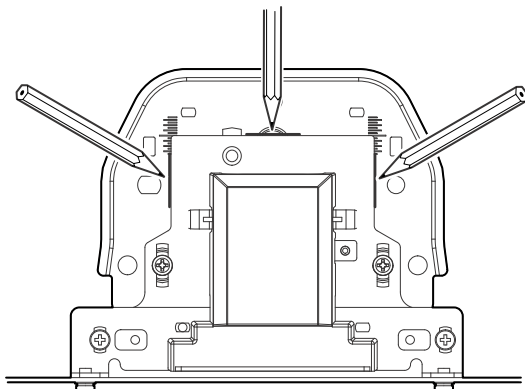
Compare the scale of 10mm with the scale of 10mm on the copy image.

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



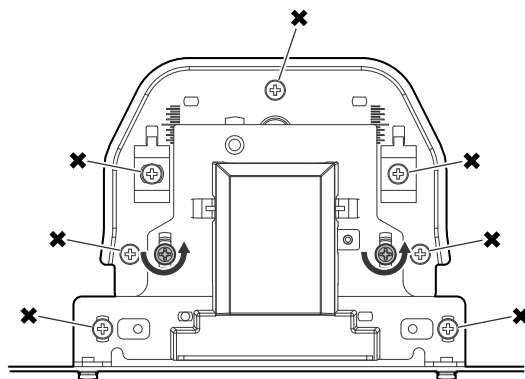
If the copy magnification ratio is not satisfactory, perform the following procedures.

- 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.

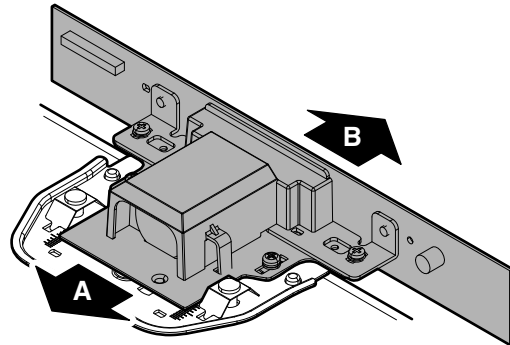
- 11) Slide the CCD unit in the arrow direction (CCD sub scanning direction) to change the installing position.

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 +/- 1%, 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 +/- 1.0%) and the specified resolution is obtained based on the optical system structure.

## 7-B Image focus adjustment (DSPF back surface mode)

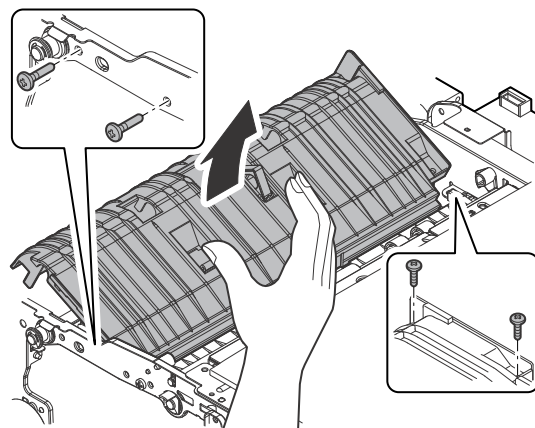
This adjustment must be performed in the following cases:

- \* 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.

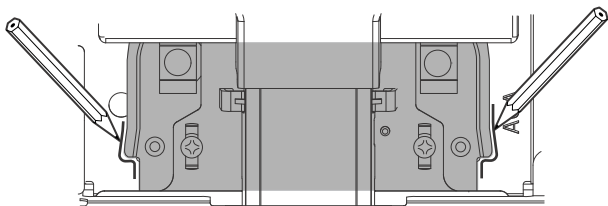
If the image is not satisfactorily focused, do the following steps.

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

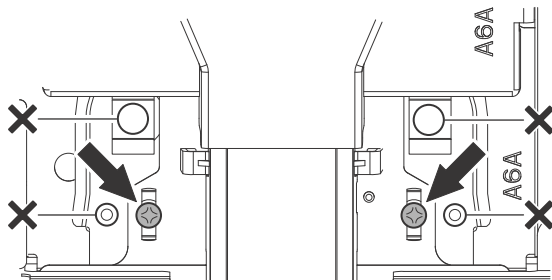




- 4) To prevent against shift of the CCD unit optical axis, mark the CCD unit base as shown below.



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



- \* **Never loosen the screws marked with 5.**

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.

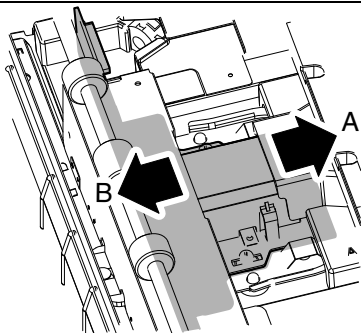
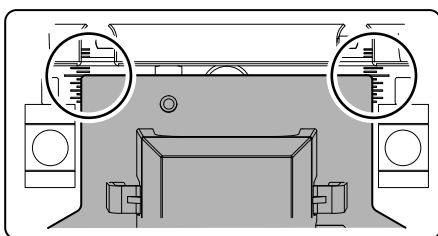
- 6) Slide the CCD unit in the arrow direction (CCD sub scanning direction) to change the installing position.

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 +/- 1%, 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 +/- 1.0%) and the specified resolution is obtained based on the optical system structure.

## ADJ 8 Print lead edge image position adjustment (Printer mode)

This adjustment must be performed in the following cases:

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

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

- 1) Enter the SIM 50-5 mode.

Component	Value	Description
A	30	DEN-C
B	20	DEN-B
C	20	FRONT/REAR
D	50	DENB-MFT
E	50	DENB-CS1
F	50	DENB-CS2
G	50	DENB-CS3
H	50	DENB-CS4
I	50	DENB-LCC
J	57	DENB-ADU
K	50	DENB-HV
L	1	MULTI COUNT

10-key

EXECUTE

EXECUTE

End of print

Component	Value	Description
A	40	DEN-C
B	20	DEN-B
C	20	FRONT/REAR
D	50	DENB-MFT
E	50	DENB-CS1
F	50	DENB-CS2
G	50	DENB-CS3
H	50	DENB-CS4
I	50	DENB-LCC
J	57	DENB-ADU
K	50	DENB-HV
L	1	MULTI COUNT

- 2) Use the scroll key and the 10-key to enter the value corresponding to the paper feed tray where there is A4 (11" x 8.5") paper.

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-LCC/LCT	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	
		CS1		1 - 9	
		CS2		1	
		CS3		2	
		CS4		3	
		LCC		4	
		LCT1_1		5	
		LCT1_2		6	
		LCT2_1		7	
		LCT2_2		8	
N	DUPLEX	YES	Duplex print selection	Select	
		NO		Not select	

\*1: Displayed only when A4/A3 LCC is connected.

\*2: Displayed only when 2-stage LCT is installed.

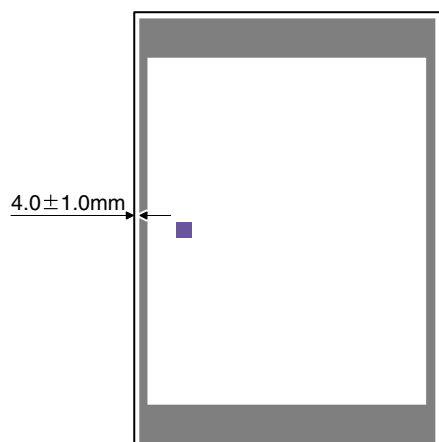
\*3: Displayed only when two units of 2-stage LCT are connected.

- 3) Press [EXECUTE] key.

The adjustment pattern is printed.

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

Standard adjustment value: 4.0 +/- 1.0mm



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

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

- 6) Change the adjustment value.

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

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

When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distance is decreased.

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

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

## ADJ 9 Color balance/density adjustment

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

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

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

The importance levels of them are shown below.

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

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

Job No	Adjustment item	Simulation
ADJ 4	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 7	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

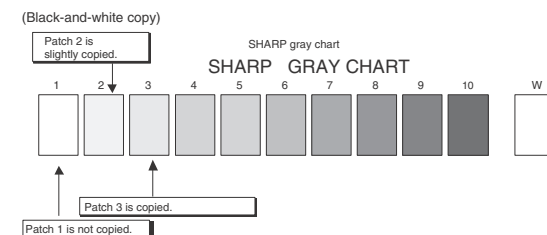
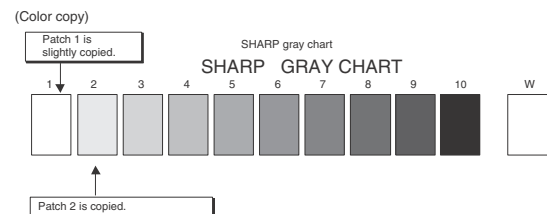
To check the density, use the gray test chart (UKOG-0162FCZZ). Set the copy density level to "Manual 3" in the Text/Printed Photo mode (Manual).

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)

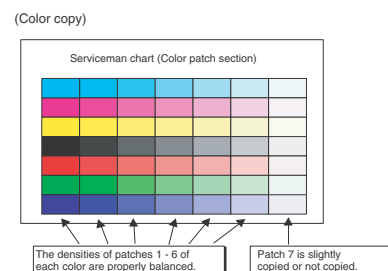
In the copy density check with the gray test chart, check to insure the following conditions.

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



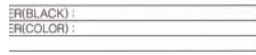
#### Check with the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11)

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



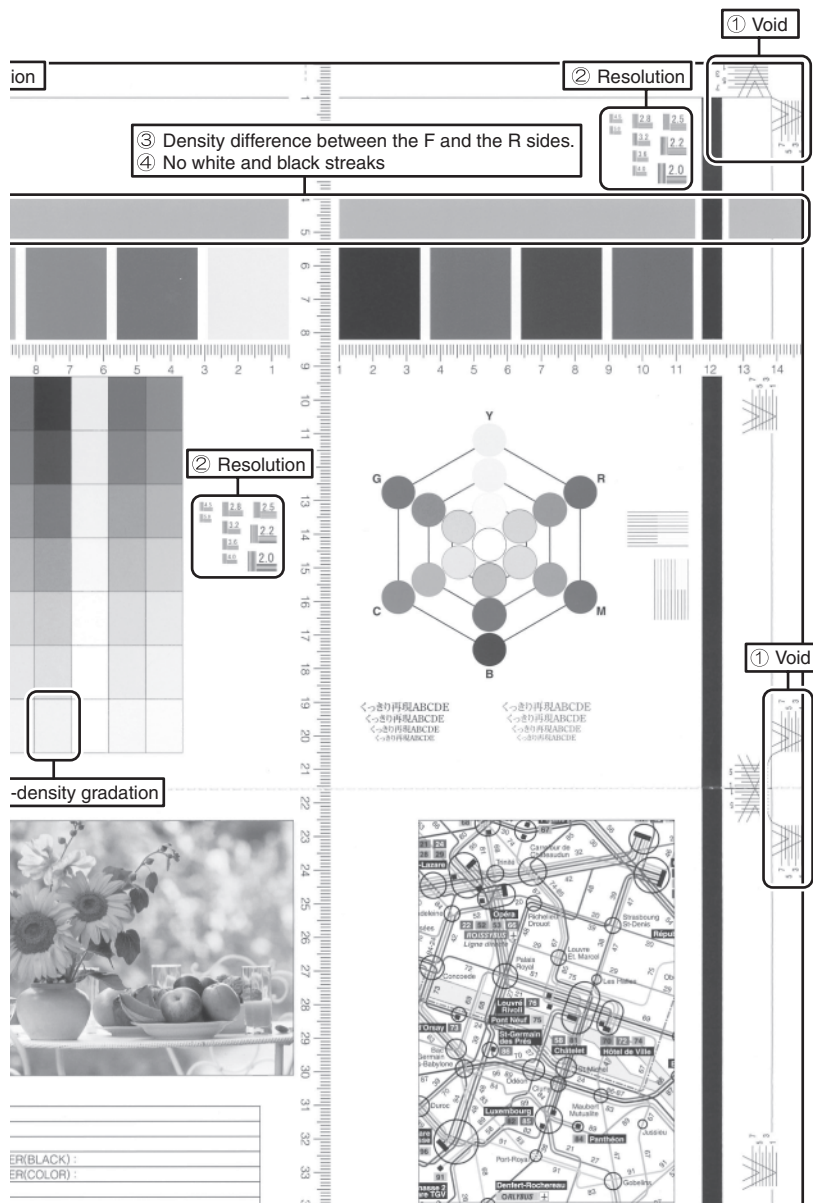
- 1) There are 12 void areas.
- 2) Registrations (one point for the main scanning, and one point for the sub scanning) are not shifted.
- 3) The resolution of 5.0 (5 points) can be seen.

- 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.



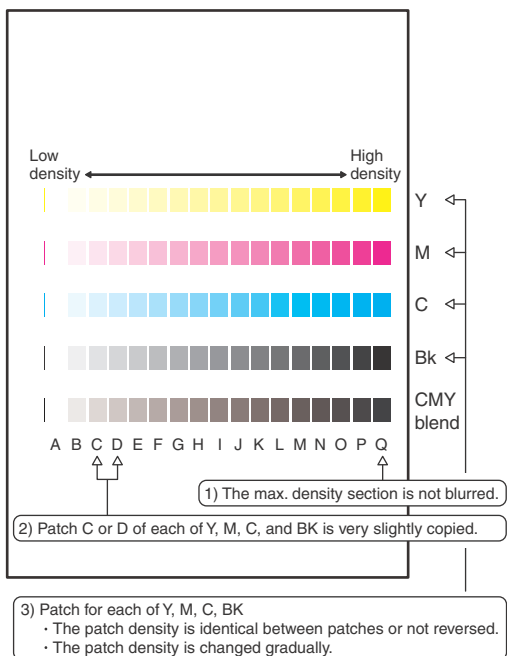
**Monochrome copy check items (Check to confirm the following:)**

- 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.

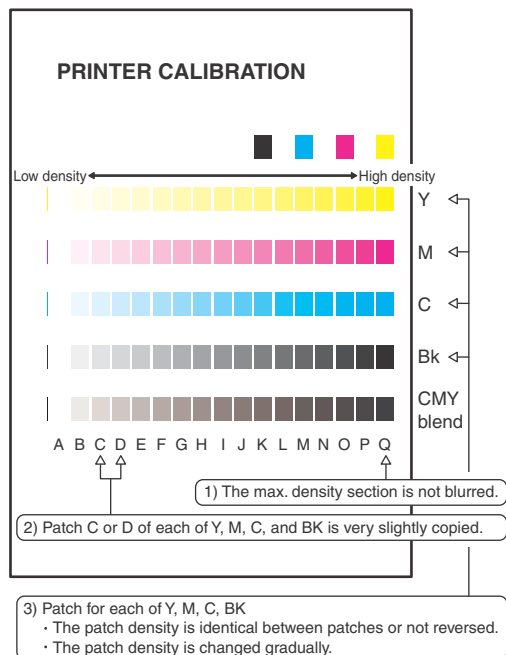
Set each set value to the default and press [EXECUTE] key. The print test pattern is printed.



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.)

## 9-A Scanner calibration (CCD calibration)

This adjustment must be performed in the following cases:

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

### (1) Note before adjustment

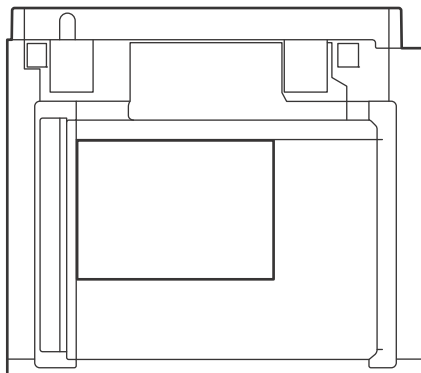
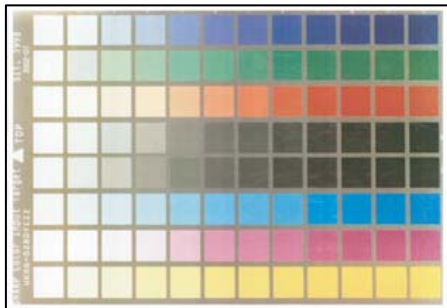
- Check that the table glass, No. 1, 2, 3 mirrors, and the lens surface are free from dirt and dust. (If there is some dust and dirt, wipe and clean with alcohol.)
- Check to confirm that the patches in BK1 and BK2 arrays of the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) are free from dirt and scratches. If they are dirty, clean them. If they are scratched or streaked, replace with new one.



## (2) Adjustment procedures

- 1) Set the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) to the reference position on the left rear frame side of the document table.

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

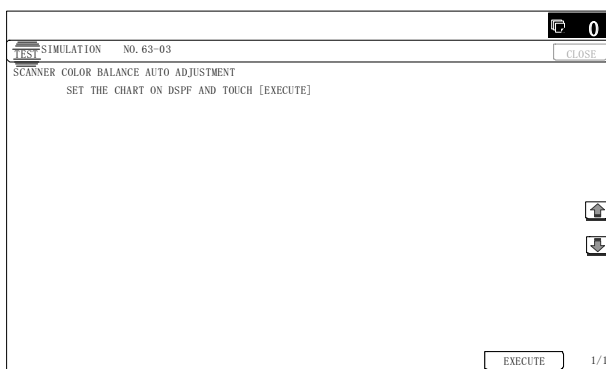


If the SIT chart is not available, execute SIM 63-5 to set the CCD gamma to the default. In this case, however, the adjustment accuracy is lower when compared with the adjustment method using the SIT chart.

**CAUTION:** Check to insure that the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) is in close contact with the document table.

**NOTE:** UKOG-0280FCZZ is equivalent to UKOG-0280FCZ1.

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



**NOTE:** Since the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) is easily discolored by sunlight (especially ultraviolet rays) and humidity and temperature, put it in a bag (such as a dark file) and store in a dark place of low temperature and low humidity.

## 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.

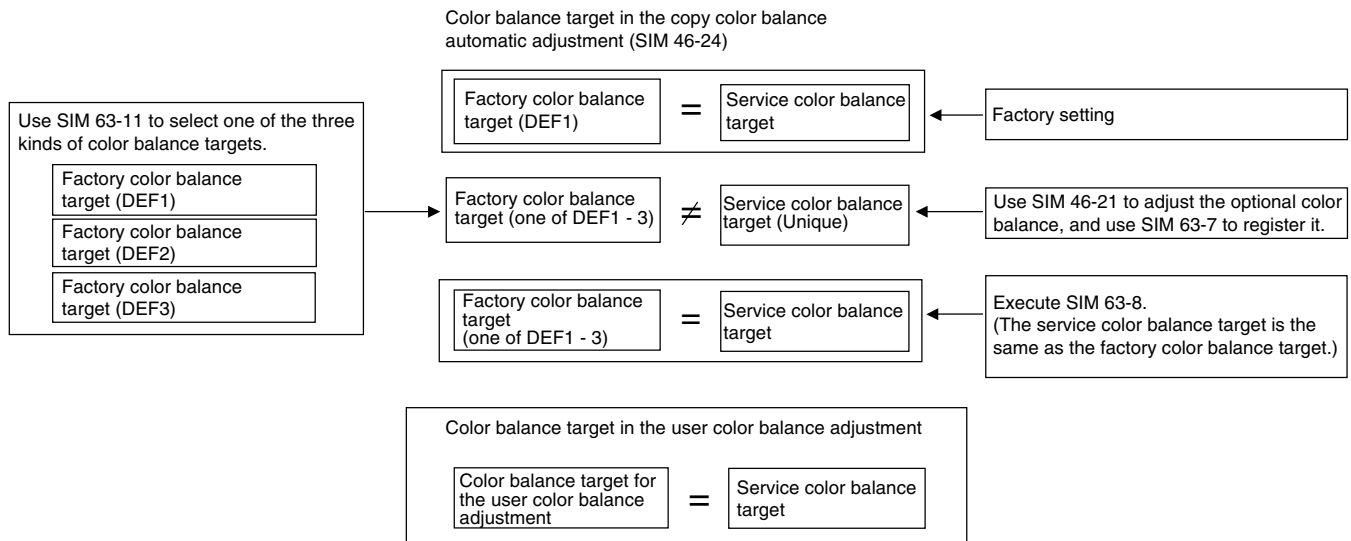
- \* When the color balance and density adjustments are executed manually (SIM46-21) (SIM67-25)
- \* U2 trouble has occurred.
- \* When the MFP PWB is replaced.
- \* When the EEPROM on the MFP PWB is replaced.
- \* The scanner control PWB has been replaced.
- \* The EEPROM on the scanner control PWB 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	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. 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 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)) 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.
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.

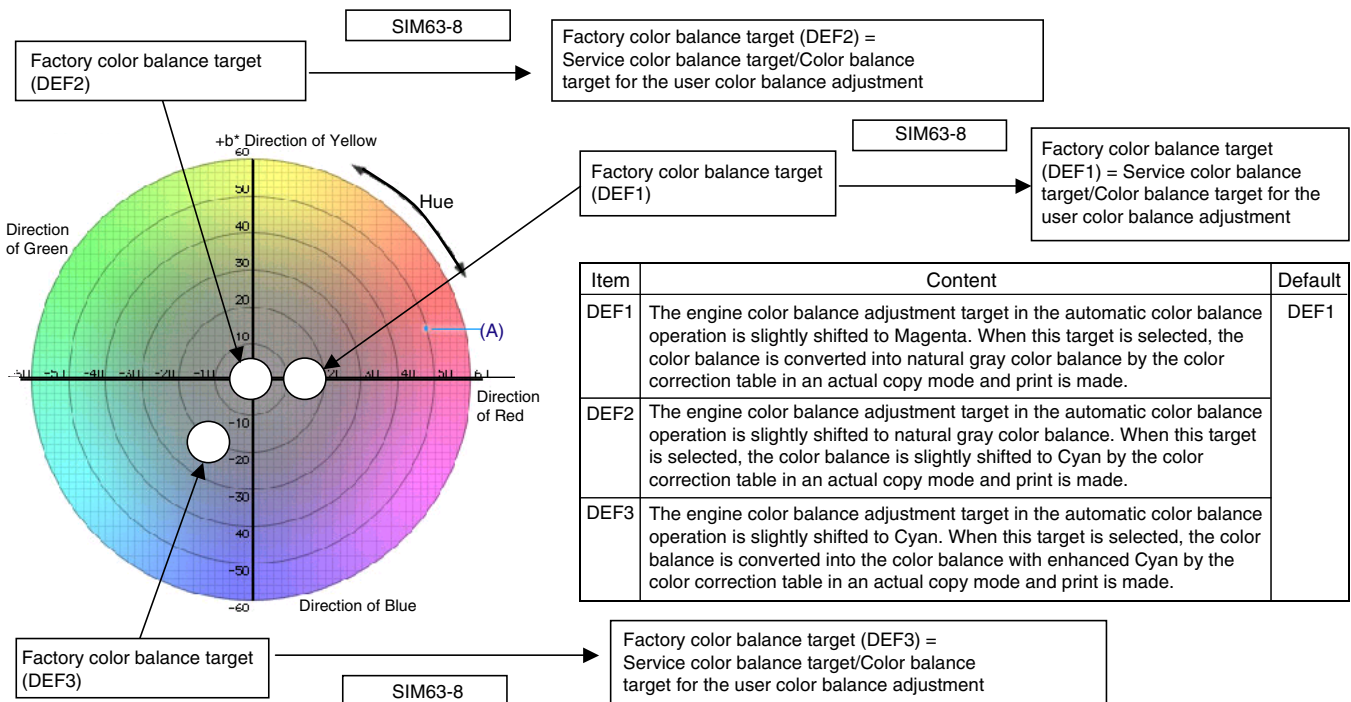
Relationship between the factory target and the service target and the color balance target for the user color balance adjustment in the copy color balance adjustment (Automatic adjustment) (SIM 46-74/46-24)



### 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 valance 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

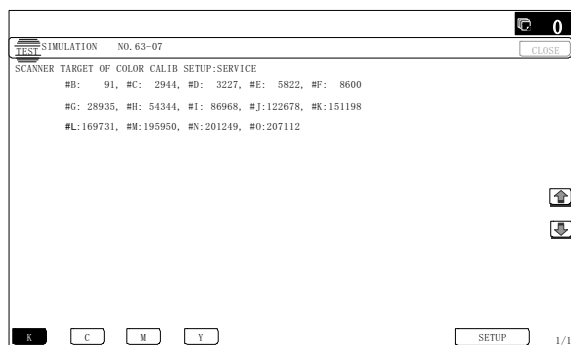
**(Setting procedure of an optional color balance (gamma) as the service color balance target)**

- 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) (ADJ9C (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.

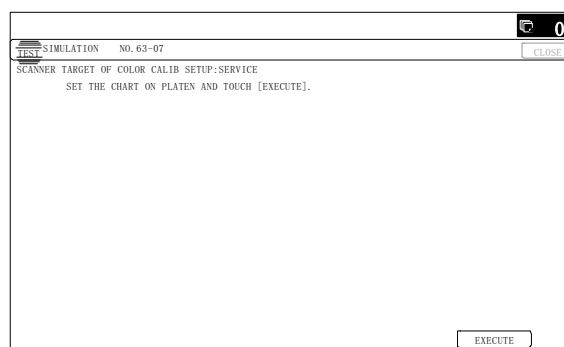
(When the color patch image (adjustment pattern) is printed by SIM 64-7, set the item B (PROC ADJ) to "0 (YES)" and press [EXECUTE] key to print.)

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).

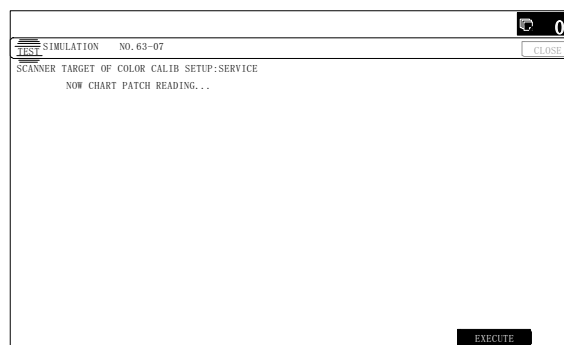
If the color balance could not be adjusted satisfactorily with SIM 46-21 (Color balance adjustment (Manual)), do not execute SIM 63-7 to register the service color balance target data.

- 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 - Q (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.

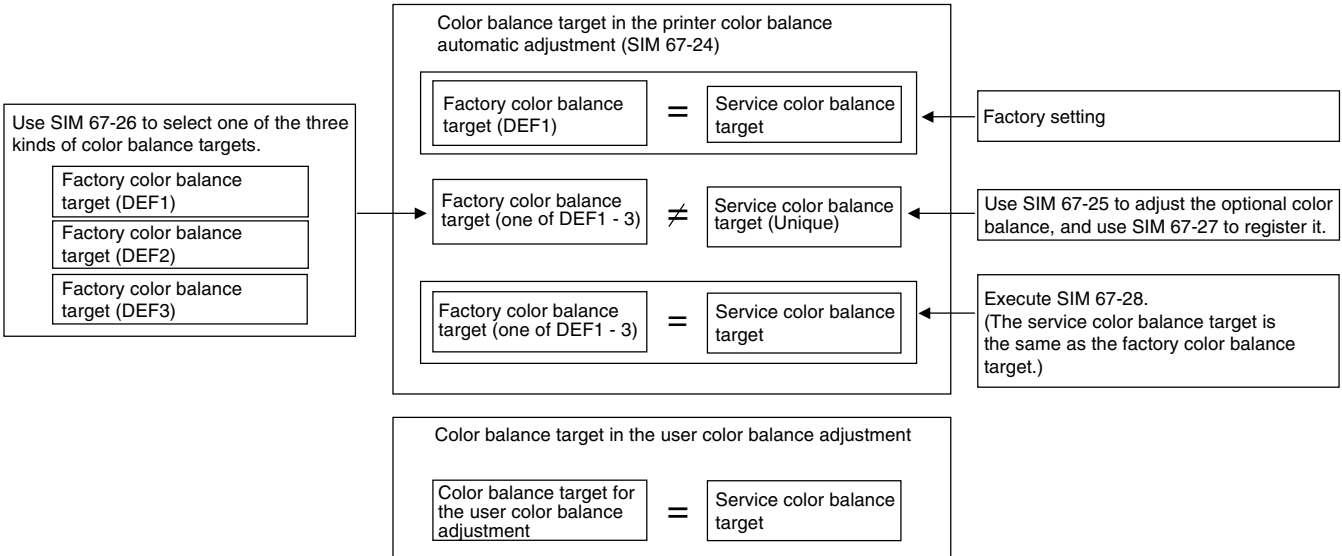
The service color balance target and the color balance target for the user color balance adjustment are set to the same color balance as the factory color balance target.

**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.

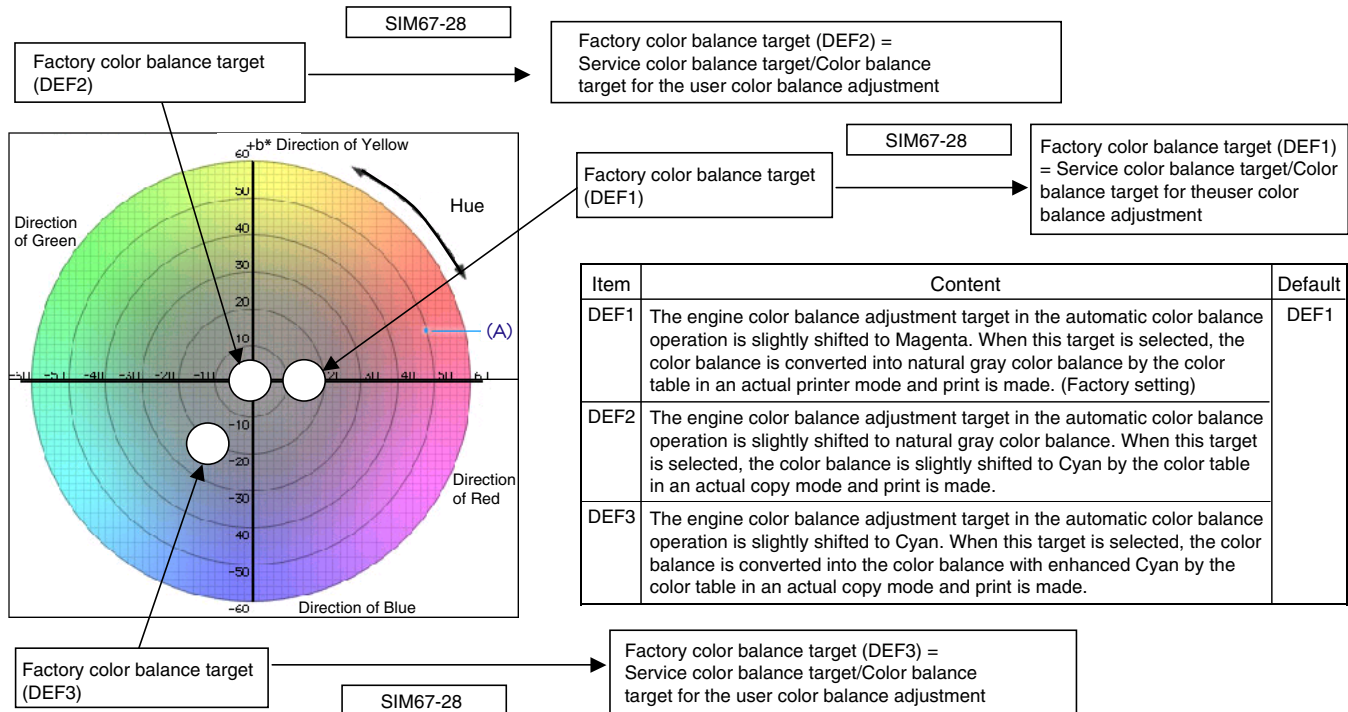
**Relationship between the factory target and the service target and the color balance target for the user color balance adjustment in the printer color balance adjustment (Automatic adjustment) (SIM 46-74/76-24)**



## 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

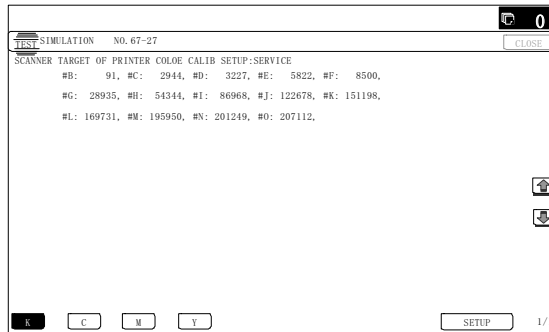
#### (Setting procedure of an optional color balance (gamma) as the service color balance target)

- 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.



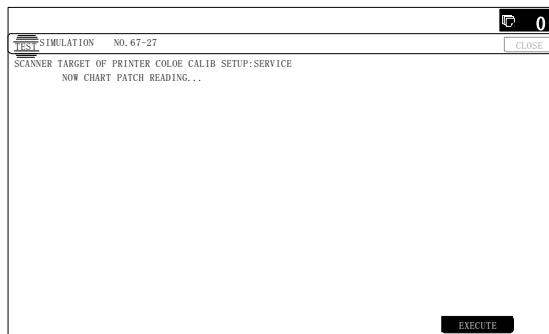
- 3) Press [SETUP] key.
- 4) Set the color patch image (adjustment pattern) correctly adjusted and printed in the printer color balance adjustment (Manual adjustment) (SIM 67-25) (ADJ9E (2)) on the document table.

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).

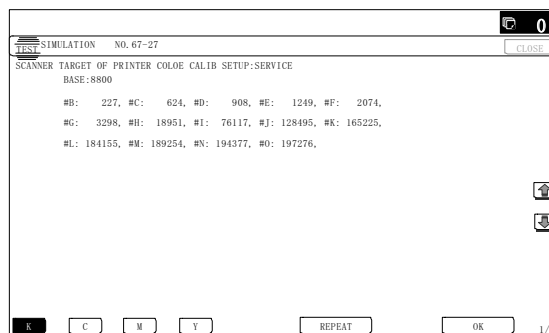
This procedure must not be executed when the copy color balance (manual) was adjusted with SIM 67-25 to a unique color balance requested by the user and it was registered as the service color balance target with SIM 67-27.

- 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 - Q (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.

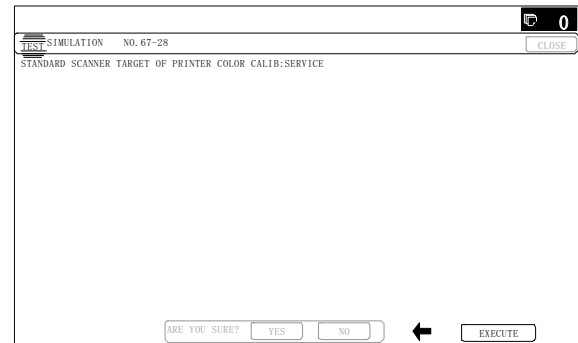
The color balance (gamma) of the color patch image (adjustment pattern) used in the procedure 5) is set as the service target.

**(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.

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

This adjustment must be performed in the following cases:

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

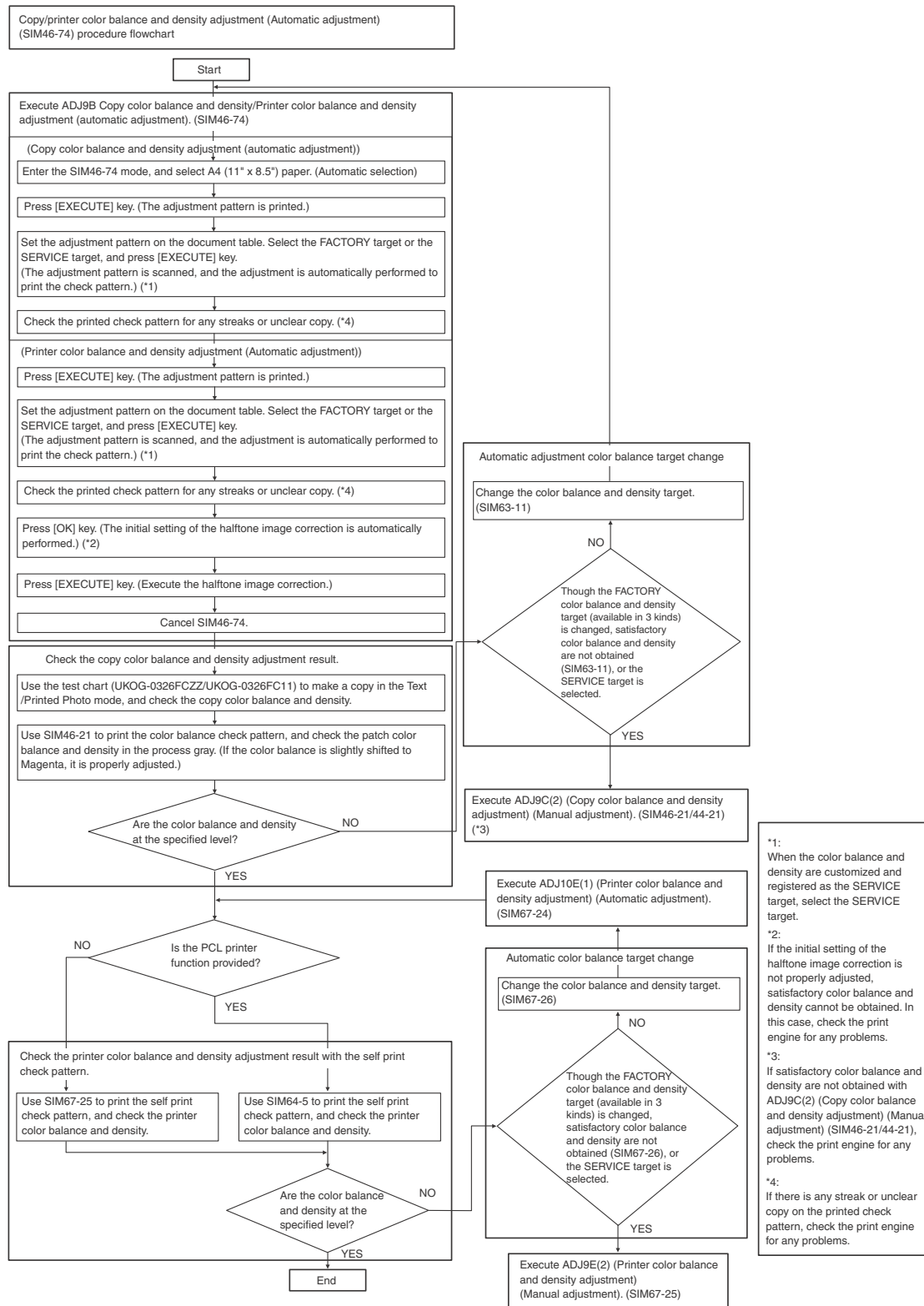
This mode is also advisable to effectively perform both of the automatic copy color balance and density adjustment (SIM46-24) and the automatic printer color balance and density adjustment (SIM67-24). It saves considerable time when compared with performing each of the auto copy/printer color balance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

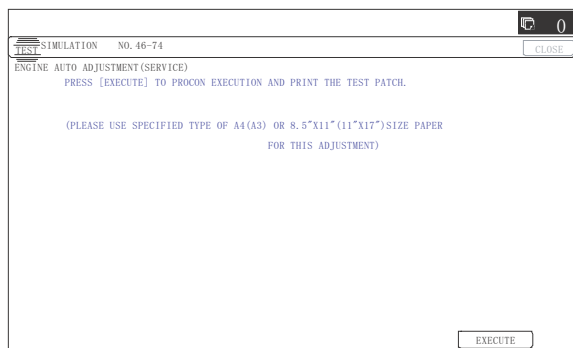
When this adjustment is executed, the color balance adjustments of all the copy/printer modes are revised.

## b. Adjustment procedures

(Auto color balance adjustment by the serviceman)

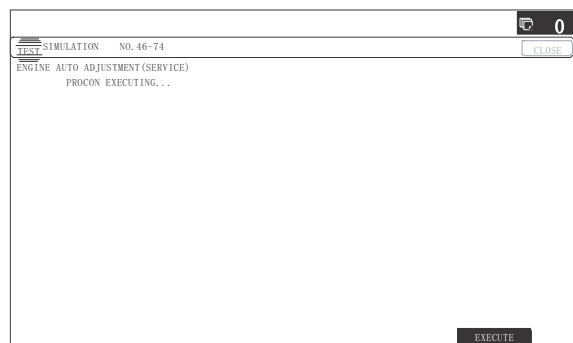


- 1) Enter the SIM46-74 mode.



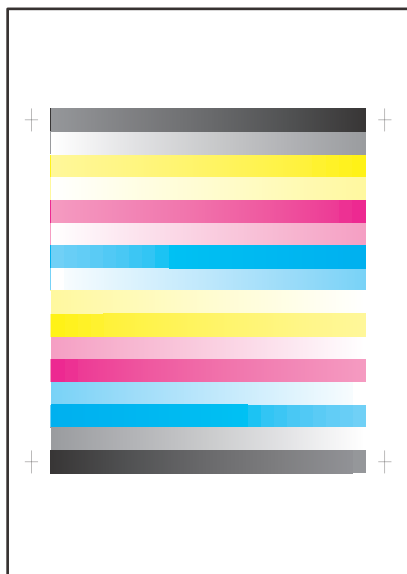
- 2) Press [EXECUTE] key.

The high density process control is performed, and the copy color patch image (adjustment pattern) is printed out. (A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.)



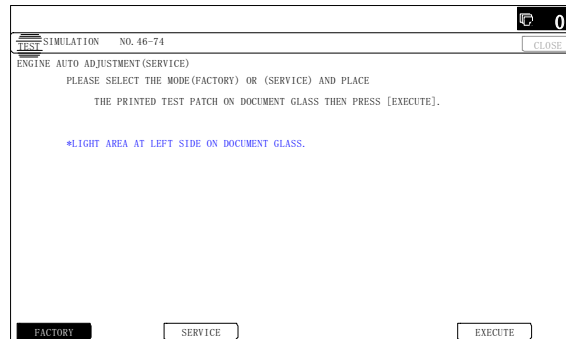
- 3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.

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



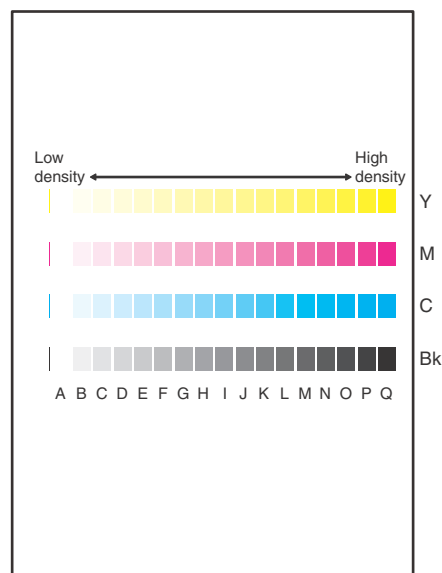
- 4) Select [FACTORY] target, and press [EXECUTE] key.

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



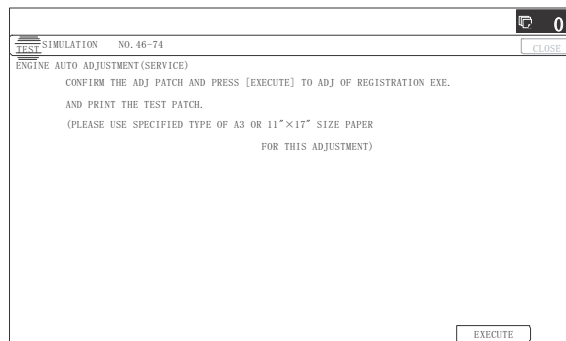
The copy color balance adjustment is automatically executed and prints the color balance check patch image.

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



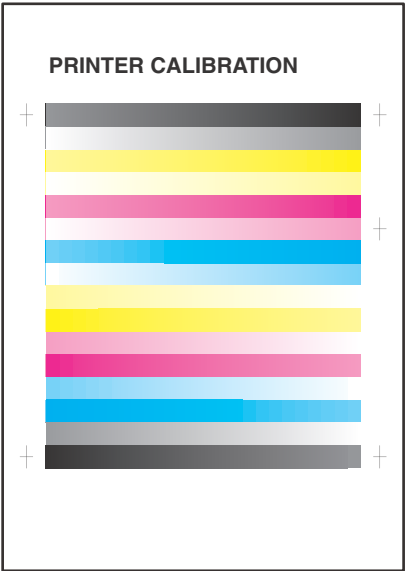
- 5) Press [EXECUTE] key.

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



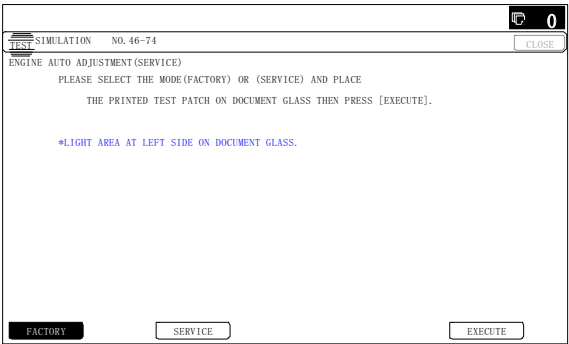
- 6) Set the color patch image (adjustment pattern) printed in the procedure 5) on the document table.

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



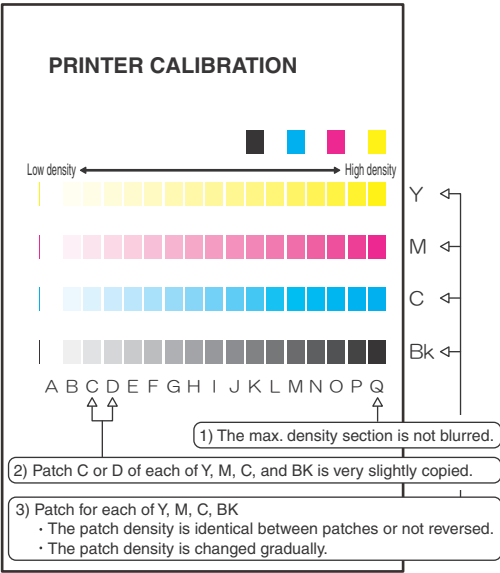
- 7) Select [FACTORY] target, and press [EXECUTE] key.

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



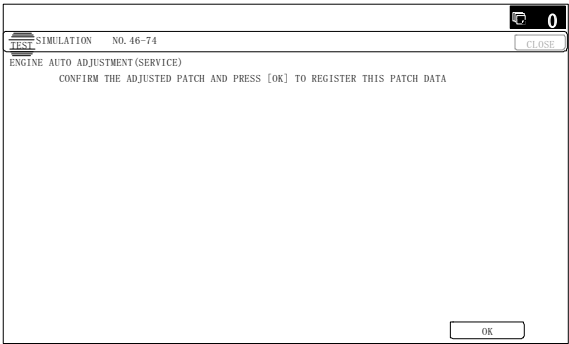
The printer color balance adjustment (step 1) is automatically performed and the color balance check patch image is printed out.

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



- 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.

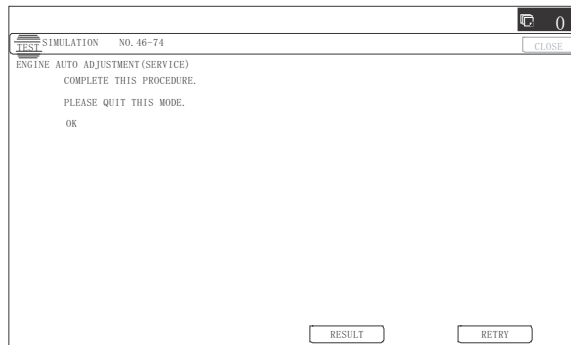


- 9) Wait until [EXECUTE] key is displayed. When it is displayed, press it.

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 10C (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 10C (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 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 10E (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 10E (2)).

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

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

## 9-C 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.

### 9-C (1)

#### Copy color balance and density adjustment (Automatic adjustment)

##### a. General

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

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

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

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

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

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

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

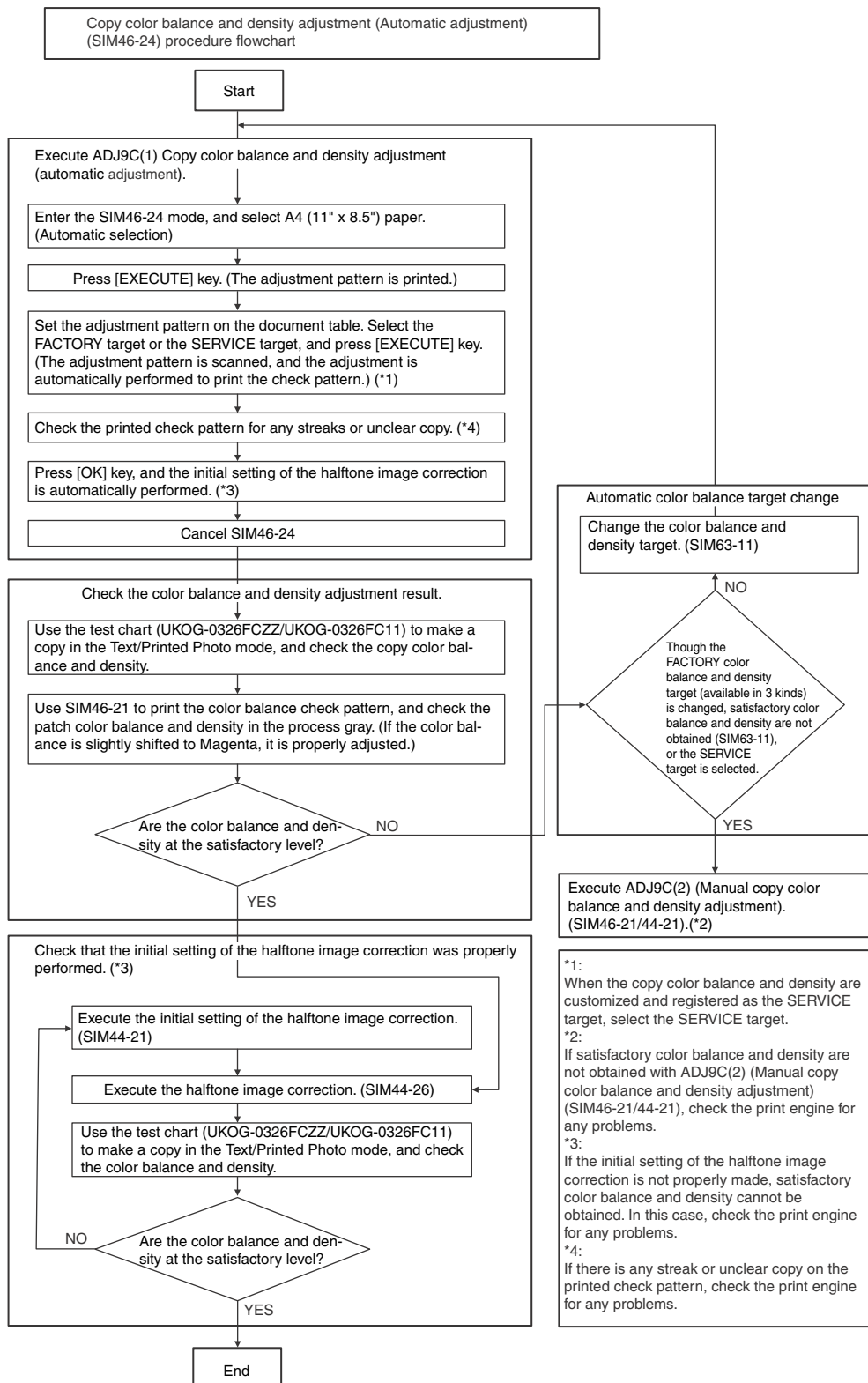
If the machine condition is dramatically changed, a fatal problem occurs, or the normal color targets cannot be obtained, service must recalibrate the machine to specification.

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

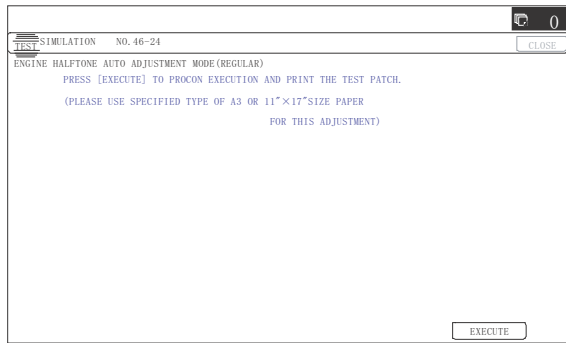


## b. Adjustment procedure

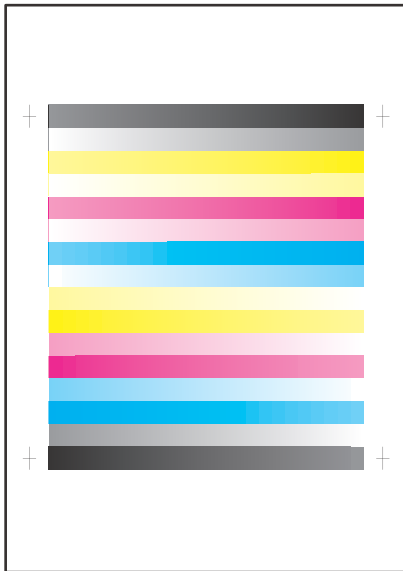
(Auto color balance adjustment by the serviceman)



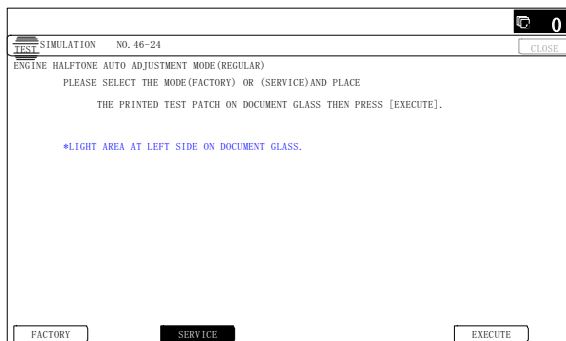
- 1) Enter the SIM 46-24 mode.



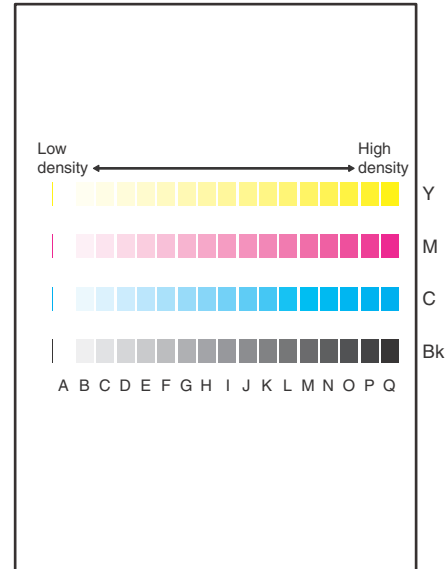
- 2) Press [EXECUTE] key. (A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.)  
The color patch image (adjustment pattern) is printed out.
- 3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.  
Place the printed color patch image (adjustment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



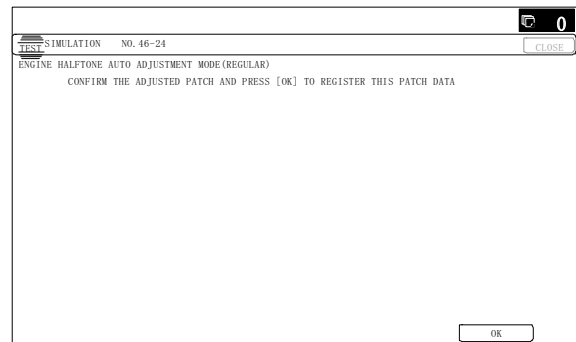
- 4) Select [FACTORY] target, and press [EXECUTE] key.  
When the color balance is customized with the manual color balance adjustment (SIM 46-21) according to the user's request and the color balance is registered as the service target with SIM 63-7, if the color balance is adjusted to that color balance, 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.

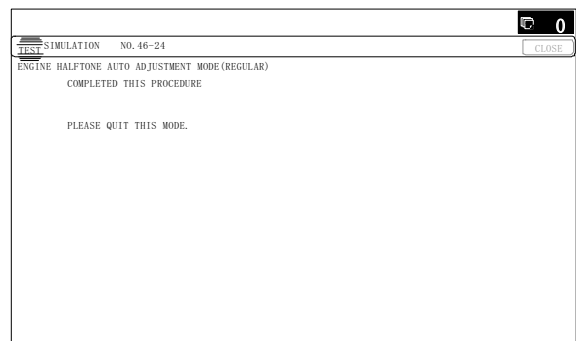


#### NOTE:

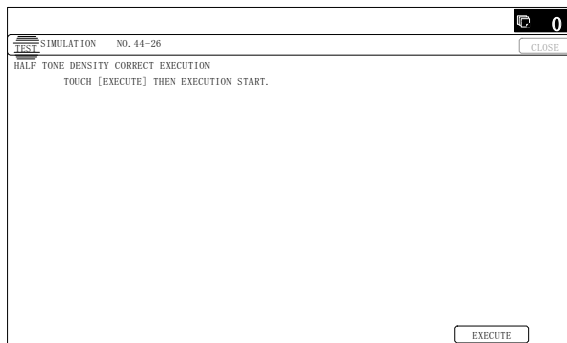
After pressing [OK] key, the initial setting of the halftone image correction is started. During the operation, "NOW REGISTERING THE NEW TARGET OF HALFTONE PROCON." is displayed. This operation takes several minutes.

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

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

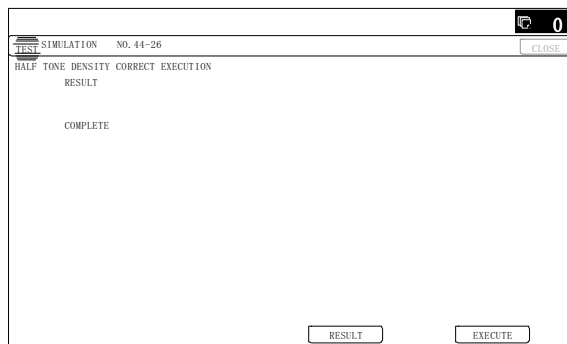


- 6) Check the color balance and density.  
(Refer to the item of the copy color balance and density check.)
- 7) Use SIM44-26 to execute the halftone image correction.  
(Forcible execution)  
Enter the SIM44-26 mode and press [EXECUTE] key.  
[EXECUTE] key is highlighted and the operation is started.

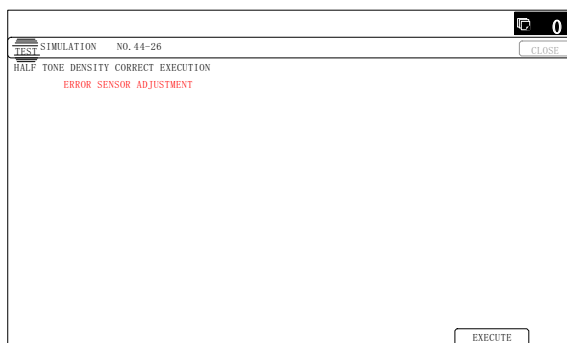


It takes several minutes to complete the operation. After completion of the operation, "COMPLETE" is displayed.

(Normal end (Auto transition))



(Abnormal end (Auto transition))



After completion of the operation, the simulation is canceled.

- 8) Use the servicing color test chart (UKOG-0326FCZZ/UKOG-0326FC11) in the Text/Photo mode (Manual) to check the copy color balance and density. (Refer to the item of the copy color balance and density check.)  
If the copy color balance and density are not satisfactory, perform the following procedures.
- 9) Execute the initial setting of the halftone image correction. (SIM 44-21)
- 10) Execute the halftone image correction. (Forcible execution) (SIM44-26)

- 11) Use the servicing color test chart (UKOG-0317FCZZ/UKOG-0317FC11) in the Text/Printed Photo mode (Manual) to check the copy color balance/density. (Refer to the item of the copy color balance and density check.)

Though the above procedures 9) - 11) are performed, the copy color balance and density are not in the specified range, there may be another cause.

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

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

If a satisfactory result on the color balance and the density is not obtained with the automatic adjustment, execute the manual adjustment (SIM 46-21) (ADJ9C (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 (ADJ9C(2)).

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

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

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

### a. General

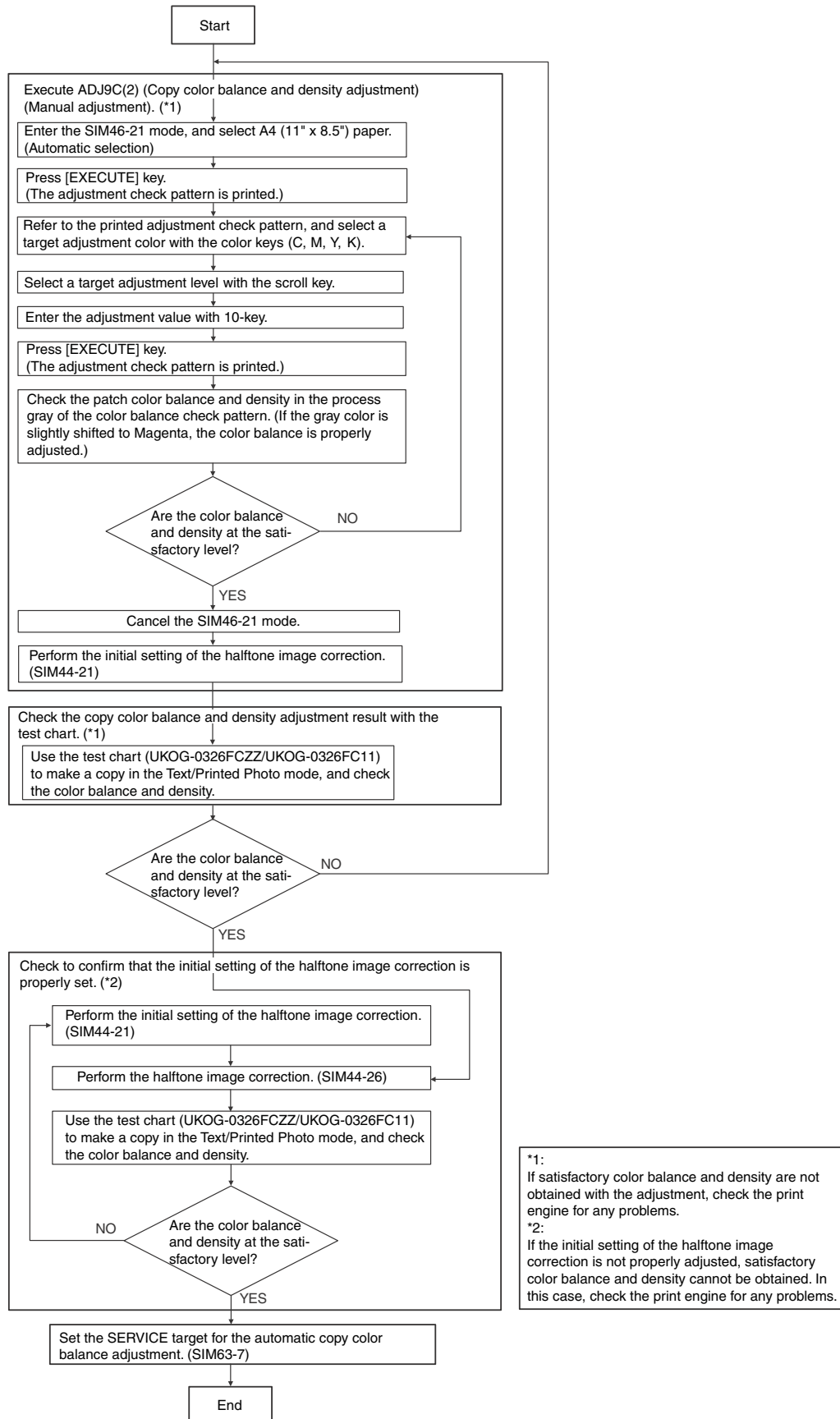
The color balance adjustment (Manual adjustment) is used to adjust the copy density of CMYK. This is used at the following situation. When the result of auto adjustment described above is not existing within the range of reference. When a fine adjustment is required. When there is request from the user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

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

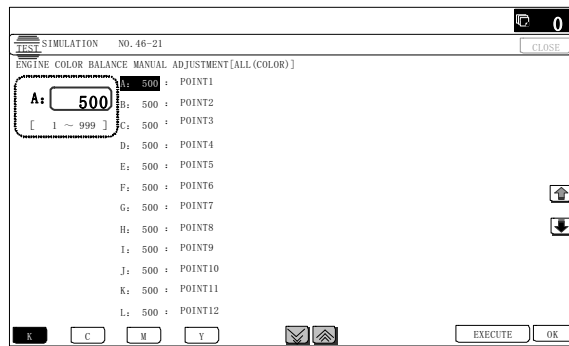
If the color balance is improper, execute the automatic color balance adjustment in advance, and execute this adjustment for better efficiency.

## b. Adjustment procedure

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

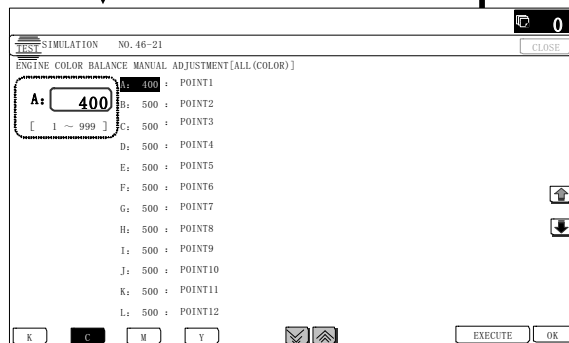


- 1) Enter the SIM46-21 mode.

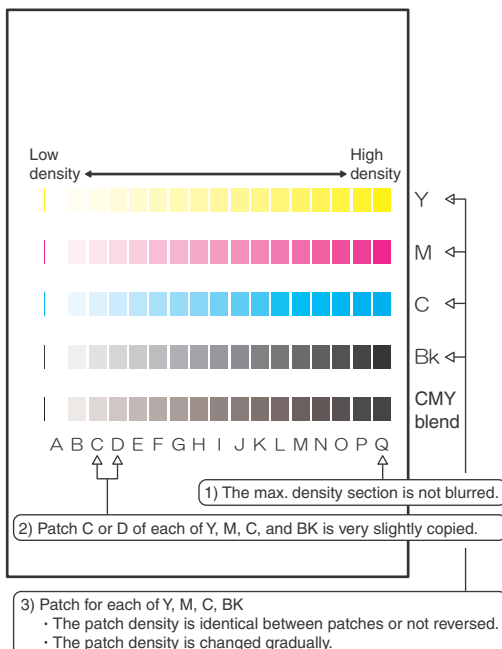


C  
10-key  
EXECUTE

EXECUTE  
End of print



- 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.

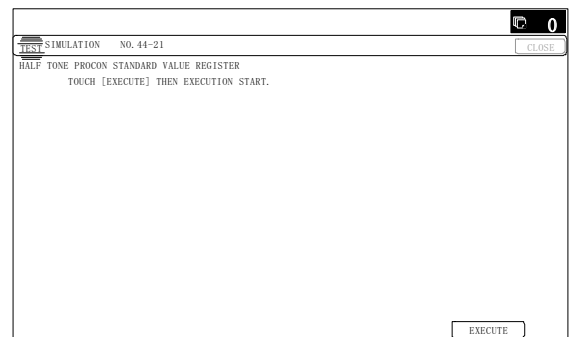
Repeat procedures of 2) - 5) until the condition of 3) is satisfied.

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.

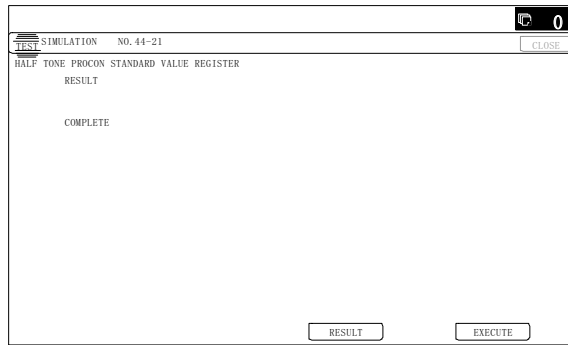
Referring to the black/gray patches, adjust so that each process (CMY) black/gray patch color balance of A - Q (MAX) approaches the black/gray patch level as far as possible.

- 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.)

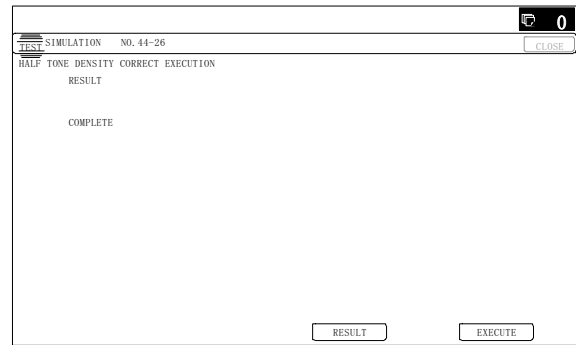


It takes several minutes to complete the operation. After completion of the operation, "COMPLETE" is displayed.

(Normal end (Auto transition))



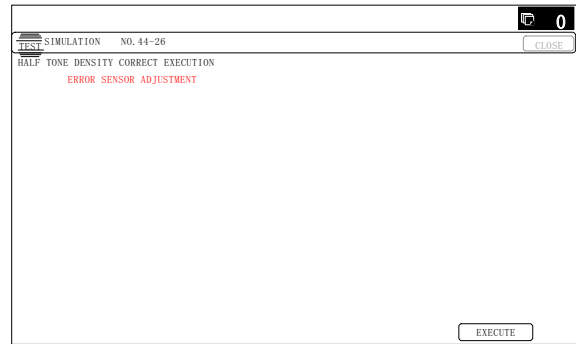
(Normal end (Auto transition))



(Abnormal end (Auto transition))



(Abnormal end (Auto transition))



After completion of the operation, the simulation is canceled.

**NOTE:**

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

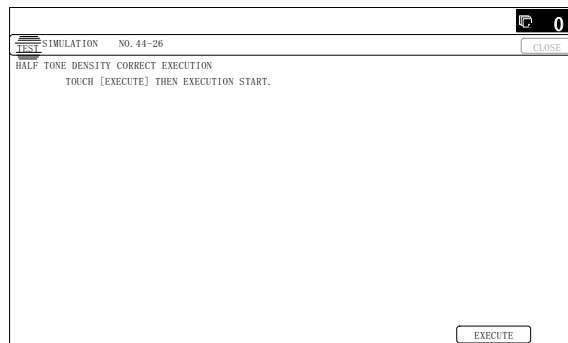
Immediately after execution of ADJ9C (2) (Color balance adjustment, Manual) with SIM 46-21, be sure to execute this procedure.

When ADJ9C (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.



It takes several minutes to complete the operation. After completion of the operation, "COMPLETE" is displayed.

After completion of the operation, the simulation is canceled.

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

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

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

**NOTE:**

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

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

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

## 9-D Copy / Image send / FAX image quality adjustment (Individual adjustment)

### a. General

This adjustment is used to execute the fine adjustment in each mode only when a satisfactory image quality is not obtained by the basic adjustments ADJ9B and ADJ9C 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	FAX	Printer		
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 adjustment of all the modes)	-	-	-	-	-	-	-	-	□	-

		Copy MODE				IMAGE SEND(SCAN) MODE				FAXPrinter	
		Color mode		Monochrome mode		Color mode		Monochrome mode			
Auto	Manual	Auto	Manual	Auto	Manual	Auto	Manual	Auto	Manual		
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)	□	(1 copy)	-	-	□	-	-	-	-	□
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	-	-	-	-	□	□	-	-	-	-



## 9-D (1)

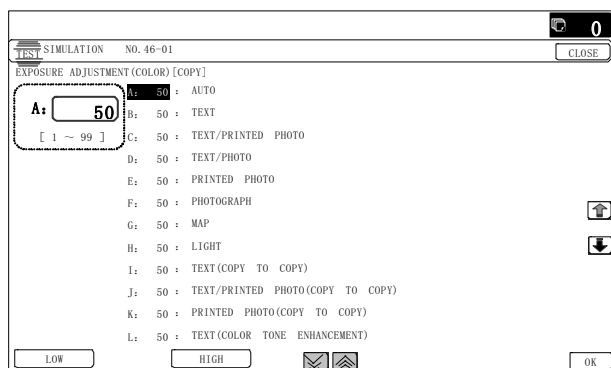
### Color copy density adjustment (for each color copy mode) (separately for the low-density area and the high-density area) (No need to adjust normally)

The density is adjusted in each copy mode individually.

This adjustment must be performed in the following cases:

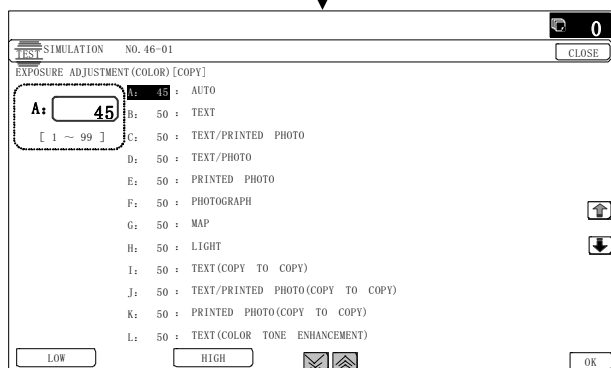
- \* When there is necessity to change the copy density of the low density and high density part at each copy density individually.
- \* When there is necessity to change the density gradient of the copy by each the copy mode individually.
- \* When there is necessity to change all copy density by each the copy mode individually.
- \* When there is request from the user.

1) Enter the SIM 46-1 mode.



10-key

OK



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 HIGH 1 - 99
B	TEXT	Text	LOW 1 - 99 HIGH 1 - 99
C	TEXT/PRINTED PHOTO	Text/Printed Photo	LOW 1 - 99 HIGH 1 - 99
D	TEXT/PHOTO	Text/Photograph	LOW 1 - 99 HIGH 1 - 99
E	PRINTED PHOTO	Printed Photo	LOW 1 - 99 HIGH 1 - 99
F	PHOTOGRAPH	Photograph	LOW 1 - 99 HIGH 1 - 99
G	MAP	Map	LOW 1 - 99 HIGH 1 - 99
H	LIGHT	Light document	LOW 1 - 99 HIGH 1 - 99
I	TEXT (COPY TO COPY)	Text (Copy document)	LOW 1 - 99 HIGH 1 - 99
J	TEXT/PRINTED PHOTO (COPY TO COPY)	Text/Printed Photo (Copy document)	LOW 1 - 99 HIGH 1 - 99
K	PRINTED PHOTO (COPY TO COPY)	Printed Photo (Copy document)	LOW 1 - 99 HIGH 1 - 99
L	TEXT (COLOR TONE ENHANCEMENT)	Text (Color tone enhancement)	LOW 1 - 99 HIGH 1 - 99
M	TEXT/PRINTED PHOTO (COLOR TONE ENHANCEMENT)	Text/Printed Photo (Color tone enhancement)	LOW 1 - 99 HIGH 1 - 99
N	TEXT/PHOTO (COLOR TONE ENHANCEMENT)	Text/Photograph (Color tone enhancement)	LOW 1 - 99 HIGH 1 - 99
O	PRINTED PHOTO (COLOR TONE ENHANCEMENT)	Printed Photo (Color tone enhancement)	LOW 1 - 99 HIGH 1 - 99
P	PHOTOGRAPH (COLOR TONE ENHANCEMENT)	Photograph (Color tone enhancement)	LOW 1 - 99 HIGH 1 - 99
Q	MAP (COLOR TONE ENHANCEMENT)	Map (Color tone enhancement)	LOW 1 - 99 HIGH 1 - 99
R	LIGHT (COLOR TONE ENHANCEMENT)	Light document (Color tone enhancement)	LOW 1 - 99 HIGH 1 - 99
S	SINGLE COLOR	Single color	LOW 1 - 99 HIGH 1 - 99
T	SINGLE COLOR (COPY TO COPY)	Single color (Copy document)	LOW 1 - 99 HIGH 1 - 99
U	TWO COLOR	2-color (red/black) copy	LOW 1 - 99 HIGH 1 - 99
V	TWO COLOR (COPY TO COPY)	2-color (red/black) copy (copy document)	LOW 1 - 99 HIGH 1 - 99

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

When adjusting the copy density on the low density part, select "LOW" mode and change the adjustment value. When adjusting the copy density on the high density part, select "HIGH" mode and change the adjustment value.

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

4) Make a copy and check the adjustment result.

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

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

## 9-D (2)

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

The density is adjusted in each copy mode individually.

This adjustment must be performed in the following cases:

- \* When there is necessity to change the copy density of the low density and high density part at each copy density individually.
- \* When there is necessity to change the density gradient of the copy by each the copy mode individually.
- \* When there is necessity to change all copy density by each the copy mode individually.
- \* When there is request from the user.

1) Enter the SIM 46-2 mode.

10-key

OK

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.

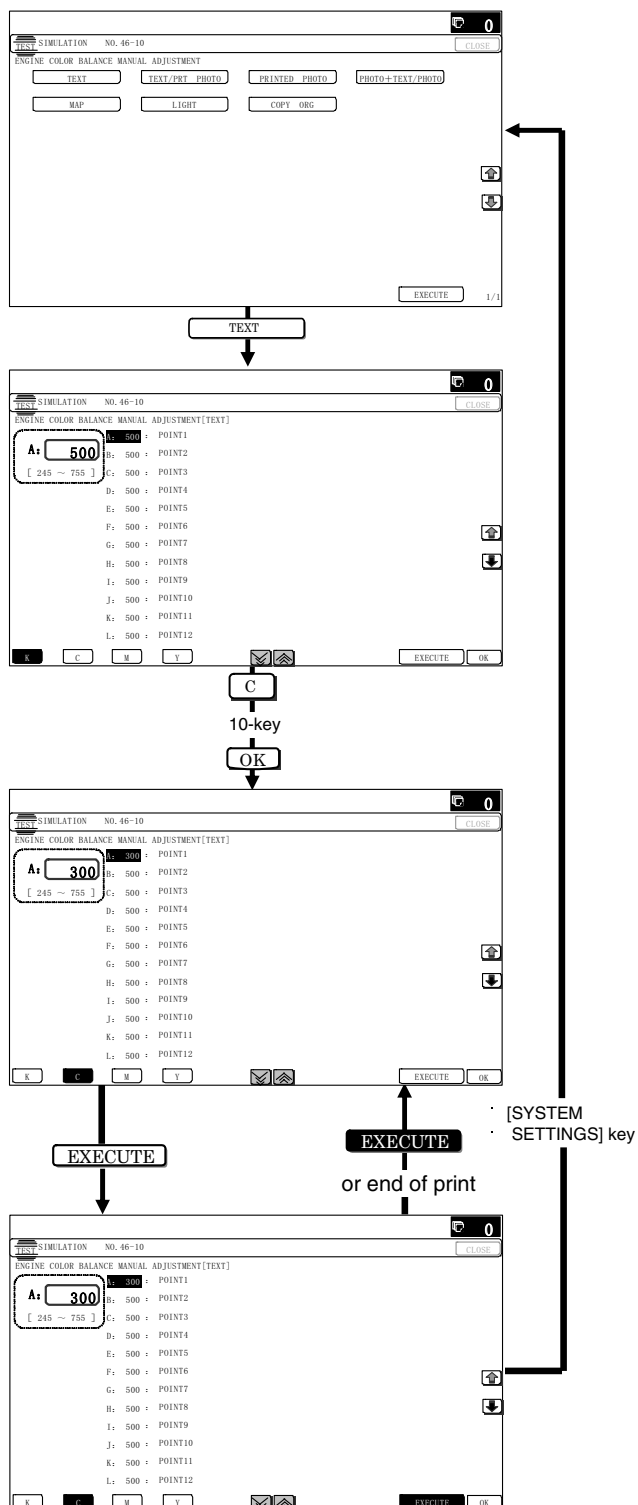
## 9-D (3) Color copy color balance, gamma adjustment (for each color copy mode) (No need to adjust normally)

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

This adjustment must be performed in the following cases:

- \* When there is necessity to change the color balance and gamma by each the copy mode individually.
- \* When there is request from the user.

1) Enter the SIM 46-10 mode.



- 2) Select the copy mode to be adjusted with the mode key.
- 3) Select a color to change the adjustment value with the color key.
- 4) Select the density level (point) to be adjusted with the scroll key.

Item/Display		Density level (Point)	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.

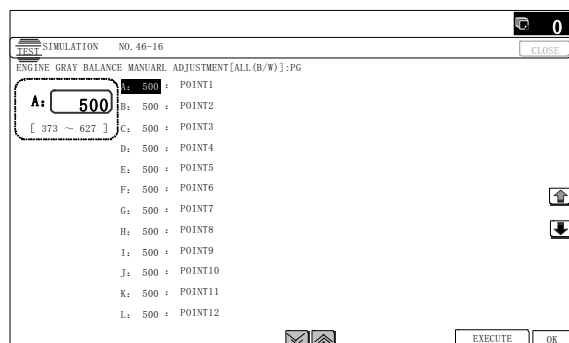
## 9-D (4) Monochrome copy density, gamma adjustment (for each monochrome copy mode) (No need to adjust normally)

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

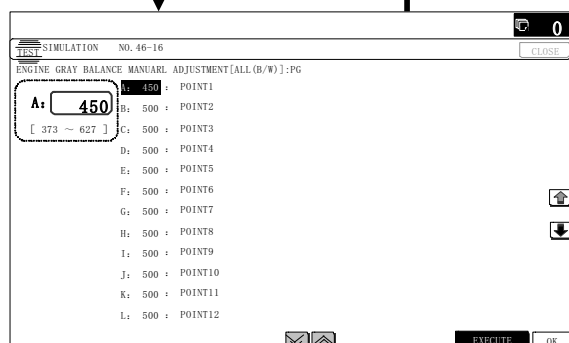
This adjustment must be performed in the following cases:

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

- 1) Enter the SIM 46-16 mode.



10-key  
EXECUTE  
or end of print



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

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

When the arrow key is pressed, the densities are collectively adjusted.

That is, all the density levels (points) from the low density point to the high density point can be adjusted collectively.

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

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

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

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

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

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

## 9-D (5) Automatic monochrome (Copy/Scan/FAX) mode document density scanning operation (exposure operation) conditions setting (Normally no need to set)

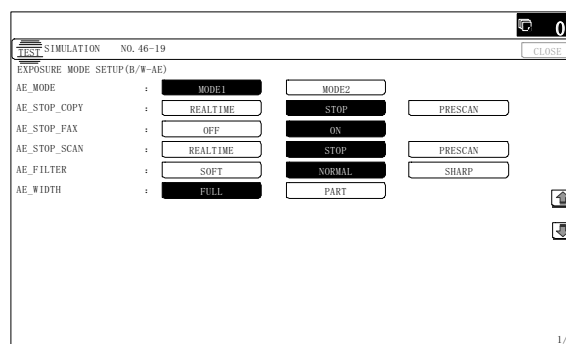
Use for setting the condition of read operation (Exposure) for document density in monochrome auto copy mode.

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

This setting is required in the following cases.

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

- 1) Enter the SIM 46-19 mode.



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

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
		NORMAL	
		SHARP	
AE_WIDTH	AE exposure width	FULL	FULL
		PART	

**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:**

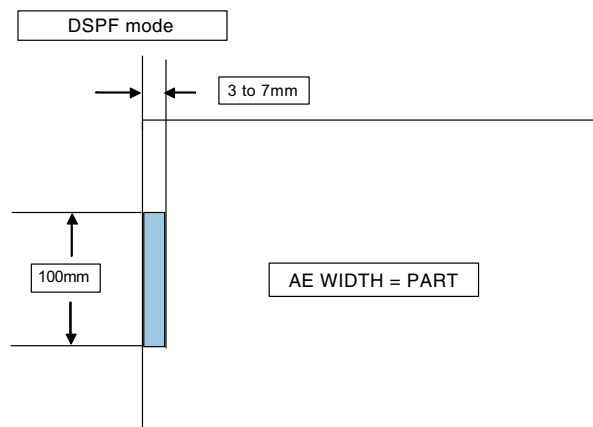
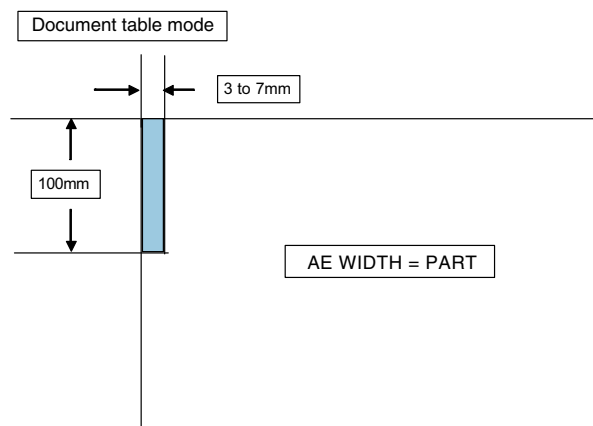
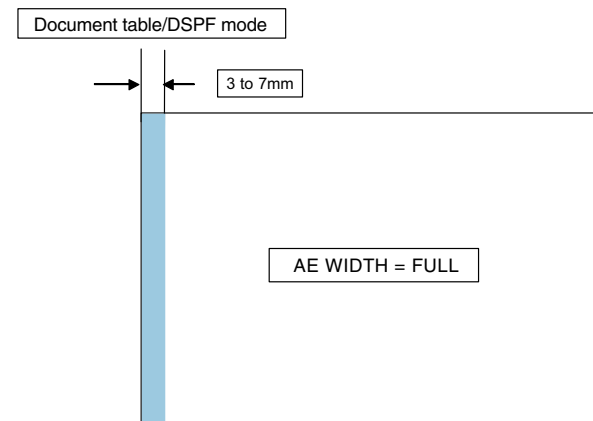
Document density reading area in monochrome auto mode is 3 - 7 mm (leading edge of document) x Document width. No relationship to PRESCAN MODE

**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.



Document density detection area

## 9-D (6) Document low density image density reproduction adjustment in the automatic monochrome (Copy/Scan/FAX) mode (No need to adjust normally) (Background density adjustment in the scanning section)

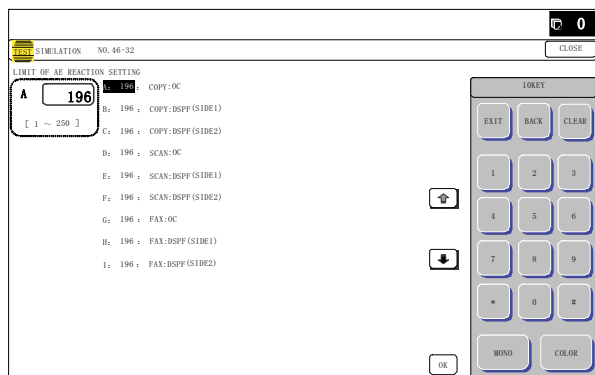
Use for the reproducibility adjustment of document background density in monochrome auto copy mode.

This adjustment is required in the following cases.

- \* When there is a desire not to reproduce the background of the document. When there is a desire to reproduce the low density image of the document.

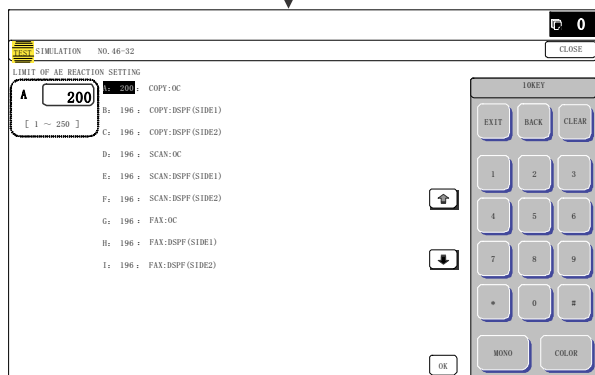
- \* When there is request from the user.

- 1) Enter the SIM 46-32 mode.



10-key

OK



- 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
B	COPY: DSPF (SIDE1)	Copy mode (for DSPF front surface)	1 - 250
C	COPY: DSPF (SIDE2)	Copy mode (for DSPF back surface)	1 - 250
D	SCAN: OC	Scanner mode (for OC)	1 - 250
E	SCAN: DSPF (SIDE1)	Scanner mode (for DSPF front surface)	1 - 250

Item/Display	Content	Setting range	Default value
F	SCAN: DSPF (SIDE2)	Scanner mode (for DSPF back surface)	1 - 250
G	FAX: OC	FAX mode (for OC)	1 - 250
H	FAX: DSPF (SIDE1)	FAX mode (for DSPF front surface)	1 - 250
I	FAX: DSPF (SIDE2)	FAX mode (for DSPF back surface)	1 - 250

## 9-D (7) Copy/Scan low density image density adjustment (for each mode) (No need to adjust normally)

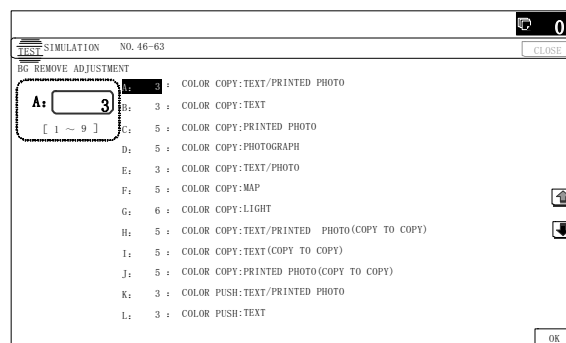
This adjustment is used to adjust the image density in the low density area in the copy/scanner mode.

This adjustment is required in the following cases.

- \* When there is a desire not to reproduce the background of the document. When there is a desire to reproduce the low density image of the document.

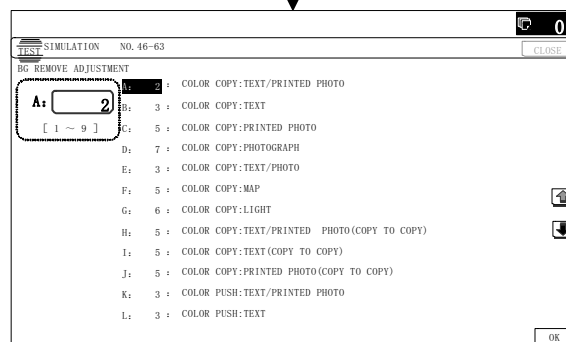
- \* When there is request from the user.

- 1) Enter the SIM 46-63 mode.



10-key

OK



- 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 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 copy)	1 - 9	6
H	COLOR COPY : TEXT/PRINTED PHOTO (COPY TO COPY)	Copy document, Text print (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 print (color PUSH)	1 - 9	3
L	COLOR PUSH:TEXT	Text (color PUSH)	1 - 9	3
M	COLOR PUSH:PRINTED PHOTO	Printed photo (color PUSH)	1 - 9	5
N	COLOR PUSH:PHOTOGRAPH	Photograph (color PUSH)	1 - 9	5
O	COLOR PUSH:TEXT/PHOTO	Text/Photograph (color PUSH)	1 - 9	3
P	COLOR PUSH: MAP	Map (color PUSH)	1 - 9	5

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

## 9-D (8)

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

#### Adjustment 1

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

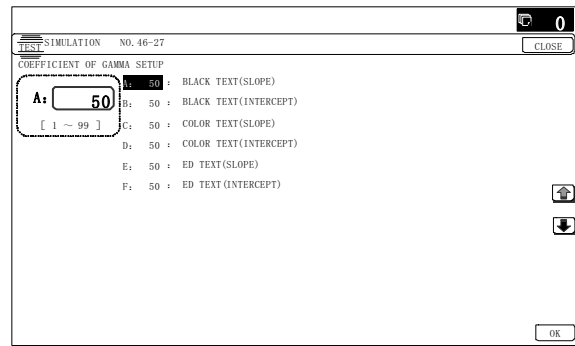
With this adjustment, the density and the thickness of fine text and lines can be varied.

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

This adjustment is required in the following cases.

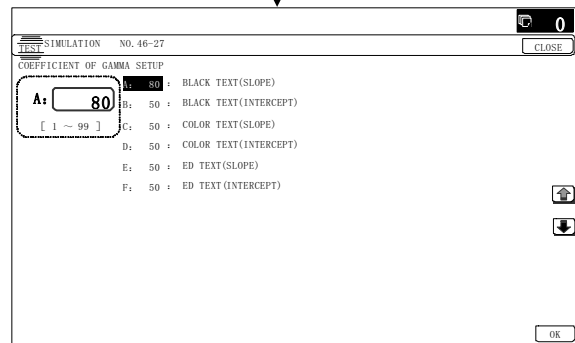
- \* When the reproducibility of text and line copy image is to be changed.
- \* When there is request from the user.

- 1) Enter the SIM 46-27 mode.



10-key

OK



- 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 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 monochrome 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.

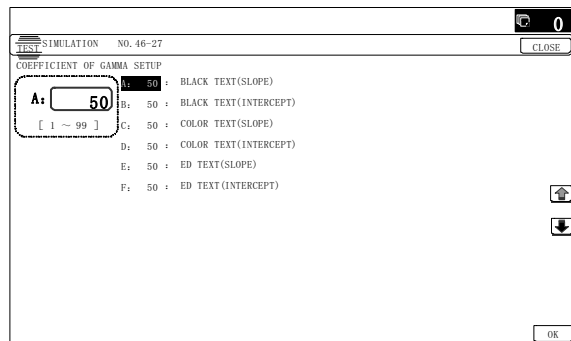
## Adjustment 2

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.

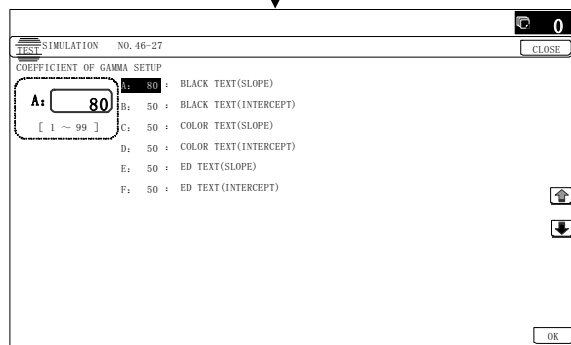
- \* To change the contrast and the density of the Text/Map copy mode images.
- \* When there is request from the user.

1) Enter the SIM 46-27 mode.



10-key

OK



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 adjustment (Text/Map mode)	1 - 99	50
F ED TEXT (INTERCEPT)	Text/Map mode density adjustment (Text/Map mode)	1 - 99	50

3) Enter the adjustment value with 10-key.

When the adjustment value of the adjustment item E is changed, the gamma (contrast) is changed.

When the adjustment value is increased, the contrast is increased, and vice versa.

When the adjustment value of the adjustment item F is increased, the image density is increased, and vice versa.

4) Press [OK] key.

5) Make a copy in the Text/Map copy mode (manual), and check the output print.

If a satisfactory result is not obtained, use SIM46-27 to change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

## 9-D (9)

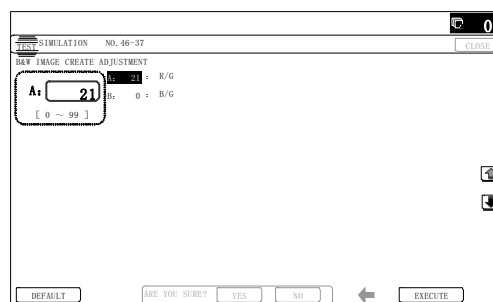
### Monochrome (Copy/Scan/FAX) mode color document reproduction adjustment (No need to adjust normally)

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

This adjustment is required in the following cases.

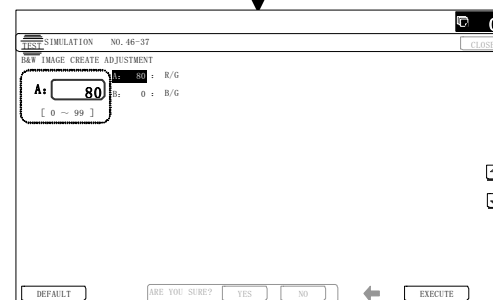
- \* When there is desire to change reproducibility of yellow/red image in case of making a color copy of the color document in monochrome copy mode.
- \* When there is request from the user.

1) Enter the SIM 46-37 mode.



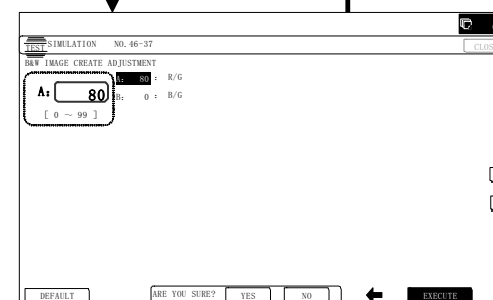
10-key

OK

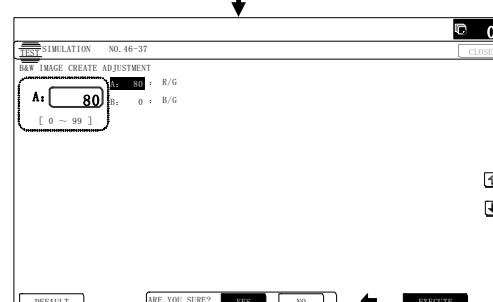


EXECUTE

NO



YES





- 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.

## 9-D (10)

### Color copy mode dark area gradation (black component quantity) adjustment (No need to adjust normally)

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

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

This adjustment is required in the following cases.

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

- 1) Enter the SIM 46-38 mode.

(-)LUT2

- 2) Select the AUTO MODE or the MANUAL MODE with the mode key.

- 3) Select the mode to be adjusted with the scroll key.

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

Display/Item (Copy mode)		Select button	Content	Default
AUTO	AUTO0	(-) LUT2	Auto mode judgment 0	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO1	(-) LUT2	Auto mode judgment 1	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO2	(-) LUT2	Auto mode judgment 2	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO3	(-) LUT2	Auto mode judgment 3	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO4	(-) LUT2	Auto mode judgment 4	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO5	(-) LUT2	Auto mode judgment 5	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO6	(-) LUT2	Auto mode judgment 6	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		

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

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

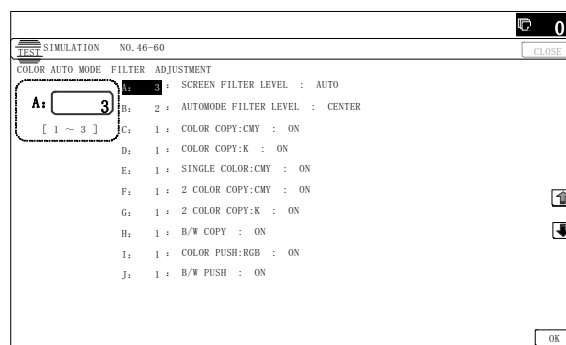
Use for sharpness adjustment of the high density image in color copy mode.

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

This adjustment is required in the following cases.

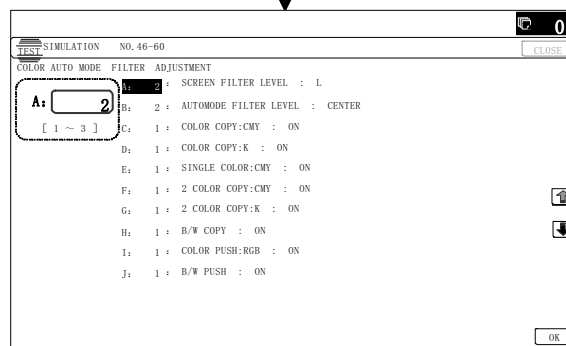
- \* When changing the sharpness of copy image in copy mode. (obtain crispy image) (decreases moire)
- \* When there is desire to improving smoothness in the image shade part (for decrease of asperity)
- \* To make the black background and the dark area darker.
- \* To reproduce the gradation change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

- 1) Enter the SIM 46-60 mode.



10-key

OK



- 2) Select the mode to be adjusted with the scroll key.

Display/Item			Content		Setting range	Default	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	AUTOMODE FILTER LEVEL	SOFT	Sharpness (filter) adjustment for the auto copy mode	SOFT	1	2 (CENTER)		
		CENTER		CENTER	2			
		HIGH		HIGH	3			
C	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
		ON		ON	1			
D	COLOR COPY:K	OFF	Soft filter applying setting to K image in color copy mode	OFF	0	1 (ON)		
		ON		ON	1			
E	SINGLE COLOD: CMY	OFF	Soft filter applying setting to C, M, Y image in single color copy mode	OFF	0	1 (ON)	When setting ON, smoothness in the image shade part improves by applying soft filter. (asperity decreases)	
		ON		ON	1			
F	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			
G	2 COLOR COPY: K	OFF	Soft filter applying setting to K image in color copy mode	OFF	0	1 (ON)		
		ON		ON	1			
H	B/W COPY	OFF	Soft filter applying setting in monochrome copy mode	OFF	0	1 (ON)		
		ON		ON	1			
I	COLOR PUSH: RGB	OFF	Soft filter applying setting to image in push scan color mode	OFF	0	1 (ON)		
		ON		ON	1			
J	B/W PUSH	OFF	Soft filter applying setting to image in push scan monochrome 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:  
Select HIGH to obtain clear images. Select SOFT to reduce moire.
  - Adjustment item C - J:  
When setting ON, smoothness in the image shade part improves by applying soft filter. (asperity decreases)

- 4) Press [OK] key.

- 5) Make a copy and check the copy image.

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

Repeat the above procedures until a satisfactory result is obtained.

## 9-D (12) Copy high density image density reproduction setting (Normally unnecessary to the setting change)

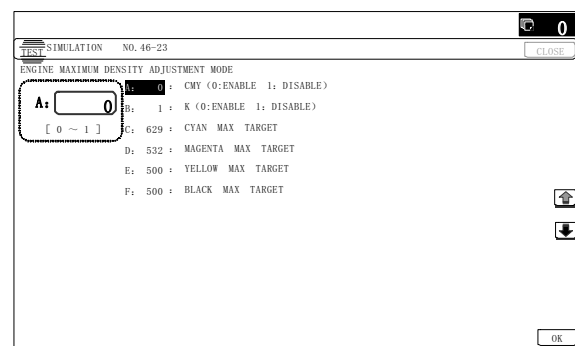
If a tone gap occurs on part of high density in copy mode, or if there is necessity to increase the density of the part of high density, change the setting.

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.

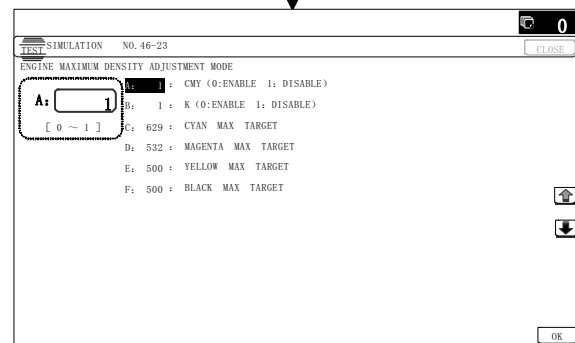
### a. Adjustment procedure

- 1) Enter the SIM 46-23 mode.



10-key

OK



- 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

- \* 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)

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

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

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

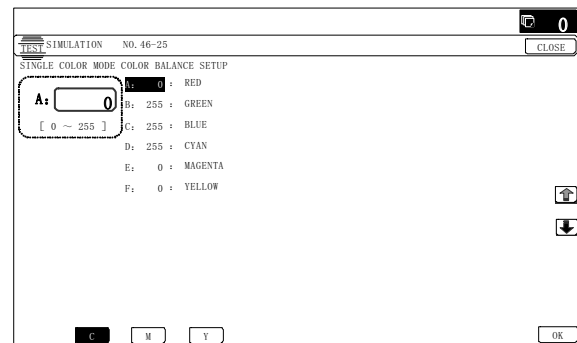
This adjustment is not required normally, but executed when there is a request from the user.

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

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

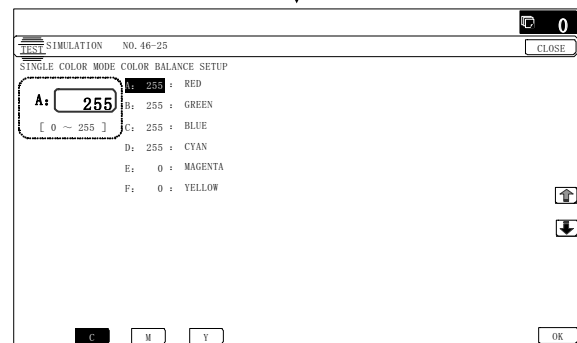
### a. Adjustment procedure

- 1) Enter the SIM 46-25 mode.



10-key

OK



- 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	200	0
D	YELLOW	0 - 255	0	0	255
E	MAGENTA	0 - 255	0	255	0
F	CYAN	0 - 255	255	0	0

- 5) Press [OK] key.  
6) Make a copy in the single color copy mode and check the copy.

If a satisfactory result is not obtained, return to the SIM 46-25 mode and change the adjustment value.

Repeat the above procedures until a satisfactory result is obtained.

## 9-D (14)

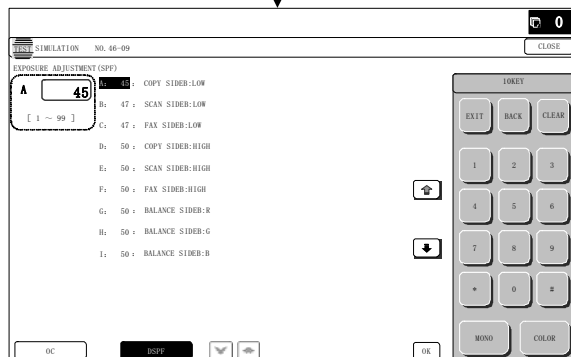
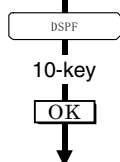
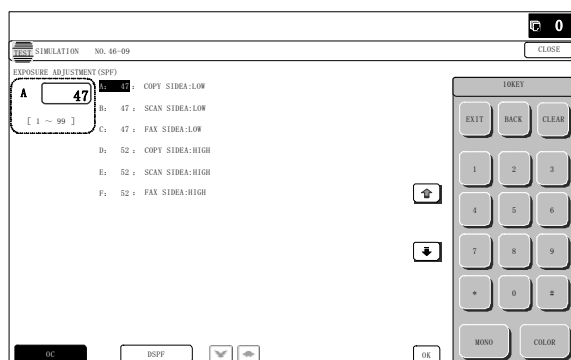
### DSPF mode (Copy/Scan/FAX) density adjustment (No need to adjust normally)

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

Item	Button	Display	Content	Setting range	Default value
D	OC	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)	1 - 99	52
A	DSPF	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	50
E		SCAN SIDEA: HIGH	DSPF scanner mode exposure adjustment (High density side)	1 - 99	50
F		FAX SIDEA: HIGH	DSPF FAX mode exposure adjustment (High density)	1 - 99	50
G		BALANCE SIDEA: R	DSPF color balance R	1 - 99	50
H		BALANCE SIDEA: G	DSPF color balance G	1 - 99	50
I		BALANCE SIDEA: 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.

## 9-D (15)

### Automatic color balance adjustment by the user (Copy color balance automatic adjustment ENABLE setting and adjustment)

#### a. General

In the user program mode, the user can execute the auto color calibration (auto adjustment of the copy color balance and density).

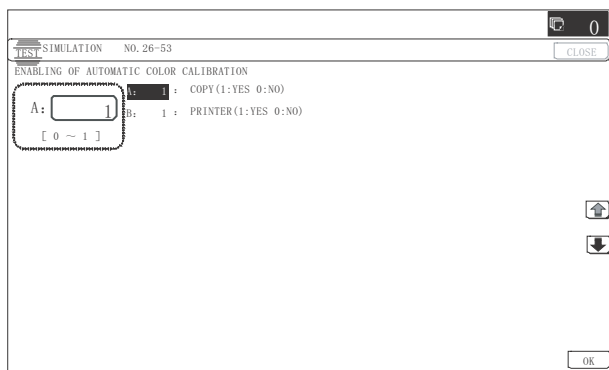
This adjustment is to set Enable/Disable of the above user operation with SIM 26-53.

**CAUTION:** This setting must be set to ENABLE only when the user's understanding on the automatic adjustment of the copy color balance and density and the user's operational ability are judged adequate enough to execute the adjustment.

When set to enable, operation procedures must be fully explained to the user.

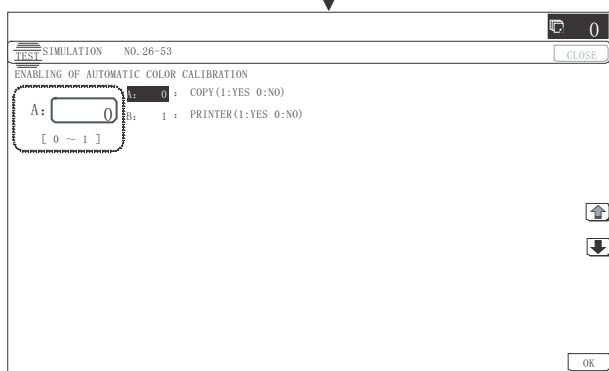
## b. Setting procedure

- 1) Enter the SIM 26-53 mode.



10-key

OK



- 2) Select ENABLE or DISABLE with 10-key.  
When disabling, set to "0" (NO). When enabling, set to "1" (Yes).
- 3) Press [OK] key.

When set to DISABLE, the menu of the user auto color calibration (automatic adjustment of copy color balance and density) is not displayed in the user program mode.

### (Auto color calibration by the user (Auto color balance adjustment))

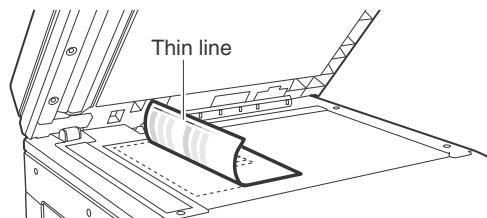
**CAUTION:** This adjustment is based on the service target color balance set with SIM 63-7 and SIM 63-8. If, therefore, the above settings are not properly performed, this adjustment cannot be made properly.

- 1) Enter the system setting mode.
- 2) Enter the copy setting mode.
- 3) Press the auto color calibration key.
- 4) Press [EXECUTE] key.  
The color patch image (adjustment pattern) is printed out.

- 5) Set the color patch image (adjustment pattern) printed in procedure 4) on the document table.

Set the patch image so that the thin line is on the left side as shown in the figure.

At that time, place 5 sheets of white paper on the above color patch image (adjustment pattern).



- 6) Press [EXECUTE] key, and the copy color balance adjustment is executed automatically. After completion of the adjustment, the display returns to the original operation screen.  
The message, "Will you go on to the printer color balance adjustment?" is displayed.  
To execute the printer color balance adjustment successively, perform the procedures same as the above.

## 9-D (16)

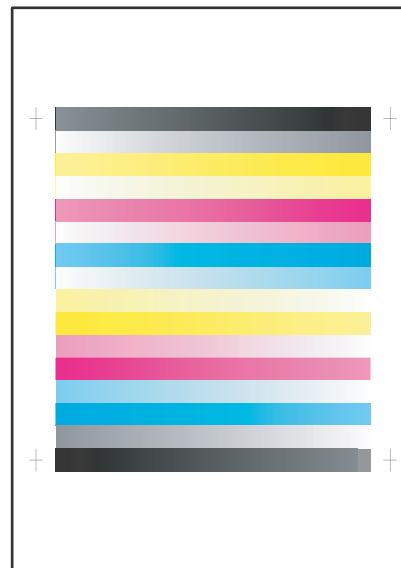
### Copy gamma, color balance adjustment for each dither (Automatic adjustment)

#### 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).

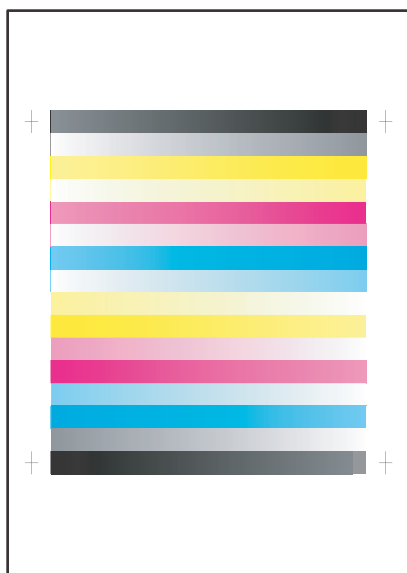


- 4) Press [EXECUTE] key.  
The color balance and the density are automatically adjusted.  
The adjustment pattern is printed out. Check it for any abnormality.
- 5) Press [OK] key.  
The list of the adjustment items (for each dither) is displayed.
- 6) Select an adjustment item (for each dither).

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.
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.

- 7) Press [EXECUTE] key.  
A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.  
The patch image (adjustment pattern) is printed out.  
In the monochrome mode, only the monochrome pattern is printed.
- 8) Set the patch image (adjustment pattern) printed in the procedure 7) on the document table so that the thin lines on the printed patch image (adjustment pattern) are on the left side.  
Place 5 sheets of white paper on the printed patch image (adjustment pattern).



- 9) Press [EXECUTE] key.  
The 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.
- 10) 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.

**9-D (17)****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:

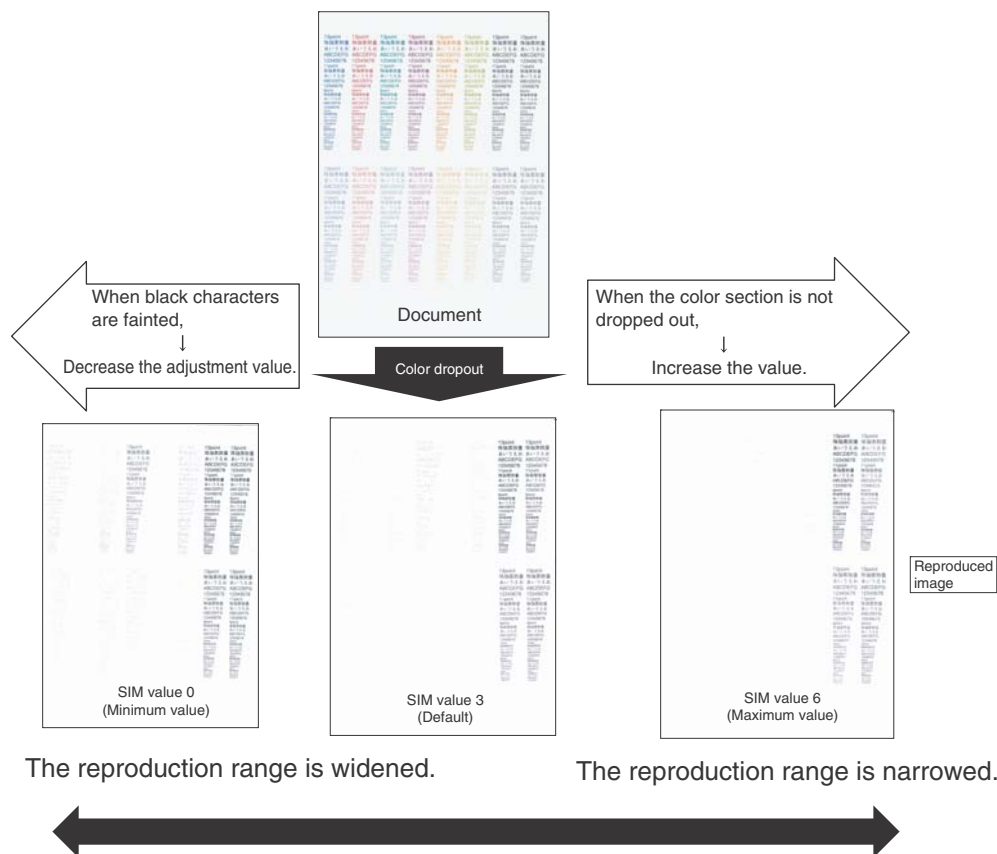
\* When there is request from the user.

**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.



## 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.

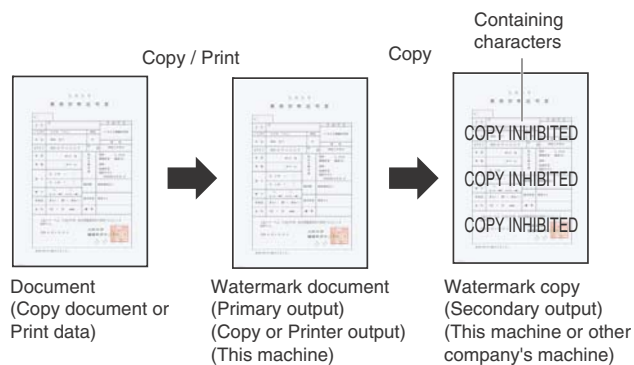
Item/Display		Content	Setting range	Default value	Description	NOTE
A	WOVEN DEN BK LOW	Watermark density level (Color: Black / Adjustment for light images)	0 - 255	15	<p>The adjustment value is changed to increase or decrease the density of the watermark of background documents (primary output). To increase 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 (POS)	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>	Normally set to the default.
L	HT TYPE (NEGA)	For half-tone index watermark type negative	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>	

## 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"> <li>- 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).</li> <li>- When a watermark is synthesized with newspapers or other dark-background documents, the containing characters may not appear in the watermark copy (secondary output).</li> <li>- 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.</li> <li>- 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.</li> <li>- 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"> <li>* Use SIM46-24 to execute the color balance adjustment.</li> <li>* Use SIM46-54 to execute the color balance adjustment for each dither.</li> <li>* Adjust the watermark print contrast in the system setting.</li> </ul> </li> <li>- Though the watermark of cyan or magenta is selected in the black and white mode, the black watermark is synthesized.</li> <li>- 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.</li> <li>- The preview screen of the watermark only indicates the setting of the watermark color, and does not indicate an actual copy image.</li> <li>- 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.</li> <li>- In the printer mode watermark, setting of 1200dpi and a watermark cannot be used together.</li> </ul>

### 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.

## 9-E Printer image quality adjustment (Basic adjustment)

### Requisite condition before execution of the printer color balance/density adjustment

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

#### This adjustment is required in the following cases.

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

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

### a. General

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

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

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

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

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

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

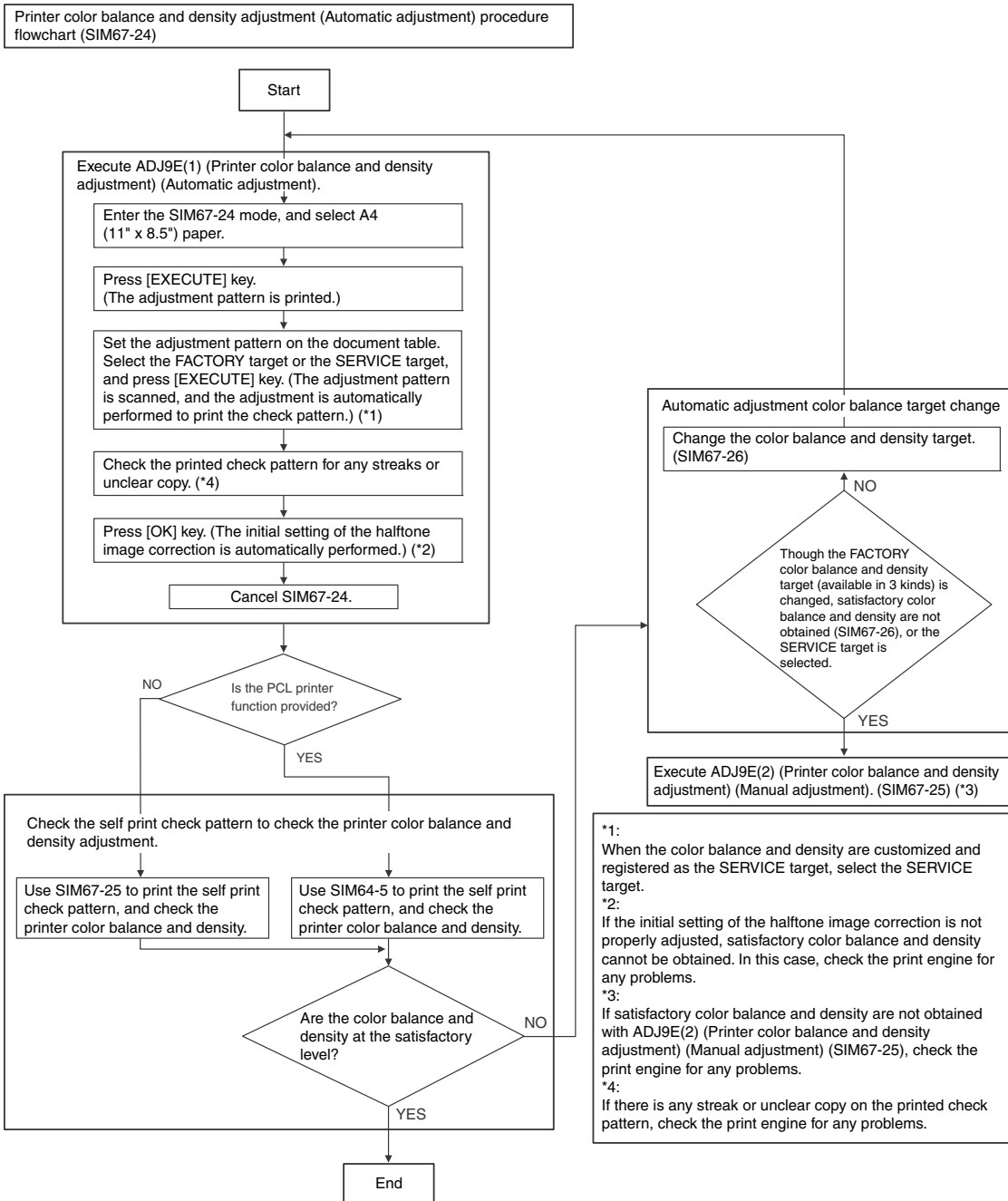
When, however, the machine has a fatal problem or when the machine condition is greatly changed, this function does not work effectively.

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

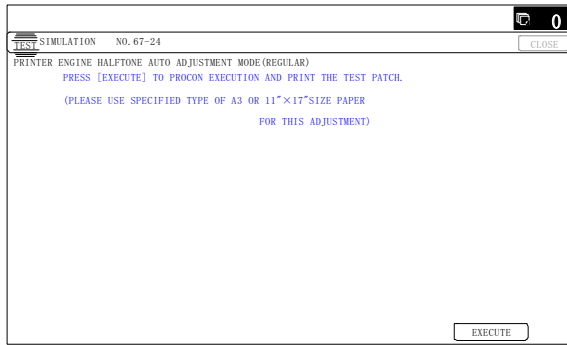
To perform the adjustment, the above difference must be fully understood.

## b. Adjustment procedure

(Auto color balance adjustment by the serviceman)



- 1) Enter the SIM 67-24 mode.

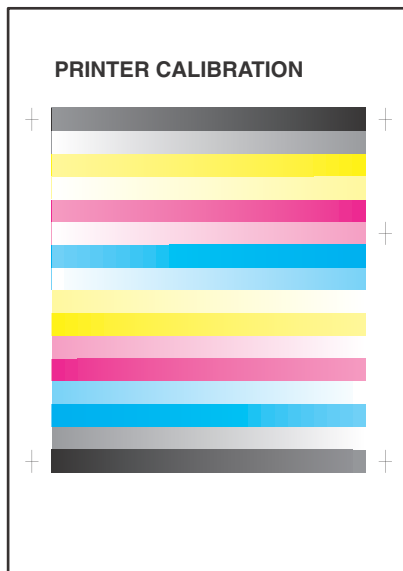


- 2) Press [EXECUTE] key. (A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.)

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

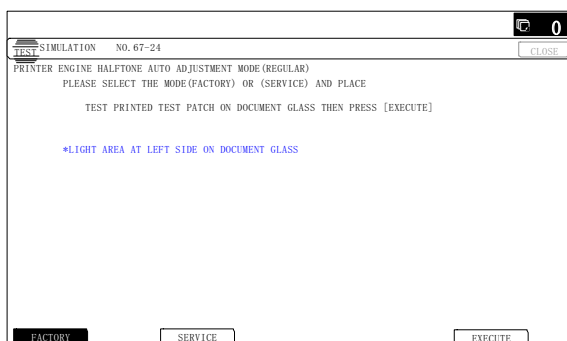
- 3) Set the color patch image (adjustment pattern) paper printed in procedure 2) on the document table.

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.

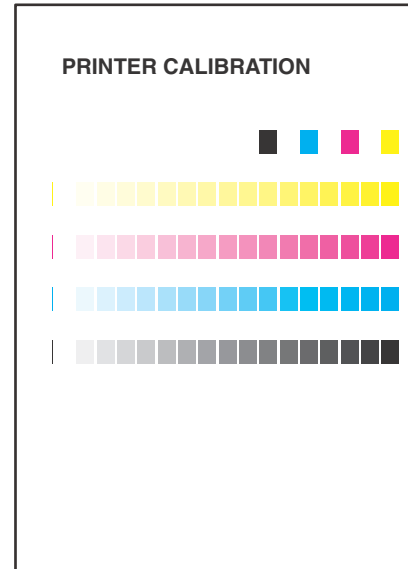


- 4) Select [FACTORY] key, and press [EXECUTE] key.

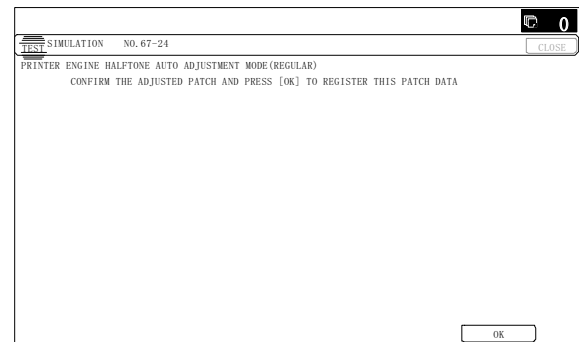
When the color balance is customized with the manual color balance adjustment (SIM 67-25) according to the user's request and the color balance is registered as the service target with SIM 67-27, if the color balance is adjusted to that color balance, select the service target.



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.

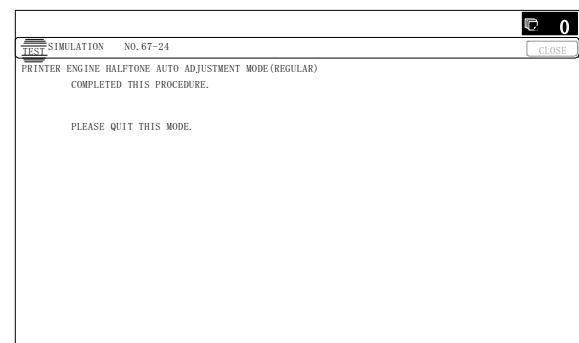


#### NOTE:

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) (ADJ9E (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 (ADJ9E (2)).

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

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

## 9-E (2) Printer color balance adjustment (Manual adjustment)

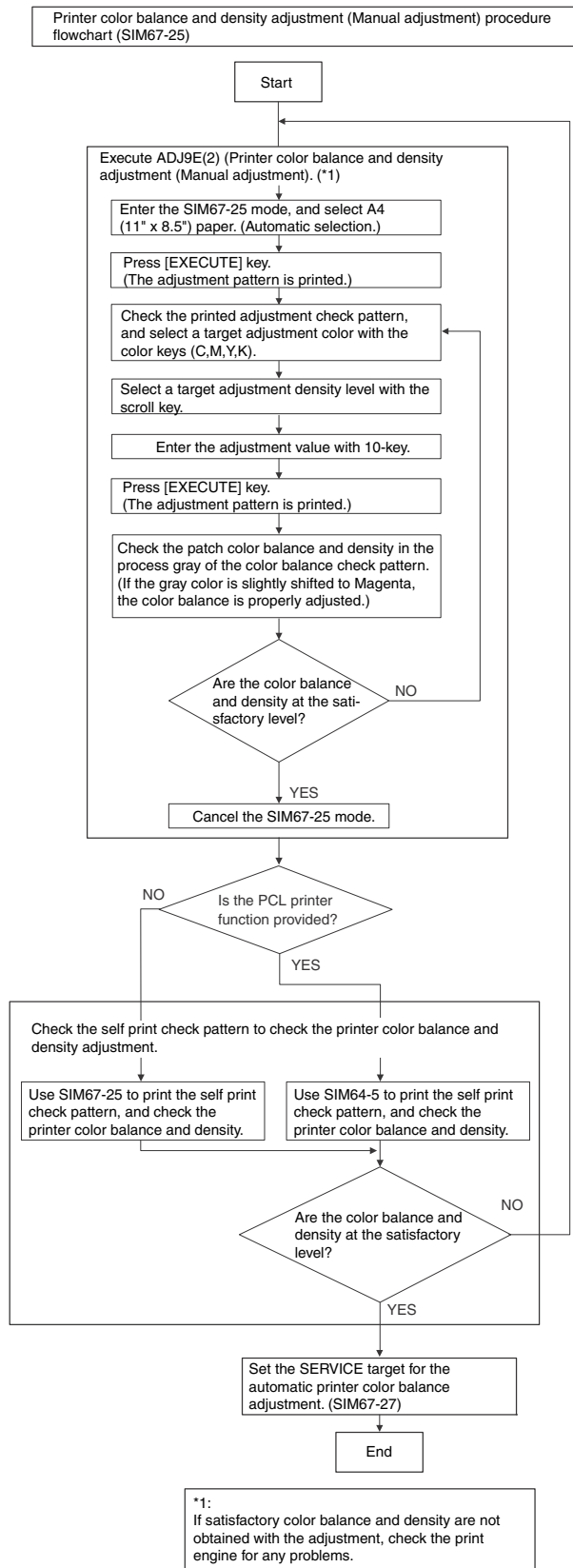
### a. General

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

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

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

### b. Adjustment procedure



- 1) Enter the SIM 67-25 mode.

10-key

OK

EXECUTE

EXECUTE

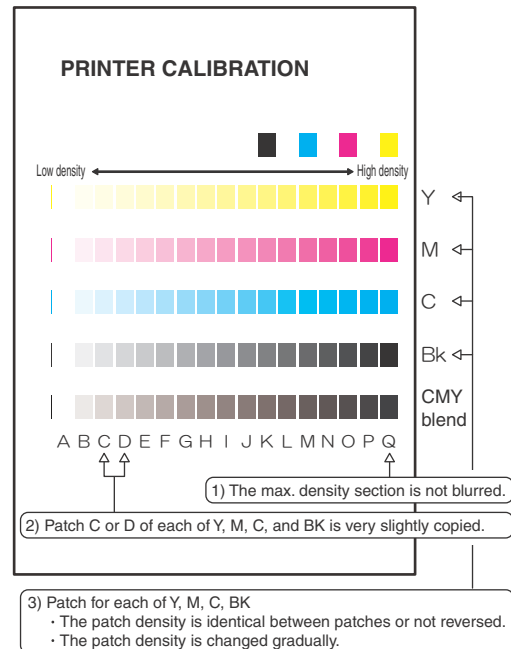
or end of print

- 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.

## 9-F Printer image quality adjustment (Individual adjustment)

### a. General

This adjustment is used to execute the fine adjustment in each mode only when a satisfactory image quality is not obtained by the basic adjustments ADJ9E (1) and ADJ9E (2) or there is a request from the user. Normally there is no need to execute this adjustment.

This must be well understood for execution of the adjustment.

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

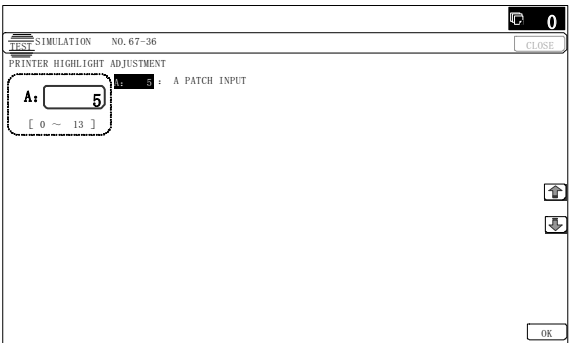
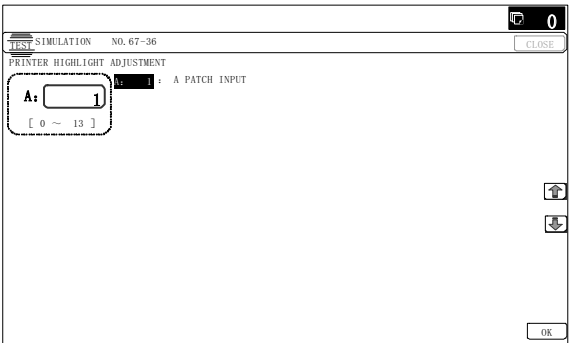
This adjustment is used to adjust the image density in the low density area in the printer mode.

Adjust to reproduction setting of the low density image.

This adjustment is required in the following cases.

- \* When it is required not to reproduce images in the low density section, or to reproduce low-density images.
- \* When there is request from the user.

- 1) Enter the SIM 67-36 mode.



- 2) Enter the adjustment value and press the [OK] key.  
In case of increase of the image density on low density part, increase the adjustment value. For diluting the image density on low density part, decrease the adjustment value.

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

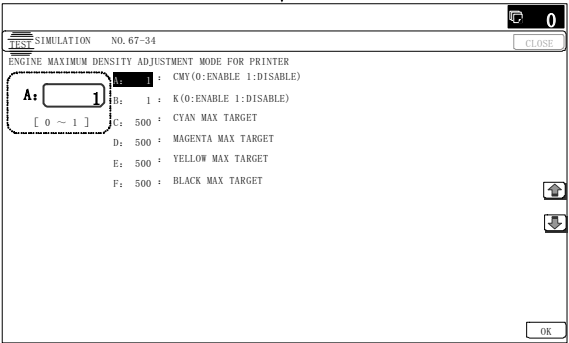
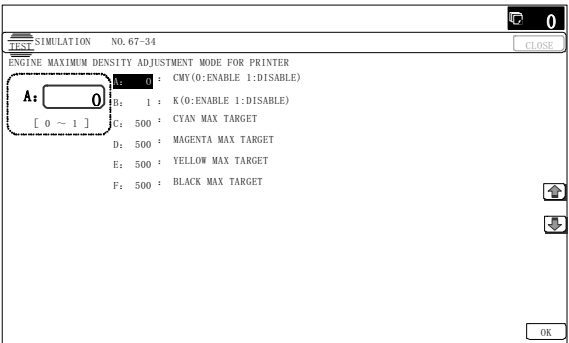
When a tone gap is generated in the high density section in the printer mode, the setting is changed to lower the density in the high density section.

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

- \* When a tone gap occurs on part of high density.
- \* To lower the density in the high density section.

### a. Adjustment procedure

- 1) Enter the SIM 67-34 mode.



- 2) Select the item A, B with the scroll key.

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



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

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

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

The tone gap may occur in high density part.

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)

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

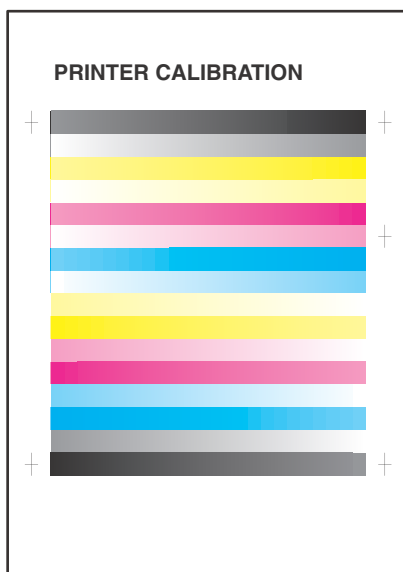
#### a. General

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

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

#### b. Adjustment procedures

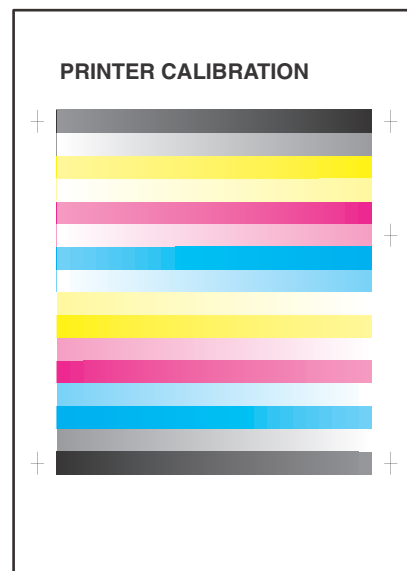
- 1) Enter the SIM67-54 mode.
- 2) Press [EXECUTE] key.  
A4/11" x 8.5" or A3/11" x 17" paper is automatically selected.  
The color patch image (adjustment pattern) is printed out.
- 3) Set the color patch image (adjustment pattern) printed in the procedure 2) on the document table so that the thin 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.

## 9-F (4)

### Automatic color balance adjustment by the user (Printer color balance automatic adjustment ENABLE setting and adjustment) (Normally unnecessary to the setting change)

#### a. General

In the user program mode, the user can execute the auto color calibration (auto adjustment of the printer color balance and density).

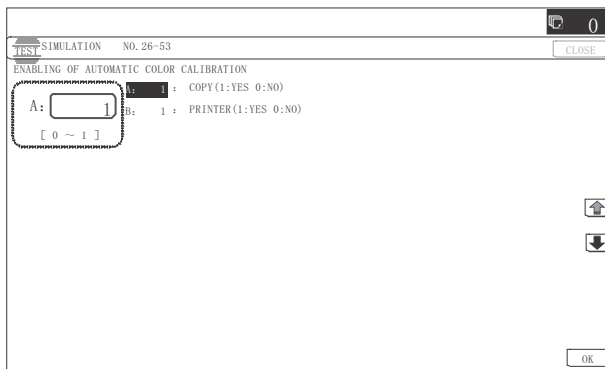
This adjustment is to set Enable/Disable of the above user operation with SIM 26-53.

**CAUTION:** This setting must be set to ENABLE only when the user's understanding on the automatic adjustment of the copy color balance and density and the user's operational ability are judged enough to execute the adjustment.

When set to enable, operation procedures must be fully explained to the user.

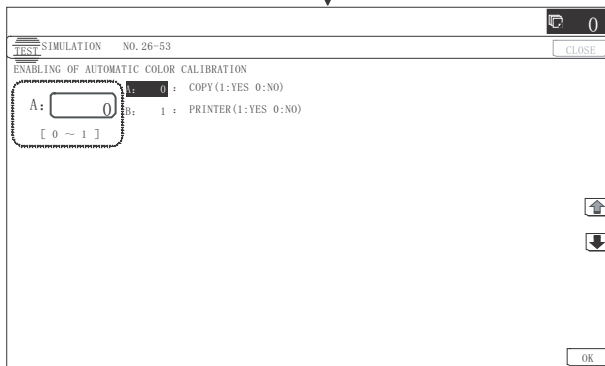
#### b. Setting procedure

- 1) Enter the SIM 26-53 mode.



10-key

OK



- 2) Select ENABLE or DISABLE with 10-key.  
When disabling, set to "0" (NO). When enabling, set to "1" (Yes).
- 3) Press [OK] key.

When set to DISABLE, the menu of the user auto color calibration (automatic adjustment of printer color balance and density) is not displayed in the user program mode.

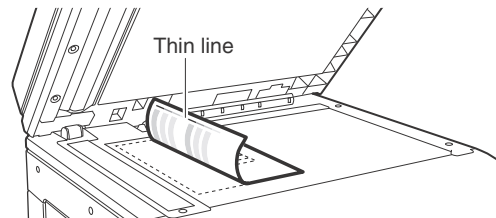
### (Auto color calibration by the user (Auto color balance adjustment))

**CAUTION:** This adjustment is based on the service target color balance set with SIM 67-27 or SIM 67-28. If, therefore, the above settings are not properly performed, this adjustment cannot be made properly.

- 1) Enter the system setting mode.
- 2) Enter the printer setting mode.
- 3) Press the auto color calibration key.
- 4) Press [EXECUTE] key.  
The color patch image (adjustment pattern) is printed out.
- 5) Set the color patch image (adjustment pattern) printed in procedure 4) on the document table.

Set the patch image so that the thin line is on the left side as shown in the figure.

At that time, place 5 sheets of white paper on the above color patch image (adjustment pattern).



- 6) Press [EXECUTE] key, and the printer color balance adjustment is executed automatically.

The message, "Will you go on to the copy color balance adjustment?" is displayed.

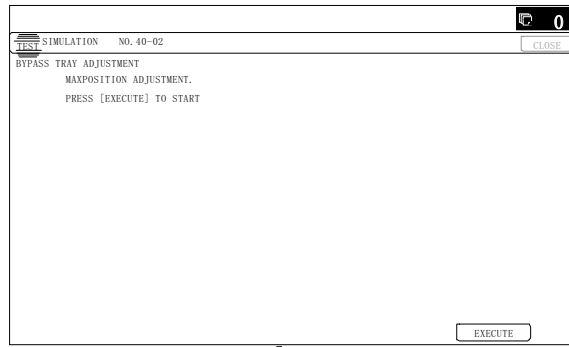
To execute the copy color balance adjustment successively, perform the procedures same as the above.

## ADJ 10 Manual paper feed tray paper size (width) sensor adjustment

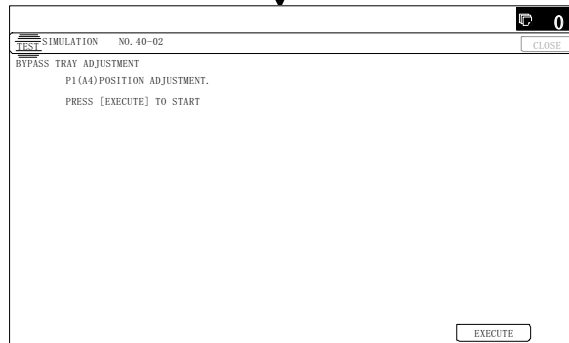
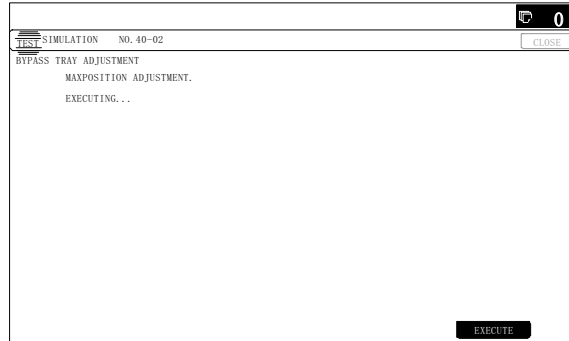
This adjustment must be performed in the following cases:

- \* 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.

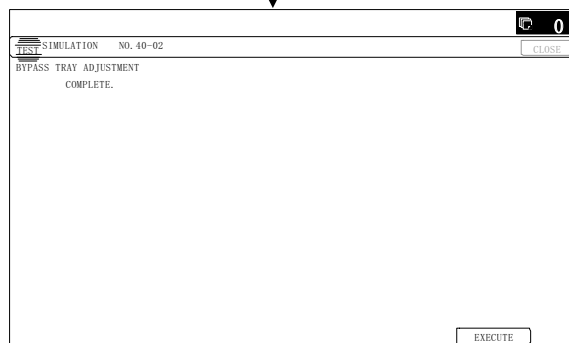


EXECUTE

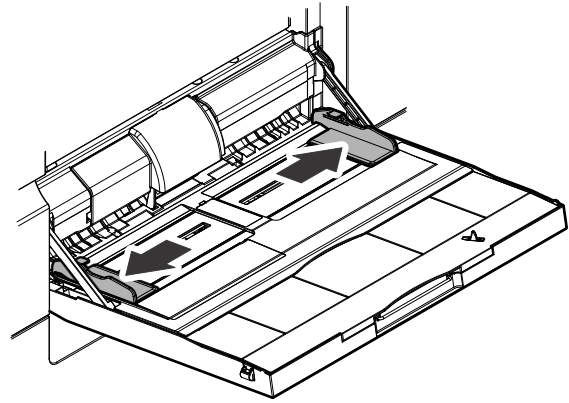


EXECUTE

Repeat the above procedure to adjust the A4R width MIN POSITION.



- 2) Open the manual paper feed guide to the maximum width position.



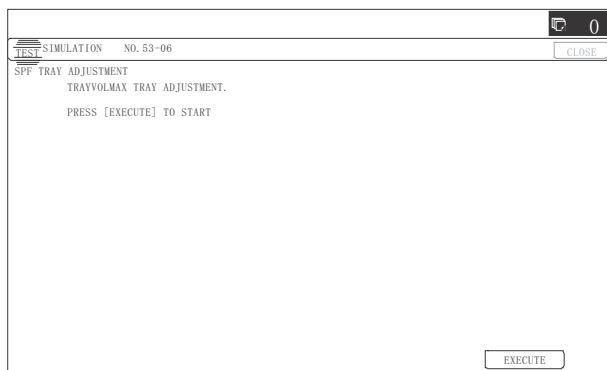
- 3) Press [EXECUTE] key.  
[EXECUTE] key is highlighted. Then it returns to the normal display.  
The maximum width position detection level of the manual paper feed guide is recognized.
  - 4) Set the manual paper feed guide to the A4 size.
  - 5) Press [EXECUTE] key.  
[EXECUTE] key is highlighted. 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 11 DSPF tray paper size (width) sensor adjustment

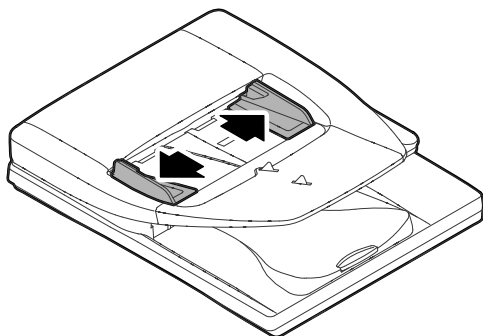
This adjustment must be performed in the following cases:

- \* 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.

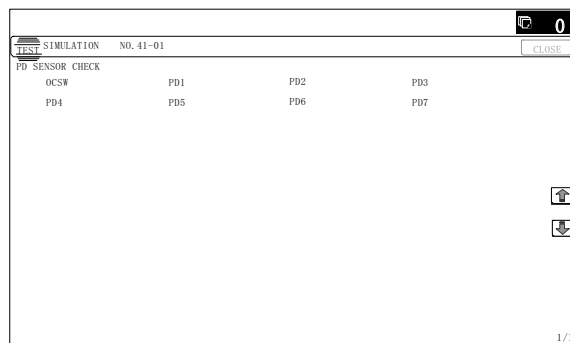
## ADJ 12 Document size detection adjustment

This adjustment must be performed in the following cases:

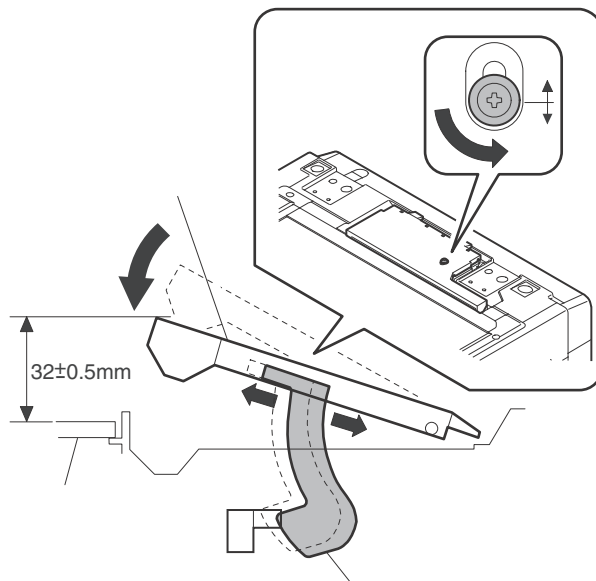
- \* When the original size sensor section has been disassembled.
- \* When the original size sensor section has been replaced.
- \* When U2 trouble has occurred.
- \* When the scanner control PWB is replaced.
- \* When the EEPROM on the scanner control PWB is replaced.

### 12-A Document size sensor detection point adjustment

- 1) Enter the SIM 41-1 mode.

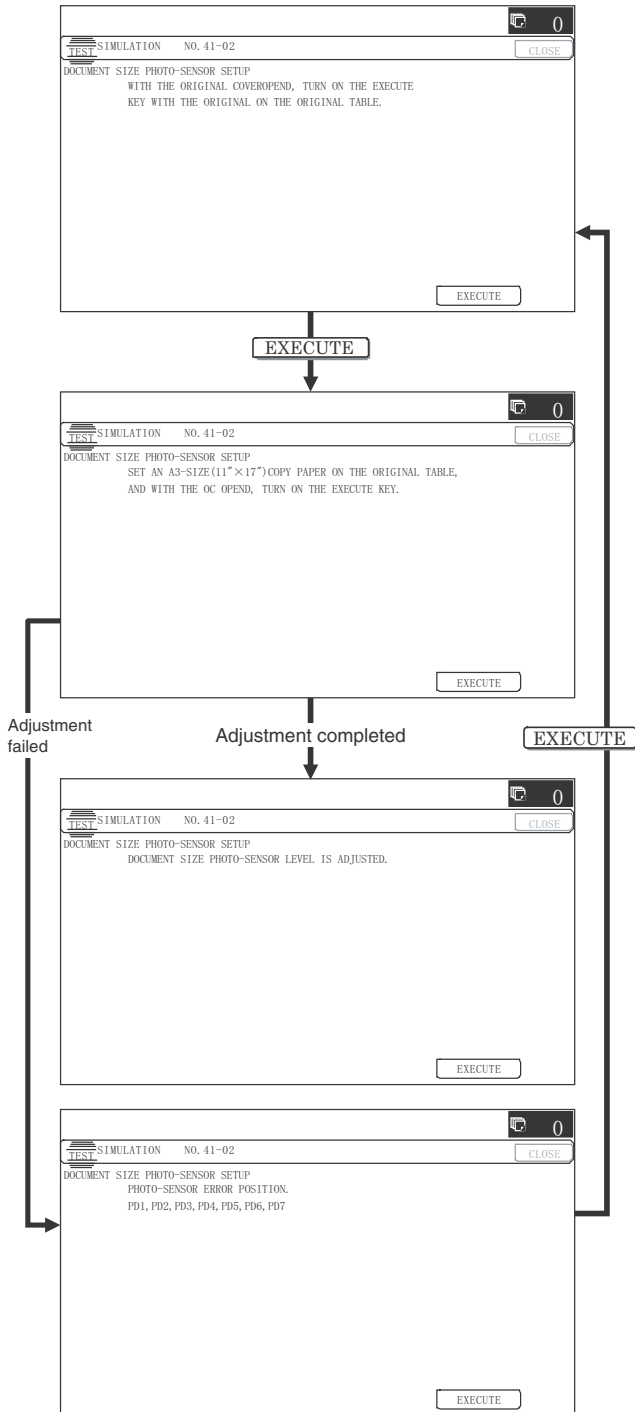


Loosen the original cover switch actuator adjustment screw and slide the actuator position so that the display OCSW is returned to the normal display when the height of the arm unit top from the table glass is 20.2 +/- 0.25mm by slowly tilting the document detection arm unit in the arrow direction and adjust. (If the ON timing of the original cover switch is shifted, the document detection function may malfunction.)



## 12-B 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 13 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 14 Fusing paper guide position adjustment

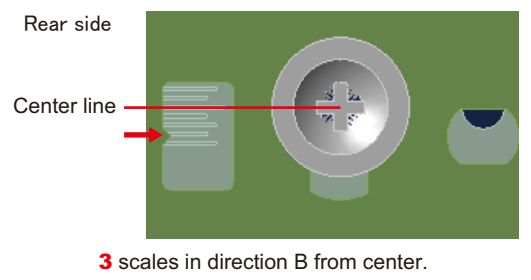
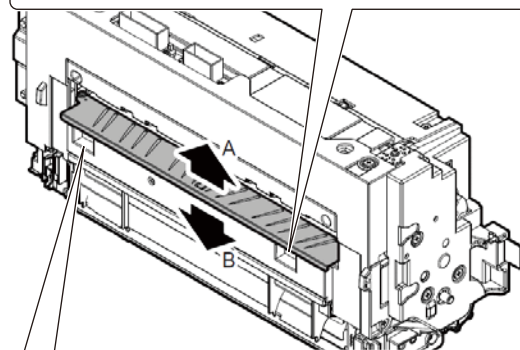
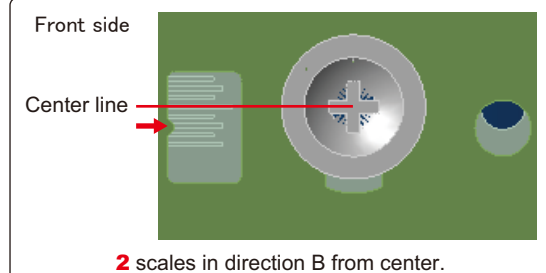
Normally there is no need to perform this adjustment. In the following cases, perform this adjustment.

- \* 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.

The standard fixing position



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

### NOTE:

Normally if the adjustment is executed by ADJ3 (automatic adjustment), there is no need to execute this adjustment. Only when the manual adjustment is required, execute this adjustment.

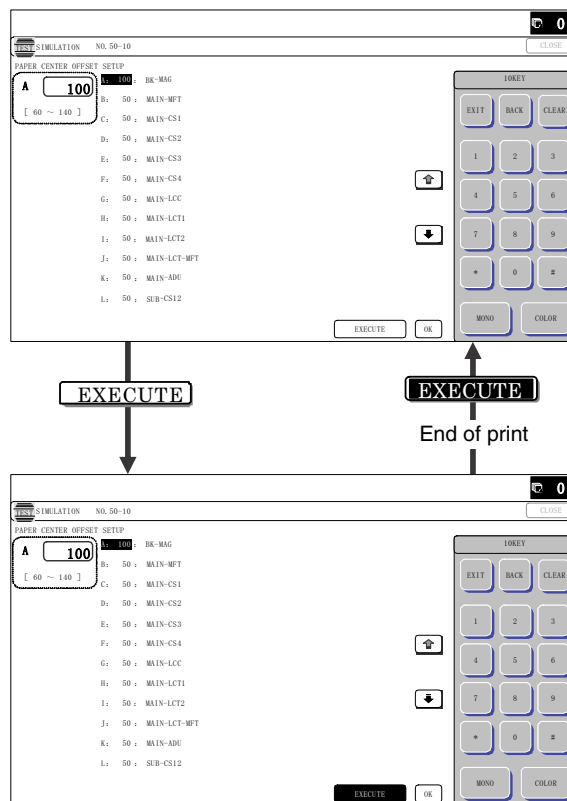
In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ3).

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

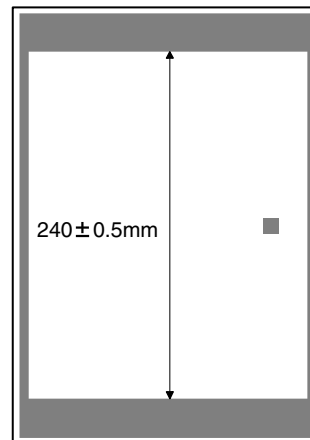
This adjustment must be performed in the following cases:

- \* 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.

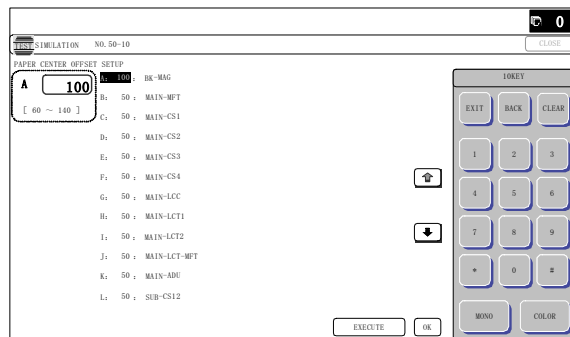
## 15-B Print image manual area adjustment (Main scanning direction, sub scanning direction) (Print engine)

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 (ADJ15A) (main scanning direction) (print engine).

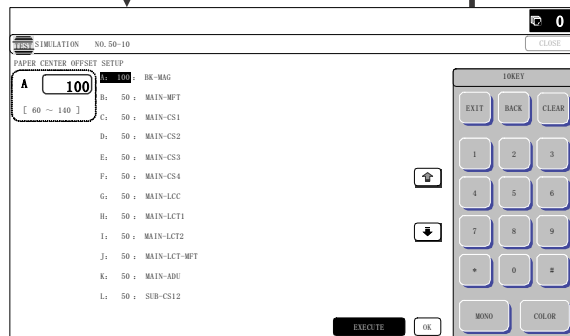
- 1) Enter the SIM 50-10 mode.



EXECUTE

EXECUTE

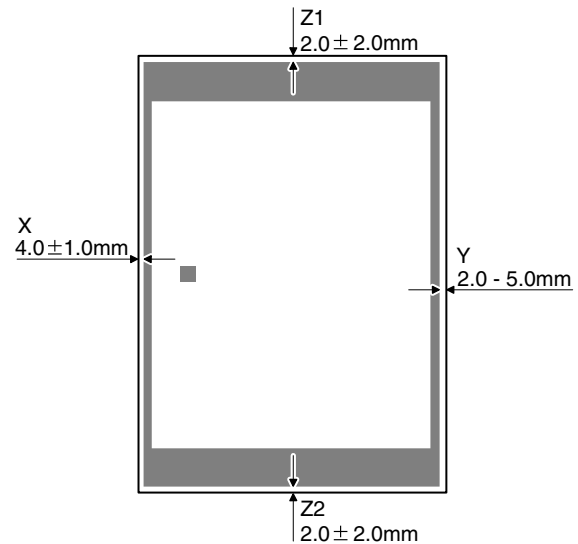
End of print



- 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.

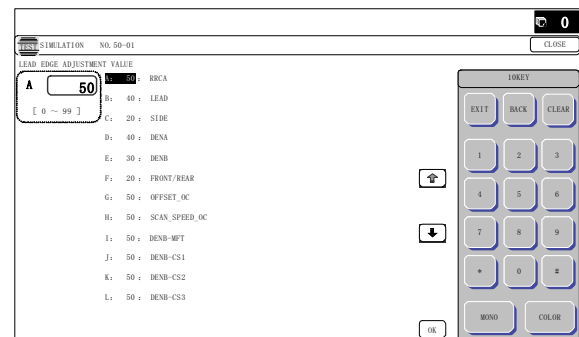
	Content	Standard adjustment value
X	Lead edge void area	4.0 +/- 1.0mm
Y	Rear edge void area	2.0 - 5.0mm
Z1/Z2	FRONT/REAR void area	2.0 +/- 2.0mm



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

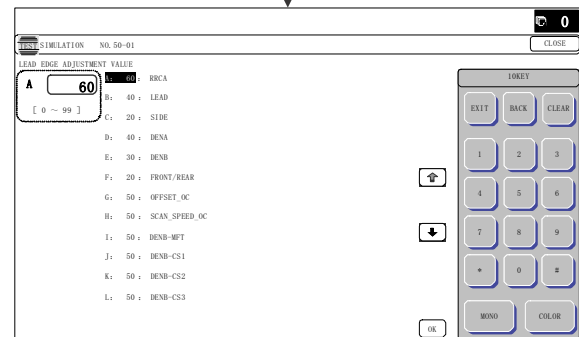
NOTE: Feed paper from all the paper feed trays to confirm.

- 5) Enter the SIM 50-1 mode.



10-key

OK



- 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
	DENB	Rear edge void area adjustment	1 - 99
	FRONT/REAR	FRONT/REAR void area adjustment	1 - 99
Sub scanning direction print area correction value	DENB-MFT	Manual feed correction value	1 - 99
	DENB-CS1	Tray 1 correction value	1 - 99
	DENB-CS2	Tray 2 correction value	1 - 99
	DENB-CS3	Tray 3 correction value	1 - 99
	DENB-CS4	Tray 4 correction value	1 - 99
	DENB-LCC	LCC correction value	1 - 99
	DENB-ADU	ADU correction value	1 - 99
	DENB-HV	Heavy paper correction value	1 - 99

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 ADJ15-C.

Repeat the above procedures until a satisfactory result is obtained.

## 15-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 ADJ15A 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 ratio adjustment (ADJ15A) (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
	MAIN-MFT	(Print off center) manual feed adjustment value	1 - 99
	MAIN-CS1	(Print off center) tray 1 adjustment value	1 - 99
	MAIN-CS2	(Print off center) tray 2 adjustment value	1 - 99
	MAIN-CS3	(Print off center) tray 3 adjustment value	1 - 99
	MAIN-CS4	(Print off center) tray 4 adjustment value	1 - 99
	MAIN-LCC	(Print off center) LCC adjustment value	1 - 99
	MAIN-LCT1	Print off center adjustment value (LCT1)	1 - 99
	MAIN-LCT2	Print off center adjustment value (LCT2)	1 - 99
	MAIN-LCT-MFT	Print off center adjustment value (LCT_manual feed)	1 - 99
	MAIN-ADU	(Print off center) ADU adjustment value	1 - 99
	RRCB-MFT	(Lead edge adjustment: registration motor ON timing) manual feed adjustment value	1 - 99
	RRCB-CS12	(Lead edge adjustment: registration motor ON timing) tray 1 adjustment value	1 - 99
	RRCB-CS34	(Lead edge adjustment: registration motor ON timing) desk adjustment value	1 - 99
	RRCB-ADU	(Lead edge adjustment: registration motor ON timing) ADU adjustment value	1 - 99
	RRCB-LC	(Lead edge adjustment: registration motor ON timing) LCC/LCT adjustment value	1 - 99
	RRCB-ADU-HV-A	(Lead edge adjustment: registration motor ON timing) ADU adjustment value (Heavy paper A)	1 - 99
	RRCB-CS-HV-A	(Lead edge adjustment: registration motor ON timing) main unit tray adjustment value (Heavy paper A)	1 - 99
	RRCB-CS-HV-OHP	(Lead edge adjustment: registration motor ON timing) main unit tray adjustment value (OHP)	1 - 99
	RRCB-LC-HV-A	(Lead edge adjustment: registration motor ON timing) LCC/LCT adjustment value (Heavy paper A)	1 - 99
	RRCB-LC-HV-B	(Lead edge adjustment: registration motor ON timing) LCC/LCT adjustment value (Heavy paper B)	1 - 99

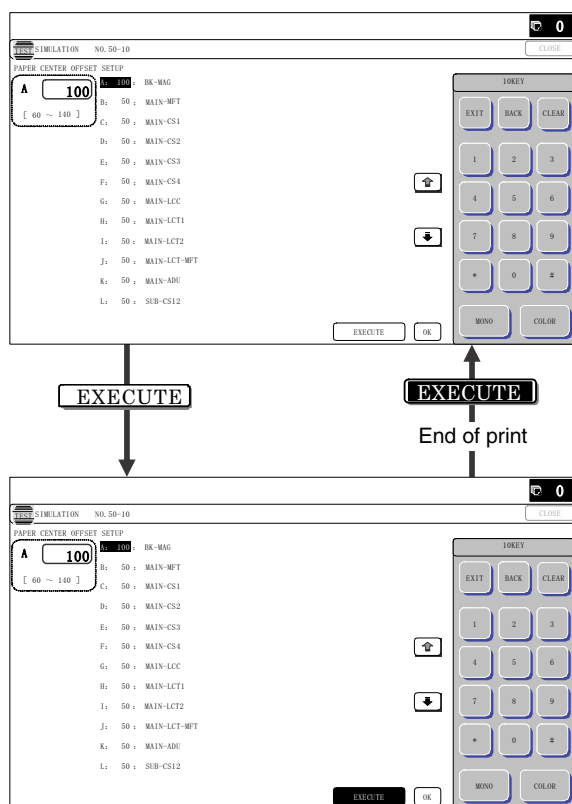


Item/Display	Content	Setting range	Default value
Print off center adjustment	RRCB-MFT-HV-A	(Lead edge adjustment: registration motor ON timing) manual feed tray adjustment value (Heavy paper A)	1 - 99
	RRCB-MFT-HV-B	(Lead edge adjustment: registration motor ON timing) manual feed tray adjustment value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

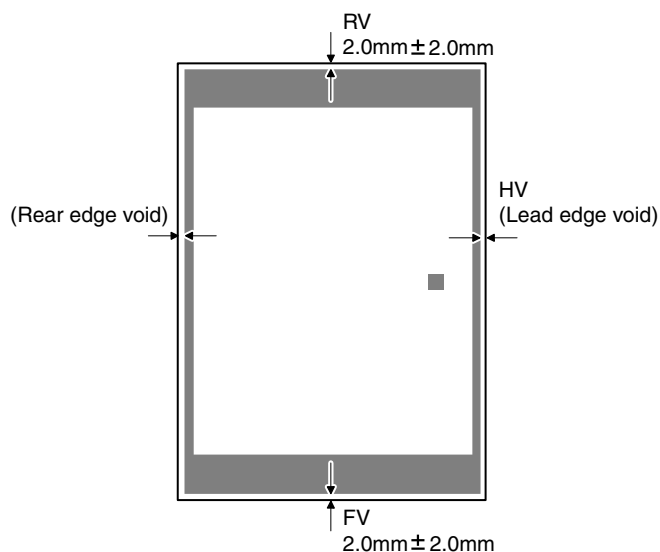
3) Set A4 (11" x 8.5") paper in the paper feed tray selected in procedure 2).

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

$RV + FV \leq 4.0\text{mm}$

$RV = 2.0 \pm 2.0\text{mm}$

$FV = 2.0 \pm 2.0\text{mm}$

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.

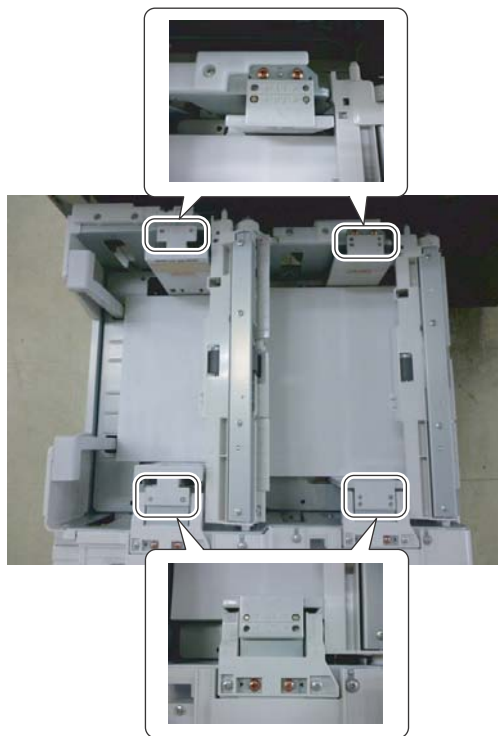
When the set value is changed by 1, the shift distance is changed by about 0.1mm.

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

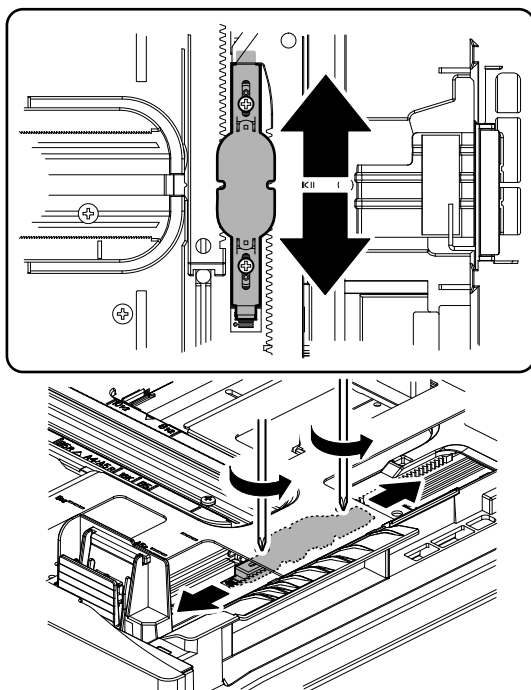
In case a satisfactory result cannot be obtained by repeating the above procedures, perform the following procedure.

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:**  
Normally if the adjustment is executed by ADJ3 (automatic adjustment), there is no need to execute this adjustment.  
Only when the manual adjustment is required, execute this adjustment.  
In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ3).  
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 16 Scan image magnification ratio adjustment (Manual adjustment)

### NOTE:

Normally if the adjustment is executed by ADJ3 (automatic adjustment), there is no need to execute this adjustment.

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

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ3).

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

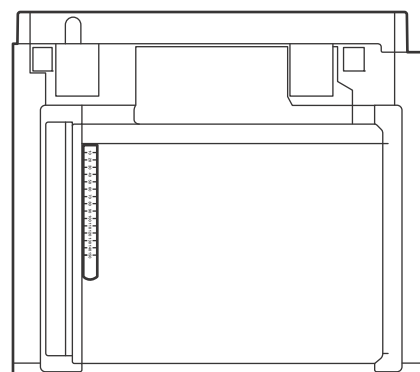
**CAUTION:** If the default adjustment value of the scan image magnification ratio adjustment (main scanning direction) of SIM 48-1, copy image quality may be degraded. Therefore, this adjustment must be executed only when there is a special necessity.

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.

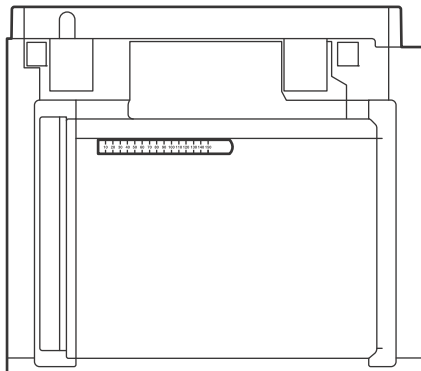


- 3) Make a normal copy and obtain the copy magnification ratio.  
Press [CLOSE] key to shift from the simulation mode to the copy mode, and make a copy.
- 4) Check that the copy magnification ratio is within the specified range (100 +/- 1.0%).  
If the copy magnification ratio is within the specified range (100 +/- 1.0%), 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 +/- 1.0%).

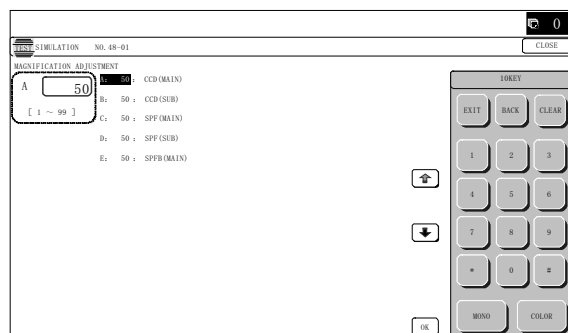
## 16-B Scan image magnification ratio adjustment (sub scanning direction) (Manual adjustment) (Document table mode)

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.

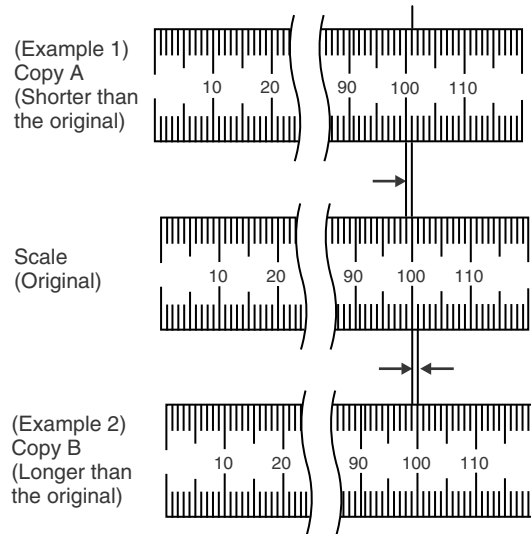


- 2) Enter the SIM 48-1 mode.



- 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 +/- 1.0%).  
If the copy magnification ratio is within the specified range (100 +/- 1.0%), 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 +/- 1.0%).

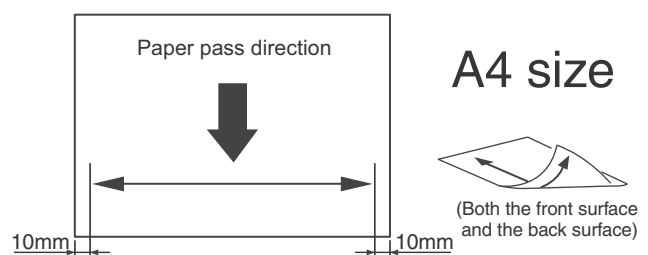
## 16-C Scan image magnification ratio adjustment (main scanning direction) (Manual adjustment) (DSPF mode)

This adjustment must be performed in the following cases:

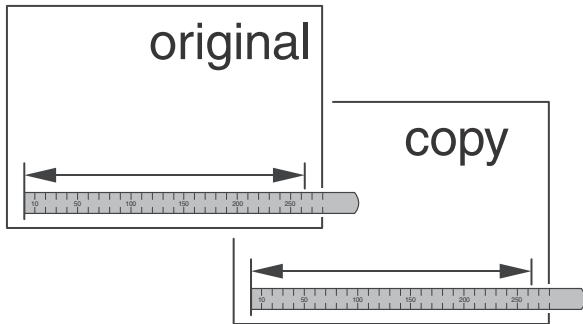
- \* When the scan control PWB is replaced.
- \* When the EEPROM on the scan control PWB is replaced.
- \* When U2 trouble occurs.
- \* When the copy magnification ratio of the DSPF mode copy image in the main scanning direction is not proper.
- \* When the DSPF is disassembled.

### 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.



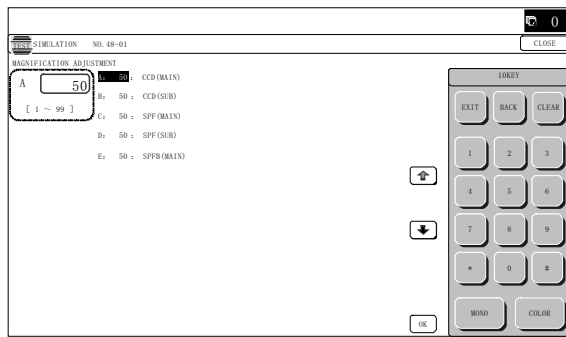
- 2) Make a duplex copy at the normal ratio on A4 paper.
- 3) Measure the images on the copy paper and the original images.



- 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 +/- 0.8%), there is no need to perform the adjustment.  
 If it is not within the specified range, perform the following procedures.
- 5) Enter the SIM 48-1 mode.



#### 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
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)

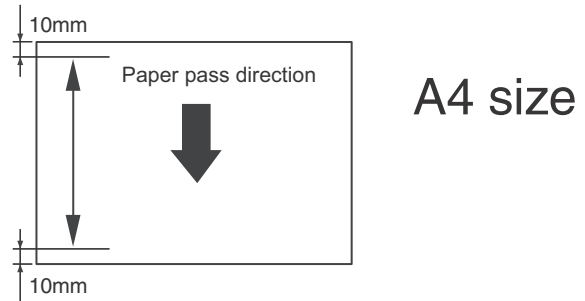
- 7) Enter an adjustment value with 10-key, and press [OK] key.  
 When the adjustment value is increased, the image magnification ratio is increased. When the adjustment value is changed by 1, the image magnification ratio is changed by 0.02%.
- 8) Make a normal copy and obtain the copy magnification ratio.  
 Repeat the procedures of 1) - 8) until a satisfactory result is obtained.

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

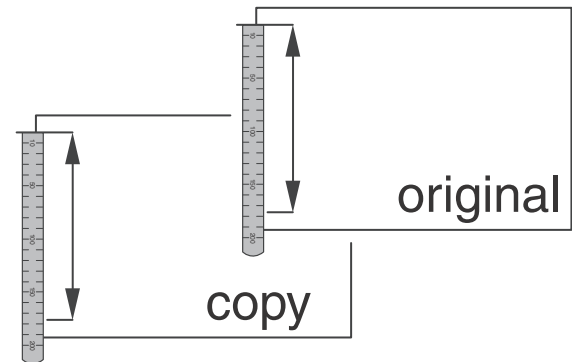
This adjustment must be performed in the following cases:

- \* 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.



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



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

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

$$\text{Image magnification ratio} = 99 / 100 \times 100 = 99 (\%)$$
 If the image magnification ratio is within the specified range (100 +/- 0.8%), there is no need to perform the adjustment.  
 If it is not within the specified range, perform the following procedures.

- 5) Enter the SIM 48-1 mode.
- 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 17 Scan image off-center adjustment (Manual adjustment)

### NOTE:

Normally if the adjustment is executed by ADJ3 (automatic adjustment), there is no need to execute this adjustment.

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

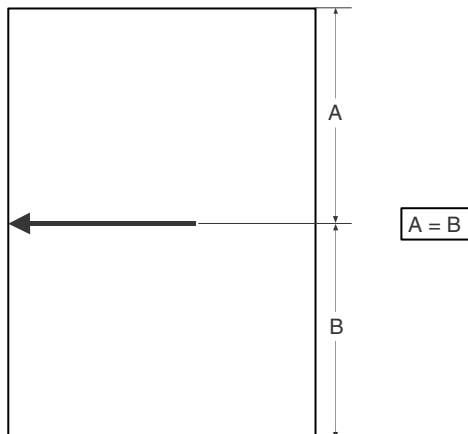
In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ3).

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

This adjustment must be performed in the following cases:

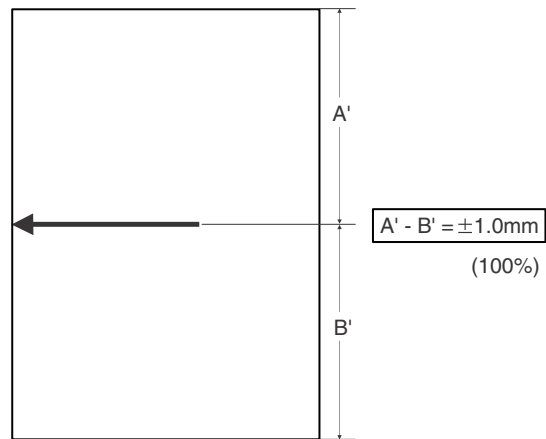
- \* When the scanner (reading) section is disassembled.
- \* When the scanner (reading) unit is replaced.
- \* When a U2 trouble occurs.
- \* When the scanner control PWB is replaced.
- \* When the EEPROM on the scanner control PWB is replaced.

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



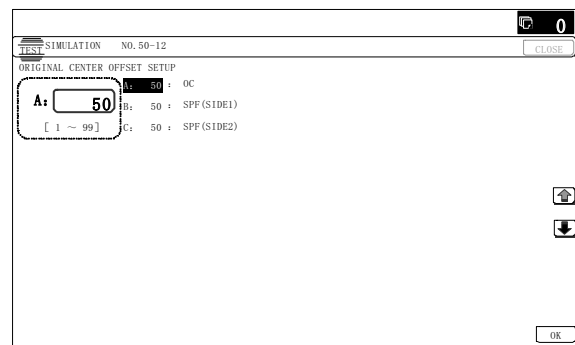
- 2) Check the copy image center position.
 

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.

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

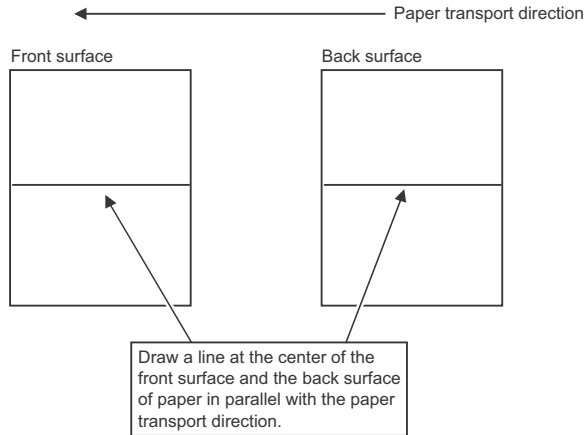
This adjustment must be performed in the following cases:

- \* 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.

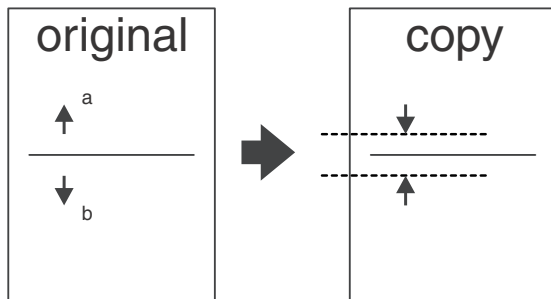
**CAUTION:** To execute this adjustment, it is required that the ADJ17A Scan image off-center adjustment (Document table mode) must have been properly adjusted.

- 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.

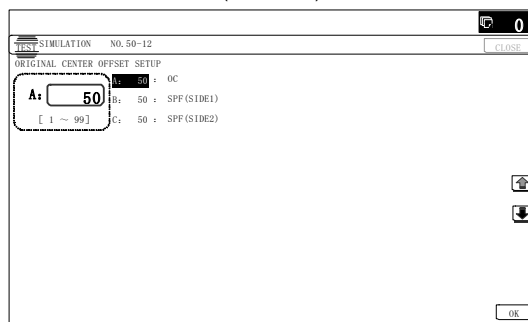


If the difference is within the range of 0 +/- 2.7mm there is no need to perform the adjustment.

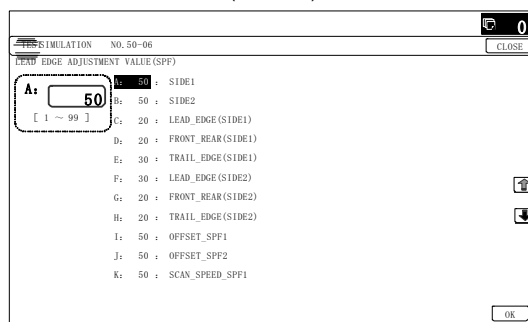
If the adjustment is required, perform the following procedures.

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

(SIM50-12)



(SIM50-6)



## 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 18 Copy image position and image loss adjustment (Manual adjustment)

### NOTE:

Normally if the adjustment is executed by ADJ3 (automatic adjustment), there is no need to execute this adjustment.

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

In other words, this manual adjustment is executed when a satisfactory result is not obtained from the automatic adjustment (ADJ3).

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

This adjustment must be performed in the following cases:

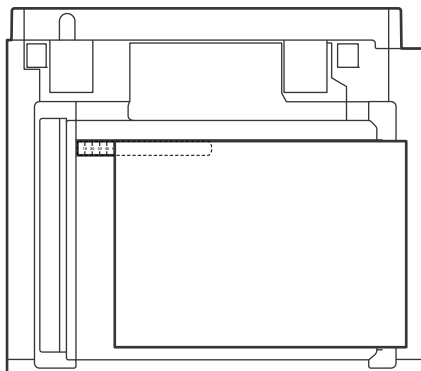
- \* When the scanner (reading) section is disassembled.
- \* When the scanner (reading) unit is replaced.
- \* When the LSU is replaced or removed.
- \* When the registration roller section is disassembled.
- \* U2 trouble has occurred.
- \* The PCU PWB has been replaced.
- \* The EEPROM of the PCU 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/ADJ4 Print engine image skew, image position, image magnification ratio, void area adjustments has been completed normally.

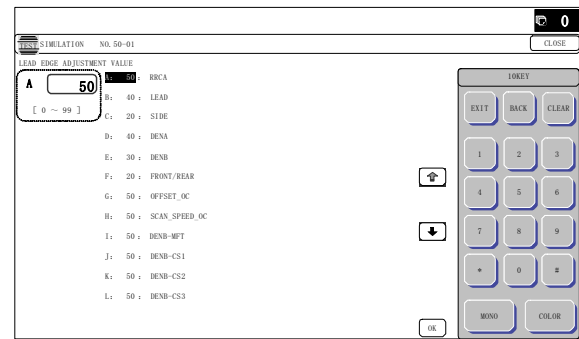
- 1) Place a scale on the document table as shown in the figure below.

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.

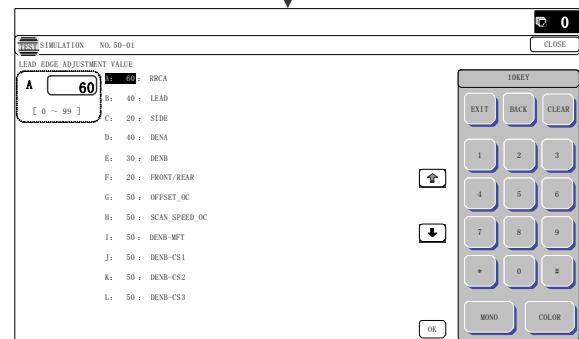


- 2) Enter the SIM 50-1 mode.



10-key

OK



- 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

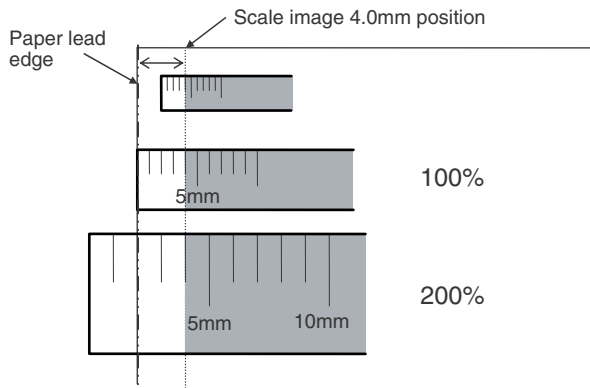
- 4) Perform the image lead edge reference position adjustment.  
Shift to the copy mode, and make a copy at each of 100% and 200% in the document table mode.

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.

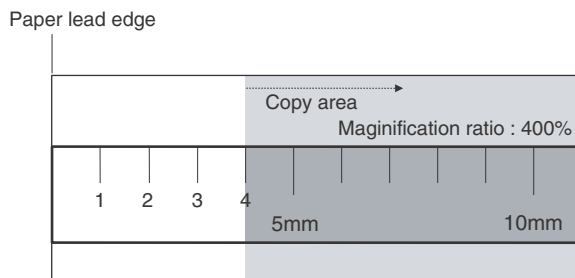
(Adjust so that the lead edge image from 4.0mm is not copied in either of different copy magnification ratios.)

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.



Void area: 4.0mm, Image loss: 4.0mm

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.

## 18-B Image scanning position adjustment (Manual adjustment) (DSPF mode)

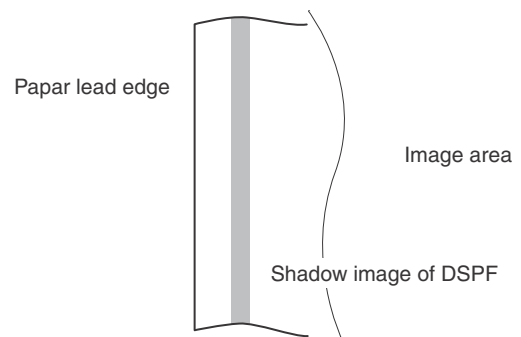
This adjustment must be performed in the following cases:

- \* 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.

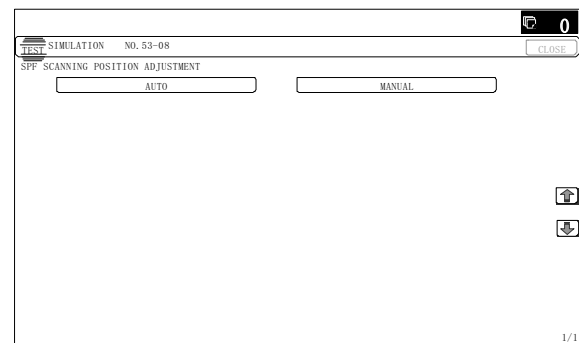
If this adjustment is made improperly, the scanner stop position is shifted from the specified position and a shade of the document table may be reflected on the lead edge section of the scan image in the DSPF mode.

- 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 ADJ18C Copy image position, image loss, void area adjustment (Manual adjustment) (DSPF mode).



## 18-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.

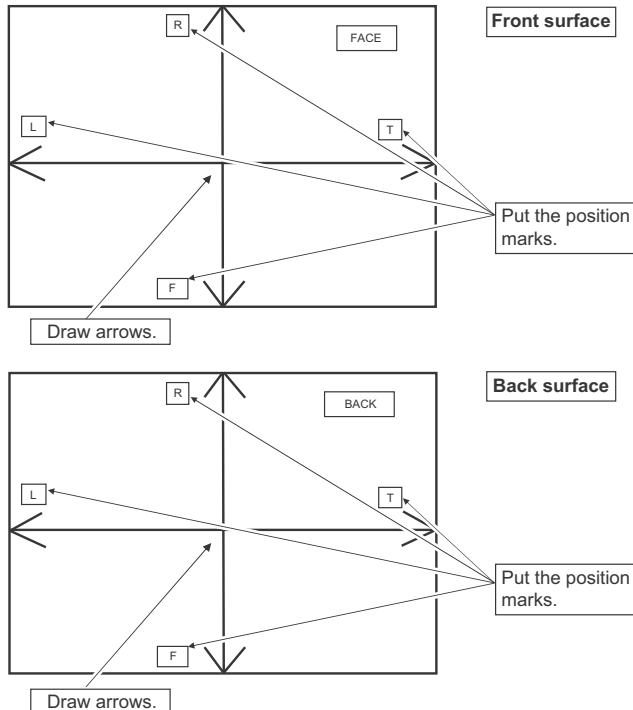
### a. Adjustment procedures

#### 1) Prepare the adjustment chart.

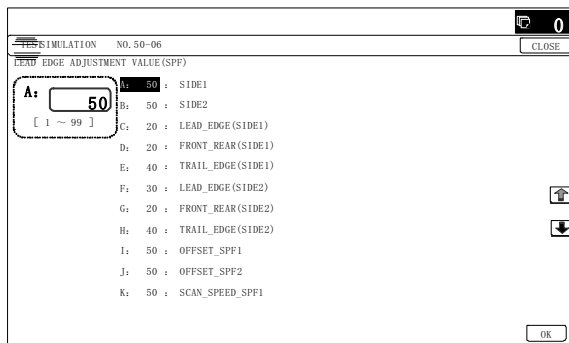
The adjustment chart can be made by the following procedures.

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	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.

### (Lead edge image loss adjustment)

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

(Standard set value)

LEAD\_EDGE (SIDE 1):

20 Lead edge image loss set value (Front surface)

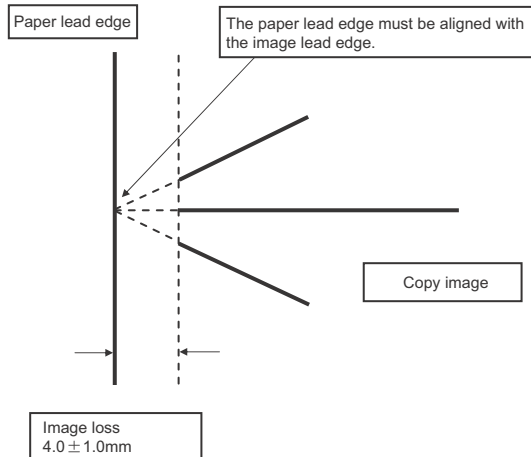
LEAD\_EDGE (SIDE 2):

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)

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



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

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

Adjust so that the paper lead edge is aligned with the presumed image lead edge.

SIDE1: Front surface lead edge scan position adjustment

SIDE2: Back surface lead edge scan position adjustment

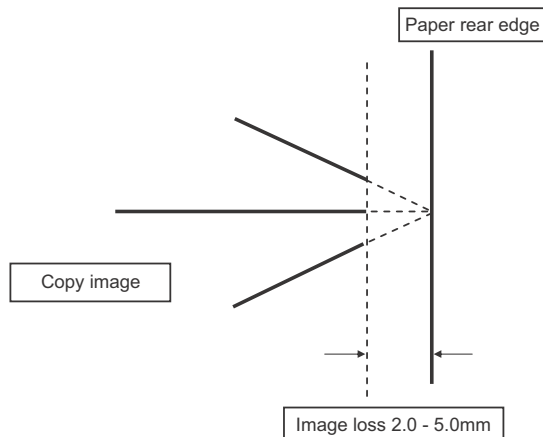
(When the adjustment value is increased, the print image position is shifted to the delaying direction for the paper.)

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

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

#### (Rear edge image loss adjustment)

- 1) Make a duplex copy in 100% in the 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)

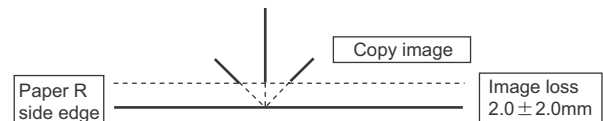
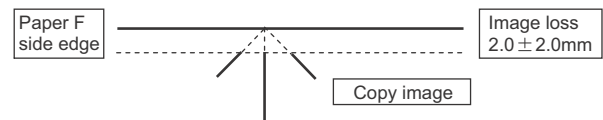
(When the adjustment value is increased, the rear edge image loss is increased.)

(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  $2.0 \pm 2.0\text{mm}$  on the front surface and the back surface.



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

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

FRONT/REAR (SIDE 1):

Front/Rear image loss adjustment value (Front surface)

FRONT/REAR (SIDE 2):

Front/Rear image loss adjustment value (Back surface)

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

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

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

## ADJ 19 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 20 DSPF CCD calibration

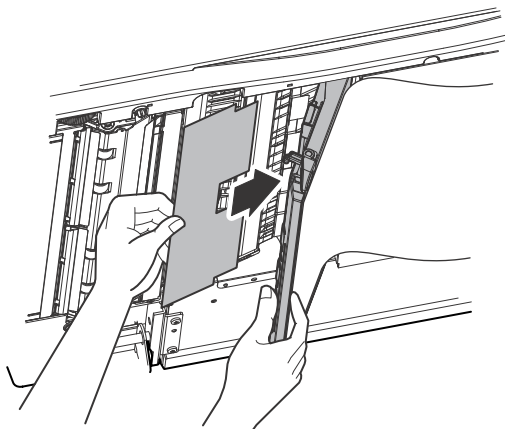
### 20-A Shading adjustment (Calibration) (DSPF mode)

This adjustment is required in the following cases:

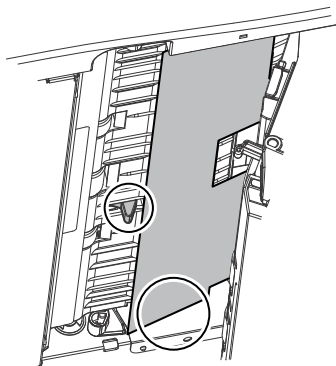
- \* When the DSPF CCD unit is replaced.
- \* When a U2 trouble occurs.
- \* When the DSPF control PWB is replaced.

#### (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 SHADING	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

### 20-B CCD gamma adjustment (CCD calibration) (DSPF mode)

This adjustment is required in the following cases:

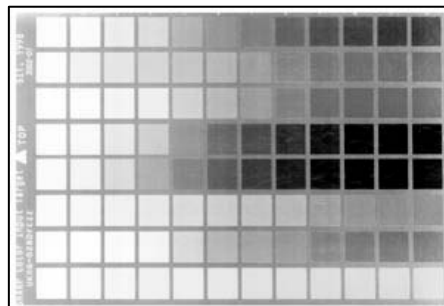
- \* When the DSPF CCD unit is replaced.
- \* When a U2 trouble occurs.
- \* When the DSPF control PWB is replaced.

#### (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 patches in BK1 and BK2 arrays of the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) are free from dirt and scratches.  
If they are dirty, clean them.  
If they are scratched or streaked, replace with new one.

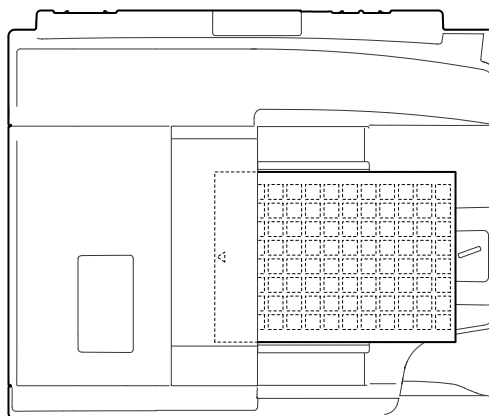
#### NOTE:

Since the SIT chart is easily discolored by sunlight (especially ultra-violet rays) and humidity and temperature, put it in a bag such as a clear file and store in a dark place of low temperature and low humidity.



#### (2) Adjustment procedures

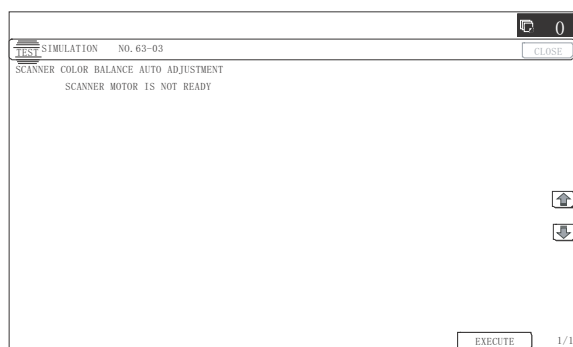
- 1) Set the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) face-down in the DSPF paper feed tray.



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.

NOTE: UKOG-0280FCZZ is equivalent to UKOG-0280FCZ1.

- 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.

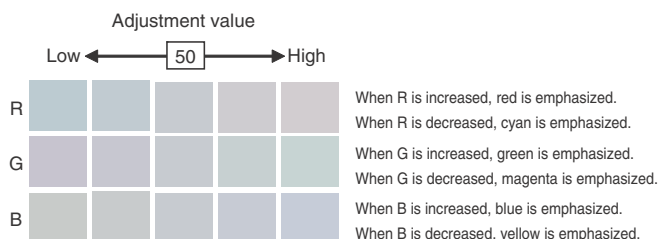


- \* When an error occurs in the automatic adjustment, all the error patch numbers are displayed.
- When [RESULT] key is pressed, the display returns to the initial screen. (The previous value is displayed)
- \* When the operation is completed normally, "COMPLETE" is displayed. When [RESULT] key is pressed, the display returns to the initial screen. (The calculation result of normal completion is displayed.)

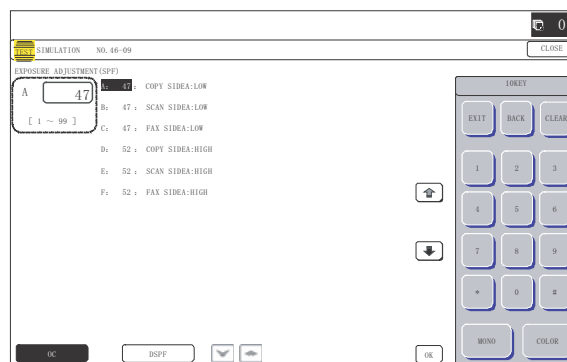
## ADJ 21 DSPF back surface color balance exposure adjustment (Manual adjustment)

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 SIT chart (UKOG-00280FCZZ/Z1) or 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 the copy chart (UKOG-0280FCZZ/Z1 or 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 22 FR density variation correction

Before executing this adjustment, be sure to check the following items.

- \* There must be no unevenness in charging.
- \* There must be a tray with A4 (LT) paper in it.
- \* When this adjustment (FR density unevenness automatic adjustment) is executed after execution of ADJ22-B (FR density unevenness manual correction), the value of the manual correction will be cleared. In order to keep the value of manual correction, do not execute this automatic correction.

- 3 \* Execute Sim61-13 without fail, when Drum unit, DV unit or LSU unit is replaced.
- \* Especially when LSU is replaced, never forget to execute Sim61-13.

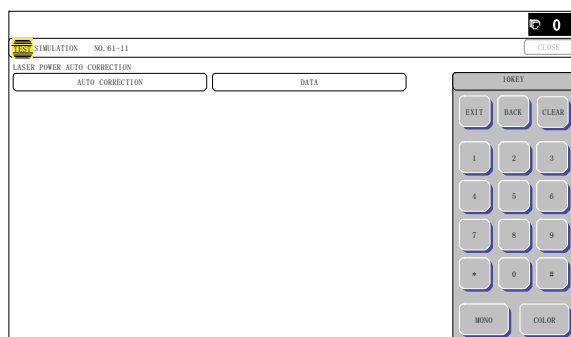
### 22-A FR density unevenness automatic correction: all 32-point adjustment (Correction by OC scan)

This adjustment must be performed in the following cases:

- \* When unevenness occurs in the main scanning direction:

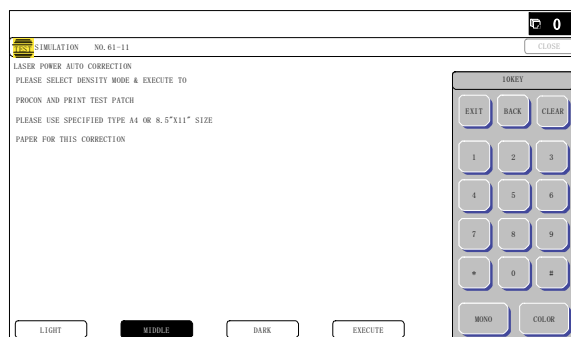
- 1) Enter the SIM 61-11 mode.
- 2) Press the [AUTO CORRECTION] key.

When [DATA] key is pressed, the current correction value of "FR density unevenness automatic correction" can be checked.



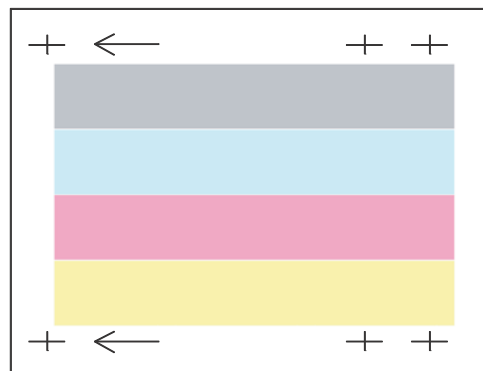
- 3 Press the key of the density to be checked and press [EXECUTE] key. The manual correction data are cleared, process control is started, and self printing of the adjustment patch is started.

During execution, [EXECUTE] is highlighted.



- 4) After completion of self printing, the machine enters the standby state for output patch scan start.

- 5) Set the printed sample for scanning on the OC in the A4R (LTR) direction, and press [EXECUTE] key to start scanning. During execution, [EXECUTE] is highlighted.



Set the document so that the arrow direction is fit with the left edge section for scanning.

- 6) After completion of scanning the patch, the data are revised and the process control is executed. Then, self print of the adjustment result patch is automatically started. During execution, [EXECUTE] is highlighted.

- 7) After completion of self printing, the following screen is displayed.

The FR density unevenness can be improved by pressing [RETRY] key and repeating procedures 3) - 7).



- 8) To reset the adjustment values to the default (factory setting), use SIM61-13 to clear the automatic and manual correction values.
- 9) After completion of all adjustments, be sure to execute SIM46-74 (Copy color balance adjustment).



## 22-B FR density unevenness visual inspection correction: 4-point adjustment for each of CMYK (with the center fixed) or 31-point adjustment (with the center fixed)

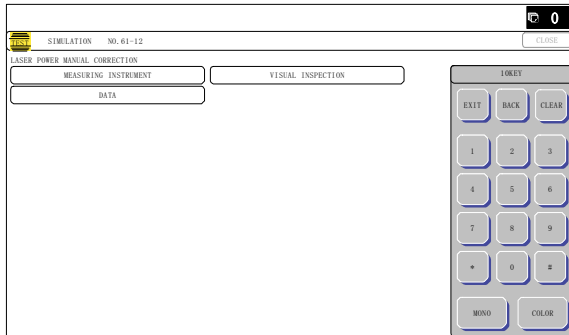
This adjustment is required in the following cases:

\* When unevenness occurs in the main scanning direction:

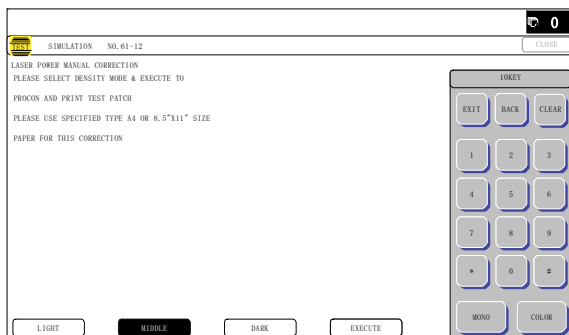
1) Enter the SIM 61-12 mode.

Press [VISUAL INSPECTION] key to go to the density selection menu.

When [DATA] key is pressed, the current correction value of "FR density unevenness manual correction" can be checked.

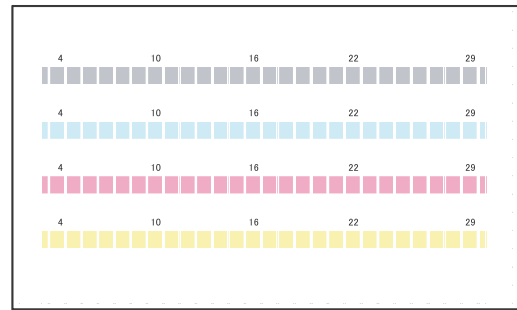
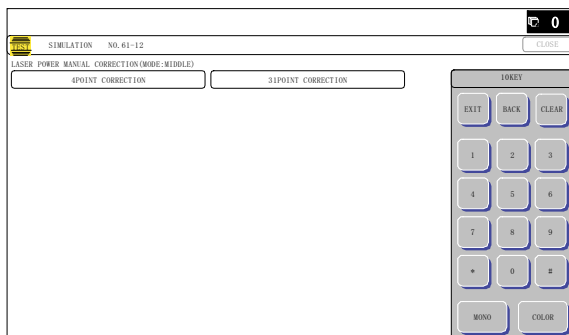


- 2) Press the key of the density to be checked and press [EXECUTE] key. The process control is started, and self printing of the adjustment patch is started. During execution, [EXECUTE] is highlighted.



3) Select [4POINT CORRECTION]] key or [31POINT CORRECTION] key.

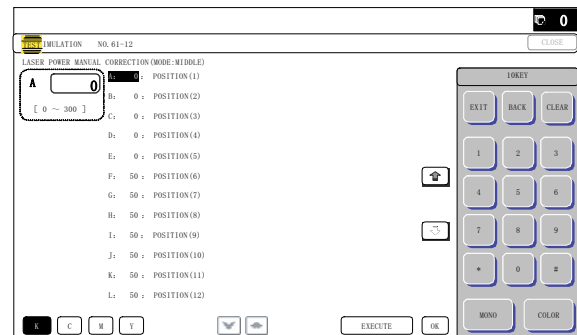
To make the adjustment more deliberately, select [31 POINT CORRECTION].



4) The screen for entry of the visual inspection measurement result is displayed.

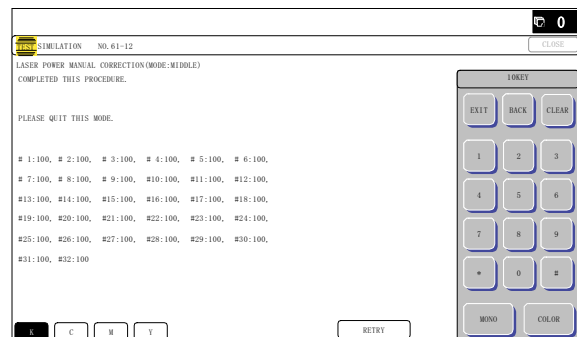
Enter an adjustment value based on the adjustment patch and press [EXECUTE] key, and the data are revised and the process control is executed.

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



5) After completion of the adjustment, the adjustment result patch is automatically outputted and the current correction value is displayed.

The FR density unevenness can be improved by pressing [RETRY] key and repeating procedures 3) - 5).



6) To reset the adjustment values to the default (factory setting), use SIM61-13 to clear the automatic and manual correction values.

7) After completion of all adjustments, be sure to execute SIM46-74 (Copy color balance adjustment).

## [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.

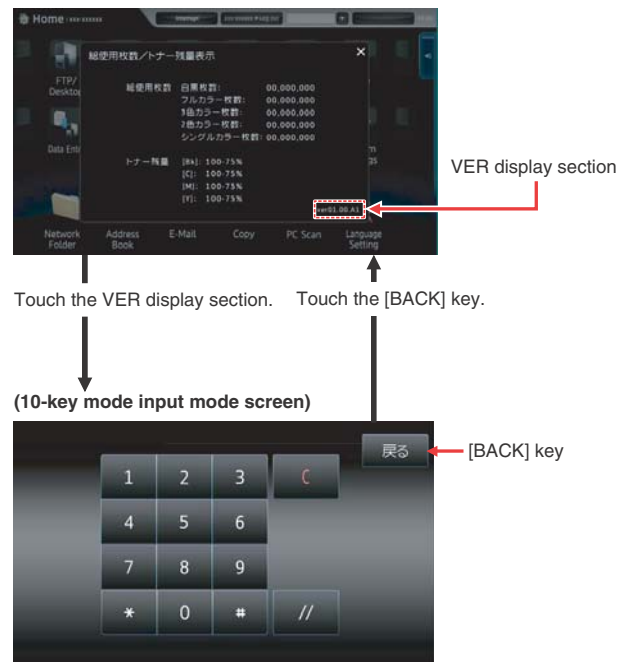
- 1) Various adjustments
- 2) Setting of the specifications and functions
- 3) Canceling troubles
- 4) Operation check
- 5) Counters check, setting, clear
- 6) Machine operating conditions (operation hysteresis), data check, clear.
- 7) Various (adjustments, setting, operation, counters, etc.) data transport.

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

### 2. Starting the simulation

#### Entering the simulation mode

- 1) Double-click the [HOME] key. (Total use quantity/Toner remaining quantity display mode screen)



- 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) Enter a main SIM code with the 10-key pad then touch the [START] key or select a main code from the SIM key list on the touch panel.
- 5) Enter a sub code with the 10-key pad, then touch the [START] key or select a sub code from the code list on the touch panel.
- 6) Select an item with the scroll key and the item key.
- 7) The machine enters the mode corresponding to the selected item. Press [START] key or [EXECUTE] key to start the simulation operation.

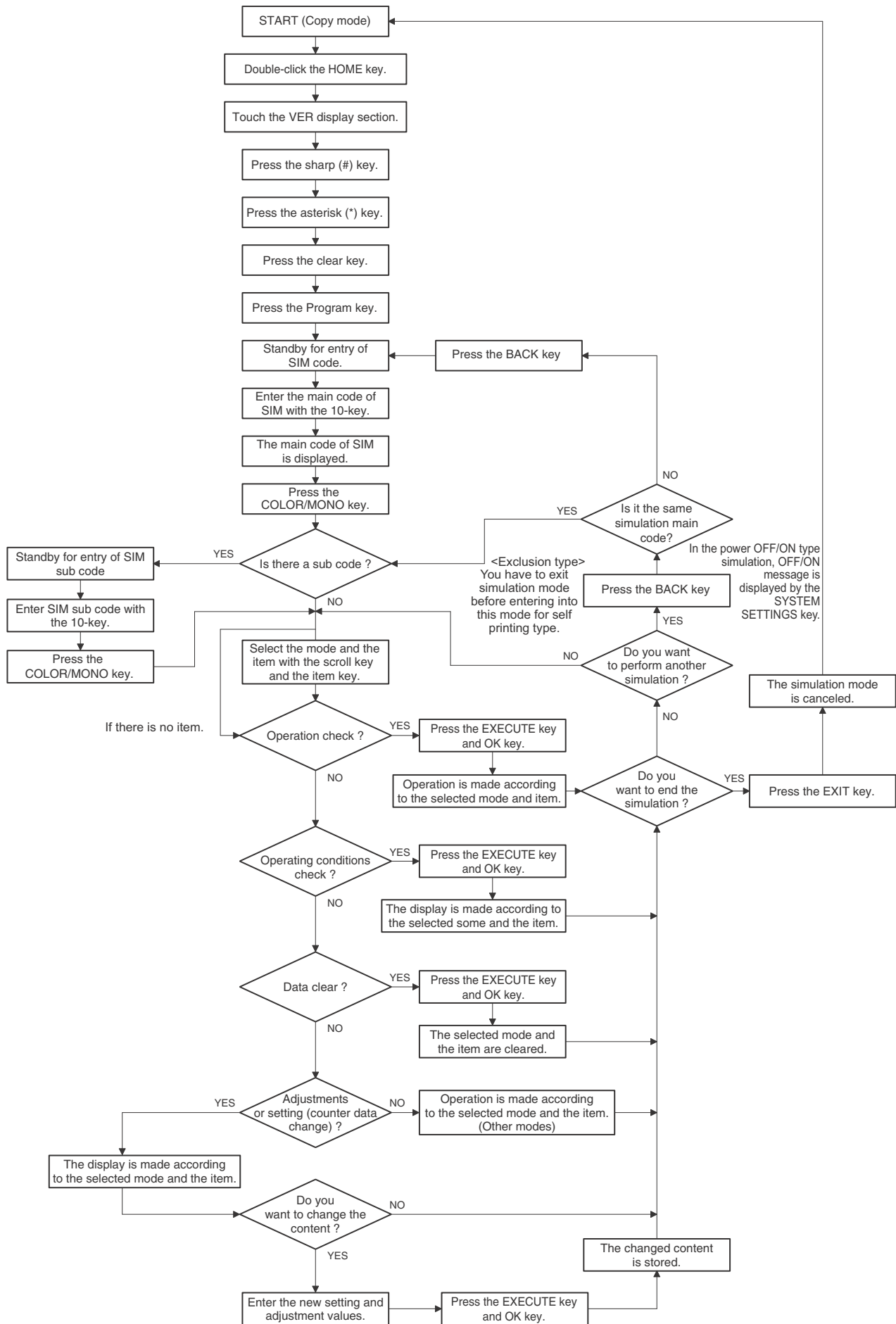
To cancel the current simulation mode and change the main code and the sub code, press [BACK] key.

#### Canceling the simulation mode to return to the normal mode

- 1) Press [EXIT] key.

NOTE: Do not turn OFF the power when the machine is in the simulation mode.

If the power switch should be turned OFF in the simulation mode, a malfunction may be resulted. In this case, turn OFF/ON the main power source.



### 3. List of simulation codes

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
	6	Used to check the operation of the scanner fan motor.	Scanner (reading)
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	Inserter sensor check	Inserter
	31	Inserter individual load check	Inserter
	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
	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).	
8	12	The document reading number of sheets setting (for aging operation)	DSPF
	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
17	-	Used to cancel the self-diag "PF" trouble.	
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.	

Main	Sub	Functions	Section
22	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.	
	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
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.)	
	6	Used to clear the copy counter. Used to clear the counter value of the toner hopper remaining quantity. (Clear the data after replacing or cleaning the toner hopper.)	
	9	Used clear the printer mode print counter and the self print mode print counter.	
	10	Used to clear the FAX counter. (Only when FAX is installed)	
	12	Used to clear the document filing counter.	
	15	Used to clear the counters related to the scan mode and the image send.	
25	35	Used to clear the toner cartridge use status data.	
	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
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.	
	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.	
	51	Used to set the specifications of the serial port operation. (For PCI)	
	52	Used to set whether non-printed paper (insertion paper, cover paper) is counted up or not.	
	53	User auto color calibration (color balance adjustment) Inhibit/Allow setting.	
	65	Used to set the finisher alarm mode.	
	69	Used to set the operating conditions for toner near end.	

Main	Sub	Functions	Section
26	71	Used to set the trial mode of the web browsing function.	
	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.	
27	1	Used to set non-detection of communication error (U7-00) with RIC. (FSS function)	
	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.	
	18	Used to clear the FSS paper feed retry counter.	
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.	
	32	Used to set various items related to the forcible operation of web cleaning when job end.	Fusing
	34	Used to check the fusing lower web cleaning motor operation.	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
	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
	62	Used to set the process control execution conditions.	Process

Main	Sub	Functions	Section
46	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).	
	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)	
	59	Used to perform the copy mode pseudo resolution image process adjustment.	
	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.	
	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.	
50	1	Copy image position, image loss adjustment	
	2	Used to adjust the copy image position and the image loss. (This simulation is a simplified version of SIM 50-1).	
	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
	7	Used to adjust the copy image position and the image loss (DSPF mode). (This simulation is a simplified version of SIM 50-6.)	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)	
	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.	
	28	Used to automatically adjust the image loss, void area, image off-center, and image magnification ratio.	

Main	Sub	Functions	Section
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.	
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
	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.	
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.	
	6	Used to display the scan level and the density level of the copy color balance adjustment patch.	
	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)	
	6	Printer test print. (Self print) (PS)	
65	7	Used to print the adjustment pattern of the test print. (Self print). (The adjustment pattern of SIM46-21 is printed.)	
	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.	



Main	Sub	Functions	Section
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
	24	Used to clear the FAST save data.	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
	34	Used to execute the send test and display the time required for sending image data in the test. Used to execute send test and display. (Unit: ms)	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
	45	Used to adjust the printer image filter and trapping.	Printer
	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

## 4. Details of simulation

1

1-1	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operation of the scanner (reading) unit and the control circuit.
<b>Section</b>	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)
	400DPI	400DPI (372.0mm/s)
	600DPI	600DPI (248.0mm/s)
	1200DPI	1200DPI (124.0mm/s)

1-2	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the sensors in the scanner (reading) section and the related circuits.
<b>Section</b>	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	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operation of the scanner (reading) unit and the control circuit.
<b>Section</b>	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)
	400DPI	400DPI (372.0mm/s)
	600DPI	600DPI (248.0mm/s)
	1200DPI	1200DPI (124.0mm/s)

2

2-1	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the automatic document feeder and the control circuit.
<b>Section</b>	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 (372.0mm/s)
	400DPI	400DPI (372.0mm/s)
	600DPI	600DPI (248.0mm/s)
(DOUBLE)	300DPI	300DPI (372.0mm/s)
	400DPI	400DPI (372.0mm/s)
	600DPI	600DPI (248.0mm/s)

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

2-3

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

2-6

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operation of the scanner fan motor.
<b>Section</b>	Scanner (reading)

**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.

**Descriptions of load operations**

Display	Content
CLFM	LAMP cooling fan

3

3-2

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

No./Display item	Content
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
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 FSSHP1	Finisher stitch operation home position detection 1
21 FSSHP2	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
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
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

No./Display item	Content
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

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

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the finisher.
<b>Section</b>	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)

Inserter sensor check

#### Section

Inserter

#### 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.

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

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

3-31	
<b>Purpose</b>	Operation check
<b>Function (Purpose)</b>	Inserter individual load check
<b>Section</b>	Inserter

#### 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	
<b>Purpose</b>	Operation check
<b>Function (Purpose)</b>	Paper folding unit sensor check
<b>Section</b>	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
FLENTRY	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

3-41	
<b>Purpose</b>	Operation check
<b>Function (Purpose)</b>	Paper fold unit individual load check
<b>Section</b>	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)



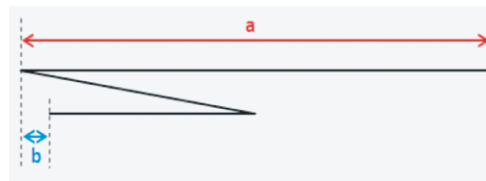
3-42	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Paper folding unit adjustment
<b>Section</b>	Paper folding unit

#### Operation/Procedure

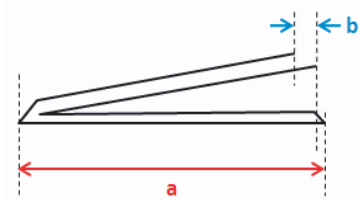
- 1) Select an adjustment item with the touch panel scroll key.
- 2) Enter the set value with 10-key.
- 3) Press [OK] key.

Item/Display	Content	Setting range	Default value
A	FOLD S1 A3	A3 Z-fold first folding position adjustment	50 - 150
B	FOLD S2 A3	A3 Z-fold second folding position adjustment	50 - 150
C	FOLD S1 B4	B4 Z-fold first folding position adjustment	50 - 150
D	FOLD S2 B4	B4 Z-fold second folding position adjustment	50 - 150
E	FOLD S1 A4R	A4R Z-fold first folding position adjustment	50 - 150
F	FOLD S2 A4R	A4R Z-fold second folding position adjustment	50 - 150
G	FOLD S1 LDR	LDR Z-fold first folding position adjustment	50 - 150
H	FOLD S2 LDR	LDR Z-fold second folding position adjustment	50 - 150
I	FOLD S1 LGL	LGL Z-fold first folding position adjustment	50 - 150
J	FOLD S2 LGL	LGL Z-fold second folding position adjustment	50 - 150
K	FOLD S1 LTRR	LTRR Z-fold first folding position adjustment	50 - 150
L	FOLD S2 LTRR	LTRR Z-fold second folding position adjustment	50 - 150
M	FOLD IN T1 A4R	A4R internal 3-fold first folding position adjustment	50 - 150
N	FOLD IN T2 A4R	A4R internal 3-fold second folding position adjustment	50 - 150
O	FOLD IN T1 LTRR	LTRR internal 3-fold first folding position adjustment	50 - 150
P	FOLD IN T2 LTRR	LTRR internal 3-fold second folding position adjustment	50 - 150
Q	FOLD OUT T1 A4R	A4R external 3-fold first folding position adjustment	50 - 150
R	FOLD OUT T2 A4R	A4R external 3-fold second folding position adjustment	50 - 150
S	FOLD OUT T1 LTRR	LTRR external 3-fold first folding position adjustment	50 - 150
T	FOLD OUT T2 LTRR	LTRR external 3-fold second folding position adjustment	50 - 150
U	FOLD Q1 A4R	A4R 4-fold first folding position adjustment	50 - 150
V	FOLD Q2 A4R	A4R 4-fold second folding position adjustment	50 - 150
W	FOLD Q1 LTRR	LTRR 4-fold first folding position adjustment	50 - 150
X	FOLD Q2 LTRR	LTRR 4-fold second folding position adjustment	50 - 150
Y	FOLD Q1 LGL	LGL 4-fold first folding position adjustment	50 - 150
Z	FOLD Q2 LGL	LGL 4-fold second folding position adjustment	50 - 150
AA	FOLD H1 A4R	A4R 2-fold first folding position adjustment	50 - 150
AB	FOLD H1 LTRR	LTRR 2-fold first position adjustment	50 - 150
AC	FOLD IN S FINE	Z-fold X position fine adjustment designation data	46 - 53
AD	FOLD IN T FINE	Internal 3-fold X position fine adjustment designation data	36 - 60

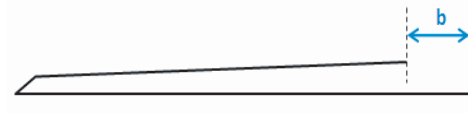
Item/Display	Content	Setting range	Default value
AE	FOLD OUT T FINE	External 3-fold X position fine adjustment designation data	36 - 60
AF	FOLD Q1 FINE	4-fold X position fine adjustment designation data	46 - 60
AG	FOLD Q2 FINE	4-fold Y position fine adjustment designation data	50 - 60
AH	FOLD H FINE	2-fold X position fine adjustment designation data	46 - 54



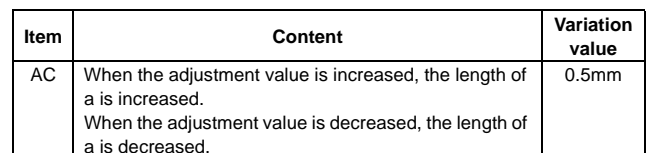
Item	Content	Variation value
A	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.1mm
B	When the adjustment value is increased, the length of b is increased. When the adjustment value is decreased, the length of b is decreased.	0.1mm
C	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.1mm
D	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
E	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.1mm
F	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
G	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.1mm
H	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
I	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.1mm
J	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
K	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.1mm
L	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

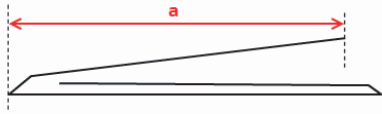


Item	Content	Variation value
U	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.1mm
V	When the adjustment value is increased, the length of b is increased. When the adjustment value is decreased, the length of b is decreased.	0.1mm
W	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.1mm
X	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
Y	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.1mm
Z	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

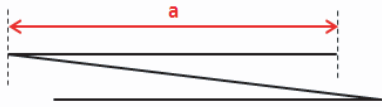


Item	Content	Variation value
AA	When the adjustment value is increased, the length of b is increased. When the adjustment value is decreased, the length of b is decreased.	0.1mm
AB	When the adjustment value is increased, the length of b is increased. When the adjustment value is decreased, the length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

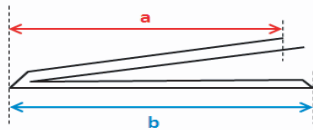




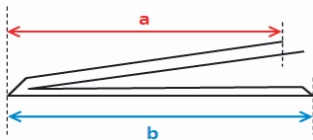
Item	Content	Variation value
AD	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.5mm



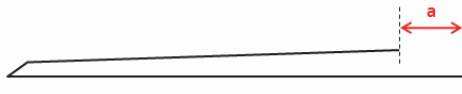
Item	Content	Variation value
AE	When the adjustment value is increased, the length of a is increased. When the adjustment value is decreased, the length of a is decreased.	0.5mm



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

<b>Purpose</b>	Operation check
<b>Function (Purpose)</b>	Decurler sensor check
<b>Section</b>	Decurler

#### 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.

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

<b>Purpose</b>	Operation check
<b>Function (Purpose)</b>	Decurler individual load check
<b>Section</b>	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

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

Display	Content
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
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	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the loads in the desk/large capacity tray (LCC), and the control circuit of those.
<b>Section</b>	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
LTLS	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

#### Paper feed option: Multi bypass tray

Display	Content
L1MPUM	Manual feed paper feed motor
L1MREVM	Manual feed transport motor
L1MPFM	Manual feed interface motor
L1MPRM	Manual feed lift motor
L1MPUS	Manual feed pickup solenoid
L1MLED	Manual feed lift 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	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the paper feed desk paper transport clutch (DTRC) and the LCC paper transport clutch (LTRC).
<b>Section</b>	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

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	LCT warm air heater temperature setting
<b>Section</b>	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	0 - 1 1
H	WARM AIR CONTROL DISABLE (HEAVY1,2)	Warm air heater temperature setting control disable: Heavy paper 1, 2	0: Enable 1: Disable	0 - 1 0
I	WARM AIR CONTROL DISABLE (HEAVY3,4)	Warm air heater temperature setting control disable: Heavy paper 3, 4	0: Enable 1: Disable	0 - 1 0
J	WARM AIR CONTROL DISABLE (THIN)	Warm air heater temperature setting control disable: Thin paper	0: Enable 1: Disable	0 - 1 1
K	WARM AIR CONTROL DISABLE (GLOSSY)	Warm air heater temperature setting control disable: Glossy paper	0: Enable 1: Disable	0 - 1 0
L	WARM AIR CONTROL DISABLE (OTHER)	Warm air heater temperature setting control disable: Other	0: Enable 1: Disable	0 - 1 1

4-11

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	LCT fan Duty setting
<b>Section</b>	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 (GROSSY - L)	Separation fan Duty: Glossy paper Large size	30 - 100	60
AF	BLOWER FAN DUTY (GROSSY - M)	Separation fan Duty: Glossy paper Middle size	30 - 100	60
AG	BLOWER FAN DUTY (GROSSY - 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 (GROSSY - L)	Side assist fan Duty: Glossy paper Large size	0 - 100	10
AX	ASSIST FAN DUTY (GROSSY - M)	Side assist fan Duty: Glossy paper Middle size	0 - 100	10
AY	ASSIST FAN DUTY (GROSSY - 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	
<b>Purpose</b>	Check
<b>Function (Purpose)</b>	LCT temperature and humidity sensor monitor display
<b>Section</b>	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

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

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

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

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

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the load in the paper transport system (clutches and solenoids) and the control circuits.
<b>Section</b>	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	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of each fan motor and its control circuit.
<b>Section</b>	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
MFPFAN	Controller fan motor, HDD fan motor
SPSFAN	Sub power supply cooling fan motor

6-3	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the transport unit and the control circuit.
<b>Section</b>	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	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the cleaning operation of the PTC and the main charger.
<b>Section</b>	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	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to perform fusing pressure release and applying, and to check the operations of the control circuits.
<b>Section</b>	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	

6-90

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to reset the machine to the factory setting. (The scanner is set to the lock enable position)

<b>Section</b>	Scanner
----------------	---------

## Operation/Procedure

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

# 7

7-1

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the operating conditions of aging.
<b>Section</b>	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 here-after unless the power is turned off or the setting is changed.

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

7-6

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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 here-after 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

<b>Purpose</b>	Operation display
<b>Function (Purpose)</b>	Used to display the warm-up time.
<b>Section</b>	

## 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

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	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

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	The document reading number of sheets setting (for aging operation)
<b>Section</b>	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

<b>Purpose</b>	Operation test/check/adjustment
<b>Function (Purpose)</b>	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.
<b>Section</b>	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  $\triangle$   $\nabla$  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
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

<b>Purpose</b>	Operation test/check/adjustment
<b>Function (Purpose)</b>	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.
<b>Section</b>	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  $\triangle$   $\nabla$  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		
				62 cpm machine	70 cpm machine	
MIDDLE	A	MIDDLE SPEED GB_K	K charging/grid bias set value at middle speed	150 - 850	635	640
	B	MIDDLE SPEED GB_C	C charging/grid bias set value at middle speed	150 - 850	635	640
	C	MIDDLE SPEED GB_M	M charging/grid bias set value at middle speed	150 - 850	635	640
	D	MIDDLE SPEED GB_Y	Y charging/grid bias set value at middle speed	150 - 850	635	640
LOW	A	LOW1 SPEED GB_K	K charging/grid bias set value at low speed 1	150 - 850	625	
	B	LOW1 SPEED GB_C	C charging/grid bias set value at low speed 1	150 - 850	625	
	C	LOW1 SPEED GB_M	M charging/grid bias set value at low speed 1	150 - 850	625	
	D	LOW1 SPEED GB_Y	Y charging/grid bias set value at low speed 1	150 - 850	625	
	E	LOW2 SPEED GB_K	K charging/grid bias set value at low speed 2	150 - 850	620	
	F	LOW2 SPEED GB_C	C charging/grid bias set value at low speed 2	150 - 850	620	
	G	LOW2 SPEED GB_M	M charging/grid bias set value at low speed 2	150 - 850	620	
	H	LOW2 SPEED GB_Y	Y charging/grid bias set value at low speed 2	150 - 850	620	

<b>Purpose</b>	Operation test/check/adjustment
<b>Function (Purpose)</b>	Used to check and adjust the operation of the transport voltage and the control circuit.
<b>Section</b>	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	
							62 cpm machine	70 cpm machine
A	TC1 LOW 1 SPEED CL K	Primary transfer bias reference value	Color	K	Low speed 1	51 - 255	91	91
B	TC1 LOW 2 SPEED CL K				Low speed 2	51 - 255	95	95
C	TC1 MIDDLE SPEED CL K				Middle speed	51 - 255	99	109
D	TC1 LOW 1 SPEED CL C			C	Low speed 1	51 - 255	91	91
E	TC1 LOW 2 SPEED CL C				Low speed 2	51 - 255	95	95
F	TC1 MIDDLE SPEED CL C				Middle speed	51 - 255	99	109
G	TC1 LOW 1 SPEED CL M			M	Low speed 1	51 - 255	91	91
H	TC1 LOW 2 SPEED CL M				Low speed 2	51 - 255	95	95
I	TC1 MIDDLE SPEED CL M				Middle speed	51 - 255	99	109
J	TC1 LOW 1 SPEED CL Y			Y	Low speed 1	51 - 255	91	91
K	TC1 LOW 2 SPEED CL Y				Low speed 2	51 - 255	95	95
L	TC1 MIDDLE SPEED CL Y				Middle speed	51 - 255	99	109
M	TC1 LOW 1 SPEED BW K		Black and white	K	Low speed 1	51 - 255	91	91
N	TC1 LOW 2 SPEED BW K				Low speed 2	51 - 255	95	95
O	TC1 MIDDLE SPEED BW K				Middle speed	51 - 255	99	109
P	TC2 PLAIN CL SPX	Secondary transfer bias reference value	Color	Standard paper	Front surface	51 - 255	124	145
Q	TC2 PLAIN CL DPX				Back surface	51 - 255	124	145
R	TC2 PLAIN BW SPX		Black and white		Front surface	51 - 255	117	138
S	TC2 PLAIN BW DPX				Back surface	51 - 255	117	138
T	TC2 HEAVY1 CL SPX		Color	Heavy paper 1	Front surface	51 - 255	110	110
U	TC2 HEAVY1 CL DPX				Back surface	51 - 255	103	103
V	TC2 HEAVY1 BW SPX		Black and white		Front surface	51 - 255	110	110
W	TC2 HEAVY1 BW DPX				Back surface	51 - 255	103	103
X	TC2 HEAVY2 CL SPX		Color	Heavy paper 2	Front surface	51 - 255	96	96
Y	TC2 HEAVY2 CL DPX				Back surface	51 - 255	87	87
Z	TC2 HEAVY2 BW SPX		Black and white		Front surface	51 - 255	96	96
AA	TC2 HEAVY2 BW DPX				Back surface	51 - 255	87	87
AB	TC2 OHP CL		OHP		Color	51 - 255	110	110
AC	TC2 OHP BW				Black and white	51 - 255	110	110
AD	TC2 ENVELOPE CL		Envelope		Color	51 - 255	83	83
AE	TC2 ENVELOPE BW				Black and white	51 - 255	83	83
AF	TC2 THIN CL		Thin paper		Color	51 - 255	117	138
AG	TC2 THIN BW				Black and white	51 - 255	117	138
AH	TC2 GLOSSY CL		Glossy paper		Color	51 - 255	110	110
AI	TC2 GLOSSY BW				Black and white	51 - 255	110	110
AJ	TC2 EMBOSS CL		Embossed paper		Color	51 - 255	96	96
AK	TC2 EMBOSS BW				Black and white	51 - 255	80	80
AL	TC2 CLEAN LOW 1 SPEED	Bias reference value between papers	In low speed 1 print			51 - 255	76	76
AM	TC2 CLEAN LOW 2 SPEED		In low speed 2 print			51 - 255	76	76
AN	TC2 CLEAN MIDDLE SPEED		In middle speed print			51 - 255	76	76
AO	TC2 COUNTER	Counter bias reference value	Counter bias (positive pole)			26 - 255	179	179

Item/Display		Content			Setting range	Default value	
						62 cpm machine	70 cpm machine
AP	PTC LOW 1 SPEED CL	PTC current reference value	Color	Low speed 1	51 - 255	119	119
AQ	PTC LOW 2 SPEED CL			Low speed 2	51 - 255	119	119
AR	PTC MIDDLE SPEED CL			Middle speed	51 - 255	119	119
AS	PTC LOW 1 SPEED BW		Black and white	Low speed 1	51 - 255	119	119
AT	PTC LOW 2 SPEED BW			Low speed 2	51 - 255	119	119
AU	PTC MIDDLE SPEED BW			Middle speed	51 - 255	119	119
AV	PTC EMBOSS		Both	Low speed 2	51 - 255	187	187
AW	CASE VOLT LOW 1 CL	PTC case voltage reference value	Color	Low speed 1	0 - 255	0	0
AX	CASE VOLT LOW 2 CL			Low speed 2	0 - 255	0	0
AY	CASE VOLT MIDDLE CL			Middle speed	0 - 255	0	0
AZ	CASE VOLT LOW 1 BW		Black and white	Low speed 1	0 - 255	0	0
BA	CASE VOLT LOW 2 BW			Low speed 2	0 - 255	0	0
BB	CASE VOLT MIDDLE BW			Middle speed	0 - 255	0	0
BC	CASE VOLT EMBOSS		Both	Low speed 2	0 - 255	0	0
BD	TC2 DRIVEROLL LOW 1 SPEED CL	Secondary transfer drive roller bias reference value	Color	Low speed 1	51 - 255	196	196
BE	TC2 DRIVEROLL LOW 2 SPEED CL			Low speed 2	51 - 255	196	196
BF	TC2 DRIVEROLL MIDDLE SPEED CL			Middle speed	51 - 255	196	196
BG	TC2 DRIVEROLL LOW 1 SPEED BW		Black and white	Low speed 1	51 - 255	196	196
BH	TC2 DRIVEROLL LOW 2 SPEED BW			Low speed 2	51 - 255	196	196
BI	TC2 DRIVEROLL MIDDLE SPEED BW			Middle speed	51 - 255	196	196

8-10

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Main charger total current output setting
<b>Section</b>	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	Current value	
						Variable range	Minimum unit
MIDDLE	A	MIDDLE SPEED MC_K	Main charger total current (middle speed mode) K	50 - 90	70	-500 - -900μA	100μA
	B	MIDDLE SPEED MC_C	Main charger total current (middle speed mode) C	50 - 90	70	-500 - -900μA	100μA
	C	MIDDLE SPEED MC_M	Main charger total current (middle speed mode) M	50 - 90	70	-500 - -900μA	100μA
	D	MIDDLE SPEED MC_Y	Main charger total current (middle speed mode) Y	50 - 90	70	-500 - -900μA	100μA
LOW1	A	LOW1 SPEED MC_K	Main charger total current (low speed 1 mode) K	50 - 90	70	-500 - -900μA	100μA
	B	LOW1 SPEED MC_C	Main charger total current (low speed 1 mode) C	50 - 90	70	-500 - -900μA	100μA
	C	LOW1 SPEED MC_M	Main charger total current (low speed 1 mode) M	50 - 90	70	-500 - -900μA	100μA
	D	LOW1 SPEED MC_Y	Main charger total current (low speed 1 mode) Y	50 - 90	70	-500 - -900μA	100μA
LOW2	A	LOW2 SPEED MC_K	Main charger total current (low speed 2 mode) K	50 - 90	70	-500 - -900μA	100μA
	B	LOW2 SPEED MC_C	Main charger total current (low speed 2 mode) C	50 - 90	70	-500 - -900μA	100μA
	C	LOW2 SPEED MC_M	Main charger total current (low speed 2 mode) M	50 - 90	70	-500 - -900μA	100μA
	D	LOW2 SPEED MC_Y	Main charger total current (low speed 2 mode) Y	50 - 90	70	-500 - -900μA	100μA

## 9

9-2

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the sensors and detectors in the paper reverse section (duplex section) and its control circuit.

<b>Section</b>	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

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the load in the paper reverse section (duplex section) and its control circuit.

<b>Section</b>	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

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the toner supply mechanism (toner motor) and the related circuit.

<b>Section</b>	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

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the toner remaining quantity sensor and the control circuit.

<b>Section</b>	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--

<b>Purpose</b>	Cancel (Trouble etc.)
<b>Function (Purpose)</b>	Used to cancel the self-diag "U1" trouble.

### Operation/Procedure

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

## 14

14--

<b>Purpose</b>	Cancel (Trouble etc.)
<b>Function (Purpose)</b>	Used to cancel the self-diag H3, H4, H5 troubles.

### Operation/Procedure

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

## 15

15--	
<b>Purpose</b>	Clear/Cancel (Trouble etc.)
<b>Function (Purpose)</b>	Used to cancel the self-diag "U6" trouble.
<b>Section</b>	LCC/LCT

### Operation/Procedure

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

## 16

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

### Operation/Procedure

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

## 17

17--	
<b>Purpose</b>	Clear/Cancel (Trouble etc.)
<b>Function (Purpose)</b>	Used to cancel the self-diag "PF" trouble.
<b>Section</b>	

### Operation/Procedure

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

## 21

21-1	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the maintenance cycle.
<b>Section</b>	

### 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	
<b>Purpose</b>	Adjustment/Setting/Operation data output/Check
<b>Function (Purpose)</b>	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
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
PCI	PCI OPE-TIME	PCI accumulated operation time (H)	0	Max. 8

<b>22-2</b>	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	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.)
<b>Section</b>	

#### 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

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

#### Operation/Procedure

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

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

#### Operation/Procedure

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

<b>22-5</b>	
<b>Purpose</b>	Others
<b>Function (Purpose)</b>	Used to check the ROM version of each unit (section).
<b>Section</b>	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.)
ICUM(MAIN)	ICUM(MAIN)
ICUM(SUB)	ICUM(SUB)
ICUM(BIOS)	ICUM(BIOS)
ICU1(MAIN)	ICU1 (Main section)
ICU1(BOOT)	ICU1 (Boot section)
ICU1(SUB)	ICU1 Sub section (ARM9)
ICU2	ICU2
LANGUAGE	Language support data version
UICONTENTS	Content data for display
PCL(PROFILE)	PCL (Color profile)
PCU	PCU
SCU	SCU
SPF	SPF

Display	Content
FAX1(MAIN)	FAX 1-Line (Main section)
LCC	Side LCC
FINISHER	Finisher
SADDLE	Saddle unit (Main section)
PUNCH	Punch unit
TRIMMER	Trimmer unit
INSERTER	Insertor
FOLDING UNIT	Folding unit
DECURLER	Relay unit (Decurler)
NIC	NIC
POWER-CON	Power controller
E-MANUAL	Operation manual (HDD storage)
WATER MARK	Watermark (HDD storage)
ESCP	ESCP font ROM
ACRE(MAIN)	ACRE (Main section)
ACRE(DATA)	ACRE (Data section)
PCI	PCI

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

#### 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).

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

#### 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



Display	Content	Number of digits of display or type	Default value
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
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.

<b>22-9</b>	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to check the number of use (print quantity) of each paper feed section.
<b>Section</b>	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
ADU	ADU paper feed counter	8 digits	0
MFT	Manual paper feed counter (*1)	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
LCT3	Upper stage LCT paper feed counter (When connected in two) (*1)	8 digits	0
LCT4	Lower stage LCT paper feed counter (When connected in two) (*1)	8 digits	0
LCT_MFT	LCT manual paper feed counter (*1)	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
ADU_TTL	Accumulated ADU 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
LCT3_TTL	Accumulated upper LCT paper feed counter (connected in two) (*1)	8 digits	0
LCT4_TTL	Accumulated lower LCT paper feed counter (connected in two) (*1)	8 digits	0
LCT_MFT_TTL	Accumulated LCT manual paper feed counter (*1)	8 digits	0

\*1: Displayed only when the option is installed.

<b>22-10</b>	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	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-6240N	Main unit
	MX-7040N	
SPF	STANDARD	Duplex single pass feeder
STAMP	AR-SU1	Finish stamp
LCC	MX-LC12	A4 large capacity tray
	MX-LC14	A4 large capacity tray (Air feed)
	MX-LCX3N	A3 large capacity tray
	MX-LC13	Large capacity tray (LCT/2 Drawers)
PUNCHER	MX-PN12A	Punch module
	MX-PN12B	
	MX-PN12C	
	MX-PN12D	
	MX-PN13A	
	MX-PN13B	
	MX-PN13C	
	MX-PN13D	
	MX-PNX4A	
	MX-PNX4B	
	MX-PNX4C	
	MX-PNX4D	
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-FX11/STANDARD	Facsimile expansion kit
PS	STANDARD	PS expansion kit
XPS	MX-PUX1	XPS expansion kit
SECURITY	MX-FR36	Data security kit (Authentication version)
	MX-FR36U	Data security kit (commercial version)
AIM	MX-AMX1	Application integration module
SDRAM(SYS)	*****MB	SDRAM capacity
SDRAM(ICU)	*****MB	SDRAM capacity
HDD	*****GB	Hard disk capacity
SD	*****GB	SD capacity
NIC	STANDARD	NIC
BARCODE	MX-PF10	Barcode font kit
INTERNET-FAX	MX-FWX1	Internet Fax expansion kit
ACM(*1)	MX-AMX2	Application communication module
EAM(*1)	MX-AMX3	External account module
WEB BROWSING	MX-AM10	Web browsing expansion kit
ACRE	MX-EB11	Enhanced compression kit (ACRE)
MIRRORING	MX-EB15	Mirroring kit
PCI	CONNECT	Plasmacluster Ion Generator
CF	*****GB	CF card capacity
CURL	MX-RB15	Curl correction unit
TRIMMING	MX-TM10	Trimming module (100 sheets saddle finisher)

\*1: Option units are displayed only when they are installed.

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

<b>22-13</b>	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to check the operating time of the process section (OPC drum, DV unit, toner cartridge) and the fusing unit
<b>Section</b>	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 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 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 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 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 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)

<b>22-12</b>	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	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.)
<b>Section</b>	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.)

Display item	Content	Counter	RPM	Number of use days	Life meter (+/- 1% unit)	Number of remaining days
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

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to display the use status of the toner cartridge.
<b>Section</b>	Process

### Operation/Procedure

The status of the toner cartridge is displayed.

Display item	Content	Accumulated No. of installed cartridges (Unit)	Accumulated No. of near near end (Unit)	Accumulated No. of end (Unit)	Remaining quantity (Unit: %)
		<b>INSTALL</b>	<b>NN END</b>	<b>END</b>	<b>RESIDUAL</b>
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

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to display the user data delete history.
<b>Section</b>	

### Operation/Procedure

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

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

## 22-19

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

### 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
FTP	FTP COUNTER	Number of FTP send	8	0

Display		Content	No. of digits	Default value
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

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

#### Operation/Procedure

- 1) Select the main error code.

The sub error code and the contents are displayed.

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

#### 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	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	JAM data details display
<b>Section</b>	

#### 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)
AWR		A3W (12x18 in)-R
12	AB series fixed form	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	AB series fixed form	A0x2
55		A0x2 R
A0		A0
A0R		A0R
B0		B0
B0R		B0R
B1		B1
B1R		B1R
B2		B2
B2R		B2R
K8		K8
K8R		K8R
K16		K16
16R		K16R
K32		K32
32R		K32R

Display	Content	
66	AB series fixed form	SRA3
67		SRA3R
68		SRA4
69		SRA4R
06A		318 x 469 mm
06B		469 x 318 mm
06C		234 x 318 mm
06D		318 x 234 mm
06E		312 x 440 mm
06F		440 x 312 mm
70		220 x 312 mm
71		312 x 220 mm
82	Domestic special (Envelope)	DBL Postcard
83		DBL Postcard-R
84		Postcard
85		Postcard-R
87		119 x 277 mm
89		120 x 235 mm
08B		90 x 205 mm
08D		90 x 185 mm
08F		240 x 332 mm
91		216 x 277 mm
93		197 x 267 mm
95		190 x 240 mm
97		162 x 229 mm
99		142 x 205 mm
09B		119 x 197 mm
09D		120 x 176 mm
09F		114 x 162 mm
0A1		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

Display	Content	
0DC	Oversea special (Envelope)	Inch series panorama size
0DD		Inch series name card large
0DE		Inch series identification photo
0DF		Inch series name card small
0EC	Other	Extra (Special large size)
0ED		Extra (Special small size)
0EF		Extra (Special/Not fixed)
0F0		Long size
0FF		JAM (Used for canceling temporary charging in a coin vendor.)

#### Display content detail: Paper type (P\_T)

Display	Content
UST	User type
LHP	Letter head paper
PNP	Perforated sheet
RCL	Recycled paper
COL	Color paper
PLN	Standard paper
PRP	Pre printed
OHP	OHP Transparency
HV	Heavy paper
LBL	Label sheet
ENV	Envelope
HG	Postcard
TAB	Tab sheet
THN	Thin paper
US1	User type 1
US2	User type 2
US3	User type 3
US4	User type 4
US5	User type 5
US6	User type 6
US7	User type 7
HV2	Heavy paper 2
PL2	Plain paper 2 (not used)
HV3	Heavy paper 3
HV4	Heavy paper 4
GLS	Glossy paper

#### Display content detail: Job mode (JOB)

Display	Content
SHD	Shading.
PCL	Process control
SIM	Test mode (Sim)
ICP	Interruption copy
CP	Copy
FXS	FAX send scan
AXS	AXIS
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	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to output the various set data lists.
<b>Section</b>	

#### 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.

All setting list (*1)	ALL CUSTOM SETTING LIST
Printer test page	PCL SYMBOL SET LIST
	PCL INTERNAL FONT LIST
	PCL EXTENDED FONT LIST
	PS FONT LIST
	PS KANJI FONT LIST (Japan)
	PS EXTENDED FONT LIST
	NIC PAGE
Address registration list (*1)	INDIVIDUAL LIST
	GROUP LIST
	PROGRAM LIST (Output Disable)
	MEMORY BOX LIST
	ALL SENDING ADDRESS LIST
Document filing list (*1)	DOCUMENT FILING FOLDER LIST
System setting list	ADMIN. SETTINGS LIST (COPY)
	ADMIN. SETTINGS LIST (PRINT)
	ADMIN. SETTINGS LIST (IMAGE SEND)
	ADMIN. SETTINGS LIST (DOC FILING)
	ADMIN. SETTINGS LIST (SECURITY)
	ADMIN. SETTINGS LIST (COMMON)
	ALL ADMINISTRATOR SETTINGS LIST
Receive rejection number table	ANTI JUNK FAX NUMBER LIST
Receive rejection/allow address domain table	ANTI JUNK MAIL/DOMAIN NAME LIST
To E-mail Transfer table list	INBOUND ROUTING LIST
To administrator Transfer list	DOCUMENT ADMIN LIST
Web setting list	WEB SETTING LIST
Meta data set list	METADATA SET LIST

\*1: When the data list print of system setting is inhibition in DSK model, this setting is invalid.

## 23

23-2	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	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.)
<b>Section</b>	

#### 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	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	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.

<b>Section</b>	Paper feed, Paper transport
----------------	-----------------------------

#### 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.

## 24

24-1	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	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

<b>24-2</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	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)
LCT3	Upper stage LCT paper feed counter (When connected in two)(*1)
LCT4	Lower stage LCT paper feed counter (When connected in two)(*1)
LCT_MFT	LCT manual paper feed counter (*1)

\*1: Displayed only when the option is installed.

<b>24-3</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	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
HP_ON	HP detection count
TRIMMER	Trimmer counter
FOLDING	Paper folding counter
INSERTER	Insertion counter (Tray 1)
INSERTER2	Insertion counter (Tray 2)
INSERTER OFFLINE	Insertion 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.

<b>24-4</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	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 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)
	PRESS ROLLER	Pressure roller (Counter)
		Pressure roller (Number of use days)
		Pressure roller (Accumulated traveling distance)
	Separation	SEPARATE PAWL
Separation pawl (Number of use days)		
Separation pawl (Accumulated traveling distance)		
SEPARATE PLATE		Separation plate (Counter)
		Separation plate (Number of use days)
		Separation plate (Accumulated traveling distance)
FUSING WEB(L)		Fusing lower web unit (Counter)
		Fusing lower web unit (Number of use days)
		Fusing lower web cleaning send counter (Counter)
Transfer	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)
	TC2 BELT	Secondary transfer belt (Counter)
		Secondary transfer belt (Number of use days)
		Secondary transfer belt (Accumulated traveling distance)



Display		Content
Transfer	TC2 TRANS BLADE	Secondary transfer blade (Counter)
		Secondary transfer blade (Number of use days)
		Secondary transfer blade (Accumulated traveling distance)
	PTC	PTC counter (Counter)
		PTC counter (Number of use days)
		PTC counter (Accumulated traveling distance)
	PTC CLEAN	PTC counter (RPM)
Drum	DRUM CTRG K	Drum cartridge K (Counter)
		Drum cartridge K (Number of use days)
		Drum cartridge K (Accumulated traveling distance)
	DRUM CTRG C	Drum cartridge C (Counter)
		Drum cartridge C (Number of use days)
		Drum cartridge C (Accumulated traveling distance)
	DRUM CTRG M	Drum cartridge M (Counter)
		Drum cartridge M (Number of use days)
		Drum cartridge M (Accumulated traveling distance)
	DRUM CTRG 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)
	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)
	MC CLEAN Y	MC cleaner Y (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)

Display		Content
Drum blade	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)

\* 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

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	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_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\_.\*"

<b>24-6</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the copy counter.
<b>Section</b>	
<b>Operation/Procedure</b>	
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.	
COPY BW	Copy counter (B/W)
COPY COL	Copy counter (COLOR)
SINGLE COLOR	Single color
2COLOR	2-color

<b>24-9</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used clear the printer mode print counter and the self print mode print counter.
<b>Section</b>	
<b>Operation/Procedure</b>	
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.	
PRINT BW	Print counter (B/W)
PRINT COL	Print counter (COLOR)
PRINT (2COL)	Print counter (2-colors)
PRINT (3COL)	Print counter (3-colors)
PRINT (SGL_COL)	Print counter (Single color)
OTHER BW	Other counter (B/W)
OTHER COL	Other counter (COLOR)

<b>24-10</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the FAX counter. (Only when FAX is installed)
<b>Section</b>	
<b>Operation/Procedure</b>	
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.	
FAX OUTPUT	FAX Print quantity counter
FAX SEND	FAX send counter
FAX RECEIVED	FAX receive counter
SEND IMAGES	FAX send quantity counter
SEND TIME	FAX send time
RECEIVED TIME	FAX receive time

<b>24-12</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the document filing counter.
<b>Section</b>	
<b>Operation/Procedure</b>	
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.	
<b>Display</b>	<b>Content</b>
DOC FIL (BW)	Black and white document filing print counter
DOC FIL (COL)	Color document filing print counter
DOC FIL (2COL)	2-color document filing print counter
DOC FIL (SGL_COL)	Single-color document filing print counter

<b>24-15</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the counters related to the scan mode and the image send.
<b>Section</b>	
<b>Operation/Procedure</b>	
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.	

	<b>Display</b>	<b>Content</b>	<b>No. of digits</b>	<b>Default value</b>
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
FTP	FTP COUNTER	Number of FTP send	8	0

Display		Content	No. of digits	Default value
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

## 24-35

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the toner cartridge use status data.

<b>Section</b>	
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### Operation/Procedure

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

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

## 25

### 25-1

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the developing section.

<b>Section</b>	Process (Developing section)
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### 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

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to make the initial setting of toner density when replacing developer. (Automatic adjustment)
<b>Section</b>	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:** The toner cartridge must be removed before executing this simulation.

If this simulation is executed with the toner cartridge installed, toner will be forcibly supplied to the developing unit, resulting in undertoner and 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)

Sensor name (Display)	Sensor name
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

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to display the operation data of the toner supply quantity. (Not used in the market.)
<b>Section</b>	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

25-5

<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to display the toner density correction data. (Not used in the market.)
<b>Section</b>	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

Display	Content	Display range
TSG_ENV	Current TSG accumulated drive area correction value (Medium speed)	-127 - 127
DELTA_TSG	Control voltage correction value	-255 - 255
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

## 26

26-1

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set Yes/No of installation of the right paper exit tray.
<b>Section</b>	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

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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.)
<b>Section</b>	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
AB_B	A4	A4	GRAM

Destination	Setting value		
	TRAY1	A4 LCC	G/LBS SET
EUROPE	A4	A4	GRAM
U.K.	A4	A4	GRAM
AUS.	A4	A4	GRAM
AB_A	A4	A4	GRAM
CHINA	A4	A4	GRAM

26-3

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the specifications of the auditor. (Setting must be made according to the auditor use conditions.)
<b>Section</b>	Auditor

#### Operation/Procedure

Select an item to be set with the touch panel.

Item/Display		Content	Default value
BUILT-IN AUDITOR	P10	Built-in auditor mode (standard mode) operation.	P10
OUTSIDE AUDITOR	NONE	No external connection vendor is used.	NONE
	P VENDOR1	Coin vendor mode (Only the copy mode can be controlled.)	
	P VENDOR3	Vendor mode in which signals for the intercard connected to the PCU are used for communication in parallel I/F.	
	P OTHER	Mode for an external auditor connected to the SCU.	
	VENDOR-EX (*1)	Vendor I/F for EQUITRAC	
	VENDOR-EX (MULTI) (*1)	VENDOR-EX + Multi job cueing Enable mode	
	S_VENDOR	Serial vendor mode	
DOC ADJ	ON	Support for the auditor in document filing print	OFF
	OFF	No support for the auditor in document filing print	
PF ADJ	ON	Continuous printing is performed in the duplex print mode. If the remaining money expires during continuous printing, the sheets in the machine are discharged without being printed on the back surfaces.	OFF
	OFF	Continuous printing is not performed in the duplex print mode. (The remaining amount is checked for printing every surface in all the printing process.) If the remaining money expires during printing, the sheet is discharged without printing on the back surface.	
VENDOR MODE (*2)	MODE1	Vendor mode 1	MODE 3
	MODE2	Vendor mode 2	
	MODE3	Vendor mode 3	

Item/Display		Content	Default value
COUNTUP TIMING	FUSER_IN	Mode in which the detection timing of the paper lead edge by the sensor after the paper passes the fusing section is used as the money charging timing.	EXIT_OUT
	FUSER_OUT	Mode in which the detection timing of the paper rear edge by the sensor after the paper passes the fusing section is used as the money charging timing.	
	EXIT_OUT	Mode in which the detection timing of the paper rear edge by the paper exit sensor of the right paper exit tray or of the after process unit is used as the money charging timing.	

\*1: Displayed only when EQUITRAC.

\*2: Details of the vendor mode

#### Details of the vendor mode

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

Operation 1:

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

Operation 2:

Auto clear is not made.

Operation 3:

The display is shifted to the initial screen.

26-5

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the count mode of the total counter and the maintenance counter. (A3/ 11x17 size)
<b>Section</b>	

#### 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)	

<b>26-6</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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
AB_B	AB series (B5 detection), other destinations
EUROPE	Europe
U.K.	United Kingdom
AUS.	Australia
AB_A	AB series (A5 detection), other destinations
CHINA	China

<b>26-7</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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	-	-	-	-	-	-	-	-	-

<b>26-8</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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	MAINT (B/W) LONG SIZE(S)	Long scale (Small) Maintenance counter (B/W)	1 - 10	3	2
D	MAINT (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	MAINT (B/W) LONG SIZE(L)	Long scale (Large) Maintenance counter (B/W)	1 - 10	5	2
J	MAINT (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

<b>26-10</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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)

<b>26-18</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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)	0 (Displayed)
AB_B	0 (Displayed)	0 (Displayed)
EUROPE	0 (Displayed)	0 (Displayed)
U.K.	1 (Not Displayed)	0 (Displayed)
AUS.	0 (Displayed)	0 (Displayed)
AB_A	0 (Displayed)	0 (Displayed)
CHINA	0 (Displayed)	0 (Displayed)

<b>26-30</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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)	EUROPE	0 (CE supported)
CANADA	1 (CE not supported)	U.K.	0 (CE supported)
INCH	1 (CE not supported)	AUS.	0 (CE supported)
JAPAN	1 (CE not supported)	AB_A	0 (CE supported)
AB_B	1 (CE not supported)	CHINA	0 (CE supported)

<b>26-32</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the specifications of the fusing cleaning operation.
<b>Section</b>	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	

<b>26-35</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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.

<b>26-38</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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)	

<b>26-41</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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)	EUROPE	1 (Enable)
CANADA	0 (Disable)	U.K.	1 (Enable)
INCH	0 (Disable)	AUS.	0 (Disable)
JAPAN	0 (Disable)	AB_A	0 (Disable)
AB_B	0 (Disable)	CHINA	0 (Disable)

<b>26-49</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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	

<b>26-50</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set functions.

#### Section

#### Operation/Procedure

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

Item/Display	Content	Default value
A BW REVERSE	0 BW reverse copy Disable	Refer to *1
	1 BW reverse copy Enable	
B COLOR MODE	2-color/Single color copy mode Enable/Disable setting	Refer to *1/*2
C FINISHER FUNCTION	0 Finisher special paper The number of paper exit is limited.	0 Refer to *3
	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 to *1
	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 LONG SIZE PRINT	0 Long size print disable	0
	1 Long size print enable	
G WIRELESS SET	0 Disables wireless LAN setting.	0 (NO)
	1 Enables wireless LAN setting.	

\*1: Default values for each destination of item A/B/D

Destination	Item A	Item B	Item D
U.S.A	1	0	2
CANADA	1	0	2
INCH	1	0	2
JAPAN	1	7	2
AB_B	1	0	2
EUROPE	1	0	2
U.K.	0	0	2
AUS.	1	0	2
AB_A	1	0	2
CHINA	1	0	2

\*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.	

26-51

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the specifications of the serial port operation. (For PCI)
<b>Section</b>	

#### Operation/Procedure

- 1) Enter the set value with 10-key.  
When the PCI is installed, setting is made to 1 or 2.
- 2) Press [OK] key.

Item/Display	Content	Setting range	Default value
A PCI SETTING	Serial port PCI mode OFF (-For connecting the serial port vendor)	0	0 (Serial port PCI mode OFF)
	Serial port PCI mode ON (JOB status LED: MODE1)	1	
	Serial port PCI mode ON (JOB status LED: MODE2)	2	

MODE1: Red LED is light/blink/OFF, MODE2: Red LED always OFF

NOTE: When "PCI SETTING" is changed from "0" to "1" or "2," if SIM26-03 "OUTSIDE AUDITOR" is set to "S\_VENDOR," "OUTSIDE AUDITOR" is changed to "NONE."

26-52

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set whether non-printed paper (insertion paper, cover paper) is counted up or not.
<b>Section</b>	
<b>Operation/Procedure</b>	
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)
AB_B	0 (Counted)
EUROPE	0 (Counted)
U.K.	0 (Counted)
AUS.	1 (Not counted)
AB_A	0 (Counted)
CHINA	0 (Counted)

26-53

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	User auto color calibration (color balance adjustment) Inhibit/Allow setting.
<b>Section</b>	

#### Operation/Procedure

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

Item/Display	Content	Setting range	Default value
A COPY (1:YES 0:NO)	Copy mode	Allow	1
		Inhibit	0
B PRINTER (1:YES 0:NO)	Printer mode	Allow	1
		Inhibit	0

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

26-65	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the finisher alarm mode.
<b>Section</b>	

#### 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 OFF	ON	ON	ON or OFF	ON	ON	ON or OFF	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.

26-69	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the operating conditions for toner near end.
<b>Section</b>	

#### 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	List of Default values and set values for each destination
		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%		
		20%	3 Toner preparation at remaining toner level of 20%		
		25%	4 Toner preparation at remaining toner level of 25%		
		30%	5 Toner preparation at remaining toner level of 30%		
		35%	6 Toner preparation at remaining toner level of 35%		

Item/Display		Content		Setting range	Default value
B	REMAINING TONER LEVEL	40%	7 Toner preparation at remaining toner level of 40%	0 - 9	4
		45%	8 Toner preparation at remaining toner level of 45%		
		50%	9 Toner preparation at remaining toner level of 50%		
C	TONER NEAR END(0: YES 1: NO)	0	The toner near end message is displayed.	0 - 1	List of Default values and set values for each destination
		1	The toner near end message is not displayed.		
D	TONER END	1	Operation 1	1 - 3	List of Default values and set values for each destination
		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)		
		3	Toner end judgment by bottle end (Introduction process, etc.)		

Item/Display		Content		Setting range	Default value
F	TONER E-MAIL ALERT	0	E-mail alert Toner Low status send timing near near toner end	0 - 1	1
		1	E-mail alert Toner Low status send timing near toner end		

<List of Default values and set values for each destination>

Destination	Setting value		
	Toner preparation message	Toner near end message	At toner end
U.S.A	0 (Displayed)	0 (Displayed)	2
CANADA	0 (Displayed)	0 (Displayed)	2
INCH	0 (Displayed)	0 (Displayed)	2
JAPAN	0 (Displayed)	0 (Displayed)	2
AB_B	0 (Displayed)	0 (Displayed)	2
EUROPE	0 (Displayed)	0 (Displayed)	2
U.K.	0 (Displayed)	0 (Displayed)	2
AUS.	0 (Displayed)	0 (Displayed)	2
AB_A	0 (Displayed)	0 (Displayed)	2
CHINA	0 (Displayed)	0 (Displayed)	1

<b>26-71</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the trial mode of the web browsing function.
<b>Section</b>	

**Operation/Procedure**

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

Item/Display		Content		Setting range	Default value
A	WEB BROWSING TRIAL MODE (0: YES 1: NO)	0	Web browsing trial mode setting	0 - 1	1
		1	Web browsing trial mode canceling		

<b>26-73</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Enlargement continuous shoot, A3 wide copy mode image loss (shade delete quantity) adjustment
<b>Section</b>	

**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)

<b>26-74</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the OSA trial mode.
<b>Section</b>	

**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.		

<b>26-78</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the password of the remote operation panel.
<b>Section</b>	

**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.

<b>26-79</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set YES/NO of the pop-up display of user data delete result.
<b>Section</b>	

**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	

<b>27-1</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set non-detection of communication error (U7-00) with RIC. (FSS function)

### Section

#### Operation/Procedure

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

0	Not detection
1	Detection

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

<b>27-4</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the initial call and toner order auto send. (FSS function)

### Section

#### Operation/Procedure

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

The set value in step 2) is saved.

Item/Display			Content		Setting range	Default value	Remarks
A	FSS MODE	NEB1	Set the FSS MODE	Exclusive for send in NE-B mode	0 - 3	0	1
		NEB2		Send/Receive in NE-B mode		1	
		NFB1		Exclusive for send in NE-F mode		2	
		NFB2		Send/Receive in NE-F mode		3	
B	RETRY_BUSY		Resend number setting when busy		0 - 15	2	0: No retry
C	TIMER(MINUTE)_BUSY		Resend timer setting (minute) when busy		1 - 15	3	
D	RETRY_ERROR		Resend number setting when error		0 - 15	1	0: No retry
E	TIMER(MINUTE)_ERROR		Resend timer setting (minute) when error		1 - 15	1	
F	FAX RETRY		Resend number setting when FAX initial connection		0 - 15	2	Unit: Number of times
G	TONER ORDER TIMING(K)	EMPTY	Toner order auto send timing setting (K)	Empty	0 - 11	0	11
		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	11
		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	

<b>27-2</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the sender's registration number and the HOST server telephone number. (FSS function)

### Section

#### Operation/Procedure

- 1) Select an item to be set with touch panel.  
[USER FAX NO] [SERVA TEL NO]
- 2) Enter the set value with 10-key.
- 3) Press [SET] key.

The set value in step 2) is saved.

USER FAX_NO.	Sender registration number (Max. 16 digits)
SERVA TEL_NO.	Host server telephone number (Max. 16 digits) ? If the connection process is not completed normally when registering the FSS, calling to the HOST may be continuously made every time when the power is turned ON (from OFF) or rebooted. In this case, enter "*****" to inhibit calling to the HOST.

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	11	
		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	11	
		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	0	
				Toner under alert send when presuming the toner consumption		1		

27-5

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the machine tag No. (This function allows the host computer to check the machine tag No.) (FSS function)
<b>Section</b>	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

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set of the manual service call. (FSS function)
<b>Section</b>	

#### 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

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set of the enable, alert callout. (FSS function)
<b>Section</b>	

#### 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	

<b>27-9</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the paper transport time recording YES/NO threshold value and shading gain adjustment retry number. (FSS function)
<b>Section</b>	

#### 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 TIME1	Threshold value of paper transport time between sensors (Machine)	0 - 100	50(%)
B FEED TIME2	Threshold value of paper transport time between sensors (SPF)	0 - 100	50(%)
C GAIN ADJUSTMENT RETRY	Threshold value of the gain adjustment retry number	0 - 20	11 (TIMES)
D 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)
E 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.

<b>27-10</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the trouble prediction history information. (FSS function)
<b>Section</b>	

#### 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

<b>27-11</b>	
<b>Purpose</b>	Others
<b>Function (Purpose)</b>	Used to check the serial communication retry number and the scanner gain adjustment retry number history. (FSS function)
<b>Section</b>	

#### 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	
DSPF2	99/99/99 99:99:99	8 digits	Scanner gain adjustment retry history
SCAN GAIN ADJ1	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ2	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ3	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ4	99/99/99 99:99:99	8 digits	
SCAN GAIN ADJ5	99/99/99 99:99:99	8 digits	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	
<b>Purpose</b>	Others
<b>Function (Purpose)</b>	Used to check the high density, halftone process control and the automatic registration adjustment error history. (FSS Function)
<b>Section</b>	

#### 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 papers1	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	
<b>Purpose</b>	Others
<b>Function (Purpose)</b>	Used to check the history of paper transport time between sensors. (FSS function)
<b>Section</b>	

#### 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)

<b>27-14</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the FSS function connection test mode.
<b>Section</b>	
<b>Operation/Procedure</b>	
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.

<b>27-15</b>	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to display the FSS connection status.
<b>Section</b>	
<b>Operation/Procedure</b>	
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	

<b>27-16</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the FSS alert send.
<b>Section</b>	
<b>Operation/Procedure</b>	
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



27-17

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the FSS paper order alert.
<b>Section</b>	

**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

27-18

<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the FSS paper feed retry counter.
<b>Section</b>	

**Operation/Procedure**

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

Display	Content
TRAY1	Tray 1 paper feed retry counter
TRAY2	Tray 2 paper feed retry counter
TRAY3	Tray 3 paper feed retry counter
TRAY4	Tray 4 paper feed retry counter
MFT	Manual paper feed retry counter (Content)
LCC	Side LCC paper feed retry counter (*1)
LCT1	LCC1 paper feed retry counter (*1)
LCT2	LCC2 paper feed retry counter (*1)

Display	Content
LCT3	LCC3 paper feed retry counter (*1)
LCT4	LCC4 paper feed retry counter (*1)

\*1: Displayed only when the option is installed.

30

30-1

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	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
FPFD	Fusing upper paper entry detection
1TUD_CL	Primary transfer belt separation CL detection
1TUD_K	Primary transfer belt separation K detection

30-2	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	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

## 40

40-2	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Manual paper feed tray paper width sensor adjustment.
<b>Section</b>	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	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the adjustment value of the manual paper feed tray paper width sensor.

#### Section

#### 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
B	P1 POSITION	Manual feed P1 position width (A4)
C	P2 POSITION	Manual feed P2 position width (A4R)
D	MIN POSITION	Manual feed min. width

40-12	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the tray 4 width detection level.
<b>Section</b>	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

## 41

41-1	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operations of the document size sensor and the control circuit.
<b>Section</b>	

#### 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

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	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

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	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

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the fusing temperature in each 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.

Display	Content	Setting range * (Button display)	Default value
PLAIN PAP&WUP&RDY GR	Used to change the fusing temperature setting of plain paper, WUP, and Ready series.	-10	0
		-5	
		0	
		5	
		10	
HEAVY PAPER GR	Used to change the fusing temperature setting of heavy paper series.	-10	0
		-5	
		0	
		5	
		10	
THIN PAPER GR	Used to change the fusing temperature setting of thin paper series.	-10	0
		-5	
		0	
		5	
		10	
RECYCLED PAPER GR	Used to change the fusing temperature setting of recycled paper series.	-10	0
		-5	
		0	
		5	
		10	
GLOSS PAPER GR	Used to change the fusing temperature setting of gloss paper series.	-10	0
		-5	
		0	
		5	
		10	
EMBOSS PAPER GR	Used to change the fusing temperature setting of embossed paper series.	-10	0
		-5	
		0	
		5	
		10	
ENV PAPER GR	Used to change the fusing temperature setting of envelope series.	-10	0
		-5	
		0	
		5	
		10	

\*: The values indicate the temperature. (5 = 5 degrees C)

43-2	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the fusing operation and pre-heating.
<b>Section</b>	

#### 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.

#### 62 CPM machine

4	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 HL_US T	Fusing motor previous rotation start TH_US 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	26	70	26	26	70	26
D	HI_WU_FM_ON_TMP	FM preliminary rotation start TH_UM when warming up at alpha degrees C or above	0 - 200	30	0	30	30	0	30
E	HI_WU_END_TIME	Warm-Up completion time when Warm-Up at alpha degrees C or above	0 - 255	26	40	26	26	40	26
F	LO_WARMUP_TIME	Setting value applying time in warm-up of 120 degrees C or below (Timer from Ready completion)	0 - 255	0	0	0	0	0	0
G	HI_WARMUP_TIME	Setting value applying time in warm-up of 120 degrees C or above (Timer from Ready completion)	0 - 255	0	0	0	0	0	0
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	HL_UM E-STAR	TH_UM set value when preheating	30 - 200	125	150	135	125	150	135
K	HL_LM E-STAR	TH_LM set value when preheating	30 - 200	140	140	140	140	140	140
L	HL_US E-STAR	TH_US set value when preheating	30 - 200	135	150	145	135	150	145
M	HL_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

#### 70 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 HL_US T	Fusing motor previous rotation start TH_US 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	30	70	30	30	70	30
D	HI_WU_FM_ON_TMP	FM preliminary rotation start TH_UM when warming up at alpha degrees C or above	0 - 200	30	0	30	30	0	30
E	HI_WU_END_TIME	Warm-Up completion time when Warm-Up at alpha degrees C or above	0 - 255	30	40	30	30	40	30
F	LO_WARMUP_TIME	AF - AH applying time (Timer from completion of Ready)	0 - 255	0	0	0	0	0	0
G	HI_WARMUP_TIME	AJ - AL applying time (Timer from completion of Ready)	0 - 255	0	0	0	0	0	0
H	HI_WARMUP_BORDER	Threshold value alpha to which AN - AP is applied	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

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
J HL_UM E-STAR	TH_UM set value when preheating	30 - 200	135	150	140	135	150	140
K HL_LM E-STAR	TH_LM set value when preheating	30 - 200	140	140	140	140	140	140
L HL_US E-STAR	TH_US set value when preheating	30 - 200	145	150	150	145	150	150
M HL_UM PRE-JOB	Resetting from preheating TH_UM set value	30 - 200	160	160	160	180	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

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	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.

#### 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	
			62 CPM machine	70 CPM machine
A WARMUP FUMON HL_US T LL	Correction value for fusing motor pre-rotation start TH_US 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	80	80
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 HL_UM E-STAR LL	Correction value for preheating TH_UM set value under LL environment	1 - 99	55	55
K HL_LM E-STAR LL	Correction value for preheating TH_LM set value under LL environment	1 - 99	55	55
L HL_US E-STAR LL	Correction value for preheating TH_US set value under LL environment	1 - 99	55	55
M HL_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)

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	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.
<b>Section</b>	

**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					
			62 CPM machine			70 CPM machine		
			Group A	Group B	Group C	Group A	Group B	Group C
A	WARMUP FUMON HL_US T HH	Fusing motor previous rotation start TH_UM set value	1 - 99	50	50	50	50	50
B	WARMUP FUMOFF HH	Fusing motor previous rotation complete time	1 - 99	50	50	50	50	50
C	WARMUP END TIME HH	Warm-up complete time	1 - 99	50	50	50	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	50	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	50	50	50
F	LO_WARMUP_TIME_HH	Correction value for AF - AH application time (timer from Ready complete)	1 - 99	50	50	50	50	50
G	HI_WARMUP_TIME HH	Correction value for AJ - AL application time (timer from Ready complete)	1 - 99	50	50	50	50	50
H	HI_WARMUP_BORDER_HH	Threshold value alpha to which AN - AP is applied	1 - 99	50	50	50	50	50
I	JOBEND_FUMON_TIME HH	After-rotation time after completion of a job	1 - 99	50	50	50	50	50
J	HL_UM E-STAR HH	TH_UM set value when preheating	1 - 99	50	50	50	50	50
K	HL_LM E-STAR HH	TH_LM set value when preheating	1 - 99	50	50	50	50	50
L	HL_US E-STAR HH	TH_US set value when preheating	1 - 99	50	50	50	50	50
M	HL_UM PRE-JOB HH	Resetting from preheating TH_UM set value	1 - 99	50	50	50	50	50

**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

<b>43-24</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the correction of the temperature adjustment value of SIM 43-1.
<b>Section</b>	

#### 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 (62 CPM machine)			Default value (70 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	12	12	12	12	12
E	POWER_SET	Power voltage setting 1: 100V, 2: 110 - 120V, 3: 220V - 240V	1 - 3	1	3	3	1	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

<b>43-32</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set various items related to the forcible operation of web cleaning when job end.
<b>Section</b>	Fusing

#### 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	0 - 1 0 1	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

<b>43-34</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to check the fusing lower web cleaning motor operation.
<b>Section</b>	Fusing

#### Operation/Procedure

- 1) Press [EXECUTE] key.  
The fusing lower web cleaning motor is driven.
- 2) When driving the fusing web cleaning motor is completed, "COMPLETE" is displayed.

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.

Fusing web unit installation detection state	Operation	Remarks
Fusing lower web unit not installed	Does not operate	* During this operation, the fusing web cleaning feed counter is counted up.
Fusing lower web unit installed	Driven by a certain pulse numbers	

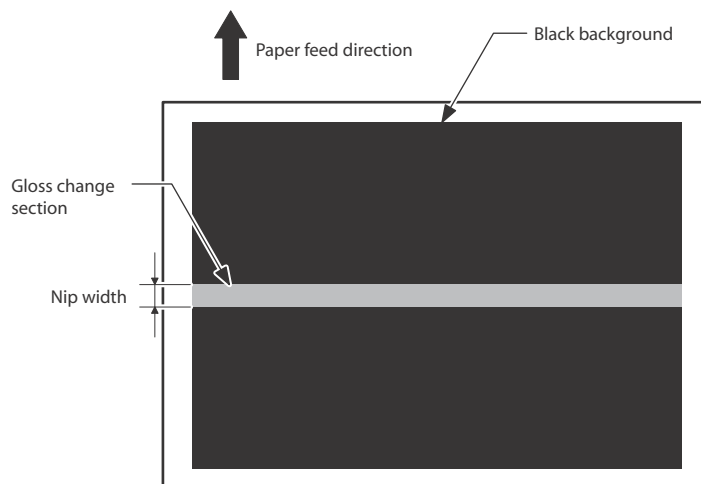
43-35	
<b>Purpose</b>	Adjustment and setting
<b>Function (Purpose)</b>	Fusing nip operation check
<b>Section</b>	Fusing

#### Operation/Procedure

- 1) Prepare a black-background image, and put it on the cassette with the black background facing upward.
- 2) Enter the set value with 10-key. (The cassette is specified.)
- 3) Press [EXECUTE] key.
- 4) [EXECUTE] key is highlighted and printing is started.  
When printing is executed, a jam is always generated. (As shown in the photo below.)

- 5) Leave the jam paper for about 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

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set each correction operation function in the image forming (process) section.
<b>Section</b>	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	
TC	Transfer output correction Enable/Disable setting		Allow	The fluctuation in the transfer efficiency due to the temperature and humidity (absolute moisture) is corrected. Enable/Disable setting. Correction of the output voltage of the transfer high voltage
MD VG	Enable/Disable setting of the membrane decrease grid voltage correction		Allow	
MD LD	Enable/Disable setting of the membrane decrease laser power voltage correction		Allow	
MD EV	Enable/Disable setting of the membrane decrease environment grid voltage correction		Allow	
MD DL	Enable/Disable setting of the membrane decrease discharge light quantity correction		Allow	
MD DL EV	Enable/Disable setting of the membrane decrease environment discharge quantity correction		Inhibit	
MD VG_DV	Enable/Disable setting of the grid correction by the developer bias absolute value		Allow	
MD VG_MC	Enable/Disable setting of the grid correction by the MC total current correction		Allow	
MD DL2	Enable/Disable setting of the discharge light quantity correction after transfer by membrane decrease		Allow	
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	
LD PROCON	Enable/Disable setting of the membrane decrease laser power correction by the process control		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	
AR_AUTO	Auto registration adjustment Enable/Disable setting		Allow	
AR_ERROR	Auto registration adjustment execution error check Enable/Disable setting		Allow	
DM_PHASE	Drum phase fitting Enable/Disable setting		Allow	
PAR AUTO	Enable/Disable setting of registration adjustment between papers		Allow	
PRT_HT	Enable/Disable setting of printer correction feedback of half-tone process control		Allow	
PTC_ENV	PTC environment correction Enable/Disable setting		Allow	Enable: Correction ON

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the sensitivity of the image density sensor (registration sensor).
<b>Section</b>	Process

**Operation/Procedure**

When [EXECUTE] key is pressed, the adjustment is executed automatically.

After completion of the adjustment, the adjustment result is displayed.

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

Classification	Item/Display		Content	Setting range	Default value	Memory
PROCON	A	PCS_F_CL_KA	F side color sensor normalization coefficient	100 - 999	500	Yes
	B	PCS_C_CL_KA	C side color sensor normalization coefficient	100 - 999	500	Yes
	C	PCS_R_CL_KA	R side color sensor normalization coefficient	100 - 999	500	Yes
	D	PCS_F LED ADJ	F side sensor light emitting quantity adjustment value	1 - 255	21	Yes
	E	PCS_C LED ADJ	C side sensor light emitting quantity adjustment value	1 - 255	21	Yes
	F	PCS_R LED ADJ	R side sensor light emitting quantity adjustment value	1 - 255	21	Yes
	G	PCS_F_CL_DARK	F side color dark voltage	0 - 255	0	No
	H	PCS_C_CL_DARK	C side color dark voltage	0 - 255	0	No
	I	PCS_R_CL_DARK	R side color dark voltage	0 - 255	0	No
	J	PCS_F DARK	F side sensor dark voltage	0 - 255	0	No
	K	PCS_C DARK	C side sensor dark voltage	0 - 255	0	No
	L	PCS_R DARK	R side sensor dark voltage	0 - 255	0	No
	M	PCS_F GRND	Belt surface when the item D adjustment is completed	0 - 255	0	No
	N	PCS_F BELT MAX	Belt substrate input max. value	0 - 255	0	No
	O	PCS_F BELT MIN	Belt substrate input min. value	0 - 255	0	No
	P	PCS_F BELT DIF	Belt substrate input difference (Item N - Item O)	0 - 255	0	No
	Q	PCS_C GRND	Belt surface when the item E adjustment is completed	0 - 255	0	No
	R	PCS_C BELT MAX	Belt substrate input max. value	0 - 255	0	No
	S	PCS_C BELT MIN	Belt substrate input min. value	0 - 255	0	No
	T	PCS_C BELT DIF	Belt substrate input difference (Item R - Item S)	0 - 255	0	No
	U	PCS_R GRND	Belt surface when the item F adjustment is completed	0 - 255	0	No
	V	PCS_R BELT MAX	Belt substrate input max. value	0 - 255	0	No
	W	PCS_R BELT MIN	Belt substrate input min. value	0 - 255	0	No
	X	PCS_R BELT DIF	Belt substrate input difference (Item V - Item W)	0 - 255	0	No
REGIST	Y	REG_F LED ADJ	F side registration sensor light emitting quantity adjustment value	1 - 255	56	Yes
	Z	REG_F DARK	F side registration sensor dark voltage	0 - 255	0	No
	AA	REG_F GRND	Belt surface when the item Y adjustment is completed	0 - 255	0	No
	AB	REG_C LED ADJ	C side registration sensor light emitting quantity adjustment value	1 - 255	56	Yes
	AC	REG_C DARK	C side registration sensor dark voltage	0 - 255	0	No
	AD	REG_C GRND	Belt surface when the item AB adjustment is completed	0 - 255	0	No
	AE	REG_R LED ADJ	R side registration sensor light emitting quantity adjustment value	1 - 255	56	Yes
	AF	REG_R DARK	R side registration sensor dark voltage	0 - 255	0	No
	AG	REG_R GRND	Belt surface when the item AE adjustment is completed	0 - 255	0	No
	AH	REG_F BELT MAX	Belt substrate input max. value (F side)	0 - 255	0	No
	AI	REG_F BELT MIN	Belt substrate input min. value (F side)	0 - 255	0	No
	AJ	REG_F BELT DIF	Belt substrate input difference (Item AN - Item AI)	0 - 255	0	No
	AK	REG_C BELT MAX	Belt substrate input max. value (C side)	0 - 255	0	No
	AL	REG_C BELT MIN	Belt substrate input min. value (C side)	0 - 255	0	No
	AM	REG_C BELT DIF	Belt substrate input difference (MAX   MIN)	0 - 255	0	No
	AN	REG_R BELT MAX	Belt substrate input max. value (R side)	0 - 255	0	No
	AO	REG_R BELT MIN	Belt substrate input min. value (R side)	0 - 255	0	No
	AP	REG_R BELT DIF	Belt substrate input difference (Item AN - Item AO)	0 - 255	0	No
	AQ	REG_F PATCH(K)	Patch light reception potential F (K)	0 - 255	0	No
	AR	REG_F PATCH(C)	Patch light reception potential F (C)	0 - 255	0	No
	AS	REG_F PATCH(M)	Patch light reception potential F (M)	0 - 255	0	No
	AT	REG_F PATCH(Y)	Patch light reception potential F (Y)	0 - 255	0	No
	AU	REG_C PATCH(K)	Patch light reception potential C (K)	0 - 255	0	No
	AV	REG_C PATCH(C)	Patch light reception potential C (C)	0 - 255	0	No
	AW	REG_C PATCH(M)	Patch light reception potential C (M)	0 - 255	0	No
	AX	REG_C PATCH(Y)	Patch light reception potential C (Y)	0 - 255	0	No
	AY	REG_R PATCH(K)	Patch light reception potential R (K)	0 - 255	0	No
	AZ	REG_R PATCH(C)	Patch light reception potential R (C)	0 - 255	0	No
	BA	REG_R PATCH(M)	Patch light reception potential R (M)	0 - 255	0	No
	BB	REG_R PATCH(Y)	Patch light reception potential R (Y)	0 - 255	0	No

Error name	Error content
Process control F sensor adjustment abnormality	-PCS_F LED ADJ error The target is not reached by 3 times of retries.
Process control C sensor adjustment abnormality	-PCS_C LED ADJ error The target is not reached by 3 times of retries.
Process control R sensor adjustment abnormality	-PCS_R LED ADJ error The target is not reached by 3 times of retries.
F color sensor adjustment abnormality	-PCS_F_CL_KA calculation error
C color sensor adjustment abnormality	-PCS_C_CL_KA calculation error
R color sensor adjustment abnormality	-PCS_R_CL_KA calculation error
F sensor element scan abnormality	-PCS_F GRND error Effective difference of the upper and the lower values of the belt element surface
C sensor element scan abnormality	-PCS_C GRND error Effective difference of the upper and the lower values of the belt element surface
R sensor element scan abnormality	-PCS_R GRND error Effective difference of the upper and the lower values of the belt element surface
Registration sensor F adjustment abnormality	-REG_F LED ADJ error The target is not reached by 3 times of retries.
Registration sensor C adjustment abnormality	-REG_C LED ADJ error The target is not reached by 3 times of retries.
Registration sensor R adjustment abnormality	-REG_R LED ADJ error The target is not reached by 3 times of retries.
Registration element F scan abnormality	-REG_F GRND error Effective difference of the upper and the lower values of the belt element surface
Registration element C scan abnormality	-REG_C GRND error Effective difference of the upper and the lower values of the belt element surface
Registration element R scan abnormality	-REG_R GRND error Effective difference of the upper and the lower values of the belt element surface

<b>44-4</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the conditions of the high density process control operation.
<b>Section</b>	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_F TARGET	F sensor target value set value	1 - 255	204
B PCS_C TARGET	C sensor target value set value	1 - 255	204
C PCS_R TARGET	R sensor target value set value	1 - 255	204
D LED_K OUTPUT	Black sensor light emitting quantity set value	1 - 255	21
E PCS ADJUSTMENT LIMIT	Sensor adjustment target limit value	1 - 255	4
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 HV BK_GROUND LIMIT	Surface light reception effective area value at the patch position	1 - 255	60

<b>44-6</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to execute the high density process control forcibly.
<b>Section</b>	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

44-9

<b>Purpose</b>	Operation data display
<b>Function (Purpose)</b>	Used to display the result data of the high density process control operation.
<b>Section</b>	Image process (Photoconductor/Developing/Transfer/Cleaning)

**Operation/Procedure**

Select a target display mode with [CPY/PRN], [OTHER] keys.

4	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 - 850 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:600 DV:400
		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:600 DV:400
		CYAN : GB **** DV ***/**				
		MAGENTA : GB **** DV ***/**				
		YELLOW : GB **** DV ***/**				
OTHER	TN/TC	TN HUD AREA		Toner control display humidity area	1 - 14	9
		TN HUD DATA		Toner control display humidity AD value	0 - 1023	0
		TC TMP AREA		Transfer display temperature area	1 - 11	4
		TC TMP DATA		Transfer display temperature AD value	0 - 1023	0
		TC HUD AREA		Transfer display humidity area	1 - 10	4
		TC HUD DATA		Transfer display humidity AD value	0 - 1023	0
		MD HUD AREA		Membrane decrease display humidity area	1 - 14	4
		MD HUD DATA		Membrane decrease display humidity AD value	0 - 1023	0
	DRUM	MD K STEP		Drum membrane decrease correction STEP display (KCMY)	0 - 4	0
		MD C STEP				
		MD M STEP				
		MD Y STEP				
		MD K DRUM COUNTER		Membrane decrease drum traveling distance area (KCMY)	0 - 20	0
		MD C DRUM COUNTER				
		MD M DRUM COUNTER				
		MD Y DRUM COUNTER				
	LIFE	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_HV	MD K REVISE(VG_HV) : L1 *** L2 *** M ***		Electric field grid voltage correction display (KCMY)	0 - 255	0
		MD C REVISE(VG_HV) : L1 *** L2 *** M ***				
		MD M REVISE(VG_HV) : L1 *** L2 *** M ***				
		MD Y REVISE(VG_HV) : L1 *** L2 *** M ***				
	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	LD PROCON	MD K REVISE(LD PROCON) : L1 *** L2 *** M ***	Drum membrane decrease laser power voltage process control correction (KCMY)	0 - 255	0
		MD C REVISE(LD PROCON) : L1 *** L2 *** M ***			
		MD M REVISE(LD PROCON) : L1 *** L2 *** M ***			
		MD Y REVISE(LD PROCON) : L1 *** L2 *** M ***			
	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 ***			
	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 ***			
	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 ***			
	CRUM	DESTINATION	Machine side management CRUM destination	-	-
		MODEL TYPE	Model type of the machine	0 - 1	0
		CRUM DEST_K	Destination in the CRUM (CRUM data)	-	-
		CRUM DEST_C			
		CRUM DEST_M			
		CRUM DEST_Y			
	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	
<b>Purpose</b>	Operation data display
<b>Function (Purpose)</b>	Used to display the operation data of the high density process control and the image density sensor (registration sensor).
<b>Section</b>	Image process (Photoconductor/Developing)

#### Operation/Procedure

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

Item	Display item	Content	Display range	Default value
TARGET	ADK_SL(K)	Development characteristics gradient coefficient (K)	-9.99 - 9.99	0
	ADK_SL(C)	Development characteristics gradient coefficient (C)	-9.99 - 9.99	0
	ADK_SL(M)	Development characteristics gradient coefficient (M)	-9.99 - 9.99	0
	ADK_SL(Y)	Development characteristics gradient coefficient (Y)	-9.99 - 9.99	0
	ADK_INT(K)	Developing characteristics intercept coefficient (K)	-999.9 - 999.9	0
	ADK_INT(C)	Developing characteristics intercept coefficient (C)	-999.9 - 999.9	0
	ADK_INT(M)	Developing characteristics intercept coefficient (M)	-999.9 - 999.9	0
	ADK_INT(Y)	Developing characteristics intercept coefficient (Y)	-999.9 - 999.9	0
	TARGET (K)	Sensor target value set value	0.00 - 255.00	0
	TARGET (C/M/Y)	Color sensor target set value	0.00 - 255.00	0
	PCS_F_DARK	F sensor dark potential	0 - 255	0
	PCS_C_DARK	C sensor dark potential	0 - 255	0
	PCS_R_DARK	R sensor dark potential	0 - 255	0
PATCH 1-5	n-1	Patch data nth time patch 1 (n=1-5)	0 - 255	0
	n-2	Patch data nth time patch 2 (n=1-5)	0 - 255	0
	n-3	Patch data nth time patch 3 (n=1-5)	0 - 255	0
	n-4	Patch data nth time patch 4 (n=1-5)	0 - 255	0
	n-1	Patch data nth time patch 1 (n=6-10)	0 - 255	0
	n-2	Patch data nth time patch 2 (n=6-10)	0 - 255	0
	n-3	Patch data nth time patch 3 (n=6-10)	0 - 255	0
	n-4	Patch data nth time patch 4 (n=6-10)	0 - 255	0

44-14	
<b>Purpose</b>	Operation data display
<b>Function (Purpose)</b>	Used to display the output level of the temperature and humidity sensor.
<b>Section</b>	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_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_US2	Fusing upper sub thermistor 2 temperature Fusing upper sub thermistor 2 AD value	Temperature: 0 - 255 degrees C (+/-1 degrees C)
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

<b>44-15</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the OPC drum idle rotation.
<b>Section</b>	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.

<b>44-17</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Process refresh execution
<b>Section</b>	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

<b>44-21</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the halftone process control target.
<b>Section</b>	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

<b>44-22</b>	
<b>Purpose</b>	Operation data display
<b>Function (Purpose)</b>	Used to display the toner patch density level in the halftone process control operation.

<b>Section</b>	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)

<b>44-24</b>	
<b>Purpose</b>	Operation data display
<b>Function (Purpose)</b>	Used to display the correction target and the correction level in the halftone process control operation.

<b>Section</b>	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	[PRINTER_DITHER_RAW_VALUE]	Printer halftone correction value (before correction)
Reference value	[SENSOR_TARGET]	Halftone process control reference value
Correction value	[S_VALUE]	Halftone process control correction amount
For copier	[COPY_S_VALUE]	Copier halftone process control correction amount
	[COPY_BASE_DITHER_VALUE]	Copier halftone process control reference dither value
	[COPY_AUTO_HT_VALUE]	Copier automatic density adjustment correction amount
Previous correction value	[BEFORE S_VALUE]	Previous halftone process control correction amount

44-25	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the calculating conditions of the correction value for the halftone process control.
<b>Section</b>	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

44-26	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to execute the halftone process control compulsory.
<b>Section</b>	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	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the correction data of the halftone process control.
<b>Section</b>	Process

#### Operation/Procedure

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

The correction data of the halftone process control are cleared.

44-28	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the process control execution conditions.
<b>Section</b>	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	Disable setting	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	



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 - 10: 100 pages	1 - 10	1	10
					Corresponds to 1 step/ 10 pages.		10	
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	Registration adjustment setting	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		60
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		RG_ON_SYNC		CL ALL CL/BK	Power ON process control Synchronization/Asynchronization switch	0 - 2	0 1 2	0
AF		RG_TEMP_TIMER		Setting of execution timing after turning ON the power		0 - 240 (MINUTE)		0
AG		RG_PERM_TIMER		Setting of the span from execution disable to enable		0 - 15 (HOUR)		1
AH		RG_HOUR_TIMER		Setting of the span of timer execution		0 - 15 (Above) + (HOUR)		5
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, 5 - 99	0 5 - 99	5
AK	PTC cleaner control	PTC_CLEAN_TIME_CL		PTC automatic cleaning interval (Color)		0 - 300		50
AL		PTC_CLEAN_TIME_BK		PTC automatic cleaning interval (Monochrome)		0 - 300		100
AM	Drum reverse rotation control	DRUM_REVERSE		Drum reverse rotation control setting	Enable Disable	0 - 1	0 1	1
AN	Judgment of execution of the registration adjustment between sheets	PAR_CNT SYNC		Judgment of execution of the registration adjustment between sheets, interval of number of sheets		1 - 999 (sheet)		50
AO		PAR_TIMER SYNC		Judgment of execution of the registration adjustment between sheets, interval of time		0 - 240 (minute)		30
AP		PAR_TEMP SYNC		Judgment of execution of the registration adjustment between sheets, difference in temperature		0 - 99 degrees C		0

<b>44-29</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set the operating conditions of the process control during a job.
<b>Section</b>	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 (Revised every time when SIM46-74 is executed.)) 1: DEFAULT (Default (Fixed value))	0

HV: High density process control

HT: Halftone process control

<b>44-31</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to check the deflection of the OPC drum.
<b>Section</b>	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.

<b>44-37</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the development bias correction level in the continuous printing operation.
<b>Section</b>	

#### 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
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

Button	Item	Display	Content	Setting range	Default value
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.

<b>44-43</b>	
<b>Purpose</b>	Data display
<b>Function (Purpose)</b>	Used to display the identification information of the developing unit.
<b>Section</b>	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	
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.

<b>44-62</b>	
<b>Purpose</b>	Setup/Adjustment
<b>Function (Purpose)</b>	Used to set the process control execution conditions.
<b>Section</b>	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.)

Display/Item		Content
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	The execution frequency of the process control is low. (It is set when the job speed is given priority.)
	BW MODE	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

<b>Purpose</b>	Adjustment (Color copy mode)
<b>Function (Purpose)</b>	Used to adjust the copy density in the copy mode.
<b>Section</b>	

### 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	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

Item/Display		Content	Setting range	Default value
H	LIGHT	Light document	LOW	1 - 99 50
			HIGH	1 - 99 50
I	TEXT(COPY TO COPY)	Text (Copy document)	LOW	1 - 99 50
			HIGH	1 - 99 50
J	TEXT/PRINTED PHOTO (COPY TO COPY)	Text/Printed Photo (Copy document)	LOW	1 - 99 50
			HIGH	1 - 99 50
K	PRINTED PHOTO (COPY TO COPY)	Printed Photo (Copy document)	LOW	1 - 99 50
			HIGH	1 - 99 50
L	TEXT (COLOR TONE ENHANCEMENT)	Text (Color tone enhancement)	LOW	1 - 99 50
			HIGH	1 - 99 50
M	TEXT/PRINTED PHOTO (COLOR TONE ENHANCEMENT)	Text/Printed Photo (Color tone enhancement)	LOW	1 - 99 50
			HIGH	1 - 99 50
N	TEXT/PHOTO (COLOR TONE ENHANCEMENT)	Text/Photograph (Color tone enhancement)	LOW	1 - 99 50
			HIGH	1 - 99 50
O	PRINTED PHOTO (COLOR TONE ENHANCEMENT)	Printed Photo (Color tone enhancement)	LOW	1 - 99 50
			HIGH	1 - 99 50
P	PHOTOGRAPH (COLOR TONE ENHANCEMENT)	Photograph (Color tone enhancement)	LOW	1 - 99 50
			HIGH	1 - 99 50
Q	MAP (COLOR TONE ENHANCEMENT)	Map (Color tone enhancement)	LOW	1 - 99 50
			HIGH	1 - 99 50
R	LIGHT (COLOR TONE ENHANCEMENT)	Light document (Color tone enhancement)	LOW	1 - 99 50
			HIGH	1 - 99 50
S	SINGLE COLOR	Single color	LOW	1 - 99 50
			HIGH	1 - 99 50
T	SINGLE COLOR (COPY TO COPY)	Single color (Copy document)	LOW	1 - 99 50
			HIGH	1 - 99 50
U	TWO COLOR	2-color (red/black) copy	LOW	1 - 99 50
			HIGH	1 - 99 50
V	TWO COLOR (COPY TO COPY)	2-color (red/black) copy (copy document)	LOW	1 - 99 50
			HIGH	1 - 99 50

46-2

<b>Purpose</b>	Adjustment (Monochrome copy mode)
<b>Function (Purpose)</b>	Used to adjust the copy density in the copy mode.
<b>Section</b>	

### 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

Item/Display		Content		Setting range	Default value
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

46-4	
<b>Purpose</b>	Adjustment (Color scanner mode)
<b>Function (Purpose)</b>	Used to adjust the density in the image send mode.
<b>Section</b>	
<b>Operation/Procedure</b>	

- 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	
<b>Purpose</b>	Adjustment (Monochrome scanner mode)
<b>Function (Purpose)</b>	Used to adjust the density in the image send mode.
<b>Section</b>	

#### 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	
<b>Purpose</b>	Adjustment (Color scanner mode)
<b>Function (Purpose)</b>	Used to adjust the image send mode color balance RGB.
<b>Section</b>	

#### 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	
<b>Purpose</b>	Adjustment (DSPF mode)
<b>Function (Purpose)</b>	Used to adjust the scan image density.
<b>Section</b>	

#### 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.)

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)	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	47
B		SCAN SIDEB: LOW	DSPF scanner mode exposure adjustment (Low density side)	1 - 99	47
C		FAX SIDEB: LOW	DSPF FAX mode exposure adjustment (Low density side)	1 - 99	47
D		COPY SIDEB: HIGH	DSPF copy mode exposure adjustment (High density side)	1 - 99	50
E		SCAN SIDEB: HIGH	DSPF scanner mode exposure adjustment (High density side)	1 - 99	50
F		FAX SIDEB: HIGH	DSPF FAX mode exposure adjustment (High density 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

46-10	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the copy color balance and the gamma (for each color copy mode).
<b>Section</b>	

#### 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  $\triangle$   $\nabla$  key is pressed, the setting value of each item can be changed with 1up (1down) collectively.
- 5) Press [OK] key. (The set value is saved.)

When the adjustment value is increased, the image density is increased, and vice versa.

TEXT	Text
TEXT/PRT PHOTO	Text/Printed Photo
PRINTED PHOTO	Printed Photo
PHOTO + TEXT/PHOTO	Photograph + Text/Printed Photo
MAP	Map
LIGHT	Light document
COPY ORG	Copy document

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

<b>46-16</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	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  $\triangle$   $\nabla$  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.

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

<b>46-19</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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	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:

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.

<b>46-21</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	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  $\triangle$   $\nabla$  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
Q POINT17	Point 17	1 - 999	500



<b>46-23</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	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
		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	0 - 999	500
D	MAGENTA MAX TARGET	0 - 999	500
E	YELLOW MAX TARGET	0 - 999	500
F	BLACK MAX TARGET	0 - 999	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.

<b>46-24</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Copy color balance adjustment (Auto adjustment)

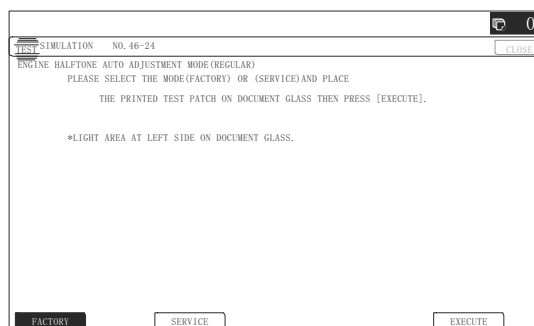
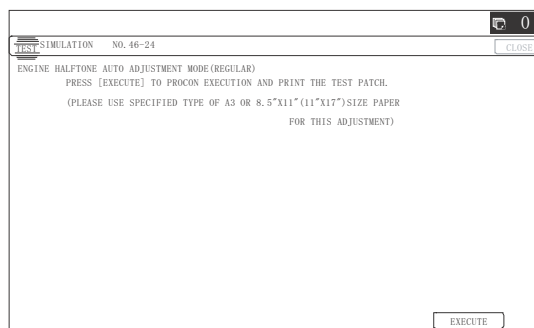
#### Section

#### 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.



<b>46-25</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	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

<b>46-26</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to reset the single color mode color balance set value to the default.
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Press [EXECUTE] key.	
2) Press [YES] key.	
The color balance value of the single color mode is reset to the default value.	

<b>46-27</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the gamma/density of copy images, texts, and line image edges.
<b>Section</b>	
<b>Operation/Procedure</b>	
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 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.

<b>46-30</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the resolution in the sub scanning direction in the copy mode.
<b>Section</b>	
<b>Operation/Procedure</b>	
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	600	600	-

<b>46-32</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the document background density reproducibility in the monochrome auto copy mode.
<b>Section</b>	
<b>Operation/Procedure</b>	
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

<b>46-36</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the colors in the 2-color copy mode.
<b>Section</b>	

#### 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

<b>46-37</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the reproduction capability of monochrome mode color.
<b>Section</b>	

#### 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.

<b>46-38</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the black component amount in the color copy mode.
<b>Section</b>	

#### 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 print (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	TEXT	(-) LUT2	Text (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	PRINTED PHOTO	(-) LUT2	Printed photo (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	PHOTO	(-) LUT2	Photograph/Text photograph (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	TEXT PHOTO	(-) LUT2	Text/Photograph (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	MAP	(-) LUT2	Map (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	CPY TO CPY/ TXT PRT	(-) LUT2	Copy document/ Text printed (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	CPY TO CPY/ TEXT	(-) LUT2	Copy document/ Text (Manual)	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	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	AUTO0	(-) LUT2	Auto mode judgment 0	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO1	(-) LUT2	Auto mode judgment 1	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO2	(-) LUT2	Auto mode judgment 2	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO3	(-) LUT2	Auto mode judgment 3	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO4	(-) LUT2	Auto mode judgment 4	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO5	(-) LUT2	Auto mode judgment 5	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		
	AUTO6	(-) LUT2	Auto mode judgment 6	NORMAL
		(-) LUT1		
		NOMAL		
		(+) LUT1		
		(+) LUT2		

<b>46-39</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the sharpness of FAX send images.
<b>Section</b>	

#### 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	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the FAX send image density. (Collective adjustment of all the modes)
<b>Section</b>	
<b>Operation/Procedure</b>	
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	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the FAX send image density. (Normal)
<b>Section</b>	
<b>Operation/Procedure</b>	
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

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	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the FAX send image density. (Fine)
<b>Section</b>	
<b>Operation/Procedure</b>	
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

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.

46-43	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the FAX send image density. (Super Fine)
<b>Section</b>	

#### 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/Half-tone	1 - 99		50
H	EXPOSURE1 H_TONE	Super Fine/ Exposure 1/Half-tone	1 - 99		50
I	EXPOSURE2 H_TONE	Super Fine/ Exposure 2/Half-tone	1 - 99		50
J	EXPOSURE3 H_TONE	Super Fine/ Exposure 3/Half-tone	1 - 99		50
K	EXPOSURE4 H_TONE	Super Fine/ Exposure 4/Half-tone	1 - 99		50
L	EXPOSURE5 H_TONE	Super Fine/ Exposure 5/Half-tone	1 - 99		50
M	EXECUTE MODE	Print mode	1 - 12	1	1 (AUTO)
		EXP1		2	
		EXP2		3	
		EXP3		4	
		EXP4		5	
		EXP5		6	
		AUTO H_TONE		7	
		EXP1 H_TONE		8	
		EXP2 H_TONE		9	
		EXP3 H_TONE		10	
		EXP4 H_TONE		11	
		EXP5 H_TONE		12	

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.

46-44	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the FAX send image density. (Ultra fine)
<b>Section</b>	

#### 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/ Half-tone	1 - 99		50
H	EXPOSURE1 H_TONE	Ultra Fine/ Exposure 1/Half-tone	1 - 99		50
I	EXPOSURE2 H_TONE	Ultra Fine/ Exposure 2/Half-tone	1 - 99		50
J	EXPOSURE3 H_TONE	Ultra Fine/ Exposure 3/Half-tone	1 - 99		50
K	EXPOSURE4 H_TONE	Ultra Fine/ Exposure 4/Half-tone	1 - 99		50
L	EXPOSURE5 H_TONE	Ultra Fine/ Exposure 5/Half-tone	1 - 99		50
M	EXECUTE MODE	Print mode	1 - 12	1	1 (AUTO)
		EXP1		2	
		EXP2		3	
		EXP3		4	
		EXP4		5	
		EXP5		6	
		AUTO H_TONE		7	
		EXP1 H_TONE		8	
		EXP2 H_TONE		9	
		EXP3 H_TONE		10	
		EXP4 H_TONE		11	
		EXP5 H_TONE		12	

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	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the FAX send image density. (600dpi).
<b>Section</b>	

#### 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	1 - 12	1	1 (AUTO)
		EXP1		600dpi/ Exposure 1		2	
		EXP2		600dpi/ Exposure 2		3	
		EXP3		600dpi/ Exposure 3		4	
		EXP4		600dpi/ Exposure 4		5	
		EXP5		600dpi/ Exposure 5		6	
		AUTO H_TONE		600dpi/ Auto/ Halftone		7	
		EXP1 H_TONE		600dpi/ Exposure 1/Halftone		8	
		EXP2 H_TONE		600dpi/ Exposure 2/Halftone		9	
		EXP3 H_TONE		600dpi/ Exposure 3/Halftone		10	
		EXP4 H_TONE		600dpi/ Exposure 4/Halftone		11	
		EXP5 H_TONE		600dpi/ Exposure 5/Halftone		12	

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	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the FAX send image density. (RGB RIP)
<b>Section</b>	

#### 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	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the compression rate of copy and scan images (JPEG).
<b>Section</b>	

#### 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.

46-51

#### Purpose

Adjustment/Setup

#### Function (Purpose)

Used to adjust the gamma for the copy mode heavy paper mode and the image process mode.

#### Section

#### Operation/Procedure

- 1) Select a target adjustment mode with the touch panel key [PAPER/DITHER].
- 2) Select an adjustment target color with [K][C][M][Y] keys on the touch panel.
- 3) Select a target adjustment density level with scroll key on the touch panel.
- 4) Enter the set value with 10-key.
- 5) Press [EXECUTE] key, or [OK] key.  
When [EXECUTE] key is pressed, the self print image is outputted.

When the image density is insufficient or a background copy is made in heavy paper copy, change this adjustment value to adjust the image density.

Item/Display	Content	Color
HEAVY	Copier heavy paper gamma	KCMY
DITH1	Black edge	K
DITH2	Color edge	KCMY
DITH3	Color error diffusion	KCMY
DITH4	Monochrome error diffusion	K
DITH8	Monochrome dither	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

<b>46-52</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	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.)

<b>Section</b>	
<b>Operation/Procedure</b>	
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.

<b>46-54</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to perform the engine halftone automatic density adjustment (dither).

<b>Section</b>	
<b>Operation/Procedure</b>	
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. After completion of the correction amount registration, the screen shifts to the dither selection menu.
4)	Select an item (dither) to be adjusted.

HEAVYPAPER	Copier/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

- Press [EXECUTE] key.  
The 48 patch self print is printed.
- 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.
- After completion of the adjustment of all the density adjustment items (dither), press [OK] key.

<b>46-55</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the drop out color in the image send mode (monochrome manual text mode).

<b>Section</b>	
<b>Operation/Procedure</b>	
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

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

<b>46-58</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the copy mode pseudo resolution. (Smoothing process)

<b>Section</b>	
<b>Operation/Procedure</b>	
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	OFF 0 ON 1	0 (OFF)
	B	TEXT	OFF 0 ON 1	1 (ON)
	C	TEXT PRT	OFF 0 ON 1	0 (OFF)
	D	PRINTED PHOTO	OFF 0 ON 1	0 (OFF)
	E	TEXT PHOTO	OFF 0 ON 1	0 (OFF)
	F	PHOTO	OFF 0 ON 1	0 (OFF)
	G	MAP	OFF 0 ON 1	1 (ON)

Mode	Item/Display		Content (copy mode)	Setting range		Default value
COLOR	H	LIGHT	Light document	OFF	0	0 (OFF)
				ON	1	
	I	CPY TO CPY/ TEXT	Text (copy document)	OFF	0	1 (ON)
				ON	1	
MONO	J	CPY TO CPY/ TXT PRT	Text print (copy document)	OFF	0	0 (OFF)
	K	CPY TO CPY/ PHOTO	Printed Photo (copy document)	ON	1	0 (OFF)
				OFF	0	
	A	AUTO	Auto	ON	1	0 (OFF)
				OFF	0	
	B	TEXT	Text	ON	1	1 (ON)
				OFF	0	
	C	TEXT PRT	Text print	ON	1	0 (OFF)
				OFF	0	
	D	PRINTED PHOTO	Printed Photo	ON	1	0 (OFF)
				OFF	0	
	E	TEXT PHOTO	Text photograph	ON	1	0 (OFF)
				OFF	0	
	F	PHOTO	Photograph	ON	1	0 (OFF)
				OFF	0	
	G	MAP	Map	ON	1	1 (ON)
				OFF	0	
	H	LIGHT	Light document	ON	1	0 (OFF)
				OFF	0	
	I	CPY TO CPY/ TEXT	Text (copy document)	ON	1	1 (ON)
				OFF	0	
	J	CPY TO CPY/ TXT PRT	Text print (copy document)	ON	1	0 (OFF)
				OFF	0	
	K	CPY TO CPY/ PHOTO	Printed Photo (copy document)	ON	1	0 (OFF)
				OFF	0	

46-59

#### Purpose

Adjustment/Setup

#### Function (Purpose)

Used to perform the copy mode pseudo resolution image process adjustment.

#### Section

#### Operation/Procedure

- 1) Select the MAIN (main scanning direction) or the SUB (sub scanning direction) button.
- 2) Press the button of the adjustment value of the target copy mode.

NOTE: This adjustment is valid when SIM46-58 Pseudo resolution setting is set to ON.

The thickness of images in the section processed by smoothing is changed.

Positive: The image in the section processed by smoothing becomes thicker.

Negative: The image in the section processed by smoothing becomes thinner.

Scanning direction	Item (copy mode)/ Adjustment button		Content/ Default value		NOTE
MAIN	COLOR COPY K	(-)2	Color copy For BLACK	0	Main scanning direction smoothing fine adjustment Negative (-) direction: The smoothing section becomes thinner. Positive (+) direction: The smoothing section becomes thicker.
		(-)1			
		0			
		(+)1			
		(+)2			
	COLOR COPY C	(-)2	Color copy For CYAN	0	
		(-)1			
		0			
		(+)1			
		(+)2			

Scanning direction	Item (copy mode)/ Adjustment button		Content/ Default value		NOTE
MAIN	COLOR COPY M	(-)2	Color copy For MAGENTA	0	Main scanning direction smoothing fine adjustment Negative (-) direction: The smoothing section becomes thinner. Positive (+) direction: The smoothing section becomes thicker.
		(-)1			
		0			
		(+)1			
		(+)2			
	COLOR COPY Y	(-)2	Color copy For YELLOW	0	
		(-)1			
		0			
		(+)1			
		(+)2			
	MONO COPY K	(-)2	Mono-chrome copy For BLACK	0	
		(-)1			
		0			
		(+)1			
		(+)2			
	COLOR PRINT K	(-)2	Color print For BLACK	0	
		(-)1			
		0			
		(+)1			
		(+)2			
	COLOR PRINT C	(-)2	Color print For CYAN	0	
		(-)1			
		0			
		(+)1			
		(+)2			
	COLOR PRINT M	(-)2	Color print For MAGENTA	0	
		(-)1			
		0			
(+)1					
(+)2					
COLOR PRINT Y	(-)2	Color print For YELLOW	0		
	(-)1				
	0				
	(+)1				
	(+)2				
MONO PRINT K	(-)2	Mono-chrome print For BLACK	0		
	(-)1				
	0				
	(+)1				
	(+)2				
SUB	COLOR COPY K	(-)2	Color copy For BLACK	0	Sub scanning direction smoothing fine adjustment Negative (-) direction: The smoothing section becomes thinner. Positive (+) direction: The smoothing section becomes thicker.
		(-)1			
		0			
		(+)1			
		(+)2			
	COLOR COPY C	(-)2	Color copy For CYAN	0	
		(-)1			
		0			
		(+)1			
		(+)2			
	COLOR COPY M	(-)2	Color copy For MAGENTA	0	
		(-)1			
		0			
		(+)1			
		(+)2			
	COLOR COPY Y	(-)2	Color copy For YELLOW	0	
		(-)1			
		0			
		(+)1			
		(+)2			
	MONO COPY K	(-)2	Mono-chrome copy For BLACK	0	
		(-)1			
		0			
		(+)1			
		(+)2			
	COLOR PRINT K	(-)2	Color print For BLACK	0	
		(-)1			
		0			
(+)1					
(+)2					

Scanning direction	Item (copy mode)/ Adjustment button	Content/ Default value	NOTE
SUB	COLOR PRINT C	(-)2	Sub scanning direction smoothing fine adjustment Negative (-) direction: The smoothing section becomes thinner. Positive (+) direction: The smoothing section becomes thicker.
		(-)1	
		0	
		(+)1	
		(+)2	
	COLOR PRINT M	(-)2	
		(-)1	
		0	
		(+)1	
		(+)2	
	COLOR PRINT Y	(-)2	
		(-)1	
		0	
		(+)1	
		(+)2	
	MONO PRINT K	(-)2	
		(-)1	
		0	
		(+)1	
		(+)2	

46-60

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the sharpness in the color auto copy mode.
<b>Section</b>	

#### 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 the automatic copy mode (Text, Printed Photo / Printed Photo images)	SOFT	2 (CENTER)
		CENTER		CENTER	
		HIGH		HIGH	
C	CPY PUSH AUTO FILTER LEVEL	SOFT	Sharpness (filter) adjustment for the automatic push scan mode (Text, Printed Photo / Printed Photo images)	SOFT	2 (CENTER)
		CENTER		CENTER	
		HIGH		HIGH	
D	COLOR COPY : CMY	OFF	Soft filter applying setting to C, M, Y image in color copy mode	OFF	1 (ON)
		ON		ON	
E	COLOR COPY : K	OFF	Soft filter applying setting to K image in color copy mode	OFF	1 (ON)
		ON		ON	
F	SINGLE COLOR : CMY	OFF	Soft filter applying setting to C, M, Y image in single color copy mode	OFF	1 (ON)
		ON		ON	
G	2 COLOR COPY : CMY	OFF	Setting of YES/NO of applying the soft filter to C/M/Y images of the 2-color copy mode	OFF	1 (ON)
		ON		ON	
H	2 COLOR COPY : K	OFF	Setting of YES/NO of applying the soft filter to K images of the 2-color copy mode	OFF	1 (ON)
		ON		ON	
I	B/W COPY	OFF	Soft filter applying setting in monochrome copy mode	OFF	1 (ON)
		ON		ON	
J	COLOR PUSH : RGB	OFF	Soft filter applying setting to image in push scan color mode	OFF	1 (ON)
		ON		ON	
K	B/W PUSH	OFF	Soft filter applying setting to image in push scan monochrome mode	OFF	1 (ON)
		ON		ON	
L	COLOR PRINT: CMY	OFF	Setting of ON/OFF of soft filter application to color print C, M, Y images	OFF	0 (OFF)
		ON		ON	
M	COLOR PRINT: K	OFF	Setting of ON/OFF of soft filter application to color print K images	OFF	0 (OFF)
		ON		ON	
N	B/W PRINT	OFF	Setting of ON/OFF of soft filter application to monochrome print images	OFF	0 (OFF)
		ON		ON	

<b>46-61</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	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)	[Color/Gray] Copy document (Text print)
MONO	AUTO	[Monochrome] Auto
	TPP	[Monochrome] Manual (Text print)
	COPY(TPP)	[Monochrome] Copy document (Text print)

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 [TXT ON SCR 1]	Detection level adjustment: Text 1 on dots	1 - 99	50
J	SEGMENT: ADJUST [TXT ON SCR 2]	Detection level adjustment: Text 2 on dots	1 - 99	50
K	SEGMENT: ADJUST [TXT ON SCR AREA]	Detection level adjustment: Detection area of text on dots	1 - 15	8
L	SEGMENT: ADJUST [HIGH LPI]	Detection level adjustment: High line number judgment	1 - 49	25
M	SEGMENT: ADJUST [BK]	Detection level adjustment: No chrome judgment	1 - 99	50
N	SEGMENT: ADJUST [CL]	Detection level adjustment: Chrome judgment	1 - 99	50
O	SEGMENT: ADJUST [TXT ON BG]	Detection level adjustment: Text on background	1 - 99	50
P	SEGMENT: ADJUST [SCR 1 HIGH]	Detection level adjustment: High density dots	1 - 49	25

Item/Display		Content	Setting range	Default value
Q	SEGMENT: ADJUST [SCR 1 MIDDLE]	Detection level adjustment: Medium density dots	1 - 49	25
R	SEGMENT: ADJUST [SCR 1 LOW]	Detection level adjustment: Low density dots	1 - 49	25
S	SEGMENT: ADJUST [SCR 2]	Detection level adjustment: Dot 2	1 - 15	8
T	SEGMENT: ADJUST [SCR 3]	Detection level adjustment: Dot 3	1 - 15	8
U	SEGMENT: ADJUST [LINE HALFTONE]	Detection level adjustment: line screen	1 - 49	25

<b>46-62</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	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
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

Item/Display			Content		Setting range		Default value
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 mono- chrome copy	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	3
L	COLOR PUSH : TEXT	Text (color PUSH)	1 - 9	3
M	COLOR PUSH : PRINTED PHOTO	Printed photo (color PUSH)	1 - 9	5
N	COLOR PUSH : PHOTOGRAPH	Photograph (color PUSH)	1 - 9	5
O	COLOR PUSH : TEXT/PHOTO	Text/Photograph (color PUSH)	1 - 9	3
P	COLOR PUSH : MAP	Map (color PUSH)	1 - 9	5

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the color correction table.
<b>Section</b>	

**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 - 8	0
		B	TEXT	Text	0 - 8	0
		C	PRINTED PHOTO	Printed photo	0 - 8	0
		D	PHOTO	Photograph	0 - 8	1
		E	TEXT PHOTO	Text photograph	0 - 8	1
		F	MAP	Map	0 - 8	0
		G	LIGHT ORIGINAL	Pencil	0 - 8	0
		H	COPY TO COPY/TEXT PRINTED PHOTO	Copy document/Text print	0 - 8	0
		I	COPY TO COPY/TEXT	Copy document/Text	0 - 8	0
		J	COPY TO COPY/PHOTO	Copy document/Printed photo	0 - 8	0
		K	AUTO0	Auto mode judgment 0	0 - 8	2
		L	AUTO1	Auto mode judgment 1	0 - 8	2
		M	AUTO2	Auto mode judgment 2	0 - 8	3
		N	AUTO3	Auto mode judgment 3	0 - 8	3
		O	AUTO4	Auto mode judgment 4	0 - 8	2
		P	AUTO5	Auto mode judgment 5	0 - 8	2
		Q	AUTO6	Auto mode judgment 6	0 - 8	2
	PREVIEW	A	TEXT PRINTED PHOTO	Text print	0 - 8	0
		B	TEXT	Text	0 - 8	0
		C	PRINTED PHOTO	Printed photo	0 - 8	0
		D	PHOTO	Photograph	0 - 8	1
		E	TEXT PHOTO	Text photograph	0 - 8	1
		F	MAP	Map	0 - 8	0
		G	LIGHT ORIGINAL	Pencil	0 - 8	0
		H	COPY TO COPY/TEXT PRINTED PHOTO	Copy document/Text print	0 - 8	0
		I	COPY TO COPY/TEXT	Copy document/Text	0 - 8	0
		J	COPY TO COPY/PHOTO	Copy document/Printed photo	0 - 8	0
		K	AUTO0	Auto mode judgment 0	0 - 8	2
		L	AUTO1	Auto mode judgment 1	0 - 8	2
SPF1 (Automatic document feeder (DSPF) front)	COPY	A	TEXT PRINTED PHOTO	Text print	0 - 8	4
		B	TEXT	Text	0 - 8	4
		C	PRINTED PHOTO	Printed photo	0 - 8	4
		D	PHOTO	Photograph	0 - 8	5
		E	TEXT PHOTO	Text photograph	0 - 8	5
		F	MAP	Map	0 - 8	4
		G	LIGHT ORIGINAL	Pencil	0 - 8	4
		H	COPY TO COPY/TEXT PRINTED PHOTO	Copy document/Text print	0 - 8	4
		I	COPY TO COPY/TEXT	Copy document/Text	0 - 8	4
		J	COPY TO COPY/PHOTO	Copy document/Printed photo	0 - 8	4
		K	AUTO0	Auto mode judgment 0	0 - 8	4
		L	AUTO1	Auto mode judgment 1	0 - 8	4
		M	AUTO2	Auto mode judgment 2	0 - 8	5
		N	AUTO3	Auto mode judgment 3	0 - 8	5
		O	AUTO4	Auto mode judgment 4	0 - 8	4
		P	AUTO5	Auto mode judgment 5	0 - 8	4
		Q	AUTO6	Auto mode judgment 6	0 - 8	4

Category	Mode	Item/Display		Content	Setting range	Default value
SPF1 (Automatic document feeder (DSPF) front)	PREVIEW	A	TEXT PRINTED PHOTO	Text print	0 - 8	4
		B	TEXT	Text	0 - 8	4
		C	PRINTED PHOTO	Printed photo	0 - 8	4
		D	PHOTO	Photograph	0 - 8	5
		E	TEXT PHOTO	Text photograph	0 - 8	5
		F	MAP	Map	0 - 8	4
		G	LIGHT ORIGINAL	Pencil	0 - 8	4
		H	COPY TO COPY/TEXT PRINTED PHOTO	Copy document/Text print	0 - 8	4
		I	COPY TO COPY/TEXT	Copy document/Text	0 - 8	4
		J	COPY TO COPY/PHOTO	Copy document/Printed photo	0 - 8	4
		K	AUTO0	Auto mode judgment 0	0 - 8	4
		L	AUTO1	Auto mode judgment 1	0 - 8	4
		M	AUTO2	Auto mode judgment 2	0 - 8	5
		N	AUTO3	Auto mode judgment 3	0 - 8	5
		O	AUTO4	Auto mode judgment 4	0 - 8	4
		P	AUTO5	Auto mode judgment 5	0 - 8	4
		Q	AUTO6	Auto mode judgment 6	0 - 8	4
SPF2 (Automatic document feeder (DSPF) back)	COPY	A	TEXT PRINTED PHOTO	Text print	0 - 8	6
		B	TEXT	Text	0 - 8	6
		C	PRINTED PHOTO	Printed photo	0 - 8	6
		D	PHOTO	Photograph	0 - 8	7
		E	TEXT PHOTO	Text photograph	0 - 8	7
		F	MAP	Map	0 - 8	6
		G	LIGHT ORIGINAL	Pencil	0 - 8	6
		H	COPY TO COPY/TEXT PRINTED PHOTO	Copy document/Text print	0 - 8	6
		I	COPY TO COPY/TEXT	Copy document/Text	0 - 8	6
		J	COPY TO COPY/PHOTO	Copy document/Printed photo	0 - 8	6
		K	AUTO0	Auto mode judgment 0	0 - 8	6
		L	AUTO1	Auto mode judgment 1	0 - 8	6
		M	AUTO2	Auto mode judgment 2	0 - 8	7
		N	AUTO3	Auto mode judgment 3	0 - 8	7
		O	AUTO4	Auto mode judgment 4	0 - 8	6
		P	AUTO5	Auto mode judgment 5	0 - 8	6
		Q	AUTO6	Auto mode judgment 6	0 - 8	6
	PREVIEW	A	TEXT PRINTED PHOTO	Text print	0 - 8	6
		B	TEXT	Text	0 - 8	6
		C	PRINTED PHOTO	Printed photo	0 - 8	6
		D	PHOTO	Photograph	0 - 8	7
		E	TEXT PHOTO	Text photograph	0 - 8	7
		F	MAP	Map	0 - 8	6
		G	LIGHT ORIGINAL	Pencil	0 - 8	6
		H	COPY TO COPY/TEXT PRINTED PHOTO	Copy document/Text print	0 - 8	6
		I	COPY TO COPY/TEXT	Copy document/Text	0 - 8	6
		J	COPY TO COPY/PHOTO	Copy document/Printed photo	0 - 8	6
		K	AUTO0	Auto mode judgment 0	0 - 8	6
		L	AUTO1	Auto mode judgment 1	0 - 8	6
		M	AUTO2	Auto mode judgment 2	0 - 8	7
		N	AUTO3	Auto mode judgment 3	0 - 8	7
		O	AUTO4	Auto mode judgment 4	0 - 8	6
		P	AUTO5	Auto mode judgment 5	0 - 8	6
		Q	AUTO6	Auto mode judgment 6	0 - 8	6

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	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 (POSI)	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 print mode	OFF ON	0 - 1	0 1	1	
	I	TEXT (CPY TO CPY)	Copy document: Enable/Disable of selection of the text mode	OFF ON	0 - 1	0 1	1	
	J	PRINTED PHOTO (CPY TO CPY)	Copy document: Enable/Disable of selection of the printed photo mode	OFF ON	0 - 1	0 1	1	
	K	AUTO	Automatic mode select Enable/Disable	OFF ON	0 - 1	0 1	1	
	L	DEFAULT MODE	When the default exposure mode background is ON, the exposure mode to be set is specified.	TEXT/ PRINTED PHOTO TEXT PRINTED PHOTO PHOTOGRAPH TEXT/PHOTO MAP	0 - 5	0 1 2 3 4 5	0	
POSITION	A	LINE SPACE 1	Line space in the watermark print box (24P - 36P)(*1)		0 - 200		50	
	B	LINE SPACE 2	Line space in the watermark print box (37P - 48P)(*1)		0 - 200		60	
	C	LINE SPACE 3	Line space in the watermark print box (49P - 64P)(*1)		0 - 200		70	
	D	LINE SPACE 4	Line space in the watermark print box (65P - 80P)(*1)		0 - 200		80	
	E	BLANK H/B 1	Upper margin/Lower margin in the watermark print box (24P - 36P)(*2)		0 - 200		25	
	F	BLANK H/B 2	Upper margin/Lower margin in the watermark print box (37P - 48P)(*2)		0 - 200		30	
	G	BLANK H/B 3	Upper margin/Lower margin in the watermark print box (49P - 64P)(*2)		0 - 200		35	
	H	BLANK H/B 4	Upper margin/Lower margin in the watermark print box (65P - 80P)(*2)		0 - 200		40	
	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.

<b>46-74</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Copy color balance adjustment (Auto adjustment)/Printer color balance adjustment (Auto adjustment)
<b>Section</b>	

#### 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.

<b>46-90</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to set the process operation of high-compression PDF images.
<b>Section</b>	

#### 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

46-91	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the reproduction capability of black text.
<b>Section</b>	

#### 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 SPECIAL	Area separation setting select	0: Other than image send mode black text emphasis (simple, high compression) 1: Image send mode black text emphasis (simple, high compression)	0 - 1	0
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 TYPE1 TYPE2	Front ground extraction area select	0: type0 1: type1 2: type2	0 - 2	0
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 ON	High compression/Ultra Fine mode select	0: High compression mode 1: Ultra fine mode	0 - 1	0

NOTE: This must be set to the default unless any change is specially required.

When the adjustment value is changed greatly from the initial value, an image quality trouble may occur.

**48**

48-1	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the scan image magnification ratio (in the main scanning direction and the sub scanning direction).
<b>Section</b>	

#### 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

<b>48-5</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to correction the scan image magnification ratio (in the sub scanning direction).
<b>Section</b>	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.

<b>48-6</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the rotation speed of each motor.
<b>Section</b>	

#### Operation/Procedure

- 1) Select an adjustment target mode with [COLOR] [MONO] [HEAVY] keys on the touch panel.
- 2) Select a target adjustment 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 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.

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

Item/Display		Content	Mode		Setting range	Default value
A	RRM	Resist motor correction value	Color	COLOR	1 - 99	51
			Monochrome	MONO		51
			Low speed 1	LOW1		51
			Low speed 2	LOW2		51
B	BTM	Belt motor correction value	Color	COLOR	1 - 99	47
			Monochrome	MONO		47
			Low speed 1	LOW1		47
			Low speed 2	LOW2		47
C	DM_K	Drum K motor correction value	Color	COLOR	1 - 99	48
			Monochrome	MONO		48
			Low speed 1	LOW1		48
			Low speed 2	LOW2		48
D	DM_CL	Drum CL motor correction value	Color	COLOR	1 - 99	48
			Low speed 1	LOW1		48
			Low speed 2	LOW2		48
E	FSM	Fusing motor correction value	Color	COLOR (*1)	1 - 99	45 *2
			Low speed 1	LOW1		45
			Low speed 2	LOW2		45
F	POM	Paper exit motor correction value	Color	COLOR (*1)	1 - 99	50
G	PFM	Paper transport motor correction value	Color	COLOR (*1)	1 - 99	50
H	CPFM	Paper feed motor correction value	Color	COLOR (*1)	1 - 99	50
I	LCCM	LCC motor correction value	Color	COLOR (*1)	1 - 99	50
F	FUSER SETTING	Fusing speed select timing	Low speed 1	LOW1	1 - 99	35
			Low speed 2	LOW2		43
G	RRM START	RPM acceleration start timing	Low speed 1	LOW1	0 - 255	150
			Low speed 2	LOW2		150
H	RRM END	RPM acceleration start timing	Low speed 1	LOW1	0 - 255	200
			Low speed 2	LOW2		200

\*1: Common items for color, monochrome, and heavy paper. The items are displayed only when the color button is highlighted.

\*2: U.S.A, CANADA, INCH: 43

## 49-1

<b>Purpose</b>	
<b>Function (Purpose)</b>	Used to perform the firmware update.
<b>Section</b>	

**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
ICUM(MAIN)	ICUM Main	ICUMM
ICUM(SUB)	ICUM Sub	ICUMS
ICUM(OS)	ICUM OS	ICUMO
ICUM(RFS)	ICUM RFS	ICUMR
ICUM(CN)	ICUM CN	ICUMC
ICUM(BOOT)	ICUM BOOT	ICUMT
ICUM(SNAP)	ICUM SNAP	ICUMP
ICUM(BIOS)	ICUM BIOS	ICUMB
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
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

Display item	Content	Error display
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

<b>Purpose</b>	
<b>Function (Purpose)</b>	Used to update the operation manual in the HDD.
<b>Section</b>	

**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

<b>Purpose</b>	
<b>Function (Purpose)</b>	Used to perform the watermark update.
<b>Section</b>	

**Operation/Procedure**

- 1) Insert the USB memory into the main unit.
- 2) Select the button of the folder to perform the watermark update.  
The current version and the update version are displayed.
- 3) Press [EXECUTE] key.
- 4) Press [YES] key.  
The selected watermark is updated.

50-1	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Copy image position, image loss adjustment
<b>Section</b>	

**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.(RRC-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.

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the copy image position and the image loss. (This simulation is a simplified version of SIM 50-1).

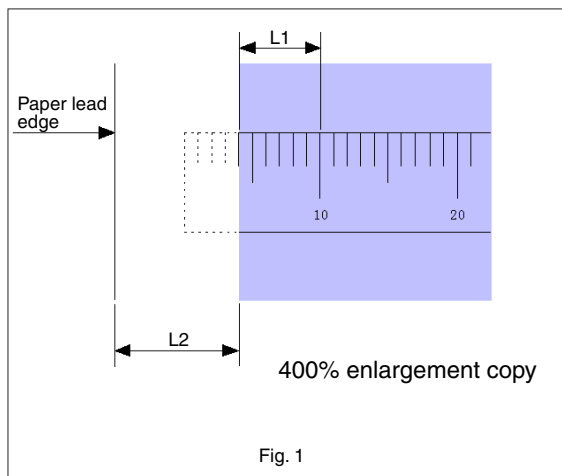
### Section

#### Operation/Procedure

- 1) Set item A (L1) and item B (L2) to 0.
- 2) Place a rule on the left edge of the document table, and make a copy at a magnification ratio of 400%.
- 3) Measure the length of L1 and L2 on the copied image in the unit of 0.1mm (referring to the figure below). Enter the adjustment values of L1 x 10 and L2 x 10. Be sure to enter the both adjustment values of L1 and L2.

L1: Distance from the lead edge of the copied image to 10mm scale.

L2: Distance from the paper lead edge to the copy image lead edge.



- 4) Press [EXECUTE] key. (The set value is saved.)
- 5) Make a copy at the magnification ratio of 100%, and adjust the rear edge void.

Item/Display			Description	Setting range	Default value
A	Actual measurement value	L1	Distance from the image lead edge to the scale of 10mm. (Platen 400%, 0.1mm increment)	0 - 999	-
B		L2	Distance from the paper lead edge to the image lead edge (0.1mm increment)	0 - 999	0
C	Image loss area setting value	LEAD	Lead edge image loss amount setting (When the adjustment value is increased, the image loss is increased.)	0 - 99	40
D		SIDE	Side edge image loss amount setting (When the adjustment value is increased, the image loss is increased.)	0 - 99	20

Item/Display			Description	Setting range	Default value
E	Void area adjustment	DENA	Lead edge void area adjustment (When the adjustment value is increased, the void is increased.)	1 - 99	40
F		DENB	Rear edge void area adjustment (When the adjustment value is increased, the void is increased.)	1 - 99	30
G		FRONT/REAR	FRONT/REAR void amount adjustment (When the adjustment value is increased, the void is increased.)	1 - 99	20

Same as the adjusted items of SIM50-01 except for A and B.

The values adjusted with A and B are reflected to the document lead edge reference position (RRC-A) of SIM50-01 and all the paper lead edge positions (RRCB-\*\*).

All adjustment items: 1 step = 0.1mm change

50-5	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the print lead edge image position. (PRINTER MODE)
<b>Section</b>	

#### 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	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the copy image position and the image loss. (DSPF mode)
<b>Section</b>	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 SIDE1	LEAD_EDGE (SIDE1) Front surface lead edge image loss amount setting	0 - 99	20
D		FRONT_REAR (SIDE1) Front surface side image loss amount setting	0 - 99	20
E		TRAIL_EDGE (SIDE1) Front surface rear edge image loss amount setting	0 - 99	40
F	Image loss amount setting SIDE2	LEAD_EDGE (SIDE2) Back surface lead edge image loss amount setting	0 - 99	40
G		FRONT_REAR (SIDE2) Back surface side image loss amount setting	0 - 99	20
H		TRAIL_EDGE (SIDE2) Back surface rear edge image loss amount setting	0 - 99	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.

50-7	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the copy image position and the image loss (DSPF mode). (This simulation is a simplified version of SIM 50-6.)
<b>Section</b>	DSPF

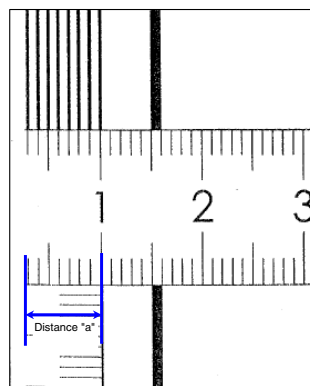
#### Operation/Procedure

- 1) Select an adjustment target item with scroll key on the touch panel.
- 2) Set item A (L4) and item B (L5) to 0.
- 3) Set the magnification ratio to 200%, and make a copy in the DSPF duplex mode.
- 4) Measure the size of the printed image. Enter the actual measurement value of distance a (DSPF) to L4 and L5 in the unit of 0.1mm.

(Adjustment value "1" for 0.1mm)

L4: Distance a (DSPF front surface: 200%) (unit: 0.1mm)

L5: Distance a (DSPF back surface: 200%) (unit: 0.1mm)



- 5) Press [EXECUTE] key. (The set value is saved.)

Item/Display		Content	Setting range	Default value
A	L4	Distance (SPF 200%, 0.1mm unit) from the front surface image lead edge to the scale of 10mm.	0 - 999	-
B	L5	Distance (SPF 200%, 0.1mm unit) from the back surface image lead edge to the scale of 10mm.	0 - 999	-
C	LEAD_EDGE (SIDE1)	Front surface lead edge image loss amount setting	0 - 99	20
D	FRONT_REAR (SIDE1)	Front surface side image loss amount setting	0 - 99	20
E	TRAIL_EDGE (SIDE1)	Front surface rear edge image loss amount setting	0 - 99	40
F	LEAD_EDGE (SIDE2)	Back surface lead edge image loss amount setting	0 - 99	40
G	FRONT_REAR (SIDE2)	Back surface side image loss amount setting	0 - 99	20
H	TRAIL_EDGE (SIDE2)	Back surface rear edge image loss amount setting	0 - 99	20

Item C - H: When the adjustment value is increased, the image loss is increased.

All adjustment items: 1 step = 0.1mm change

Items C - H are linked with items C - H of SIM50-06.

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the black print image magnification ratio and the off-center position. (The adjustment is made separately for each paper feed section.)
<b>Section</b>	

**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		100
B	MAIN-MFT	Print off center adjustment value (Manual paper feed)		1 - 99		50
C	MAIN-CS1	Print off center adjustment value (Tray 1)		1 - 99		50
D	MAIN-CS2	Print off center adjustment value (Tray 2)		1 - 99		50
E	MAIN-CS3	Print off center adjustment value (Tray 3)		1 - 99		50
F	MAIN-CS4	Print off center adjustment value (Tray 4)		1 - 99		50
G	MAIN-LCC	Print off center adjustment value (LCC)		1 - 99		50
H	MAIN-LCT1	Print off center adjustment value (LCT 1 series, first stage)		1 - 99		50
I	MAIN-LCT2	Print off center adjustment value (LCT 1 series, second stage)		1 - 99		50
J	MAIN-LCT-MFT	Print off center adjustment value (LCT_manual feed)		1 - 99		50
K	MAIN-ADU	Print off center adjustment value (ADU)		1 - 99		50
L	SUB-CS12	Resist motor ON timing adjustment	Standard tray	1 - 99		50
M	SUB-CS34			1 - 99		50
N	SUB-LC		LCC /LCT/LCT manual paper feed	1 - 99		50
O	SUB-MFT		Manual feed (Main machine)	1 - 99		50
P	SUB-ADU		ADU	1 - 99		50
Q	SUB-CS-HV-A		Main unit tray adjustment value (Heavy paper A)	1 - 99		40
R	SUB-HV-OHP		Main unit tray adjustment value (OHP)	1 - 99		40
S	SUB-LC-HV-A		LCC/LCT adjustment value (Heavy paper A)	1 - 99		40
T	SUB-LC-HV-B		LCC/LCT adjustment value (Heavy paper B)	1 - 99		35
U	SUB-MFT-HV-A		Manual feed tray adjustment value (Heavy paper A)	1 - 99		40
V	SUB-MFT-HV-B		Manual feed tray adjustment value (Heavy paper B)	1 - 99		35
W	SUB-MFT-HV-ENV		Manual feed tray adjustment value (Envelope)	1 - 99		40
X	SUB-ADU-HV-A		ADU adjustment value (Heavy paper A)	1 - 99		40
Y	MULTI COUNT	Number of print		1 - 999		1
Z	PAPER	MFT	Tray selection	1 - 999	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 1 series, first stage (*2)		6	
		LCT1_2	LCT 1 series, second stage (*2)		7	
		LCT2_1	LCT 2 series, first stage (*3)		8	
		LCT2_2	LCT 2 series, second stage (*3)		9	
AA	DUPLEX	YES	Duplex print selection	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.

<b>50-12</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to perform the scan image off-center position adjustment. (The adjustment is made separately for each scan mode.)
<b>Section</b>	

#### 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

<b>50-20</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Image registration adjustment (Main scanning direction)
<b>Section</b>	

#### 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_F		Registration adjustment value main scan direction offset value CYAN (FRONT)		1 -99	50	
K	OFFSET_C_R		Registration adjustment value main scan direction offset value CYAN (REAR)		1 -99	50	
L	OFFSET_M_F		Registration adjustment value main scan direction offset value MAGENTA (FRONT)		1 - 99	50	
M	OFFSET_M_R		Registration adjustment value main scan direction offset value MAGENTA (REAR)		1 - 99	50	
N	OFFSET_Y_F		Registration adjustment value main scan direction offset value YELLOW (FRONT)		1 - 99	50	
O	OFFSET_Y_R		Registration adjustment value main scan direction offset value YELLOW (REAR)		1 - 99	50	
P	OFFSET_C_S		Registration adjustment value sub scan direction offset value CYAN		1 - 99	50	
Q	OFFSET_M_S		Registration adjustment value sub scan direction offset value MAGENTA		1 - 99	50	
R	OFFSET_Y_S		Registration adjustment value sub scan direction offset value YELLOW		1 - 99	50	
S	MULTICOUNT		Number of print		1 - 999	1	
T	PAPER	MFT	Tray selection	Manual paper feed	1 - 5	1	4(CS3)
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
U	DUPLEX	YES	Duplex print selection	Select	0 - 1	0	1(NO)
		NO		Not select		1	

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the image registration. (Main scan direction, sub scan direction) (Auto adjustment)/OPC drum phase adjustment (Auto adjustment)
<b>Section</b>	

**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)	100	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)	100	
	( )	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)	100	
	( )	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)			* 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 -3.6 - +3.6, "(OK)" is displayed at the bottom of the value. If not, "(NG)" is displayed.
START		START_POINT	Modulation control start position (1: Value of this time, 2: Value of previous time)	0 - 71 (+/-1)	0	
AMP		AMP	Modulation control amplitude value (1: Value of this time, 2: Value of previous time)	0 - 12.0 (+/-0.25)	6	

# Error displays in case of abnormal end

Error code	Error display	Error content
Forcible end error	-	SUSPENDED
	-	SUSPENDED
	-	OFF end
Basic error	1	TONNER EMPTY 01
	2	BEFORE BEHAVIOR 02
	4	SENSOR CALIBRATION F 04
	5	SENSOR CALIBRATION C 05
	6	SENSOR CALIBRATION R 06
	7	TIME OVER 07
	8	PROCESS CONTROL 08
Sub scanning adjustment error	10	DATA_SUB_K_F_1st 10
	11	DATA_SUB_K_F_2nd 11
	12	DATA_SUB_K_F_3rd 12
	13	DATA_SUB_K_F_4th 13
	14	DATA_SUB_K_F_5th 14
	15	DATA_SUB_K_F_6th 15
	16	DATA_SUB_K_F_7th 16
	17	DATA_SUB_K_F_8th 17
	18	reserve
	19	reserve
	20	DATA_SUB_K_C_1st 20
	21	DATA_SUB_K_C_2nd 21
	22	DATA_SUB_K_C_3rd 22
	23	DATA_SUB_K_C_4th 23
	24	DATA_SUB_K_C_5th 24
	25	DATA_SUB_K_C_6th 25
	26	DATA_SUB_K_C_7th 26
	27	DATA_SUB_K_C_8th 27
	28	reserve
	29	reserve
	30	DATA_SUB_K_R_1st 30
	31	DATA_SUB_K_R_2nd 31
	32	DATA_SUB_K_R_3rd 32
	33	DATA_SUB_K_R_4th 33
	34	DATA_SUB_K_R_5th 34
	35	DATA_SUB_K_R_6th 35
	36	DATA_SUB_K_R_7th 36
	37	DATA_SUB_K_R_8th 37
	38	reserve
	39	reserve
	40	DATA_SUB_C_F_1st 40
	41	DATA_SUB_C_F_2nd 41
	42	DATA_SUB_C_F_3rd 42

Error code	Error display	Error content
Sub scanning adjustment error	43	DATA_SUB_C_F_4th 43
	44	DATA_SUB_C_F_5th 44
	45	DATA_SUB_C_F_6th 45
	46	DATA_SUB_C_F_7th 46
	47	DATA_SUB_C_F_8th 47
	48	reserve
	49	reserve
	50	DATA_SUB_C_C_1st 50
	51	DATA_SUB_C_C_2nd 51
	52	DATA_SUB_C_C_3rd 52
	53	DATA_SUB_C_C_4th 53
	54	DATA_SUB_C_C_5th 54
	55	DATA_SUB_C_C_6th 55
	56	DATA_SUB_C_C_7th 56
	57	DATA_SUB_C_C_8th 57
	58	reserve
	59	reserve
	60	DATA_SUB_C_R_1st 60
	61	DATA_SUB_C_R_2nd 61
	62	DATA_SUB_C_R_3rd 62
	63	DATA_SUB_C_R_4th 63
	64	DATA_SUB_C_R_5th 64
	65	DATA_SUB_C_R_6th 65
	66	DATA_SUB_C_R_7th 66
	67	DATA_SUB_C_R_8th 67
	68	reserve
	69	reserve
	70	DATA_SUB_M_F_1st 70
	71	DATA_SUB_M_F_2nd 71
	72	DATA_SUB_M_F_3rd 72
	73	DATA_SUB_M_F_4th 73
	74	DATA_SUB_M_F_5th 74
	75	DATA_SUB_M_F_6th 75
	76	DATA_SUB_M_F_7th 76
	77	DATA_SUB_M_F_8th 77
	78	reserve
	79	reserve
	80	DATA_SUB_M_C_1st 80
	81	DATA_SUB_M_C_2nd 81
	82	DATA_SUB_M_C_3rd 82
	83	DATA_SUB_M_C_4th 83

Error code	Error display	Error content
Sub scanning adjustment error	84 DATA_SUB_M_C_5th 84	Data not designated Sub scan M color C 5th
	85 DATA_SUB_M_C_6th 85	Data not designated Sub scan M color C 6th
	86 DATA_SUB_M_C_7th 86	Data not designated Sub scan M color C 7th
	87 DATA_SUB_M_C_8th 87	Data not designated Sub scan M color C 8th
	88 reserve	
	89 reserve	
	90 DATA_SUB_M_R_1st 90	Data not determined Sub scan M color R 1st
	91 DATA_SUB_M_R_2nd 91	Data not designated Sub scan M color R 2nd
	92 DATA_SUB_M_R_3rd 92	Data not designated Sub scan M color R 3rd
	93 DATA_SUB_M_R_4th 93	Data not designated Sub scan M color R 4th
	94 DATA_SUB_M_R_5th 94	Data not designated Sub scan M color R 5th
	95 DATA_SUB_M_R_6th 95	Data not designated Sub scan M color R 6th
	96 DATA_SUB_M_R_7th 96	Data not designated Sub scan M color R 7th
	97 DATA_SUB_M_R_8th 97	Data not designated Sub scan M color R 8th
	98 reserve	
	99 reserve	
	100 DATA_SUB_Y_F_1st 100	Data not determined Sub scan Y color F 1st
	101 DATA_SUB_Y_F_2nd 101	Data not designated Sub scan Y color F 2nd
	102 DATA_SUB_Y_F_3rd 102	Data not designated Sub scan Y color F 3rd
	103 DATA_SUB_Y_F_4th 103	Data not designated Sub scan Y color F 4th
	104 DATA_SUB_Y_F_5th 104	Data not designated Sub scan Y color F 5th
	105 DATA_SUB_Y_F_6th 105	Data not designated Sub scan Y color F 6th
	106 DATA_SUB_Y_F_7th 106	Data not designated Sub scan Y color F 7th
	107 DATA_SUB_Y_F_8th 107	Data not designated Sub scan Y color F 8th
	108 reserve	
	109 reserve	
	110 DATA_SUB_Y_C_1st 110	Data not determined Sub scan Y color C 1st
	111 DATA_SUB_Y_C_2nd 111	Data not designated Sub scan Y color C 2nd
	112 DATA_SUB_Y_C_3rd 112	Data not designated Sub scan Y color C 3rd
	113 DATA_SUB_Y_C_4th 113	Data not designated Sub scan Y color C 4th
	114 DATA_SUB_Y_C_5th 114	Data not designated Sub scan Y color C 5th
	115 DATA_SUB_Y_C_6th 115	Data not designated Sub scan Y color C 6th
	116 DATA_SUB_Y_C_7th 116	Data not designated Sub scan Y color C 7th
	117 DATA_SUB_Y_C_8th 117	Data not designated Sub scan Y color C 8th
	118 reserve	
	119 reserve	
	120 DATA_SUB_Y_R_1st 120	Data not determined Sub scan Y color R 1st
	121 DATA_SUB_Y_R_2nd 121	Data not designated Sub scan Y color R 2nd
	122 DATA_SUB_Y_R_3rd 122	Data not designated Sub scan Y color R 3rd
	123 DATA_SUB_Y_R_4th 123	Data not designated Sub scan Y color R 4th
	124 DATA_SUB_Y_R_5th 124	Data not designated Sub scan Y color R 5th

Error code	Error display	Error content
Sub scanning adjustment error	125 DATA_SUB_Y_R_6th 125	Data not designated Sub scan Y color R 6th
	126 DATA_SUB_Y_R_7th 126	Data not designated Sub scan Y color R 7th
	127 DATA_SUB_Y_R_8th 127	Data not designated Sub scan Y color R 8th
	128 reserve	
	129 reserve	
Main scanning adjustment error	130 DATA_MAIN_K_F_1st 130	Data not determined Main scan K color F 1st
	131 DATA_MAIN_K_F_2nd 131	Data not designated Main scan K color F 2nd
	132 DATA_MAIN_K_F_3rd 132	Data not designated Main scan K color F 3rd
	133 DATA_MAIN_K_F_4th 133	Data not designated Main scan K color F 4th
	134 DATA_MAIN_K_F_5th 134	Data not designated Main scan K color F 5th
	135 DATA_MAIN_K_F_6th 135	Data not designated Main scan K color F 6th
	136 DATA_MAIN_K_F_7th 136	Data not designated Main scan K color F 7th
	137 DATA_MAIN_K_F_8th 137	Data not designated Main scan K color F 8th
	138 reserve	
	139 reserve	
	140 DATA_MAIN_K_C_1st 140	Data not determined Main scan K color C 1st
	141 DATA_MAIN_K_C_2nd 141	Data not designated Main scan K color C 2nd
	142 DATA_MAIN_K_C_3rd 142	Data not designated Main scan K color C 3rd
	143 DATA_MAIN_K_C_4th 143	Data not designated Main scan K color C 4th
	144 DATA_MAIN_K_C_5th 144	Data not designated Main scan K color C 5th
	145 DATA_MAIN_K_C_6th 145	Data not designated Main scan K color C 6th
	146 DATA_MAIN_K_C_7th 146	Data not designated Main scan K color C 7th
	147 DATA_MAIN_K_C_8th 147	Data not designated Main scan K color C 8th
	148 reserve	
	149 reserve	
	150 DATA_MAIN_K_R_1st 150	Data not determined Main scan K color R 1st
	151 DATA_MAIN_K_R_2nd 151	Data not designated Main scan K color R 2nd
	152 DATA_MAIN_K_R_3rd 152	Data not designated Main scan K color R 3rd
	153 DATA_MAIN_K_R_4th 153	Data not designated Main scan K color R 4th
	154 DATA_MAIN_K_R_5th 154	Data not designated Main scan K color R 5th
	155 DATA_MAIN_K_R_6th 155	Data not designated Main scan K color R 6th
	156 DATA_MAIN_K_R_7th 156	Data not designated Main scan K color R 7th
	157 DATA_MAIN_K_R_8th 157	Data not designated Main scan K color R 8th
	158 reserve	
	159 reserve	
	160 DATA_MAIN_C_F_1st 160	Data not determined Main scan C color F 1st
	161 DATA_MAIN_C_F_2nd 161	Data not designated Main scan C color F 2nd
	162 DATA_MAIN_C_F_3rd 162	Data not designated Main scan C color F 3rd
	163 DATA_MAIN_C_F_4th 163	Data not designated Main scan C color F 4th

Error code	Error display	Error content
Main scanning adjustment error	164 DATA_MAIN_C_F_5th 164	Data not designated Main scan C color F 5th
	165 DATA_MAIN_C_F_6th 165	Data not designated Main scan C color F 6th
	166 DATA_MAIN_C_F_7th 166	Data not designated Main scan C color F 7th
	167 DATA_MAIN_C_F_8th 167	Data not designated Main scan C color F 8th
	168 reserve	
	169 reserve	
	170 DATA_MAIN_C_C_1st 170	Data not determined Main scan C color C 1st
	171 DATA_MAIN_C_C_2nd 171	Data not designated Main scan C color C 2nd
	172 DATA_MAIN_C_C_3rd 172	Data not designated Main scan C color C 3rd
	173 DATA_MAIN_C_C_4th 173	Data not designated Main scan C color C 4th
	174 DATA_MAIN_C_C_5th 174	Data not designated Main scan C color C 5th
	175 DATA_MAIN_C_C_6th 175	Data not designated Main scan C color C 6th
	176 DATA_MAIN_C_C_7th 176	Data not designated Main scan C color C 7th
	177 DATA_MAIN_C_C_8th 177	Data not designated Main scan C color C 8th
	178 reserve	
	179 reserve	
	180 DATA_MAIN_C_R_1st 180	Data not determined Main scan C color R 1st
	181 DATA_MAIN_C_R_2nd 181	Data not designated Main scan C color R 2nd
	182 DATA_MAIN_C_R_3rd 182	Data not designated Main scan C color R 3rd
	183 DATA_MAIN_C_R_4th 183	Data not designated Main scan C color R 4th
	184 DATA_MAIN_C_R_5th 184	Data not designated Main scan C color R 5th
	185 DATA_MAIN_C_R_6th 185	Data not designated Main scan C color R 6th
	186 DATA_MAIN_C_R_7th 186	Data not designated Main scan C color R 7th
	187 DATA_MAIN_C_R_8th 187	Data not designated Main scan C color R 8th
	188 reserve	
	189 reserve	
	190 DATA_MAIN_M_F_1st 190	Data not determined Main scan M color F 1st
	191 DATA_MAIN_M_F_2nd 191	Data not designated Main scan M color F 2nd
	192 DATA_MAIN_M_F_3rd 192	Data not designated Main scan M color F 3rd
	193 DATA_MAIN_M_F_4th 193	Data not designated Main scan M color F 4th
	194 DATA_MAIN_M_F_5th 194	Data not designated Main scan M color F 5th
	195 DATA_MAIN_M_F_6th 195	Data not designated Main scan M color F 6th
	196 DATA_MAIN_M_F_7th 196	Data not designated Main scan M color F 7th
	197 DATA_MAIN_M_F_8th 197	Data not designated Main scan M color F 8th
	198 reserve	
	199 reserve	
	200 DATA_MAIN_M_C_1st 200	Data not determined Main scan M color C 1st

Error code	Error display	Error content
Main scanning adjustment error	201 DATA_MAIN_M_C_2nd 201	Data not designated Main scan M color C 2nd
	202 DATA_MAIN_M_C_3rd 202	Data not designated Main scan M color C 3rd
	203 DATA_MAIN_M_C_4th 203	Data not designated Main scan M color C 4th
	204 DATA_MAIN_M_C_5th 204	Data not designated Main scan M color C 5th
	205 DATA_MAIN_M_C_6th 205	Data not designated Main scan M color C 6th
	206 DATA_MAIN_M_C_7th 206	Data not designated Main scan M color C 7th
	207 DATA_MAIN_M_C_8th 207	Data not designated Main scan M color C 8th
	208 reserve	
	209 reserve	
	210 DATA_MAIN_M_R_1st 210	Data not determined Main scan M color R 1st
	211 DATA_MAIN_M_R_2nd 211	Data not designated Main scan M color R 2nd
	212 DATA_MAIN_M_R_3rd 212	Data not designated Main scan M color R 3rd
	213 DATA_MAIN_M_R_4th 213	Data not designated Main scan M color R 4th
	214 DATA_MAIN_M_R_5th 214	Data not designated Main scan M color R 5th
	215 DATA_MAIN_M_R_6th 215	Data not designated Main scan M color R 6th
	216 DATA_MAIN_M_R_7th 216	Data not designated Main scan M color R 7th
	217 DATA_MAIN_M_R_8th 217	Data not designated Main scan M color R 8th
	218 reserve	
	219 reserve	
	220 DATA_MAIN_Y_F_1st 220	Data not determined Main scan Y color F 1st
	221 DATA_MAIN_Y_F_2nd 221	Data not designated Main scan Y color F 2nd
	222 DATA_MAIN_Y_F_3rd 222	Data not designated Main scan Y color F 3rd
	223 DATA_MAIN_Y_F_4th 223	Data not designated Main scan Y color F 4th
	224 DATA_MAIN_Y_F_5th 224	Data not designated Main scan Y color F 5th
	225 DATA_MAIN_Y_F_6th 225	Data not designated Main scan Y color F 6th
	226 DATA_MAIN_Y_F_7th 226	Data not designated Main scan Y color F 7th
	227 DATA_MAIN_Y_F_8th 227	Data not designated Main scan Y color F 8th
	228 reserve	
	229 reserve	
	230 DATA_MAIN_Y_C_1st 230	Data not determined Main scan Y color C 1st
	231 DATA_MAIN_Y_C_2nd 231	Data not designated Main scan Y color C 2nd
	232 DATA_MAIN_Y_C_3rd 232	Data not designated Main scan Y color C 3rd

Error code	Error display	Error content
Main scanning adjustment error	233 DATA_MAIN_Y_C_4th 233	Data not designated Main scan Y color C 4th
	234 DATA_MAIN_Y_C_5th 234	Data not designated Main scan Y color C 5th
	235 DATA_MAIN_Y_C_6th 235	Data not designated Main scan Y color C 6th
	236 DATA_MAIN_Y_C_7th 236	Data not designated Main scan Y color C 7th
	237 DATA_MAIN_Y_C_8th 237	Data not designated Main scan Y color C 8th
	238 reserve	
	239 reserve	
	240 DATA_MAIN_Y_R_1st 240	Data not determined Main scan Y color R 1st
	241 DATA_MAIN_Y_R_2nd 241	Data not designated Main scan Y color R 2nd
	242 DATA_MAIN_Y_R_3rd 242	Data not designated Main scan Y color R 3rd
	243 DATA_MAIN_Y_R_4th 243	Data not designated Main scan Y color R 4th
	244 DATA_MAIN_Y_R_5th 244	Data not designated Main scan Y color R 5th
	245 DATA_MAIN_Y_R_6th 245	Data not designated Main scan Y color R 6th
	246 DATA_MAIN_Y_R_7th 246	Data not designated Main scan Y color R 7th
	247 DATA_MAIN_Y_R_8th 247	Data not designated Main scan Y color R 8th
	248 reserve	
	249 reserve	
Adjustment range error	250 RANGE_SKEW_K 250	Adjustment range error SKEW K color
	251 RANGE_SUB_C 251	Adjustment range error Sub scan C color
	252 RANGE_SKEW_C 252	Adjustment range error SKEW C color
	253 RANGE_SUB_M 253	Adjustment range error Sub scan M color
	254 RANGE_SKEW_M 254	Adjustment range error SKEW M color
	255 RANGE_SUB_Y 255	Adjustment range error Sub scan Y color
	256 RANGE_SKEW_Y 256	Adjustment range error SKEW Y color
	257 RANGE_MAIN_C_F 257	Adjustment range error Main scan C color F
	258 reserve	
	259 RANGE_MAIN_C_R 259	Adjustment range error Main scan C color R
	260 reserve	
	261 RANGE_MAIN_M_F 261	Adjustment range error Main scan M color F
	262 reserve	
	263 RANGE_MAIN_M_R 263	Adjustment range error Main scan M color R
	264 reserve	
	265 RANGE_MAIN_Y_F 265	Adjustment range error Main scan Y color F
	266 reserve	
	267 RANGE_MAIN_Y_R 267	Adjustment range error Main scan Y color R
	268 reserve	

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.



<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	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

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to automatically adjust the image loss, void area, image off-center, and image magnification ratio.

**Section****Operation/Procedure**

The following adjustment items can be executed automatically with SIM50-28.

- \* ADJ16 Print image position, image magnification ratio, void area, off-center adjustments (Manual adjustments)
- \* ADJ 17 Scan image magnification ratio adjustment (Print engine) (Manual adjustment)
- \* ADJ 18 Scan image off-center adjustment (Manual adjustment)
- \* ADJ 19 Copy image position and the image loss (Manual adjustments)

- 1) Select an adjustment item with the menu button.
- 2) Press [EXECUTE] key, and the adjustment pattern is printed.
- 3) Set the adjustment pattern on the document table.
- 4) Press [EXECUTE] key, and the adjustment pattern is scanned.
- 5) Press [OK] key.

Adjustment item list			Adjustment menu
Scanner	OC	Document lead edge	OC ADJ
		Document off-center	
		Sub scanning magnification ratio	
		Gamma adjustment	
	DSPF	SIDE1 (Front)	SPF ADJ (DSPF)
		Document lead edge	
		Document off-center	
		Sub scanning magnification ratio	
	SIDE2 (Back)	Document lead edge	
		Document off-center	
		Sub scanning magnification ratio	
		Sub scanning magnification ratio	
Engine	-	BK main scanning magnification ratio	BK-MAG ADJ
	MFT	Print off-center adjustment	SETUP/PRINT ADJ
		Print lead edge	
	CS1	Print off-center adjustment	
		Print lead edge	
	CS2	Print off-center adjustment	
		Print lead edge	
	ADU	Print off-center adjustment	
		Print lead edge	
	CS3	Print off-center adjustment	
		Print lead edge	
	CS4	Print off-center adjustment	
		Print lead edge	
	LCC	Print off-center adjustment	
		Print lead edge	
	LCT1 1	Print off-center adjustment	
		Print lead edge	
	LCT1 2	Print off-center adjustment	
		Print lead edge	
	LCT2 1	Print off-center adjustment	
		Print lead edge	
	LCT2 2	Print off-center adjustment	
		Print lead edge	

Item/Display				Content	Section
SPF ADJ (DSPF)	ALL	SIDE1 (Front surface)	MFT	Document lead edge	Scanner
				Image loss off-center sub scanning direction image magnification ratio adjustment (DSPF mode)	
		SIDE2 (Back surface)	CS1	Document off-center	
			CS2	Sub scanning magnification ratio	
			ADU	Document lead edge	
			CS3	Document off-center	
			CS4	Sub scanning magnification ratio	
			LCC	Document off-center	
				Sub scanning magnification ratio	

Item/Display				Content	Section
SETUP/PRINT ADJ	ALL	LEAD	MFT	Print off center	Engine
			CS1	Print lead edge adjustment, image off-center (each paper feed tray, duplex mode) adjustment	
			CS2		
			ADU		
		OFFSET	CS3		
			CS4		
			LCC		

Item/Display		Content	Section
BK-MAG ADJ	MFT	BK main scanning magnification ratio	Engine
	CS1	Main scanning direction image magnification ratio adjustment	
	CS2		
	ADU		
	CS3		
	CS4		
	LCC		

RESULT	Adjustment result display
DATA	Adjustment operation data display

**51**

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the ON/OFF timing of the secondary transport voltage.
<b>Section</b>	

**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

51-2	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	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	50
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	50
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	50
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	50
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

Item/Button		Display item	Content (Mode, document, paper feed speed)	Transport direction	Setting range	Default value
K	ENGINE	ADU PLAIN PAPER (S)	ADU/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99	20
L		ADU PLAIN PAPER (L)	ADU/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99	20
M		ADU HEAVY A PAPER (S)	ADU/deflection adjustment value (Heavy paper A/Small size)	LT size (216mm) or less	1 - 99	40
N		ADU HEAVY A PAPER(L)	ADU/deflection adjustment value (Heavy paper A/Large size)	LT size (216mm) or above	1 - 99	40
O		ADU HEAVY B PAPER (S)	ADU/deflection adjustment value (Heavy paper B/Small size)	LT size (216mm) or less	1 - 99	60
P		ADU HEAVY B PAPER(L)	ADU/deflection adjustment value (Heavy paper B/Large size)	LT size (216mm) or above	1 - 99	60
Q		TRAY3/4(S)	Tray 3, 4/deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99	20
R		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
S		TRAY3/4(L)	Tray 3, 4/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99	20
T		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
U		TRAY4 OHP	Tray 4/deflection adjustment value (OHP)	-	1 - 99	40
V		LCC/LCT (S)	LCC/LCT, deflection adjustment value (Plain paper/Small size)	LT size (216mm) or less	1 - 99	20
W		LCC/LCT HEAVY A PAPER (S)	LCC/LCT, deflection adjustment value (Heavy paper A/Small size)	LT size (216mm) or less	1 - 99	50
X		LCC/LCT HEAVY B PAPER (S)	LCC/LCT, deflection adjustment value (Heavy paper B/Small size)	LT size (216mm) or less	1 - 99	60
Y		LCC/LCT (L)	LCC/LCT, deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99	20
Z		LCC/LCT HEAVY A PAPER (L)	LCC/LCT, deflection adjustment value (Heavy paper A/Large size)	LT size (216mm) or above	1 - 99	50
AA		LCC/LCT HEAVY B PAPER (L)	LCC/LCT, deflection adjustment value (Heavy paper B/Large size)	LT size (216mm) or above	1 - 99	60
AB		LCT MANUAL OHP	LCT, warp adjustment value (OHP) manual feed adjustment value	-	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

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	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

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	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

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the document lead edge reference and the DSPF mode document scan position.
<b>Section</b>	

**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.

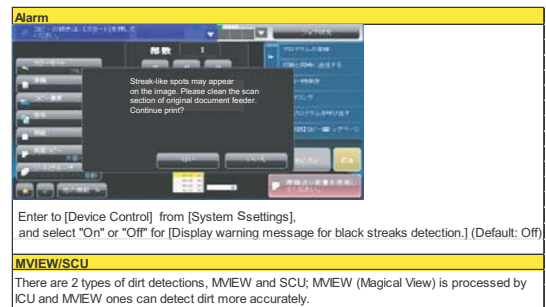
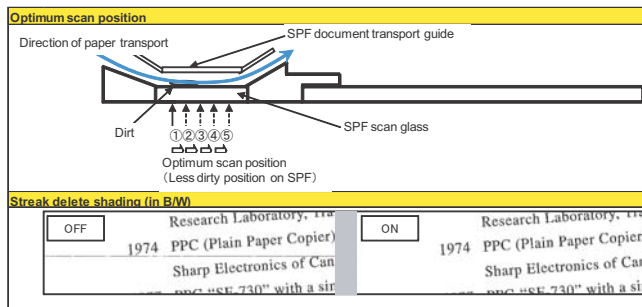
53-9

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	DSPF dirt detection setting
<b>Section</b>	

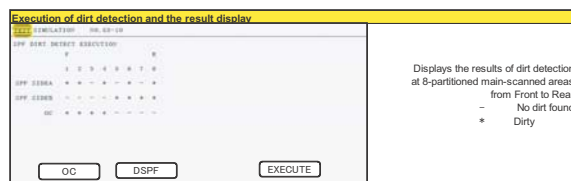
**Operation/Procedure**

- 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	1 (ON)
		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	SCAN_POSITION_PRIORITY_SET	MVIEW	DSPF front surface MVIEW/SCU priority setting (Optimum scan position)	MVIEW	0 - 1	0	0 (MVIEW)
		SCU		SCU		1	
J	DIRT_ALARM_PRIORITY_SET	MVIEW	DSPF common MVIEW/SCU priority setting (Alarm)	MVIEW	0 - 1	0	0 (MVIEW)
		SCU		SCU		1	



53-10	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	DSPF dirt detection execution.
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Press [EXECUTE] key.	
<b>Item</b>	<b>Content</b>
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	
<b>Purpose</b>	(Do not use this function unless specially required.)
<b>Function (Purpose)</b>	Used to set the specifications of the engine control operations. (SOFT SW)
<b>Section</b>	
<b>Operation/Procedure</b>	
55-2	
<b>Purpose</b>	(Do not use this function unless specially required.)
<b>Function (Purpose)</b>	Used to set the specifications of the scanner control operation. (SOFT SW)
<b>Section</b>	
<b>Operation/Procedure</b>	
55-3	
<b>Purpose</b>	(Do not use this function unless specially required.)
<b>Function (Purpose)</b>	Used to set the specifications of the controller operation. (SOFT SW)
<b>Section</b>	
<b>Operation/Procedure</b>	

<b>Purpose</b>	Adjustment/Setting
<b>Function (Purpose)</b>	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			
D	4TH DIGIT	Fourth digit			
E	5TH DIGIT	Fifth digit			
F	6TH DIGIT	Sixth digit (right edge)		32 [blank: 20H] 65 - 90 [Alphabet: 41H("A") - 5AH("Z")] 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 com-posing method	Edging type	1
		PATTERN 2		OR process type	
		PATTERN 3	No-delete-compo-sition 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

<b>Purpose</b>	Backup
<b>Function (Purpose)</b>	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

<b>Purpose</b>	Data backup
<b>Function (Purpose)</b>	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.)

**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, SD Card HDD  
<EXPORT>  
From EEPROM, SD Card, 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, SD Card HDD  
<EXPORT>  
From EEPROM, SD Card, 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.

<Data list outside the backup targets>  
(EEPROM/SD Card)

PWB Type	Content	NOTE
Controller	Machine serial No.	
	Product key information	
	Various counter	Copy counter/FAX send counter etc.
	Trouble history	
PCU	Machine serial No.	
	Various counter	Maintenance counter
	Machine adjustment execute history	
	Trouble history	
SCU	Various counter	Maintenance counter
	Trouble history	

(HDD)

Classification	Content	NOTE
Japanese FEP	User dictionary	
Job end list	Job end list display data (The image send series include the preserved job list.)	
Log	Job log	Read from WEB is enable.
New N/A	? Print history information ? JAM history information ? Trouble history information ? Same position continuous jam count value ? Charging information ? Life information	
Operation manual	E-manual	

<b>56-3</b>	
<b>Purpose</b>	Data backup
<b>Function (Purpose)</b>	Used to backup the document filing data to the USB memory.
<b>Section</b>	

#### 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, SD Card, HDD  
<EXPORT>  
From EEPROM, SD Card, 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.

<b>56-4</b>	
<b>Purpose</b>	Data backup
<b>Function (Purpose)</b>	Used to backup the JOB log data to the USB memory.
<b>Section</b>	

#### 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.

<b>56-5</b>	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	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.

<b>56-6</b>	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to output the JAM/trouble data.
<b>Section</b>	

#### 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.

## 60

<b>60-1</b>	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the memory operations (read/write) of the MFP PWB.
<b>Section</b>	

#### 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	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the LSU polygon motor rotation and laser detection.
<b>Section</b>	LSU

**Operation/Procedure**

- 1) Press [EXECUTE] key.

When the operation is completed normally, [OK] is displayed.

In case of an abnormal end, [NG] is displayed.

Display	Content
LSU TESTRESULT NG: PG	Polygon mirror rotation abnormality
LSU TESTRESULT NG: K	Laser abnormality (K)
LSU TESTRESULT NG: CL	Laser light emitting abnormality (C,M,Y)

61-3	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the laser power
<b>Section</b>	

**Operation/Procedure**

- 1) Select a target mode for adjustment with [COPY], [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 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	
					62 CPM machine	70 CPM machine
COPY600	A	LASER POWER MIDDLE(K)	Laser power setting middle speed/K	0 - 255	132	142
	B	LASER POWER MIDDLE(C)	Laser power setting middle speed/C	0 - 255	132	142
	C	LASER POWER MIDDLE(M)	Laser power setting middle speed/M	0 - 255	132	142
	D	LASER POWER MIDDLE(Y)	Laser power setting middle speed/Y	0 - 255	132	142
	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	132	142
	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

Category	Item/Display		Content	Setting range	Default value	
					62 CPM machine	70 CPM machine
COPY600	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
PRINTER 600/FAX	AT	LASER POWER Y4	Laser power setting correction value Y4	0 - 255	100	100
	A	LASER POWER MIDDLE(K)	Laser power setting middle speed/K	0 - 255	132	142
	B	LASER POWER MIDDLE(C)	Laser power setting middle speed/C	0 - 255	132	142
	C	LASER POWER MIDDLE(M)	Laser power setting middle speed/M	0 - 255	132	142
	D	LASER POWER MIDDLE(Y)	Laser power setting middle speed/Y	0 - 255	132	142
	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/	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	132	142
	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 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	
					62 CPM machine	70 CPM machine
PRINTER 1200	A	LASER POWER MIDDLE(K)	Laser power setting middle speed/K	0 - 255	132	142
	B	LASER POWER MIDDLE(C)	Laser power setting middle speed/C	0 - 255	132	142
	C	LASER POWER MIDDLE(M)	Laser power setting middle speed/M	0 - 255	132	142
	D	LASER POWER MIDDLE(Y)	Laser power setting middle speed/Y	0 - 255	132	142
	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	132	142
	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

<b>61-4</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	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 - 5	1
		CS1		Tray 1		2
		CS2		Tray 2		3
		CS3		Tray 3		4
		CS4		Tray 4		5

<b>61-11</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to correct the laser power automatically.

#### Section

#### Operation/Procedure

- 1) Select a target item with touch panel key.

Items	Contents	Outline
AUTO CORRECTION	Automatic correction	Adjustment by scanner
DATA	Data display screen	Data display when executing the automatic correction

- 2) Press [AUTO CORRECTION] key.
- 3) Select the adjustment density pattern.
- 4) Press [EXECUTE] key.
- 5) The adjustment pattern is printed out.
- 6) Place the printed adjustment pattern on the document table (A4R direction), and press [EXECUTE] key.  
The automatic correction of the laser power is performed, and then the adjustment result pattern is outputted.
- 7) To perform the correction again, press [RETRY] key.
- 8) When [DATA] key is pressed on the initial screen, the display is shifted to the automatic adjustment result display screen.

<b>61-12</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Laser power manual correction
<b>Section</b>	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 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 [4POINT CORRECTION] or [31POINT 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.

<b>61-13</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to clear the laser power correction value.

#### Section

#### Operation/Procedure

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

Reference value reset item
Laser power automatic correction amount (K) 32 data (point)
Laser power automatic correction amount (C) 32 data (point)
Laser power automatic correction amount (M) 32 data (point)
Laser power automatic correction amount (Y) 32 data (point)
Laser power manual correction amount (K) 32 data (point)
Laser power manual correction amount (C) 32 data (point)
Laser power manual correction amount (M) 32 data (point)
Laser power manual correction amount (Y) 32 data (point)

<b>62-1</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to format the hard disk/SD Card. (HDD: Excluding the Operation manual and the watermark data) (SD Card: User data)
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Press [EXECUTE] key.	
2) Press [YES] key.	
Used to execute the HDD/SD Card format.	
When the operation is completed, [EXECUTE] key returns to the normal display.	

<b>62-2</b>	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check read/write of the hard disk (partial).
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Press [EXECUTE] key.	
2) Press [YES] key.	

<b>62-3</b>	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check read/write of the hard disk (all areas).
<b>Section</b>	
<b>Operation/Procedure</b>	
1) Press [EXECUTE] key.	
2) Press [YES] key.	
Read/write operations are performed.	

<b>62-6</b>	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to perform the self diagnostics of the hard disk.
<b>Section</b>	
<b>Operation/Procedure</b>	
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 check 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.

<b>62-7</b>	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to print the hard disk self diagnostics error log.
<b>Section</b>	
<b>Operation/Procedure</b>	
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.	

<b>62-8</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to format the hard disk/SD Card. (HDD: Excluding the Operation Manual, the watermark data, and the system area) (SD Card: User data)
<b>Section</b>	
<b>Operation/Procedure</b>	
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.	

<b>62-10</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the job completion list data.
<b>Section</b>	
<b>Operation/Procedure</b>	
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.	

<b>62-11</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to delete the document filing data.
<b>Section</b>	
<b>Operation/Procedure</b>	
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

<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set Enable/Disable of auto format in a hard disk trouble.
<b>Section</b>	
<b>Operation/Procedure</b>	
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	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to format the hard disk. (Operation Manual, watermark data only)
<b>Section</b>	
<b>Operation/Procedure</b>	
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	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to delete the document filing management data.
<b>Section</b>	HDD
<b>Operation/Procedure</b>	
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.	
<b>NOTE:</b>	
This simulation may not function with some firmware versions.	
In such a case, the firmware must be upgraded to the latest version.	

62-20

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to check the operation of the mirroring hard disk.
<b>Section</b>	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

## 63

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)	
	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: (reserve)			
		6: STAGE2. Underflow	

Button	Display item	Description	Remarks
OC	ERROR CODE	Error code (0, 1 - 14)	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 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	
DSPF	ANALOG GAIN ODD	Analog gain adjustment value (odd number)	
	ANALOG GAIN EVEN	Analog gain adjustment value (even number)	
	DIGITAL GAIN ODD	Digital gain adjustment value (odd number)	
	DIGITAL GAIN EVEN	Digital gain adjustment value (even number)	
	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: (reserve)
			6: STAGE2. Underflow
			7: Black shading error
			8: Other error
			9: END is not asserted. (White shading)
			10: END is not asserted. (Black shading)

Button	Display item	Description	Remarks
DSPF	ERROR CODE	Error code (0, 1 - 14)	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

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to perform shading.
<b>Section</b>	

#### Operation/Procedure

? DSPF-installed model

- 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

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to perform scanner (CCD) color balance and gamma auto adjustment.
<b>Section</b>	Scanner

#### Operation/Procedure

- 1) Place the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) on the reference position of the left rear frame side of the document table. For the DSPF mode, put the SIT 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.

<b>63-4</b>	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to display the SIT chart patch density.
<b>Section</b>	

#### Operation/Procedure

- Place the SIT chart (UKOG-0280FCZZ or UKOG-0280FCZ1) on the reference position of the left rear frame side of the document table. For the DSPF mode, put the SIT chart backside up on the DSPF tray.
- Select [OC] key or [DSPF] key.
- Press [EXECUTE] key.  
The patch of the SIT chart is scanned.  
When the operation is completed, [EXECUTE] key returns to the normal display.
- Select a data display mode.

GAMMA THROUGH	SIT chart scan data
COPY GAMMA	Copy mode gamma process data of the SIT chart scan data
SCANNER GAMMA	Image send mode gamma process data of the SIT chart scan data
SIT CHECK	SIT chart scan data/Check result

Select an target display color with [R] [G] [B] keys.

<b>63-5</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to perform the scanner (CCD) color balance and gamma default setting.
<b>Section</b>	

#### Operation/Procedure

- Press [EXECUTE] key, and press [YES] key
- The scanner (CCD) color balance and gamma are set to the default.

<b>63-6</b>	
<b>Purpose</b>	Adjustment/Setting/Operation data check
<b>Function (Purpose)</b>	Used to display the scan level and the density level of the copy color balance adjustment patch.
<b>Section</b>	

#### Operation/Procedure

- Set the color balance adjustment pattern sheet printed with SIM46-21 on the document table.
- Press [EXECUTE] key.  
The patch image of the adjustment pattern sheet is scanned.  
Select a target color with [C] [M] [Y] [K] key.

<b>63-7</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to register the service target of the copy mode auto color balance adjustment.
<b>Section</b>	

#### Operation/Procedure

- Press [SETUP] key on the touch panel.
- Set the color balance adjustment pattern sheet printed with SIM46-21 on the document table.
- Press [EXECUTE] key.  
The patch image of the adjustment pattern sheet is scanned.
- 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
BASE	Background sampling value

<b>63-8</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the default of the service target of the copy mode auto color balance adjustment.
<b>Section</b>	

#### Operation/Procedure

- Press [EXECUTE] key.
- 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.

<b>63-11</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the target color balance of the copy mode auto color balance adjustment.
<b>Section</b>	

#### Operation/Procedure

- 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	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Test print. (Self print) (Color mode)
<b>Section</b>	

**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, 42, 43)		Specification of the print pattern (* For details, refer to the below.)		1 - 68 (Printable only 1, 2, 9 - 11, 17 - 19, 21, 22, 42, 43)		1
B	DOT1 (DOT1>=2 IF A: 2, 11, 42, 43)		Setting of print dot number (M parameter) (Self print pattern: For m by n)		1 - 255 (Pattern 2, 11, 42, 43: 2 - 255 except above: 1 - 255)		1
C	DOT2 (DOT2>=2 IF A: 2, 11, 42, 43)		Space dot number setting (N parameter) (Self print pattern: For m by n)		0 - 255 (Pattern 2, 11, 42, 43: 2 - 255 except above: 0 - 255)		254
D	DENSITY (FIXED "255" IF A:9)		Used to specify the print gradation.		1 - 255 (Pattern 9: 255 Fixed except above: 1 - 255)		255
E	MULTI COUNT		Number of print		1 - 999		1
F	EXPOSURE (2 - 8 IF A: 17 - 19)	THROUGH	Exposure mode specification	No process (through)	1 - 8 (Pattern 17 - 19: 2 - 8 except above: 1 - 8)	1	8 (STANDARD DITHER)
		CHAR/PIC		Text/Printed Photo		2	
		CHAR/PRPIC		Text/Photograph		3	
		CHAR		Text		4	
		PRINT PIC		Printed photo		5	
		PRINT PAPER		Photograph		6	
		MAP		Map		7	
		STANDARD DITHER		Dither without correction		8	
G	PAPER	MFT	Tray selection	Manual paper feed	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	Yes	0 - 1	0	1 (NO)
		NO		No		1	
I	PAPER TYPE	PLAIN	Paper type	Standard paper	1 - 8	1	1 (PLAIN)
		HEAVY		Heavy paper		2	
		OHP		OHP		3	
		ENVELOPE		Envelope		4	
		HEAVY2		Heavy paper 2		5	
		GLOSSY		Glossy paper		6	
		HEAVY3		Heavy paper 3		7	
		HEAVY4		Heavy paper 4		8	

\*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		Gradation 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	<input type="checkbox"/>	K only	<input type="checkbox"/>	x	<input type="checkbox"/>	1	<input type="checkbox"/>	236
? 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		<input type="checkbox"/>	K only	<input type="checkbox"/>	x	<input type="checkbox"/>	2	<input type="checkbox"/>	2
9	Each color 10% area (A4/4R) density print	Fixed range		x (4 colors fixed)	-	<input type="checkbox"/>	x	<input type="checkbox"/>	10	<input type="checkbox"/>	1
? 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		x (4 colors fixed)	-	<input type="checkbox"/>	x	x	1	x	1
11	4-color dot print (sub scan)	All surface (each color 1/4)	Halftone (IMG-ASIC rear process)	x (4 colors fixed)	-	<input type="checkbox"/>	x	<input type="checkbox"/>	2	<input type="checkbox"/>	2
? 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		<input type="checkbox"/> (Up to 3 colors)	K only	<input type="checkbox"/>	<input type="checkbox"/>	x	1	x	1
? When all colors are selected, print is made in CMY.											
18	256 gradations pattern (Other dither)	Fixed range		<input type="checkbox"/> (Up to 3 colors)	K only	x	<input type="checkbox"/>	x	1	x	1
? 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	LSU-ASIC	<input type="checkbox"/> (Up to 3 colors)	K only	x	<input type="checkbox"/>	x	1	x	1
Same as above.											
21	4-point dot print (main scan)	All color (each color 1/4)	LSU-ASIC	x (4 colors fixed)	-	<input type="checkbox"/>	x	<input type="checkbox"/>	2	<input type="checkbox"/>	2
? 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	<input type="checkbox"/>	K only	<input type="checkbox"/>	x	<input type="checkbox"/>	1	<input type="checkbox"/>	254
42	4-color dot print (sub scan)	All surface (K, C each 1/2)	LSU-ASIC	K, C fixed	-	<input type="checkbox"/>	x	<input type="checkbox"/>	2	<input type="checkbox"/>	2
? Black and Cyan are printed in 1/2 of the sub scan paper size. ? At N=0, printing is made in all the surface.											
43	4-color dot print (sub scan)	All surface (M, Y each 1/2)	LSU-ASIC	M, Y fixed	-	<input type="checkbox"/>	x	<input type="checkbox"/>	2	<input type="checkbox"/>	2
? Magenta and Yellow are printed in 1/2 of the sub scan paper size.											

64-2	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Test print. (Self print) (Monochrome mode)
<b>Section</b>	

#### Operation/Procedure

- Set the print conditions.  
Select an item to be print condition with scroll keys.  
Set the print conditions with 10-key.
- 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, 42)	Specification of the print pattern (* For details, refer to the below.)		1 - 1 (Printable only 1, 2, 9 - 11, 17 - 19, 21, 22, 42)		1
B	DOT1 (DOT1>=2 IF A: 2, 11, 42)	Setting of print dot number (M parameter) (Self print pattern: For m by n)		1 - 1 (Pattern 2, 11, 42, : 2 - 255 except above: 1 - 255)		1
C	DOT2 (DOT2>=2 IF A: 2, 11, 42)	Space dot number setting (N parameter) (Self print pattern: For m by n)		0 - 0 (Pattern 2, 11, 42, : 2 - 255 except above: 0 - 255)		254
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)	THROUGH	Exposure mode specification	1 - 8 (Pattern 17 - 19: 2 - 8 except above: 1 - 8)	1	8 (STANDARD DITHER)
		CHAR/PIC	No process (through) Text/Printed Photo		2	
		CHAR/PRPIC	Text/Photograph		3	
		CHAR	Text		4	
		PRINT PIC	Printed photo		5	
		PRINT PAPER	Photograph		6	
		MAP	Map		7	
		STANDARD DITHER	Dither without correction		8	
G	PAPER	MFT	Tray selection	1 - 7	1	2 (CS1)
		CS1	Manual paper 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 tray 1 (*2)		7	
H	DUPLEX	YES	Duplex print selection	0 - 1	0	1 (NO)
		NO	No		1	
I	PAPER TYPE	PLAIN	Paper type	1 - 8	1	1 (PLAIN)
		HEAVY	Standard paper		2	
		OHP	Heavy paper		3	
		ENVELOPE	OHP		4	
		HEAVY2	Envelope		5	
		GLOSSY	Heavy paper 2		6	
		HEAVY3	Glossy paper		7	
		HEAVY4	Heavy paper 3		8	

\*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="checkbox"/>	x	<input type="checkbox"/>	1	<input type="checkbox"/>	236	
				? 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		<input type="checkbox"/>	x	<input type="checkbox"/>	2	<input type="checkbox"/>	2	
9	Each color 10% area (A4/4R) density print	Fixed range		<input type="checkbox"/>	x	<input type="checkbox"/>	10	<input type="checkbox"/>	1	
				? 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		<input type="checkbox"/>	x	x	1	x	1	
11	4-color dot print (sub scan)	All surface (each color 1/4)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	<input type="checkbox"/>	2	
				? 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		Halftone (IMG-ASIC rear process)	<input type="checkbox"/>	<input type="checkbox"/>	x	1	x	1
					? When all colors are selected, print is made in CMY.					
18	256 gradations pattern (Other dither)	Fixed range	x		<input type="checkbox"/>	x	1	x	1	
			? 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	x		<input type="checkbox"/>	x	1	x	1	
			Same as above.							
21	4-point dot print (main scan)	All color (each color 1/4)	LSU-ASIC	<input type="checkbox"/>	x	<input type="checkbox"/>	2	<input type="checkbox"/>	2	
				? 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	<input type="checkbox"/>	x	<input type="checkbox"/>	1	<input type="checkbox"/>	254	
42	4-color dot print (sub scan)	All surface (K, C each 1/2)	LSU-ASIC	<input type="checkbox"/>	x	<input type="checkbox"/>	2	<input type="checkbox"/>	2	
				? Black and Cyan are printed in 1/2 of the sub scan paper size. ? At N=0, printing is made in all the surface.						

64-4	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Printer test print. (Self print)
<b>Section</b>	

#### 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	
E	HALFTONE	LOW	Halftone	Low line number	0	0 (LOW)
		HIGH		High line number	1	
		GLOSSY		Glossy paper	2	
F	QUALITY	STANDARD	Image quality setting	Standard	0	1 (HIGHQUALITY)
		HIGHQUALITY		High quality	1	
		FINE		Ultra fine	2	
G	DITHER	STRAIGHT	Specification of dither correction	Straight	0	1 (CALIB)
		CALIB		Calibration	1	
H	PAPER TYPE	PLAIN	Paper type	Standard paper	0	0
		HEAVY		Heavy paper	1	
		HEAVY2		Heavy paper 2	2	
		GLOSSY		Glossy paper	3	

#### 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

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Printer test print. (Self print) (PCL)
<b>Section</b>	

**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 target 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 - 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	
E	HALFTONE	LOW(IMAGE)	Halftone	For Photo	0	3 (AUTO)
		HIGH(TEXT)		For text	1	
		GLOSSY		For glossy paper	2	
		AUTO		Auto (for photo/text)	3	
F	QUALITY	STANDARD	Image quality setting	Standard (600dpi, 1bit)	0	1 (HIGHQUALITY)
		HIGHQUALITY		High quality (600dpi, 4bit)	1	
		FINE		Ultra fine (1200dpi, 1bit)	2	
G	DITHER	STRAIGHT	Specification of dither correction	0: Straight	0	1
		CALIB		1: Calibration	1	
H	PAPER TYPE	PLAIN	Paper type	Standard paper	0	0 (PLAIN)
		HEAVY		Heavy paper	1	
		HEAVY2		Heavy paper 2	2	
		GLOSSY		Glossy paper	3	
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 image	1	
		GRAPHICS		Graphics	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	Black monochrome 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)

<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Printer test print. (Self print) (PS)
<b>Section</b>	

**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	
E	HALFTONE	LOW(IMAGE)	Halftone	For Photo	0	3 (AUTO)
		HIGH(TEXT)		For text	1	
		GLOSSY		For glossy paper	2	
		AUTO		Auto (for photo/text)	3	
F	QUALITY	STANDARD	Image quality setting	Standard (600dpi, 1bit)	0	1 (HIGHQUALITY)
		HIGHQUALITY		High quality (600dpi, 4bit)	1	
		FINE		Ultra fine (1200dpi, 1bit)	2	
G	DITHER	STRAIGHT	Specification of dither correction	0: Straight	0	1 (CALIB)
		CALIB		1: Calibration	1	
H	PAPER TYPE	PLAIN	Paper type	Standard paper	0	0 (PLAIN)
		HEAVY		Heavy paper	1	
		HEAVY2		Heavy paper 2	2	
		GLOSSY		Glossy paper	3	
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 image	1	
		GRAPHICS		Graphics	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	Black monochrome print	set.	0	1 (OFF)
		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

64-7	
<b>Purpose</b>	Operation test/check
<b>Function (Purpose)</b>	Used to print the adjustment pattern of the test print. (Self print). (The adjustment pattern of SIM46-21 is printed.)

#### 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 adjustment pattern of SIM46-21 is printed.

Item/Display			Content		Setting range	Default value	Writing
A	COPIES		Number of print		1 - 999	1	No
B	PROC ADJ	YES	0	The halftone process control correction value is reflected.	0 - 1	1	Yes
		NO	1	The halftone process control correction value is not reflected.			

## 65

65-1	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to adjust the touch panel (LCD display section) detection coordinates.
<b>Section</b>	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.



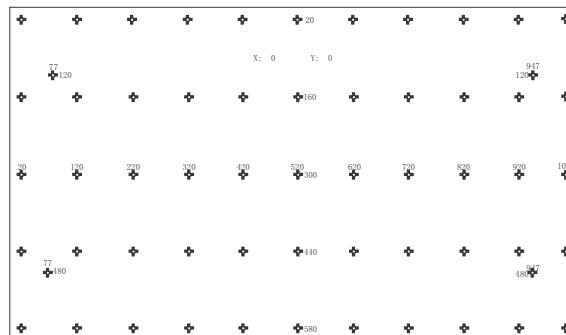
65-2	
<b>Purpose</b>	Operation check/test
<b>Function (Purpose)</b>	Used to display the touch panel (LCD display section) detection coordinates.

#### 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	
<b>Purpose</b>	Operation check/test
<b>Function (Purpose)</b>	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	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to display the FAX-related soft SW (2 - 150) on the LCD to allow changing the soft SW while checking with the LCD.

#### Section

#### Operation/Procedure

- 1) Enter the [SW NO] with 10-key.  
\* When [C] key is pressed, the entered value of [SW NO] is cleared.
- 2) 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.
- 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.

After saving the setting, [EXECUTE] key returns to the normal display.

<b>66-2</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to enter a country code and set the default value for the country code.
<b>Section</b>	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.
- When [EXECUTE] key is pressed, it is highlighted and [YES] and [NO] keys become active. The country name is displayed on the tile line.
- When [YES] key is pressed, it is highlighted and the soft SW corresponding to the country code is initialized.
- After completion of initialization of the soft SW, [EXECUTE], [YES], and [NO] 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

<b>66-3</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to check read/write of the EEPROM and the SDRAM on the MODEM controller and display the result.
<b>Section</b>	FAX

#### Operation/Procedure

- When the machine enters Simulation 66-03, the following screen is displayed.
  - Select the page of memory check item with the scroll key.
- When the memory check item button is selected, the display is shifted to the memory check screen.
- When [EXECUTE] key is pressed, it is highlighted and the memory check of the selected item is started.
- 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.

<b>66-4</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the selected signals to the line and the main unit speaker. (Send level: max.)
<b>Section</b>	FAX

#### Operation/Procedure

- When the machine enters Simulation 66-04, the screen on the right is displayed. (Default, left upper selected.)
  - Use scroll keys to switch the send mode select page.
- When a button of a signal to be sent is selected, it is highlighted and the previously set button is shifted to the normal display.
- When [EXECUTE] 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.

#### <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
---------	--------	--------

<b>66-5</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	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.)
<b>Section</b>	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.

<b>66-6</b>	
<b>Purpose</b>	Data output/Check
<b>Function (Purpose)</b>	Used to print the confidential registration check table (BOX NO., BOX name, pass-code. (If there is no confidential registration, no print is made.)
<b>Section</b>	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.

<b>66-7</b>	
<b>Purpose</b>	Data output/Check
<b>Function (Purpose)</b>	Used to output all image data saved in the image memory. (Confidential data are also outputted.)
<b>Section</b>	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.

<b>66-8</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the selected sound messages to the line and the speaker. (Send level: Max.)
<b>Section</b>	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.RING ER (External telephone call)	

<b>66-9</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	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.
<b>Section</b>	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.

<b>66-10</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the FAX and image send image data. (The confidential data are also cleared.)
<b>Section</b>	FAX

#### Operation/Procedure

- Press [EXECUTE] key.
- Press [YES] key.
- After completion of clearing, press [CA] key to reboot the machine.

<b>66-11</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the selected signal at 300bps to the line and the speaker. (Send level: Max.)
<b>Section</b>	FAX

#### Operation/Procedure

- 1) When the machine enters Simulation 66-11, 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.

#### <300bps send signal table>

NO SIGNAL	11111	11110	00000
010101	00001		

<b>66-12</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	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.
<b>Section</b>	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.

<b>66-13</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to register dial numbers for SIM66-14/15/16, Dial test. (Up to 20 digits can be registered.)
<b>Section</b>	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.

<b>66-14</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to execute the dial pulse (10PPS) send test and to adjust the make time.
<b>Section</b>	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.

<b>66-15</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to execute the dial pulse (20PPS) send test and to adjust the make time.
<b>Section</b>	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.

<b>66-16</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Used to execute the DTFM signal send test and to adjust the send level.
<b>Section</b>	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.

<b>66-17</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the DTMF signal to the line and the speaker. (Send level: Max.)
<b>Section</b>	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.

<b>66-18</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to send the DTMF signal to the line and the speaker. (Send level: Soft SW setting)
<b>Section</b>	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.

<b>66-21</b>	
<b>Purpose</b>	Check
<b>Function (Purpose)</b>	Used to print the selected items (system error, protocol monitor).
<b>Section</b>	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
-----------------	---------------------

<b>66-22</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	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)
<b>Section</b>	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.

<b>66-24</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the FAST save data.
<b>Section</b>	FAX

#### Operation/Procedure

- 1) Press [EXECUTE] key.
- 2) Press [YES] key.  
The FAST save data are cleared.
- 3) After completion of memory clear, [EXECUTE] key returns to the normal display and [YES] and [NO] buttons gray out.

<b>66-29</b>	
<b>Purpose</b>	Clear
<b>Function (Purpose)</b>	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).
<b>Section</b>	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.

<b>66-30</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to display the TEL/LIU status change. The display is highlighted by status change.
<b>Section</b>	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

<b>66-31</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to set ON/OFF the port for output to TEL/LIU.
<b>Section</b>	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	MR	EC	S.
------	----	----	----

<b>66-32</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to check the fixed data received from the line and to display the result.
<b>Section</b>	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."

<b>66-33</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	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.
<b>Section</b>	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
-----------	-----	-----	------

<b>66-34</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to execute the send test and display the time required for sending image data in the test. Used to execute send test and display. (Unit: ms)
<b>Section</b>	FAX

#### Operation/Procedure

- 1) FAX send is performed.
- 2) Enter the SIM 66-34 mode.  
The send time in procedure 1) is displayed.

<b>66-36</b>	
<b>Purpose</b>	Operation test/Check
<b>Function (Purpose)</b>	Used to check send and receive data from the MODEM controller to the MFP controller or the data line or the command line individually.
<b>Section</b>	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

<b>66-39</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to check and change the destination setting saved in EEPROM of the FAX BOX.
<b>Section</b>	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		

<b>66-42</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to rewrite the program to power control installed in the FAX BOX.
<b>Section</b>	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.

<b>66-43</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to write the adjustment value into the power control installed in the FAX BOX.
<b>Section</b>	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

<b>66-61</b>	
<b>Purpose</b>	Setting
<b>Function (Purpose)</b>	Used to display the FAX-related soft SW (151 - 250) on the LCD to allow changing the soft SW while checking with the LCD.
<b>Section</b>	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.

<b>66-62</b>	
<b>Purpose</b>	Backup
<b>Function (Purpose)</b>	Used to import the FAX receive data into a USB memory in PDF file type.
<b>Section</b>	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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<b>67-17</b>	
<b>Purpose</b>	Reset
<b>Function (Purpose)</b>	Printer reset
<b>Section</b>	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.

<b>67-24</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Printer color balance adjustment (Auto adjustment)
<b>Section</b>	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.

<b>67-25</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Printer color balance adjustment (Manual adjustment)
<b>Section</b>	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  $\triangle$   $\nabla$  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

<b>67-26</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the target color balance of the printer mode auto color balance adjustment.
<b>Section</b>	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.	

<b>67-27</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the service target of the printer mode auto color balance adjustment.
<b>Section</b>	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
BASE	Background sampling value

<b>67-28</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the default of the service target of the printer mode auto color balance adjustment.
<b>Section</b>	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.

<b>67-31</b>	
<b>Purpose</b>	Data clear
<b>Function (Purpose)</b>	Used to clear the printer calibration value.
<b>Section</b>	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.)

<b>67-33</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to change the gamma of the printer screen.
<b>Section</b>	Printer

#### Operation/Procedure

- 1) Select a target change color with [K] [C] [M] [Y] key on the touch panel.
- 2) Select a target screen with [SCREEN] key.
- 3) Select a target adjustment density level with scroll key.
- 4) Enter the set value with 10-key.
- 5) Press [OK] key. (The set value is saved.)

When [EXECUTE] key is pressed, the check pattern is printed in the color balance and density corresponding to the adjustment value.

Item/Display		Content	Setting range	Default value
A	POINT1	Point 1	0 - 255	128
B	POINT2	Point 2	0 - 255	128
C	POINT3	Point 3	0 - 255	128
D	POINT4	Point 4	0 - 255	128
E	POINT5	Point 5	0 - 255	128
F	POINT6	Point 6	0 - 255	128
G	POINT7	Point 7	0 - 255	128
H	POINT8	Point 8	0 - 255	128
I	POINT9	Point 9	0 - 255	128
J	POINT10	Point 10	0 - 255	128
K	POINT11	Point 11	0 - 255	128
L	POINT12	Point 12	0 - 255	128
M	POINT13	Point 13	0 - 255	128
N	POINT14	Point 14	0 - 255	128
O	POINT15	Point 15	0 - 255	128
P	POINT16	Point 16	0 - 255	128
Q	POINT17	Point 17	0 - 255	128

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.

<b>67-34</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the density correction in the printer high density section. (Support for the high density section tone gap)
<b>Section</b>	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	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

? 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.



<b>67-36</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the density in the low density section.
<b>Section</b>	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

<b>67-41</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the threshold for judging the selected color printing or the black color printing in the black and white mode.
<b>Section</b>	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

<b>67-42</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	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.
<b>Section</b>	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
		F2 Black : Normal	
		F3 Black : Dark	
	COLOR (Selected color)	G1 Selected color : Light	G2
		G2 Selected color : Normal	
		G3 Selected color : Dark	
MODE 2	Black (Achromatic color)	F1 Black : Light	F2
		F2 Black : Normal	
		F3 Black : Dark	
	COLOR (Selected color)	G1 Selected color : Light	G2
		G2 Selected color : Normal	
		G3 Selected color : Dark	

<b>67-43</b>	
<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	2 Color mode balance adjustment
<b>Section</b>	Printer

#### Operation/Procedure

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

Item/Display	Content	Color	Setting range	Default value		
				C	M	Y
A	RED	R output color	CMY	0 - 255	0	235
B	GREEN	G output color	CMY	0 - 255	180	0
C	BLUE	B output color	CMY	0 - 255	235	15
D	CYAN	C output color	CMY	0 - 255	182	0
E	MAGENT A	M output color	CMY	0 - 255	0	21
F	YELLOW	Y output color	CMY	0 - 255	0	234

<b>67-45</b>	
<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to adjust the printer image filter and trapping.
<b>Section</b>	

#### Operation/Procedure

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

Item/Display	Content	Setting range	Default value	NOTE
A	SHARPNESS: COLOR PRINT	0 - 4	2	The greater the set value is, the stronger the filter enhancement is. The smaller the set value is, the stronger the filter smoothness is. (0: Soft High, 1: Soft Low, 2: Center, 3: Sharp Low, 4: Sharp High)
B	SHARPNESS: B/W PRINT	0 - 4	2	

Item/Display		Content	Setting range	Default value	NOTE
C	TRAPPING: CMY (PCL & DIRECTPRINT)	CMY (PCL, Direct Print)	0 - 5	3	The greater the set value is, the stronger the trapping is. (0: OFF, (Low) 1 < 2 < 3 < 4 < 5) (The target is vector images. There is no effect for the raster images.) However, the sharpness also varies.
D	TRAPPING: K (PCL & DIRECTPRINT)	K (PCL, Direct Print)	0 - 5	3	
E	TRAPPING: CMY (PS)	CMY (PS)	0 - 5	3	
F	TRAPPING: K (PS)	K (PS)	0 - 5	0	
G	TRAPPING: CMY (XPS)	CMY (XPS)	0 - 5	0	
H	TRAPPING: K (XPS)	K (XPS)	0 - 5	0	

67-52

<b>Purpose</b>	Adjustment/Setup
<b>Function (Purpose)</b>	Used to set the default of the gamma of the printer screen.
<b>Section</b>	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
	GLOSSPAPER	SCREEN10 (Glossy paper screen)
	4BIT_GRAPHICS	SCREEN4 (600dpi 4bit Graphics)

67-54

<b>Purpose</b>	Adjustment
<b>Function (Purpose)</b>	Printer color balance adjustment (Automatic adjustment for each dither)
<b>Section</b>	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, and the 600dpi 1bit mode.

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

- 1) Press [EXECUTE] key. (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
Glossy	Adjustment item to improve the color balance in glossy paper mode
4BIT_GRAPHICS	Adjustment item to improve the color balance in 600dpi, 4bit Graphic mode.

- 6) Press [EXECUTE] key. (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.

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

## [7] TROUBLESHOOTING

### 1. Error code and troubleshooting

#### A. General

When a trouble occurs in the machine or when the life of a consumable part is nearly expired or when the life is expired, the machine detects and displays it on the display section. This allows the user and the serviceman to take the suitable action. In case of a trouble, this feature notifies the occurrence of a trouble and stops the machine to minimize the damage.

#### B. Function and purpose

- 1) Securing safety. (The machine is stopped on detection of a trouble.)
- 2) The damage to the machine is minimized. (The machine is stopped on detection of a trouble.)
- 3) By displaying the trouble content, the trouble position can be quickly identified. (This allows to perform an accurate repair, improving the repair efficiency.)
- 4) Preliminary warning of running out of consumable parts allows to arrange for new parts in advance of running out. (This avoids stopping of the machine due to running out the a consumable part.)

#### C. Self diag message kinds

The self diag messages are classified as shown in the table below.

Class 1	User	Warning of troubles which can be recovered by the user. (Paper jam, consumable part life expiration, etc.)
	Service	Warning of troubles which can be recovered only by a serviceman. (Motor trouble, maintenance, etc.)
	Others	-
Class 2	Warning	Warning to the user, not a machine trouble (Preliminary warning of life expiration of a consumable part, etc.)
	Trouble	Warning of a machine trouble. The machine is stopped.
	Others	-

#### D. Self diag operation

The machine always monitors its own state.

When the machine recognizes a trouble, it stops the operation and displays the trouble message.

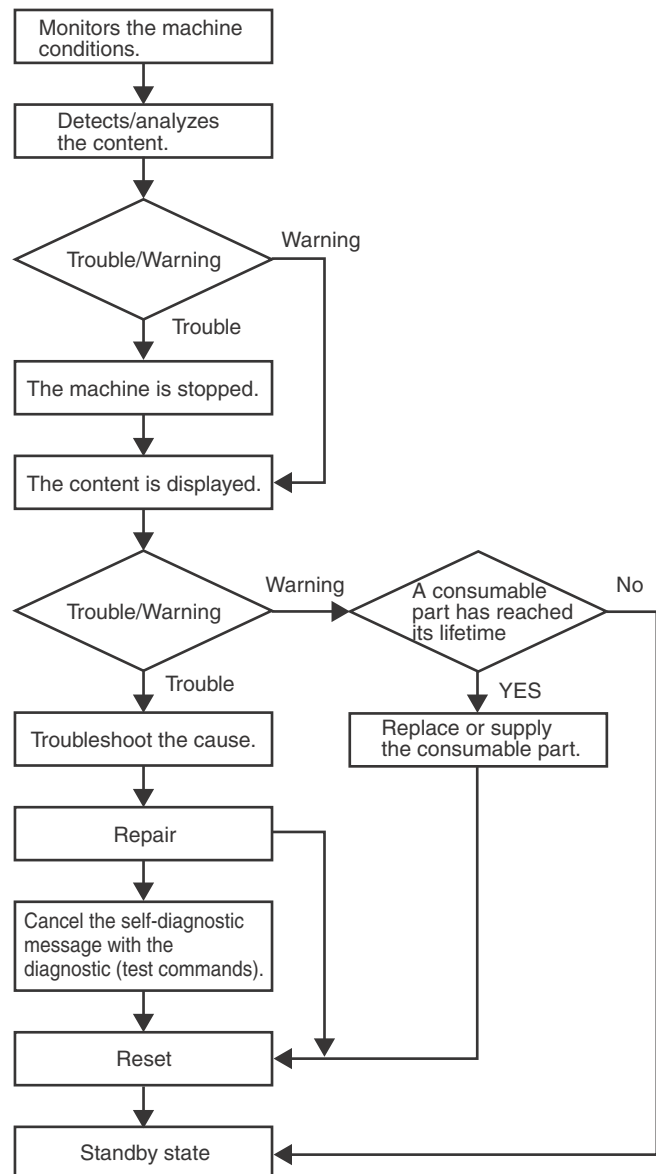
A warning message is displayed when a consumable part life is nearly expired or is expired.

When a warning message is displayed, the machine may be or may not be stopped.

The trouble messages and the warning messages are displayed by the LCD and lamp.

Some trouble messages are automatically cleared when the trouble is repaired. Some other troubles must be cleared by a simulation.

Some warning messages of consumable parts are automatically cleared when the trouble is repaired. Some other warning messages must be cleared by a simulation.



## E. Breakdown sequence

### (1) Error code and operatable mode

Trouble content		Judgment block	Trouble code	Operatable mode								
				Copy scan (including interruption)	Scan (Push)	Scan (Pull)	Scan-To HDD	Print	List print	FAX Send	FAX print	FAST Notification to host
FAX board trouble	FAX board breakdown	MFP	F6 (00, 01, 04, 21, 30, 97, 98)	□	□	□	□	□	□	△1	△1	△1
HDD trouble	Compact flash memory breakdown		E7 (A6)	5	5	5	5	5	5	5	5	5
	SD card breakdown		E7 (07)	5	5	5	5	5	5	5	5	5
	HDD breakdown		E7 (03, A5)	5	5	5	5	5	5	5	5	5
	HDD-ASIC breakdown		E7 (04)	5	5	5	5	5	5	5	5	5
Scanner communication trouble	SCU communication error		A0 (02) E7 (80)	5	5	5	5	□	□	5	□	□
Engine communication trouble	PCU communication error		A0 (01) E7 (90)	5	5	5	5	5	5	5	5	□
Option communication trouble	ACU communication error		A0 (04, 05)	5	5	5	5	5	5	5	5	□
Printer port system trouble	Printer port system trouble		F9 (91, 92)	□	5	5	□	5 *13	△ *14	□	□	□
Backup battery voltage fall trouble	Backup battery voltage fall		U1 (01)	5	5	5	5	5	5	5	5	□
Operation disable trouble 1	Controller fan motor trouble		L4 (28, 30)	5	5	5	5	5	5	5	5	5
Operation disable trouble 2	External communication disable (RIC)		U7 (50, 51)	5	5	5	5	5	5	5	5	□
	Memory error (included not installed the expansion RAM)		U2 (00, 11, 40, 41, 42)	5	5	5	5	5	5	5	5	△15
	Connection trouble (MFP detection)		A0 (10, 11, 14, 15, 16, 17, 20) E7 (60, 61, 89)	5	5	5	5	5	5	5	5	5
	Serial number discrepancy		U2 (30)	5	5	5	5	5	5	5	5	5
	HDD registration data check sum error		U2 (50)	5	5	5	5	5	5	5	5	□
Operation disable trouble 3	Memory check error when booting		E7 (95, 96)	5	5	5	5	5	5	5	5	□
	Image memory trouble, decode error		E7 (01, 49, 91, 92, 93, 94)	5	5	5	5	5	5	5	5	□
	Image memory trouble, decode error (related to ACRE, 1)		E7 (42, 46, 48)	5	△17	5	5	5	□	□	□	□
Operation disable trouble 4	Personal counter not-installed trouble		PC (00)	5	5	5	5	5	5	5	5	□
Power controller trouble	Power controller trouble		L8 (20)	5	5	5	5	5	5	5	5	□
Special function trouble	Special function error		P1 (00, 01, 02) U2 (60)	□	□	□	□	□	□	□	□	□
Laser trouble	LSU breakdown	PCU	E7 (20, 24, 28, 29, A0) L6 (10)	5	5	5	5	5	5 *10	5	5	□
Engine trouble 1	Connection trouble (PCU detection)		A0 (21) E7 (50, 55) F1 (50)	5	5	5	5	5	5	5	5	5

Trouble content		Judgment block	Trouble code	Operatable mode								
				Copy scan (including interruption)	Scan (Push)	Scan (Pull)	Scan-To HDD	Print	List print	FAX Send	FAX print	FAST Notifi- cation to host
Engine trouble 2	PCU troubles (motor, fusing, etc.)	PCU	C1 (01, 02, 10, 14) C4 (00, 01, 20, 21, 30, 31) F2 (22, 40, 64, 70, 74, 91) H2 (00, 01, 02, 04, 05, 06, 07) H3 (00, 01, 02) H4 (00, 01, 02, 30, 31, 32) H5 (01) H7 (10, 11) L4 (02, 03, 06, 07, 08, 09, 16, 17, 18, 19, 20, 29, 31, 32, 34, 35, 36, 39, 40, 41, 42, 43, 44, 48, 49, 57, 60, 61) L8 (01, 02, 11, 12) U2 (90, 91)	5	5	5	5	5	5 *10	5	5	□
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)	5 *19	5 *19	5 *19	5 *19	5 *19	5 *10 *19	5 *19	5 *19	□
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, 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 8 trouble	Paper feed tray 8 breakdown			△3	□	□	□	△3	△3 *10	□	△3	□
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, 60, 90, 96, 97, 98, 99)	△4	△4	△4	△4	△4	△4 *10	△4	△4	□
Inserter trouble	Inserter 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		Judgment block	Trouble code	Operatable mode								
				Copy scan (including interruption)	Scan (Push)	Scan (Pull)	Scan-To HDD	Print	List print	FAX Send	FAX print	FAST Notification to host
Operation disable trouble	Connection trouble (SCU detection)	SCU	A0 (22)	5	5	5	5	5	5	5	5	5
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)	5	5	5	5	□	□	5	□	□
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)	5	5	5	5	□	□	5	□	□
Scanner trouble 2	Scanner section breakdown (mirror motor, lens, copy lamp)		L1 (00) L2 (11) L3 (00)	5	5	5	5	□	□	5	□	□
CCD trouble	CCD breakdown (shading, etc.)		E7 (10, 11, 14)	5	5	5	5	□	□	5	□	□
DSPF/DF trouble	DSPF/DF breakdown		U5 (00, 16, 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	□	□

#### Error where only history data are saved

Trouble content		Judgment block	Trouble code	Operatable mode								
				Copy scan (including interruption)	Scan (Push)	Scan (Pull)	Scan-To HDD	Print	List print	FAX Send	FAX print	FAST Notification to host
Error history		PCU	F2 (45)	□	□	□	□	□	□	□	□	□
		MFP	E7 (02) U2 (05)	□	□	□	□	□	□	□	□	□

□ : Operation enabled    5: Operation disabled

△1: The operation is enabled in a line other than the trouble line.

△3: When detected during other than a job, the operation is enabled with a tray other than the trouble tray.

△4: When detected during other than a job, the operation is enabled in a section other than the trouble paper exit section. \* However, it is valid only when the escape tray setting has been made.

△6: When detected during other than a job, the operation is 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 black and white mode.

\*10: Since communication is enabled, reception can be transferred. (Noted in the list print category of the system setting screen operation because it is an operation on the system setting screen.)

△11: When detected during other than a job, the operation is enabled in other than the DESK and the LCC.

\*12: Trouble display message is displayed in 2 lines. (Example: Ready to copy. F2 trouble)

\*13: When FIERY (EFI) option is installed, PCL will not operate. (Machine specifications) (Exclusive)

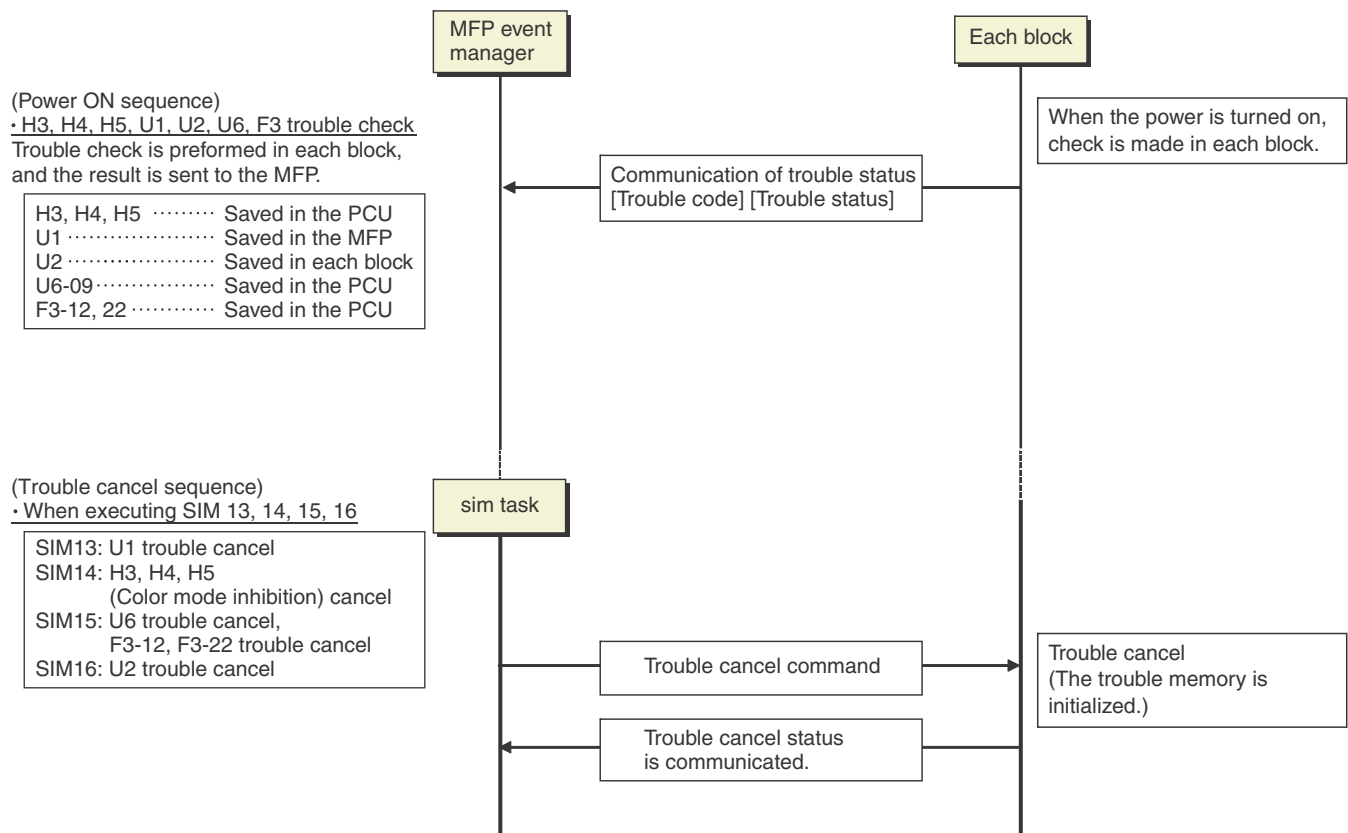
\*14: Only FIERY (EFI) option list print (self print) is disabled.

△15: When in U2-22, trouble notification cannot be made. When in U2-23, if either of the FAX soft SW or the FAST data cannot be restored, the data are initialized, disabling trouble notification.

△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 black and white mode.

## (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	60	Watermark check error
		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)
	U2	11	MFPC PWB EEPROM counter check sum error
00		MFP EEPROM read/write error	
Last (High priority)	E7	48	Scanner expansion PWB (ACRE) ASIC memory error
		42	Image data trouble (Scanner expansion PWB (ACRE) ASIC)
		96	MFPC PWB DIMM memory check error (MFPC PWB)
		95	Printer PWB DIMM memory check error (PRINTER section)
	U1	01	Battery trouble
	E7	60	Combination error between PWB and firmware (MFPC PWB detection)
A0	04	Scanner expansion PWB (ACU) (ACRE) ROM error	



## 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	SCU PWB ROM error	MFP			□		
	04	Scanner expansion PWB (ACU) (ACRE) ROM error	MFP			□		
	05	Scanner expansion PWB (ACU) (ACRE) firmware error	MFP			□		
	10	Color profile error	MFP			□		
	11	Firmware version inconsistency (MFP - PCU)	MFP			□		
	14	Inconsistency between the MFP and the CPU firmware version	MFP			□		
	15	Incompatible DSK BOOT and program firmware	MFP			□		
	16	Data error of the energy-saving NIC controller firmware in the SD card	MFP			□		
	17	Inconsistency between the UI data and the CPU firmware version	MFP			□		
	20	Conflict firmware and EEPROM data version (MFP)	MFP			□		
	21	Conflict firmware and EEPROM data version (PCU)	PCU			□		
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			□		
C4	00	PTC trouble	PCU			□		
	01	PTC (Pre Transfer Charger) cleaner trouble	PCU			□		
	10	PTC (Pre Transfer Charger) trouble	PCU			□		
	20	Primary transfer output open trouble	Primary transfer			□		
	21	Primary transfer output short trouble	Primary transfer			□		
	30	Secondary transfer output open trouble	Secondary transfer			□		
	31	Secondary transfer output short trouble	Secondary transfer			□		
E6	10	Shading error (Black correction)	SCU			□		
	11	Shading error (White correction)	SCU			□		
	14	CCD-ASIC error	SCU			□		
E7	01	MFP image data error	MFP			□		
	02	HDD trouble when the mirroring kit is installed	MFP		□			
	03	HDD trouble (When the mirroring kit is not installed)	MFP			□		
	03	HDD trouble (When the mirroring kit is installed)	MFP			□		
	04	HDD-ASIC error	MFP			□		
	07	SD card 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 (Scanner expansion PWB (ACRE) ASIC)	MFP			□		
	46	Image data decode error (Scanner expansion PWB (ACRE) ASIC)	MFP			□		
	48	Scanner expansion PWB (ACRE) ASIC memory error	MFP			□		
	49	Water Mark data error	MFP			□		
	50	Combination error between PWB and firmware (PCU PWB detection)	PCU			□		
	55	PWB information sum error (engine detection)	MFP			□		
	60	Combination error between PWB and firmware (MFPC PWB detection)	MFP			□		
	61	Combination error between the MFPC PWB and the PCU PWB (MFPC PWB detection)	MFP			□		
	80	MFP - SCU 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			□		

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
E7	93	Copy, image send, filing, print image data process error	MFP			□		
	94	Image file data process error (when importing file data)	MFP			□		
	95	Printer PWB DIMM memory check error	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			□		
	A3	LSU EEPROM/LD driver read/write error (Y)	PCU			□		
	A5	Installation error of HDD which was used in the mirroring kit	MFP		□			
EE	A6	Compact flash memory trouble				□		
	EC	Automatic toner density adjustment error	PCU			□		
	EL	Automatic toner density adjustment error (Over toner)	PCU			□		
F0	EU	Automatic toner density adjustment error (Under toner)	PCU			□		
	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 exit roller lifting operation trouble (FSWIM)	PCU		□			
	08	Stapler shift trouble (FSM)	PCU		□			
	10	Staple operation trouble (FFSM)	PCU		□			
	15	Finisher paper exit tray lift operation trouble (FTLM)	PCU		□			

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
F1	19	Finisher alignment operation trouble F (FFJM)	PCU		□			
	20	Finisher alignment operation trouble R (FRJM)	PCU		□			
	21	Abnormality of relay unit fan motor inside the machine (FDCM)	PCU		□			
	22	Finisher rear edge assist motor trouble (FASM)	PCU		□			
	23	Finisher shutter trouble (FSHC)	PCU		□			
	30	Finisher - Saddle unit communication trouble	PCU		□			
	31	Finisher saddle motor trouble (Saddle stitch finisher) (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	PCU		□			
	52	Finisher micro switch trouble	PCU		□			
	60	Communication trouble between peripheral devices (Inserter detection)	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					□
	91	High density process control high voltage error (K)	PCU					□
	92	High density process control high voltage error (C)	PCU					□
	93	High density process control high voltage error (M)	PCU					□
	94	High density process control high voltage error (Y)	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			□		

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
F2	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				□	
	04	FAX MODEM operation trouble	FAX				□	
	21	Improper combination of TEL/LIU PWB and FAX soft switch	FAX				□	
	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				□	
F7	00	MFPC PWB - FAX communication trouble (For 2nd line)	MFP				□	
	01	FAX control PWB EEPROM read/write error (For 2nd line)	FAX				□	
	04	FAX MODEM operation trouble (For 2nd line)	FAX				□	
	21	Improper combination of TEL/LIU PWB and FAX soft switch (For 2nd line)	FAX				□	
	30	FAX 1-chip microprocessor access error (FAX detection) (For 2nd line)	FAX				□	
	97	Incompatibility between FAX control PWB and the main machine (For 2nd line)	MFP				□	
	98	Incompatibility between the FAX control PWB destination and the main machine destination (For 2nd line)	MFP				□	
F9	91	Communication error between MFP and the printer section when booting	MFP					
	92	Printer (section) PWB hardware error	PRINTER (section) PWB			□		
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	□				
L2	11	Lamp cooling fan motor 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			□		
	28	Sub power source cooling fan motor	MFP			□		
	29	HDD cooling fan motor trouble	MFP			□		
	30	Controller fan motor	MFP			□		
	31	Paper exit cooling fan F trouble	PCU			□		
	32	Power source cooling fan 1 trouble	PCU			□		

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
L4	34	LSU cooling fan trouble	PCU			□		
	35	Paper exit exhaust fan trouble	PCU			□		
	36	Fusing cooling fan trouble	PCU			□		
	39	Machine ventilation fan (R)	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			□		
	57	Toner bottle cooling fan motor 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			□		
P1	00	PCI communication error	MFP		□			
	01	PCI fan error	MFP		□			
	02	Plasma generating device error	MFP		□			
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			□		
	80	SCU PWB EEPROM read/write error	SCU			□		
	81	SCU 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			□		
	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		□			
	28	LCT1 paper feed position abnormality	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			□		
UC	02	CPT - ASIC error	SCU			□		
	12	CPT - ASIC abnormal trouble (DSPF detection)	SCU			□		
	20	DOCC ASIC error	SCU			□		

Trouble code		Trouble content	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code							
UC	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 SCU 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. SCU PWB trouble.
Check & Remedy	Use SIM49-1 to perform the firmware version-up procedure again. Replace the SCU PWB.

### A0-04 Scanner expansion PWB (ACU) (ACRE) ROM error

Detail	MFP
Cause	Scanner expansion PWB (ACU) (ACRE) ROM data error. An error occurs during firmware upgrading for some reasons.
Check & Remedy	Perform firmware upgrading again.

### A0-05 Scanner expansion PWB (ACU) (ACRE) firmware error

Detail	MFP
Cause	Improper firmware A firmware of a different model is installed. A ROM of a different model is installed.
Check & Remedy	Replace the ROM with a proper one. Write the proper firmware. (Upgrade to the proper firmware.)

### A0-10 Color profile error

Trouble content	Color profile error
Detail	MFP
Cause	The content of the color profile is abnormal. Combination error between the MFPC PWB firmware and the color profile
Check & Remedy	Upgrade the firmware collectively. Replace the MFPC PWB.

### A0-11 Firmware version inconsistency (MFP - PCU)

Detail	MFP
Cause	Firmware combination error between the MFP and the PCU.
Check & Remedy	Install the firmware in the all-firmware version-up mode.

### A0-14 Inconsistency between the MFP and the CPU firmware version

Detail	MFP
Cause	Combination error between the MFP and the CPU UI firmware version.
Check & Remedy	Install the firmware in the all-firmware version-up mode.

### A0-15 Incompatible DSK BOOT and program firmware

Detail	MFP
Cause	Installation of the normal firmware was performed with a security kit enable.
Check & Remedy	Stop installation of the normal firmware.

## A0-16 Data error of the energy-saving NIC controller firmware in the SD card

Trouble content	Data error of the energy-saving NIC controller firmware in the SD card.
Detail	MFP
Cause	SD card trouble. MFPC PWB trouble.
Check & Remedy	Reinstall the firmware. Replace the SD card. Replace the MFPC PWB.

## 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.

## A0-20 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	The main charger unit (K) is not installed properly. There is an abnormality in the main charger unit (K). Connector connection trouble of the drum unit (K) HP sensor, the discharge lamp, or the after-transfer discharge lamp. Harness disconnection of the drum unit (K) HP sensor, the discharge lamp, or the after-transfer discharge lamp. HP sensor dirt. Charger cleaner motor (K) trouble. PCU PWB connector connection trouble/PWB trouble.
Check & Remedy	Use SIM6-4 to check the operation of the charger cleaner. Check disconnection of the main charger unit./ Replace. Check for disconnection of the connector of the drum unit (K) HP sensor, the discharge lamp, and the after-transfer discharge lamp. 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.) Clean the HP sensor. Check disconnection of the PCU PWB connector./ Replace PWB. Replace the charger cleaner motor (K).

## C1-03 Charger cleaner trouble (C)

Trouble content	
Detail	PCU
Cause	The main charger unit (C) is not installed properly. There is an abnormality in the main charger unit (C). Connector connection trouble of the drum unit (C) HP sensor, the discharge lamp, or the after-transfer discharge lamp. Harness disconnection of the drum unit (C) HP sensor, the discharge lamp, or the after-transfer discharge lamp. HP sensor dirt. Charger cleaner motor (C) trouble. PCU PWB connector connection trouble/PWB trouble.
Check & Remedy	Use SIM6-4 to check the operation of the charger cleaner. Check disconnection of the main charger unit./ Replace. Check for disconnection of the connector of the drum unit (C) HP sensor, the discharge lamp, and the after-transfer discharge lamp. 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.) Clean the HP sensor. Check disconnection of the PCU PWB connector./ Replace PWB. Replace the charger cleaner motor (C).

**C1-05 Charger cleaner trouble (M)**

Trouble content	
Detail	PCU
Cause	The main charger unit (M) is not installed properly. There is an abnormality in the main charger unit (M). Connector connection trouble of the drum unit (M) HP sensor, the discharge lamp, or the after-transfer discharge lamp. Harness disconnection of the drum unit (M) HP sensor, the discharge lamp, or the after-transfer discharge lamp. HP sensor dirt. Charger cleaner motor (M) trouble. PCU PWB connector connection trouble/PWB trouble.
Check & Remedy	Use SIM6-4 to check the operation of the charger cleaner. Check disconnection of the main charger unit./ Replace. Check for disconnection of the connector of the drum unit (M) HP sensor, the discharge lamp, and the after-transfer discharge lamp. 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.) Clean the HP sensor. Check disconnection of the PCU PWB connector./ Replace PWB. Replace the charger cleaner motor (M).

**C1-07 Charger cleaner trouble (Y)**

Trouble content	
Detail	PCU
Cause	The main charger unit (Y) is not installed properly. There is an abnormality in the main charger unit (Y). Connector connection trouble of the drum unit (Y) HP sensor, the discharge lamp, or the after-transfer discharge lamp. Harness disconnection of the drum unit (Y) HP sensor, the discharge lamp, or the after-transfer discharge lamp. HP sensor dirt. Charger cleaner motor (Y) trouble. PCU PWB connector connection trouble/PWB trouble.
Check & Remedy	Use SIM6-4 to check the operation of the charger cleaner. Check disconnection of the main charger unit./ Replace. Check for disconnection of the connector of the drum unit (Y) HP sensor, the discharge lamp, and the after-transfer discharge lamp. 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.) Clean the HP sensor. Check disconnection of the PCU PWB connector./ Replace PWB. Replace the charger cleaner motor (Y).

**C1-10 Main charger trouble (Monochrome)**

Trouble content	
Detail	PCU
Cause	The main charger unit (K) is not installed properly. There is an abnormality in the main charger unit (K). The developer unit (K) is not installed properly. There is an abnormality in the developer unit (K). Disconnection of the high voltage MC PWB connector. Breakage of the high voltage harness. High voltage MC PWB trouble. PCU PWB trouble.
Check & Remedy	Check the output of the main charger with SIM8-2. Check the output of the developing bias with SIM8-1. Check disconnection of the main charger./Replace. Check disconnection of the developer unit./Replace. Check disconnection of the high voltage MC PWB connector./Replace. Replace the high voltage MC PWB. Replace the PCU PWB.

**C1-14 Main charger trouble (Color)**

Trouble content	
Detail	PCU
Cause	The main charger unit (CMY) is not installed properly. There is an abnormality in the main charger unit (CMY). The developer unit (CMY) is not installed properly. There is an abnormality in the developer unit (CMY). Disconnection of the high voltage MC PWB connector. Breakage of the high voltage harness. High voltage MC PWB trouble. PCU PWB trouble.
Check & Remedy	Check the output of the main charger with SIM8-2. Check disconnection of the main charger./Replace. Check disconnection of the developer unit./Replace. Check disconnection of the high voltage MC PWB connector./Replace. Replace the high voltage MC PWB. Replace the PCU PWB.

**C4-00 PTC trouble**

Trouble content	
Detail	PCU
Cause	The PTC unit is not properly installed. PTC unit trouble. High voltage 2TC PWB trouble. PCU PWB trouble. Connector, harness connection trouble.
Check & Remedy	Replace the PTC unit. Replace the high voltage 2TC PWB. Replace the PCU PWB. Check connection of the connector and the harness.

**C4-01 PTC (Pre Transfer Charger) cleaner trouble**

Trouble content	
Detail	PCU
Cause	Shifting the charger cleaner is not completed within the specified time. Charger unit trouble HP sensor, motor, PCU PWB, harness connection trouble
Check & Remedy	Check the charger unit, the PCU PWB, and the harness connection.



**C4-10 PTC (Pre Transfer Charger) trouble**

Cause	The engine soft SW8-3 in SIM55-1 is set to "1". The PTC control is not executed. (The PTC does not operate.) When the engine soft SW8-3 in SIM55-1 is set to "1", the PTC output, the heater control, and the error detection are disabled. When this setting is made in case of a PTC unit trouble, the PTC function is disabled regardless of the PTC trouble and printing operation can be performed.
Check & Remedy	Set the engine soft SW8-3 in SIM55-1 to "0". (The mode returns to the normal PTC control mode.)

**C4-20 Primary transfer output open trouble**

Trouble content	When the primary transfer output is delivered, the output voltage exceeds the specified level.
Cause	Primary transfer unit abnormality. Primary transfer unit insertion trouble. 1TC output harness disconnection, breakage. Primary transfer unit separation operation trouble. OPC drum abnormality (Does not rotate.) High voltage 1TC PWB trouble. PCU PWB trouble. PCU PWB - high voltage 1TC PWB harness disconnection, breakage.
Check & Remedy	Replace the primary transfer unit. Reinsert the primary transfer unit. Check or replace the 1TC output harness. Replace the high voltage 1TC PWB. Replace the PCU PWB. Check the harness between the PCU PWB and the high voltage 1TC PWB, and replace as needed.

**C4-21 Primary transfer output short trouble**

Trouble content	When the primary transfer output is delivered, the output voltage does not reach the specified level.
Cause	Primary transfer unit abnormality. Primary transfer unit insertion trouble. High voltage 1TC PWB trouble. PCU PWB trouble. PCU PWB - high voltage 1TC PWB harness disconnection, breakage.
Check & Remedy	Replace the primary transfer unit. Reinsert the primary transfer unit. Replace the high voltage 1TC PWB. Replace the PCU PWB. Check the harness between the PCU PWB and the high voltage 1TC PWB, and replace as needed.

**C4-30 Secondary transfer output open trouble**

Trouble content	When the secondary transfer output is delivered, the output voltage exceeds the specified level.
Cause	2TC output harness disconnection, breakage High voltage 2TC PWB trouble. PCU PWB trouble. PCU PWB - high voltage 2TC PWB harness disconnection, breakage. Secondary transfer unit abnormality. Primary transfer unit insertion trouble. Secondary transfer unit not installed.
Check & Remedy	Check or replace the 2TC output harness. Replace the high voltage 2TC PWB. Replace the PCU PWB. Check the harness between the PCU PWB and the high voltage 2TC PWB, and replace as needed. Check or replace the secondary transfer unit. Check or replace the primary transfer unit.

**C4-31 Secondary transfer output short trouble**

Trouble content	When the secondary transfer output is delivered, the output voltage does not reach the specified level.
Detail	Secondary transfer
Cause	Secondary transfer unit abnormality. Primary transfer unit insertion trouble. Secondary transfer unit not installed. 2TC output harness disconnection, breakage High voltage 2TC PWB trouble. PCU PWB trouble. PCU PWB - high voltage 2TC PWB harness disconnection, breakage.
Check & Remedy	Check or replace the secondary transfer unit. Check or replace the primary transfer unit. Check or replace the 2TC output harness. Replace the high voltage 2TC PWB. Replace the PCU PWB. Check the harness between the PCU PWB and the high voltage 2TC PWB, and replace as needed.

**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.

## E7-02 HDD trouble when the mirroring kit is installed

Trouble content	
Detail	MFP
Cause	When installing the mirroring kit, the HDD of the machine or the HDD of the mirroring kit breaks down or connection fails. <ul style="list-style-type: none"> <li>- Defective installation of the mirroring kit</li> <li>- Breakdown of the HDD of the mirroring kit</li> <li>- Defective connection between the HDD and the mirroring kit harness</li> <li>- MFP PWB trouble</li> </ul>
Check & Remedy	<ul style="list-style-type: none"> <li>- Use SIM62-20 to check the trouble.</li> <li>- Check installation of the mirroring kit (connector and harness), and replace if necessary.</li> <li>- Replace the broken HDD.</li> <li>- Replace the mirroring kit.</li> <li>- Replace the MFP PWB.</li> </ul>

## E7-03 HDD trouble (When the mirroring kit is not installed)

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.
Cause (When the mirroring kit is not installed)	RAID PWB trouble. A HDD which has been used for mirroring is installed. Both HDD's go into trouble under the use environment of mirroring.
Check & Remedy (When the mirroring kit is installed)	Check the RAID PWB, and replace if necessary. Replace the HDD. (For details, refer to the HDD and RAID PWB replacement procedures under mirroring environment.)

## E7-03 HDD trouble (When the mirroring kit is installed)

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.
Cause (When the mirroring kit is installed)	RAID PWB trouble. A HDD which has been used for mirroring is installed. Both HDD's go into trouble under the use environment of mirroring.
Check & Remedy (When the mirroring kit is installed)	Check the RAID PWB, and replace if necessary. Replace the HDD. (For details, refer to the HDD and RAID PWB replacement procedures under mirroring environment.)

## 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.

## E7-07 SD card error

Trouble content	
Detail	MFP
Cause	SD card trouble or contact error MFPC PWB trouble.
Check & Remedy	Replace the SD card. Check the SD card socket. 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. SCU PWB abnormality.
Check & Remedy	Check connection of the harness to the CCD unit. Check the CCD unit. Check the SCU 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. SCU 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 SCU PWB.

## E7-14 CCD-ASIC error

Trouble content	
Detail	SCU
Cause	SCU PWB trouble.
Check & Remedy	Check the SCU PWB. Replace the SCU 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 (Scanner expansion PWB (ACRE) ASIC)**

Trouble content	
Detail	MFP
Cause	An image data error occurs. An image data send error occurs. Scanner expansion PWB (ACRE) connection trouble. Scanner expansion PWB (ACRE) trouble. MFPC PWB trouble.
Check & Remedy	Check connection of the scanner expansion PWB (ACRE). Check the scanner expansion PWB (ACRE), and replace if necessary. Check the MFPC PWB, and replace if necessary.

**E7-46 Image data decode error (Scanner expansion PWB (ACRE) ASIC)**

Trouble content	
Detail	MFP
Cause	A decode error occurs while high compression PDF images are made. (garbled data) Scanner expansion PWB (ACRE) connection trouble. Scanner expansion PWB (ACRE) trouble. MFPC PWB trouble.
Check & Remedy	Check connection of the scanner expansion PWB (ACRE). Check the scanner expansion PWB (ACRE), and replace if necessary. Check the MFPC PWB, and replace if necessary.

**E7-48 Scanner expansion PWB (ACRE) ASIC memory error**

Trouble content	- DDR calibration error - DIMM insertion trouble, etc.
Detail	MFP
Cause	Scanner expansion PWB (ACRE) DIMM trouble, memory slot trouble. Scanner expansion PWB (ACRE) DIMM insertion trouble. Scanner expansion PWB (ACRE) connection trouble. Scanner expansion PWB (ACRE) trouble. MFPC PWB trouble.
Check & Remedy	Check insertion of the scanner expansion PWB (ACRE) DIMM memory. Check the scanner expansion PWB (ACRE) DIMM memory, and replace if necessary. Check connection of the scanner expansion PWB (ACRE). Check the scanner expansion PWB (ACRE), and replace if necessary. 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 (PCU PWB detection)**

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 (engine detection)**

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 (MFPC PWB detection)**

Detail	MFP
Cause	A PWB/firmware which is not compatible with the machine specifications is detected in the MFPC PWB. MFPC PWB trouble.
Check & Remedy	Check the kind and the version of the firmware. Check or replace the MFPC PWB.

**E7-61 Combination error between the MFPC PWB and the PCU PWB (MFPC PWB detection)**

Detail	MFP
Cause	Combination error between the MFPC PWB and the PCU PWB. MFPC PWB trouble. PCU PWB trouble.
Check & Remedy	Check the combination between the MFPC PWB and the PCU PWB. Replace the MFPC PWB. Replace the PCU PWB.

**E7-80 MFP - SCU PWB communication error**

Detail	MFP
Cause	SCU PWB - MFPC PWB connection trouble. SCU PWB trouble. MFPC PWB trouble.
Check & Remedy	Check connection of the SCU PWB and the MFPC PWB. Check the ground. Replace the SCU 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: - 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.

**E7-95 MFP PWB DIMM memory check error**

Trouble content	MFP PWB DIMM memory access trouble
Detail	MFP
Cause	Memory data corruption occurs Printer PWB trouble DIMM memory trouble or contact error
Check & Remedy	Use SIM60-01 to check the read/write operations of the memory. Replace the printer PWB. DIMM memory socket check Replace 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-A5 Installation error of HDD which was used in the mirroring kit**

Trouble content	When a HDD which was used in the mirroring kit is installed to the MFP without the mirroring kit, its operation is restricted in order to prevent against malfunction.
Detail	MFP
Cause	A HDD which was used in the mirroring kit is installed to the MFP without the mirroring kit.
Check & Remedy	Replace the HDD with one which has not been used in the mirroring kit.

**E7-A6 Compact flash memory trouble**

Trouble content	A read/write access error in the compact flash memory occurs.
Detail	
Cause	Compact flash memory trouble. MFPC PWB trouble. File system control area data trouble.
Check & Remedy	Replace the compact flash memory. Replace the MFPC PWB.

**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 exit roller lifting operation trouble (FSWIM)**

Trouble content	
Detail	PCU
Cause	Finisher paper exit 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 exit roller lift motor. Use SIM3-2 to check the operation of the home position sensor. Replace the paper exit 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 alignment operation trouble F (FFJM)**

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 alignment operation trouble R (FRJM)**

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 rear 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 Finisher - Saddle unit communication trouble**

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 Finisher saddle motor trouble (Saddle stitch finisher) (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	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 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**

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 micro switch trouble**

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 trouble between peripheral devices (Inserter detection)**

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.

## F2-91 High density process control high voltage error (K)

Trouble content	When executing the high density process control in the toner cartridge-less production process, the developing bias exceeds 500V.
Detail	PCU
Cause	- Image density sensor trouble, harness connection trouble between the PCU PWB and the image density sensor, dirt on the image density sensor, transfer belt cleaning trouble - eloping tank abnormality
Check & Remedy	- Use SIM44-02 to execute the gain adjustment of the process control sensor. When "Error" is displayed, it may be considered as breakdown. Check the sensor and the harness. When the adjustment is normally completed, check the drum surface and the belt surface. - Replace the developing tank.

## F2-92 High density process control high voltage error (C)

Trouble content	When executing the high density process control in the toner cartridge-less production process, the developing bias exceeds 500V.
Detail	PCU
Cause	- Image density sensor trouble, harness connection trouble between the PCU PWB and the image density sensor, dirt on the image density sensor, transfer belt cleaning trouble - Developing tank abnormality
Check & Remedy	- Use SIM44-02 to execute the gain adjustment of the process control sensor. When "Error" is displayed, it may be considered as breakdown. Check the sensor and the harness. When the adjustment is normally completed, check the drum surface and the belt surface. - Replace the developing tank.

## F2-93 High density process control high voltage error (M)

Trouble content	When executing the high density process control in the toner cartridge-less production process, the developing bias exceeds 500V.
Detail	PCU
Cause	- Image density sensor trouble, harness connection trouble between the PCU PWB and the image density sensor, dirt on the image density sensor, transfer belt cleaning trouble - Developing tank abnormality
Check & Remedy	- Use SIM44-02 to execute the gain adjustment of the process control sensor. When "Error" is displayed, it may be considered as breakdown. Check the sensor and the harness. When the adjustment is normally completed, check the drum surface and the belt surface. - Replace the developing tank.

## F2-94 High density process control high voltage error (Y)

Trouble content	When executing the high density process control in the toner cartridge-less production process, the developing bias exceeds 500V.
Detail	PCU
Cause	- Image density sensor trouble, harness connection trouble between the PCU PWB and the image density sensor, dirt on the image density sensor, transfer belt cleaning trouble - Developing tank abnormality
Check & Remedy	- Use SIM44-02 to execute the gain adjustment of the process control sensor. When "Error" is displayed, it may be considered as breakdown. Check the sensor and the harness. When the adjustment is normally completed, check the drum surface and the belt surface. - Replace the developing tank.

## 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		MFPC
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.

**F6-04 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		MFPC
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		MFPC
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)

**F7-00 MFPC PWB - FAX communication trouble (For 2nd line)**

Trouble content		MFP - FAX communication establishment error / Framing / Parity / Protocol error
Section		MFPC
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.

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**F7-01 FAX control PWB EEPROM read/write error (For 2nd line)**

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.

**F7-04 FAX MODEM operation trouble (For 2nd line)**

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.

**F7-21 Improper combination of TEL/LIU PWB and FAX soft switch (For 2nd line)**

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.

**F7-30 FAX 1-chip microprocessor access error (FAX detection) (For 2nd line)**

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.

**F7-97 Incompatibility between FAX control PWB and the main machine (For 2nd line)**

Trouble content		Incompatibility between FAX control PWB and the main machine
Section		MFP
Case 1	Cause	The FAX control PWB installed is improper.
	Check and Remedy	Install a proper FAX control PWB. Replace the FAX control PWB.

**F7-98 Incompatibility between the FAX control PWB destination and the main machine destination (For 2nd line)**

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)

**F9-91 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.

**F9-92 Printer (section) PWB hardware error**

Trouble content		
Detail		Printer (section) PWB
Cause		Printer PWB trouble Font ROM contact trouble or error DIMM memory contact trouble or error
Check & Remedy		Replace the printer PWB. Check the font ROM socket. Check the DIMM memory socket. Check the font ROM. Replace the DIMM memory.

## 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.

### H4-01 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.

#### H4-02 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.

#### H4-30 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. SCU 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 SCU PWB. Check connection of the connectors and the harness. Replace the scanner home position sensor. Replace the scanner motor.

## L2-11 Lamp cooling fan motor trouble

Trouble content	A lock signal is detected during rotation of the fan. A non-lock state is detected except when in rotation for booting.
Detail	SCU
Cause	Fan motor trouble. Harness related to the fan motor Circuit trouble
Check & Remedy	Check the fan motor related circuits (SCN-Mother PWB, SCNcnt PWB) and their harnesses and connectors.

## L3-00 Scanner return trouble

Trouble content	Scanner return is not completed within the specified time.
Detail	SCU
Cause	Scanner unit trouble SCU 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 SCU 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.

**L4-28 Sub power source cooling fan motor**

Trouble content	The motor lock signal is detected during rotation of the sub power cooling fan motor.
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.

**L4-34 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.

**L4-29 HDD cooling fan motor trouble**

Trouble content	The motor lock signal is detected during rotation of the HDD fan motor.
Detail	MFP
Cause	Fan motor trouble. Harness connection trouble between the controller PWB and the fan motor. Control circuit trouble.
Check & Remedy	Use Sim. 6-2 to check the operation of the fan motor. Check the harness and the connector between the controller PWB and the fan motor.

**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.

**L4-30 Controller fan motor**

Trouble content	The motor lock signal is detected during rotation of the controller fan motor.
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.

**L4-36 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.

**L4-31 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.

**L4-39 Machine ventilation fan (R)**

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.

**L4-32 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.

**L4-40 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.

**L4-57 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.

**L4-60 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.

### P1-00 PCI communication error

Trouble content	
Detail	MFP
Cause	Communication error between the MFPC PWB and the PCI. Connection failure of connectors and harness between the MFPC PWB and the PCI. MFPC PWB trouble. PCI control PWB trouble.
Check & Remedy	Check connection of the harness and connectors between the MFPC PWB and the PCI. Check the MFPC PWB, and replace if necessary. (Refer to the necessary procedures after replacement of the MFPC PWB in the Service Manual, and perform the procedures.) Check the PCI control PWB, and replace if necessary.

**P1-01 PCI fan error**

Trouble content	
Detail	MFP
Cause	The PCI fan operation signal is not detected. PCI fan trouble. PCI control PWB trouble.
Check & Remedy	Check connection of the connectors and harness between the PCI fan and the PCI control PWB. Check the PCI control PWB, and replace if necessary. Check the PCI fan, and replace if necessary.

**P1-02 Plasma generating device error**

Trouble content	
Detail	MFP
Cause	Connection failure of connectors and harness between the plasma generating device and the PCI control PWB. Plasma generating device trouble. PCI control PWB trouble.
Check & Remedy	Check connection of the connectors and harness between the plasma generating device and the PCI control PWB. Replace the plasma generating device. Check the PCI control PWB, and replace if necessary.

**PC-- Personal counter not detected**

Trouble content	
Detail	MFP
Cause	The personal counter is not installed. The personal counter is not detected. SCU PWB trouble.
Check & Remedy	Check connection of the connectors and the harness. Replace the SCU PWB.

**U1-01 Battery trouble**

Trouble content	
RTC backup battery voltage fall	
Detail	
MFP	
Case 1	Cause
	1) Battery life 2) Battery circuit abnormality
Check and Remedy	Check
	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.)

**U2-80 SCU PWB EEPROM read/write error**

Trouble content	
Detail	SCU
Cause	SCU PWB EEPROM trouble SCU PWB trouble SCU PWB EEPROM socket connection trouble
Check & Remedy	Replace the SCU PWB EEPROM. Replace the SCU PWB. Check connection of the SCU PWB EEPROM socket. Check the SIM adjustment value of the following items, and adjust again if they are improper. - Scanner-related adjustments - Touch panel-related adjustments Use SIM16 to cancel the trouble.

**U2-81 SCU PWB EEPROM check sum error**

Trouble content	
Detail	SCU
Cause	SCU PWB EEPROM trouble. Installation of non-initialized EEPROM. SCU PWB trouble. EEPROM socket contact trouble.
Check & Remedy	Replace the SCU PWB EEPROM. Replace the SCU PWB. Check contact of the EEPROM socket. Use SIM16 to cancel the trouble. (The check sum error detection data are calculated again to reset the proper check sum data.)

**U2-90 PCU PWB EEPROM read/write error**

Trouble content	
Detail	PCU
Cause	PCU PWB EEPROM trouble PCU PWB trouble EEPROM socket contact trouble
Check & Remedy	Replace the PCU PWB EEPROM. Check the SIM adjustment values of the engine, and adjust again if they are improper. Replace the PCU PWB. Check contact of the EEPROM socket. Use SIM16 to cancel the trouble.

**U2-91 PCU PWB EEPROM check sum error**

Trouble content	
Detail	PCU
Cause	PCU PWB EEPROM trouble PCU PWB trouble EEPROM socket contact trouble
Check & Remedy	Replace the PCU PWB EEPROM. Replace the PCU PWB. Check contact of the EEPROM socket. Use SIM16 to cancel the trouble. (The check sum error detection data are calculated again to reset the proper check sum data.)

### U5-00 Document feed unit communication error

Trouble content	
Detail	SCU
Cause	Connector, harness connection trouble. SCU PWB trouble. DSPF PWB trouble.
Check & Remedy	Turn OFF/ON the power. Check connection of the connector and the harness. Replace the SCU 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.

### U5-30 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.

## U6-28 LCT1 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. 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.

## U6-29 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.

**U6-63 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.

**UC-02 CPT - ASIC error**

Trouble content	
Detail	SCU
Cause	SCU PWB trouble. (CPT-ASIC trouble.)
Check & Remedy	Replace the SCU 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	SCU PWB trouble. (DOCC-ASIC trouble.)
Check & Remedy	Replace the SCU 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.

# (1) Descriptions on E7-91 - 94 errors

Two-digit numbers with double parentheses are added to E7-91 - 94 error codes recorded in SIM22-6 indicate the detailed contents of the errors.

The number in each digit has its own meaning.

(Example) E7-91(\*\*)

The upper digit of the added code indicates the job kind at the occurrence of the error.

Error code	The upper digit of the added code	Image type	Job kind at the occurrence of the error
E7-91	0*	Other	- FAX (Internet FAX) reception print (Other than long size images)
	1*	JPEG	
	2*	JBIG	
	3*	Mxx1ch	
	4*	Mxx4ch	
	5*	Other	- FAX (Internet FAX) reception print (Long size images)
	6*	JPEG	
	7*	JBIG	
	8*	Mxx1ch	
	9*	Mxx4ch	
	A* - F*	Not Used	
E7-92	0*	Other	- OC copy (in Non ERDH)
	1*	JPEG	
	2*	JBIG	
	3*	Mxx1ch	
	4*	Mxx4ch	
	5* - F*	Not Used	
E7-93	0*	Other	- Copy print (in ERDH) - Copy composing system function (Custom Stamp, Water mark)
	1*	JPEG	
	2*	JBIG	
	3*	Mxx1ch	
	4*	Mxx4ch	
	5*	Other	- Image send - Document filing - Preview display
	6*	JPEG	
	7*	JBIG	
	8*	Mxx1ch	
	9*	Mxx4ch	
	A*	Other	- GDI/PCL printer print - Copy composing system function (Custom Stamp, Water mark)
	B*	JPEG	
	C*	JBIG	
	D*	Mxx1ch	
	E*	Mxx4ch	
	F*	Not Used	
E7-94	0*	Other	- Backup restore (Filing data import)
	1*	JPEG	
	2*	JBIG	
	3*	Mxx1ch	
	4*	Mxx4ch	
	5* - F*	Not Used	

The lower digit of the added code indicates the kind and the content of the abnormality or the result of the automatic memory check executed when the abnormality is detected.

			Lower digit of the added code □ Kind/Content of the error							
			*1	*9	*A	*B	*C	*D	*E	*F
			Memory verify NG	-	Huffman code error	Restart marker error	Improper marker error	Head decoding error detection (ASIC detection)	Head decoding error detection (CPU detection)	Other abnormal termination
The upper digit of the added code □ Error detection circuit	1*, 6*, B*	JPEG	●	-	□	□	□	□	-	□
	2*, 7*, C*	JBIG	●	-	-	-	□	□	-	□
	3*, 8*, D*	Mxx1ch	●	-	-	-	-	-	-	□
	4*, 9*, E*	Mxx4ch	●	-	-	-	-	-	-	□

● : Added code indicating that the memory and its peripheral must be focused for check in case of an error.

□ : Added code indicating that doubtful sections are in a wider range such as the memory, PWB's, HDD, etc.

-: Added code without generating



## (2) Countermeasures in case of E7-91 - 94

In case of E7-9x (11), E7-9x (21), E7-9x (31), E7-9x (41)

Cause	In case of E7-91 - 94, the DIMM memory (DRAM) is automatically read/written to perform a simplified check. If an abnormality is detected in that case, the added code becomes (*1). Therefore, there is a strong possibility that an abnormality lies around the memory.
Check and remedy	<ul style="list-style-type: none"><li>- Check the installing state of the DIMM memory and the MFPC PWB to insure that there is no abnormality. (Disconnect and connect the DIMM memory and the MFPC PWB to check to insure that there is no error occurring again.)</li><li>- Use SIM60-01 (Memory read/write check) to check to insure that no error occurs.</li><li>- Replace the DIMM memory.</li><li>- Replace the MFPC PWB.</li></ul>

NOTE: Since the automatic memory check executed when E7-91 - 94 occurs is a simplified check, it cannot detect an abnormality with absolute certainty.

If the added code is (\*1), there may be a memory abnormality. Even if it is not (\*1), however, it cannot be said that there is no abnormality around the memory.

### Other added codes

Cause	Mostly because the data inputted to the ASIC for decoding are broken for some reasons. There is an abnormality in the process of read/write of the process data in the memory or the hard disk. A great noise unexpectedly generated may be the cause. For the cases of FAX or Internet FAX reception data, when broken data are saved, printing is performed every time when the machine is booted, generating an error repeatedly. (E7-91) (To clear the received data, execute SIM66-10.)
Check and remedy	<ul style="list-style-type: none"><li>- Check the DIMM memory, the MFPC PWB, and the HDD to insure that there is no abnormality.</li><li>- When the job at occurrence of an error is FAX (E7-91), check the installing state of the FAX control PWB and the SC CARD PWB.</li><li>- Perform SIM60-01 (Memory read/write check) to insure that there is no NG.</li><li>- Perform SIM62-02 and SIM62-03 (HDD read/write check) to insure that there is no NG. (It is not required, however, when the job at occurrence of an error is FAX.)</li><li>- Check the installing state of the DIMM memory and the MFPC PWB to insure that there is no abnormality. (Disconnect and connect the DIMM memory and the MFPC PWB to check to insure that there is no error occurring again.)</li><li>- Replace the HDD.</li><li>- Replace the FAX control PWB.</li><li>- Replace the DIMM memory.</li><li>- Replace the MFPC PWB.</li><li>- Replace the SD card.</li></ul>

NOTE: When there is an abnormality around the HDD, E7-03 may occur.

If error E7-91 - 94 as well as E7-03 occurs, there is a high possibility that the error can be removed by replacing the HDD and the MFPC PWB.

## (3) Countermeasures against the case where nothing is displayed when the machine is booted

### [Trouble content]

If nothing is displayed when the machine is booted, the error code cannot be checked and the cause is hard to identify.

One of the causes may be an abnormality in the boot program of the SD card. To check that, the following method is used.

### [Check method]

Check to confirm that the LED (red) (1) under the CPU heat sink on the MFP PWB shown in the figure below is lighted when the power is supplied.

If the LED is lighted, it is judged as an abnormality of the SD card.

### [Countermeasures]

- 1) Replace the SD card with a new one. (Be sure to use a service part.)
- 2) Upgrade the firmware to the latest version.
- 3) Use SIIM66-62 to backup the FAX reception data from the HDD to a USB memory device. (If there is no FAX reception data, this procedure is not required.) (The FAX reception data are backed up in the PDF format. Supply the date to the user.)
- 4) Use SIM66-10 to clear the FAX and image send memory. (Ensure consistency between the HDD data and the image related memory.)

#### (4) Relation between the MFPC PWB LED status and errors

When the machine cannot be booted, the content and the cause of the error can be presumed by checking the status of LED (2) of the MFP PWB shown in the figure below.

##### <Process content and LED display>

LED status (Lighting)	Process operation content	Cause for halt during operation
□ □ □ □	CPU initial setting	Reus ASIC trouble
□ □ □ ●	Memory adjustment, Memory check, etc.	Memory and its peripheral circuit trouble
□ ● □ ●	Interruption-related initialization	Reus ASIC trouble
□ ● ● □	PCIe initialization	PCIe peripheral circuit trouble (Intel Atom/PCIe Switch, etc.)
□ ● ● ●	Basic device initialization	Reus ASIC trouble
● □ □ □	SD card initialization	Reus ASIC trouble SD card trouble
● □ □ ●	OS initialization (1)	Reus ASIC trouble
● □ ● □	Timer enabling	Reus ASIC trouble
● □ ● ●	Serial driver enabling I2C driver enabling	Reus ASIC trouble
● ● □ □	RTC initialization	Reus ASIC trouble
● ● ● □	Image process IP initialization	Reus ASIC trouble
● ● ● □	OS initialization (2)	Reus ASIC trouble
● ● ● ●	Main process	Reus ASIC trouble

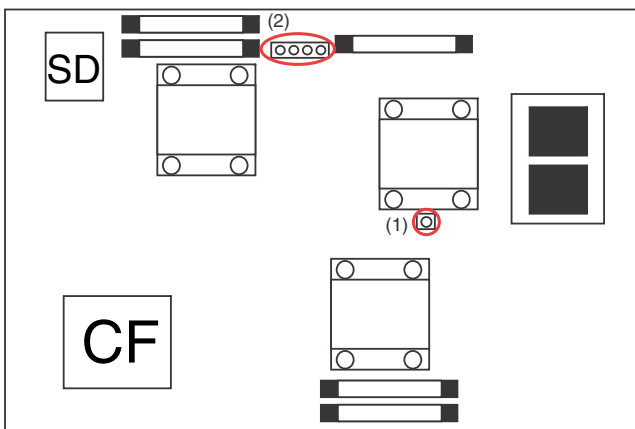
\* ● : LED ON / □ : LED OFF

##### <When an error occurs>

LED status (Flashing)	Error content	Cause
● ● ● ●	Memory combination error	Memory trouble
□ □ □ ●	Memory with operations unguaranteed	Memory trouble
□ □ ● ●	SPD set value error (Memory trouble)	Memory trouble
□ ● ● ●	SPD read error	Memory trouble
● □ ● ●	Internal set value error	Memory trouble

\* In case of an error, the LED's flash as shown in the above table.

\* ● : LED ON / □ : LED OFF



## 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_L	Manual feed tray paper feed JAM (100K for the paper feed counter)*1
TRAY1_L	Tray 1 paper feed JAM (200K for the paper feed counter)*1
TRAY2_L	Tray 2 paper feed JAM (200K for the paper feed counter)*1
TRAY3_L	Tray 3 paper feed JAM (100K for the paper feed counter)*1
TRAY4_L	Tray 4 paper feed JAM (100K for the paper feed counter)*1
LCC_L	Side A4/A3LCC paper feed JAM. (200k/100K for the paper feed counter)*1
LCT1_1_L	Multi-stage LCT tray 1 paper feed JAM (100K for the paper feed counter)*1
LCT1_2_L	Multi-stage LCT tray 2 paper feed JAM (100K for the paper feed counter)*1
INSTR1_L	Insert tray 1 paper feed JAM (60K for the paper feed counter)*1
INSTR2_L	Insert tray 2 paper feed JAM (60K 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)

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JAM code	JAM content
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)
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_NL13	PPD2 not-reached JAM (large capacity paper feed tray 3 paper feed paper)
PPD2_NL21	PPD2 not-reached JAM (large capacity paper feed tray 4 paper feed paper)
PPD2_NL22	PPD2 not-reached JAM (large capacity paper feed tray 5 paper feed paper)
PPD2_NL23	PPD2 not-reached JAM (large capacity paper feed tray 6 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)

JAM code	JAM content
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
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

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JAM code	JAM content
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_FFPD_NM	FFPD not-reached JAM (manual paper feed tray paper)
P_FFPD_N1	FFPD not-reached JAM (tandem tray 1 paper feed paper)
P_FFPD_N2	FFPD not-reached JAM (tandem tray 2 paper feed paper)
P_FFPD_N3	FFPD not-reached JAM (tray 3 paper feed paper)
P_FFPD_N4	FFPD not-reached JAM (tray 4 paper feed paper)
P_FFPD_NL	FFPD not-reached JAM (side A4/A3LCC paper feed paper)
P_FFPD_NL11	FFPD not-reached JAM (large capacity paper feed tray 1 paper feed paper)
P_FFPD_NL12	FFPD not-reached JAM (large capacity paper feed tray 2 paper feed paper)
P_FFPD_NLM	FFPD not-reached JAM (large capacity manual paper feed paper)
P_FFPD_NA	FFPD not-reached JAM (ADU refeed paper)
P_FFPD_SM	FFPD remaining JAM (manual paper feed tray paper)
P_FFPD_S1	FFPD remaining JAM (tandem tray 1 paper feed paper)
P_FFPD_S2	FFPD remaining JAM (tandem tray 2 paper feed paper)
P_FFPD_S3	FFPD remaining JAM (tray 3 paper feed paper)
P_FFPD_S4	FFPD remaining JAM (tray 4 paper feed paper)
P_FFPD_SL	FFPD remaining JAM (side A4/A3LCC paper feed paper)
P_FFPD_SL11	FFPD remaining JAM (large capacity paper feed tray 1 paper feed paper)
P_FFPD_SL12	FFPD remaining JAM (large capacity paper feed tray 2 paper feed paper)
P_FFPD_SLM	FFPD remaining JAM (large capacity manual paper feed paper)
P_FFPD_SA	FFPD 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)
POD2_SB	POD2 remaining JAM (In the case of a jam before switchback)
POD2_NA	POD2 not-reached JAM (In the case of a jam after 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
LCC	A4/A3LCC paper feed JAM (LPFD1 not-reached JAM)
LPFD_SL	LPFD remaining JAM (side A4/A3LCC paper feed paper)
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)

JAM code	JAM content
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

\*1: In SIM22-41, the descriptions are abbreviated on the screen because of the limitation on the number of characters (XXX K 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

#### 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
FN110	Paper exit roller lift motor JAM
FN117	Gripper motor JAM
FN115	Staple JAM
FN114	Discharged paper HOLD motor JAM
FN113	Paper rear edge fall motor JAM
FN116	Gripper arm motor JAM
FN112	Paper alignment roller lift motor JAM
FN118	Paper rear edge hold motor JAM

JAM code	JAM content
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
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

JAM code	JAM content
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)

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### 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>



Report code (Communication result)	Display in the column of result	Content of communication interruption
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>
75	NG75 XXXX *1	? 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) ? 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). ? 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). ? 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. ? 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. ? 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. ? Memory over
88	NG88 XXXX *1	In SMTP e-mail receive, an attached file cannot be stored in memory. ? 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. ? 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. ? 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) ? An error response of 4XX occurs during communication with the SMTP server. ? Time out occurs after establishment of connection with the SMTP server.
94	NG94 XXXX *1	When busy in D-SMTP send Time out occurs during establishment of connection with the SMTP server.
95	NG95 XXXX *1	When the path is too long in execution of Scan To USB.
96	NG96 XXXX *1	When the normal process is not executed in the secure mail sending.
98	NG98 XXXX *1	The copy inhibit pattern is detected when scanning a document.
99	NG99 XXXX *1	A document which is inhibited to be copied such as a banknote is scanned.

\*1: For a job status result in "Display in the column of result," "NG △△ XXXX" is displayed. "△△" is the code number.

For a communication result, "Communication error △△ (XXXX)" is displayed.

\*2: The error code of Scan To USB is specified only in the job log.

? When the communication result is OK, the communication sub code 1 and the communication sub code 2 are "0000."

? Errors in ( ) are not used.

## (2) Communication report sub code 1

The communication report sub code 1 (upper 2 digits) are always indicated as "00."

## (3) Communication report sub code 2

Report code 2	Content of communication interruption	Send/Receive
00	When the conditions after 01 do not apply.	Send/Receive
01	Send length over	Send
02	EOL time up	Receive
03	Carrier detection time up	Receive
04	Time up of the communication start command from the machine side	Receive
05	Time up in phase C (8 min)	Send
06	Memory image decode error	Receive
07	Memory image decode error	Send
08	Time up between frames in phase C (Report code is 0 or 16.)	Send/Receive
09	Not used	—
10	Not used	—
11	Polarity reversion detection	Receive
12	Invalid command reception	Receive
13	Time up (1-minute timer/6-second time)	Receive
14	PUT error	Receive
15	In V.34 mode, time up is generated when shifting from Primary to Control.	Receive
16	In V.34 mode, time up is generated when shifting from Control to Primary.	Receive
17	Command receive time-up from MFP controller	Receive
18	Not used	—
19	Not used	—
20	Polarity reversion detection	Send
21	Invalid command reception	Send
22	Fallback retry number over	Send
23	Command retry number resend over	Send
24	Time up (T5 timer)	Send
25	Time up (T5 timer) in V.34 mode	Send
26	In V.34 mode, time up is generated when shifting from Primary to Control.	Send
27	In V.34 mode, time up is generated when shifting from Control to Primary.	Send
28	When sending the FSK signal, no response of send completion is sent back from the MODEM chip within a certain time. (V.34, other than V.34)	Send
29	Not used	—
30	A communication error is generated between MFP controller and Modem controller. (Report code is 0 or 16.)	—
31	DC current not detected (busy)	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

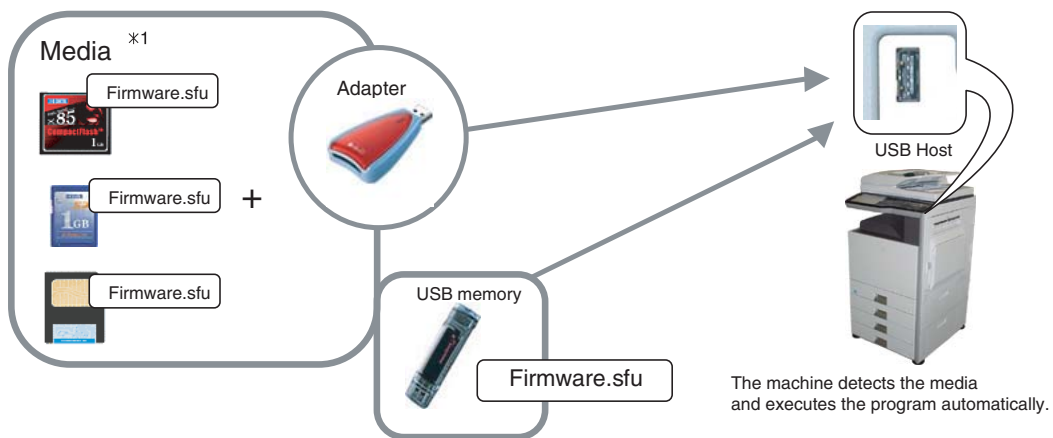
The firmware type can be displayed by SIM22-5.

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.



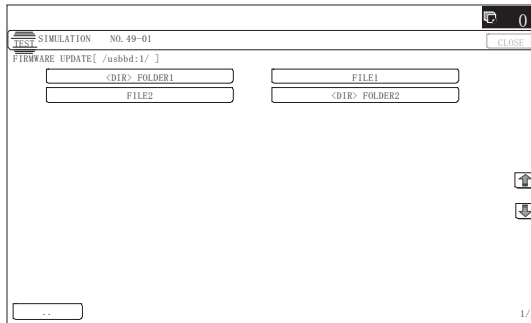
\*1:

- 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.

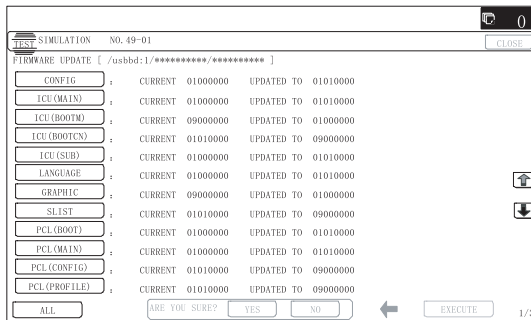
## Execution of the firmware by SIM49-01

- 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.

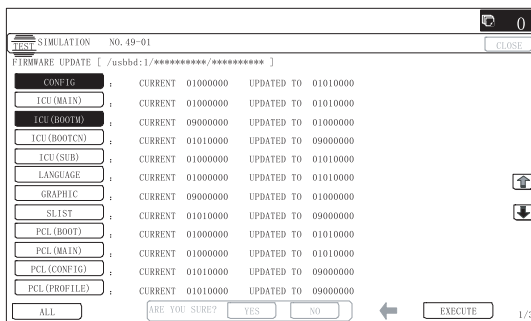
Press the key of the file to be updated. The screen transfers to the update screen.



- \* 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.

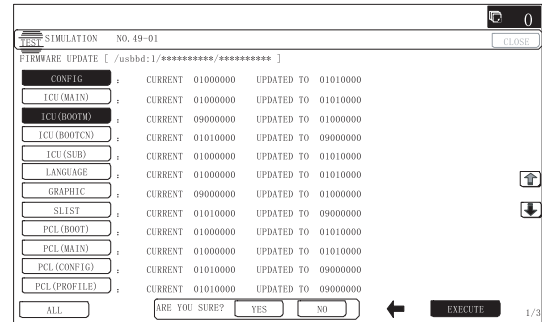


- 4) Press [ALL] key.  
All the firmware programs are selected.

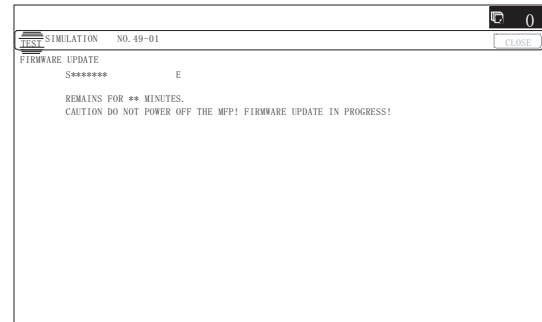


- \* Normally select all the firmwares and execute updating.
- \* In this case, firmwares which do not exist on the machine side are ignored.  
To update a certain firmware only, select the firmware with the firmware display key.
- \* If firmware's key is not selected, [EXECUTE] key is gray out and cannot be pressed.

- 5) Press [EXECUTE] key. "ARE YOU SURE? [YES] [NO]" becomes clear. Press [YES] key to start the update of selected firmware.



The progress is displayed on right side of "FIRMWARE UPDATE" title by 20 steps.



At this time, only the progress gauge is displayed on the screen, and the version and the firmware selection key are not displayed.

- 6) If the update is normal completion, following screen is displayed.



Press [OK] key. (The machine is rebooted.)

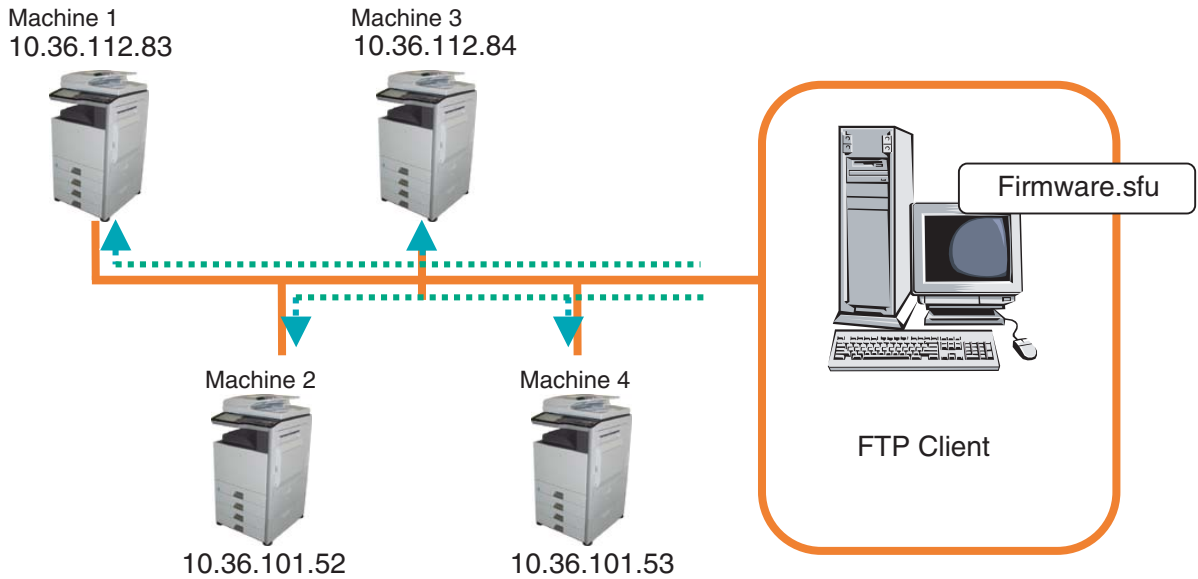
Go to SIM22-05 and confirm the firmware has upgraded successfully.

- 7) If the update is not normal completion, following screen is displayed.



## B. Firmware update using FTP

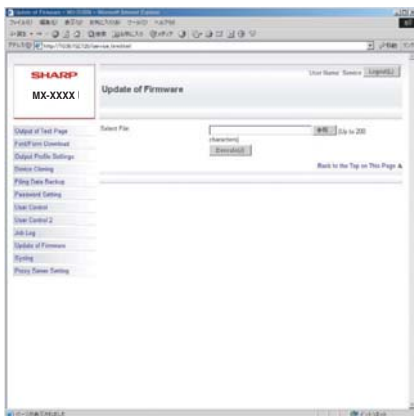
FTP software is used to transfer the firmware data (extension ".sfu") from the PC to the machine. The controller recognizes the firmware identifier and the machine automatically switches to firmware write mode. After the firmware is updated, the machine automatically resets.



## C. Firmware update using the Web page

An Web browser (service technician's Web page) is used to update the firmware.

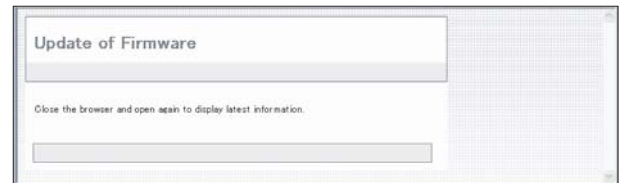
- 1) Start the Web browser on a PC and enter the specified URL. A special firmware upgrade page appears.
- 2) Click the "Update of Firmware" key in the Web page. Click the [Browse] key and select the firmware for the update.



- 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

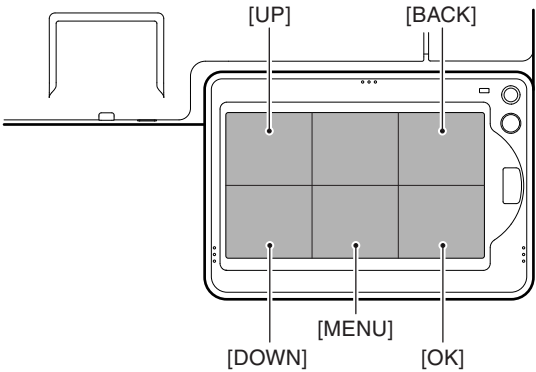
To enter the CN update mode, turn ON the UPDATE DIP-SW on the MFP PWB and boot the machine.

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

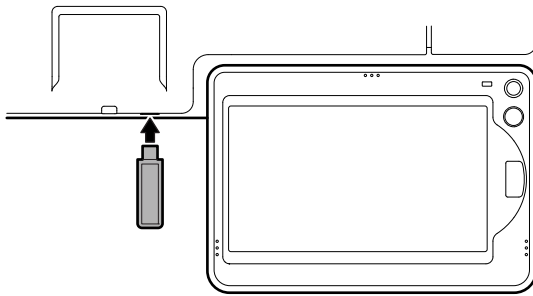
- Insert the SD card and CompactFlash to the MFP PWB of the machine.
- USB memory with the firmware file (SFU) saved in it.

NOTE: Save the firmware file in the main directory or in a one-level lower directory.

## a-2. Procedures

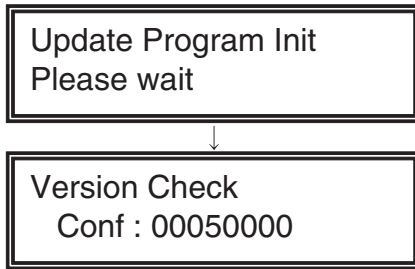
- 1) Turn OFF the power, and remove the cabinet and the MFP PWB cover.
- 2) Turn ON the DIP SW of the MFP PWB UP DATE.
- 3) Install the USB memory into the USB port.

### 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

Firm Update Result : OK	IcuM	Firm Update Result : Not Update	IcuM	Firm Update Result : NG	IcuM
----------------------------	------	------------------------------------	------	----------------------------	------

- 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 4	Print engine image distortion adjustment / OPC drum phase adjustment / Color registration adjustment (Print engine section)	ADJ 4A Print engine image distortion adjustment (Manual adjustment) / OPC drum phase adjustment (Automatic adjustment) / Color registration adjustment (Automatic adjustment)
ADJ 9/SET1	Color balance/density adjustment	Copy image quality check
		Printer image quality check
		ADJ 9B Copy/Printer color balance and density adjustment (Automatic adjustment) (Basic adjustment)

##### Items to execute as needed

Item		SIM to be used
ADJ 2	High voltage adjustment	ADJ 2A Adjust the main charger grid voltage
		ADJ 2B Adjust the developing bias voltage
		ADJ 2C Transfer current/voltage adjustment
ADJ 3	Image lead edge position, image loss, void area, image off-center, image magnification ratio adjustments (Automatic adjustments)	ADJ 3A Print image main scanning direction automatic magnification ratio adjustment (Print engine)
		ADJ 3B Print image off-center automatic adjustment (Print engine) (Each paper feed tray)
		ADJ 3C Copy mode image lead edge position, image loss, void area, image off-center, sub scanning direction image magnification ratio automatic adjustment (Scanner) (Document table mode)
		ADJ 3D DSPF mode image off-center, image lead edge position, sub scanning direction image magnification ratio auto adjustment
ADJ 9/SET1	Color balance/density adjustment	ADJ 9A Scanner calibration (CCD calibration)

## 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

4	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

4	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

4	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.

4 If counter clear wouldn't be executed, there's a possibility to make bad image quality.

### D. Fusing unit

4	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

4	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

4	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 when 1,000K rotations is reached.	No relation	Enable
		OPC drum accumulated number of rotations (K)			
	D (C/M/Y)	OPC drum print counter (C/M/Y)	When 200K sheets is reached, or when 1,000K rotations is reached.	No relation	Enable
		OPC drum accumulated number of rotations (C/M/Y)			

\* 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

4

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	Every 1500K	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	Reflector	O		O				
		7	Scanner lamp	O		O				Air-blow the LED section.
	Optical unit	8	Mirror	O		O				
		9	Lens	O		O				
		10	CCD	O		O				
	DSPF unit	11	Separation roller	O		O				Replace according to each paper feed counter value: Replace at 100K or after one-year use.
		12	Torque limiter	X		X				Replace according to each paper feed counter value: 800K
		13	No. 1 registration roller	O		O				
		14	Transport roller 1	O		O				
		15	No. 2 registration roller	O		O				
		16	Transport roller 2	O		O				
		17	Transport roller 3	O		O				
		18	Paper exit roller	O		O				
		19	No. 1 scanning plate	O		O				
		20	No. 2 scanning section white reference glass	O		O				
		21	Discharge brush	X		X				Replacement reference: When the brush bundle is remarkably deformed.
		22	OC mat	O		O				
		23	Sensors	X		X				For the reflection-type sensor, the other side must be also cleaned.
	Drive unit	24	Gears	X		X				Apply to the specified position as needed when checking. (UKOG-0299FCZZ)
		25	Belts	-		X				
	Transport drive unit	26	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	Reflector	O		O				
		9	Scanner lamp	O		O				Air-blow the LED section.
	Mirror unit	10	Mirror	O		O				
	CCD unit	11	Lens	O		O				
		12	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				

4	Section	Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	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						
	Paper feed tray	13	Sensors	X		X					For the reflection-type sensor, the other side must be also cleaned.	
		Manual paper feed section	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				
-	Transport paper guides	O		O								
	Paper transport section	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	PS lower 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 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						
LSU section	LSU	1	Dust-proof glass	O		O						
	LSU cleaning rod	2	Cleaning base	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					▲		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							

4	Section	Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	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 KYNAR powder or 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	Registration backup roller	-		O				Clean with alcohol.
			11	Transfer separation pawl	-		▲				Replace together with the primary transfer belt.
			12	Y auxiliary roller	-		O				Clean with alcohol.
			13	Primary transfer cleaner seals F/R	-		X				Replace as needed.
			14	Primary transfer toner reception seal	-		X				Replace as needed.
			15	Sensors	X		X				For the reflection-type sensor, the other side must be also cleaned.

Section	Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	Remark
Transfer section	PTC unit	16	Charger wire	-		▲				Do not touch the wire with bare hand.
		17	PTC cleaner	-		▲				
		18	PTC cleaner B	-		▲				
	Registration sensor unit	19	Image registration/density sensor	-		O				After the sensors were cleaned, never forget to execute Sim44-2 then execute Sim46-74 "Copy color balance adjustment".
		20	Sensors	X		X				For the reflection-type sensor, the other side must be also cleaned.
	Secondary transfer unit	21	Secondary transfer belt	-		▲				Never use alcohol or solvents for cleaning. When replacing, apply KYNAR powder or CKOG-0345DS51(Y toner).
		22	Secondary transfer cleaner blade	-		▲				When 300K is reached, replace together with the secondary transfer belt.
		23	Secondary transfer roller	-		X				Replace as needed.
		24	Secondary transfer idle gear	-		X				Replace as needed.
		25	Secondary transfer belt drive roller	-		O				Clean with alcohol.
		26	Secondary transfer belt follower roller	-		O				Clean with alcohol.
		27	Secondary transfer blade contact roller	-		O				Clean with alcohol.
		28	Secondary transfer backup roller	-		O				Clean with alcohol.
		29	Secondary transfer cleaning brush roller	-		O				
		30	Secondary transfer cleaner seals F/R	-		X				Replace as needed.
		31	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	Every 1500K	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.
	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.
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		▲				



Memo:

**4 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.

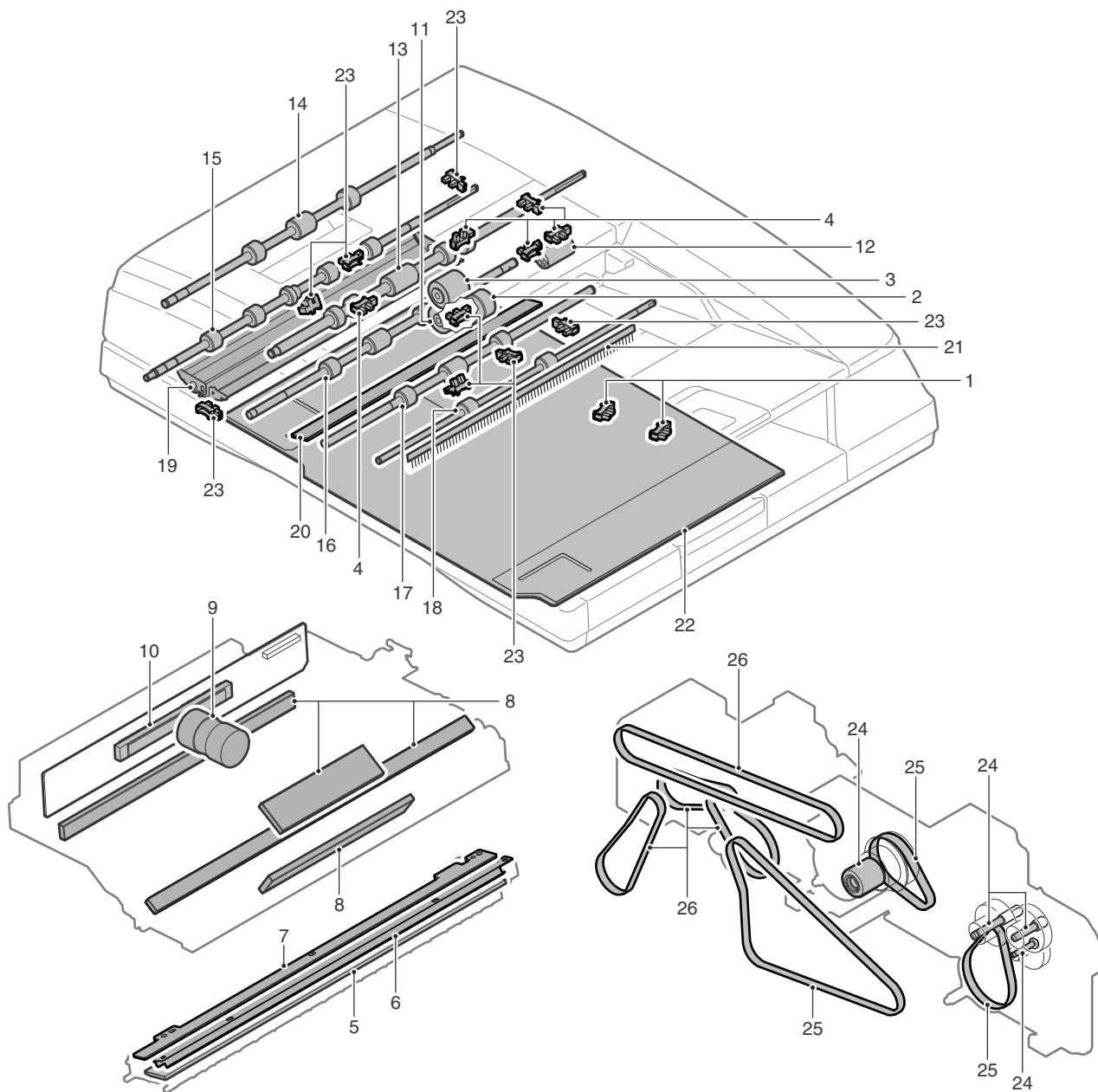
**Cleaning of the primary transfer mode detector (CL/BK)**

- 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

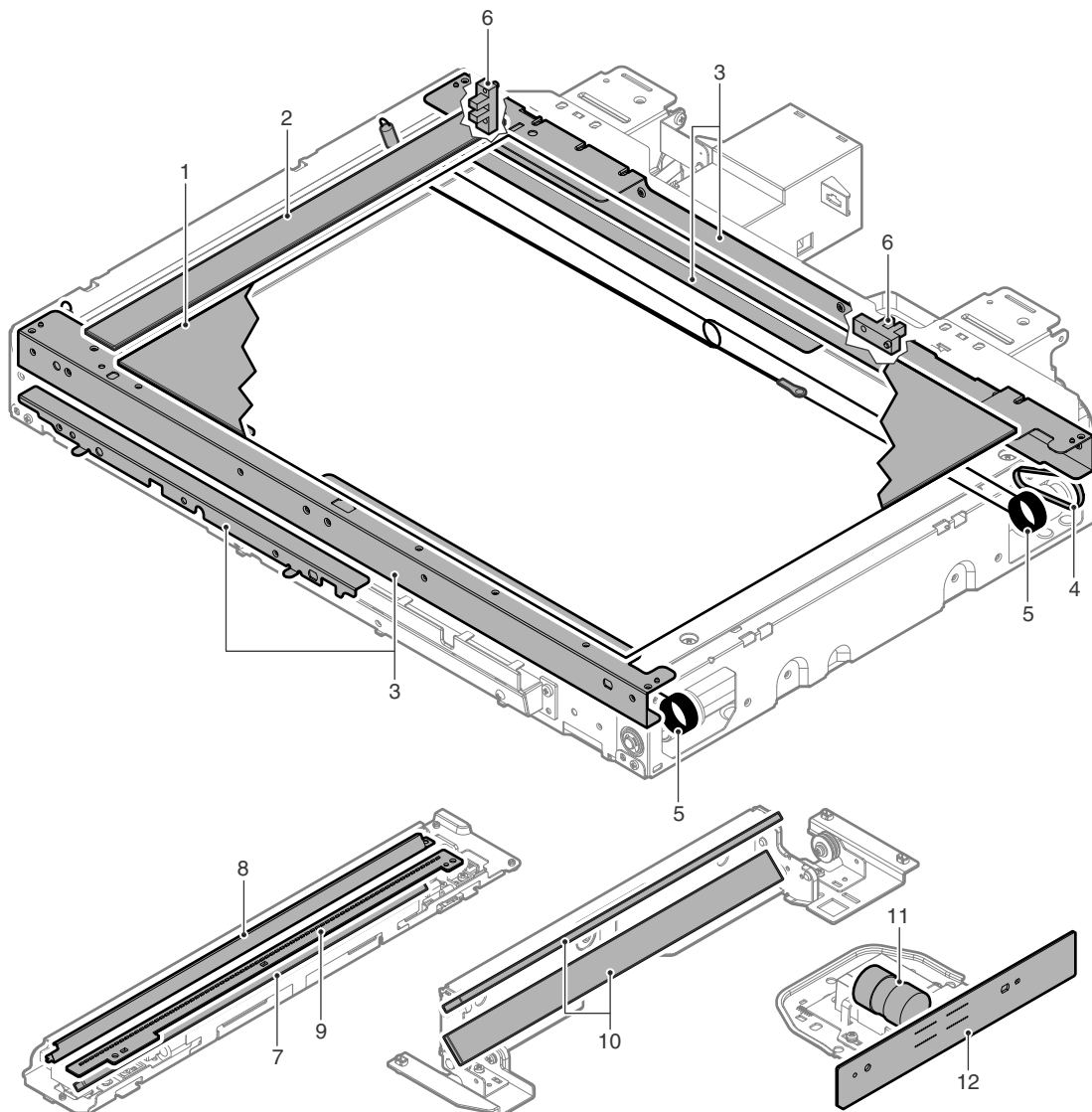
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	Remark
Document feed tray unit	1	Sensors	X		X				For the reflection-type sensor, the other side must be also cleaned.
Document feed unit	2	Document pickup roller	O		O				Replace according to each paper feed 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	Reflector	O		O				
	7	Scanner lamp	O		O				Air-blow the LED section.
Optical unit	8	Mirror	O		O				
	9	Lens	O		O				
	10	CCD	O		O				
DSPF unit	11	Separation roller	O		O				Replace according to each paper feed counter value: Replace at 100K or after one-year use.
	12	Torque limiter	X		X				Replace according to each paper feed counter value: 800K
	13	No. 1 registration roller	O		O				
	14	Transport roller 1	O		O				
	15	No. 2 registration roller	O		O				
	16	Transport roller 2	O		O				
	17	Transport roller 3	O		O				
	18	Paper exit roller	O		O				
	19	No. 1 scanning plate	O		O				
	20	No. 2 scanning section white reference glass	O		O				
	21	Discharge brush	X		X				Replacement reference: When the brush bundle is remarkably deformed.
	22	OC mat	O		O				
	23	Sensors	X		X				For the reflection-type sensor, the other side must be also cleaned.
Drive unit	24	Gears	X		X				Apply to the specified position as needed when checking. (UKOG-0299FCZZ)
	25	Belts	-		X				
Transport drive unit	26	Belts	-		X				



## B. Scanner section

X: Check (Clean, replace, or adjust according to necessity.)    O: Clean    ▲: Replace    △: Adjust    ☆: Lubricate

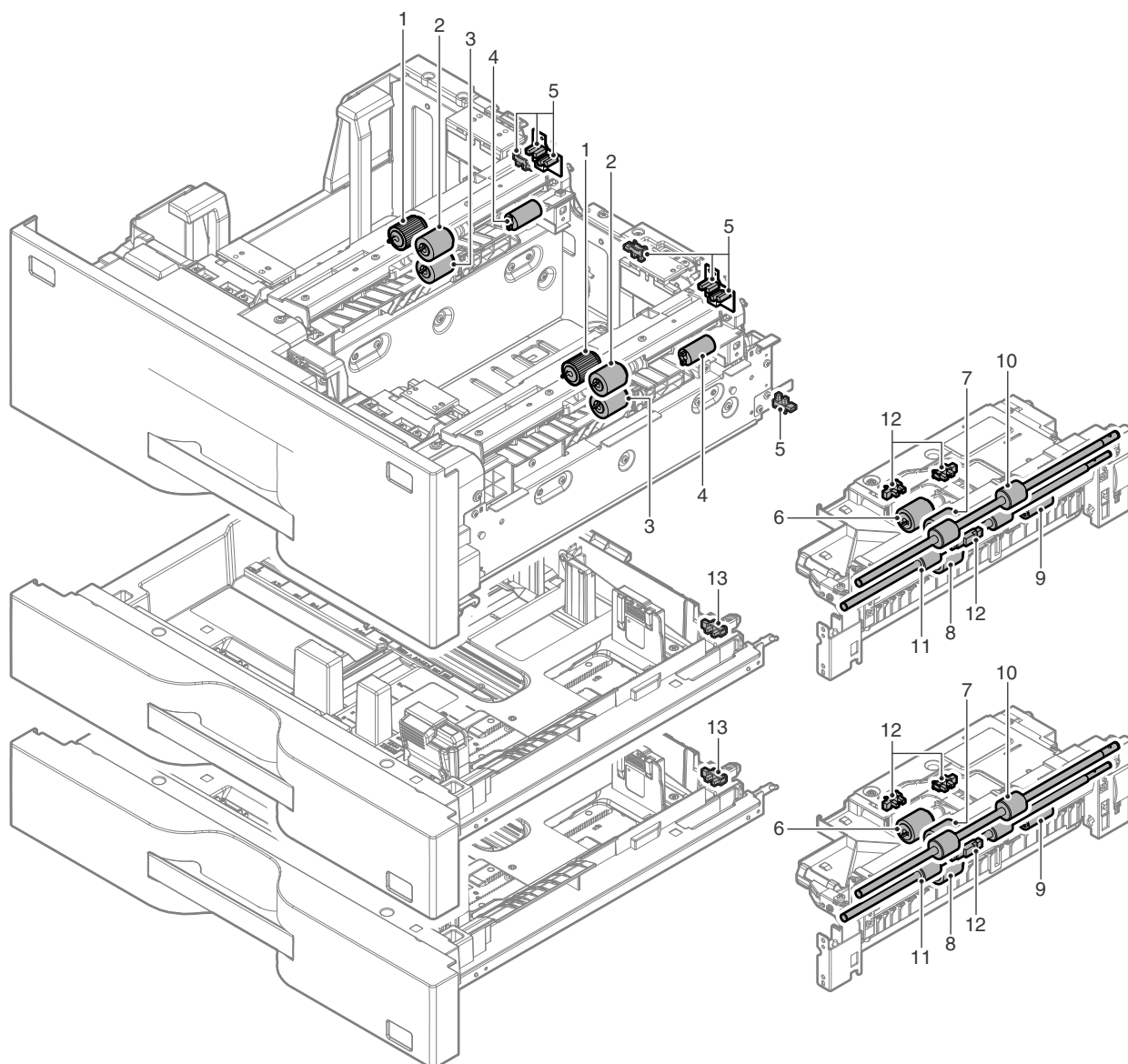
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	Remark
Scanner unit	1	Table glass	O		O				
	2	SPF glass	O		O				
	3	Rails	☆		☆				Apply to the specified position.
	4	Drive belt	X		X				
	5	Drive wire	X		X				
	6	Sensors	X		X				For the reflection-type sensor, the other side must be also cleaned.
Lamp unit	7	Mirror	O		O				
	8	Reflector	O		O				
	9	Scanner lamp	O		O				Air-blow the LED section.
Mirror unit	10	Mirror	O		O				
CCD unit	11	Lens	O		O				
	12	CCD	O		O				



## C. Tray paper feed section

X: Check (Clean, replace, or adjust according to necessity.)    O: Clean    ▲: Replace    △: Adjust    ☆: Lubricate

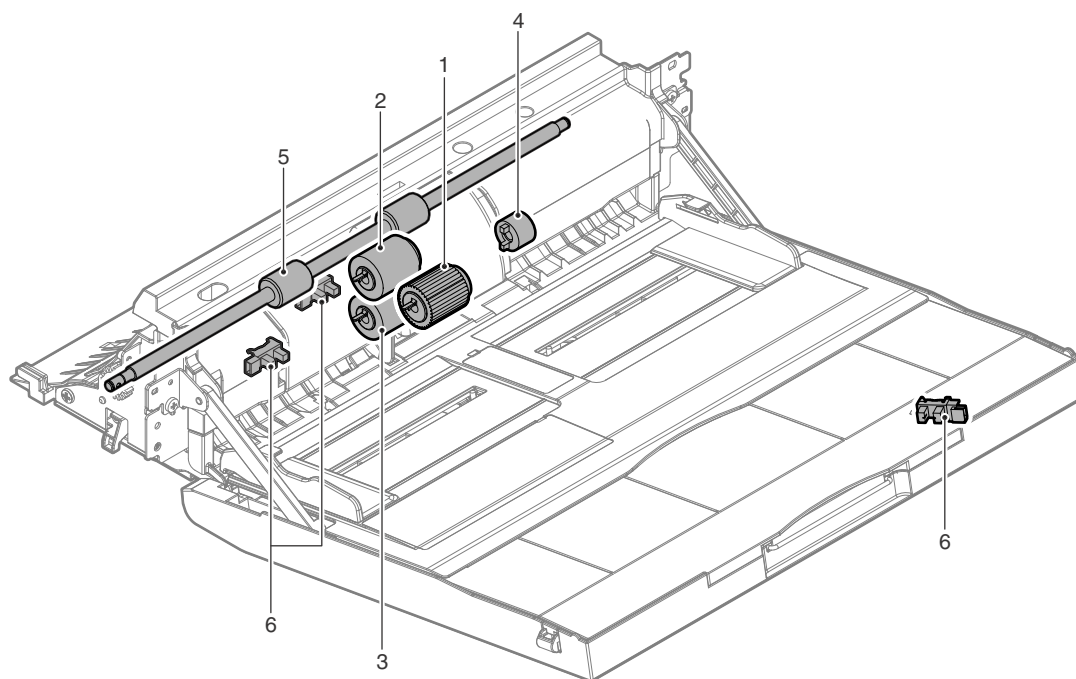
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	Remark
Tandem paper feed tray	1	Paper pickup roller	X		O				Replace according to each paper feed counter value: Replace at 200K or after one-year use.
	2	Paper feed roller	X		O				
	3	Separation roller	X		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				
	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

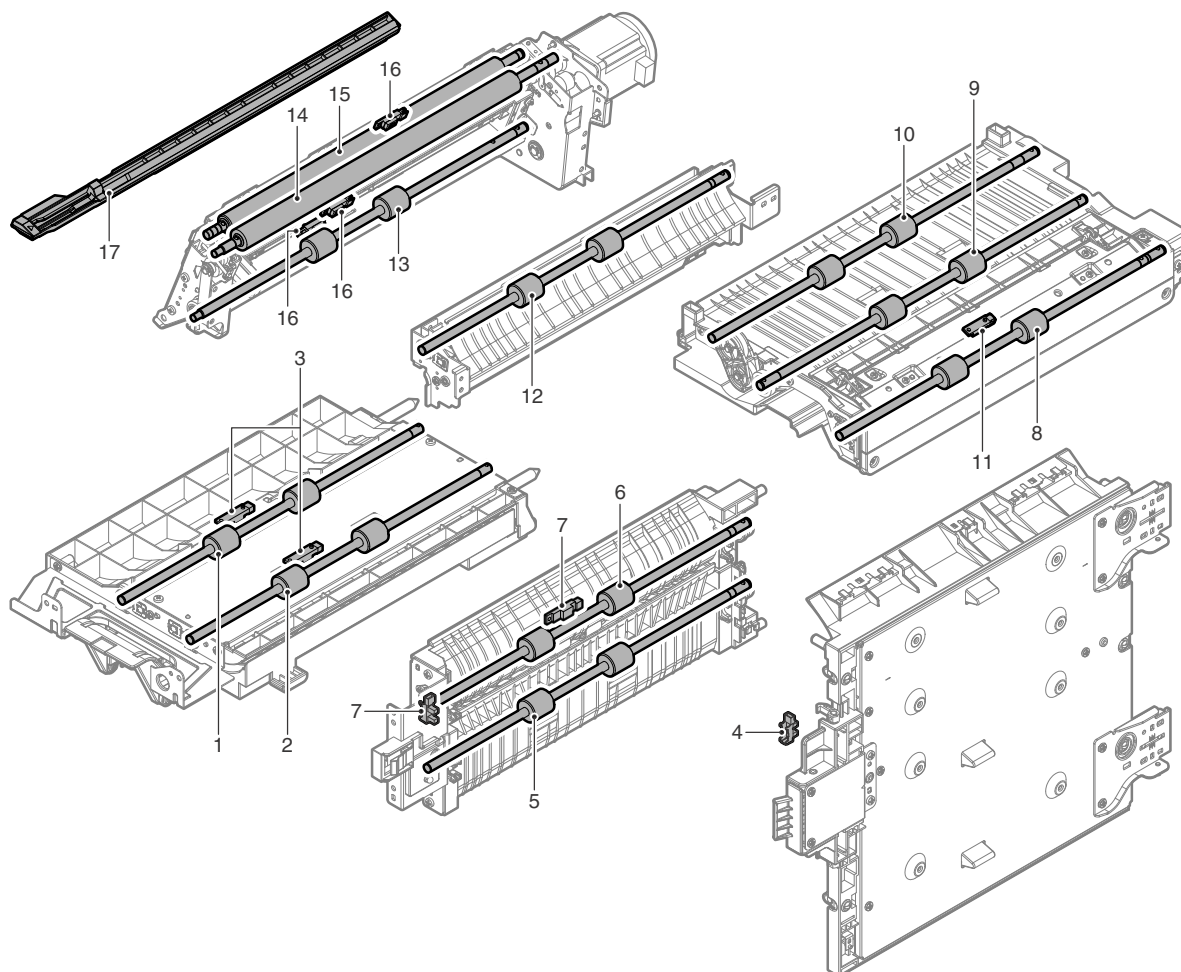
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	Remark
Manual paper feed unit	1	Paper pickup roller	X		O				Replace according to each paper feed counter value: Replace at 100K or after one-year use.
	2	Paper feed roller	X		O				
	3	Separation roller	X		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

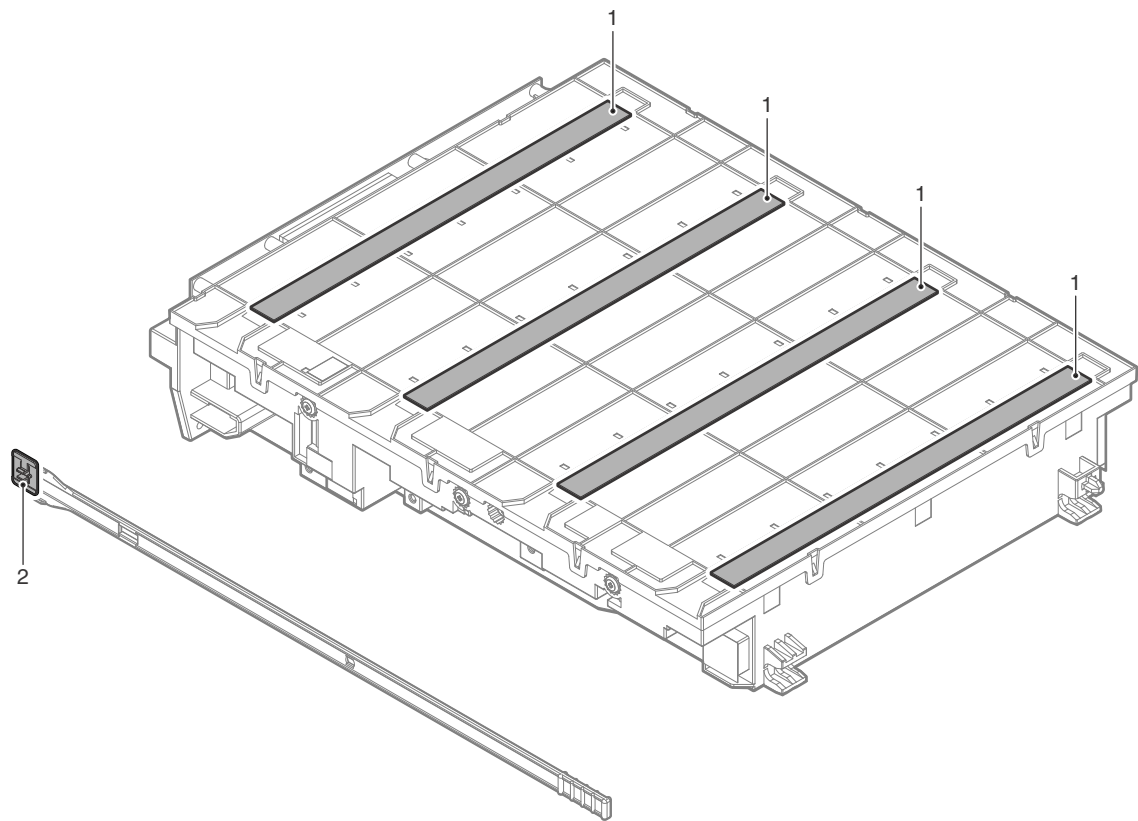
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	Remark
Interface unit	1	Transport roller 6	X		O				
	2	Transport roller 7	X		O				
	3	Sensors	X		X				For the reflection-type sensor, the other side must be also cleaned.
	?	Transport paper guides	O		O				
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	Every 1500K	Remark
LSU	1	Dust-proof glass	O		O				
LSU cleaning rod	2	Cleaning base	X		▲				

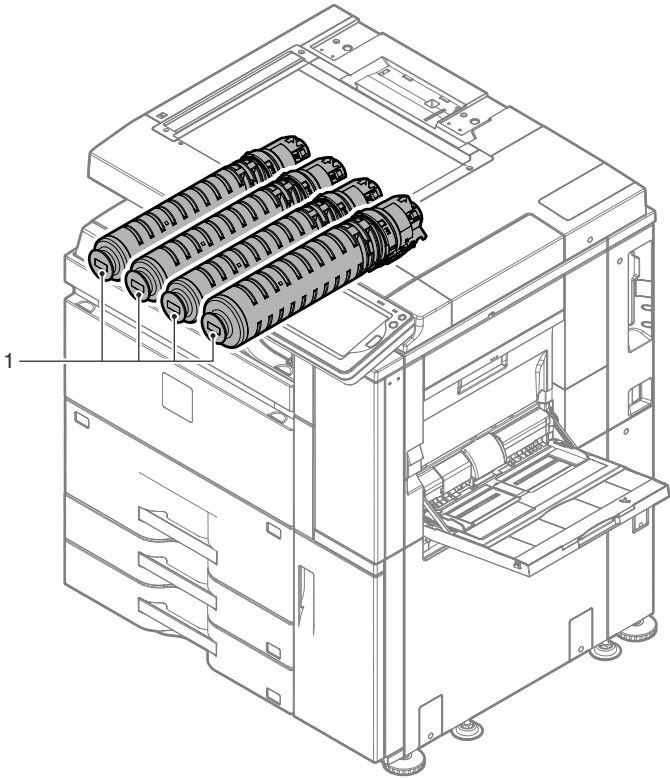




G. Toner supply section

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	Every 1500K	Remark
	1	Toner cartridge	User replacement for every toner empty.						The storage period is 2 years.

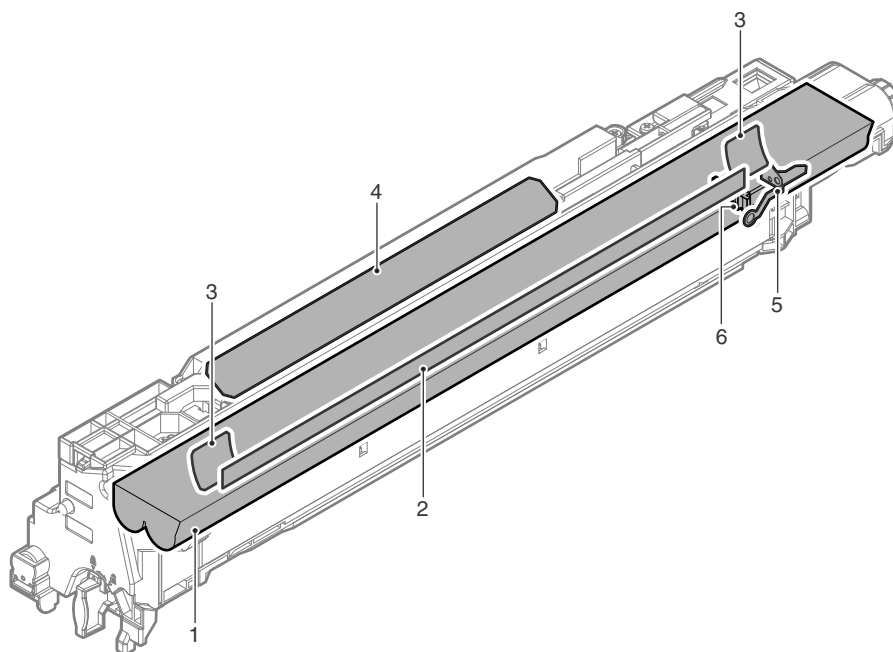


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## H. Developing section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

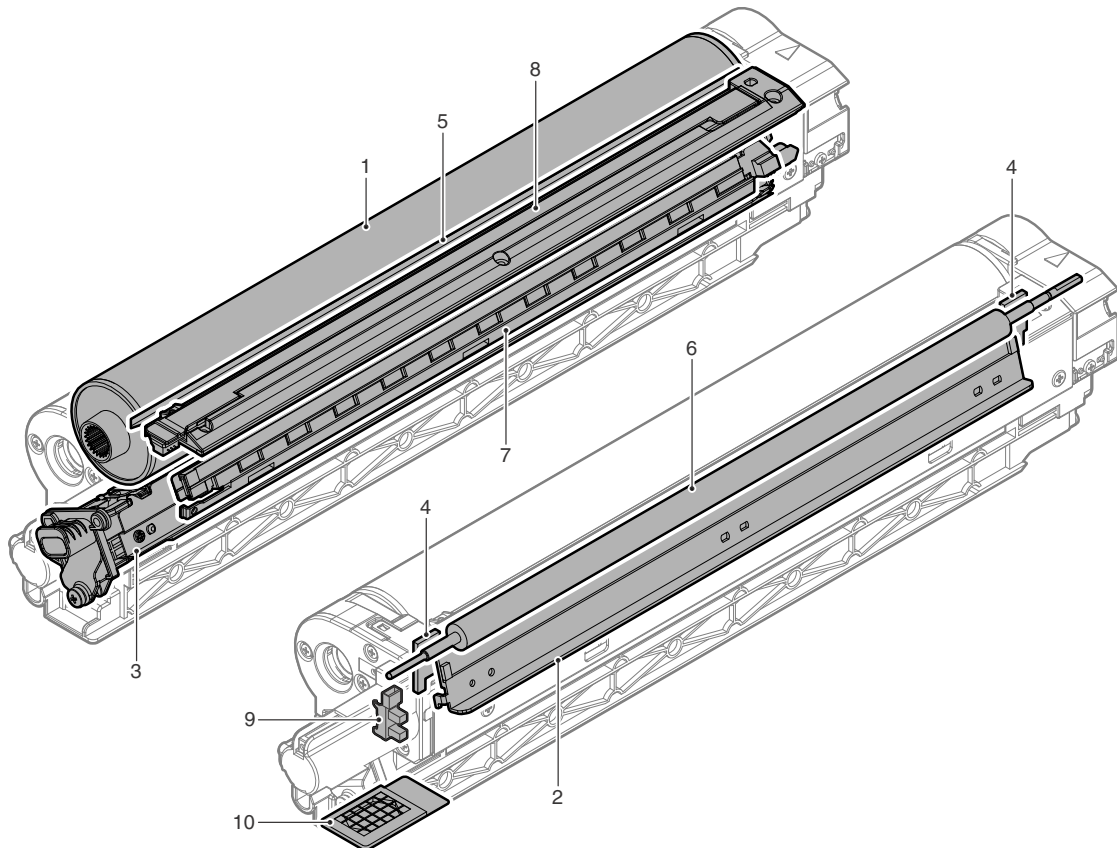
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	Remark
Developing unit (monochrome)	1	Developer	X				▲		Replace at 600K or at the specified rotation number. The storage period is 2 years.
	2	DV blade	X		X				Replace as needed.
	3	DV side seals F/R	X		X				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

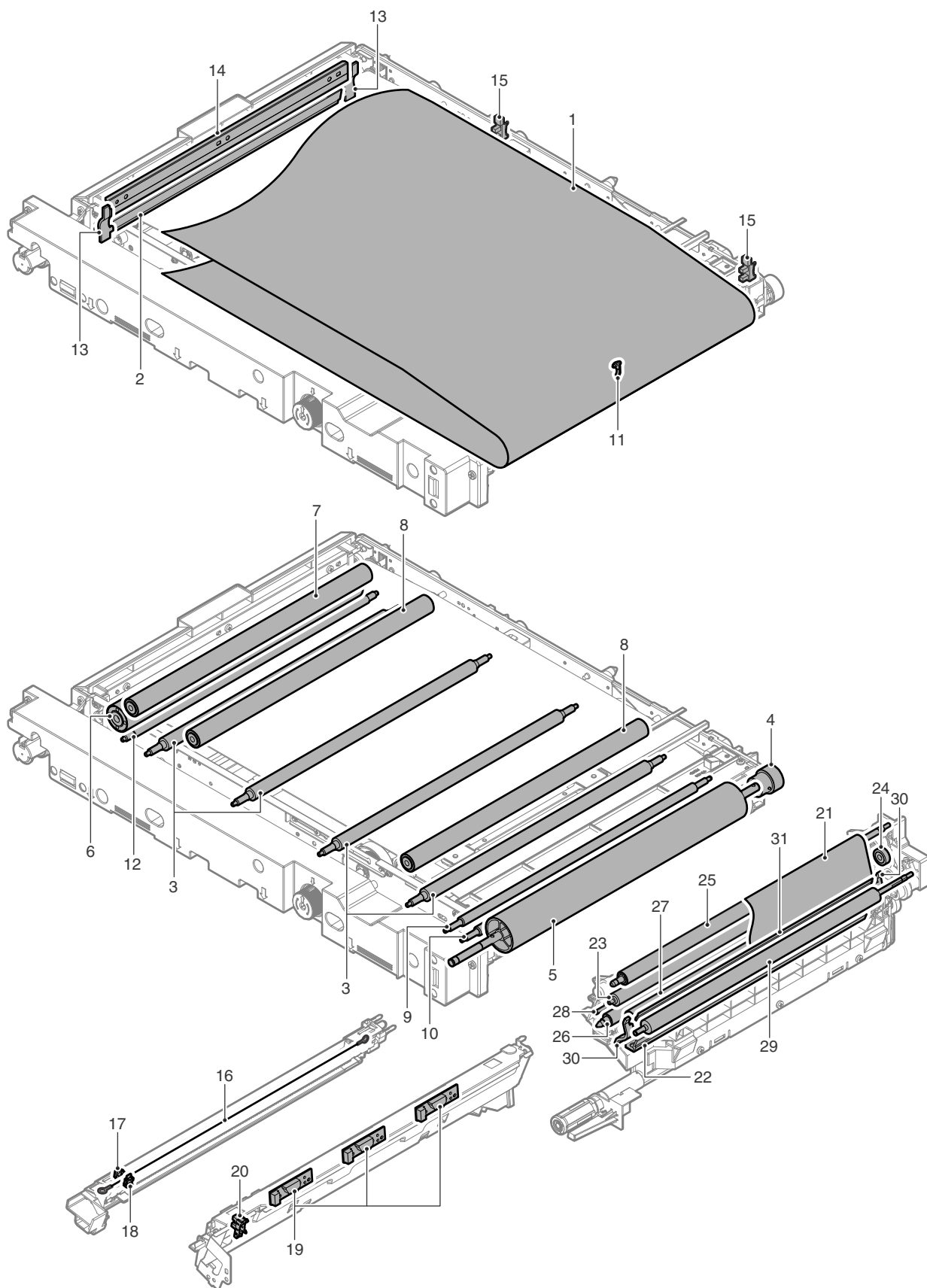
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	Remark
OPC drum unit (monochrome)	1	Drum	-		▲				Replace according to the drum counter value or when the specified rotation number is reached. The storage period is 3 years.
	2	Cleaner blade	-		▲				Recommendable 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

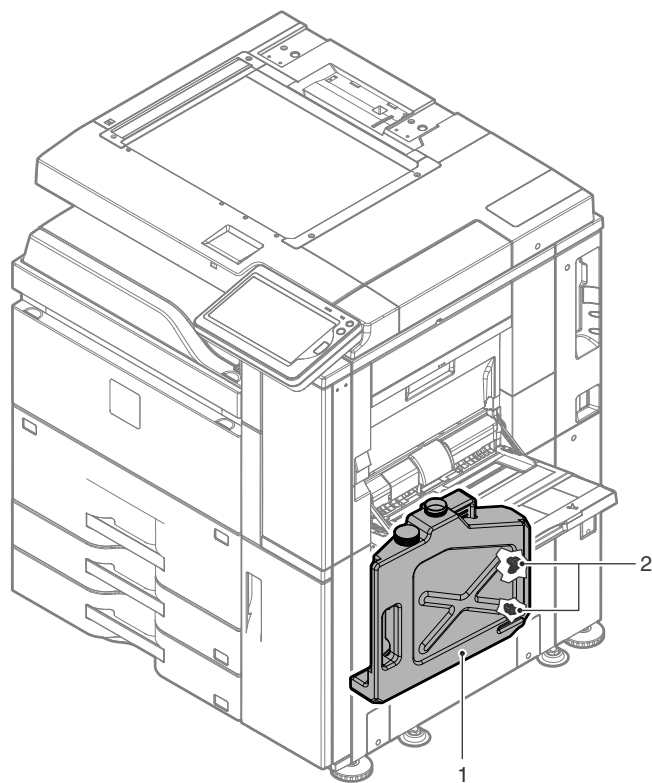
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	Remark
Primary transfer unit	1	Primary transfer belt	-		▲				When replacing, apply KYNAR powder or CKOG-0345DS51(Y toner).
	2	Primary transfer cleaner blade	-		▲				When 300K is reached, replace together with 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	Registration backup roller	-		O				Clean with alcohol.
	11	Transfer separation pawl	-		▲				Replace together with the primary transfer belt.
	12	Y auxiliary roller	-		O				Clean with alcohol.
	13	Primary transfer cleaner seals F/R	-		X				Replace as needed.
	14	Primary transfer toner reception seal	-		X				Replace as needed.
	15	Sensors	X		X				For the reflection-type sensor, the other side must be also cleaned.
PTC unit	16	Charger wire	-		▲				Do not touch the wire with bare hand.
	17	PTC cleaner	-		▲				
	18	PTC cleaner B	-		▲				
Registration sensor unit	19	Image registration/density sensor	-		O				After the sensors were cleaned, never forget to execute Sim44-2 then execute Sim46-74 "Copy color balance adjustment".
	20	Sensors	X		X				For the reflection-type sensor, the other side must be also cleaned.
Secondary transfer unit	21	Secondary transfer belt	-		▲				Never use alcohol or solvents for cleaning. When replacing, apply KYNAR powder or CKOG-0345DS51(Y toner).
	22	Secondary transfer cleaner blade	-		▲				When 300K is reached, replace together with the secondary transfer belt.
	23	Secondary transfer roller	-		X				Replace as needed.
	24	Secondary transfer idle gear	-		X				Replace as needed.
	25	Secondary transfer belt drive roller	-		O				Clean with alcohol.
	26	Secondary transfer belt follower roller	-		O				Clean with alcohol.
	27	Secondary transfer blade contact roller	-		O				Clean with alcohol.
	28	Secondary transfer backup roller	-		O				Clean with alcohol.
	29	Secondary transfer cleaning brush roller	-		O				
	30	Secondary transfer cleaner seals F/R	-		X				Replace as needed.
	31	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	Every 1500K	Remark
	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				

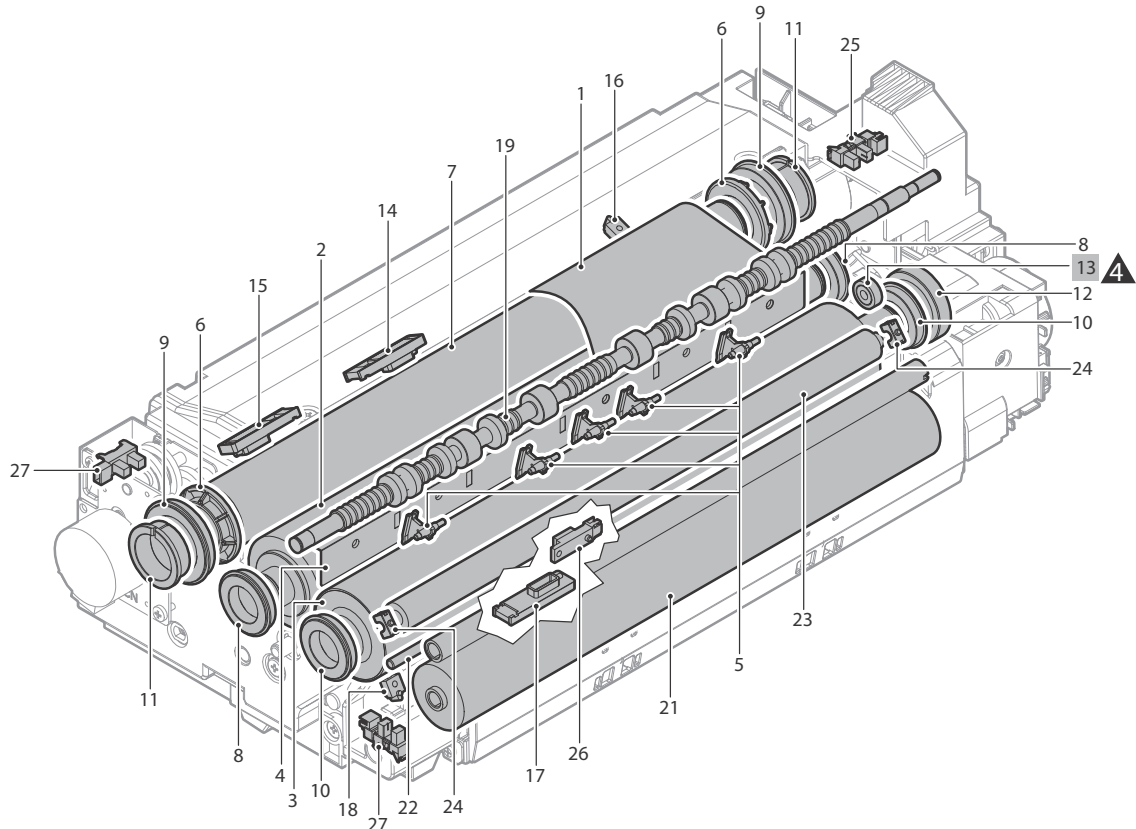


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## L. Fusing section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

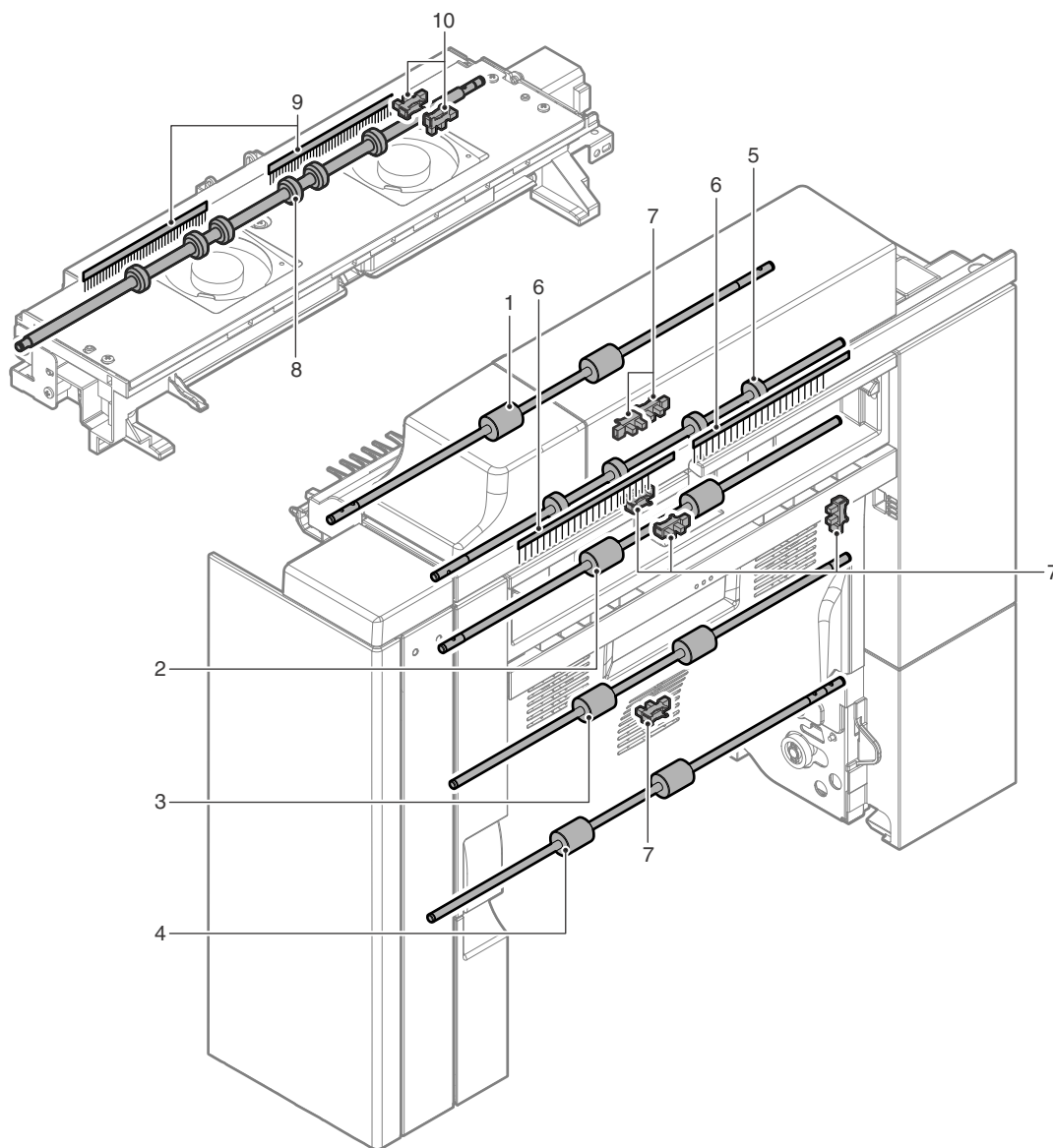
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	Remark
Fusing unit	1	Fusing belt	-		▲				
	2	Fusing roller	-		▲				When replacing, apply grease (UKOG-0235FCZZ) to the shaft section.
	3	Pressure roller	-		▲				When replacing, apply grease (UKOG-0235FCZZ) 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	Every 1500K	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				



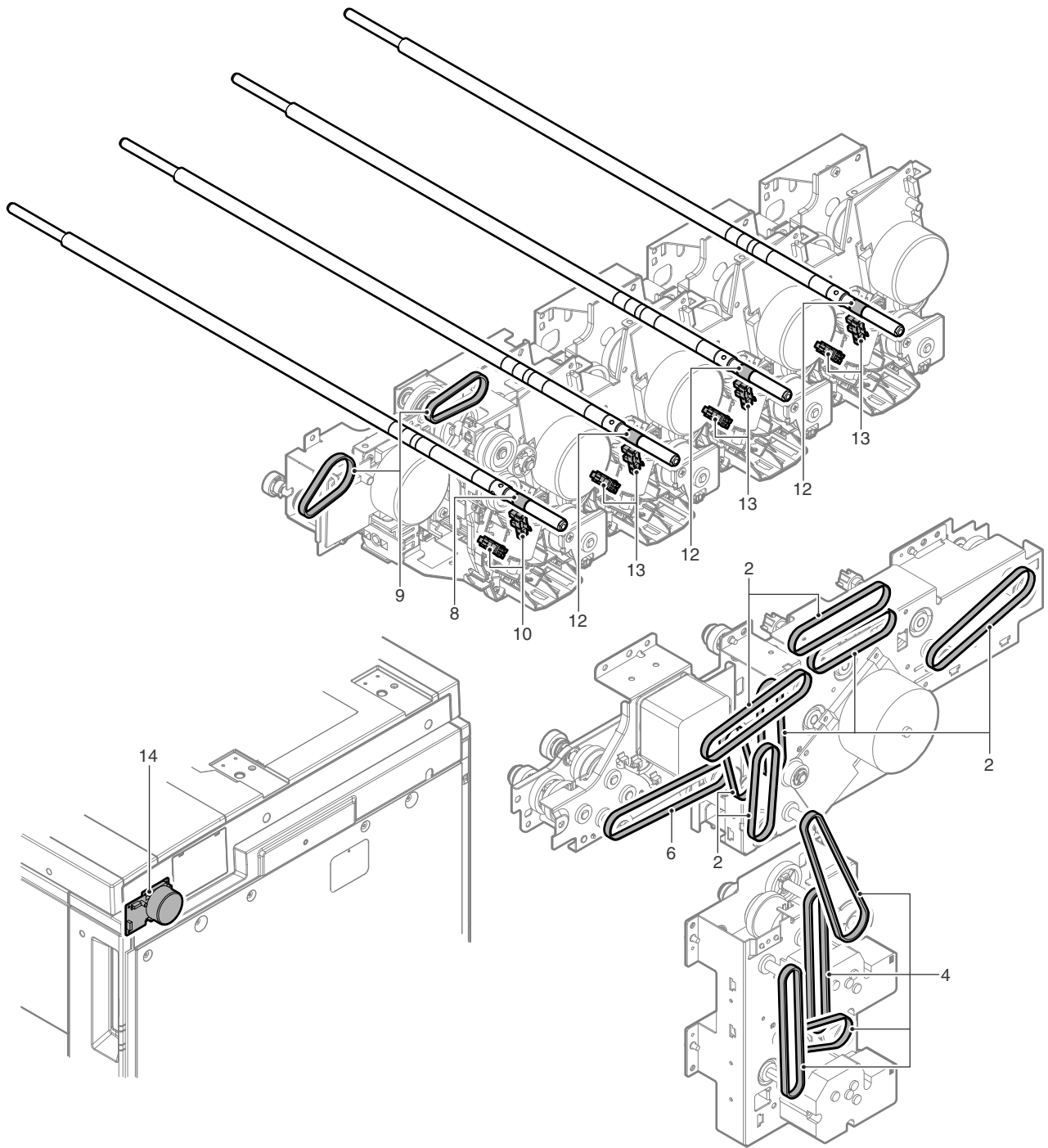


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## N. Drive section

X: Check (Clean, replace, or adjust according to necessity.) O: Clean ▲: Replace △: Adjust ☆: Lubricate

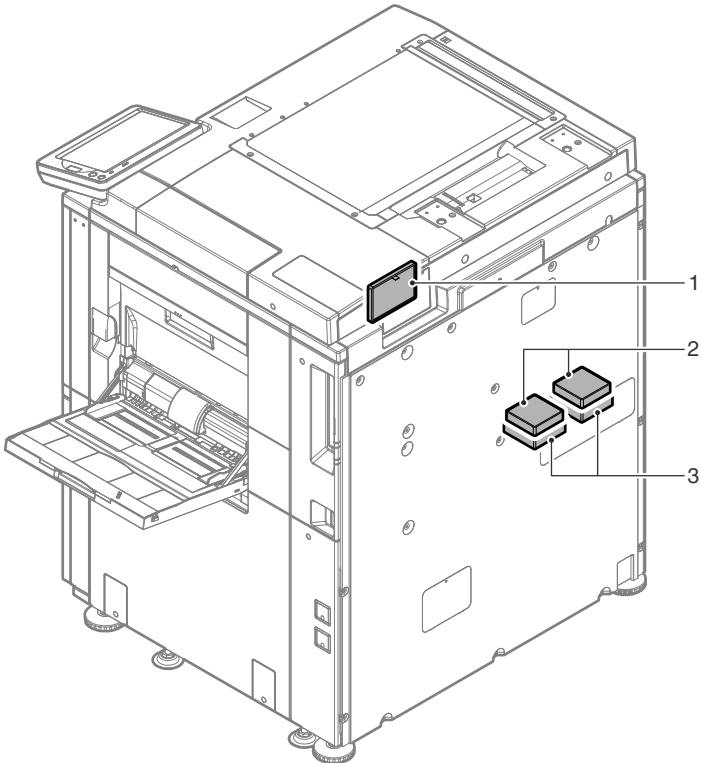
Unit	No.	Maintenance parts	When calling	Every 200K	Every 300K	Every 400K	Every 600K	Every 1500K	Remark
Tandem paper feed drive unit	1	Gears	-		X				Apply to the specified position as needed when checking.
	2	Belts	-		X				
Paper feed drive unit	3	Gears	-		X				Apply to the specified position as needed 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	Every 1500K	Remark
	1	Deodorant filter	X		▲				
	2	Toner filter	X		▲				
	3	Ozone filter	X		▲				

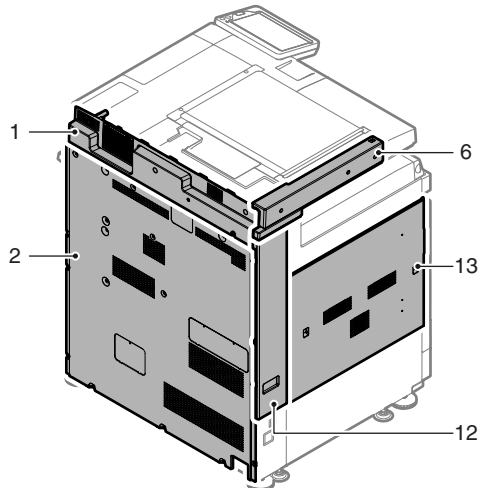
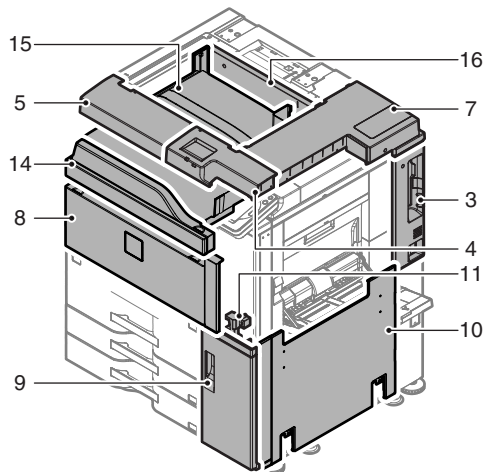


# [10] DISASSEMBLY AND ASSEMBLY

## 1. Disassembly of Units

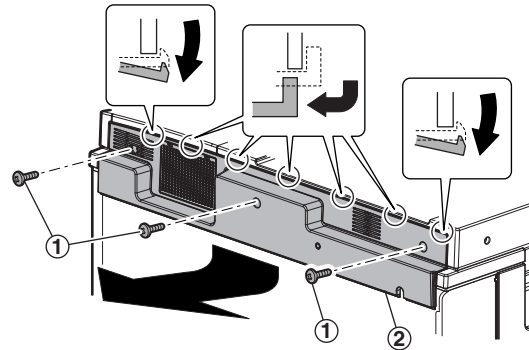
### A. External view section

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



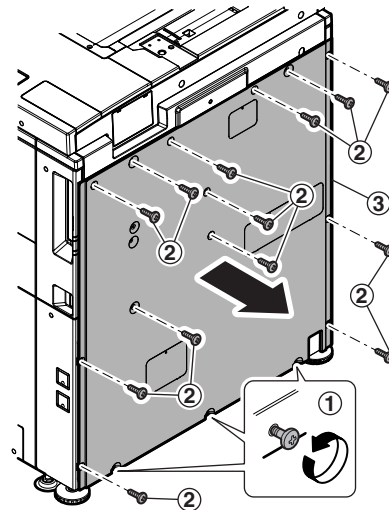
#### (1) Upper cabinet rear cover

- 1) Remove the screw, and remove the upper cabinet rear cover.



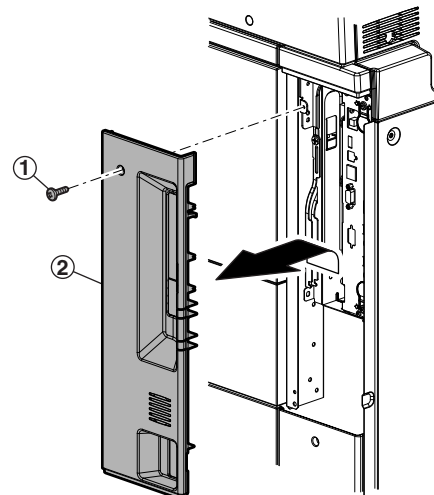
#### (2) Rear cabinet

- 1) Loosen the screw at the bottom of the rear cabinet, and remove the rear cabinet.



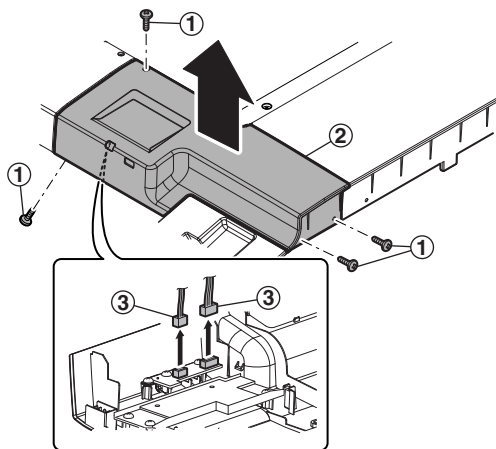
#### (3) Right cabinet rear

- 1) Remove the screw, and remove the right cabinet rear.



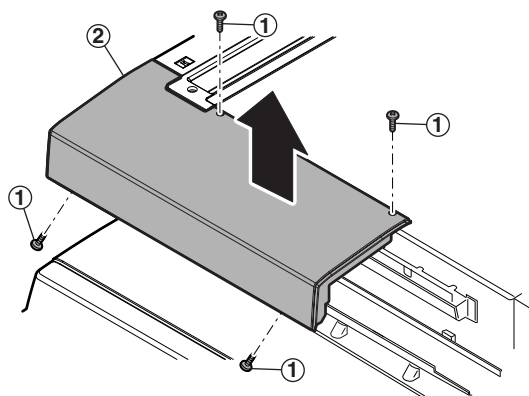
#### (4) Upper cabinet front right

- 1) Remove the screw, and remove the upper cabinet front right. Disconnect the connector from the USB I/F PWB.



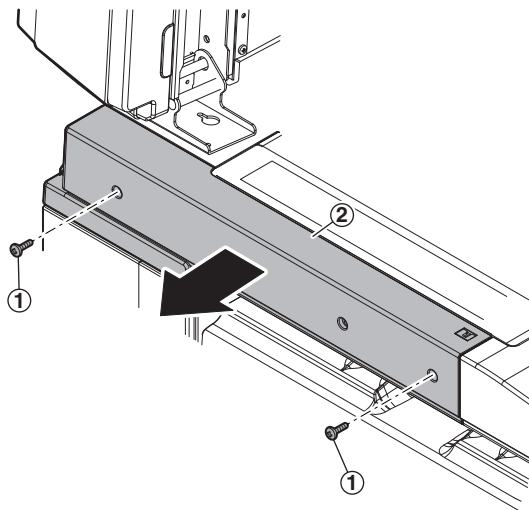
#### (5) Upper cabinet front left

- 1) Remove the screw, and remove the upper cabinet front left.



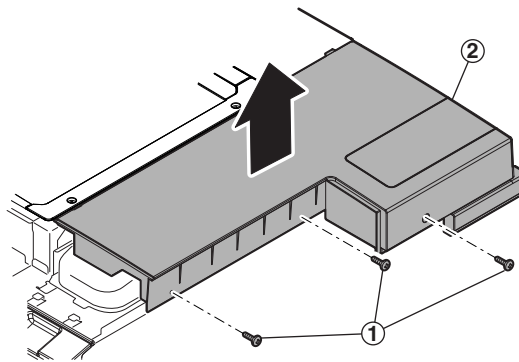
#### (6) Upper cabinet left

- 1) Remove the screw, and remove the upper cabinet left.



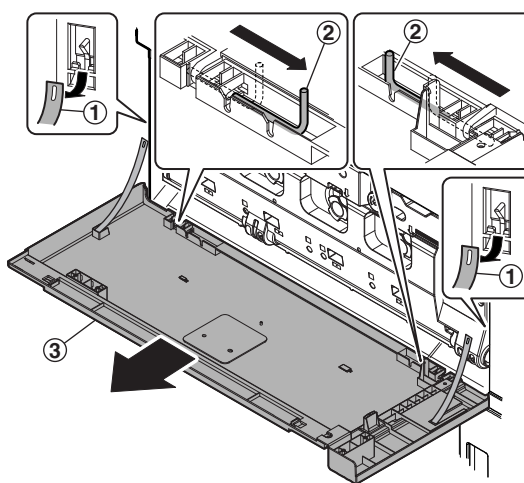
#### (7) Upper cabinet right

- 1) Open the right door.
- 2) Remove the screw, and remove the upper cabinet right.



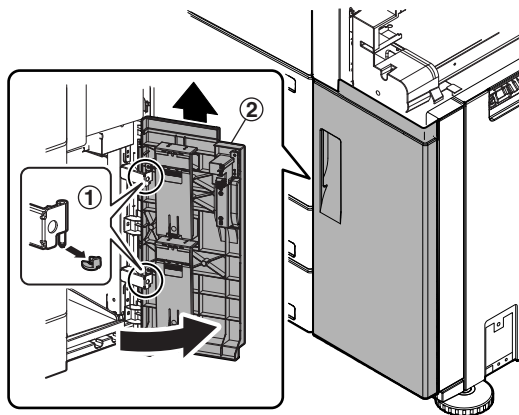
#### (8) Front cover

- 1) Remove the band. Slide the shaft, and remove the front cover.

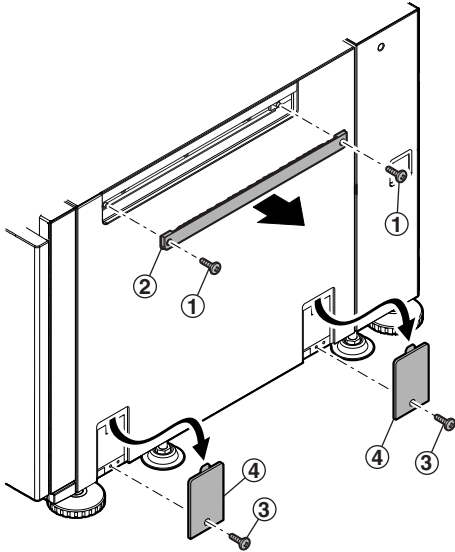


#### (9) Right lower door, Right cabinet lower

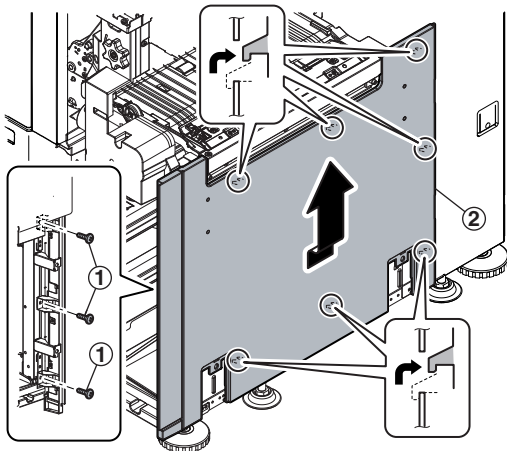
- 1) Remove the resin E-ring, and remove the right lower door.



- 2) Remove the screw, and remove the cover.

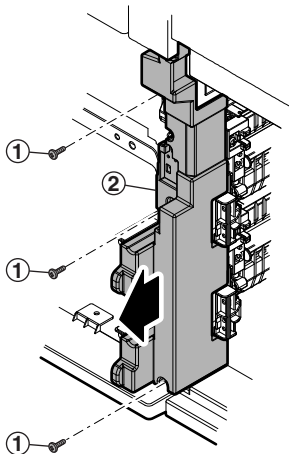


- 3) Remove the screw, and right cabinet lower.



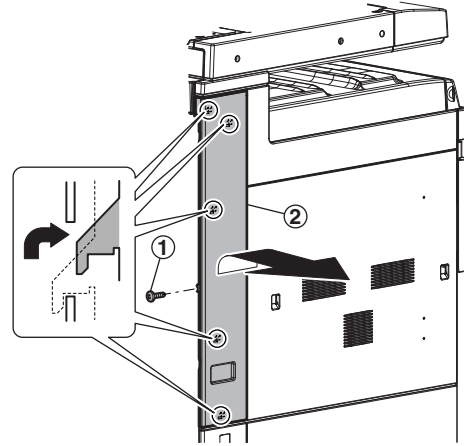
#### (10) Right lower door cover

- 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.



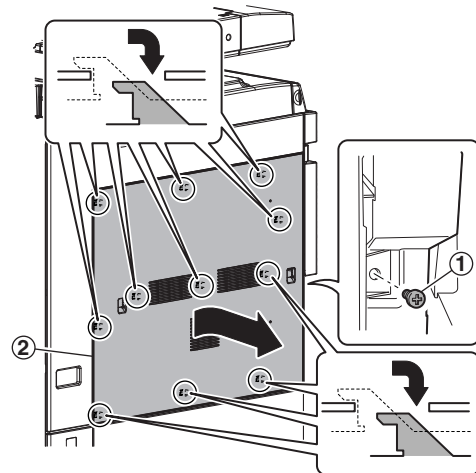
#### (11) Left cabinet rear

- 1) Remove the rear cabinet.
- 2) Remove the screw, and remove the left cabinet rear.



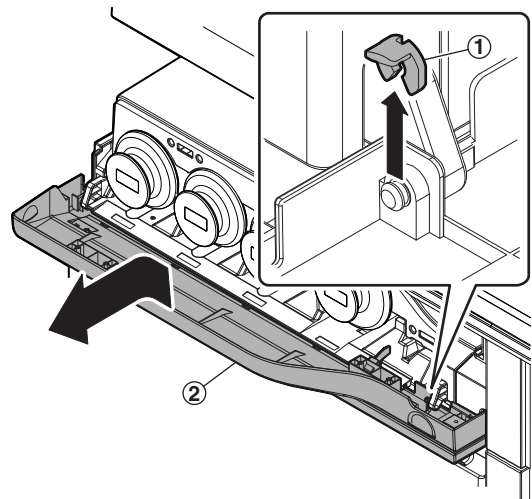
#### (12) Left cabinet upper

- 1) Open the front cover.
- 2) Open the tandem paper feed tray.
- 3) Remove the screw, and remove the left cabinet upper.

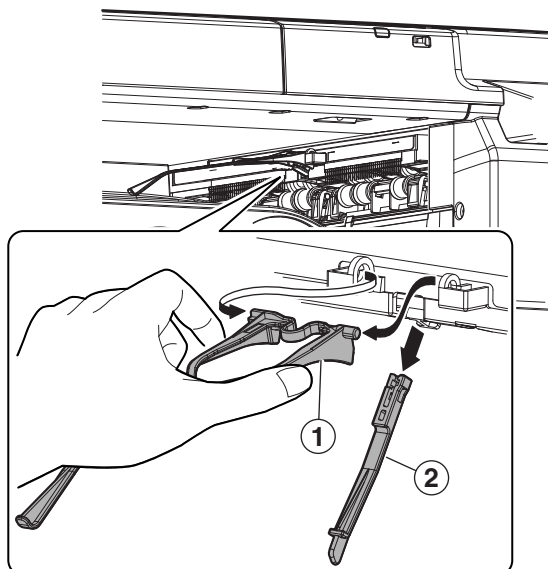


#### (13) Toner cover, Paper exit tray, Paper exit tray rear connection cabinet

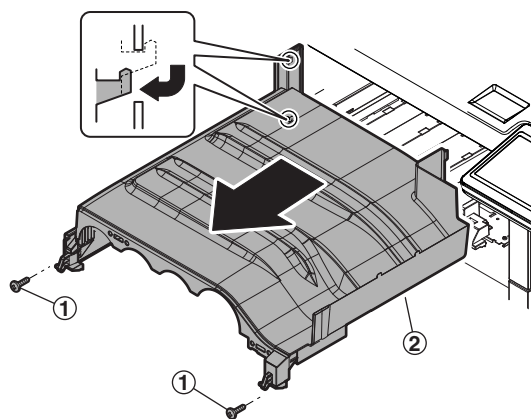
- 1) Open the toner cover. Remove the resin E-ring, and remove the toner cover.



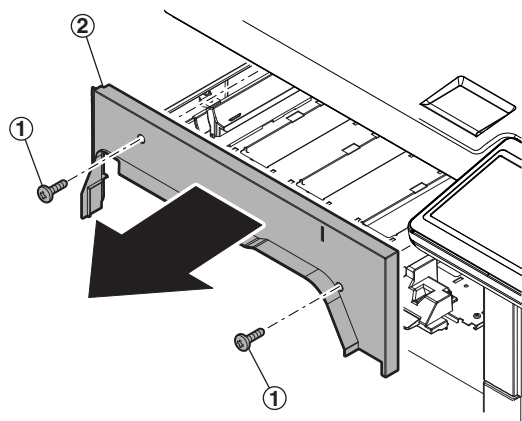
- 2) Remove the paper holding arm, and remove the actuator.



- 3) Remove the screw, and remove the paper exit tray.

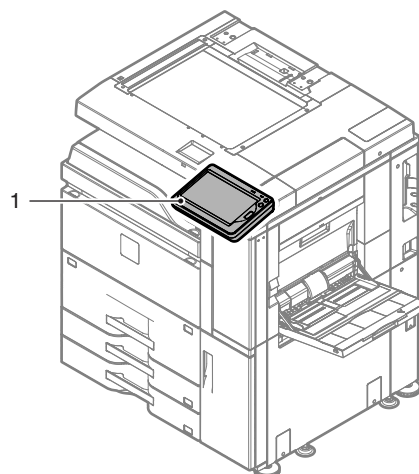


- 4) Remove the screw, and remove the paper exit tray rear connection cabinet.



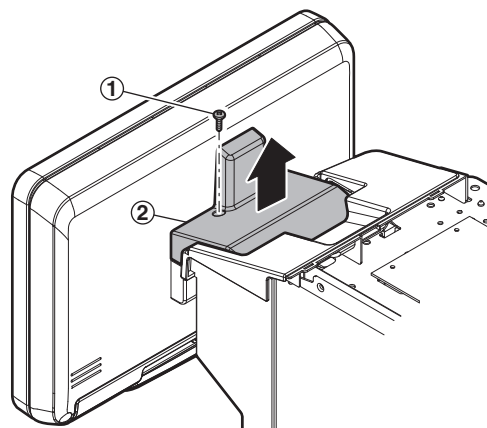
## B. Operation panel section

No.	Name
1	Operation panel unit

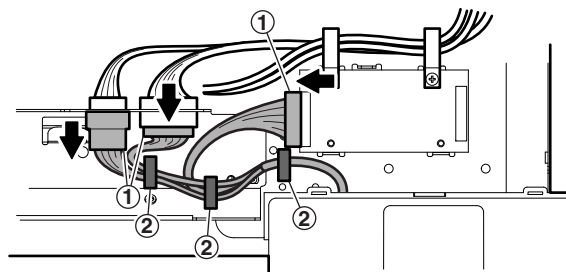


### (1) Operation panel unit

- 1) Remove the upper cabinet front right.
- 2) Remove the screw, and remove the cover.



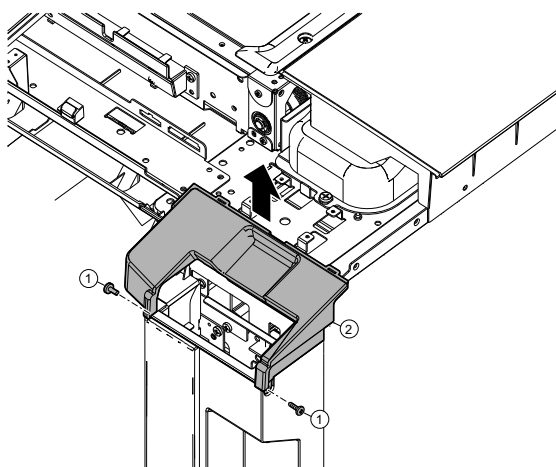
- 3) Disconnect the connector of the operation panel unit, and remove the harness from the wire saddle.



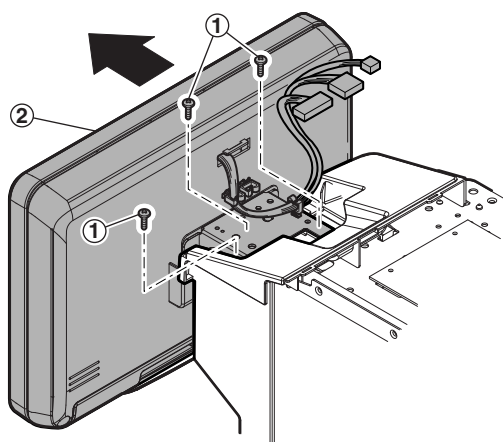


2

4) Remove the screws, and remove the cabinet.

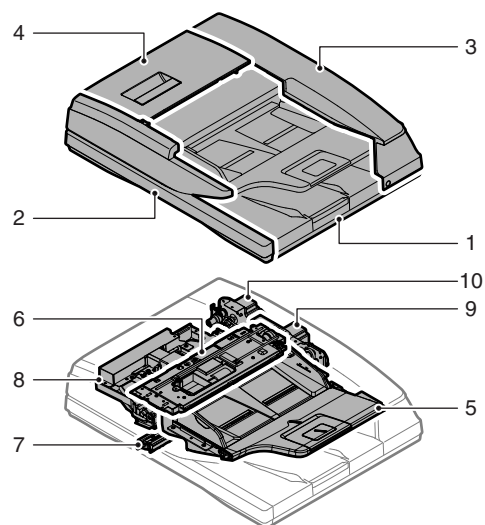


5) Remove the screw, and remove the operation panel unit.



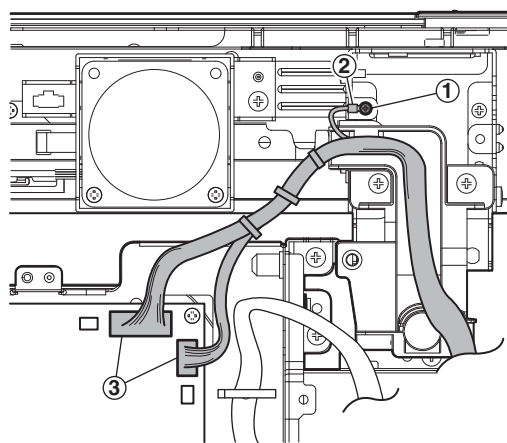
## C. DSPF section

No.	Name
1	DSPF unit
2	Front cabinet
3	Rear cabinet
4	Upper door unit
5	Document feed tray
6	Document feed unit
7	Lamp unit
8	Optical unit
9	Drive unit
10	Transport drive unit
11	DSPF driver PWB
12	DSPF control PWB



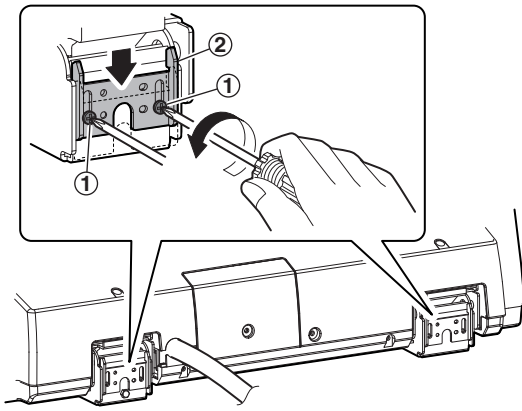
### (1) DSPF unit

- 1) Remove the upper cabinet rear cover.
- 2) Remove the screw, and remove the earth wire. Disconnect the connector from the SCN Mother PWB.

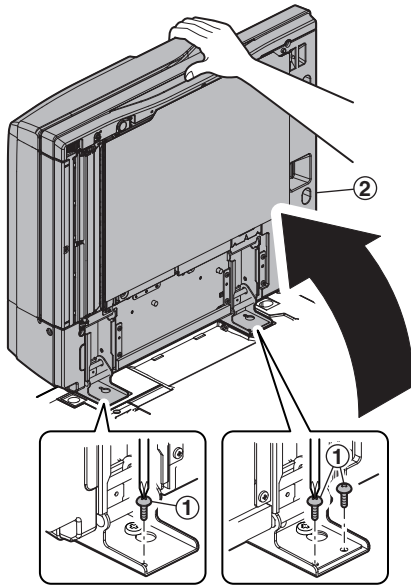




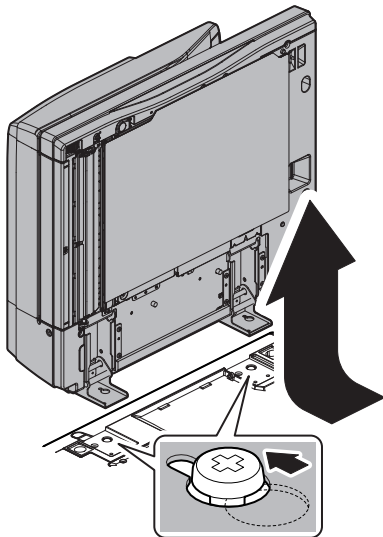
- 3) Loosen the screw, and lower the angle adjustment plate.



- 4) Open the DSPF unit to put it straight up, and remove the screw.

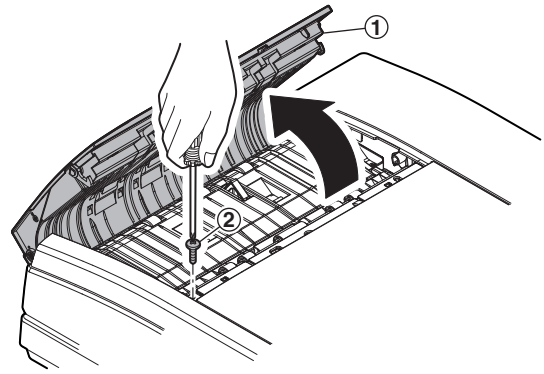


- 5) Slide the DSPF unit to the rear side, and fit the step screw with the key hole of the hinge, and lift it up to remove.

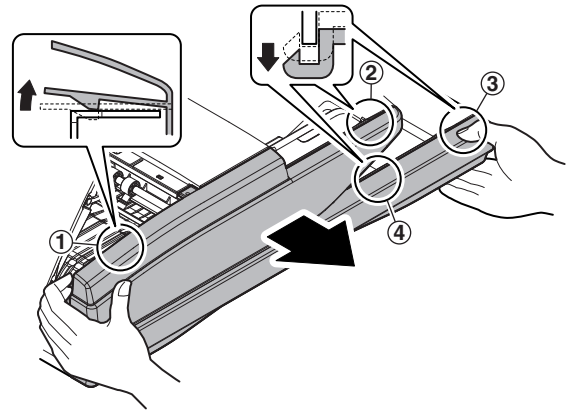


## (2) Front cabinet

- 1) Open the upper door, and remove the screw.

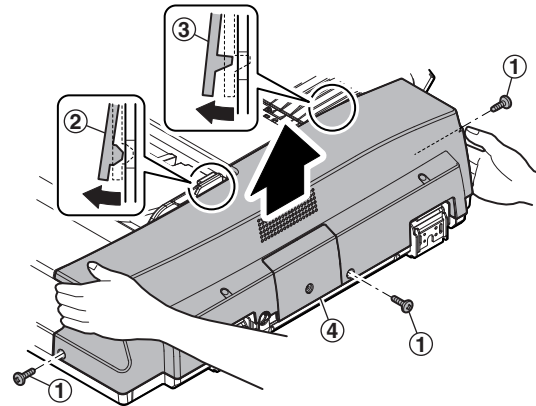


- 2) Remove the front cabinet.



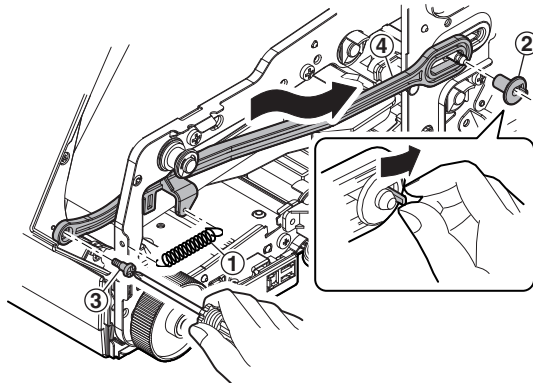
## (3) Rear cabinet

- 1) Open the upper door. Remove the screw, and remove the rear cabinet.

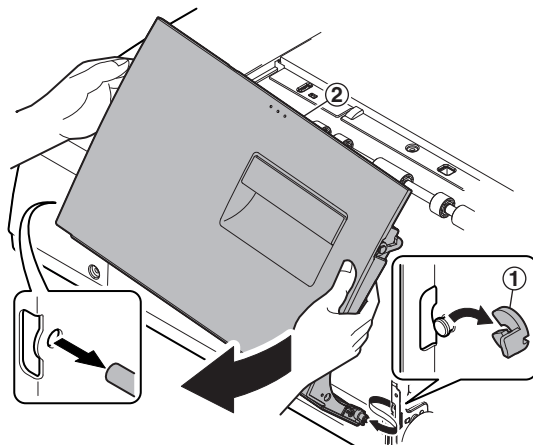


#### (4) Upper door unit

- 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.

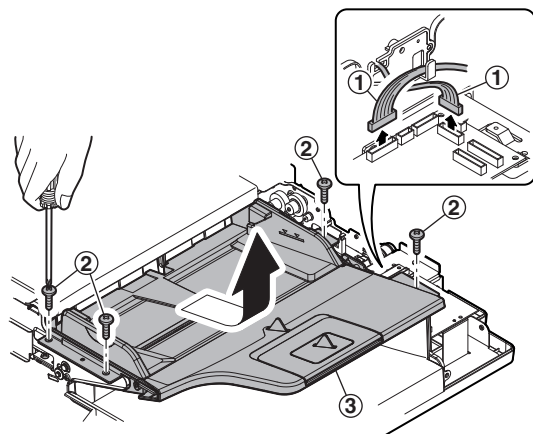


- 3) Remove the resin E-ring, and remove the upper door unit.



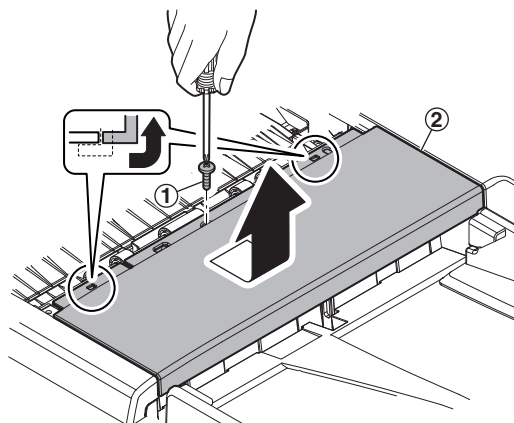
#### (5) Document feed tray

- 1) Remove the front cabinet.
- 2) Remove the rear cabinet.
- 3) Disconnect the connector. Remove the screw, and remove the document feed tray.

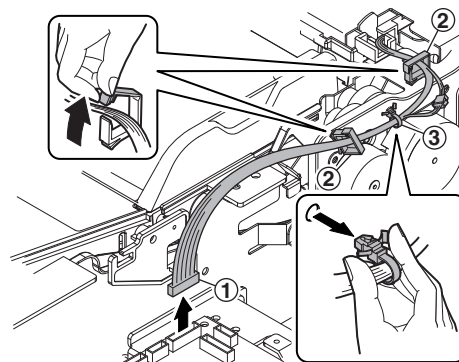


#### (6) Document feed unit

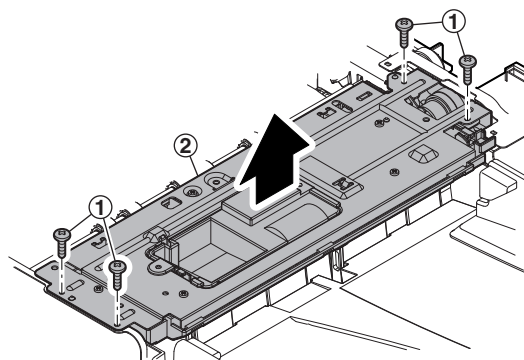
- 1) Remove the front cabinet.
- 2) Remove the rear cabinet.
- 3) Remove the screw. Remove the paper feed cover.



- 4) Disconnect the connector. Open the wire saddle. Remove the snap band.

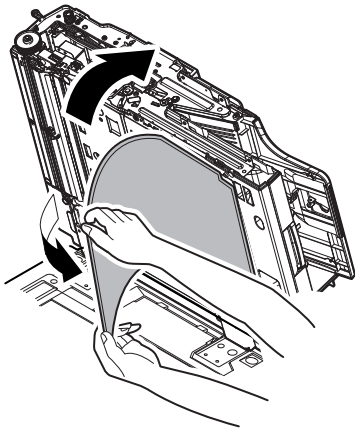


- 5) Remove the screw, and remove the document feed unit.

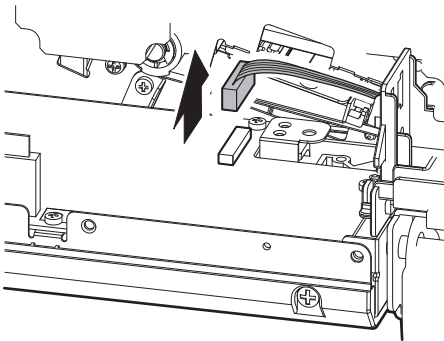


## (7) Lamp unit

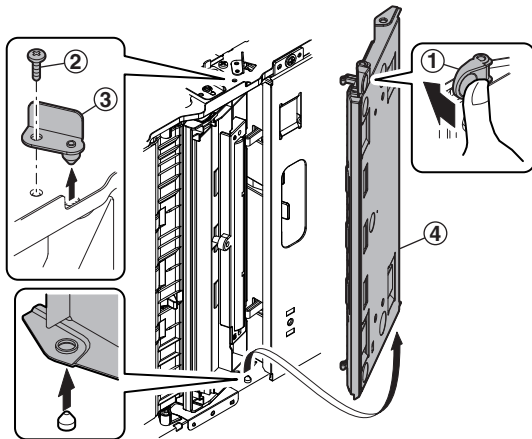
- 1) Remove the front cabinet.
- 2) Remove the rear cabinet.
- 3) Open the OC mat.



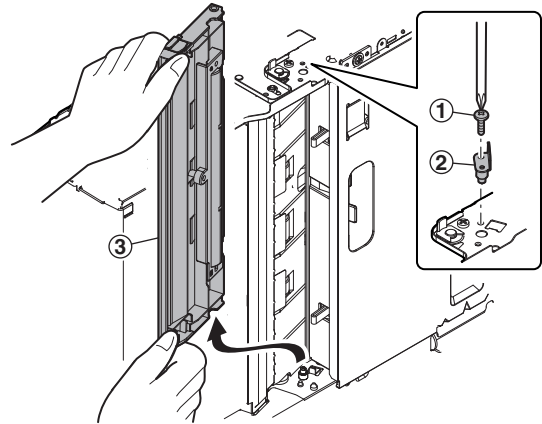
- 4) Disconnect the connector for lamp unit from the CONTROL PWB



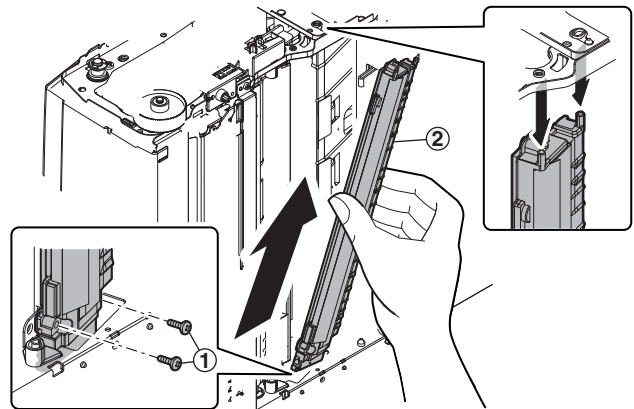
- 5) Open the lower door. Remove the screw, and remove the fulcrum plate. Remove the lower door.



- 6) Remove the screw, and remove the fulcrum plate. Remove the white reference plate.

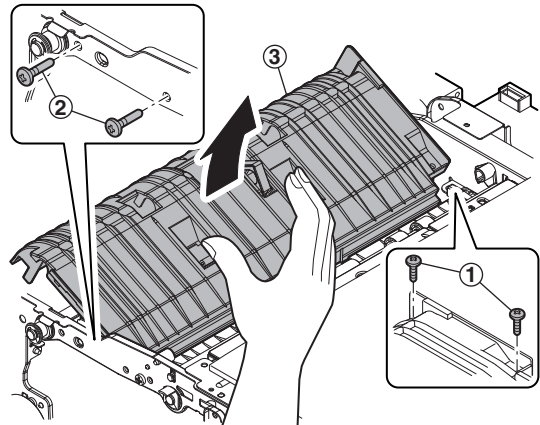


- 7) Remove the screw, and remove the lamp unit.



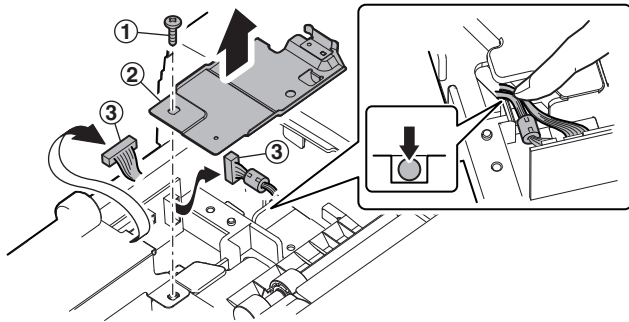
## (8) Optical unit

- 1) Remove the upper door.
- 2) Remove the lamp unit.
- 3) Remove the screw, and remove the paper guide.

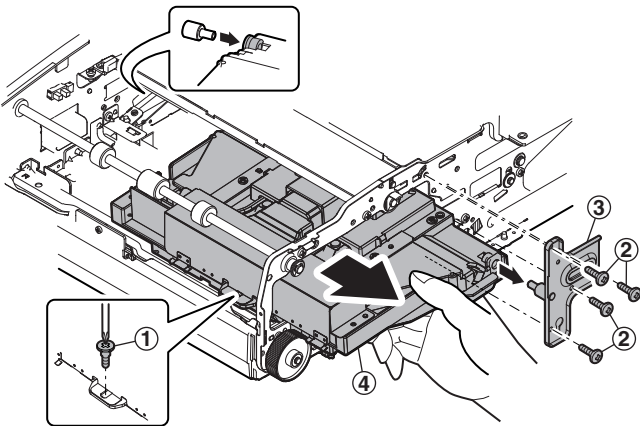


- 4) Remove the screw, and remove the harness cover. Disconnect the connector.

CAUTION: When assembling, arrange the harness so that its height is lower than the rib height.



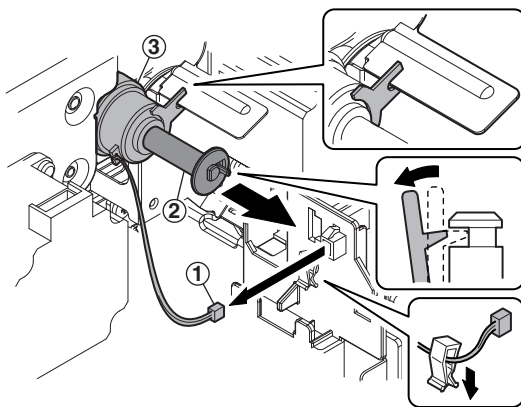
- 5) Remove the screw, and remove the optical fixing plate. Remove the optical unit.



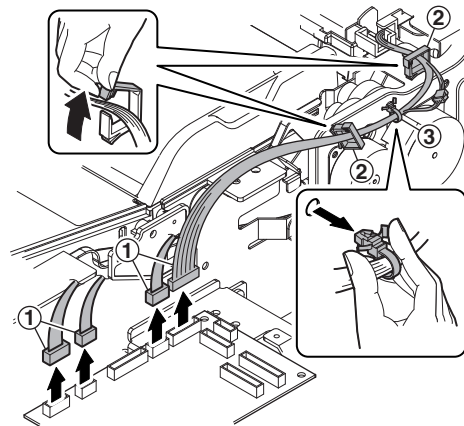
#### (9) Drive unit

- 1) Remove the rear cabinet.
- 2) Disconnect the connector. Remove the clutch stopper, and remove the No.1 registration roller clutch.

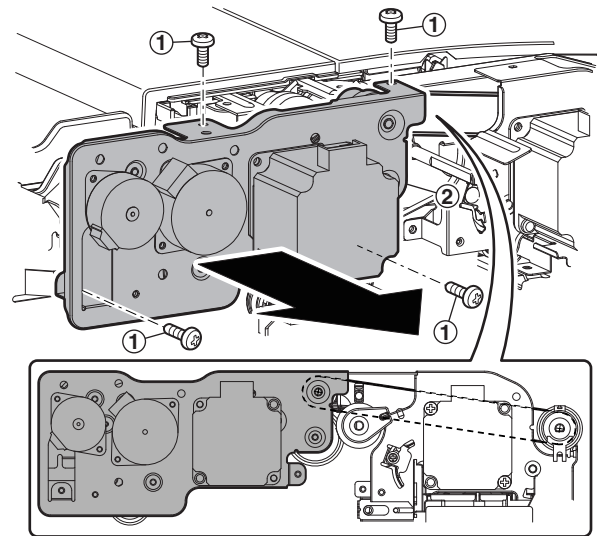
CAUTION: When assembling, check to confirm that the clutch stopper section is engaged with the plate.



- 3) Disconnect the connector, and open the edge saddle. Remove the snap band.



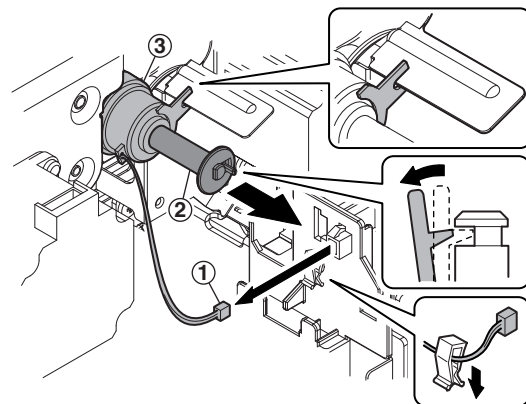
- 4) Remove the screw, and remove the drive unit.



#### (10) Transport drive unit

- 1) Remove the rear cabinet.
- 2) Disconnect the connector. Remove the clutch stopper, and remove the No.1 registration roller clutch.

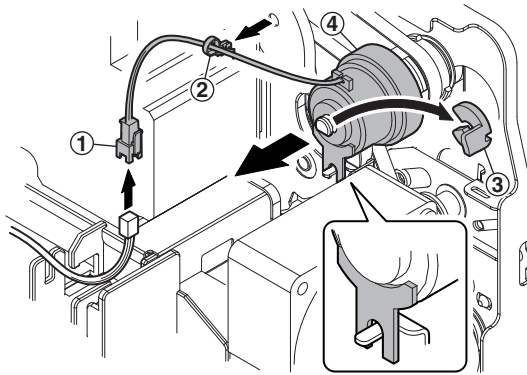
CAUTION: When assembling, check to confirm that the clutch stopper section is engaged with the plate.



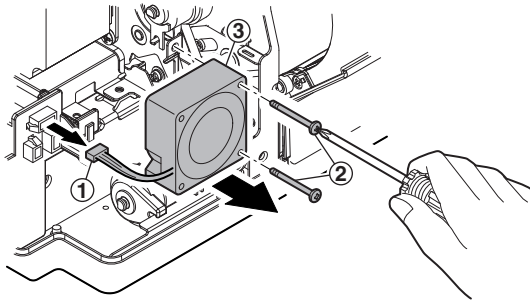


- 3) Disconnect the connector, and remove the snap band. Remove the resin E-ring, and remove the transport roller clutch.

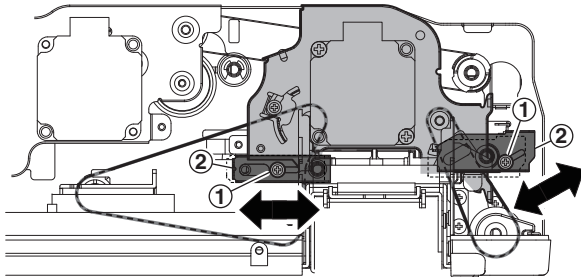
CAUTION: When assembling, check to confirm that the clutch stopper section is engaged with the plate.



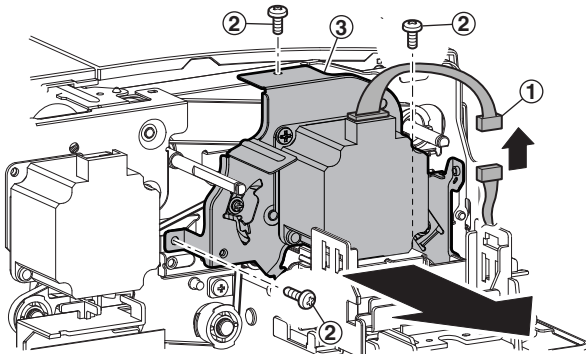
- 4) Disconnect the connector. Remove the screw, and remove the DSPF cooling fan.



- 5) Loosen the screw, and loosen the belt tension. Tighten the screw.

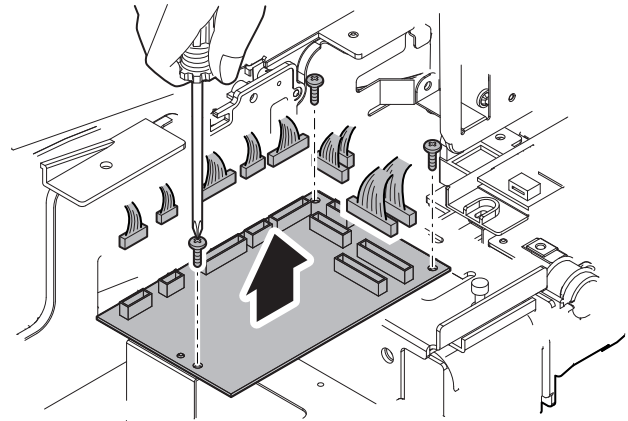


- 6) Disconnect the connector. Remove the screw, and remove the drive transport unit.



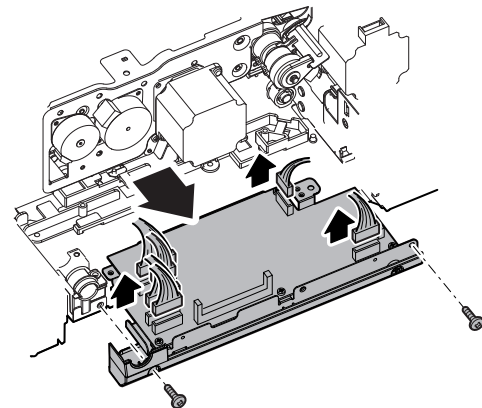
#### (11) DSPF driver PWB

- 1) Remove the rear cabinet.
- 2) Disconnect the connector. Remove the screw, and remove the DSPF driver PWB.

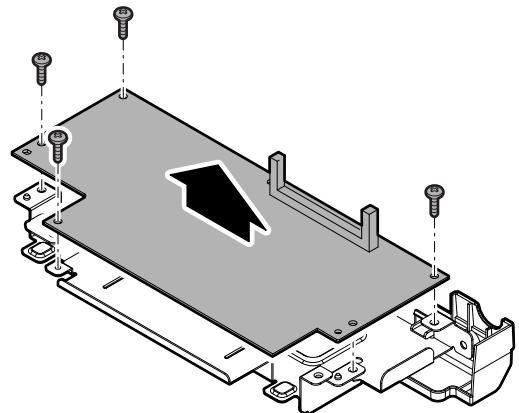


#### (12) DSPF control PWB

- 1) Remove the rear cabinet.
- 2) Disconnect the connector, and remove the screw. Remove the control PWB unit.

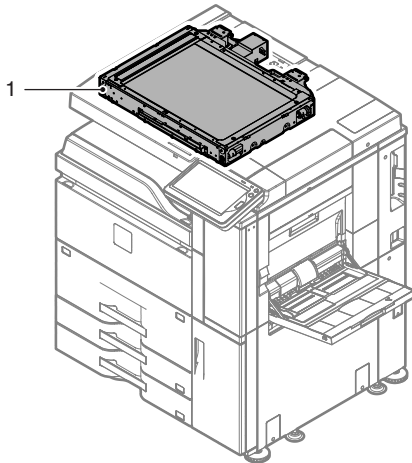


- 3) Disconnect the connector, and remove the screw. Remove the DSPF control PWB.



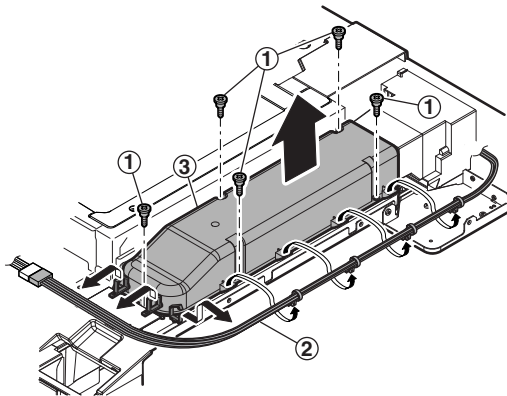
## D. Scanner section

No.	Name
1	Scanner unit

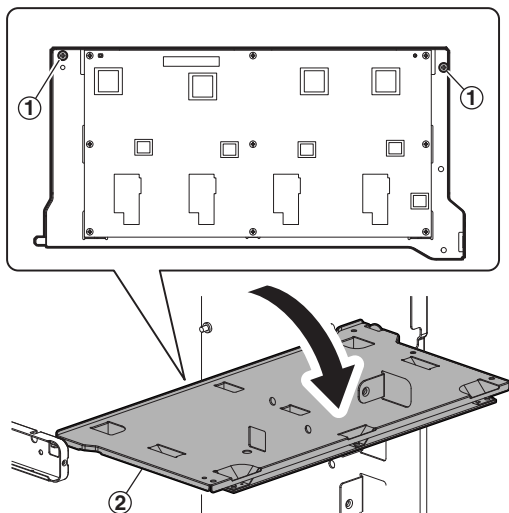


### (1) Scanner unit

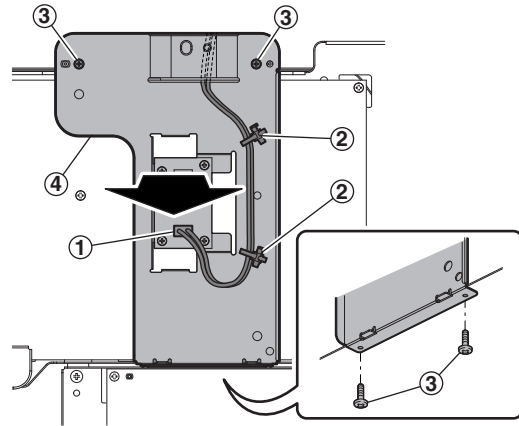
- 1) Remove the DSPF unit.
- 2) Remove the upper cabinet rear cover, and remove the rear cabinet.
- 3) Remove the left cabinet rear.
- 4) Remove the upper cabinet front right, upper cabinet front left, upper cabinet left, and the upper cabinet right.
- 5) Remove the snap band. Remove the step screw, and remove the duct unit.



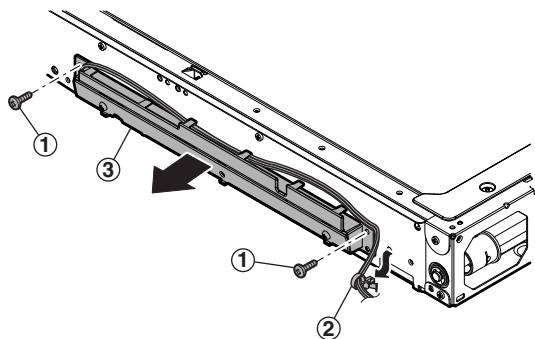
- 6) Remove the screw, and open the high voltage MC PWB mounting plate downward.



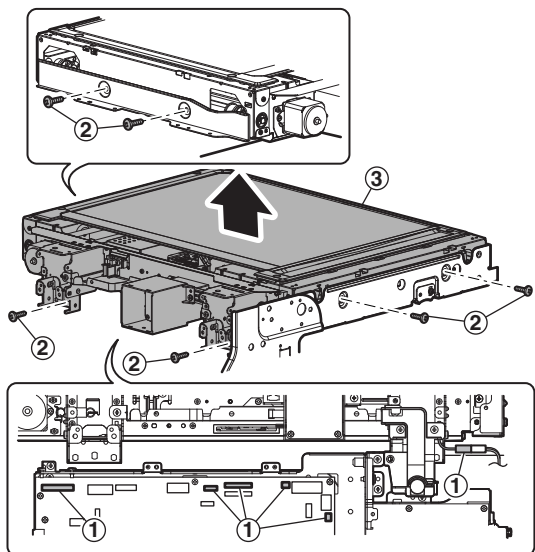
- 7) Disconnect the connector from PCI interface PWB, and remove the snap band.



- 8) Remove the screw and the snap band, and remove the document detection unit.

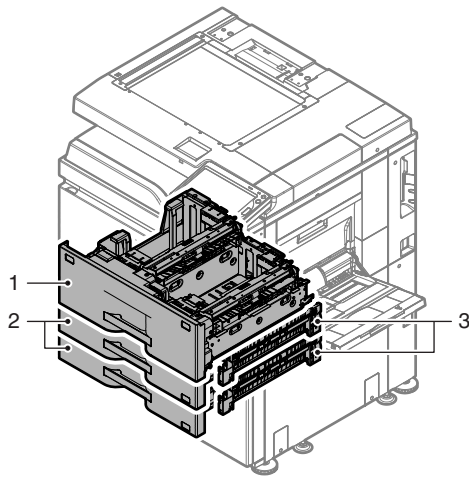


- 9) Remove the connector and the screw, and remove the scanner unit.



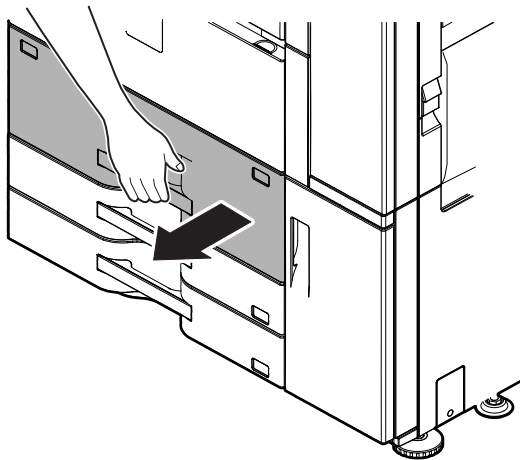
## E. Tray paper feed section

No.	Name
1	Tandem paper feed tray
2	Paper feed tray
3	Tray paper feed unit

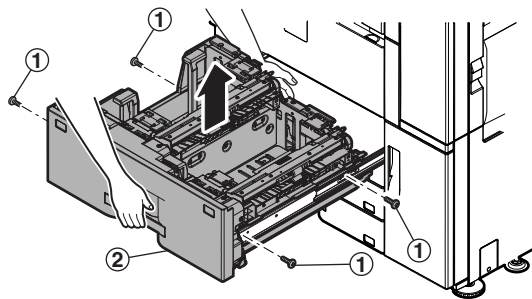


### (1) Tandem paper feed tray

- 1) Pull out the tandem paper feed tray.

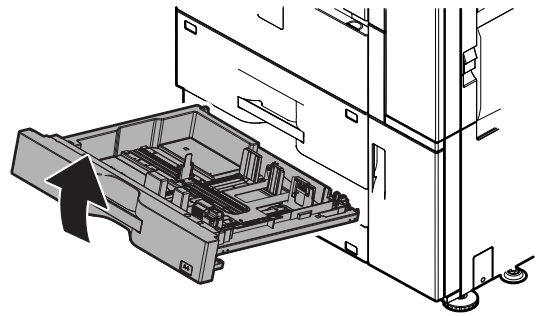


- 2) Remove the screw, and remove the tandem paper feed tray.



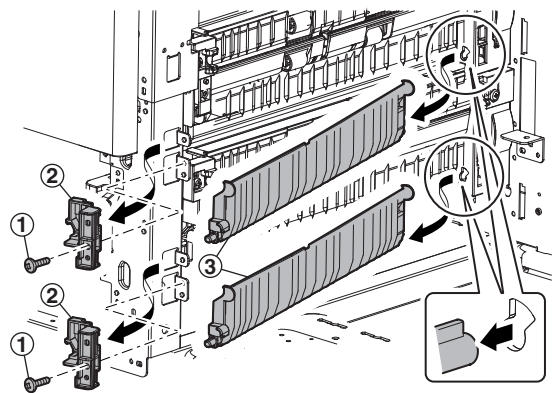
### (2) Paper feed tray

- 1) Pull out the paper feed tray, and lift and remove it.

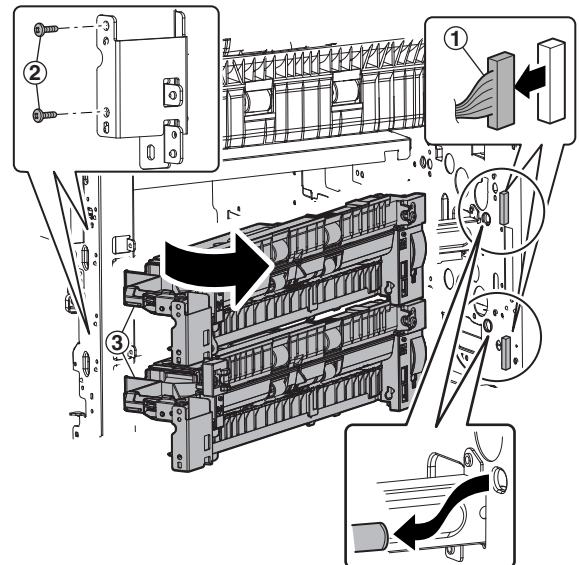


### (3) Tray paper feed unit

- 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.

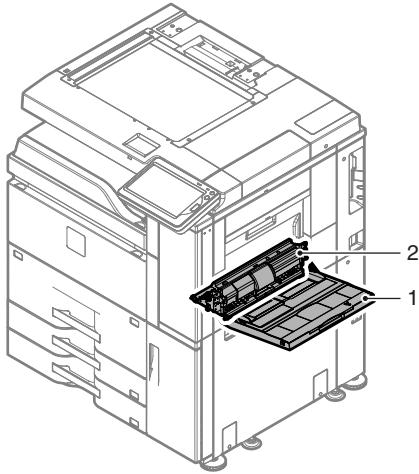


- 4) Disconnect the connector. Remove the screw, and remove the tray paper feed unit.



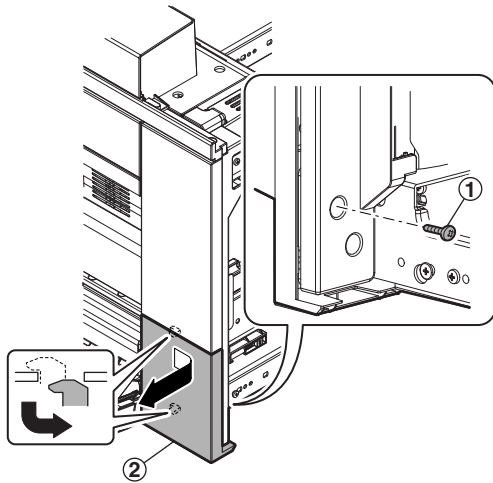
## F. Manual paper feed section

No.	Name
1	Manual paper feed tray
2	Manual paper feed unit

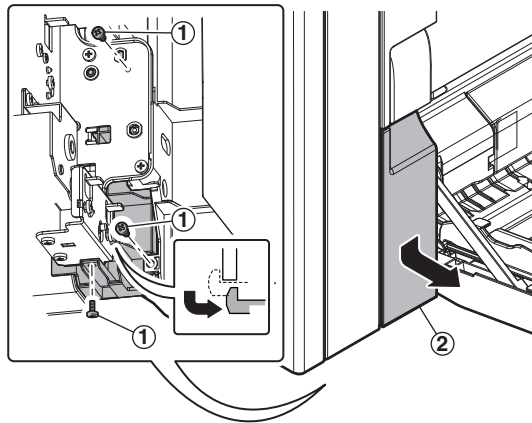


### (1) Manual paper feed tray

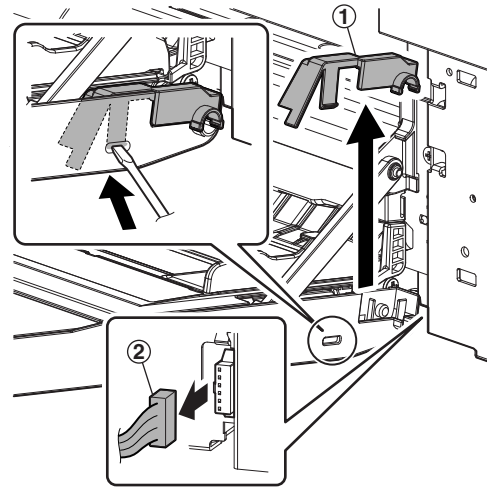
- 1) Open the right door unit.
- 2) Remove the screw, and remove the right door rear cabinet.



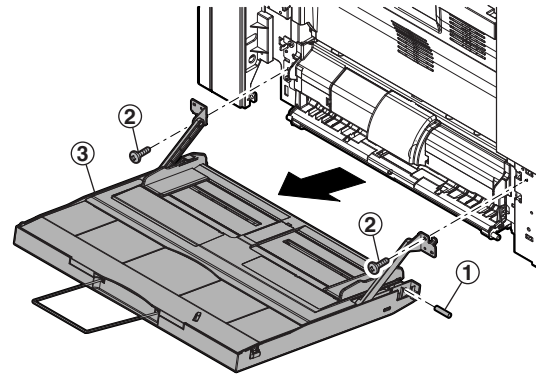
- 3) Remove the screw, and remove the right door front cabinet lower.



- 4) Remove the cover. Disconnect the connector.

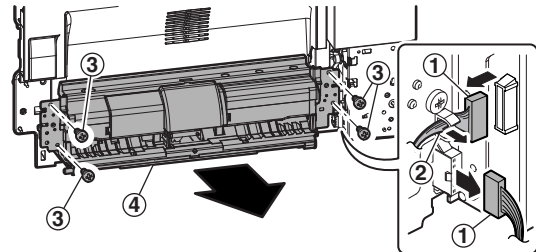


- 5) Remove the shaft. Remove the screw, and remove the manual paper feed tray.



### (2) Manual paper feed unit

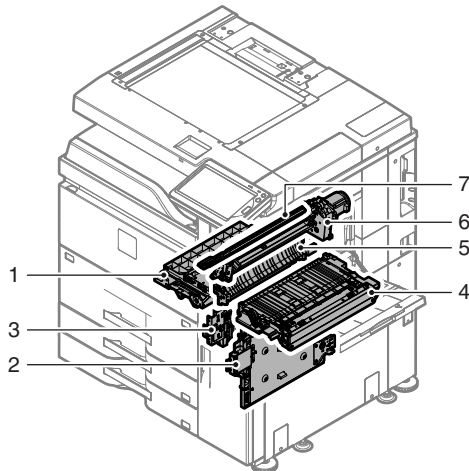
- 1) Remove the manual paper feed unit.
- 2) Disconnect the connector. Remove the screw, and remove the manual paper feed unit.





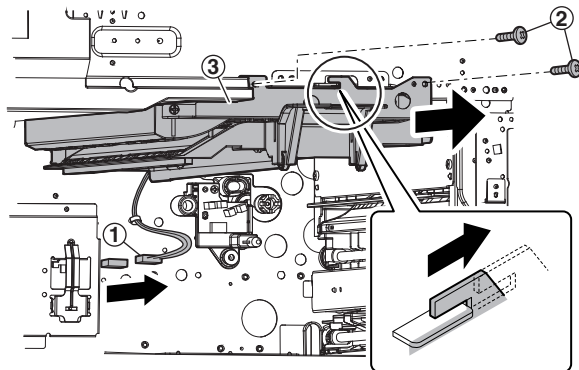
## G. Paper transport section

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



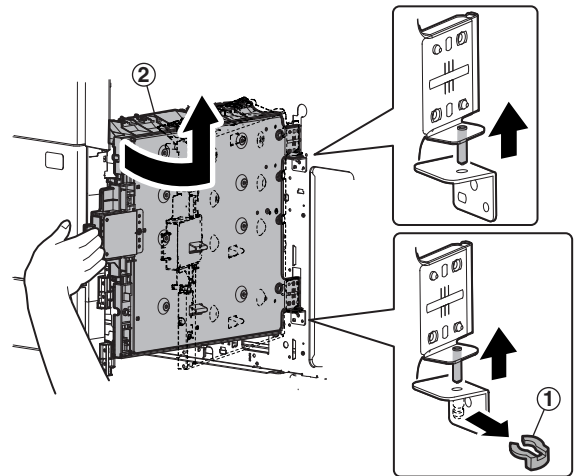
### (1) Interface unit

- 1) Remove the tandem paper feed tray.
- 2) Remove the front cover.
- 3) Disconnect the connector. Remove the screw, and remove the interface unit.



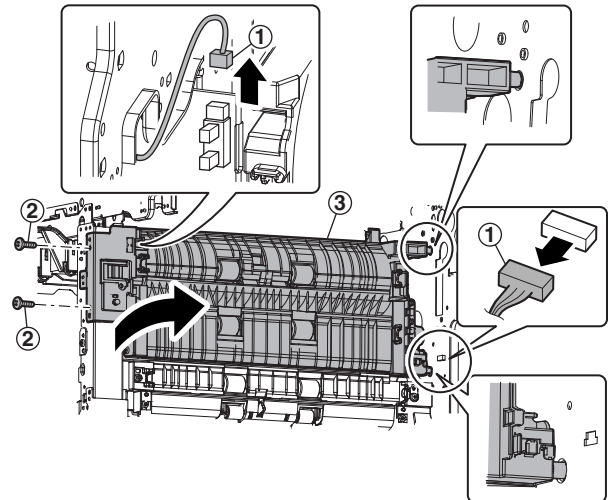
### (2) Right vertical transport unit

- 1) Remove the waste toner bottle.
- 2) Remove the resin E-ring, and remove the right vertical transport unit.



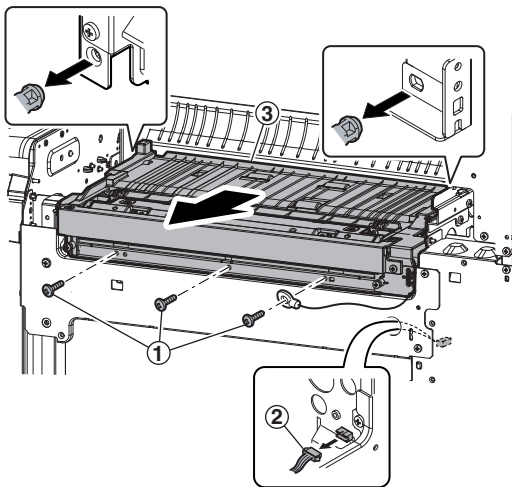
### (3) Vertical transport unit

- 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.



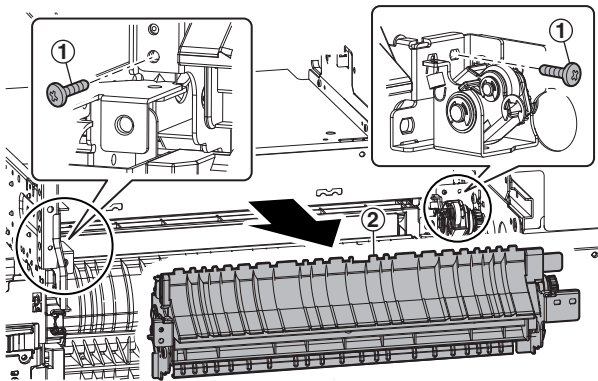
#### (4) LCC transport unit

- 1) Remove the right lower door and the right cabinet lower.
- 2) Remove the screw and the connector, and remove the LCC transport unit.



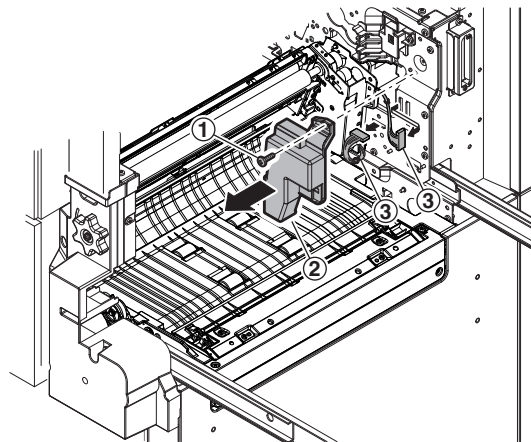
#### (5) PS lower unit

- 1) Remove the LCC transport unit.
- 2) Remove the PS unit.
- 3) Remove the screw, and remove the PS lower unit.

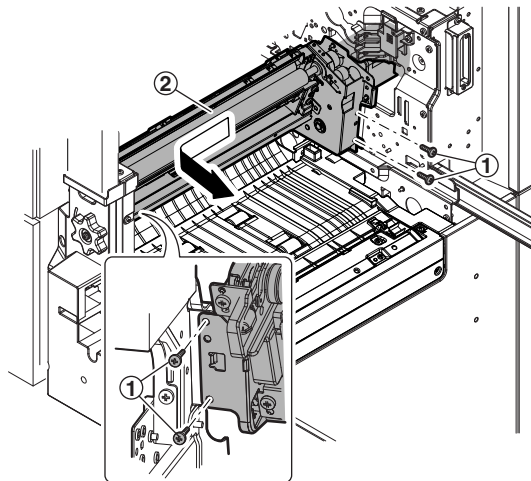


#### (6) PS unit

- 1) Remove the paper dust cleaner unit.
- 2) Open the right door unit.
- 3) Remove the screw, and remove the cover. Disconnect the connector.

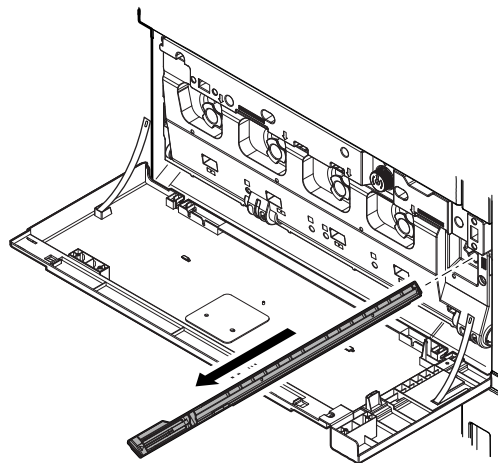


- 4) Remove the screw, and slide the PS unit to the front side and remove it.



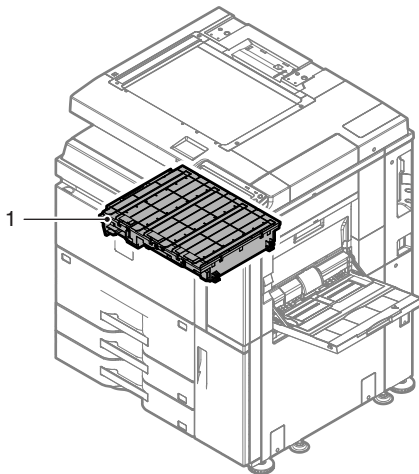
#### (7) Paper dust cleaner unit

- 1) Open the front cover.
- 2) Pull out and remove the paper dust removing unit.



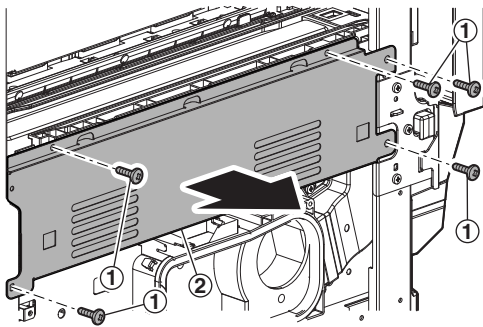
## H. LSU section

No.	Name
1	LSU

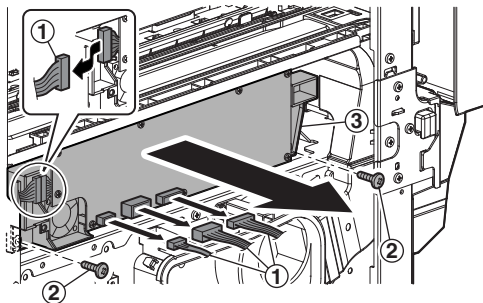


### (1) LSU

- 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.



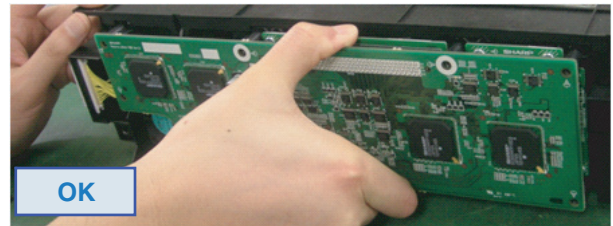
### Note for disassembling the LSUcnt PWB

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.

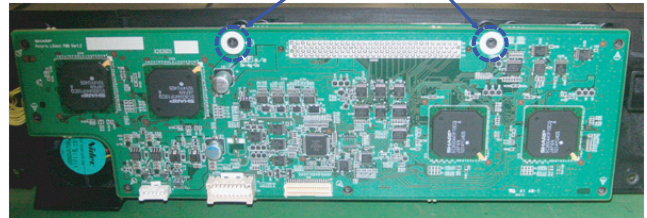


Be sure to hold the upper and lower edges of the LSUcnt PWB when disassembling.



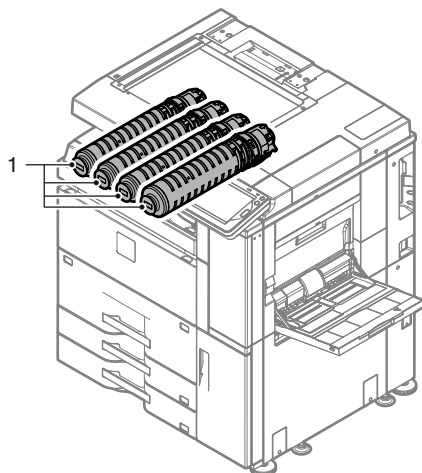
### Note for assembling the LSUcnt PWB

When connecting in board-to-board, press these points to engage.



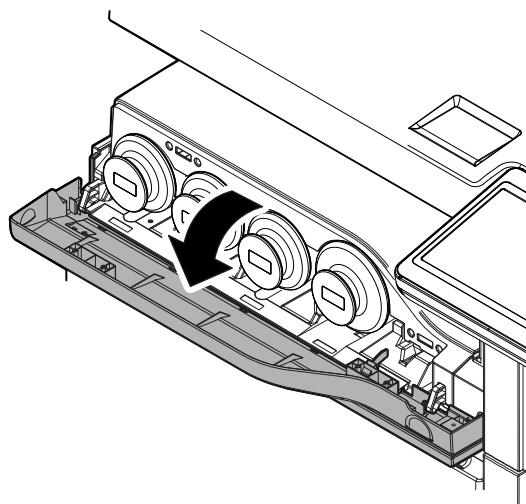
## I. Toner supply section

No.	Name
1	Toner cartridge



### (1) Toner cartridge

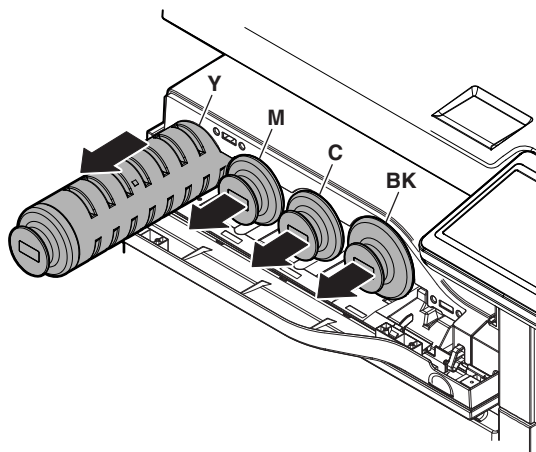
- 1) Open the cover.



- 2) Pull out and remove the toner cartridge.

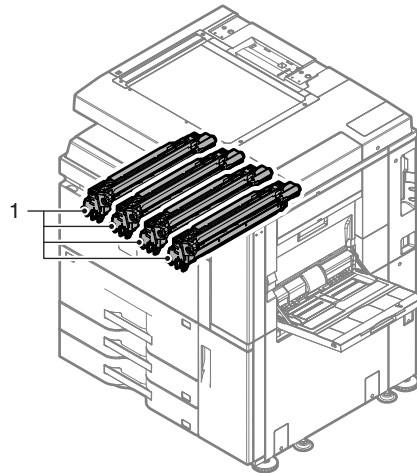
**CAUTION:** When assembling, do not push abruptly. Insert slowly and horizontally with your hand on it until it is inserted to the bottom.

**CAUTION:** Do not install a toner cartridge of a different color. Be sure to install a toner cartridge of the same color.



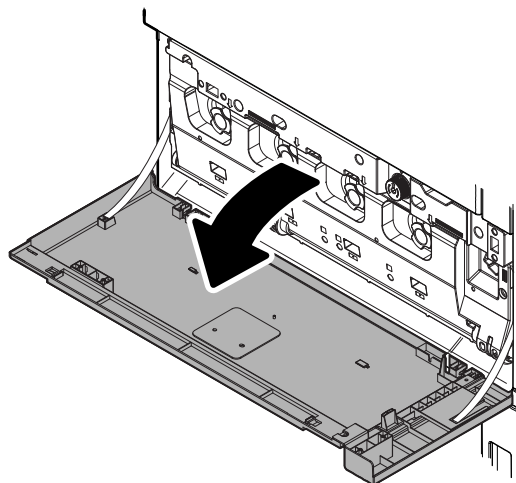
## J. Developing section

No.	Name
1	Development unit

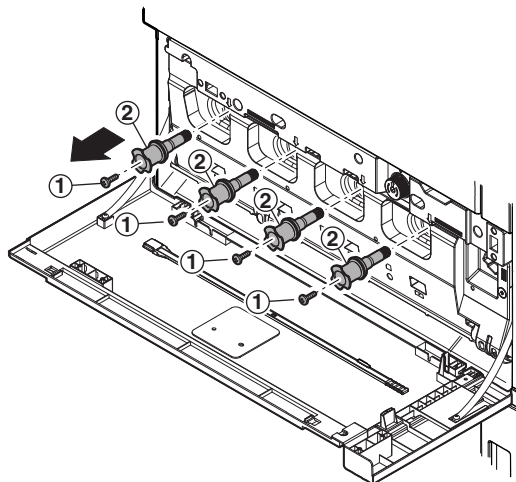


### (1) Development unit

- 1) Open the front cover.



- 2) Remove the screw, and remove the positioning shaft.

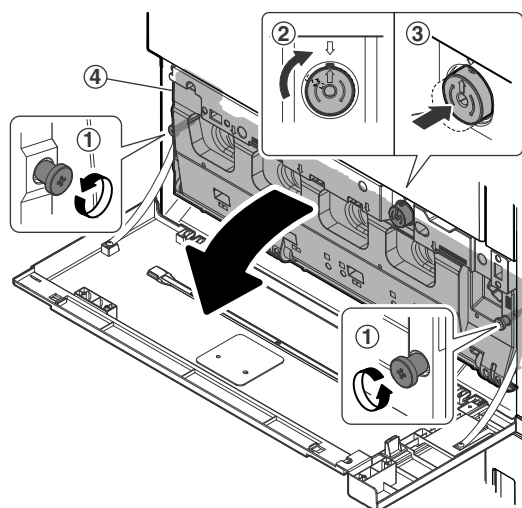




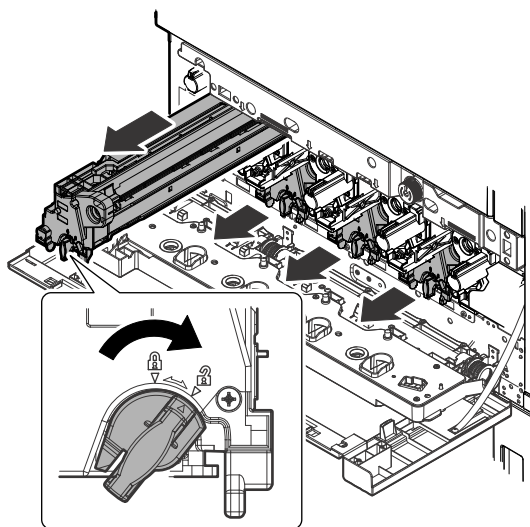
- 3) Remove the screw of the positioning unit. Check to confirm that the arrow marks of the positioning release button are aligned together, and push the positioning release button to open the positioning unit.

**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.

Un Locked

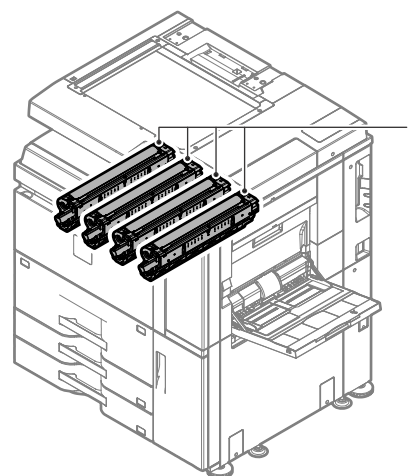


Locked



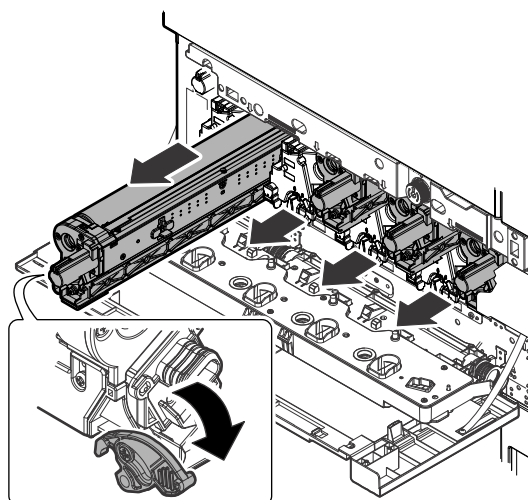
## K. OPC drum section

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.



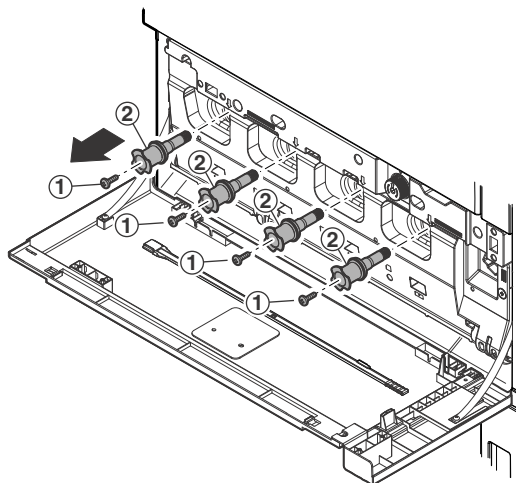
### Note for installing the OPC drum unit

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.



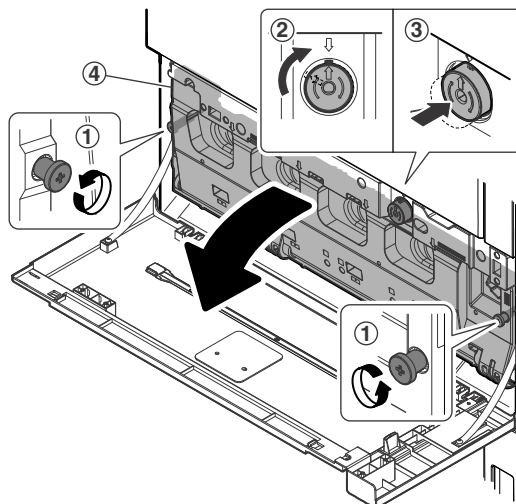
- 2) Remove the screw, and remove the positioning shaft.



- 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.

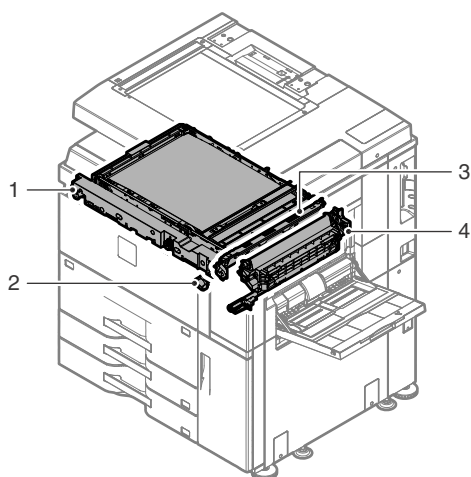
CAUTION: When the power is turned OFF normally, the arrow marks of the positioning release button are aligned. If, however, the power is abruptly interrupted such as pulling the power cord during operation, the arrow marks may not be aligned. In such a case, turn the positioning release button clockwise 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.



## L. Transfer section

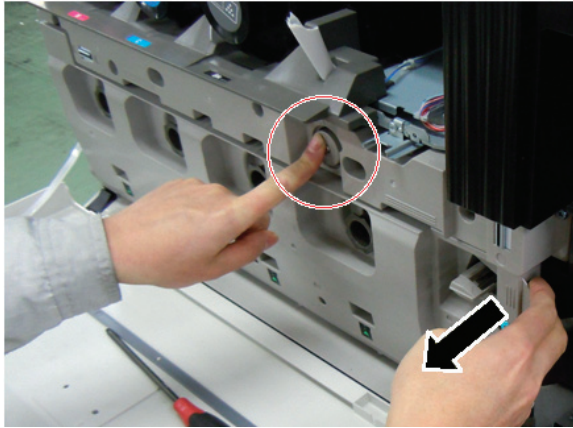
No.	Name
1	Primary transfer unit
2	PTC unit
3	Registration sensor unit
4	Secondary transfer unit



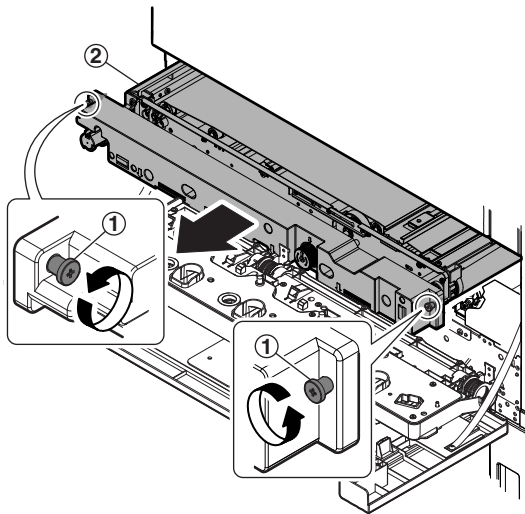
### (1) Primary transfer unit

- 1) Open the front cover.

CAUTION: Press the positioning release button securely before opening the positioning unit.

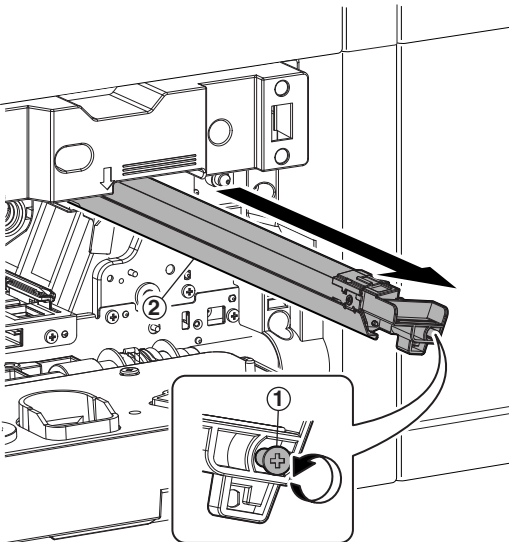


- 4) Remove the screw, and pull out the primary transfer unit and remove it.



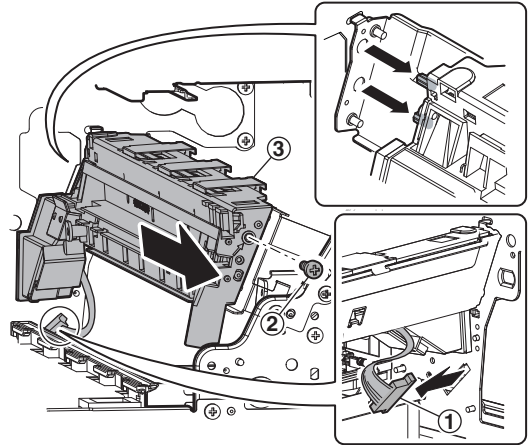
## (2) PTC unit

- 1) Open the positioning unit.
- 2) Remove the screw, and pull out the PTC unit.



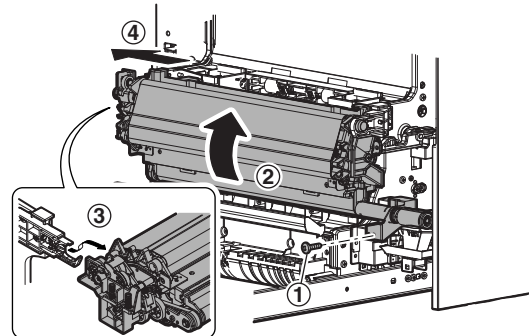
## (3) Registration sensor unit

- 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.

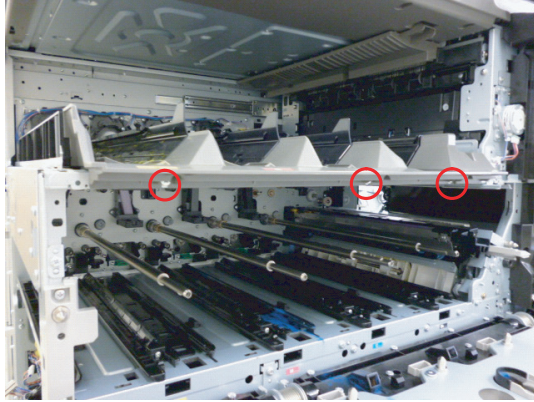




## M. Tone hopper section

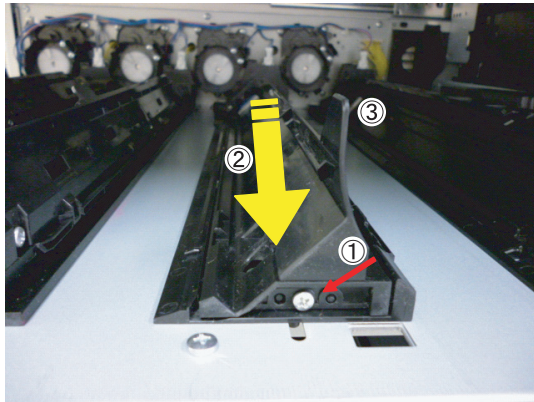
No.	Name
1	Tone hopper unit

- 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.

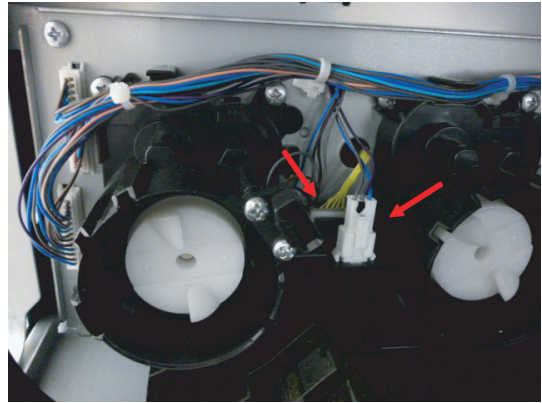


CAUTION: When attaching the cover, insert the pawls (4 positions) on the left side of the cover securely.



### (2) Hopper unit

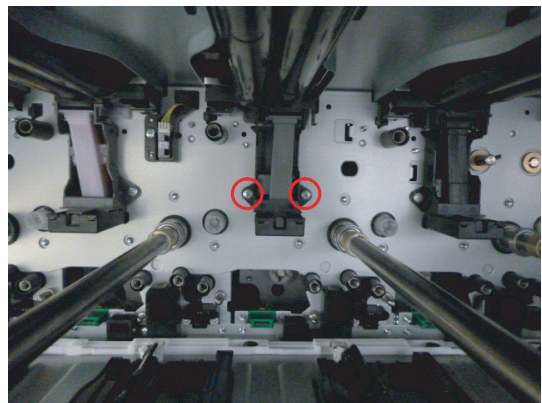
- 1) Disconnect the connector (2 positions).



- 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.



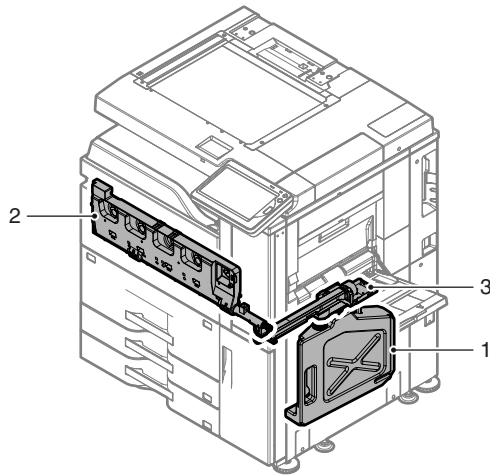
- 3) Pull the unit to the front side, lift it upward, and remove the unit.
- 4) When a new unit is installed, execute HP\_K - Y of SIM24-5 to clear the remaining quantity counter.
- 5) The hopper motor and the remaining quantity sensor can be checked with SIM10-1 and 10-2.

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

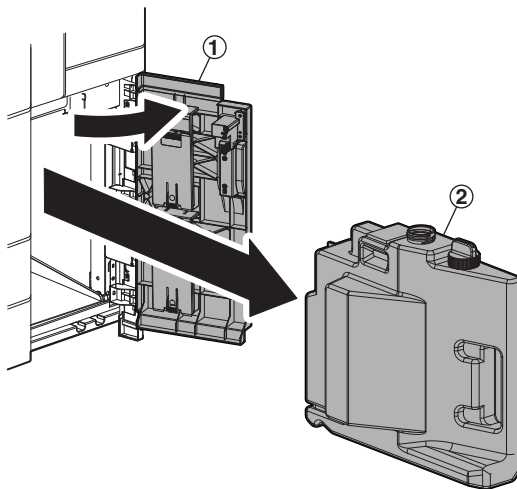
No.	Name
1	Waste toner bottle
2	Positioning unit (Waste toner collection)
3	Waste toner transport unit



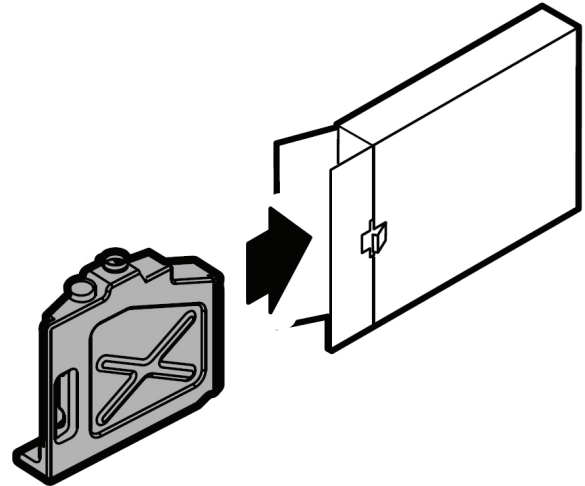
### (1) Waste toner bottle

- 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.

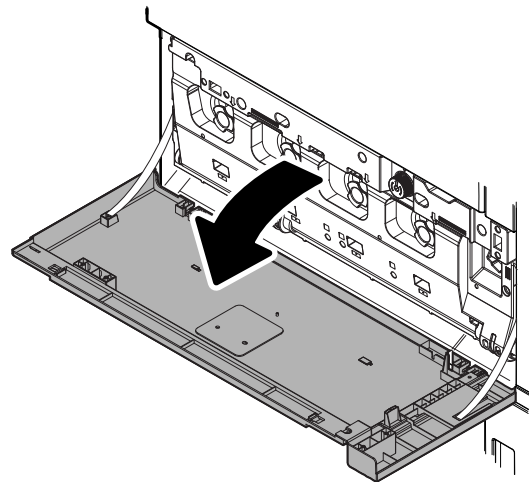


CAUTION: Since the removed waste toner bottle is dirty, attach the bottle cap to it and put in the package of the spare waste toner bottle.

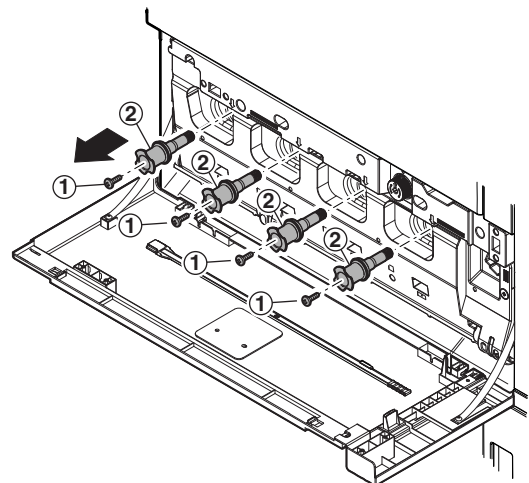


### (2) Positioning unit (Waste toner collection)

- 1) Open the front cover.



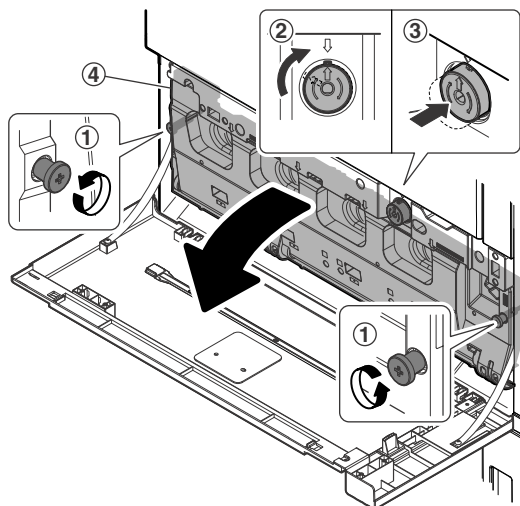
- 2) Remove the screw, and remove the positioning shaft.



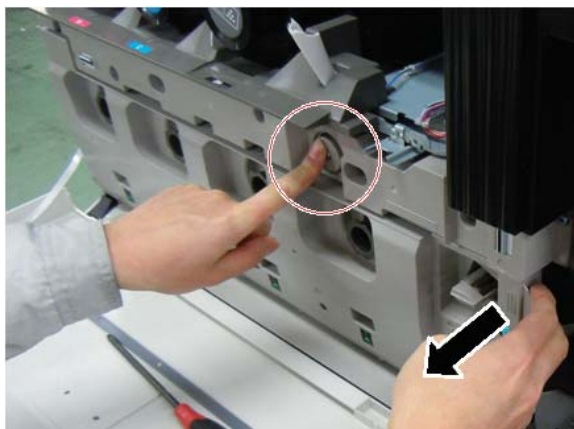
- 3) Remove the screw of the positioning unit. Check to confirm that the arrow marks of the positioning release button are aligned together, and push the positioning release button to open the positioning unit.

**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.

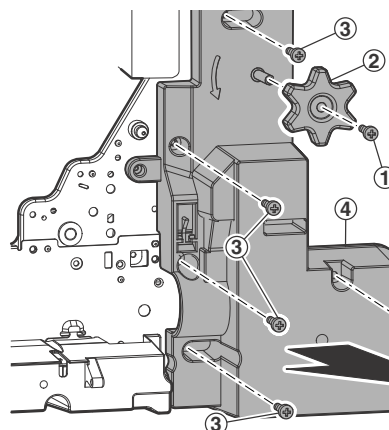
If the operation is executed without aligning the arrow marks of the positioning release button, the primary transfer belt may be damaged.



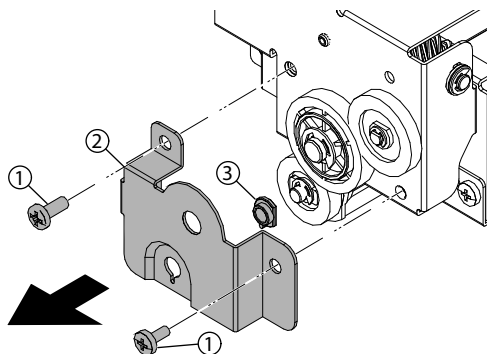
**CAUTION:** Press the positioning release button securely before opening the positioning unit.



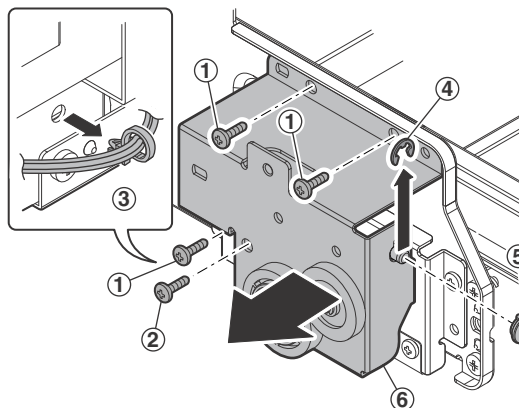
- 4) Remove the front cover and the left cabinet.
- 5) Remove the screw, and remove the cover.



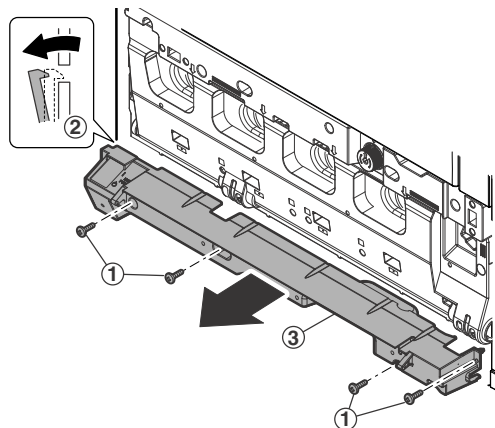
- 6) Remove the screws, the plate and the bearing.



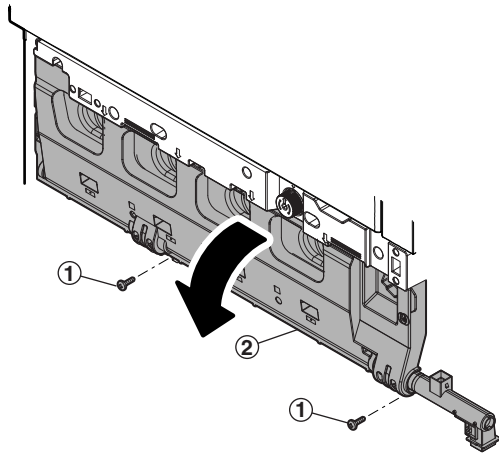
- 7) Remove the screw and the snap band and the E-ring and the bearing, and remove the gear cover.



- 8) Remove the screw, and remove the cover.

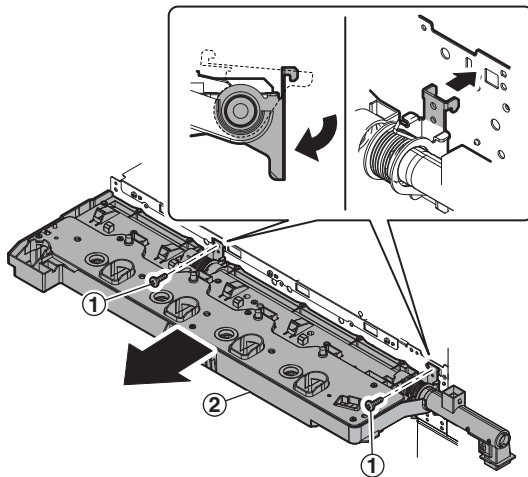


- 8) Close the positioning unit. Remove the screw, and open the positioning unit again.



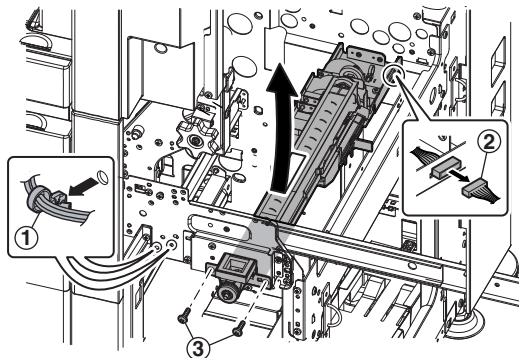
- 9) Remove the screw, and remove the positioning unit.

**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.



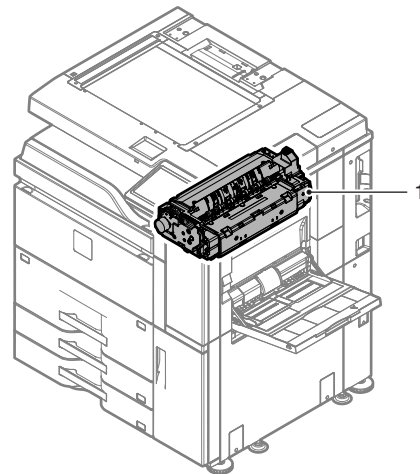
### (3) Waste toner transport unit

- 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.



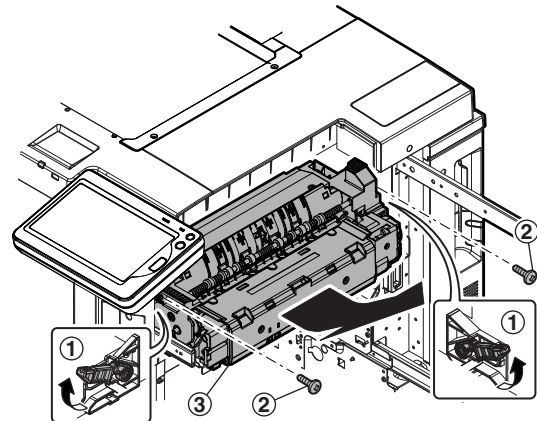
## O. Fusing section

No.	Name
1	Fusing unit



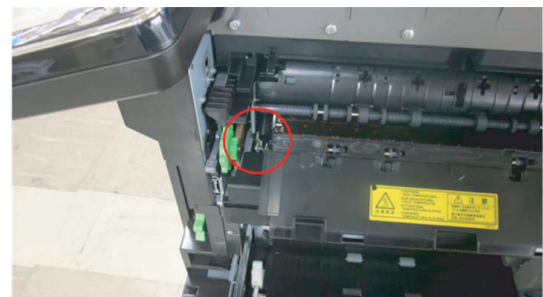
### (1) Fusing unit

- 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.

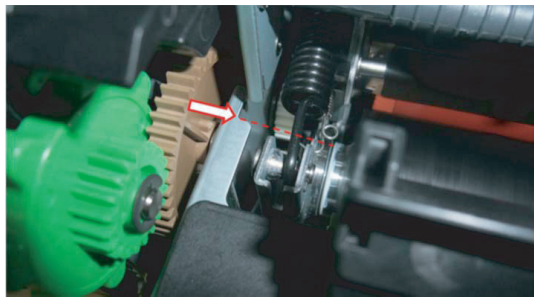


Check to confirm that the fusing pressure is released.

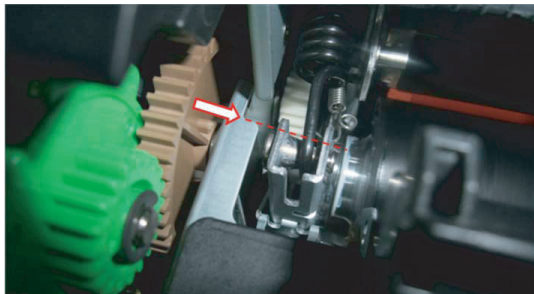
If the pressure is not released, the fusing unit cannot be removed.



The pressure lever is in front of the dotted line section.  
(No pressure is applied.)

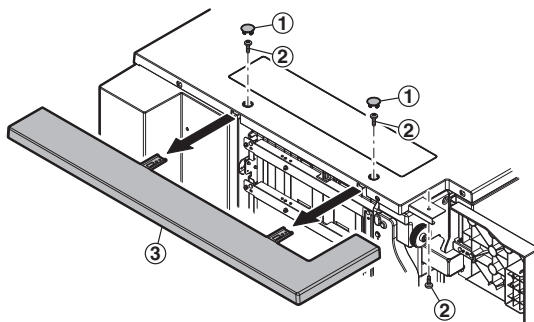


The pressure lever is over the dotted line section.  
(A pressure is applied.)



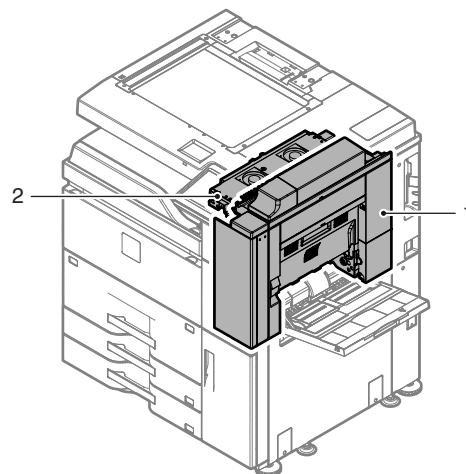
**[For MX-RB14, LC13 installed]**

- 1) Remove the cap from the top screw.
- 2) Remove the screw (x3).
- 3) Remove the left top cover.



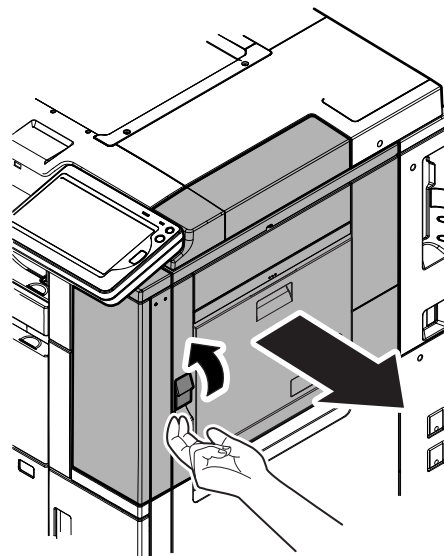
**P. Paper exit/Reverse section**

No.	Name
1	Right door unit
2	Paper exit unit

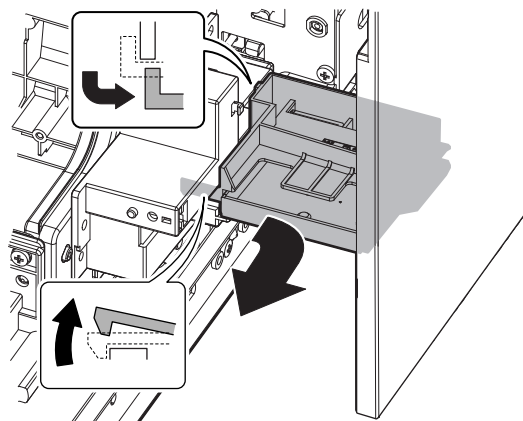


**(1) Right door unit**

- 1) Release the lock. Open the right door unit.

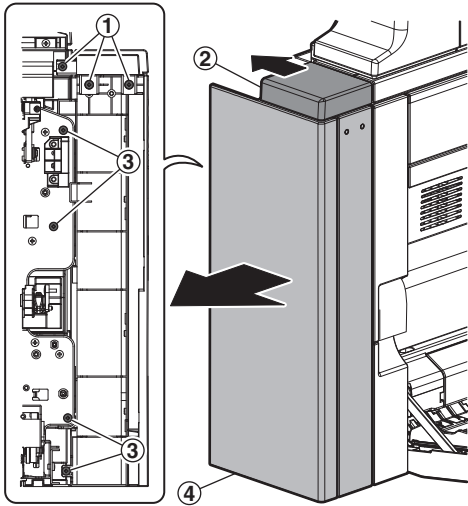


- 2) Remove the waste toner tray.

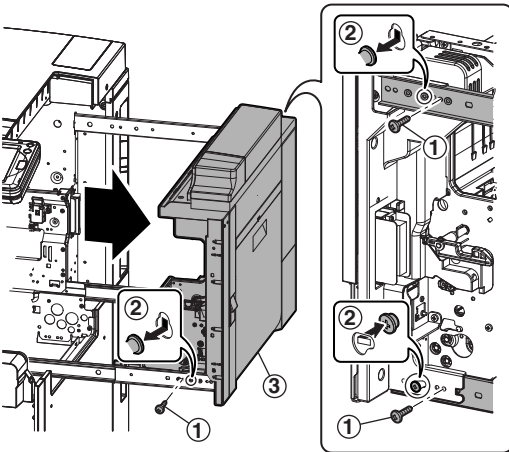




- 3) Remove the screw, and remove the right door upper cabinet and the right door front cabinet.

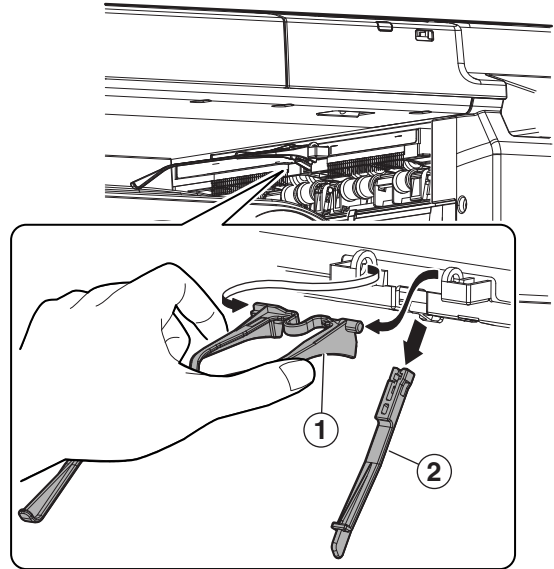


- 4) Remove the screw. Remove the rail from step screw, and remove the right door unit.

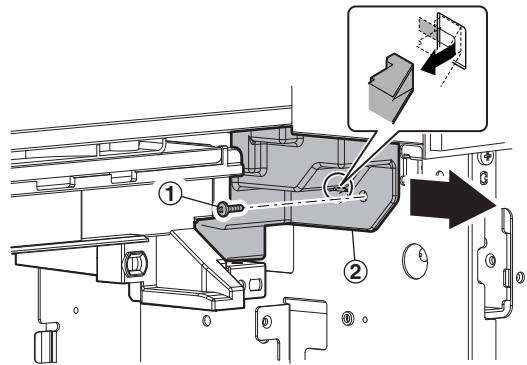


## (2) Paper exit unit

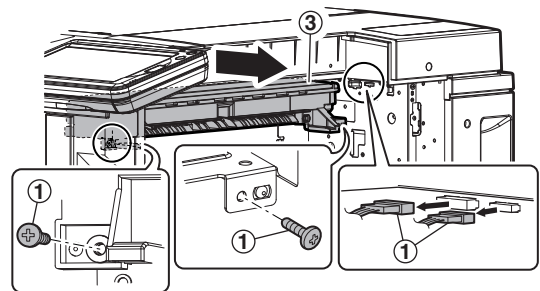
- 1) Remove the fusing unit.
- 2) Remove the paper holding arm and the actuator.



- 3) Remove the screw, and remove the cover.

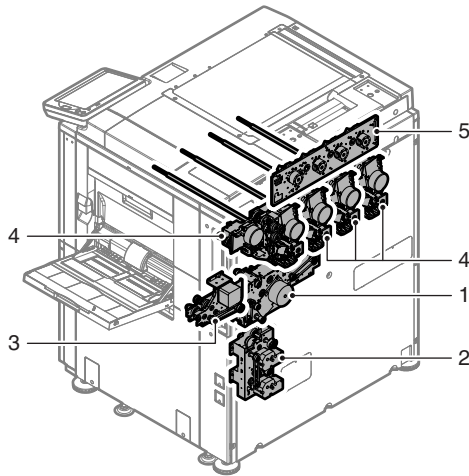


- 4) Disconnect the connector. Remove the screw, and remove the paper exit unit.



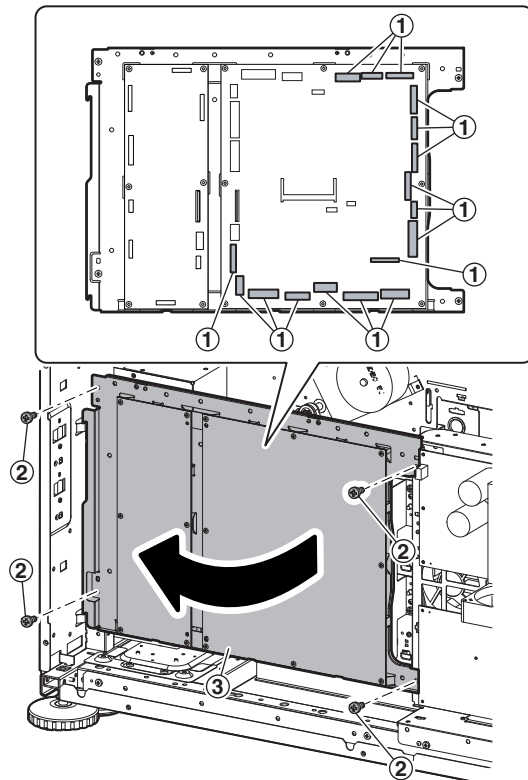
## Q. Drive section

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

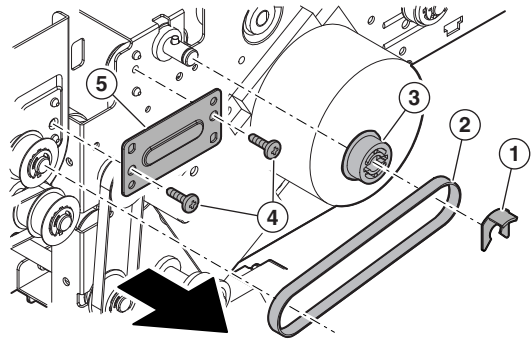


### (1) Tandem paper feed drive unit

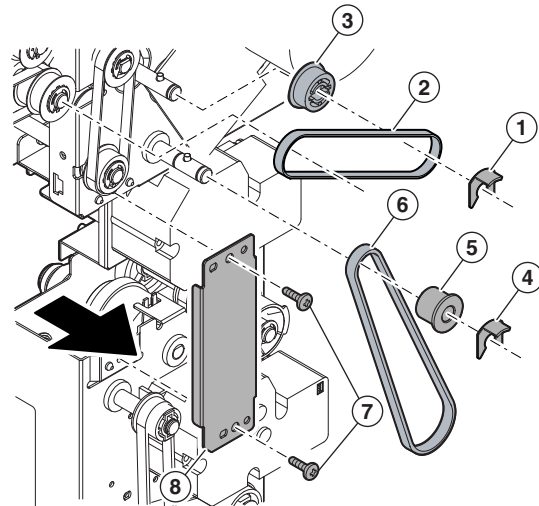
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Disconnect the connector, and remove the screw and open the PCU PWB mounting plate.



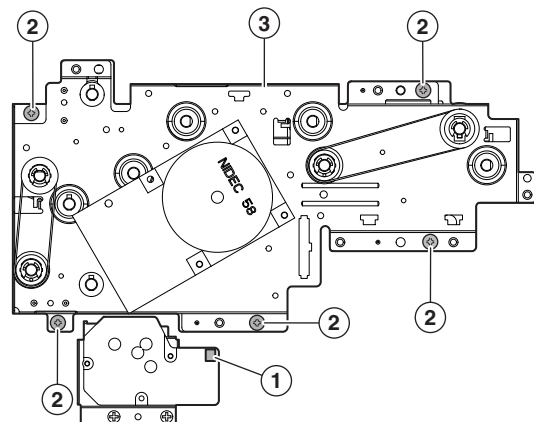
- 3) Remove the resin ring, and remove the belt, and remove the pulley. Remove the screw, and remove the plate.



- 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.

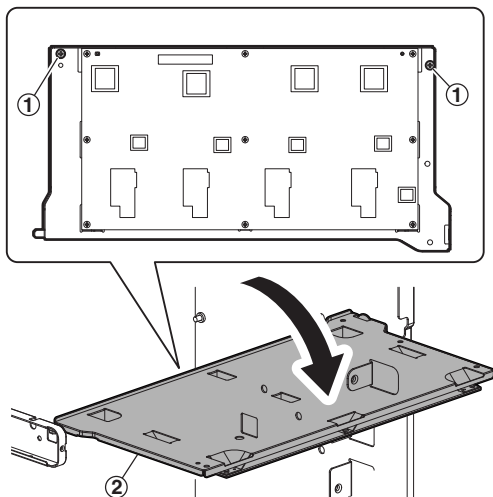


- 5) Disconnect the connector. Remove the screw, and remove the tandem paper feed drive unit.

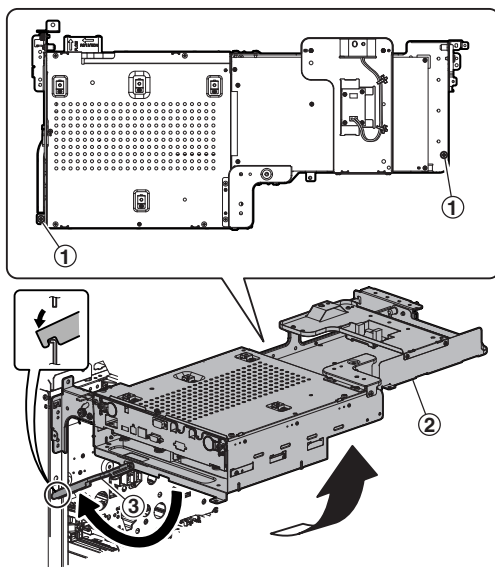


## (2) Paper feed drive unit

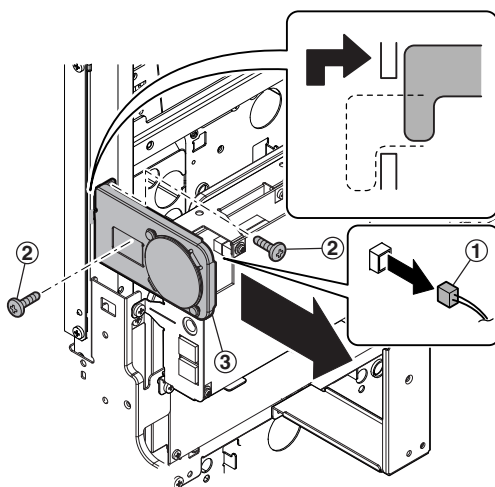
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



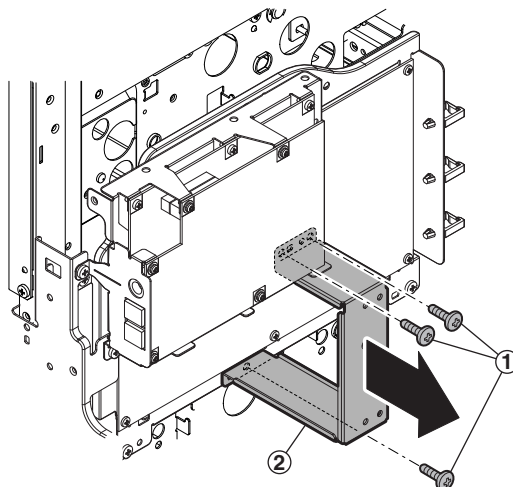
- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



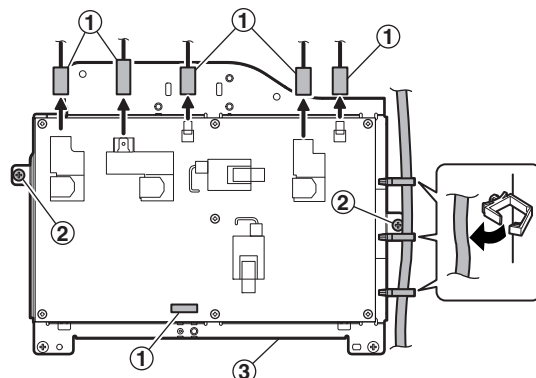
- 4) Disconnect the connector. Remove the screw, and remove the speaker mounting plate.



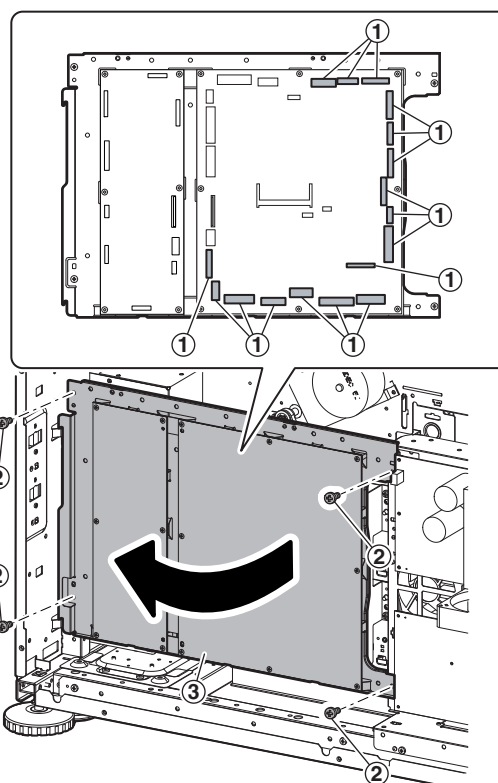
- 5) Remove the screw, and remove the angle.



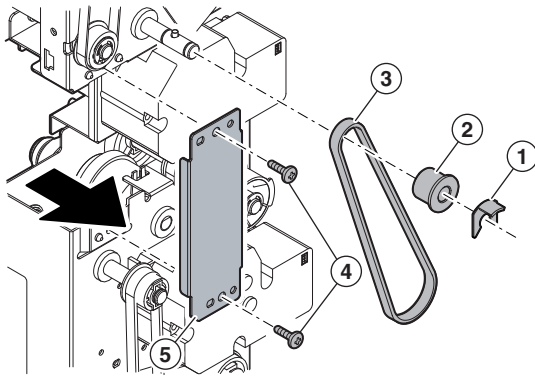
- 6) Disconnect the connector, and remove the PCU harness from saddle. Remove the screw, and remove the high voltage 2TC PWB mounting plate.



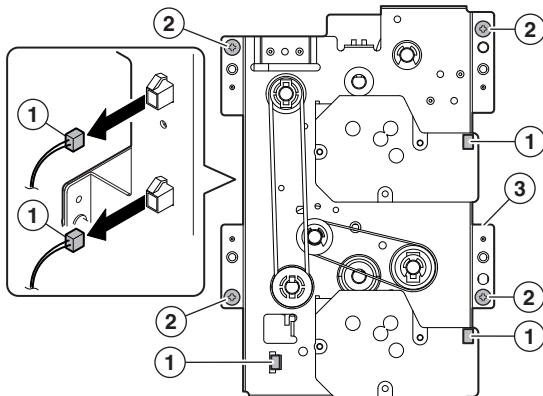
- 7) Disconnect the connector. Remove the screw, and open the PCU PWB mounting plate.



- 8) Remove the resin ring, and remove the belt, and remove the pulley. Remove the screw, and remove the plate.

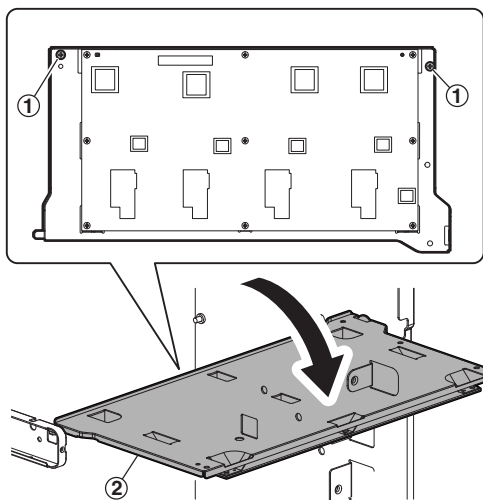


- 9) Disconnect the connector. Remove the screw, and remove the paper feed drive unit.

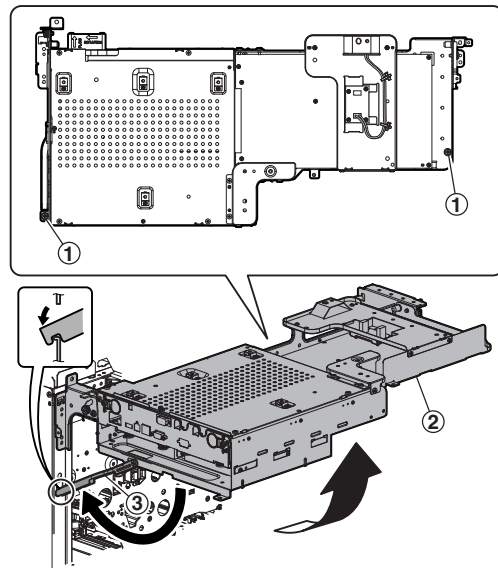


### (3) Transport drive unit

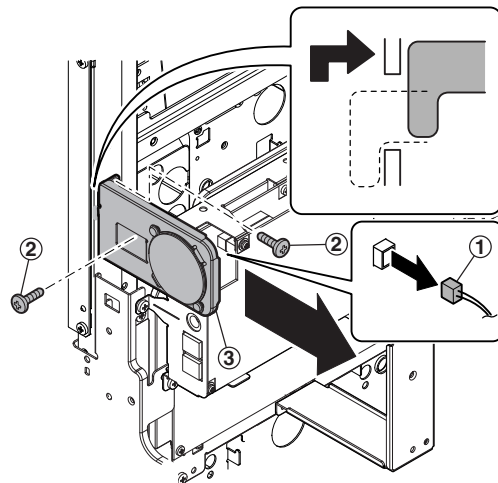
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



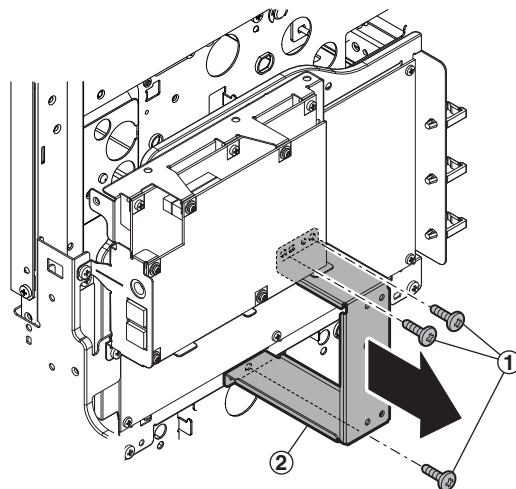
- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



- 4) Disconnect the connector. Remove the screw, and remove the speaker mounting plate.

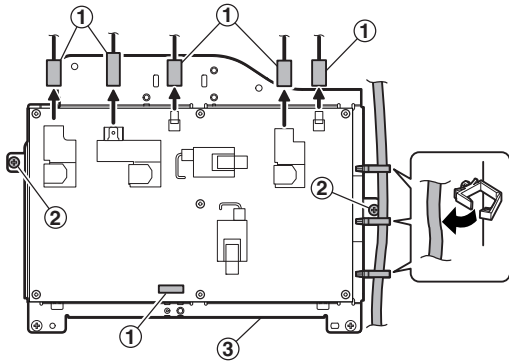


- 5) Remove the screw, and remove the angle.

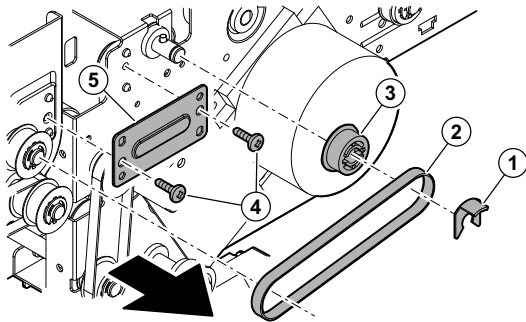




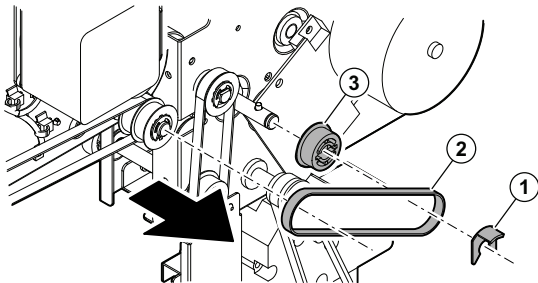
- 6) Disconnect the connector, and remove the PCU harness from saddle. Remove the screw, and remove the high voltage 2TC PWB mounting plate.



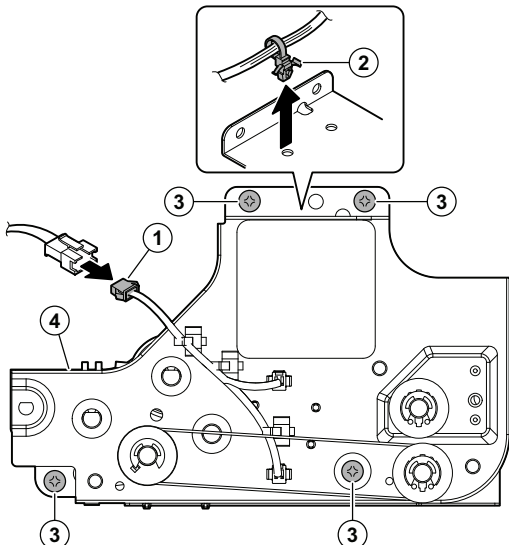
- 7) Remove the resin ring, and remove the belt, and remove the pulley. Remove the screw, and remove the plate.



- 8) Remove the resin ring, and remove the belt, and remove the pulley.

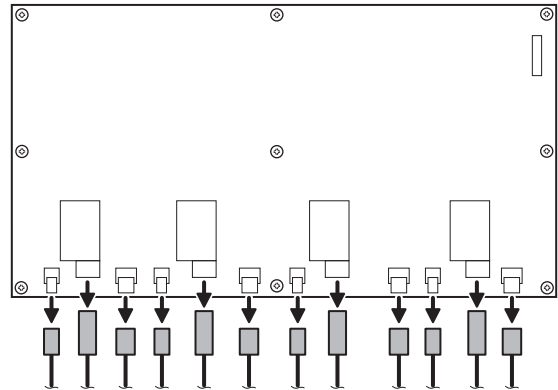


- 9) Disconnect the connector, and remove the clamp. Remove the screw, and remove the transport drive unit.

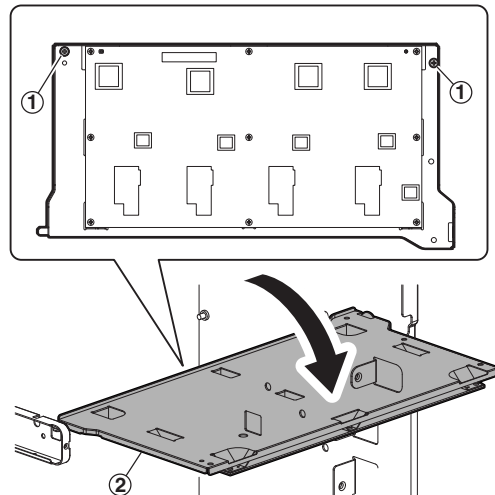


#### (4) Main drive unit (BK), Main drive unit (CL)

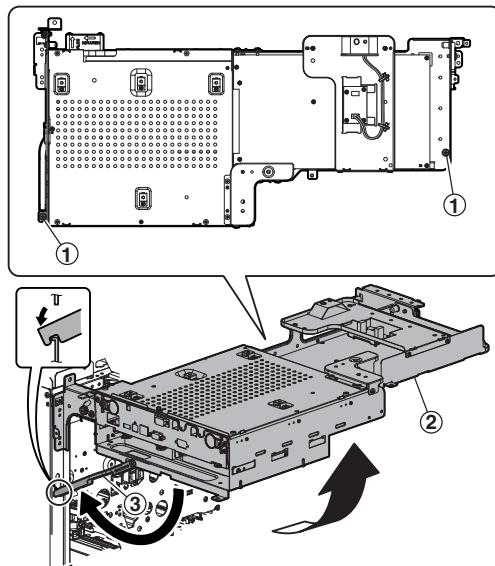
- 1) Remove the primary transfer unit.
- 2) Remove the developing unit.
- 3) Remove the process unit.
- 4) Remove the PTC unit.
- 5) Remove the upper cabinet rear cover, and the rear cabinet.
- 6) Disconnect the connector.



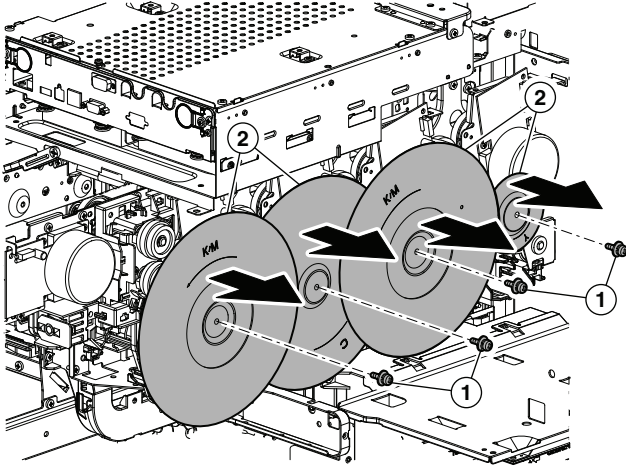
- 7) Remove the screw, and open the high voltage MC PWB mounting plate downward.



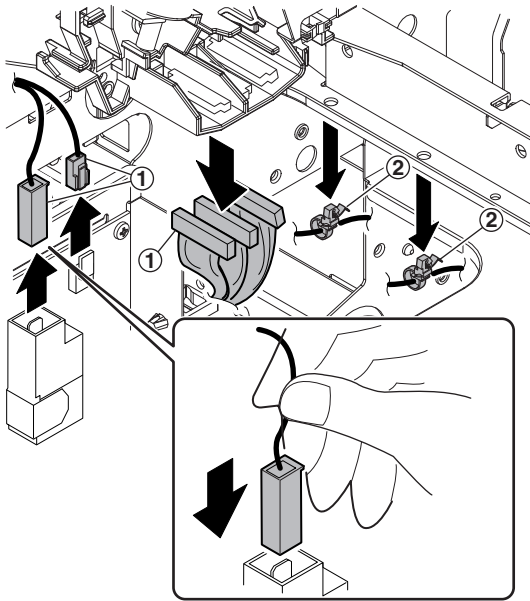
- 8) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



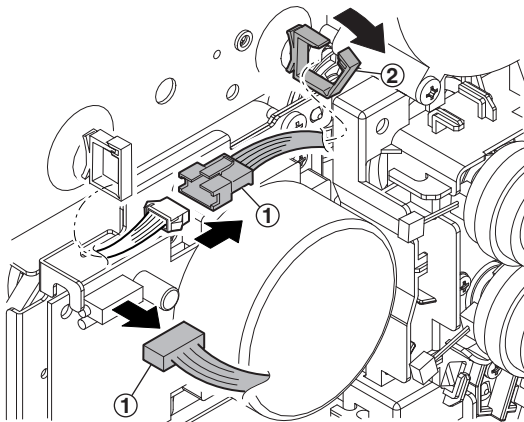
9) Remove the screw, and remove the flywheel.



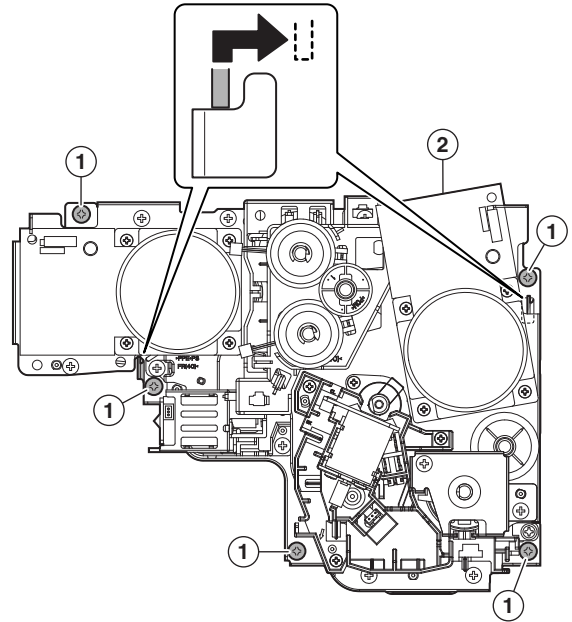
10) Disconnect the connector, and remove snap band.



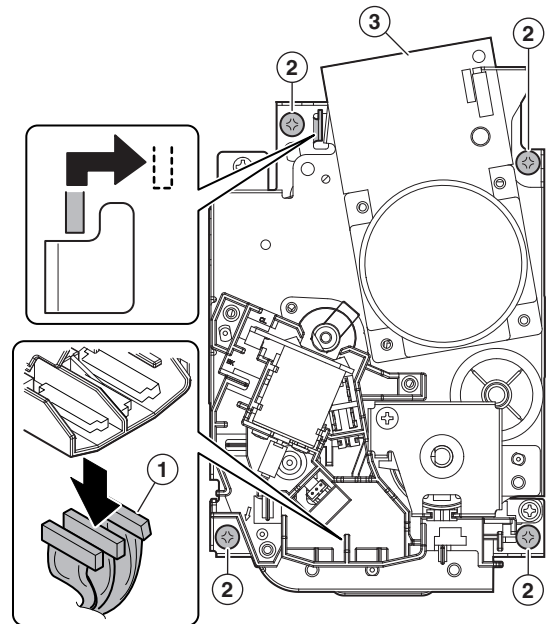
11) Disconnect the connector. Open the clamp, and set the harness free.



12) Remove the screw, and pull out the main drive unit (BK).

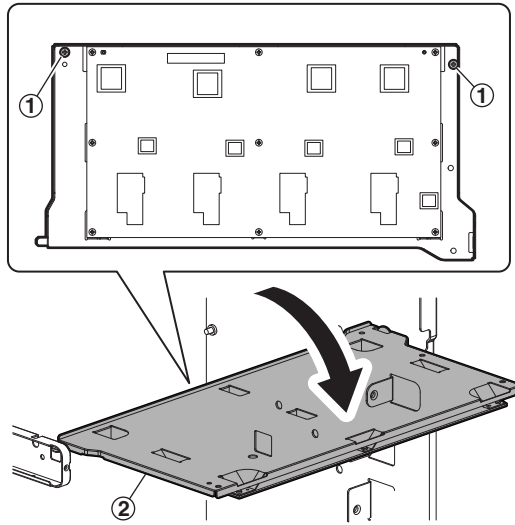


13) Disconnect the connector. Remove the screw, and pull out the main drive unit (CL).

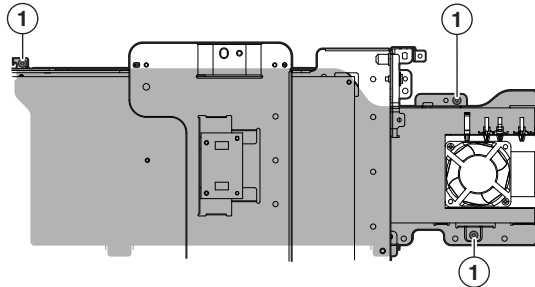


### (5) Toner transport drive unit

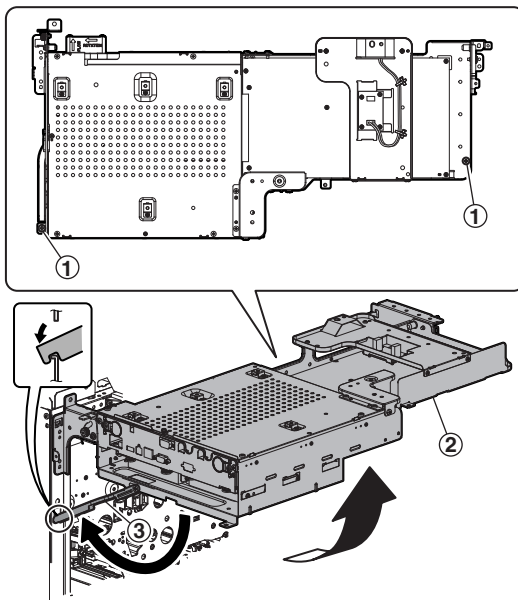
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



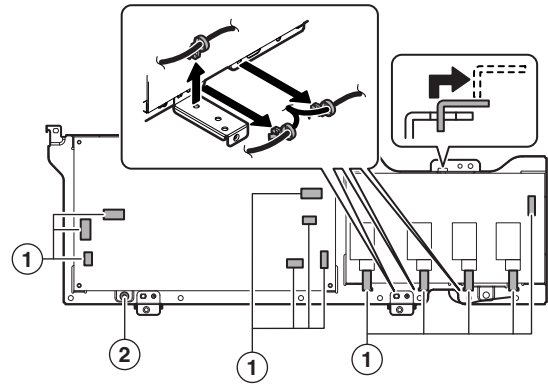
- 3) Remove the screw.



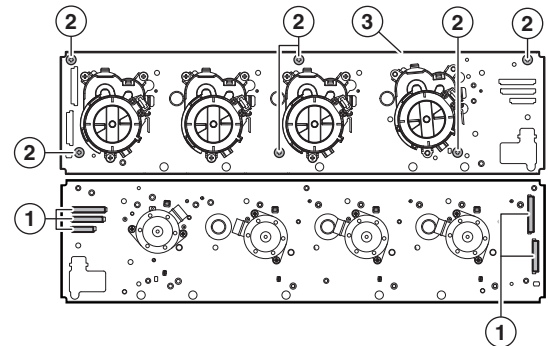
- 4) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



- 5) Disconnect the connector, and remove the clamp. Remove the screw, and remove the HL-TC1 PWB mounting plate.

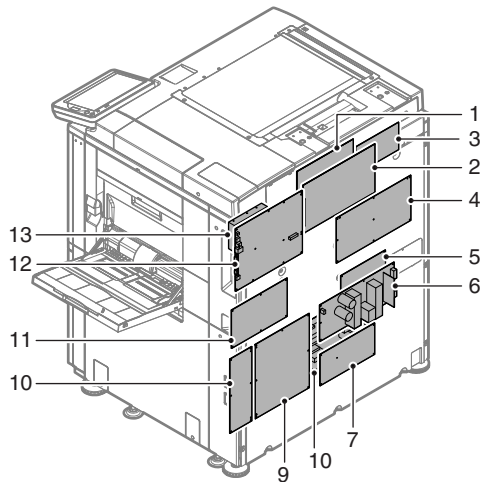


- 6) Disconnect the connector. Remove the screw, and remove the toner transport drive unit.



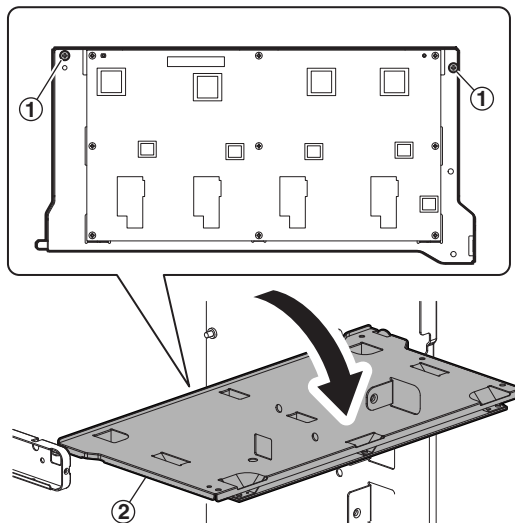
## R. PWB section

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

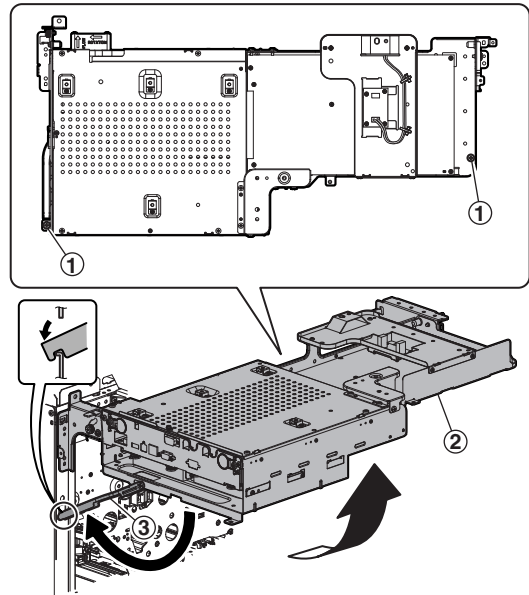


### (1) HL control PWB, High voltage 1TC PWB

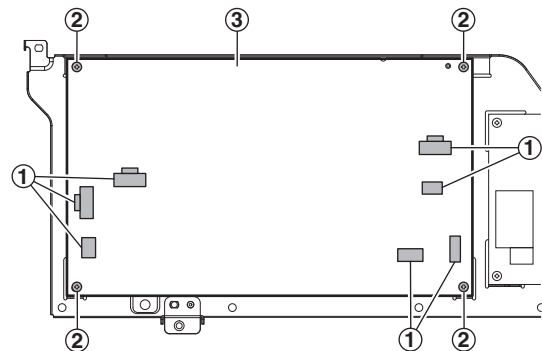
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



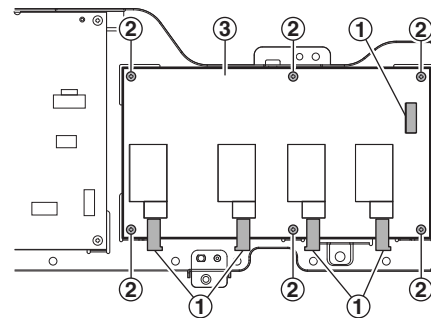
- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



- 4) Disconnect the connector. Remove the screw, and remove the HL control PWB.

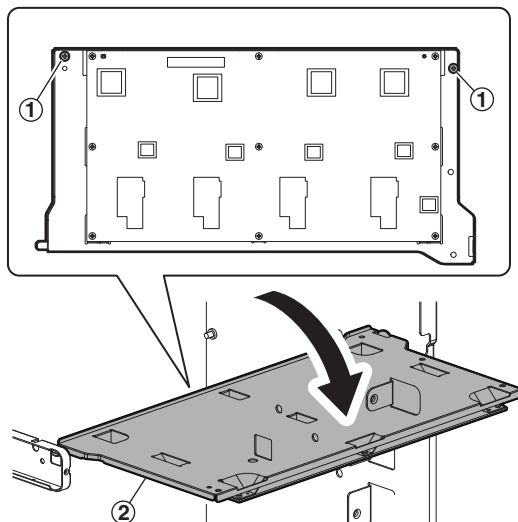


- 5) Disconnect the connector. Remove the screw, and remove the high voltage 1TC PWB.

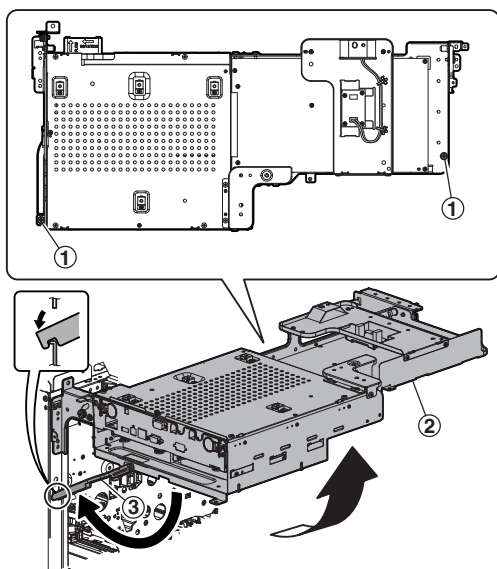


## (2) SCN Mother PWB

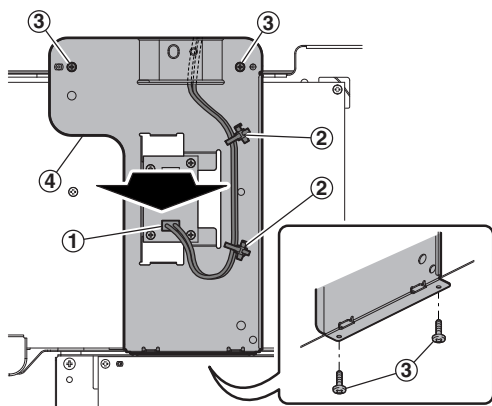
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.

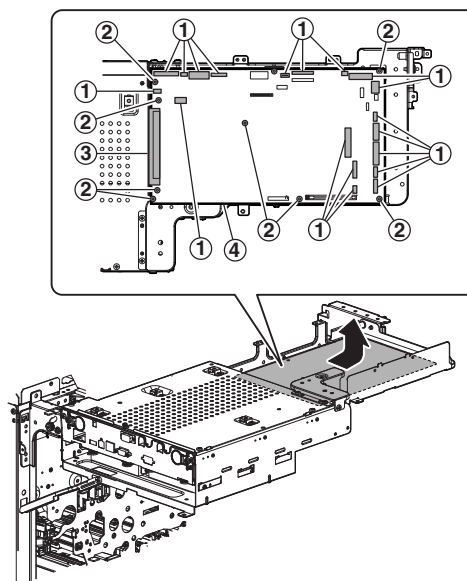


- 4) Disconnect the connector, and remove the snap band. Remove the screw, and remove the PCI support plate.



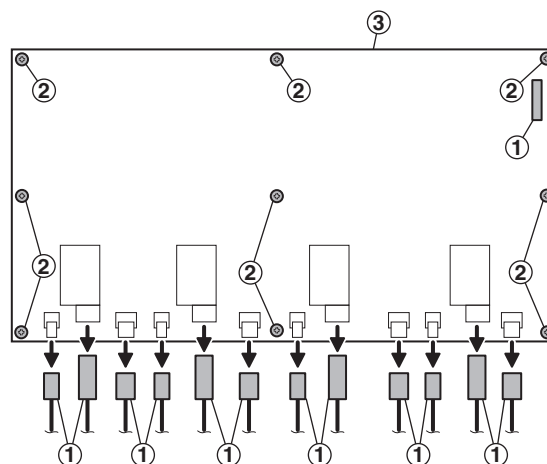
- 5) Disconnect the connector, and remove the screw. Disconnect the connector, and remove the SCN Mother PWB.

**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

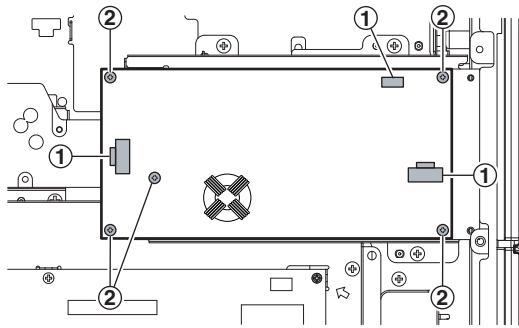
- 1) Remove the rear cabinet.
- 2) Disconnect the connector. Remove the screw, and remove the high voltage MC PWB.



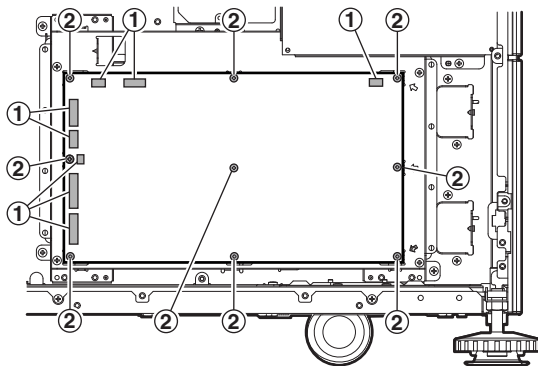




- 7) Disconnect the connector. Remove the screw, and remove the SUB AC POWER PWB.

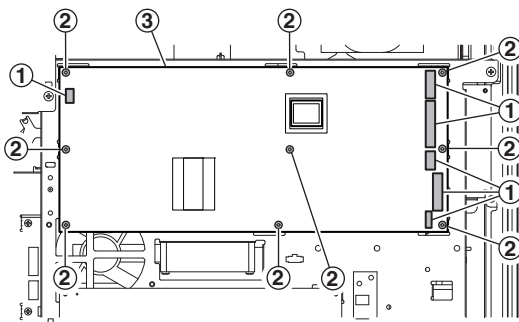


- 8) Disconnect the connector. Remove the screw, and remove the DC POWER PWB.



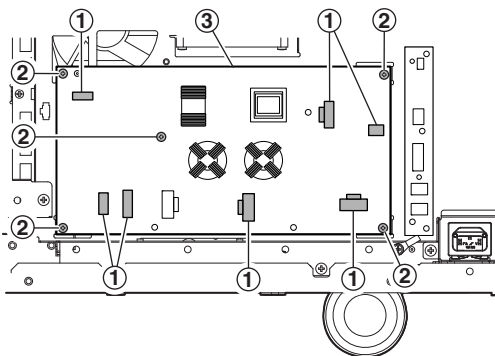
#### (5) SUB DC POWER PWB

- 1) Remove the rear cabinet.
- 2) Disconnect the connector. Remove the screw, and remove the SUB DC POWER PWB.



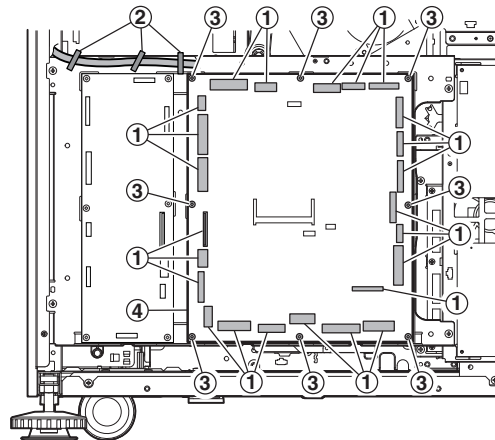
#### (6) AC POWER PWB

- 1) Remove the rear cabinet.
- 2) Disconnect the connector. Remove the screw, and remove the AC POWER PWB.



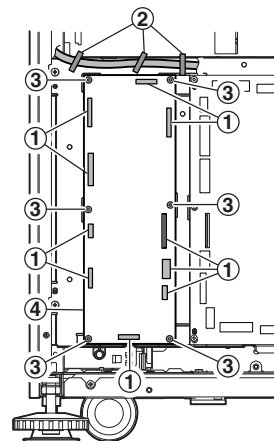
#### (7) PCU PWB

- 1) Remove the rear cabinet.
- 2) Disconnect the connector, and remove the harness from saddle. Remove the screw, and remove the PCU PWB.



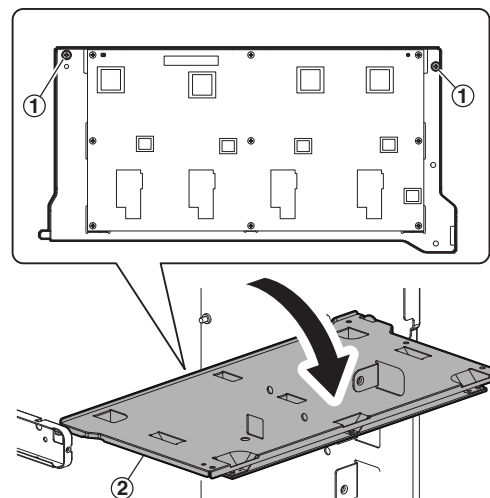
#### (8) Driver PWB

- 1) Remove the rear cabinet.
- 2) Disconnect the connector, and remove the harness from saddle. Remove the screw, and remove the driver PWB.

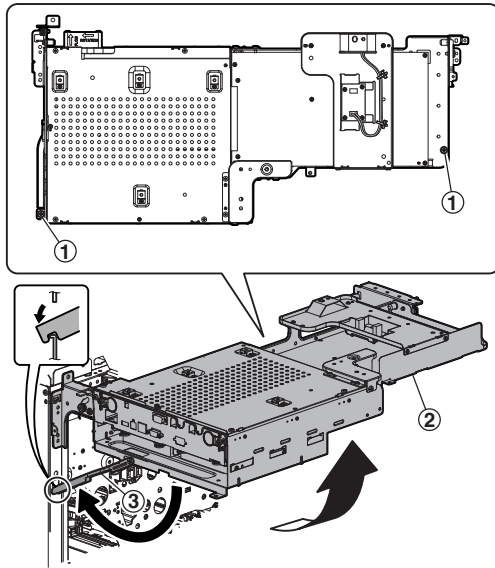


#### (9) High voltage 2TC PWB

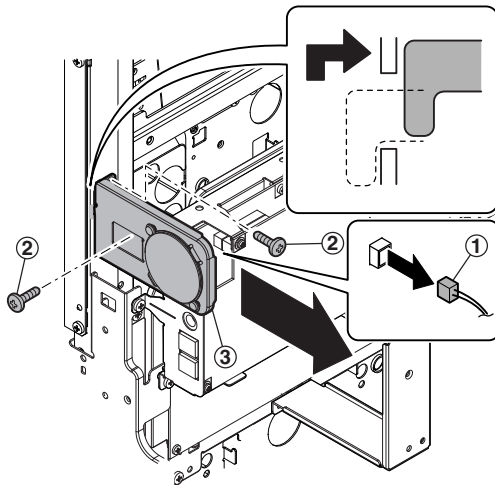
- 1) Remove the upper cabinet rear cover, and the rear cabinet.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



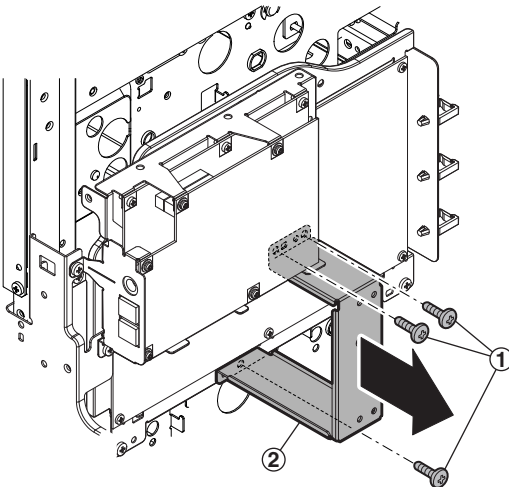
- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



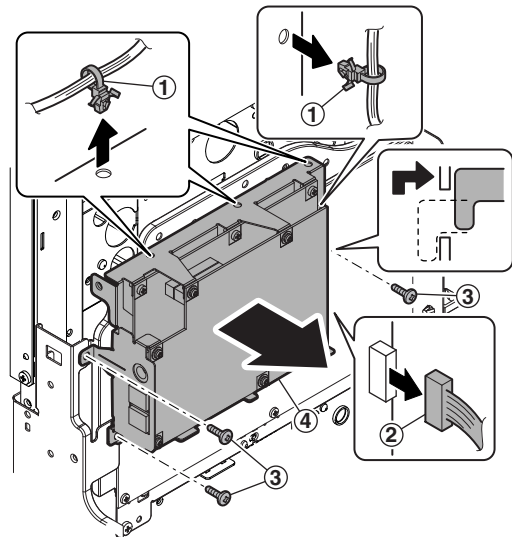
- 4) Disconnect the connector. Remove the screw, and remove the speaker mounting plate.



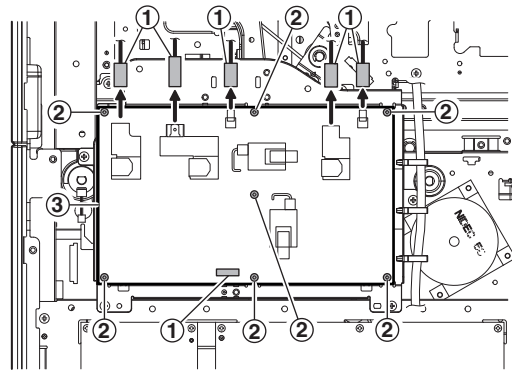
- 5) Remove the screw, and remove the angle.



- 6) Disconnect the connector, and remove the clamp. Remove the screw, and remove the FAX PWB unit.

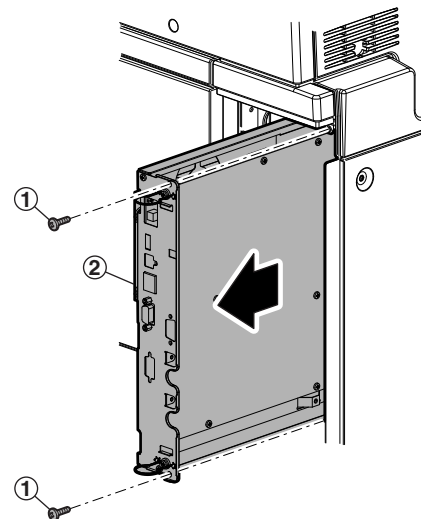


- 7) Disconnect the connector. Remove the screw, and remove the high voltage 2TC PWB.



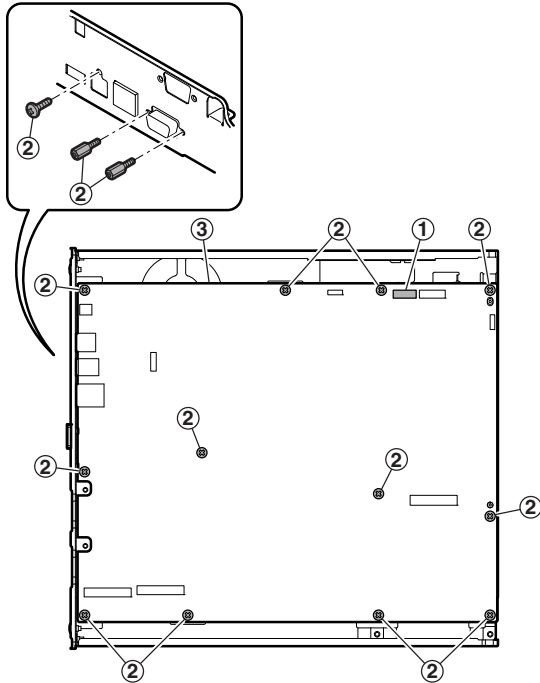
#### (10) MFP control PWB, HDD

- 1) Remove the right cabinet rear.
- 2) Remove the screw, and pull out the MFP control unit.

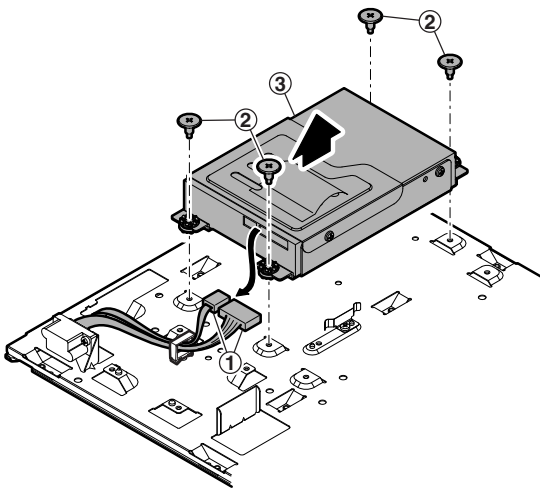




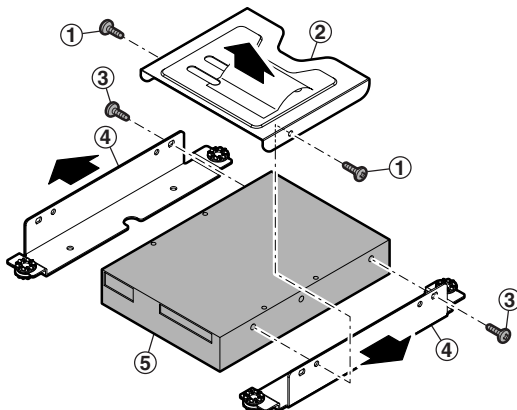
- 3) Disconnect the connector from MFP control PWB. Remove the screw, and remove the MFP control PWB.



- 4) Disconnect the connector from HDD. Remove the screw, and remove the HDD unit.



- 5) Remove the screw from HDD, and remove the angle.



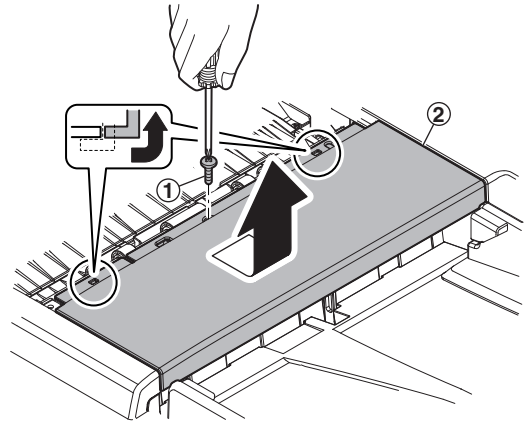
## 2. Maintenance

### A. DSPF section

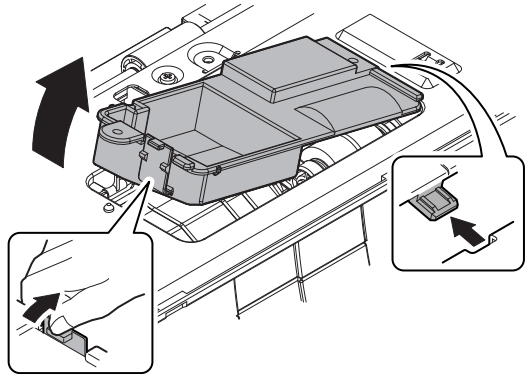
#### (1) Document feed unit

##### a. Document pickup roller, Paper feed roller

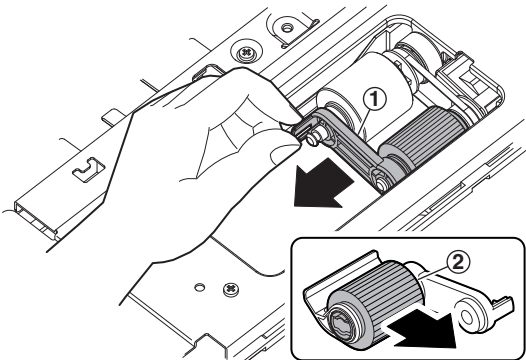
- 1) Remove the screw, and remove the paper feed cover.



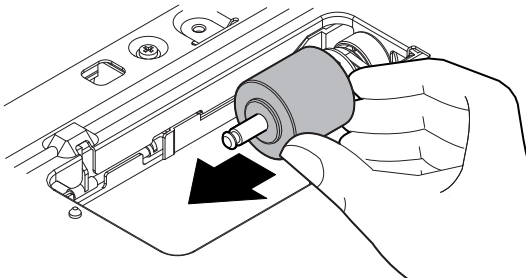
- 2) Remove the paper feed PG upper cover.



- 3) Remove the pickup roller holder. Remove the document pickup roller from the pickup roller holder.



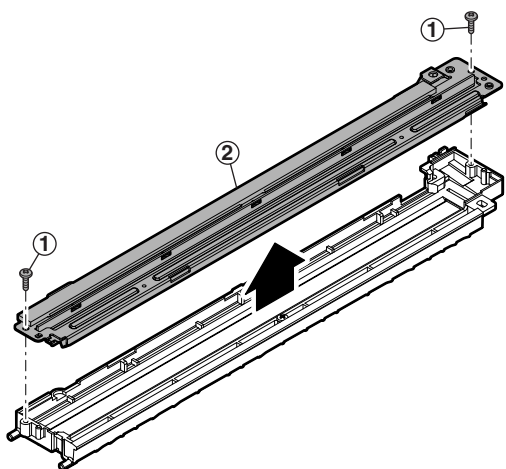
- 4) Remove the paper feed roller.



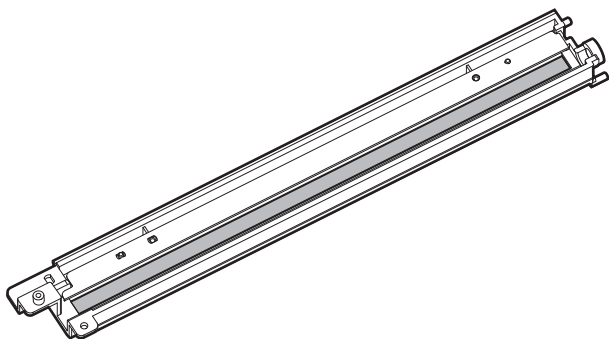
## (2) Lamp unit

### a. Second scan section scanning glass, reflector, scanner lamp

- 1) Remove the screw, and remove the lamp mounting plate.

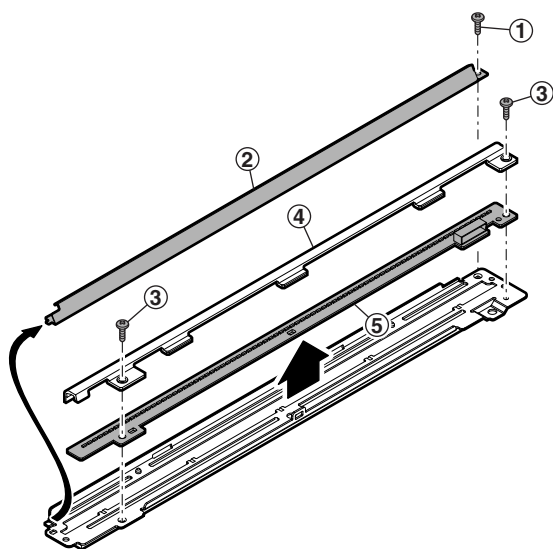


- 2) Clean the second scan section scanning glass.



- 3) Remove the screw, and remove the reflector, and the scanner lamp.

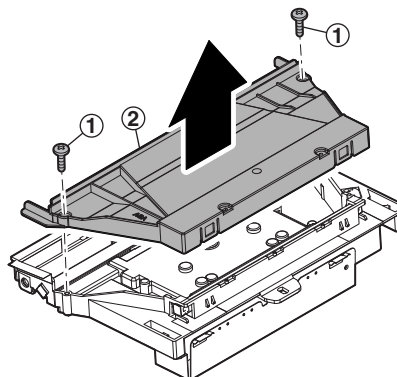
Clean the reflector and scanner lamp.



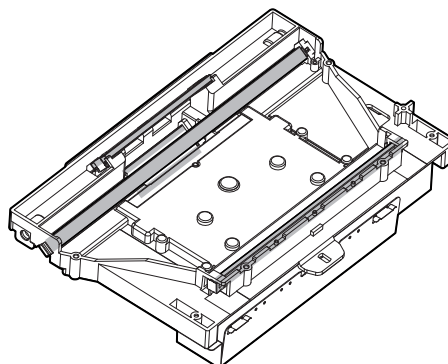
## (3) Optical unit

### a. Mirror

- 1) Remove the screw, and remove the mirror base cover.

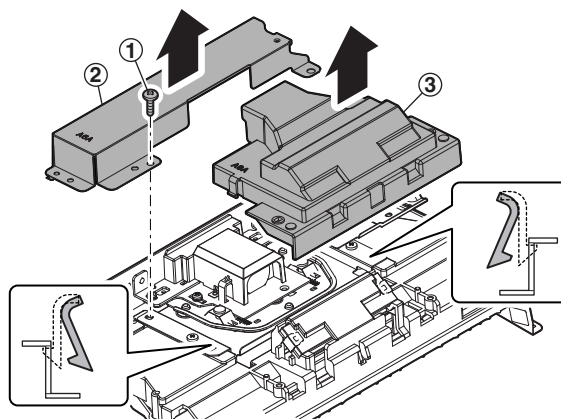


- 2) Clean the mirror.

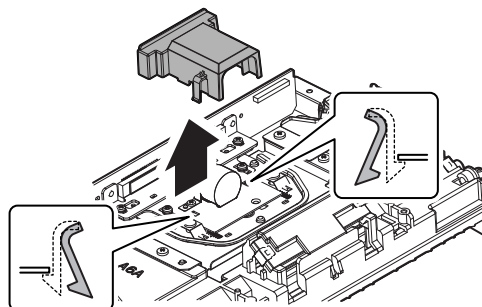


### b. Lens, CCD

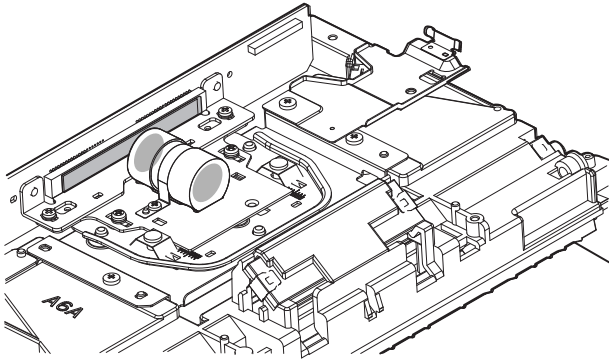
- 1) Remove the screw, and remove the dark box. Remove the dust-proof cover.



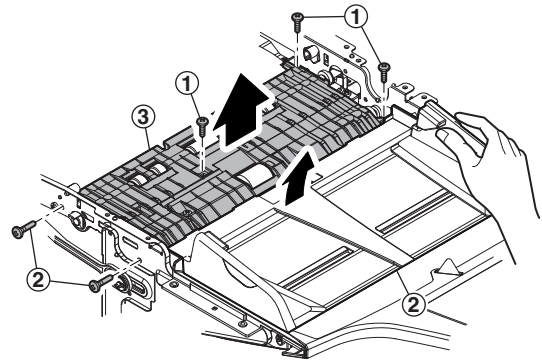
- 2) Remove the lens cover.



- 3) Clean the lens and CCD.



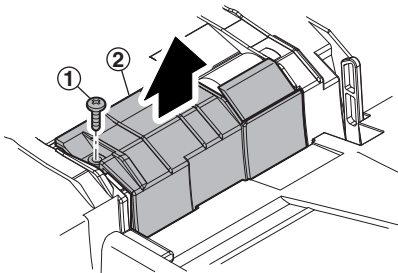
- 4) Remove the screw. Lift the document paper feed tray and remove the paper guide.



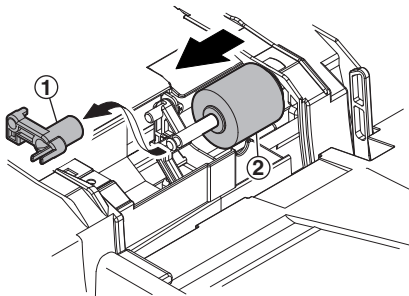
#### (4) DSPF unit

##### a. Separation roller

- 1) Remove the document feed unit.
- 2) Remove the screw, and remove the paper feed PG lower cover.

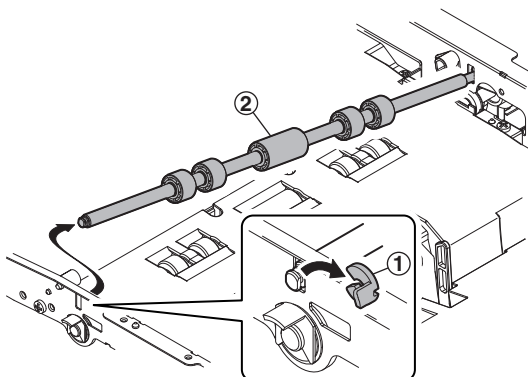


- 3) Remove the reverse pressure release lever, and remove the separation roller.

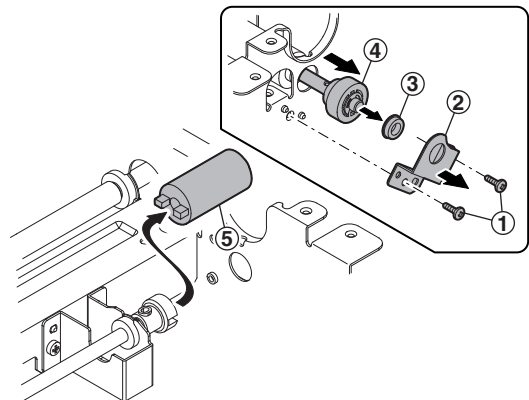


##### b. Torque limiter

- 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).

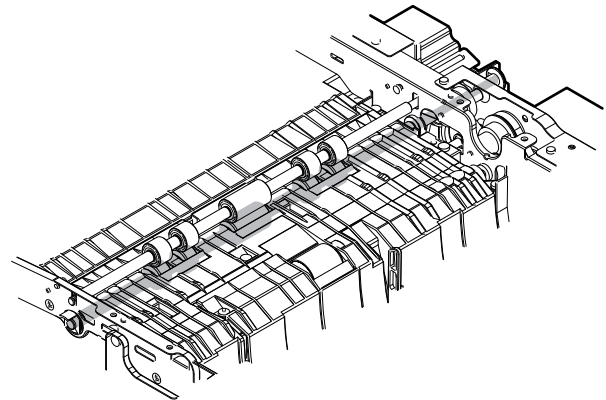


- 5) Remove the screw, and remove the support plate and the bearing. Remove the roller shaft, and remove the torque limiter.



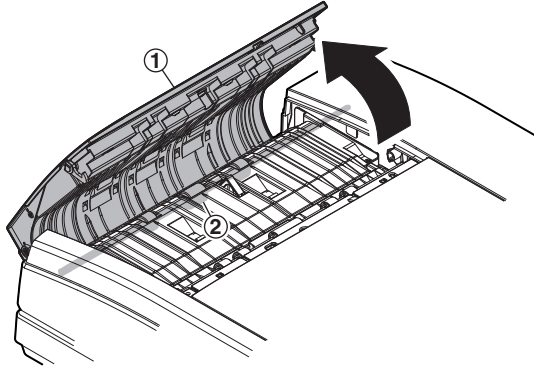
##### c. No. 1 registration roller

- 1) Remove the document feed unit.
- 2) Clean the No. 1 registration roller.



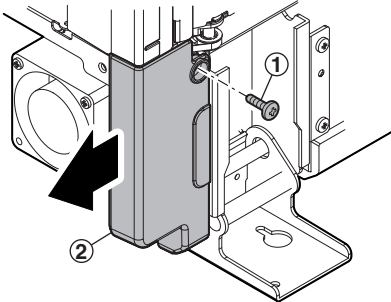
**d. Transport roller 1**

- 1) Open the upper door unit.
- 2) Clean the transport roller 1.

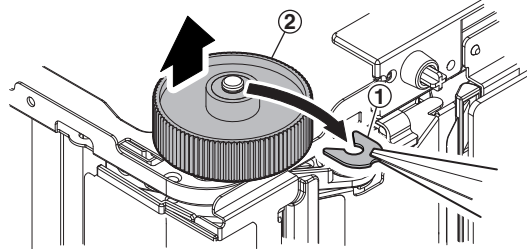


**e. No. 2 registration roller**

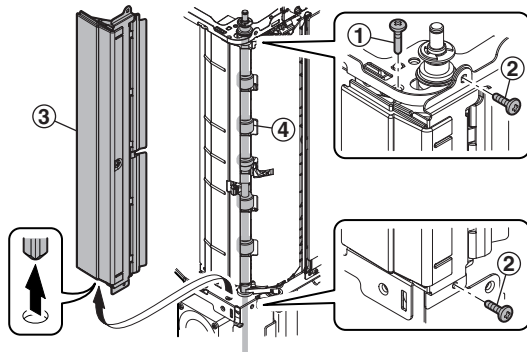
- 1) Remove the front cabinet.
- 2) Remove the rear cabinet.
- 3) Remove the screw, and remove the left rear lower cabinet.



- 4) Remove the resin E-ring, and remove the PS knob.

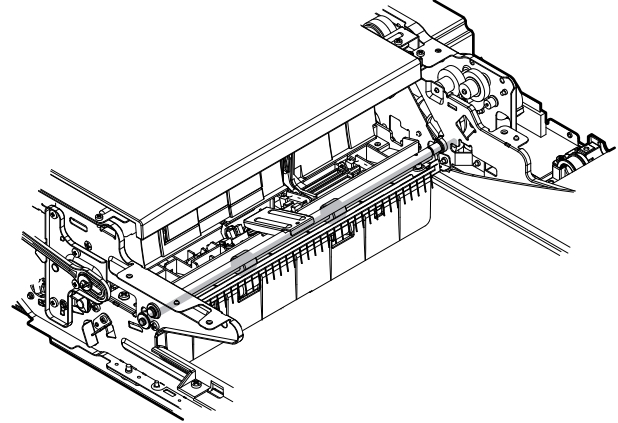


- 5) Remove the screw, and remove the paper guide.  
Clean the No. 2 registration roller.



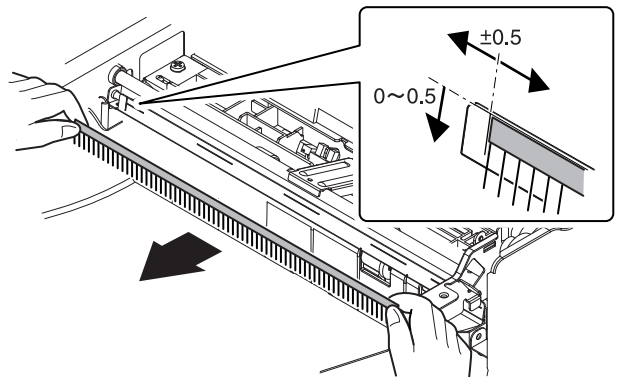
**f. Paper exit roller, discharge brush**

- 1) Remove the document feed tray.
- 2) Clean the paper exit roller.



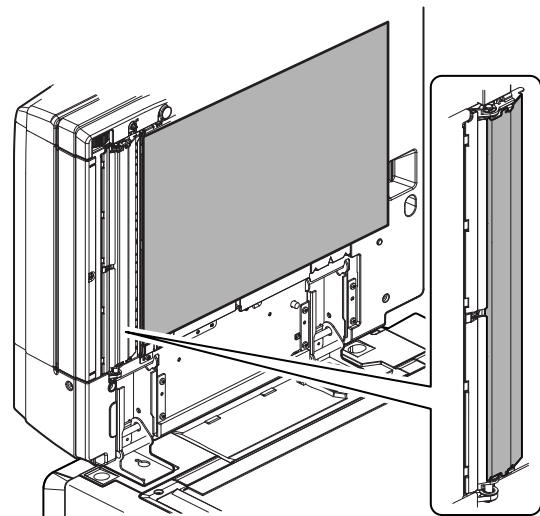
- 3) Check the discharge brush.

CAUTION: when replacing the discharge brush, attach to the attachment reference.



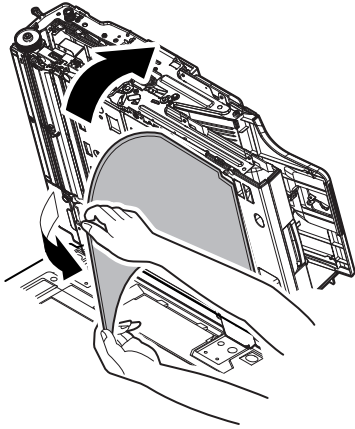
**g. OC mat, No. 1 scan plate**

- 1) Open the DSPF unit.
- 2) Clean the OC mat and No. 1 scan plate.

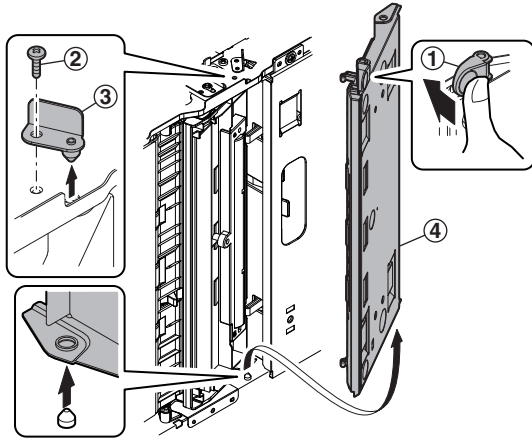


**h. Second scan section white reference glass, transport roller 2, transport roller 3**

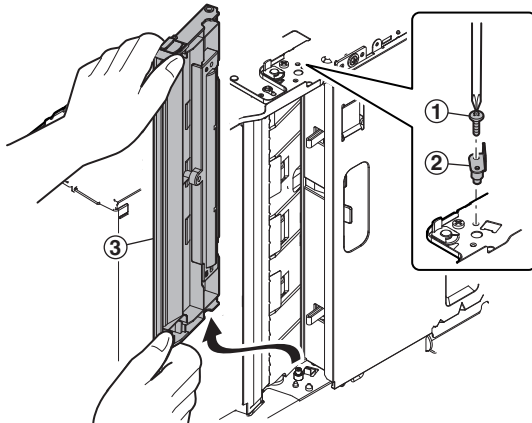
- 1) Open the OC mat.



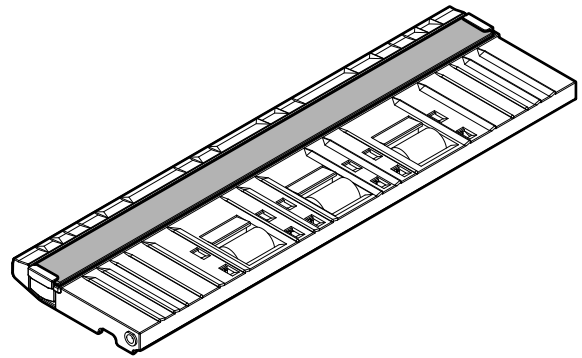
- 2) Open the lower door. Remove the screw, and remove the fulcrum plate. Remove the lower door.



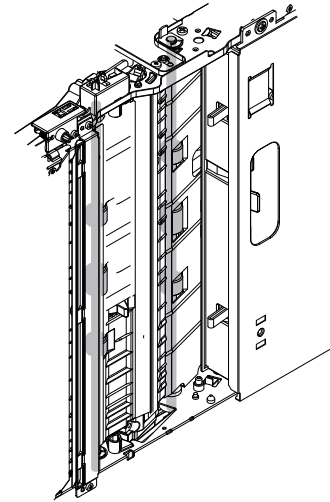
- 3) Remove the screw, and remove the fulcrum plate. Remove the white reference plate.



- 4) Use cleaner to clean the second scan section white reference glass.



- 5) Clean the transport roller 2 and transport roller 3.

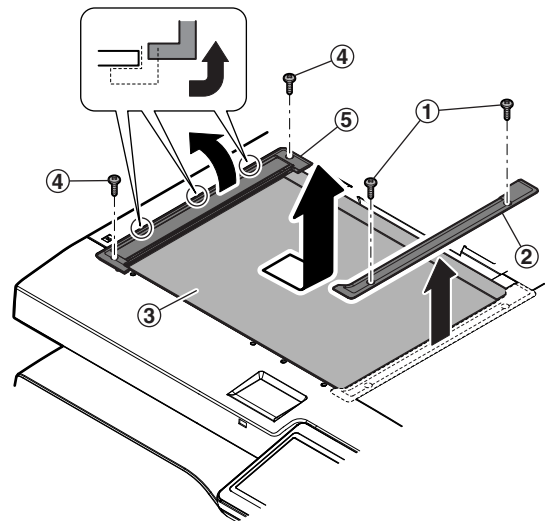


**B. Scanner section**

**(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.



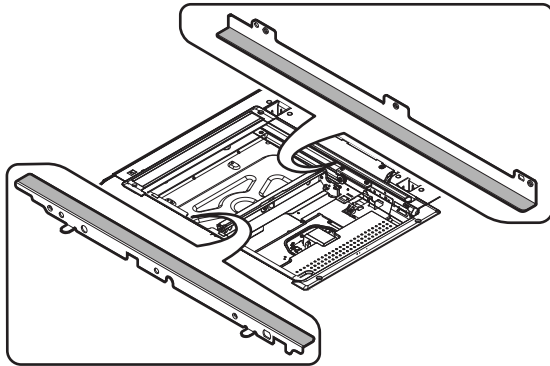


### b. Rails

- 1) Remove the table glass.
- 2) Apply grease to each rail.

CAUTION: Be careful not to apply grease to the drive wire.

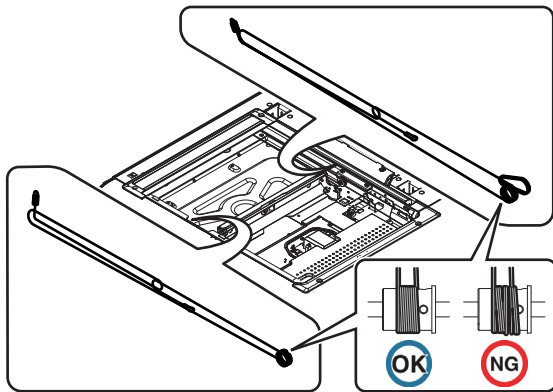
If grease is attached to the drive wire, clean it deliberately.



### c. Drive belt, Drive wire

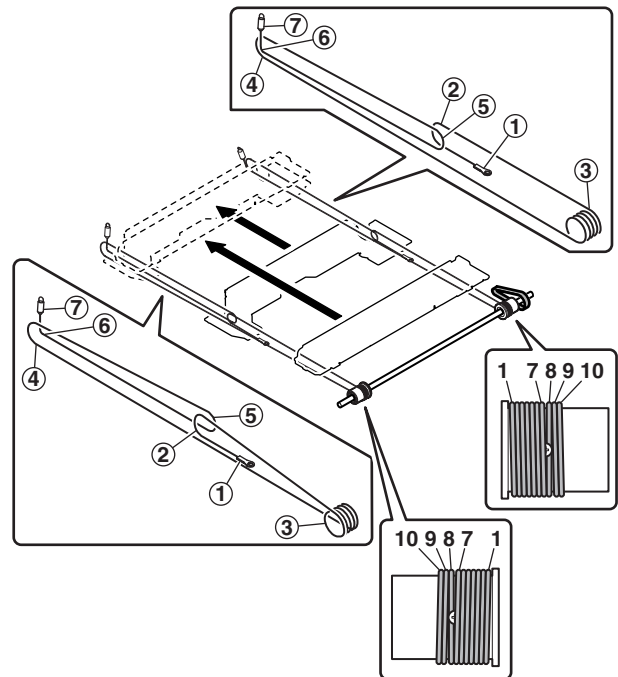
- 1) Remove the table glass.
- 2) Check the tension of the wire belt and the drive wire.

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.

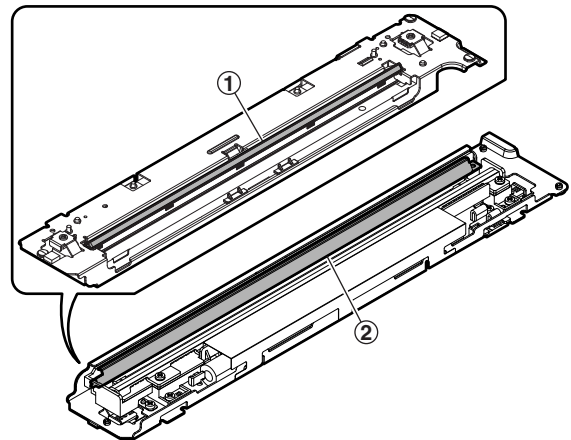
When winding the drive wire around the pulley, shift the mirror unit to the vicinity of the home position. Wind the wire seven turns as shown in the figure, and fix the eighth turn section with the screw. Then wind two turns furthermore around the pulley.



### (2) Lamp unit

#### a. Mirror, reflector

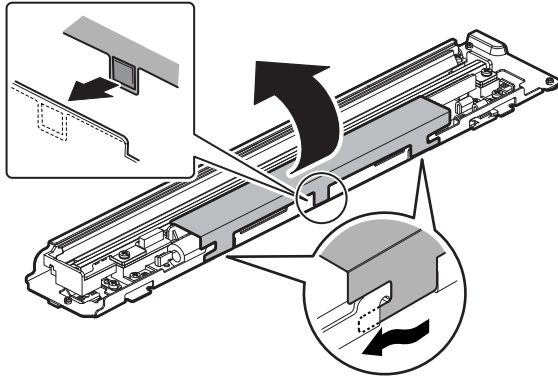
- 1) Clean the mirror and the reflector.



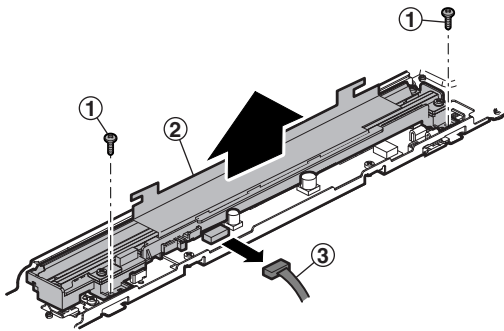
### b. Scanner lamp

- 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.

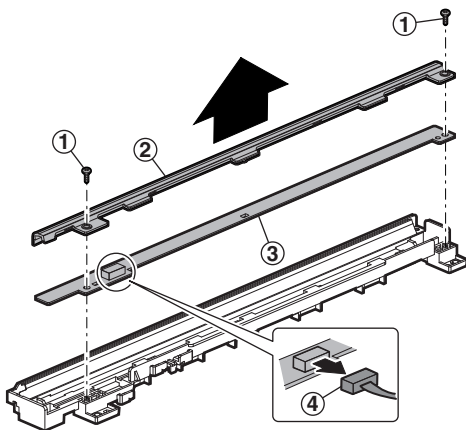


- 2) Remove the screw, and remove the lamp guide. Disconnect the connector from the LED driver PWB.



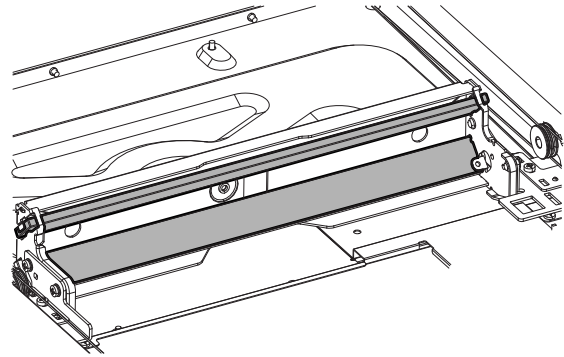
- 3) Remove the screw, and remove the light guide plate and the scanner lamp. Disconnect the connector from the scanner lamp.

Clean the scanner lamp.



### (3) Mirror unit

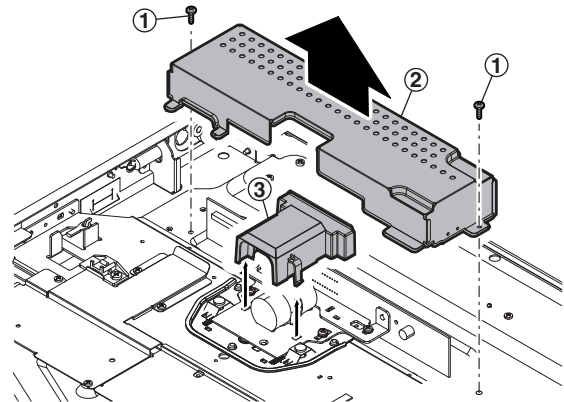
- 1) Remove the table glass.
- 2) Clean the mirror.



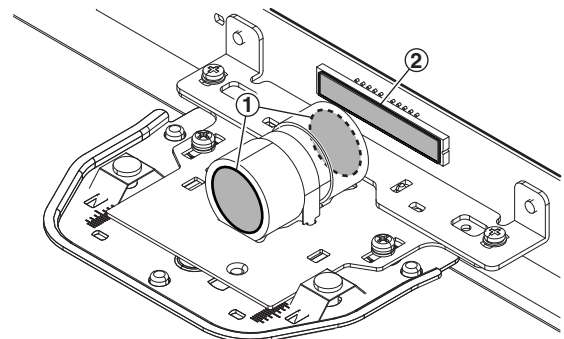
### (4) CCD unit

#### a. Lens, CCD

- 1) Remove the table glass.
- 2) Remove the screw, and remove the dark box.



- 3) Clean the lens and CCD.

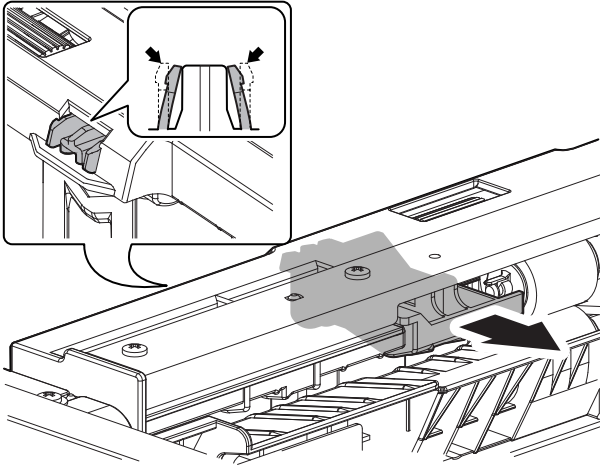


## C. Tray paper feed section

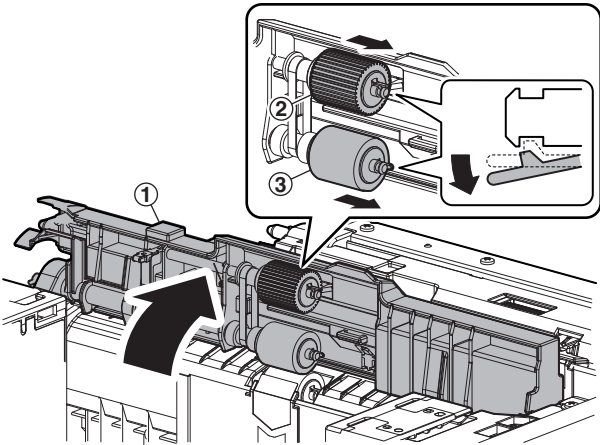
### (1) Tandem paper feed tray

#### a. Paper pickup roller, Paper feed roller

- 1) Remove the paper guide.

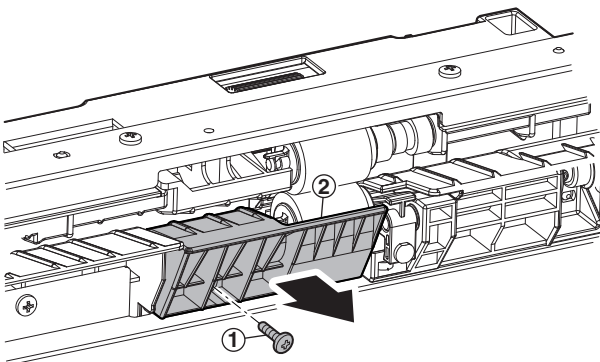


- 2) Lift the tandem paper feed. Remove the paper pickup roller and the paper feed roller.

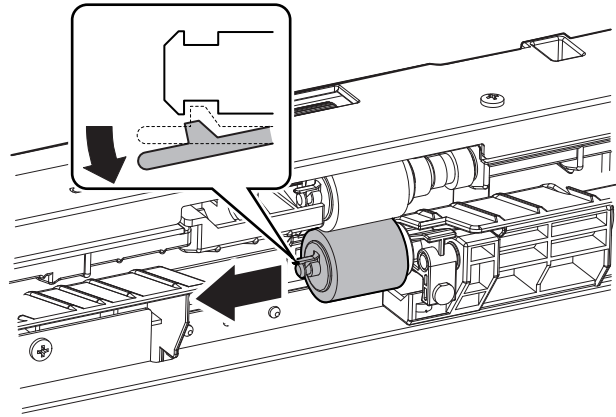


#### b. Separation roller

- 1) Remove the screw, and remove the paper guide.

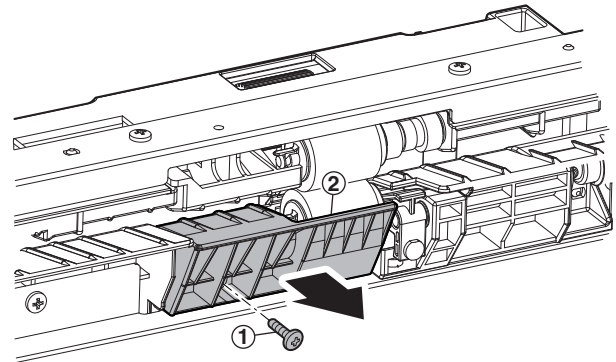


- 2) Remove the separation roller.

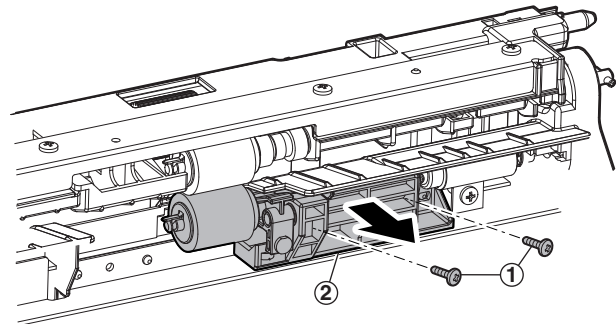


#### c. Torque limiter

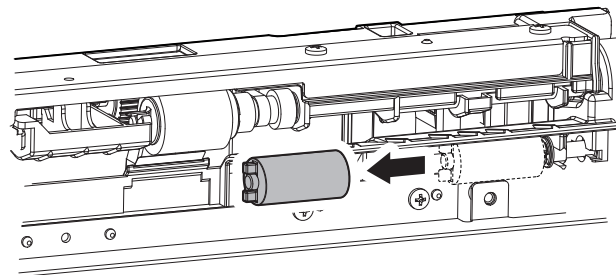
- 1) Remove the screw, and remove the paper guide.



- 2) Remove the screw, and remove the separation roller.



- 3) Remove the torque limiter.

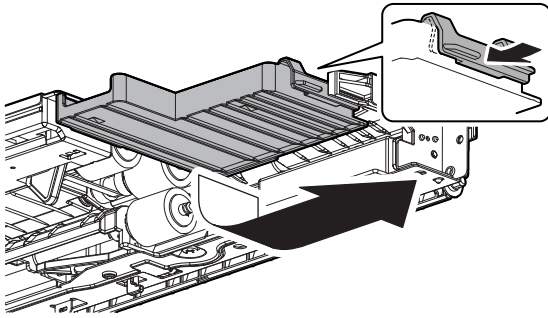




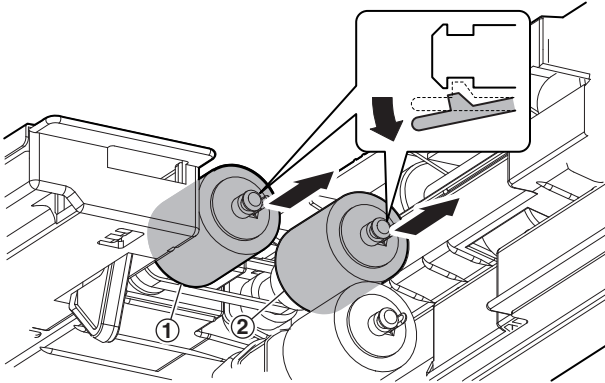
## (2) Tray paper feed unit

### a. Paper pickup roller, Paper feed roller

- 1) Remove the paper feed tray.
- 2) Remove the paper guide.

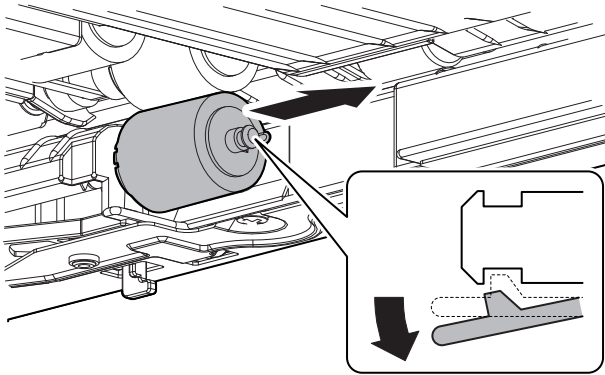


- 3) Remove the paper pickup roller and the paper feed roller.



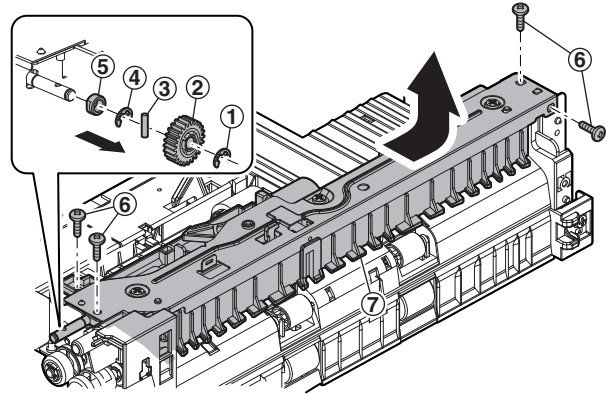
### b. Separation roller

- 1) Remove the paper feed tray.
- 2) Remove the separation roller.

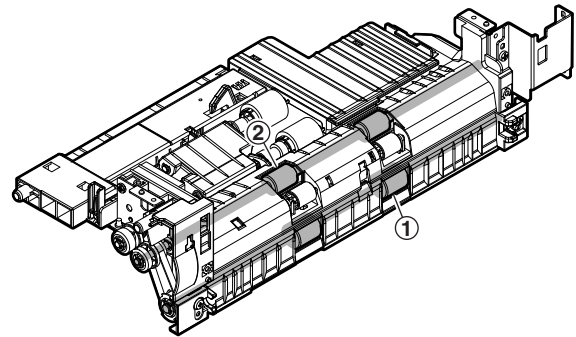


### c. Transport roller 9/10, Transport roller 2/3

- 1) Remove the E-ring, the gear, the parallel pin, and the baring. Remove the screw, and remove the paper feed lower unit.

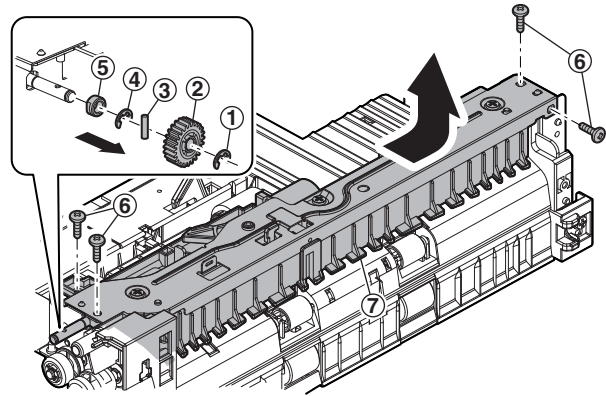


- 2) Clean the transport roller 9/10 and the transport roller 2/3.

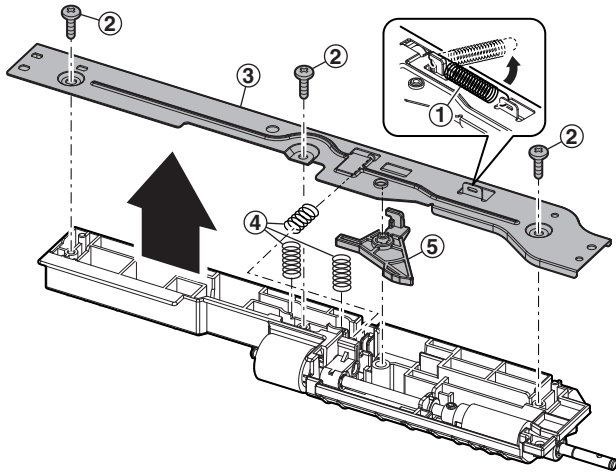


### d. Torque limiter

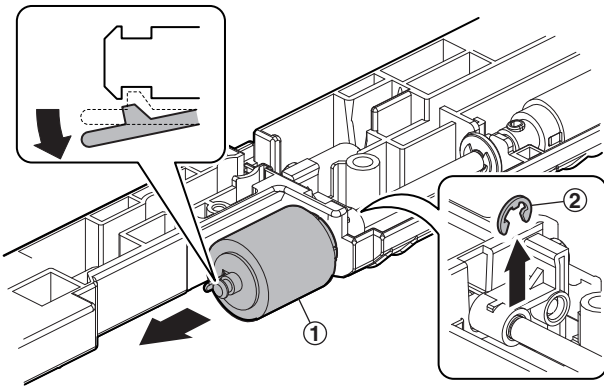
- 1) Remove the E-ring, the gear, the parallel pin, and the baring. Remove the screw, and remove the paper feed lower unit.



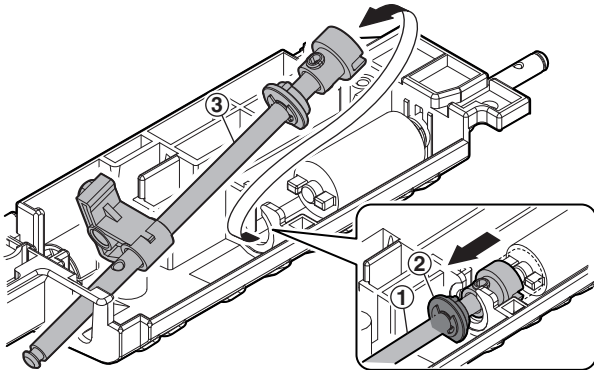
- 2) Remove the spring. Remove the screw, and remove the reinforcement plate. Remove the lever.



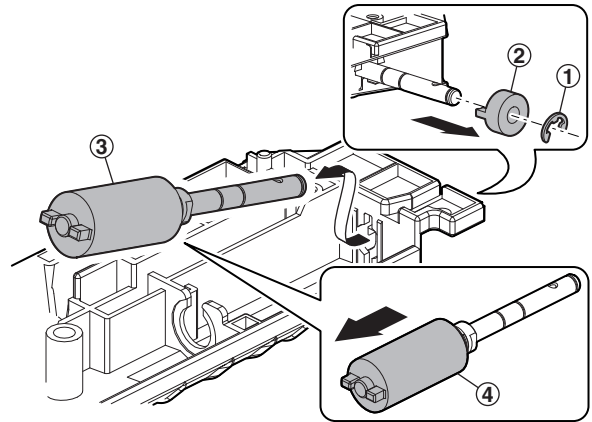
- 3) Remove the separation roller. Remove the E-ring.



- 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.

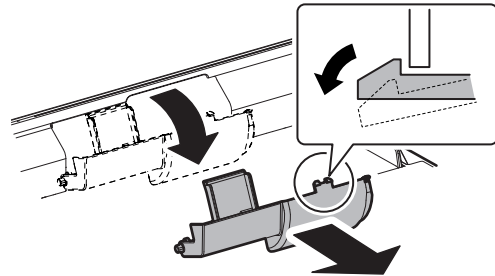


## D. Manual paper feed section

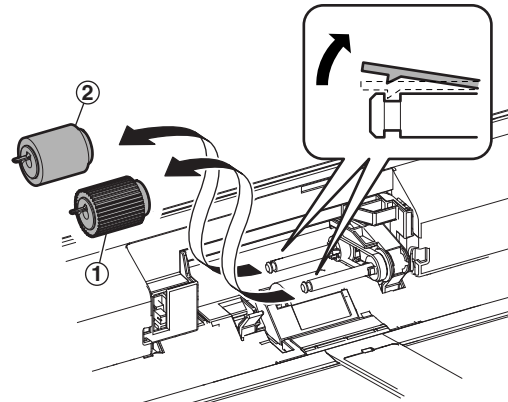
### (1) Manual paper feed unit

#### a. Paper pickup roller, Paper feed roller, Separation roller

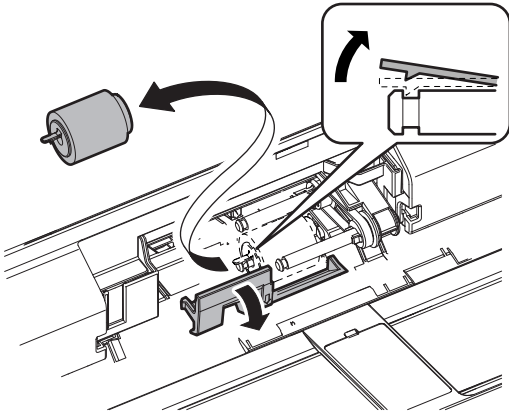
- 1) Remove the cover.



- 2) Remove the paper pickup roller and the paper feed roller.

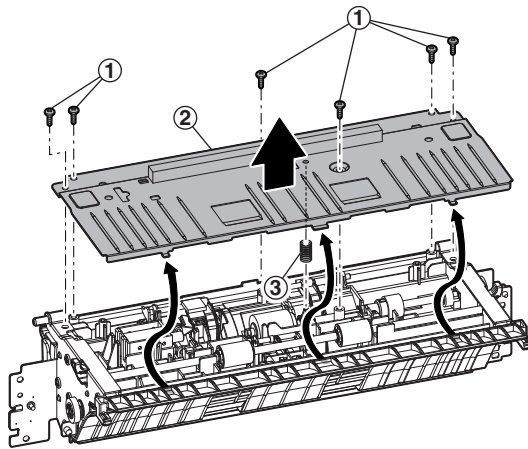


- 3) Remove the cover. Remove the separation roller.

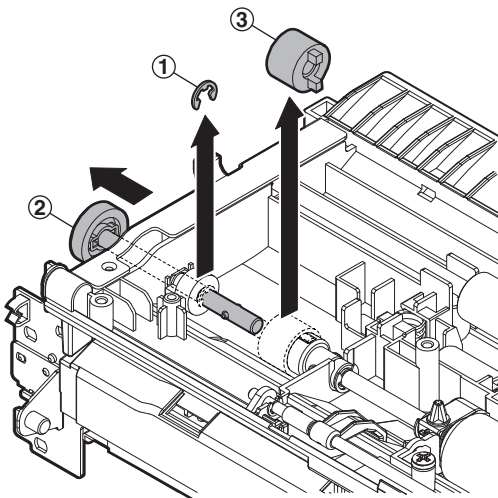


#### b. Torque limiter

- 1) Remove the screw, and remove the reinforcement plate. Remove the spring.

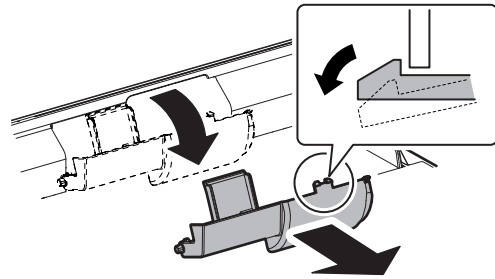


- 2) Remove the E-ring, and slide the shaft. Remove the torque limiter.

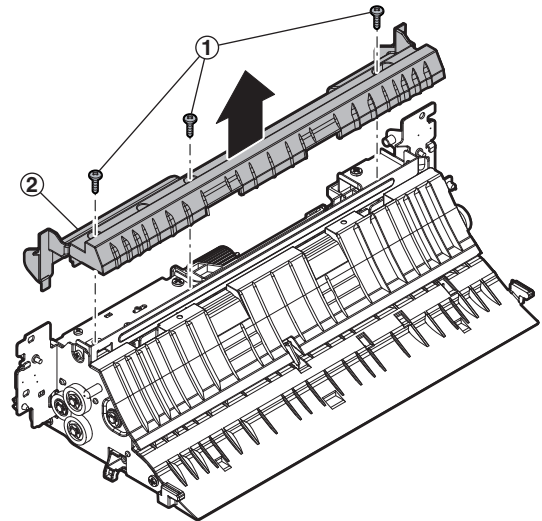


#### c. Transport roller 8

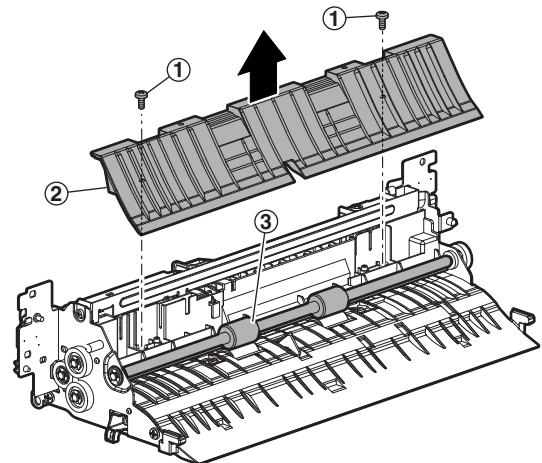
- 1) Remove the cover.



- 2) Remove the screw, and remove the paper guide.



- 3) Remove the screw, and remove the paper guide. Clean the transport roller 8

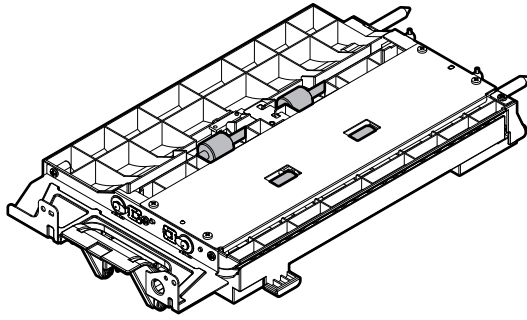


## E. Paper transport section

### (1) Interface unit

#### a. Transport roller 6, Transport roller 7

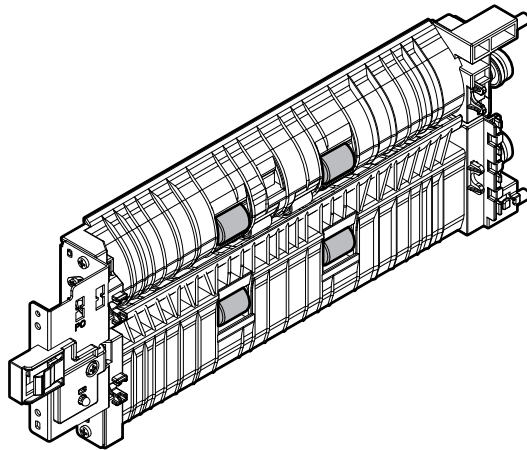
- 1) Clean the transport roller 6 and the transport roller 7.



### (2) Vertical transport unit

#### a. Transport roller 11, Transport roller 12

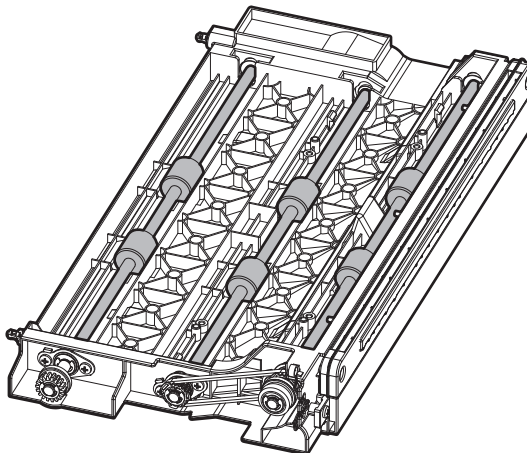
- 1) Clean the transport roller 11 and the transport roller 12.



### (3) LCC transport unit

#### a. Transport roller 14, Transport roller 15, Transport roller 16

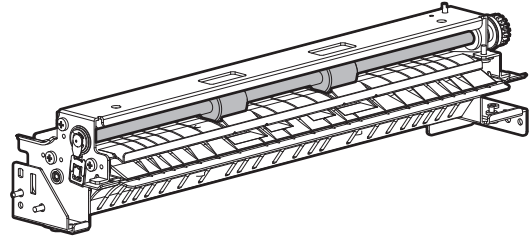
- 1) Clean the transport roller 14 and the transport roller 15 and the transport roller 16.



### (4) PS lower unit

#### a. Transport roller 13

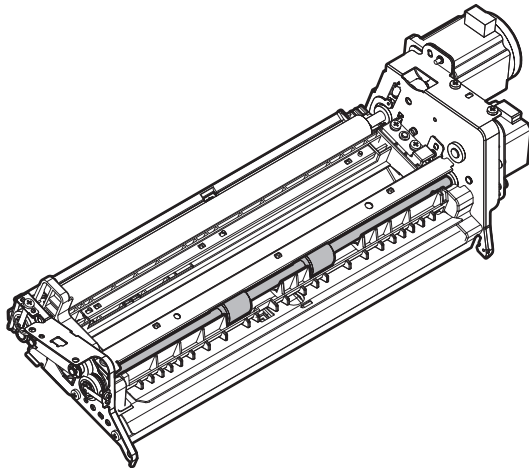
- 1) Clean the transport roller 13.



### (5) PS unit

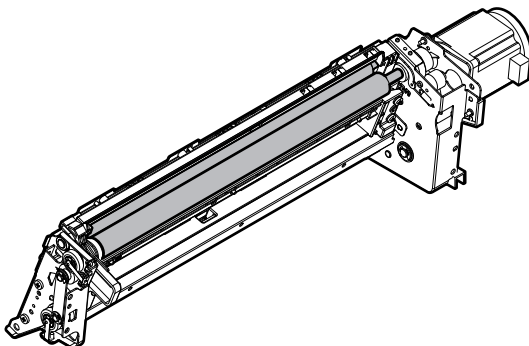
#### a. Transport roller 17

- 1) Clean the transport roller 17.



#### b. Registration roller (Drive), Registration roller (Idle)

- 1) Clean the registration roller (Drive) and the registration roller (Idle).



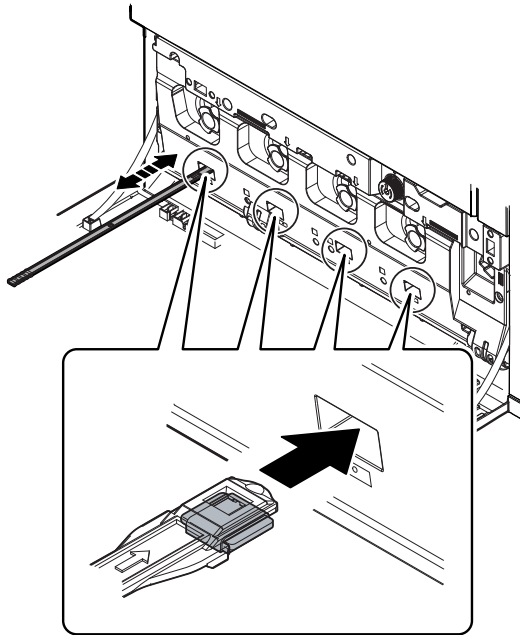


## F. LSU section

### (1) LSU

#### a. Dust-proof glass

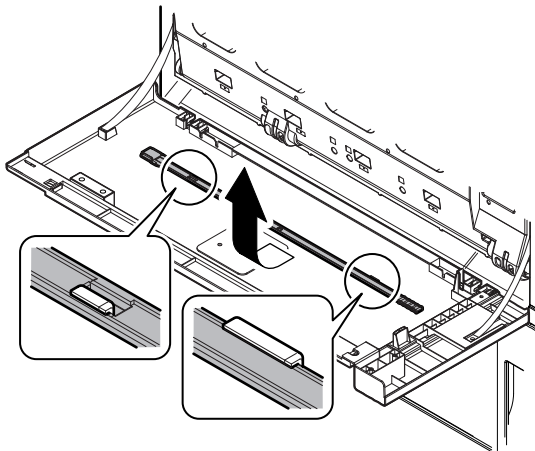
- 1) Open the front cover.
- 2) Insert the LSU cleaning rod into the LSU cleaning hole with the cleaning base faced downward, and clean the dust-proof glass.



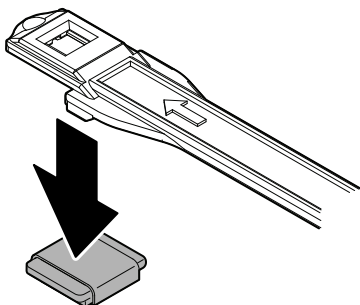
### (2) LSU cleaning rod

#### 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

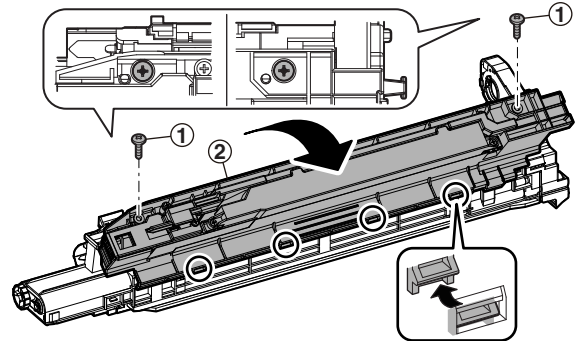
### (1) Development unit

#### 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.

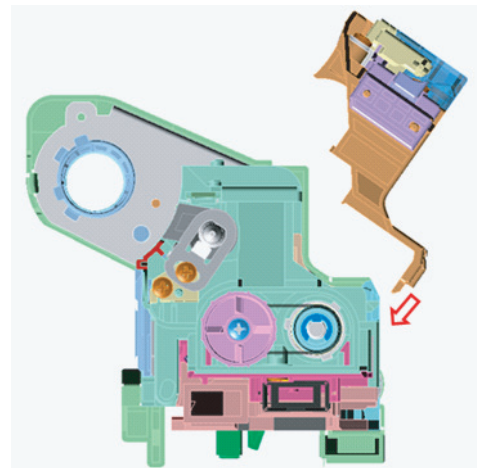
- 1) Remove the screw, and remove the DV cover.



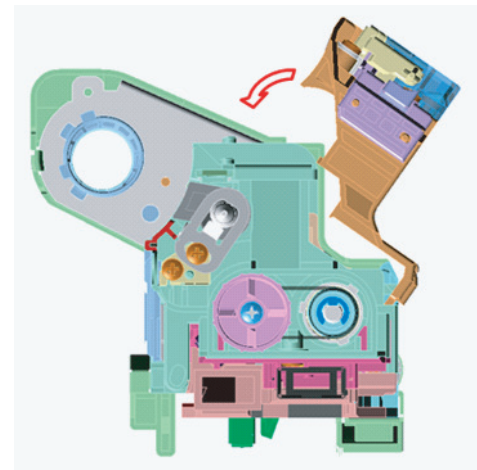
[Note for attaching the DV cover]

When attaching the DV cover, be careful of the following items:

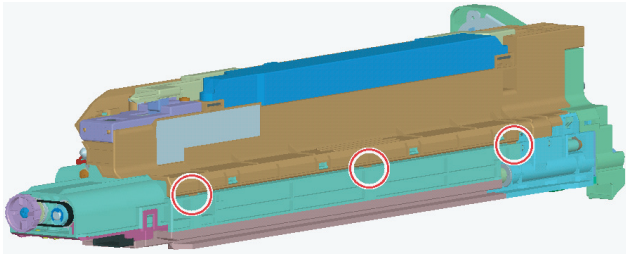
1. Insert the convex portion in the angle shown below.



2. Turn the cover to attach.

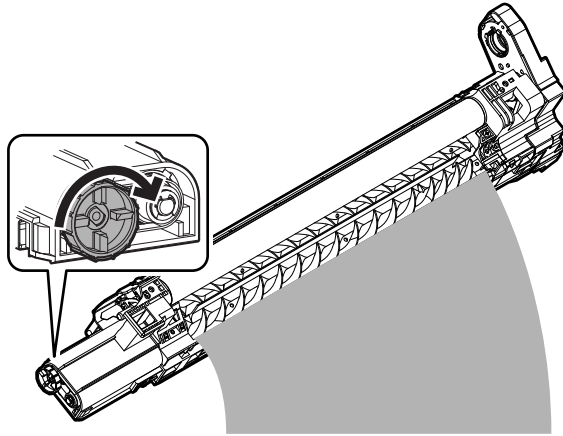


3. Check to confirm that three convex portions are securely engaged.



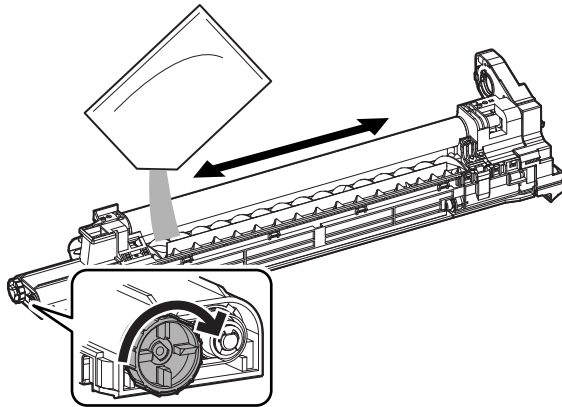
- 2) Discharge old developer from the DV unit.

**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.

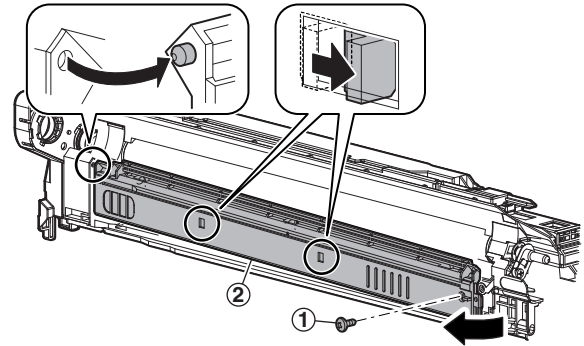
**CAUTION:** When supplying developer, rotate the coupling pulley in the rear side of the DV unit in the arrow direction while the operation.



#### b. DV blade

- 1) Remove the screw, and remove the DV doctor cover.

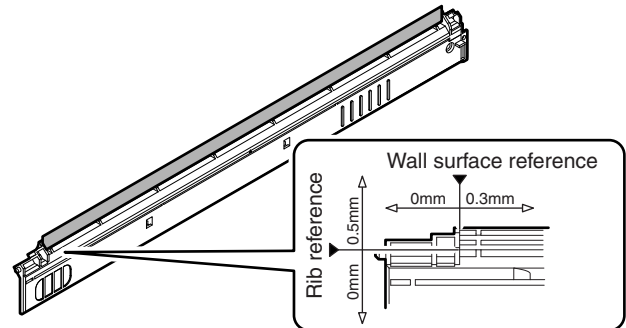
**CAUTION:** When installing, check to confirm that the hook of the DV doctor cover is securely engaged with the positioning boss.



- 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.

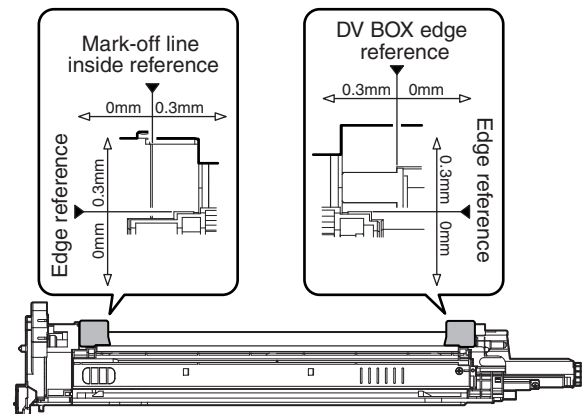


#### c. DV side seals F/R

- 1) Check the DV side seals F/R.

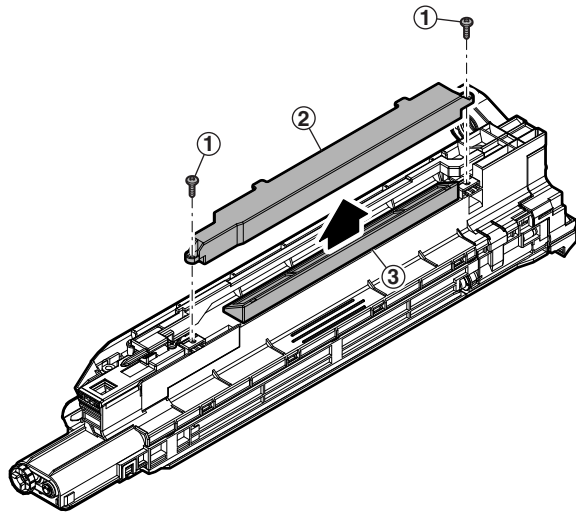
**CAUTION:** When replacing the DV side seals F/R, attach them to the attachment references.

**CAUTION:** When attaching the DV side seals F/R, be careful not to cover the DV blade with the DV side seals.



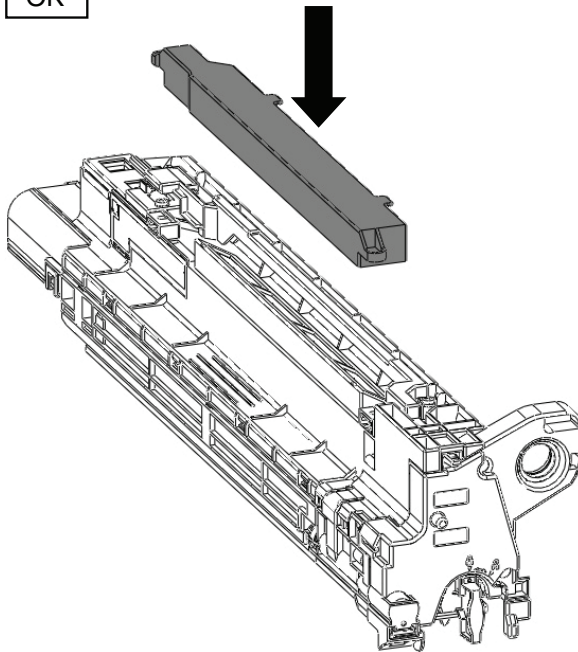
#### d. Toner filter

- 1) Remove the screw, and remove the filter cover. Remove the filter holder.

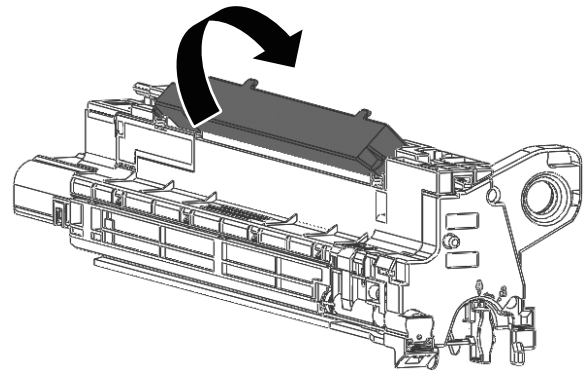


CAUTION: When attaching the filter cover, do not rotate but attach straight from the top. (See the figure below.)

OK



NG



#### H. OPC drum section

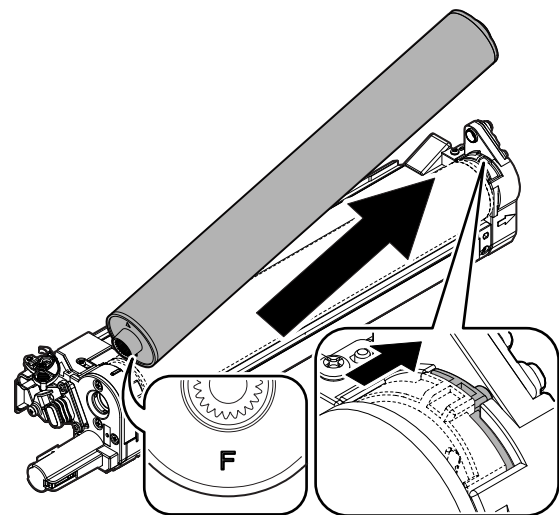
##### (1) OPC drum unit

###### a. Drum

- 1) Release the lock, and remove the drum.

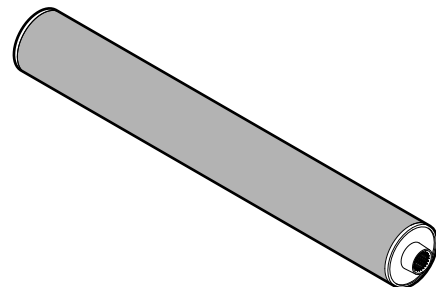
CAUTION: Since the drum has directional property, be careful not to mistake the installing direction when installing.

"F" mark is put on the drum front side.

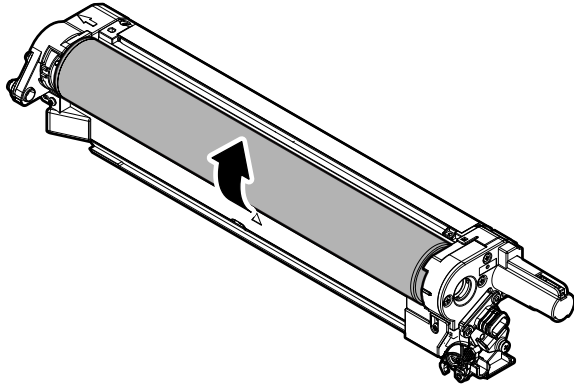


CAUTION: When the OPC drum is removed, perform the following procedures.

- 1) After removing the OPC drum, apply stearic acid powder (UKOG-0312FCZZ) to the whole surface of the OPC drum.



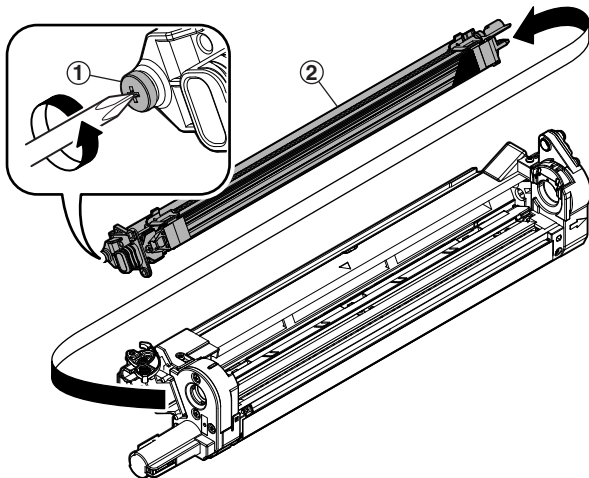
- 2) After attaching the OPC drum to the OPC drum frame, use the black protect sheet or copy paper, and manually rotate the OPC drum two turns in the forward direction to remove stearic acid powder applied to the OPC drum surface.



- 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.

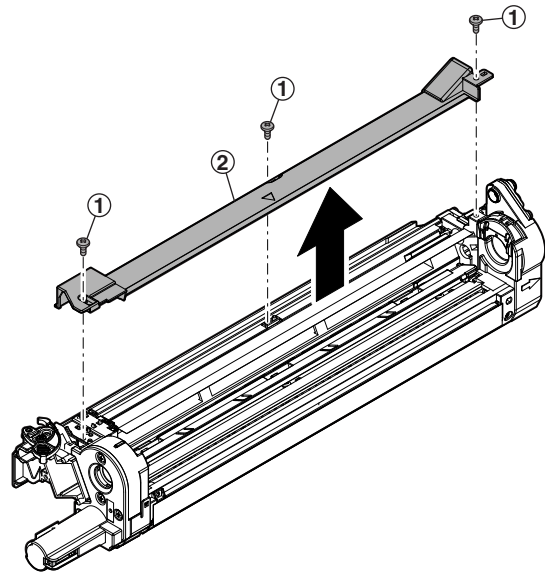
#### b. MC unit

- 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.



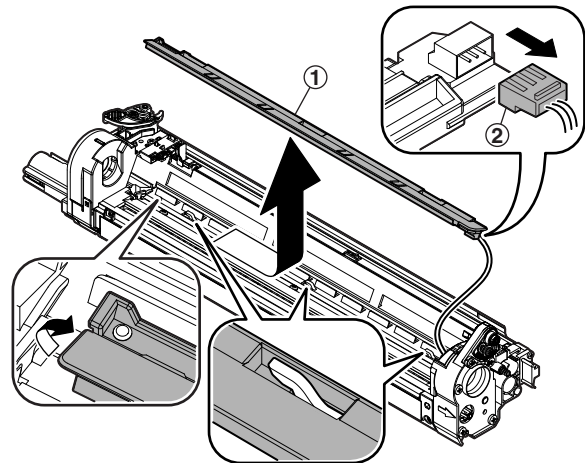
#### c. DL unit, Cleaner blade

- 1) Remove the MC unit.
- 2) Remove the drum.
- 3) Remove the screw, and remove the MC cover.



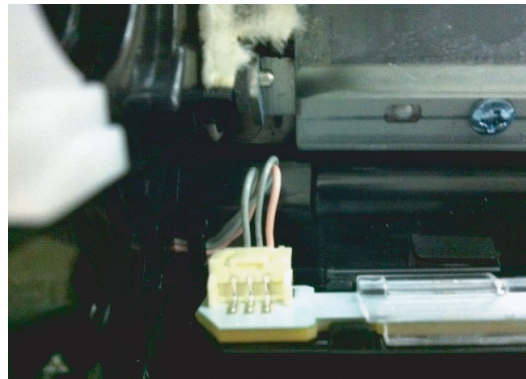
- 4) Remove the DL unit, and disconnect the connector from the DL unit.

CAUTION: When installing, check to confirm that the hook of the DL unit is securely engaged with the positioning boss.



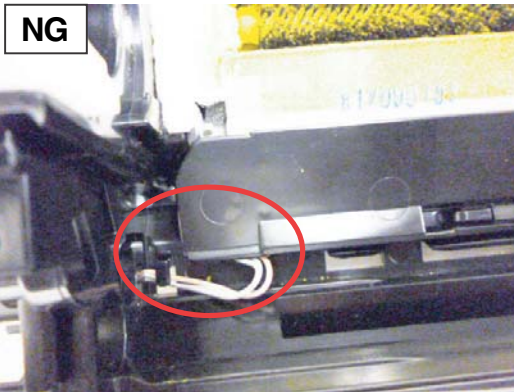
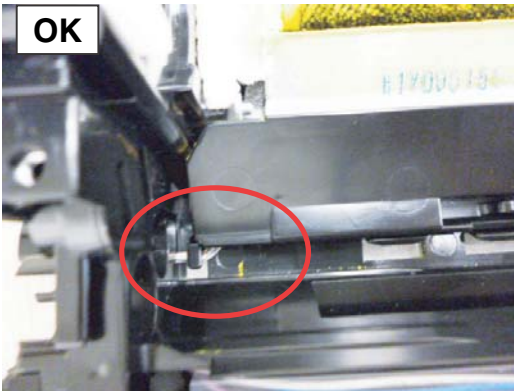
CAUTION: Arrange the harness as shown below.

- 1) Bend the harness as shown below.

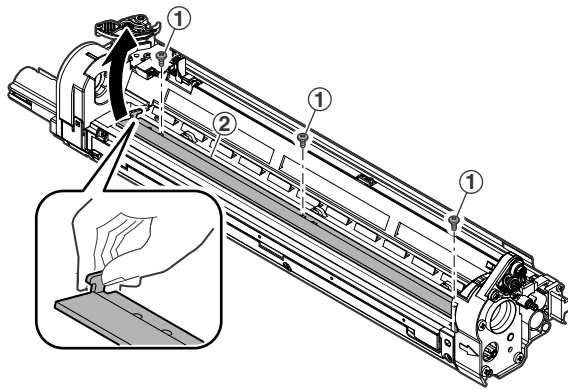




When attaching the cover, refer to the figure below.

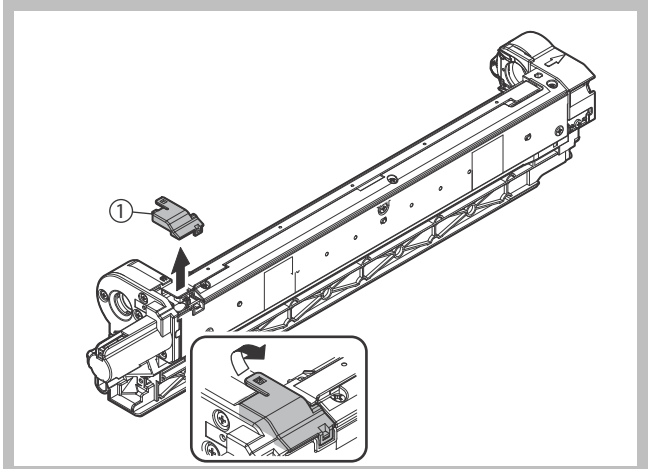


- 5) Remove the screw, hold the projection of the cleaner blade, and remove it.



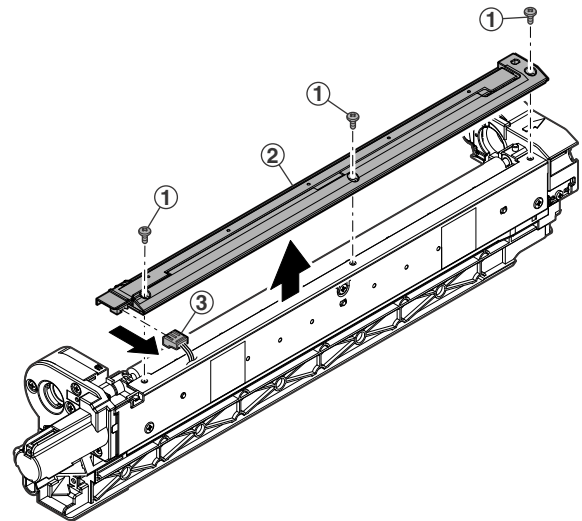
**d. TCDL unit, Toner reception sheet, Side seals F/R**

- 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.

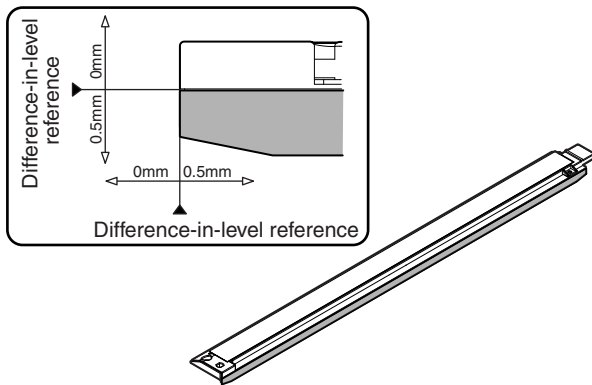
**CAUTION:** When the side seals F and R and the toner reception sheet are replaced, this procedure is not required.



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.



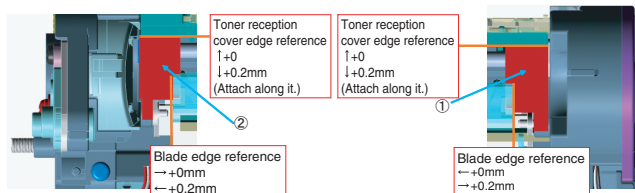
6) Check the side seals F/R.

CAUTION: When replacing the side seals F and R, it is not required to remove the toner reception cover.

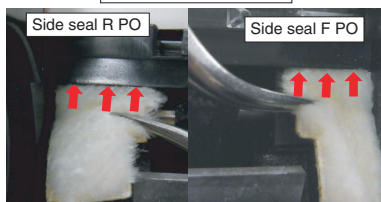
CAUTION: When there is a clearance in the edge section of the side seals after replacing the blade and when the side seal is replaced, attach the seal to the attachment reference.

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.



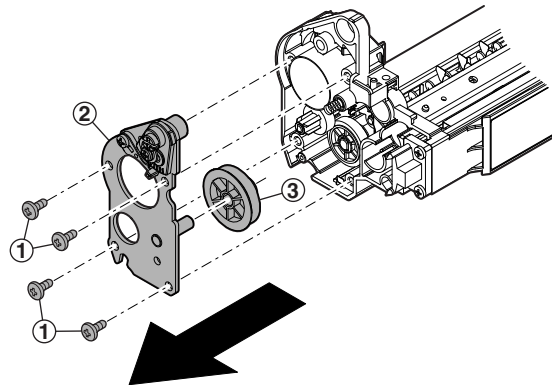
Sample of attachment



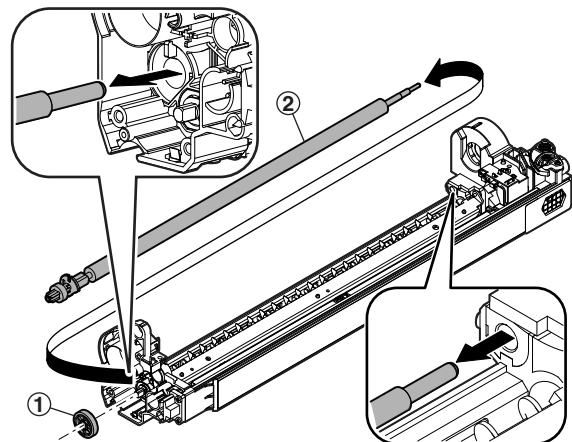
\* When attaching the side moltopren, attach it by pushing it onto the side of the toner reception cover.

#### e. Cleaning brush

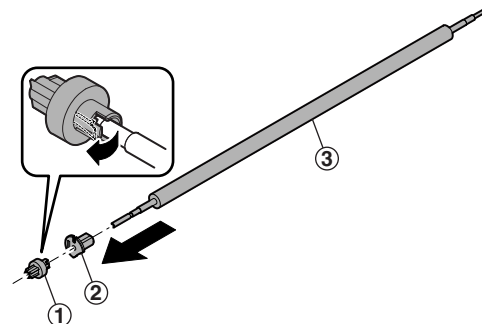
- 1) Remove the MC unit.
- 2) Remove the drum.
- 3) Remove the side seals R.
- 4) Remove the screw, and remove the plate and the gear.



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.

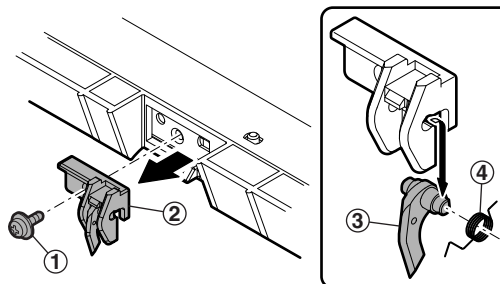
## I. Transfer section

### (1) Primary transfer unit

#### a. Transfer separation pawl

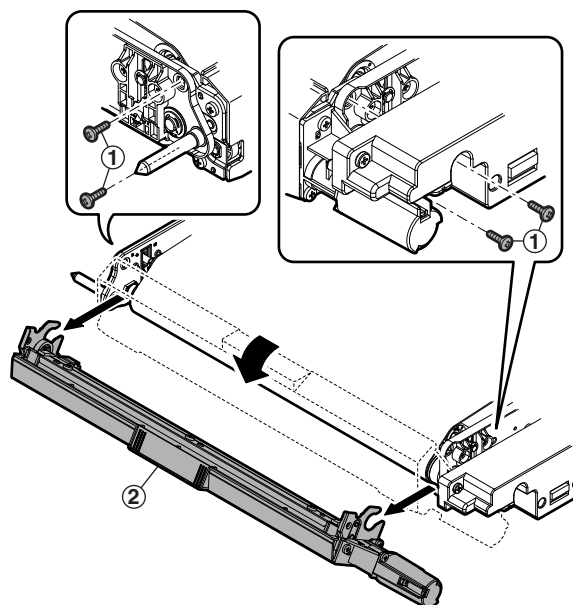
- 1) Remove the screw, and remove the holder. Remove the separation pawl and the spring from the holder.

CAUTION: When removing and installing, be careful not to scratch the transfer belt with the separation pawl.

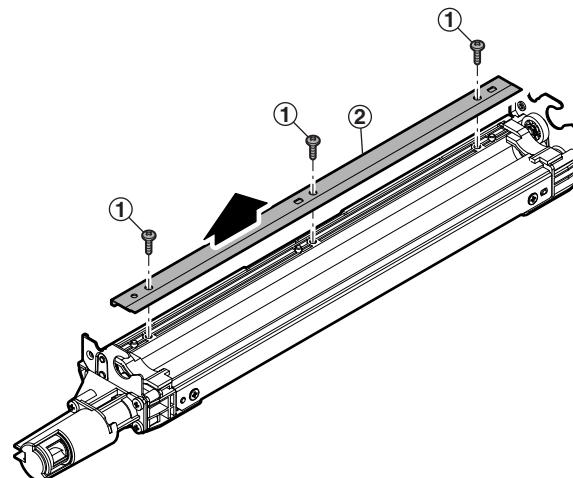


#### b. Primary transfer toner reception seal

- 1) Remove the screw, rotate the primary transfer cleaner unit and remove it.



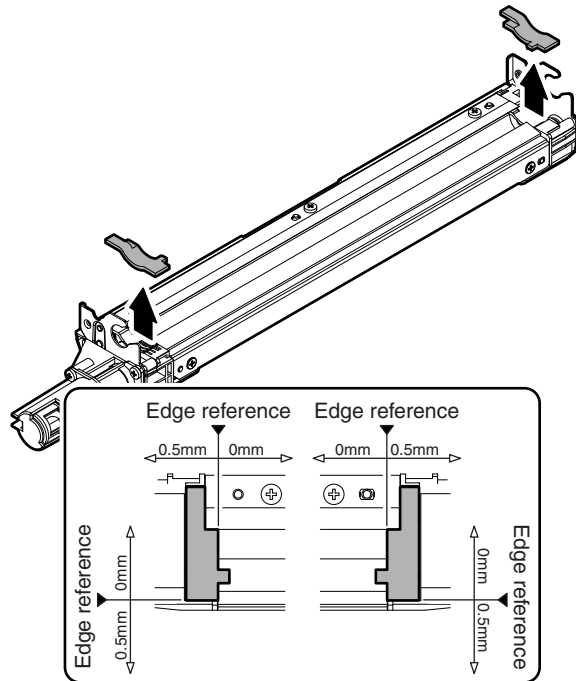
- 2) Remove the screw, and remove the primary transfer toner reception seal.



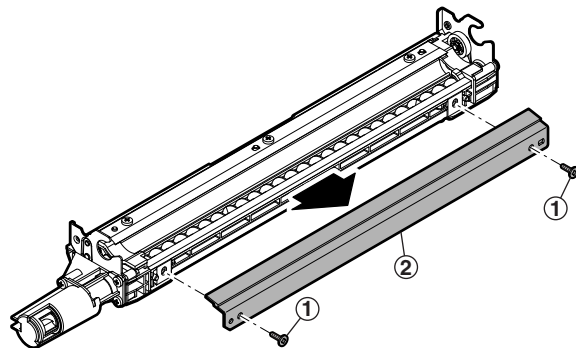
**c. Primary transfer cleaner seal F/R, Primary transfer cleaner blade.**

- 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.

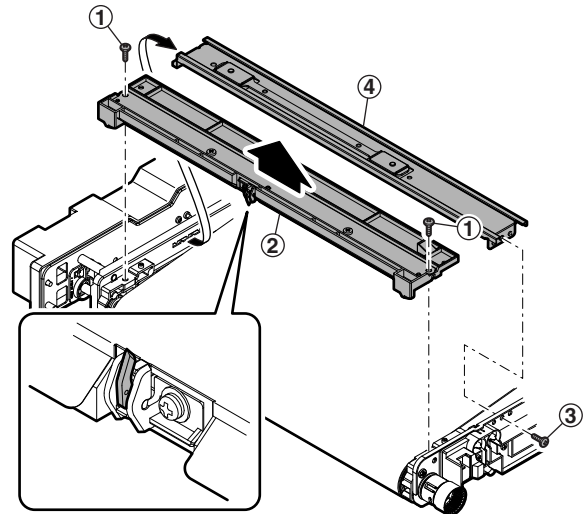


**d. Primary transfer belt**

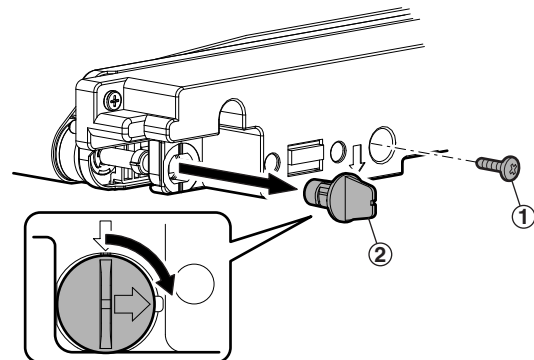
- 1) Remove the primary transfer cleaner unit.
- 2) Remove the screw, and remove the separation pawl unit. Remove the screw, and remove the guide rail.

CAUTION: When removing and installing, be careful not to scratch the transfer belt with the separation pawl.

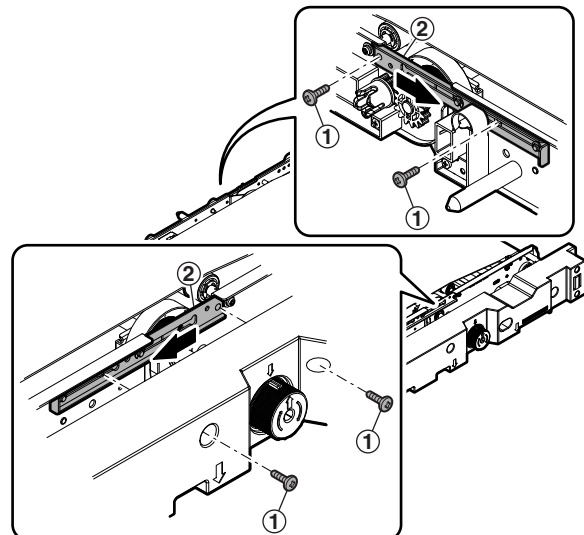
CAUTION: When putting the separation pawl unit on a flat surface, put it with the separation pawl facing upward in order to prevent against damage on the lead edge of the separation pawl.



- 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.



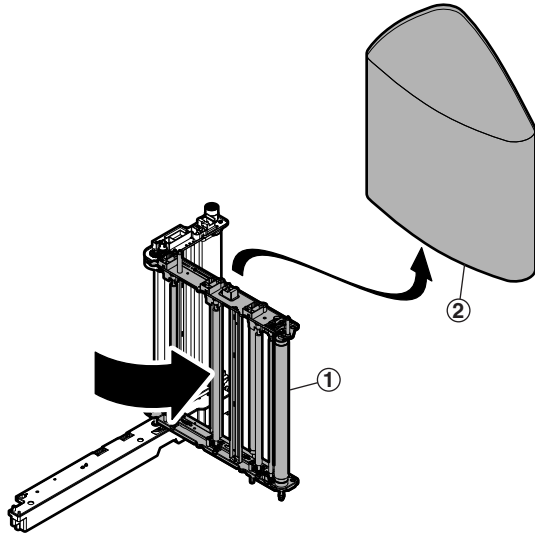


- 5) Fold the primary transfer unit 90° to remove the primary transfer belt.

CAUTION: Handle the primary transfer belt not to damage it. Also do not touch the surface of the primary transfer belt with bare hands.

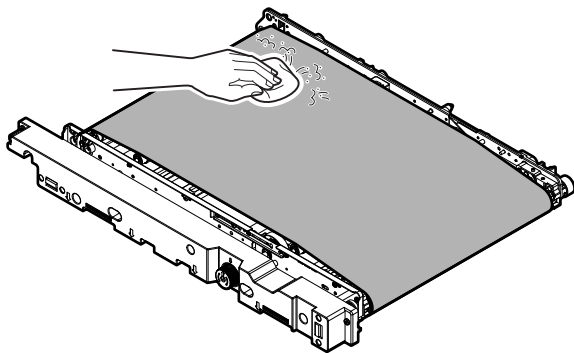
CAUTION: Install so that the lot number printed surface the primary transfer belt comes on the rear side.

CAUTION: When installing, check to confirm that the both ends of the primary transfer belt are not positioned over the transfer guide.

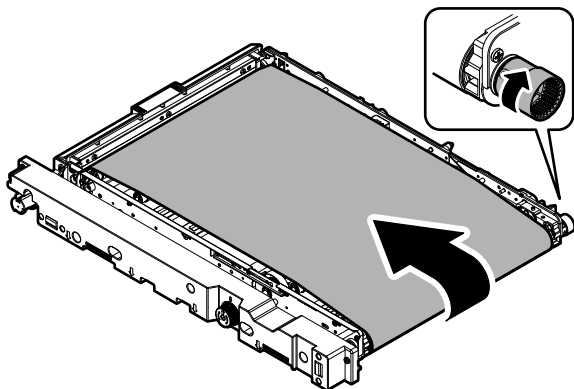


CAUTION: After replacement of the primary transfer belt, perform the following procedures.

- 1) With the primary transfer cleaner unit removed, apply starting powder (UKOG-0123FCZZ) to the whole surface of the primary transfer belt.

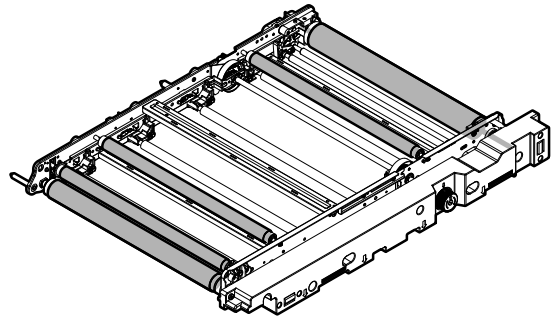


- 2) Attach the primary transfer cleaner unit.
- 3) Manually rotate the transfer belt drive gear to remove starting powder from the primary transfer belt clearly.



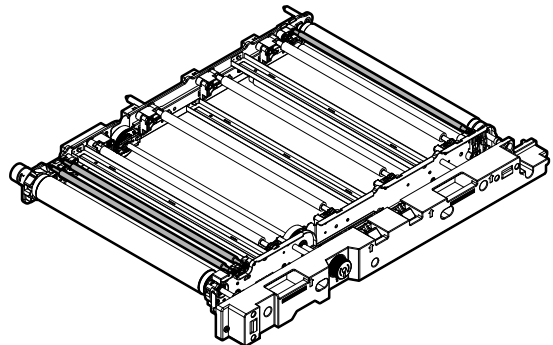
#### e. Primary transfer belt drive roller, Primary transfer belt follower roller, Primary transfer belt tension roller, Primary transfer belt idle roller

- 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.



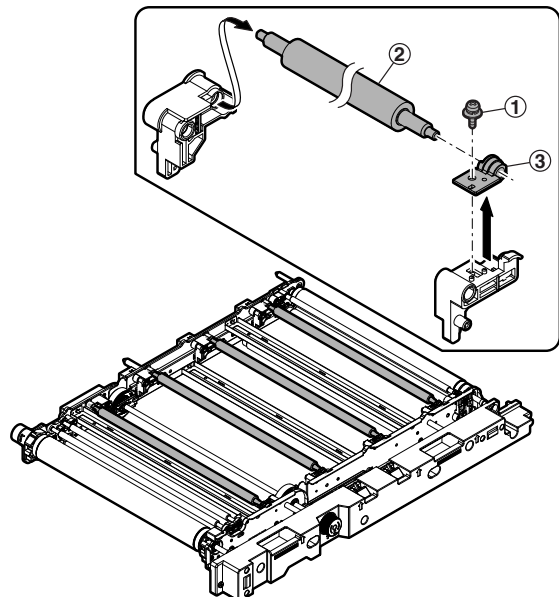
#### f. PTC-opposing roller, registration backup roller, Y support roller

- 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.



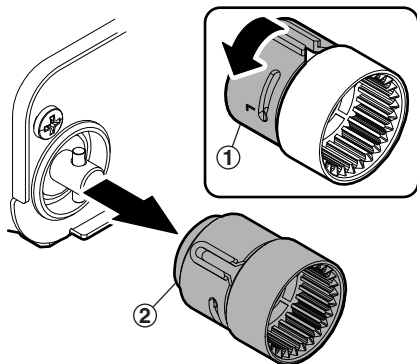
#### g. Primary transfer roller

- 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

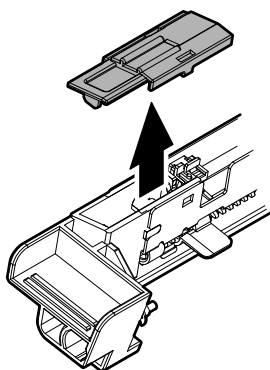
- 1) Turn the coupling lock 90° to remove the primary transfer belt drive gear.



#### (2) PTC unit

##### a. PTC cleaner B, PTC cleaner, Charger wire

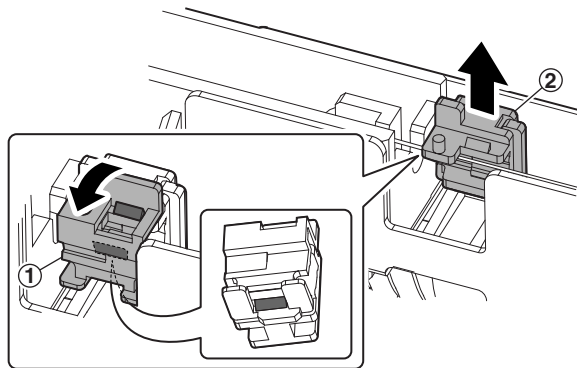
- 1) Remove the front side cover of the PTC unit.



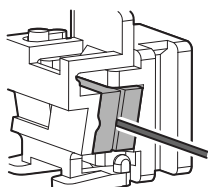
- 2) Remove the PTC cleaner B, and remove the PTC cleaner.

CAUTION: When removing and installing, be careful not to catch the PTC cleaner with the charger wire.

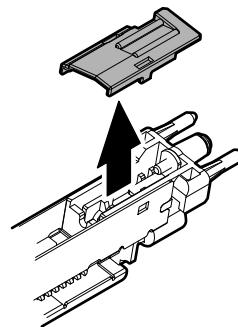
CAUTION: When installing the PTC cleaner B, check to confirm that the pawl of the PTC cleaner is securely engaged.



CAUTION: After installation, check to confirm that the charger wire is at the center of the cleaner pad.

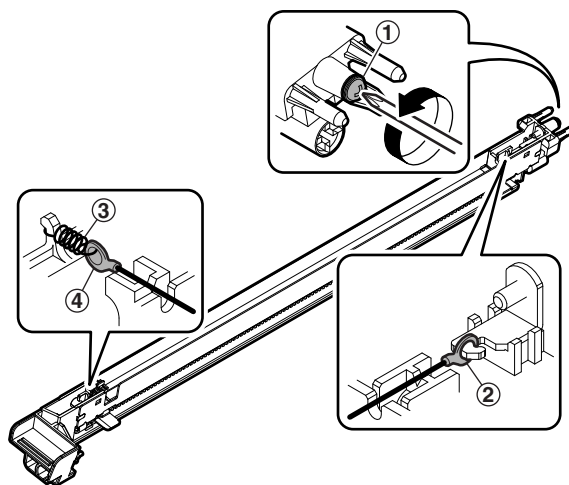


- 3) Remove the rear side cover of the PTC unit.



- 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.

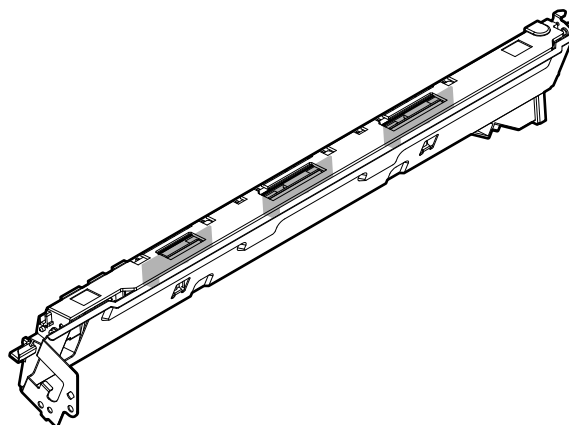
CAUTION: To handle the charger wire, hold the round terminal and do not touch the wire section directly. Be careful to keep the wire free from dirt, oil, or twist and bend.



#### (3) Registration sensor unit

##### a. Image registration/Density sensor

- 1) Open the shutter, and clean the image registration and the density sensor.

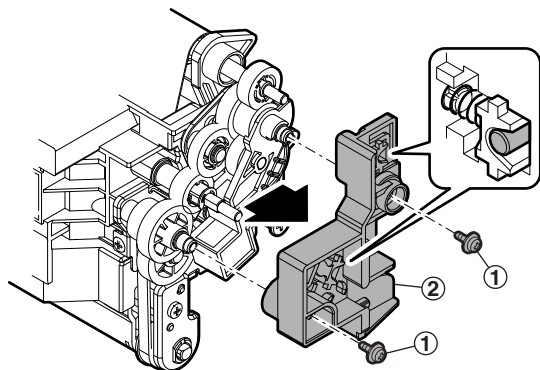


#### (4) Secondary transfer unit

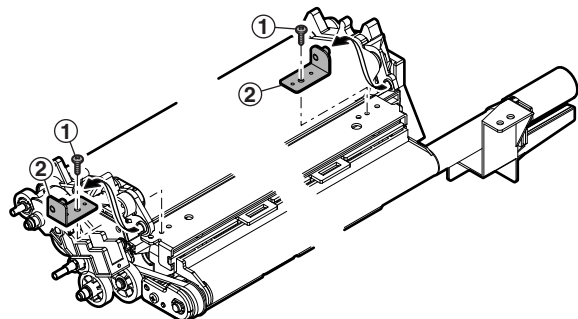
##### a. Secondary transfer belt follower roller, Secondary transfer belt

- 1) Remove the screw, and remove the electrode holder.

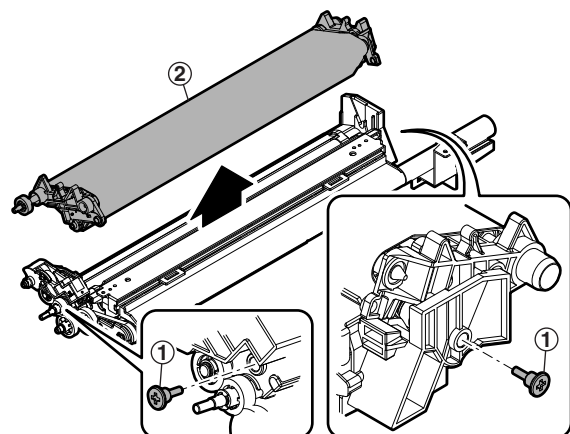
CAUTION: When attaching the electrode holder, check to confirm that the roller shaft is inserted into the bearing.



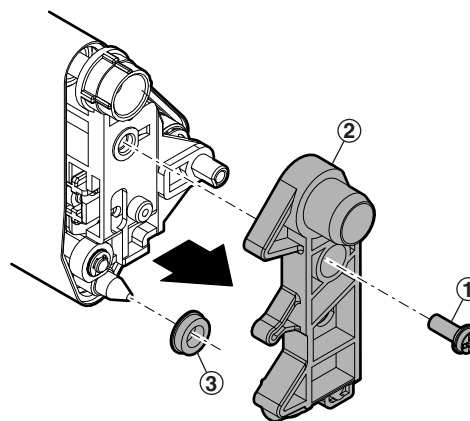
- 2) Remove the screw, and remove the positioning shaft.



- 3) Remove the step screw, and remove the secondary transfer belt unit.



- 4) Remove the screw, and remove the holder. Remove the bearing.



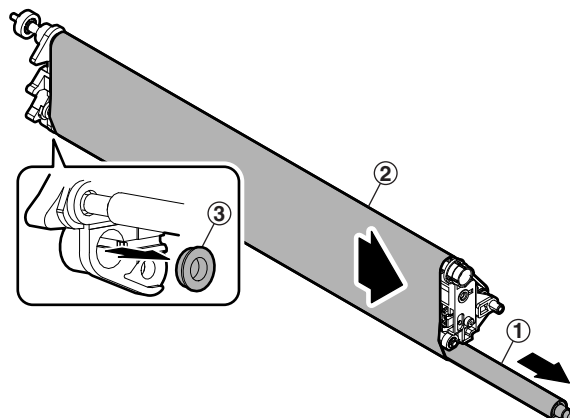
- 5) Remove the secondary transfer belt follower roller and the secondary transfer belt. Remove the bearing of the frame.

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.

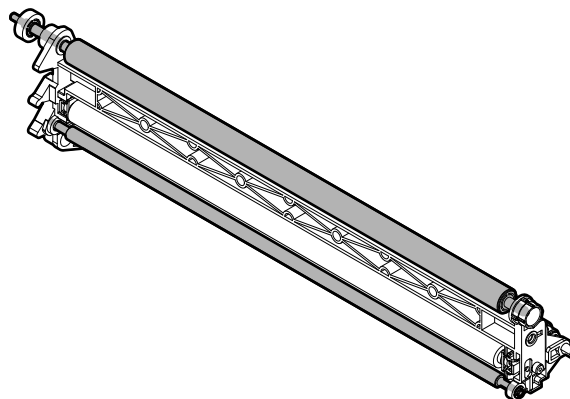
CAUTION: When installing, be careful not to bring the transfer belt in contact with the frame, etc., and not to break the transfer belt.

CAUTION: When attaching the secondary transfer belt follower roller, insert it from the vicinity of the secondary transfer belt contact roller.

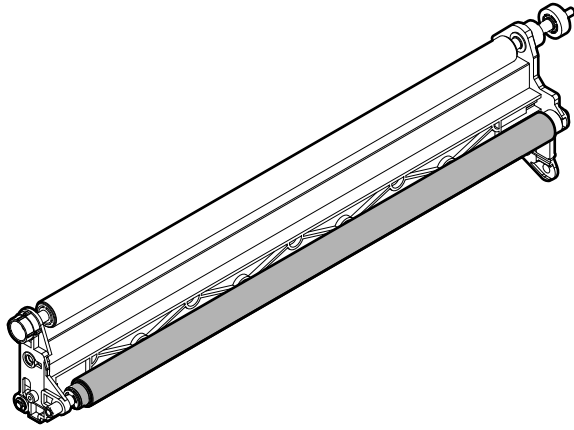


##### b. Secondary transfer belt drive roller, Secondary transfer belt backup roller, Secondary transfer blade contact roller

- 1) Remove the secondary transfer belt.
- 2) Clean the secondary transfer belt drive roller and the secondary transfer backup roller.

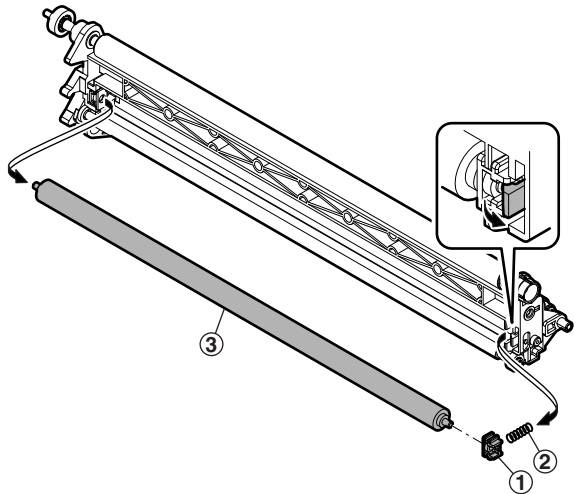


- 3) Clean the secondary transfer blade contact roller.



#### c. Secondary transfer roller

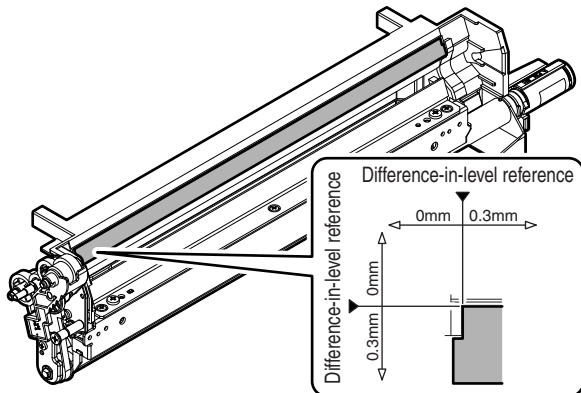
- 1) Remove the secondary transfer belt.
- 2) Remove the bearing and the spring, and remove the secondary transfer roller.



#### d. Secondary transfer toner reception seal

- 1) Remove the secondary transfer belt unit.
- 2) Check the secondary transfer reception seal.

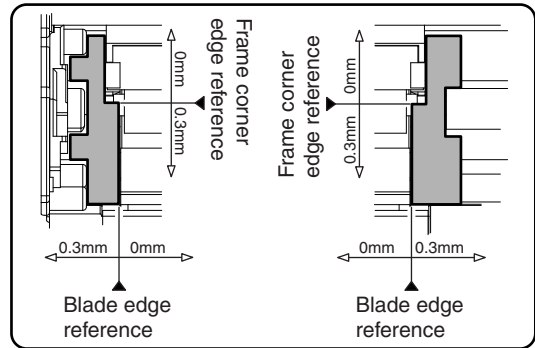
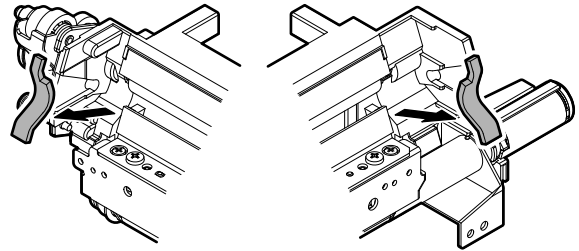
CAUTION: When replacing the secondary transfer toner reception seal, attach it to the attachment reference.



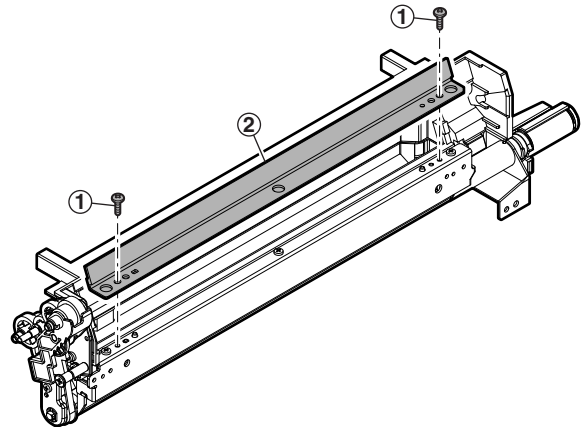
#### e. Secondary transfer cleaner seal F/R, Secondary transfer cleaner blade, Secondary transfer cleaning brush roller

- 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.



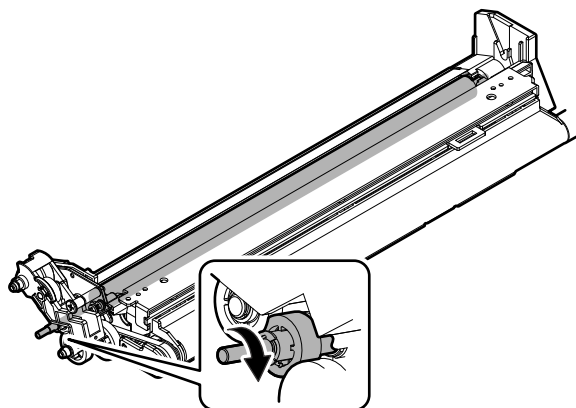
- 3) Remove the screw, and remove the secondary transfer cleaner blade.





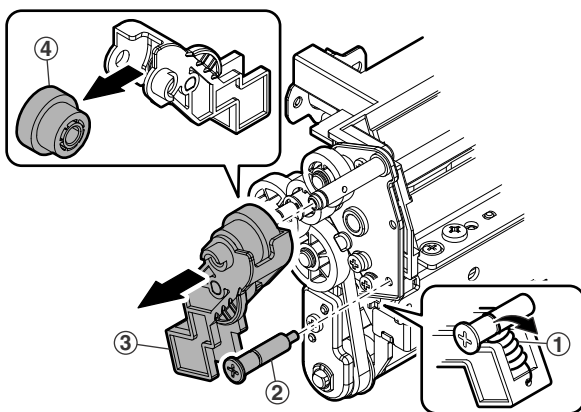
- 4) While rotating the secondary transfer cleaning brush roller in the arrow direction, clean it.

**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.

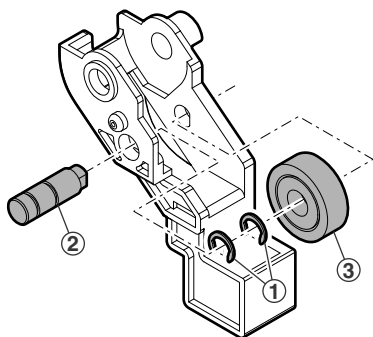


#### f. Secondary transfer idle gear

- 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

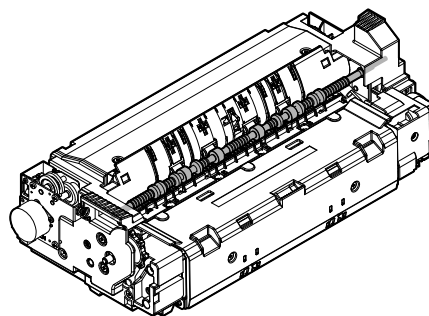
**CAUTION:** Handle the fusing belt unit integrally with the fusing unit case.

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

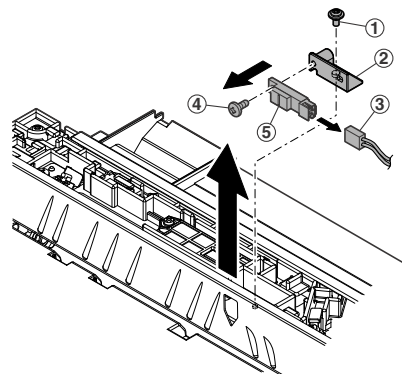
#### a. Transport roller 18

- 1) Clean the transport roller 18.



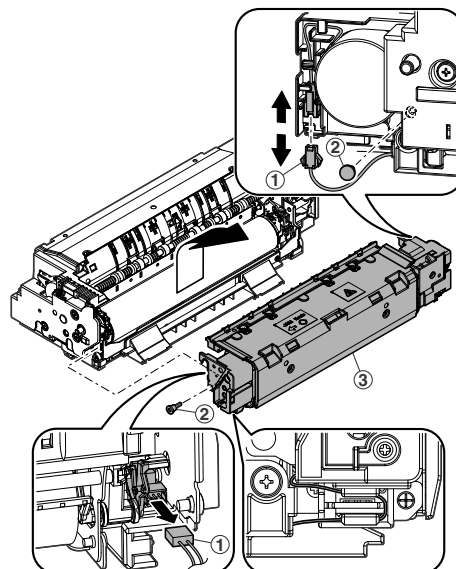
#### b. Fusing front paper pass detector

- 1) Remove the screw, and remove the mounting plate. Disconnect the connector and remove the screw, and remove the fusing front paper pass detector.

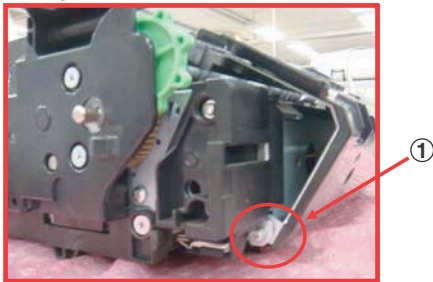
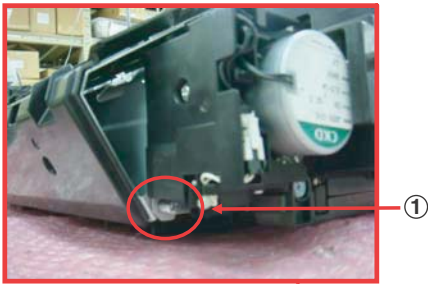


#### c. Web guide shaft, Web pressure roller bearing, Web pressure roller, Web roller

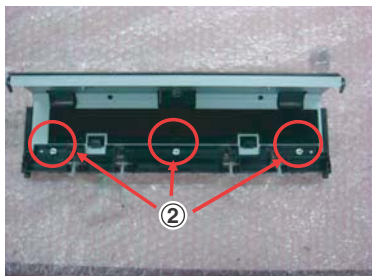
- 1) Disconnect the connector. Remove the screw, and remove the web unit.



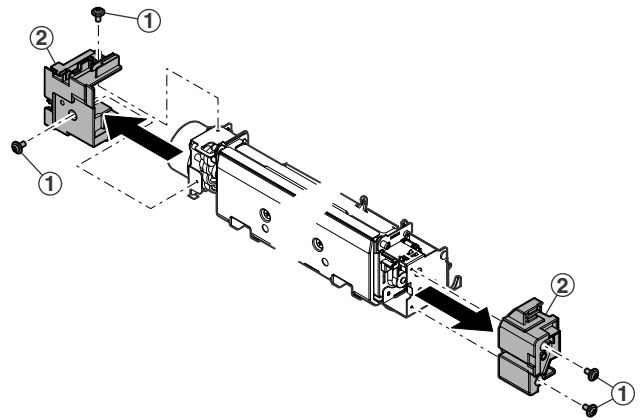
- 2) Remove the screws (①), and remove the rear lower paper guide.



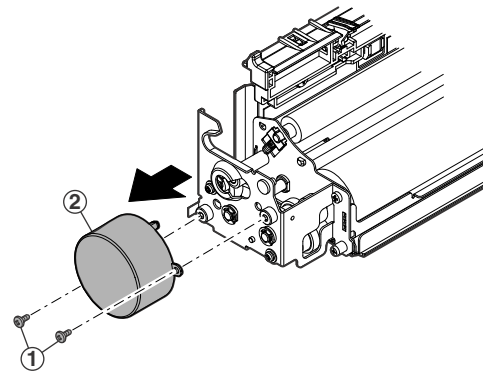
- 3) Remove the screws (②), and remove the lower separation pawl unit.



- 4) Remove the screw, and remove the cover.

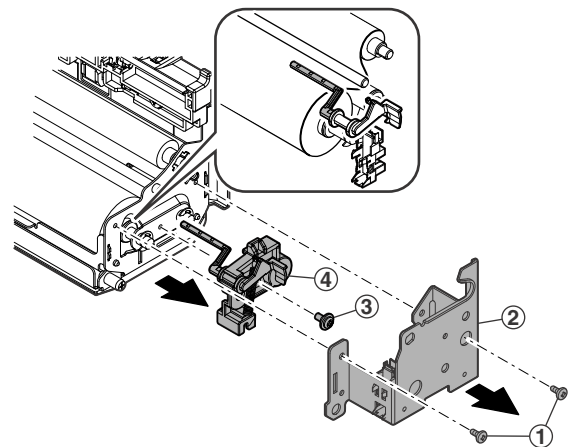


- 5) Remove the screw, and remove the web motor.



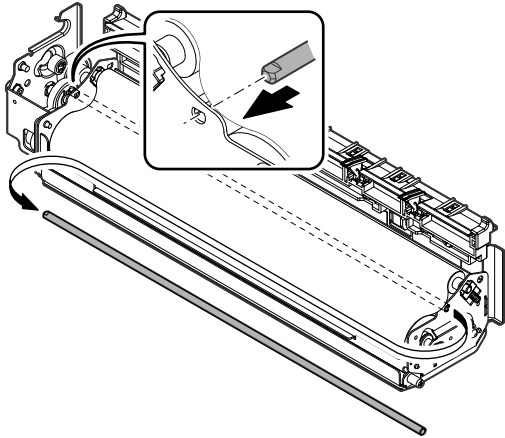
- 6) Remove the screw, and remove the frame. Remove the screw, and remove the holder.

CAUTION: When attaching the holder, adjust so that the actuator presses over the web roller sheet.

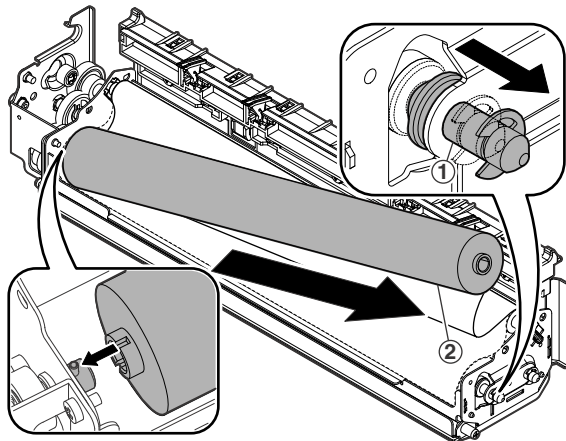


7) Remove the web guide shaft.

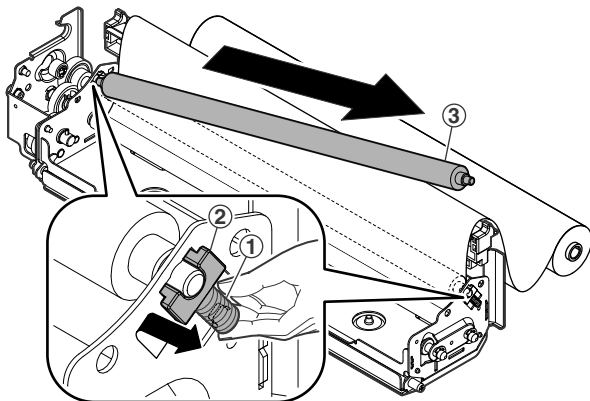
CAUTION: When installing, fit the web guide shaft with the D-cut of the mounting hole in the web guide shaft.



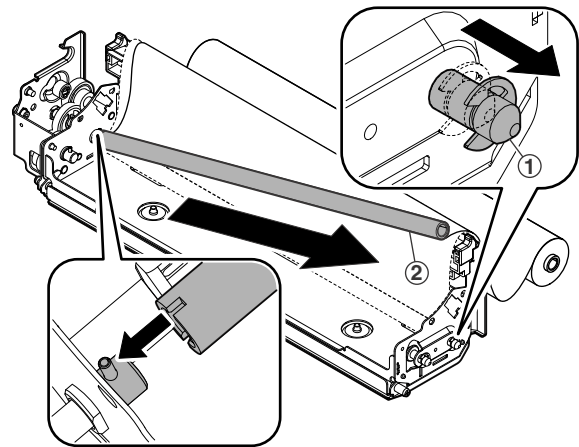
8) While pulling the web roller shaft, remove the web roller.



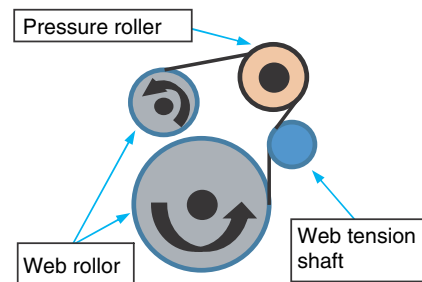
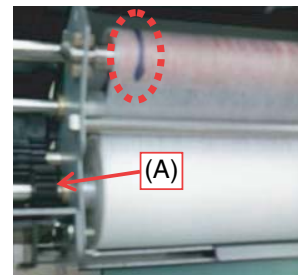
9) Remove the spring and the web pressure roller bearing, and remove the web pressure roller.



10) While pulling the web roller shaft, remove the web roller.

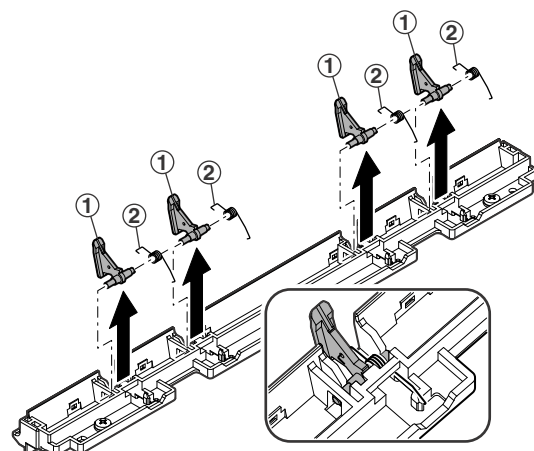


CAUTION: After installing the web roller, turn the gear (A) in the figure below until the blue line on the web sheet exceeds the pressure roller.



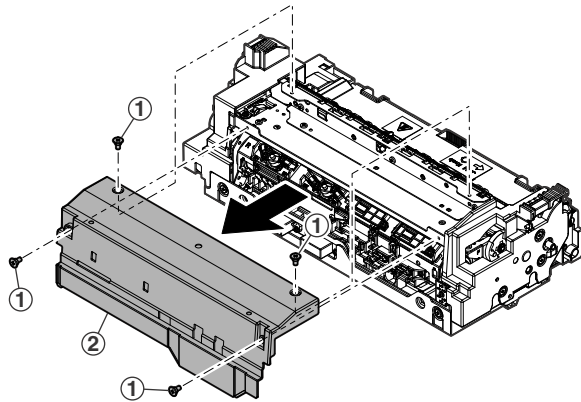
#### d. Lower separation pawl

- 1) Remove the web unit.
- 2) Remove the lower separation pawl and the spring.

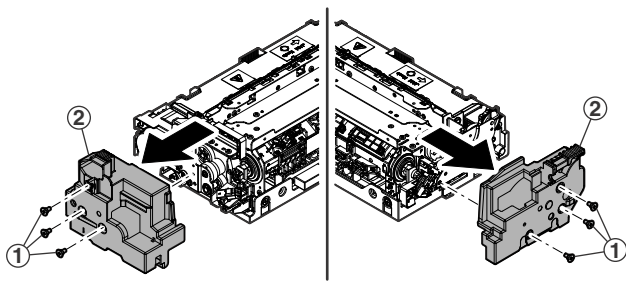


**e. Pressure roller gear, Pressure roller bearing, Pressure roller**

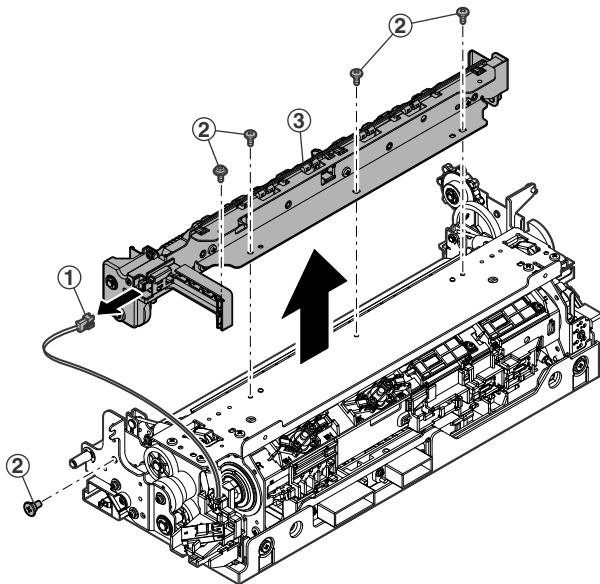
- 1) Remove the web unit.
- 2) Remove the screw, and remove the cover.



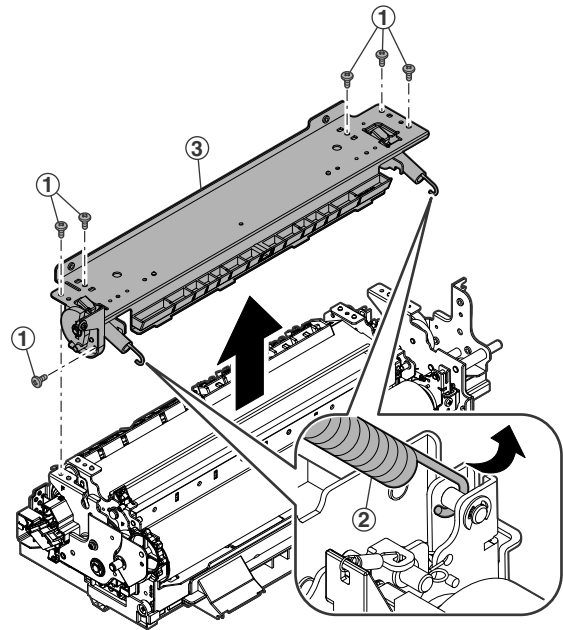
- 3) Remove the screw, and remove the cover.



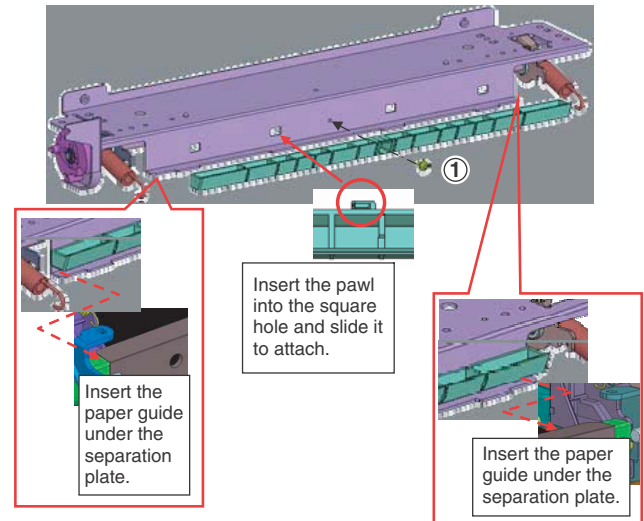
- 4) Disconnect the connector from the sensor. Remove the screw, and remove the rear transport unit.



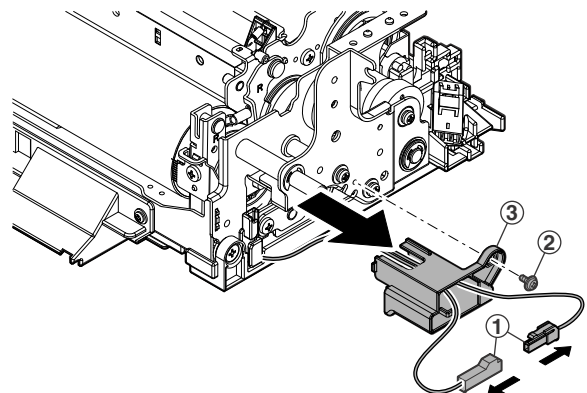
- 5) Remove the screw, and remove the pressure release unit.



- 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.

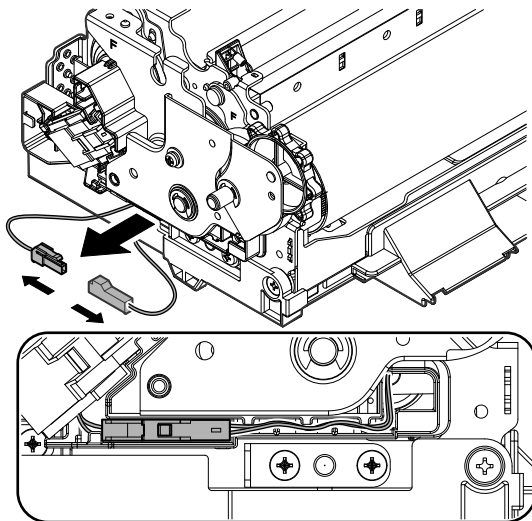


- 7) Disconnect the connector of the heater lamp. Remove the screw, and remove the holder.

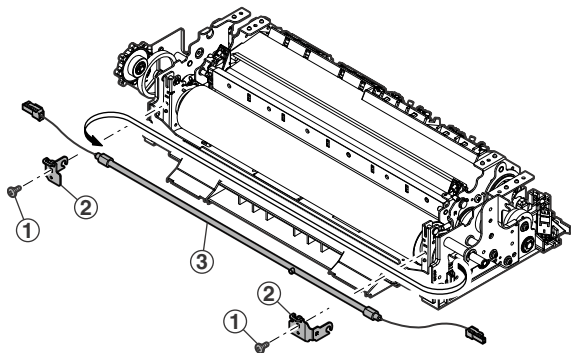




- 8) Disconnect the connector of the heater lamp.

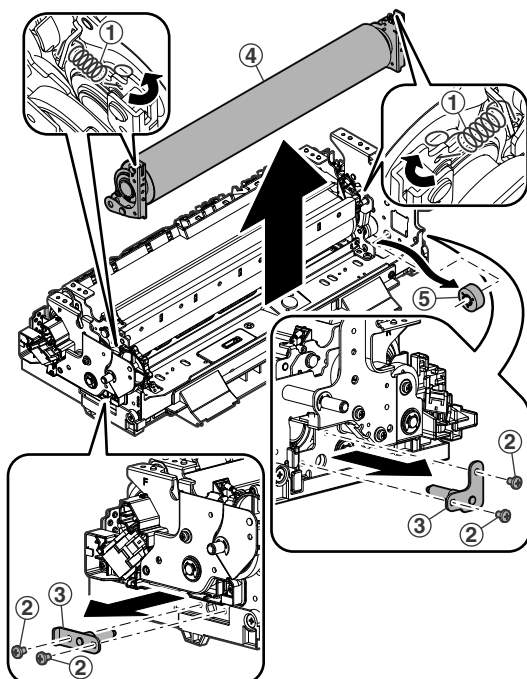


- 9) Remove the screw, and remove the lamp holder. Remove the heater lamp.

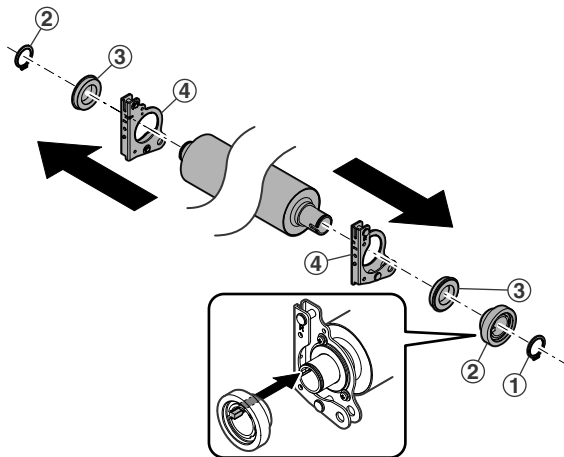


- 10) Remove the spring. Remove the screw, and remove the fixing plate. Remove the pressure roller unit.

Remove the gear(No.5:24T Gear).

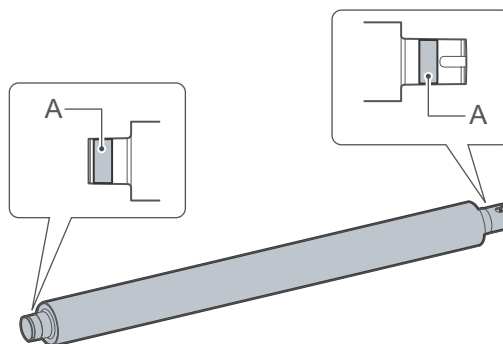


- 11) Remove the C-ring from the pressure roller, and remove the pressure roller gear. Remove the pressure roller gear, and the frame.



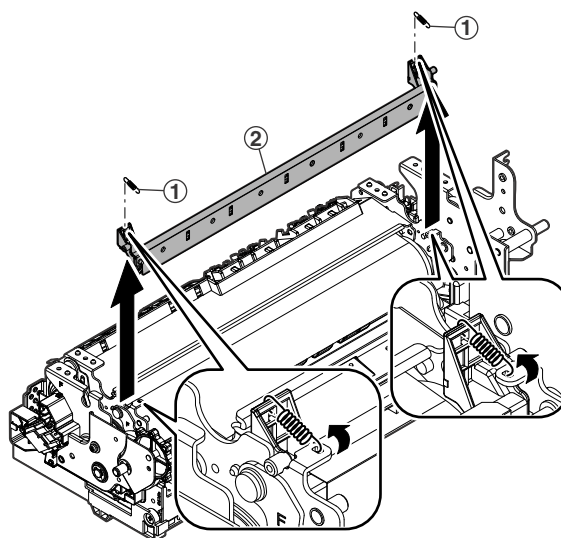
NOTE: When attaching the pressure roller, attach it with the protection sheet on it. After completion of assembly, remove the protection sheet.

NOTE: When replacing the pressure roller, apply grease (JFE552) to section A. In addition, wipe the pressure roller surface with alcohol.

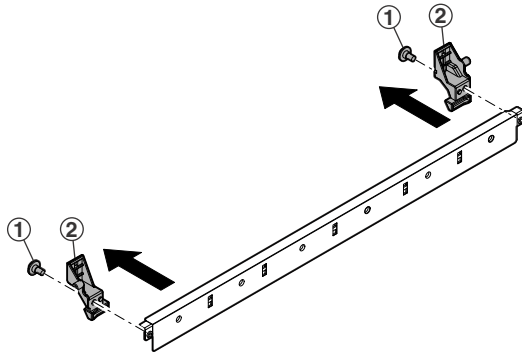


#### f. Separation plate

- 1) Remove the spring, and remove the separation plate.

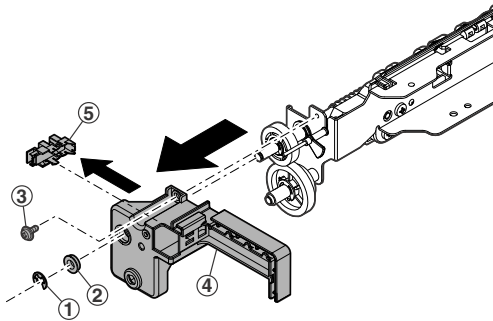


- 2) Remove the screw from the separation plate.



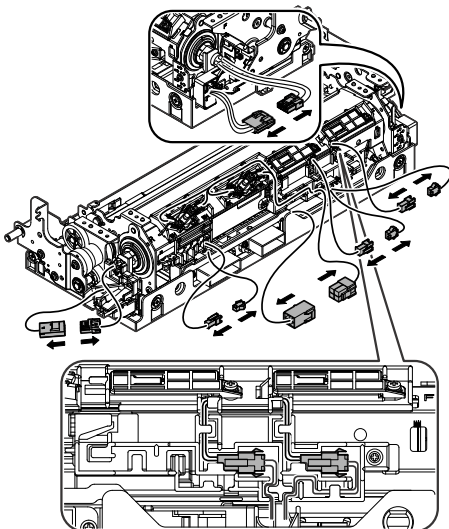
#### g. Fusing paper exit detector

- 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.

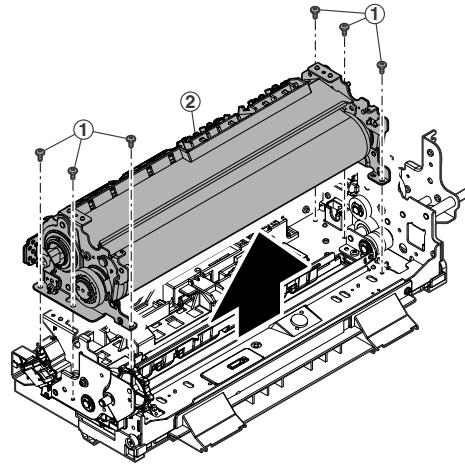


#### h. Heat insulation bushing, Heat roller bearing, Meandering suppression collar, Heat roller

- 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.



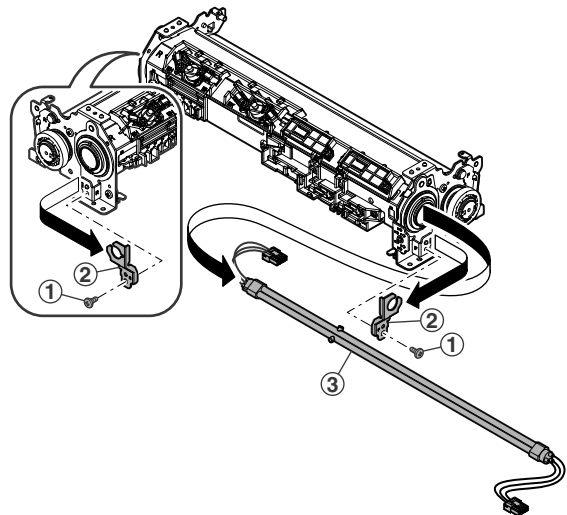
- 5) Remove the screw, and remove the fuser belt unit.



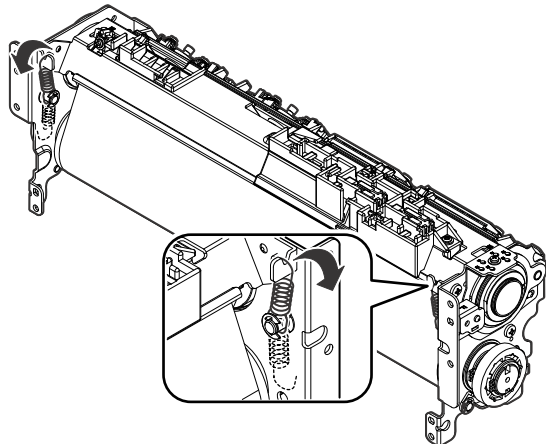
**CAUTION:** Handle the fusing belt unit integrally with the fusing unit case.

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.



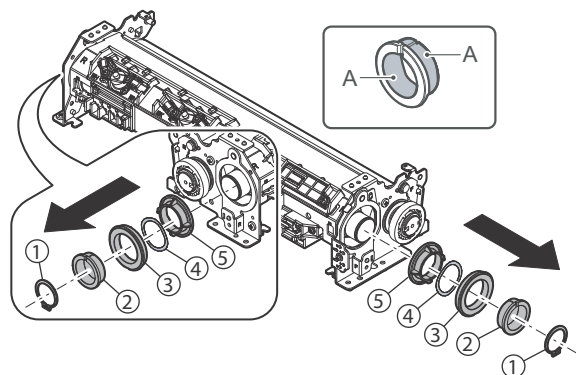
- 7) Remove the spring.



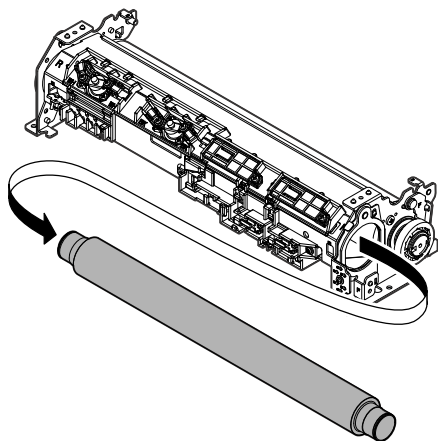
**4** : '14/Mar

- 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.

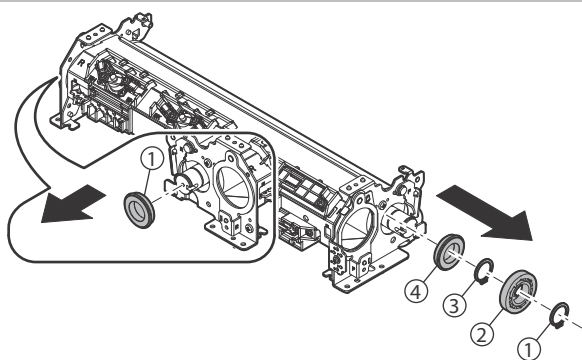


- 9) Remove the heating roller.

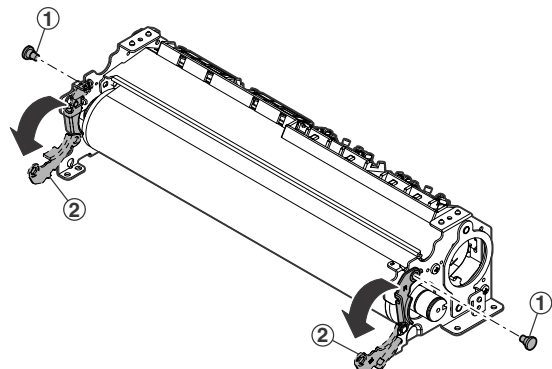


#### i. Fusing roller bearing, Fusing roller, Fusing belt

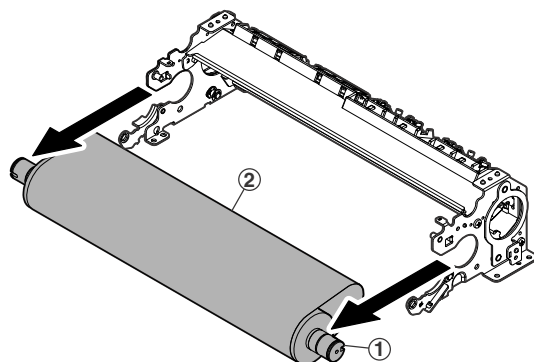
- 1) Remove the C-ring, and remove the gear. Remove the C-ring, and remove the fusing roller bearing.



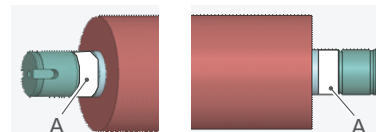
- 2) Remove the screw, and remove the holder.



- 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.

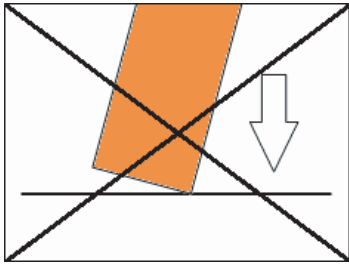
#### B. How to hold the belt when checking the belt surface

- 1) After removing the fusing belt as in A-1, stretch the belt surface with your fingers from the inside for check.

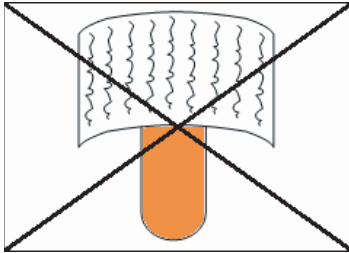


### C. Other cautions

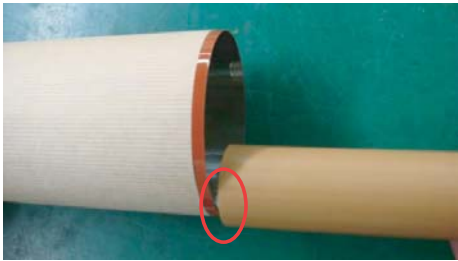
- 1) Do not put the fusing belt diagonally onto a work table.



- 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.

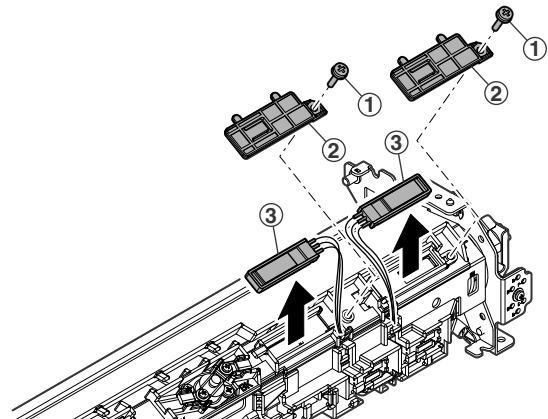


- 3) Never hit on the edge.

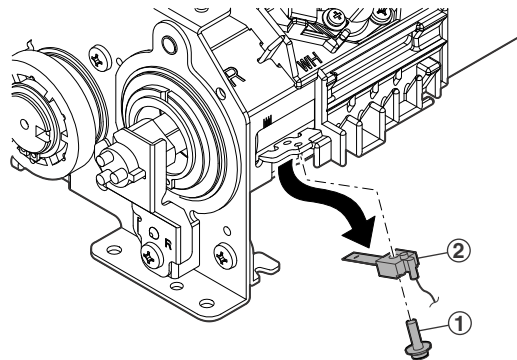


### j. Main thermistor, Sub thermistor 1, Sub thermistor 2

- 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.

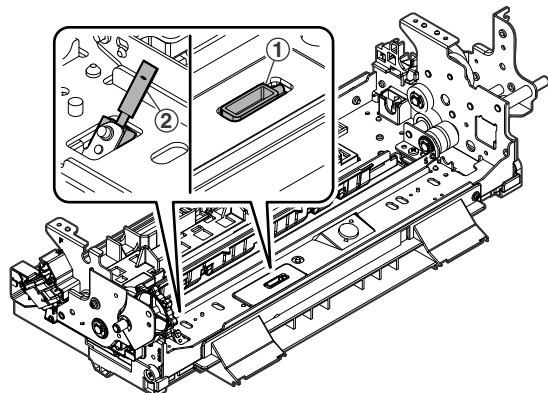


- 3) Remove the screw, and remove the sub thermistor 2. Check the sub thermistor 2.



### k. Lower thermistor 1, Lower thermistor 2

- 1) Remove the fusing belt unit.
- 2) Check the lower thermistor 1, and the lower thermistor 2.



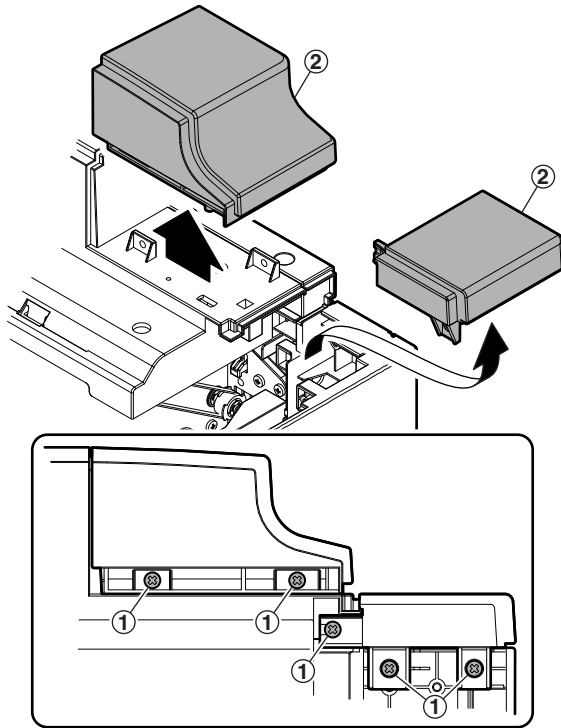


## K. Paper exit/reverse section

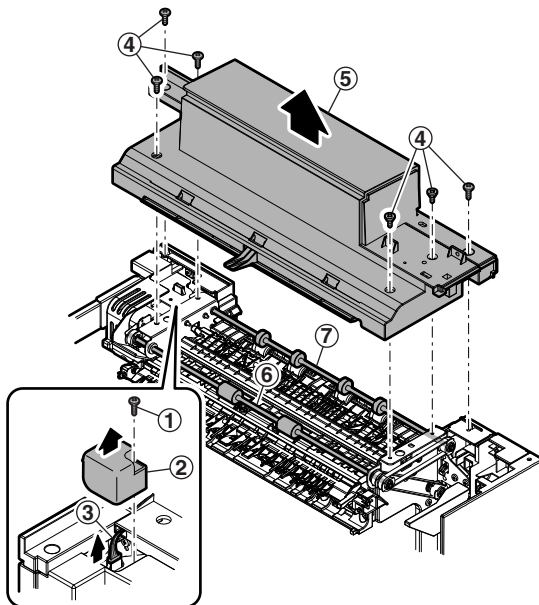
### (1) Right door unit

#### a. Transport roller 19, Paper exit roller 2, Discharge brush

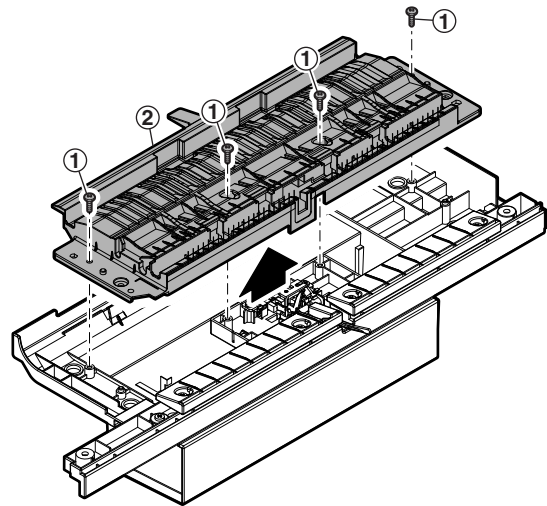
- 1) Remove the screw, and remove the cover.



- 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.

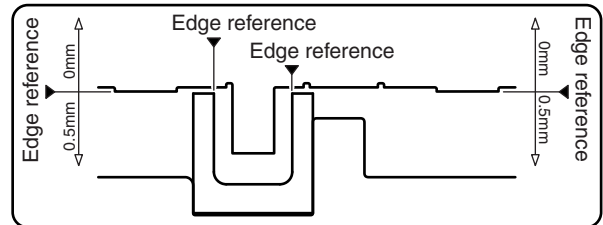
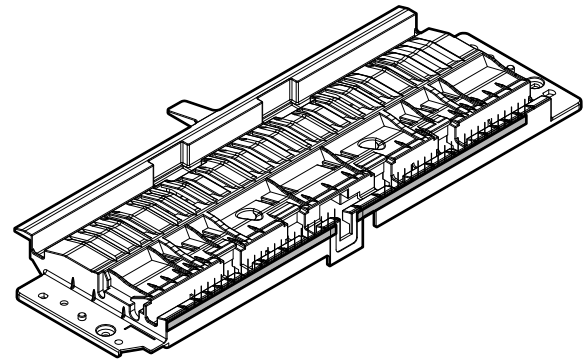


- 3) Remove the screw of the right paper exit upper unit, and remove the paper guide.



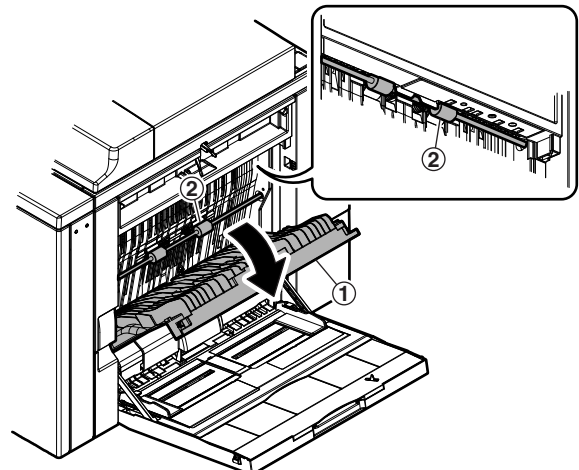
- 4) Check the discharge brush.

CAUTION: When replacing the discharge brush, attach to the attachment reference.



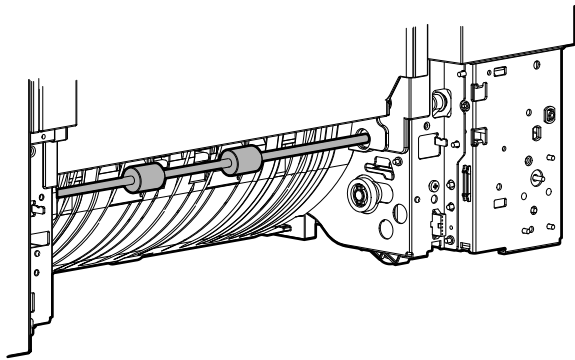
#### b. Transport roller 20, Transport roller 21

- 1) Open the ADU open/close door, and clean the transport roller 20, and the transport roller 21.



### c. Transport roller 22

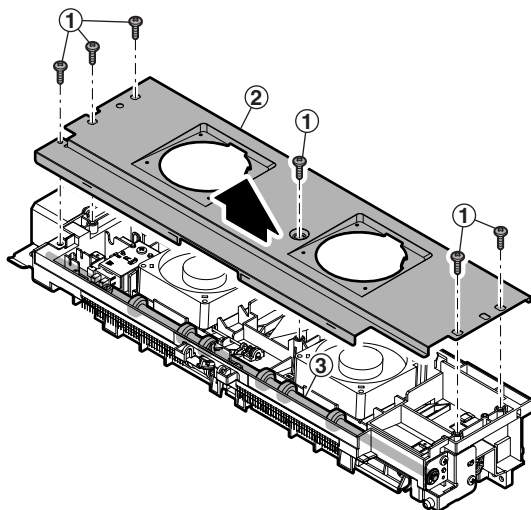
- 1) Remove the manual paper feed unit.
- 2) Clean the transport roller 22.



### (2) Paper exit unit

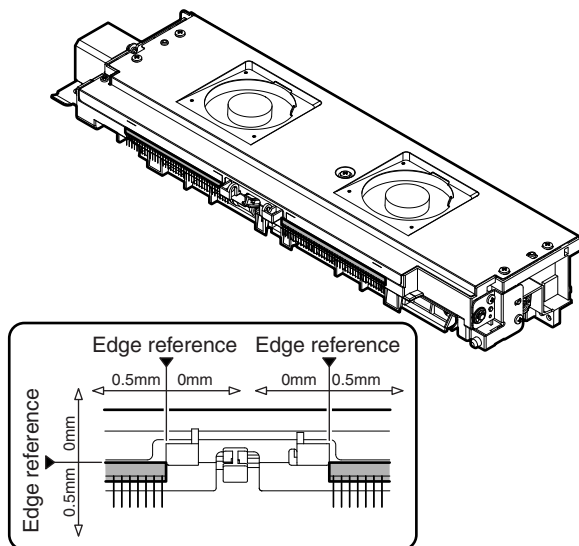
#### a. Paper exit roller 1

- 1) Remove the screw, and remove the fan cover.  
Clean the paper exit roller 1.



#### b. Discharge brush

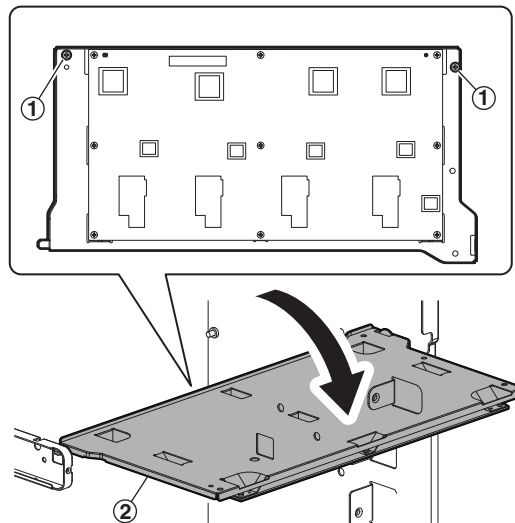
- 1) Check the discharge brush.
- CAUTION:** When replacing the discharge brush, attach to the attachment reference.



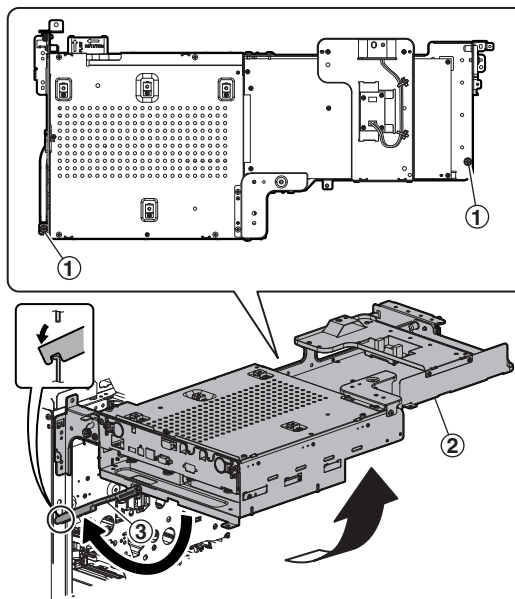
### L. Drive section

#### (1) Fusing motor

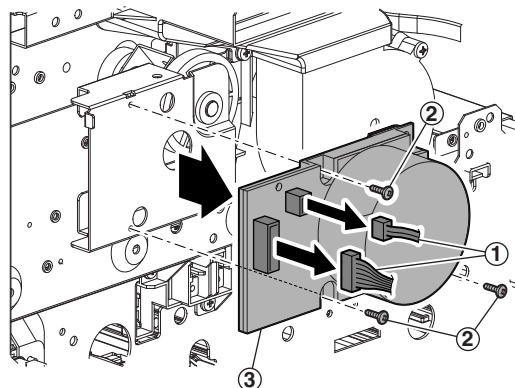
- 1) Remove the rear cabinet and the upper cabinet rear cover and the right cabinet rear.
- 2) Remove the screw, and open the high voltage MC PWB mounting plate downward.



- 3) Remove the screw, and open the MFP mother mounting unit upward. Hang the support plate on the machine frame.



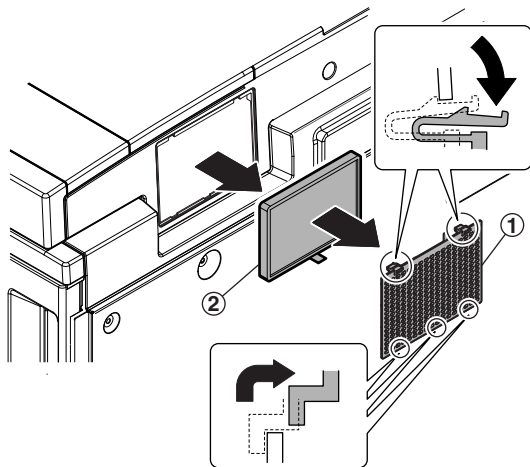
- 4) Disconnect the connector from fusing motor. Remove the screw, and remove the fusing motor.



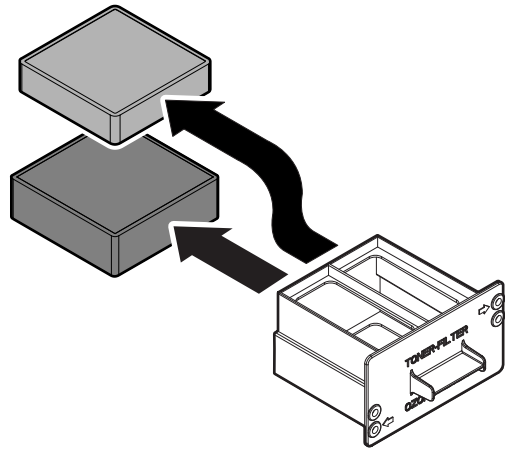
## M. Filter section

### (1) Deodorizing filter

- 1) Remove the filter cover from the upper rear cabinet, and remove the deodorizing filter.

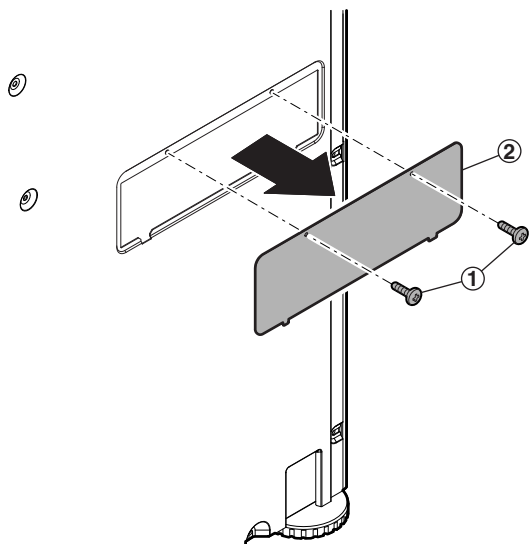


- 3) Remove the toner filter and the ozone filter from the filter box.  
CAUTION: When attaching the ozone filter, slide it to the toner filter side and insert it.

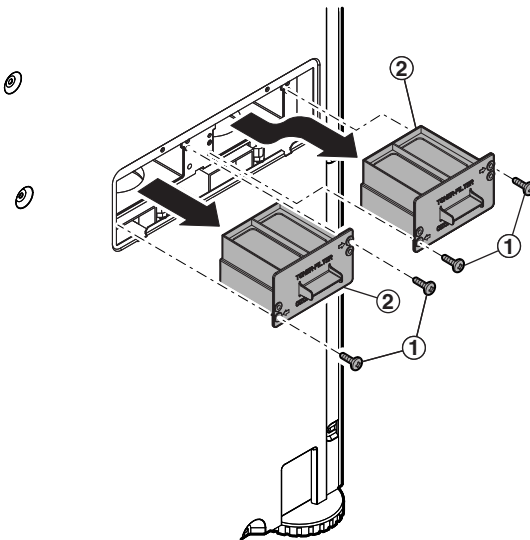


### (2) Toner filter, Ozone filter

- 1) Remove the screw from the rear cabinet, and remove the filter cover.



- 2) Remove the screw, and remove the filter box.

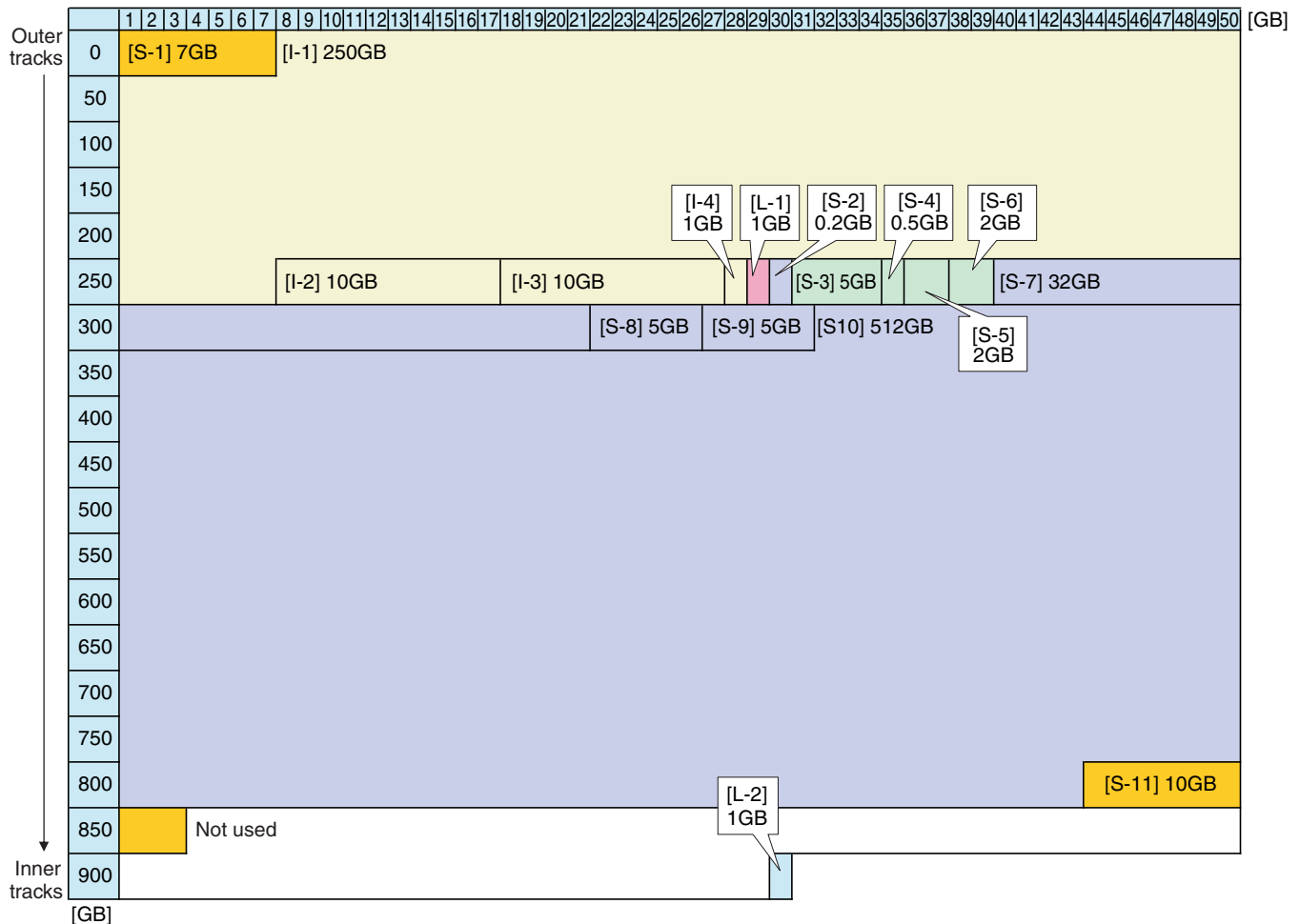


# [11] VARIOUS STORAGE DATA HANDLING

## 1. HDD/SD card/CF card memory map

### A. HDD partition

HDD size = 1TB (Actual size 930GB)



### B. HDD data contents

No.	File system	Stored data	NOTE
S-1	Universal	e-manual Watermark	
I-1	Image data	Image data (ERDH/Document filing)	Upper limit: 5000 documents, 35000 images
I-2	Image data	Image data (Temporary storage)	Upper limit: 1000 documents, 10000 images
I-3	Image data	Image data (User watermark/stamp)	Upper limit: 1000 documents, 10000 images
I-4	Image data	FAX/Internet Fax receive images	Upper limit: 3000 documents, 5000 images
L-1	Not available	Image send system registration data (sender's information, meta data, etc.)	
S-2	Universal	System setting value data (Backup)	
S-3	Universal	Download font Download color profile User macro Database system file System log FEP learning data SPN print data SPN collection data For saving difference update	
S-4	Universal	Document filing (Database) Job log (Database) Job completion list	

No.	File system	Stored data	NOTE
S-5	Universal	Address book (Database) Account management information (Database) Individual setting information for direct WEB browsing Cookie file for OSA application	
S-6	Universal	Database file (save area for collective erasing)	
S-7	Universal	PDL data (temporary area for print spool)	
S-8	Universal	Application work area (User file used in USB direct print)	
S-9	Universal	eOSA application file	
S-10	Universal	User file saved in the SMB server	
S-11	Universal	User data of set values, etc. which must not be erased when installing the DSK. (Address book, account information)	
L-2	Not available	RAID system information	

### C. SD card partition

SD card size = 4GB (Actual size 3.6GB)

	0	100	200	300	400	500	600	700	800	900	[MB]
0	[L-201] 500MB					[I-201] 1024MB					
1						Not used					
2											
3											
[GB]											

### D. SD card data contents

No.	File system	Stored data	NOTE
L-201	Not available	ICU firmware (Reus section)	
I-201	Image data	FAX/Internet Fax receive images (Backup)	

### E. CF card data partition

2 CF card size = 8GB (Actual size 7.4GB)

	0	100	200	300	400	500	600	700	800	900	[MB]
0	[L-101] 2.4GB										
1											
2						[S-101] 512MB				[S-102] 200MB	
3		[L-102] 600MB									

[GB]

### F. CF card data contents

No.	File system	Stored data	NOTE
L-101	Universal	ICU firmware (Including the OS section)	
S-101	Universal	font web help spdl UI content file lang (message data) graph (graphic data) eOSA Delegator Standard color profile Option FontROM	
S-102	Universal	System setting value data	
L-102	Not available	Operating system work area	

## **2. Necessary steps when replacing the PWB, HDD, SD Card and the CF card**

### **A. 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, the SD card 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.

### **B. 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
- Reinstall and update procedures of Operation Manual data saved in HDD
- Reinstall and update procedures of watermark data.

## (1) 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. 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	e-Manual	Available	Available	Disable	*1	Enable	Sim49-3	Service
2	Address book	Not available	Available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
3	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
4	User authentication Account management	Not available	Available	Enable	Sim56-2	Enable	Sim56-2	Service
5	Japanese FEP dictionary (Learning)	Not available	Available	Disable	Not available	Disable		—
6	Chinese FEP dictionary (Learning)	Not available	Available	Disable	Not available	Disable		—
7	JOB LOG	Not available	Available	Enable	Perform with WEB PAGE.	Disable		—
8	JOB completion list	Not available	Available	Disable	Not available	Disable		—
9	New N/A (FSS) information	Not available	Available	Disable	Not available	Disable		—
10	User font (Added)	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	Service or User
11	User macro	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	
12	Document filing	Not available	Available	Enable	Perform with WEB PAGE.	Enable	Perform with WEB PAGE.	
13	Some of system setting data	Not available	Available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
14	Watermark	Available	Available	Disable	*2	Enable	Sim49-5	Service
15	User color profile	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	Service
16	Mirroring information (When the mirroring kit is installed, the mirroring information is written.)	Not available	Available (After installation of the mirroring kit)	Disable	Not available	Enable	The mirroring information is erased by forcible build or RIB BUSTER.	Service
17	Individual setting information for direct WEB browsing	Not available	Available	Disable		Disable		Service
18	Cookie file for OSA application	Not available	Available	Disable		Disable		Service
19	eOSA application file	Not available	Installation of application	Disable		Enable	Reinstallation of application	Service
20	User file saved in the SMB server (NAS)	Not available	Available	Disable		Disable		Service
21	FAX/Internet FAX reception data	Not available	Available	Enable	Sim66-62	Disable		—

\*1: The e-Manual cannot be backed up, but can be reinstalled by using Sim49-3 and USB memory.

\*2: Watermark data cannot be backed up, but can be reinstalled by using Sim49-5 and USB memory.

## (2) Replacement procedures when HDD data can be backed up

### a. Work contents and procedures

Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *
Step 1	Back up the HDD storage data before replacement. (Servicing) Use SIM56-2 or the device cloning, or the storage backup function to backup the data. (Back up the data to the USB memory.) (Backup enable data: HDD storage data list No. 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	Use SIM49-3 to install the manual data to the HDD.	
Step 10	The trouble code, U2-60, is displayed. → Use SIM49-5 to install the watermark data to the HDD. → After booting the machine, use SIM16 to cancel the "U2-60" trouble.	
Step 11	Import the data backed up in Step 1. Use SIM56-2, or the device cloning, or the storage backup to import. (Import enable data: HDD storage data list No. 2, 3, 4 (Address book, Image send series registration data, User authentication data))	
Step 12	Import the data backed up with the Web page function in Step 2. Import enable data: Document filing data, User font, Use macro (The JOB LOG data can be backed up but cannot be imported.)	

## (3) Replacement procedures when the HDD storage data cannot be backed up due to breakdown

### a. Display when HDD breakdown

When a trouble occurs in the HDD, the error code display of E7-03 is popped up.

In this case, the main power must be turned OFF and the HDD must be replaced.

### b. Work contents and procedures

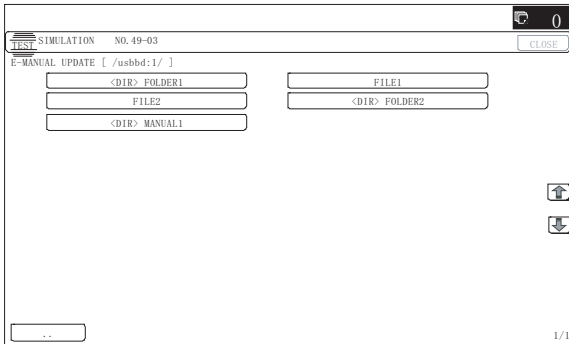
Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *
Step 1	Install a HDD to the machine, and boot the complex machine. → Formatting is automatically performed.	Install a HDD to the machine, and boot the complex machine.
Step 2		The trouble code, U2-05, is displayed. → Cancel with SIM16.
Step 3	Since a blank HDD is automatically formatted, there is no need to perform formatting procedure with SIM.	Use Sim62-1 to format the HDD.
Step 4	When there are some FAX or Internet Fax data, use SIM66-62 to backup the image data from the SD Card (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.)	
Step 6	Use SIM49-3 to install the manual data to the HDD.	
Step 7	The trouble code, U2-60, is displayed. → Use SIM49-5 to install the watermark data to the HDD. → After booting the machine, use SIM16 to cancel the "U2-60" trouble.	

With the above procedures, the HDD is reset to the state of factory shipping.



#### (4) Reinstall and update procedures of the HDD storage Operation Manual data

- 1) Obtain the Operation Manual data.  
Download the Operation Manual data from the utility menu on the web site (Tech-DS home page).  
Copy the downloaded files to the USB device without changing the file hierarchy.
- 2) Enter the SIM49-3 mode.



- 3) Insert the USB memory into the machine.
  - When the USB memory is not inserted, "INSERT A STORAGE-MANUAL STORED ON" is displayed. When [OK] button is pressed, the screen shifts to the folder select menu 1.
- 4) Select the folder of the Operation Manual data. (The screen shifts to the Operation Manual data install menu.)  
The current version and the update version are displayed.
- 5) Press [EXECUTE] button.  
[EXECUTE] button is highlighted, and [YES] and [NO] buttons are changed from gray-out to active display.
- 6) When [YES] button is pressed, the selected Operation Manual is installed.  
When install is completed, "COMPLETE" is displayed. In case of an abnormality, "ERROR" is displayed.

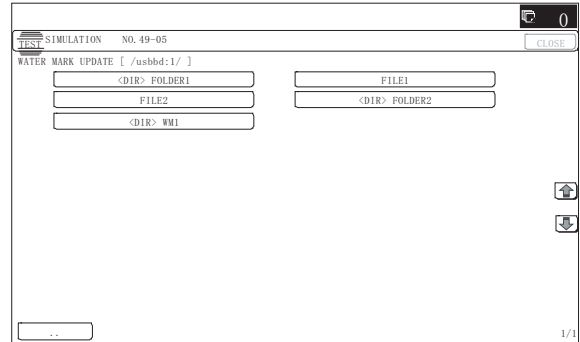
#### (5) Watermark data reinstall and update procedures

- 1) Obtain the watermark data.  
Download the watermark data from the utility menu on the web site (Tech-DS home page).  
Copy the downloaded files to the USB device without changing the file hierarchy.

NOTE: When data are uploaded from the USB memory to the HDD, if there are some data in the HDD, the files in the memory are compared with the files in the HDD and only the files which satisfy the following conditions are written into the HDD.

- The file size is different.
- The time stamp is different.
- The file exists only in the USB memory.

- 2) Enter the SIM49-5 mode.



- 3) Insert the USB memory into the machine.
  - When the USB memory is not inserted, "INSERT A STORAGE-MANUAL STORED ON" is displayed. When [OK] button is pressed, the screen shifts to the folder select menu 1.
- 4) Select the folder of the watermark data. (The screen shifts to the watermark data install menu.)  
The current version and the update version are displayed.
- 5) Press [EXECUTE] button.  
[EXECUTE] button is highlighted, and [YES] and [NO] buttons are changed from gray-out to active display.
- 6) When [YES] button is pressed, the selected watermark data are installed.  
When install is completed, "COMPLETE" is displayed. In case of an abnormality, "ERROR" is displayed.

## C. Procedures necessary for SD card replacement

### (1) SD card data and backup

Some SD card storage data can be backed up, and some other cannot. Some SD card storage data can be reinstalled, and some other cannot. If the SD card operates normally before replacement and data can be backed up, back up the data before replacement of the SD card referring to the storage data list. Then reinstall the data after replacement of the SD card.

The SD card includes the following data.

#### SD card backup

Partition number	Stored data		Enable/Disable of data backup	Backup means	Enable/Disable of data reinstall	Data reinstall procedures
L-201	ICU firmware (Reus section)	ICU firmware (Including the OS section)	Disable		Enable	SIM49-1
I-201	FAX reception data (Backup)	FAX/Internet Fax reception image data	Enable	SIM66-62	Disable	

- 1) When there are some FAX/Internet Fax data received, use SIM66-62 to backup the image data to the USB memory in the PDF file type, and give the PDF file to the user. (The data cannot be restored to the machine.)
- 2) Replace the SD card with a new one.
- 3) Upgrade the firmware to the latest version.
- 4) Use SIM66-10 to clear the image send memory. (Ensure consistency between the HDD data and the image-related memory.)

CAUTION: When replacing the SD card, be sure to use only the specified SD card supplied as a service part.

**The firmware required for booting must be included in the SD card used in this machine. The commercially available SD cards have no such data.**

NOTE: When E7-07 error occurs, there may be some trouble in the SD card.

## D. Procedures necessary for CF card replacement

### (1) CF card data and backup

Some CF card storage data can be backed up, and some other cannot. Some CF card storage data can be reinstalled, and some other cannot. If the CF card operates normally before replacement and data can be backed up, back up the data before replacement of the CF card referring to the storage data list. Then reinstall the data after replacement of the CF card.

The CF card includes the following data.

#### CF card backup

Partition number	Stored data		Enable/Disable of data backup	Backup means	Enable/Disable of data reinstall	Data reinstall procedures
L-101	ICU firmware	ICU firmware (Including the OS section)	Disable		Enable	SIM49-1
S-101	ICU firmware fixed data	font web help spdl UI content file lang (message data) graph (graphic data) eOSA Delegator Standard color profile Option FontROM	Disable		Enable	SIM49-1
S-102	System data	Setting value data file (System setting/SIM setting data (Image quality adjustment)/FAX Soft SW)	Enable	SIM56-02	Enable	SIM56-02

- 1) Use SIM56-02 to backup the CF card data to the USB memory.
- 2) When the operation panel home screen has been customized, backup the CF card data by using the device cloning function.
- 3) Replace the CF card with a new one.
- 4) Upgrade the firmware to the latest version.
- 5) Use SIM56-02 to restore the data backed up in procedure 1).
- 6) Restore the data backed up in procedure 2) by using the device cloning function.

CAUTION: When replacing the CF card, be sure to use only the specified CF card supplied as a service part.

**The firmware required for booting must be included in the CF card used in this machine. The commercially available CF cards have no such data.**

NOTE: When E7-A6 error occurs, there may be some trouble in the CF card.

### 3. HDD/SD card/CF card SIM format operation

The relations between SIM62/66 and formatted (deleted) data are as follows:

\*1: Physical format ("0" is written to the all area.)

\*2: Logical format (Only the management area is initialized.)

\*3: Nothing is done.

#### SIM66-10 FAX image memory clear

##### HDD

Partition number	Partition	
S-1	Pre-install data	*3
I-1	ERDH work + Temporary storage	*3
I-2	Document filing data (Standard + User)	*3
I-3	User watermark/stamp	*3
I-4	FAX reception data	*2
L-1	System storage data	*3
S-2	System data (Backup)	*3
S-3	Multipurpose	*3
S-4	Application #1	*3
S-5	Application #2	*3
S-6	Application #3	*3
S-7	Printer spooler	*3
S-8	Application work	*3
S-9	eOSA work	*3
S-10	SMB server	*3
S-11	DSK data save	*3
L-2	RAID management	*3

##### SD Card

Partition number	Partition	
L-201	ICU firmware	*3
I-201	FAX reception data	*2

##### CF Card

Partition number	Partition	
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	System data	*3
L-102	Operating system work area	*3

#### SIM62-1 Hard disk format

##### HDD

Partition number	Partition	
S-1	Pre-install data	*3
I-1	ERDH work + Temporary storage	*1
I-2	Document filing data (Standard + User)	*1
I-3	User watermark/stamp	*1
I-4	FAX reception data	*1
L-1	System storage data	*1
S-2	System data (Backup)	*1
S-3	Multipurpose	*1
S-4	Application #1	*1
S-5	Application #2	*1
S-6	Application #3	*1
S-7	Printer spooler	*1
S-8	Application work	*1
S-9	eOSA work	*1
S-10	SMB server	*1
S-11	DSK data save	*1
L-2	RAID management	*3

##### SD Card

Partition number	Partition	
L-201	ICU firmware	*3
I-201	FAX reception data	*1

##### CF Card

Partition number	Partition	
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	System data	*3
L-102	Operating system work area	*3

#### SIM62-8 Hard disk format (Excluding the system area)

##### HDD

Partition number	Partition	
S-1	Pre-install data	*3
I-1	ERDH work + Temporary storage	*1
I-2	Document filing data (Standard + User)	*1
I-3	User watermark/stamp	*1
I-4	FAX reception data	*1
L-1	System storage data	*3
S-2	System data (Backup)	*1
S-3	Multipurpose	*1
S-4	Application #1	*1
S-5	Application #2	*1
S-6	Application #3	*1
S-7	Printer spooler	*1
S-8	Application work	*1
S-9	eOSA work	*1
S-10	SMB server	*1
S-11	DSK data save	*1
L-2	RAID management	*3

##### SD Card

Partition number	Partition	
L-201	ICU firmware	*3
I-201	FAX reception data	*1

##### CF Card

Partition number	Partition	
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	System data	*3
L-102	Operating system work area	*3

**SIM62-10 Job complete list (Job log data) delete****HDD**

Partition number	Partition	
S-1	Pre-install data	*3
I-1	ERDH work + Temporary storage	*3
I-2	Document filing data (Standard + User)	*3
I-3	User watermark/stamp	*3
I-4	FAX reception data	*3
L-1	System storage data	*3
S-2	System data (Backup)	*3
S-3	Multipurpose	*3
S-4	Application #1	*2
S-5	Application #2	*3
S-6	Application #3	*3
S-7	Printer spooler	*2
S-8	Application work	*3
S-9	eOSA work	*3
S-10	SMB server	*3
S-11	DSK data save	*3
L-2	RAID management	*3

**SD Card**

Partition number	Partition	
L-201	ICU firmware	*3
I-201	FAX reception data	*3

**CF Card**

Partition number	Partition	
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	System data	*3
L-102	Operating system work area	*3

**SIM62-11 Document filing data delete****HDD**

Partition number	Partition	
S-1	Pre-install data	*3
I-1	ERDH work + Temporary storage	*2
I-2	Document filing data (Standard + User)	*2
I-3	User watermark/stamp	*3
I-4	FAX reception data	*3
L-1	System storage data	*3
S-2	System data (Backup)	*3
S-3	Multipurpose	*3
S-4	Application #1	*3
S-5	Application #2	*3
S-6	Application #3	*3
S-7	Printer spooler	*2
S-8	Application work	*3
S-9	eOSA work	*3
S-10	SMB server	*3
S-11	DSK data save	*3
L-2	RAID management	*3

**SD Card**

Partition number	Partition	
L-201	ICU firmware	*3
I-201	FAX reception data	*3

**CF Card**

Partition number	Partition	
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	System data	*3
L-102	Operating system work area	*3

**SIM62-13 Hard disk format (Manual area only)****HDD**

Partition number	Partition	
S-1	Pre-install data	*2
I-1	ERDH work + Temporary storage	*3
I-2	Document filing data (Standard + User)	*3
I-3	User watermark/stamp	*3
I-4	FAX reception data	*3
L-1	System storage data	*3
S-2	System data (Backup)	*3
S-3	Multipurpose	*3
S-4	Application #1	*3
S-5	Application #2	*3
S-6	Application #3	*3
S-7	Printer spooler	*3
S-8	Application work	*3
S-9	eOSA work	*3
S-10	SMB server	*3
S-11	DSK data save	*3
L-2	RAID management	*3

**SD Card**

Partition number	Partition	
L-201	ICU firmware	*3
I-201	FAX reception data	*3

**CF Card**

Partition number	Partition	
L-101	ICU firmware	*3
S-101	ICU firmware fixed data (Pre-install)	*3
S-102	System data	*3
L-102	Operating system work area	*3

## 4. Necessary works and notes for replacement of the mirroring kit HDD

### NOTE:

#### Terminology and contents

Mirroring information: When the mirroring kit is installed and the power is turned ON, the mirroring information is written into the L-2 partition of the both HDD's.

Rebuilding: Copying operation of the whole contents of one HDD to the other HDD.

Forcible rebuilding: Erasing the mirroring information in the HDD and rewriting new information.

When the mirroring kit is installed, the two HDD's are named HDD1 and HDD2.

HDD1: Standard HDD for the machine

HDD2: Mirroring kit HDD




The status of each HDD can be checked with SIM62-20.

#### Outline / Description Items

Kinds of errors and remedies	A. Causes and remedies when the icon of HDD trouble is displayed
	B. Causes and remedies when the E7-03 error display is popped up
Specified remedies for each error (Details of remedies and procedures)	C. Replacement procedures of the HDD of the mirroring kit or that of the machine
	D. Replacement procedures of both of the HDD of the mirroring kit and that of the machine
	E. Note for reuse of HDD

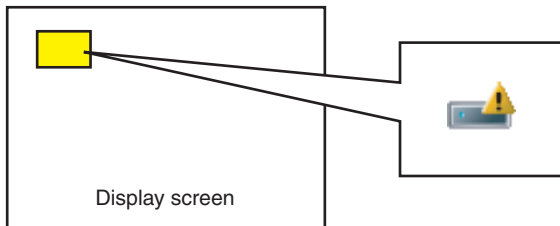
#### Mirroring kit status and status icons

When the mirroring kit is installed, one of the following icons is displayed on the operation panel.

Icon	Mirroring kit status
	Mirroring kit installed
	Mirroring kit/HDD trouble
	Mirroring kit/Rebuilding

#### A. Causes and remedies when the icon of HDD trouble is displayed

(When the icon shown below is displayed)



- 1) When one HDD goes into trouble, the UI icon which indicates HDD trouble of the mirroring kit is displayed.
- 2) Use SIM62-20 to check the HDD status, and refer to the table below to confirm the relation between the HDD status and the remedy.

#### SIM62-20 status and causes of troubles (When the icon of HDD trouble is displayed)

		HDD2				
HDD1	OK	OK	NONE	REBUILDING	ERROR	TROUBLE
	NONE	—	A	—	A	A
	REBUILDING	A	—	—	—	—
	ERROR	—	—	—	—	—
	TROUBLE	A	—	—	—	—

- 3) Refer to the table below and check to confirm the remedy.

#### Table: Causes of troubles and remedies when the icon of HDD trouble is displayed

Case	State	Cause	Remedy
A	One HDD status is OK. The other HDD status is other than OK.	<ul style="list-style-type: none"><li>• The HDD which indicates the status other than OK is in trouble.</li><li>• Connection failure of the connectors and harness of the mirroring kit</li></ul>	<ul style="list-style-type: none"><li>• Replace the HDD. (Perform "C. Replacement procedures of the HDD of the mirroring kit or that of the machine")</li><li>• Replace the mirroring kit. (Perform "C. Replacement procedures of the HDD of the mirroring kit or that of the machine")</li></ul>

- 4) Refer to the details of the remedy and perform the necessary procedures.

## B. Causes and remedies when the E7-03 error display is popped up

- 1) Use SIM62-20 to check the HDD status, and refer to the table below to confirm the relation between the HDD status and the remedy.  
Refer to the table of "Causes of troubles and remedies when the E7-03 error occurs" and perform the necessary procedures.  
Backup the data from the HDD without trouble first.

### SIM62-20 status and causes of troubles

		HDD2				
		OK	NONE	REBUILDING	ERROR	TROUBLE
HDD1	OK	B	B or C	B	B	B
	NONE	B or C	C	C	C	C
	REBUILDING	B	C	F	F	F
	ERROR	B	C	F	F	F
	TROUBLE	B	C	F	F	D or E

- 2) Refer to the table below, and check to confirm the remedy.

### Causes of troubles and remedies when the E7-03 error occurs

Case	State	Cause	Remedy
B	When at least one HDD is OK.	<ul style="list-style-type: none"> <li>Communication trouble through the SATA harness of HDD.</li> <li>Trouble of HDD which indicates the status other than OK.</li> <li>Broken data in HDD</li> <li>The mirroring kit side HDD is normal. The machine side HDD is in trouble or rebuild operation is not completed.</li> <li>RAID PWB trouble</li> </ul>	<ul style="list-style-type: none"> <li>Replace the cable. Remove and connect.</li> <li>Replace the HDD which indicates other than OK. (Perform procedures of "C. Replacement procedures of the HDD of the mirroring kit or that of the machine.")</li> <li>Replace both of the HDD of the mirroring kit and that of the machine. (Perform procedures of "D. Replacement procedures of both of the HDD of the mirroring kit and that of the machine.")</li> </ul>
C	When at least one HDD is NONE.	<ul style="list-style-type: none"> <li>Communication trouble through the SATA harness of HDD.</li> <li>Connection failure between the RAID PWB and the HDD.</li> <li>HDD trouble</li> <li>HDD SATA harness and connector trouble</li> <li>Both the mirroring kit side HDD and the machine side HDD are in trouble.</li> <li>RAID PWB trouble</li> </ul>	<ul style="list-style-type: none"> <li>Replace the cable. Remove and connect.</li> <li>Check connection between the mirroring kit and the HDD.</li> <li>Replace the HDD which indicates NONE. (Perform procedures of "C. Replacement procedures of the HDD of the mirroring kit or that of the machine.")</li> <li>Replace the mirroring kit. (Perform procedures of "C. Replacement procedures of the HDD of the mirroring kit or that of the machine.")</li> <li>Replace both of the HDD of the mirroring kit and that of the machine. (Perform procedures of "D. Replacement procedures of both of the HDD of the mirroring kit and that of the machine.")</li> </ul>
D	When in TROUBLE-TROUBLE.	<ul style="list-style-type: none"> <li>RAID PWB trouble</li> <li>(Both or one) HDD trouble</li> <li>Raid PWB is in trouble. The mirroring side HDD is normal. The machine side HDD is other than OK.</li> </ul>	<ul style="list-style-type: none"> <li>Replace the mirroring kit. (Perform procedures of "C. Replacement procedures of the HDD of the mirroring kit or that of the machine.")</li> <li>Replace both of the HDD of the mirroring kit and that of the machine. (Perform procedures of "D. Replacement procedures of both of the HDD of the mirroring kit and that of the machine.")</li> </ul>
E	When in TROUBLE-TROUBLE. (Occurring when replacing the HDD)	<ul style="list-style-type: none"> <li>The mirroring kit is composed of HDD's which have different mirroring information each other. (A HDD which has been used in the mirroring kit of another machine is used.)</li> </ul>	<ul style="list-style-type: none"> <li>Replace both of the HDD of the mirroring kit and that of the machine. (Perform procedures of "D. Replacement procedures of both of the HDD of the mirroring kit and that of the machine.")</li> </ul>

- 3) Refer to the details of the remedy and perform the necessary procedures.

### Causes and remedies when cases B, C, D, and E are not applicable

Case	State	Cause	Remedy
F	Other than cases B, C, D, and E	<ul style="list-style-type: none"> <li>RAID PWB trouble</li> <li>Both HDD's trouble</li> </ul>	<ul style="list-style-type: none"> <li>Replace the mirroring kit. (Perform procedures of "C. Replacement procedures of the HDD of the mirroring kit or that of the machine.")</li> <li>Replace both of the HDD of the mirroring kit and that of the machine. (Perform procedures of "D. Replacement procedures of both of the HDD of the mirroring kit and that of the machine.")</li> </ul>

### C. Replacement procedures of the HDD of the mirroring kit or that of the machine (Details of the remedies and the procedures)

- When replacing the mirroring kit, follow the replacement procedures of the HDD of the mirroring kit only.

#### (1) Work contents and procedures

##### Data backup

NOTE: When E7-03 error code is popped up, procedures of Step 1 and Step 2 are not required.

Step 1	Back up the data in the HDD before replacement. (By servicing) Use SIM56-2, the device cloning, or the storage backup function to save the data. (Back up the data to the PC or a USB memory.) (Data which can be backed up: Address book data, image send registration data, user authentication data)
Step 2	Back up the data in the HDD before replacement. (By the user or by servicing) Back up the data to the PC by Web page. (Data which can be backed up: Document filing data, JOB log data)
Step 3	When there is some received data of FAX and Internet FAX, use SIM66-62 to back up the image data from the HDD (BACKUP DATA) to a USB memory. (The backed up image data are in the PDF file type and cannot be returned to the machine.) Give the backed up data to the use.

##### HDD replacement procedures

Procedure	Procedure
Condition	When a new HDD (blank)(*1) (service part) is used.
Step 4	If HDD1 is in trouble, replace the HDD of the machine. If HDD2 is in trouble, replace the HDD of the mirroring kit. (*2)
Step 5	Boot the machine. → Rebuilding is automatically executed. → Check to confirm that E7-03 error (HDD trouble) does not occur, and that the UI icon which indicates rebuilding of the mirroring kit is displayed. Use SIM 62-20 to confirm that the status of the replaced HDD is displayed as REBUILDING.
Step 6	It takes about three hour to complete rebuilding.
Step 7	Check to confirm that the UI icon which indicated installation of the mirroring unit is displayed. Use SIM62-20 to confirm that the HDD status is displayed as HDD1/HDD2=OK/OK.

### D. Replacement procedures of both of the HDD of the mirroring kit and that of the machine (Details of the remedies and the procedures)

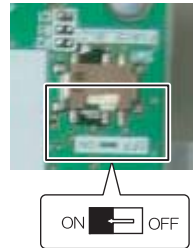
#### (1) Work contents and procedures

##### Data backup

Step 1	When there is some received data of FAX and Internet FAX, use SIM66-62 to back up the image data from the SD Card (ORIGINAL DATA) to a USB memory. (The backed up image data are in the PDF file type and cannot be returned to the machine.) Give the backed up data to the use.
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##### HDD replacement procedures

Procedure	Procedure
Condition	When two new HDD's (blank)(*1) (service part) are used for the both.
Step 2	Replace the both HDD's (as well as the RAID PWB if necessary). (*2)
Step 3	Set DIPSW1 of the mirroring kit to ON, and turn on the main power of the machine. → Forcible rebuilding is executed. → Check to confirm that the E7-03 error (HDD trouble) does not occur and that the UI icon which indicates installation of the mirroring kit is displayed. Use SIM62-20 to confirm that the HDD status is displayed as HDD1/HDD2=OK/OK.
Step 4	Turn OFF the main power of the machine, and set DIPSW2 to OFF. Then, turn ON the main power of the machine again.
Step 5	Use SIM66-10 to clear the FAX image memory. The memory is cleared in order to ensure consistency between the HDD data and the image memory and to prevent against malfunctions. (Not only the FAX model, but also the scanner and the Internet FAX models require memory clearing.)
Step 6	Use SIM49-3 to install the e-Operation Manual data to the HDD.
Step 7	The trouble code "U2-60" is displayed. → Use SIM49-5 to install the watermark data to the HDD. → Use SIM16 to cancel the U2-60 error.



### E. Note for reuse of HDD

When replacing the HDD for the mirroring kit, be sure to use a new HDD.

If a HDD which has been used in a mirroring kit is used for replacing the HDD, the operations and the data cannot be assured.

If a HDD which has been used in a mirroring kit is installed, the original data may be erased.

If, however, the mirroring information of the HDD is erased by RIB Buster as described later, it can be used. (\*1) In addition, if the both HDD's are replaced with HDD's which have been used, SIM62-1 must be executed to format HDD's in addition to erasing the mirroring information.

When removing the HDD after installing the mirroring kit, be sure to remove the both HDD's together.

If only one HDD is removed then it is reinstalled, the data of both HDD's may not be identical, causing an error.

When removing the HDD and performing some work, first disconnect the HDD SATA connector of the MFP PWB and perform the work.

With the above procedure, the both HDD's are brought into the status disconnected from the machine.

Put mark on the mirroring kit HDD and the machine HDD to indicate that they have been used. (\*2)

\*1: Refer to "5-C. Deleting the HDD mirroring information."

\*2: Refer to "5-B. How to check the usage history of a HDD in a mirroring kit."

## 5. Note for installing and repairing the mirroring kit

When installing or repairing the mirroring kit, fully understand the following descriptions to avoid erroneous handling and procedures. When a HDD which has once been used for the mirroring kit is reused without proper preparation, it may cause an error and destruction of user data, or other troubles.

The following three cases must be strictly avoided.

- When newly installing a mirroring kit, do not use one which has been once used.
- When replacing the HDD because of a HDD trouble, do not replace it with a HDD which has been once used in a mirroring kit.
- When replacing the HDD because of a HDD trouble in the machine, do not replace it with a HDD which has been once used in a mirroring kit.

NOTE: When a HDD is once used in a mirroring kit, the mirroring information is written into the HDD. This causes a trouble by erroneous using.

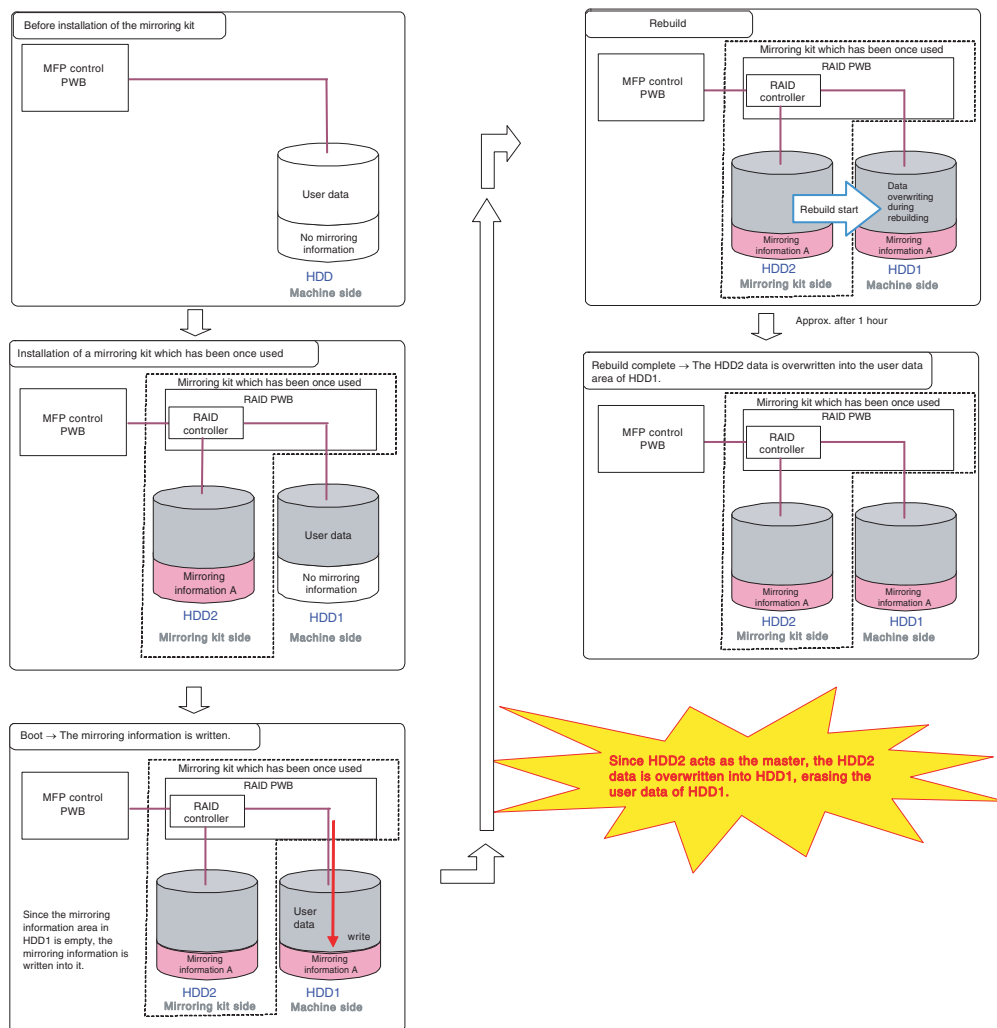
The details of inhibited items, results of erroneous procedures, and precautions for avoiding those errors are described below.

### A. Details of inhibited items

#### (1) When newly installing a mirroring kit, do not use one which has been once used.

##### Trouble contents

If HDD2 which has been once used is used for new installation of a mirroring kit, the data in HDD2 will be written into HDD1. This causes erasure of the original user data, freeze of the machine, or other troubles. The "HDD which has been once used" includes a HDD which was just installed and conducted only.



##### Countermeasures

Use a new mirroring kit for installation.

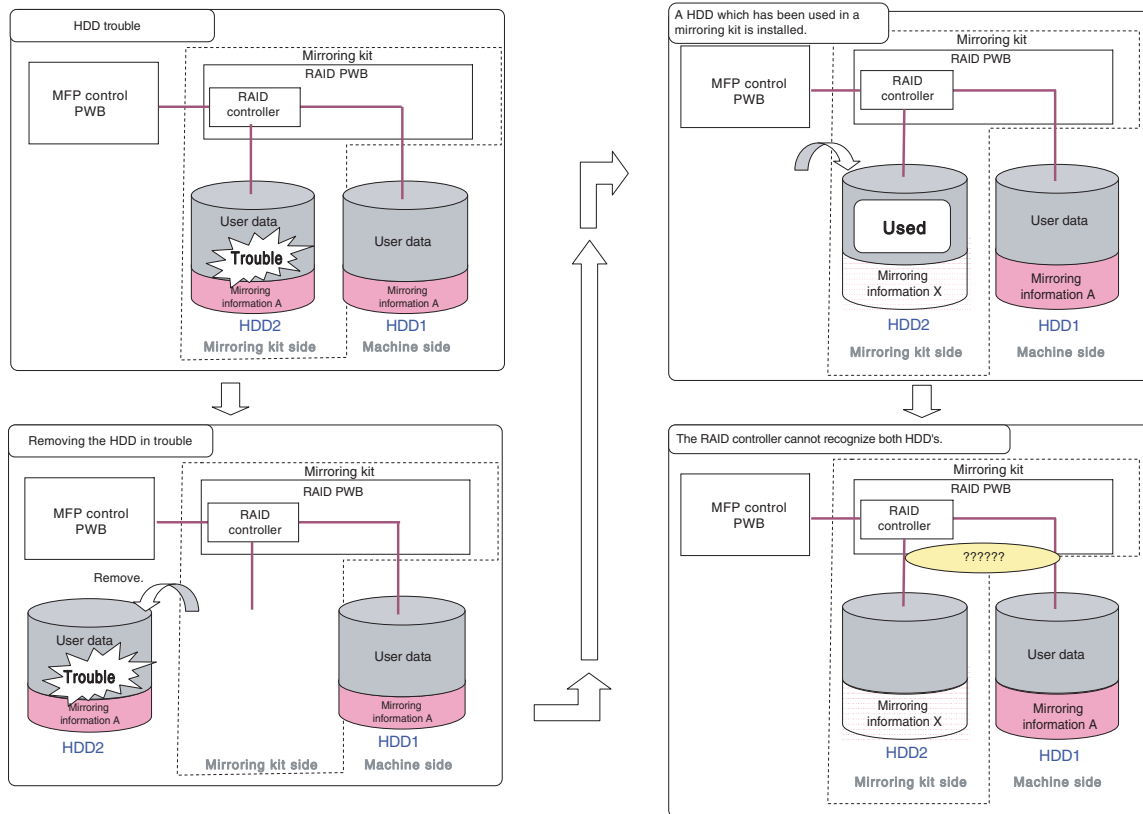
If there is no choice but to use a mirroring kit which has been once used, be sure to erase the mirroring information in the HDD before installation. (For details, refer to "5-C. Deleting the HDD mirroring information.")



**(2) When replacing the HDD in case of a trouble in the HDD, do not use a HDD which has been used in another mirroring kit of another machine.**

**Trouble contents**

If a HDD which has been used in another mirroring kit, the RAID controller cannot recognize the HDD, causing E7-03 error, and the necessary data may be destructed in some cases.



Since the mirroring information of both HDD's does not synchronize each other, the RAID controller cannot recognize both HDD's.  
→ E7-03 error occurs.  
The user data may be erased and the machine may freeze in some cases.

**Countermeasures**

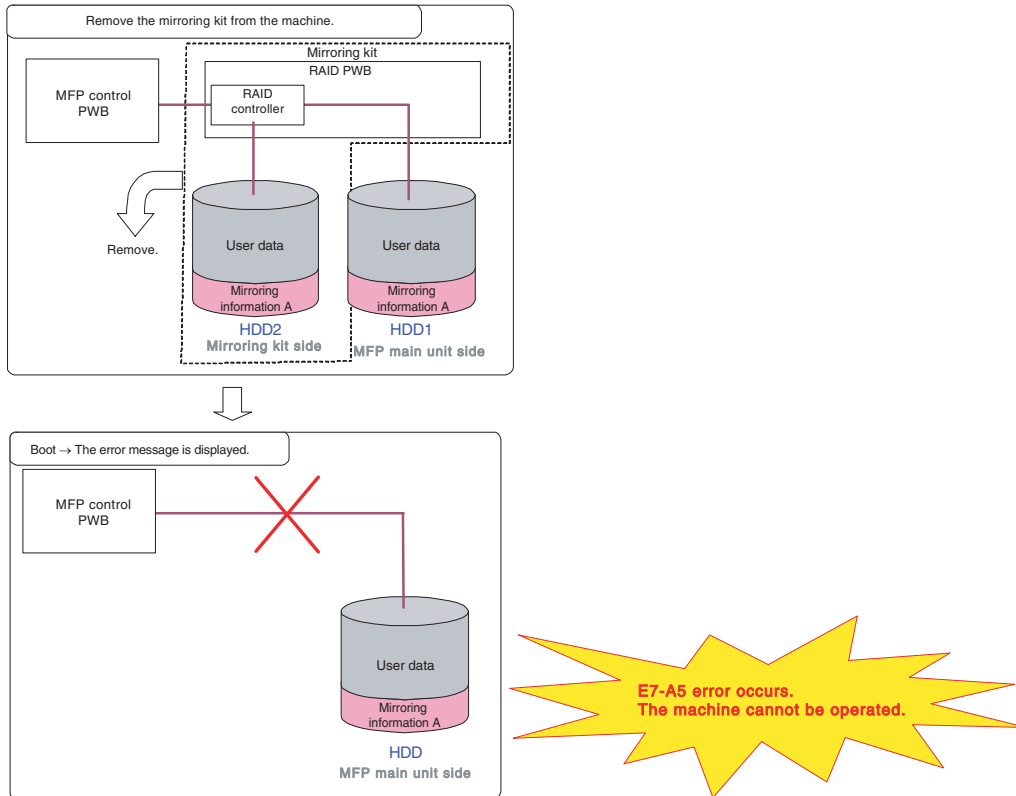
Use a new mirroring kit for installation.

If there is no choice but to use a mirroring kit which has been once used, be sure to erase the mirroring information in the HDD before installation. (For details, refer to "5-C. Deleting the HDD mirroring information.")

**(3) When the HDD is replaced because of a HDD trouble, do not use a HDD which has been used in a mirroring kit of another machine.**

**Trouble contents**

E7-A5 error occurs. If a HDD which has been used in a mirroring kit is used as the machine HDD, the machine does not operate normally. In this case, the trouble of erasing the original data is avoided.



**Countermeasures**

Use a new mirroring kit for installation.

If there is no choice but to use a mirroring kit which has been once used, be sure to erase the mirroring information in the HDD before installation. (For details, refer to "5-C. Deleting the HDD mirroring information.")

When a HDD is used without any other HDD, the mirroring information must be erased before executing SIM62-1 to format.

This procedure allows the HDD being treated as a new HDD.

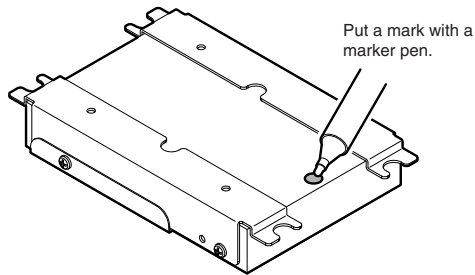
When removing the HDD after installation of the mirroring kit, remove both HDD's simultaneously. If only one HDD is removed and then installed again, the data of both HDD's may not match, causing a trouble.

[Simultaneous removal of both HDD's] Disconnect the HDD SATA connector of the MFP PWB, and both HDD's are brought into disconnected state from the machine.

## B. How to check the usage history of a HDD in a mirroring kit

As stated before, when installing a mirroring kit or replacing a HDD, be sure to check the usage history of a HDD or a mirroring kit which is to be used.

For convenience of checking the usage history, put a mark on the mirroring kit HDD and the machine HDD when installing them to indicate that they have been used.



## C. Deleting the HDD mirroring information

When stopping the use the mirroring kit, the mirroring information in the machine HDD must be deleted.

### (1) Necessary tools

- RIB Buster software

The software is composed of the following two files. (They can be downloaded from Tech DS Web site.)

- RIB Buster{YYYYMMDD}.exe
- Setup.ini



- USB cable
- SATA connection cable
- SATA connector
- AC adaptor
- Windows PC

(Support OS: Windows XP, Windows VISTA, Windows 7 (32/64bit))

### (2) Procedures

- 1) Connect the USB cable, the SATA connection cable, the SATA connector, and the AC adaptor to the HDD from which the mirroring information is deleted.



CAUTION: When disconnecting any cable, be sure to disconnect the USB cable from the PC in advance.

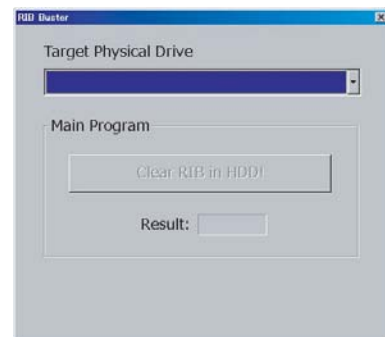
If this precaution is ignored, the HDD may be damaged.

- 2) Copy the RIB Buster software files (RIB Buster {YYYYMMDD}.exe and Setup.ini) to a same directory of the PC.
  - RIB Buster{YYYYMMDD}.exe
  - Setup.ini
- 3) Connect the HDD assembled in procedure 1) to the PC by use of the USB cable.



- 4) Double-click RIB Buster {YYYYMMDD}.exe to boot the RIB Buster software.

If the user account control is ON in VISTA or Windows 7 setting, the user account control menu is displayed. Click [Allow] on this menu.



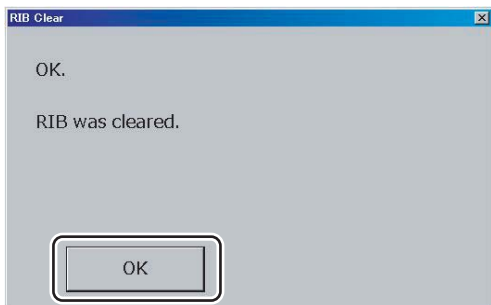
5) Select the target HDD to delete the mirroring information.



6) Click [Clear RIB in HDD] button.



7) Click [OK] button. (The mirroring information is deleted.)



8) After completion of deleting the mirroring information, "OK" is displayed.

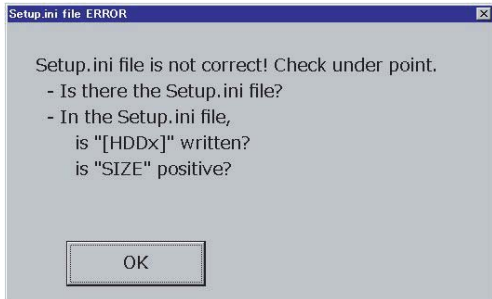


### (3) Kinds of errors, causes and remedies

#### Phenomenon 1

An error indicating an abnormality in the Setup.ini file when booting the RIB Buster software.

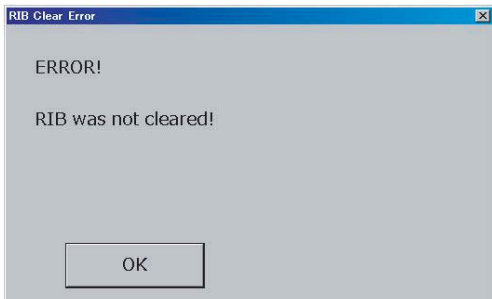
Cause	Setup.ini file does not exist, or there is any abnormality in the file.
Countermeasures	Check to confirm that there is Setup.ini file in the proper directory and that there is no abnormality in the descriptions.



#### Phenomenon 2

The mirroring information has not been deleted normally.

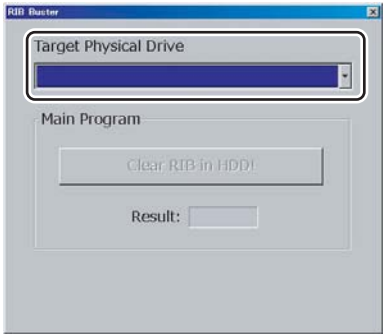
Cause	Temporary communication trouble, cable or other device trouble, HDD trouble
Countermeasures	1. Click [Clear RIB in HDD] button again. 2. If the trouble is not solved by procedure 1. , disconnect and connect the cable, change the devices, and reboot the RIB Buster. Then execute procedure 1. .



Phenomenon 3

Though the target HDD is connected, it is not displayed.

Cause	The target HDD is not registered in the Setup.ini file. Cable or other device trouble, HDD trouble
Countermeasures	1. Reboot RIB Buster, and click the frame section. 2. If the trouble is not solved by procedure 1. , replace the Setup. ini file and the RIB Buster {YYYYMMDD} with the latest version, and execute procedure 1. . 3. If the trouble is not solved by procedure 2. , disconnect and connect the cable, change the devices, and reboot the RIB Buster. Then execute procedure 1. .



# [12] SERVICE WEB PAGE

## 1. General

The following functions are available on the Hidden Web Page exclusively used for the serviceman.

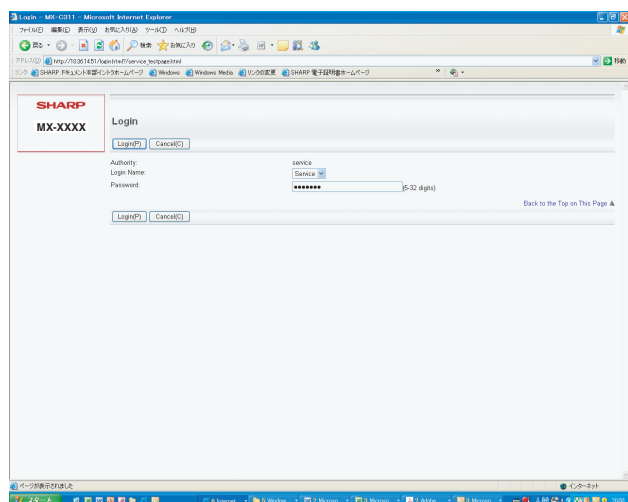
Menu/Item		Function and content
Password Setting		Used to set the password to enter the Hidden Web Page exclusively used for the serviceman.
Output of Test Page		Used to print out the test page (system setting contents).
Font/Form Download		Used to download Font/Form. Font/Form of PCL and PostScript, macro, and other resources are downloaded to the HDD and controlled. (PS, PCL5 only)
Device Cloning		Used to import/export the system setting information in XML format. By importing the export file to the other device, the setting values and setting contents of the device can be copied to another device. This function is useful to set the same setting to two or more machines efficiently.
Filing Data Backup		Used to import/export the document filing data in the unit of folder.
User Control		Used to shift to the user mode. After log in, the screen is shifted to the setting screen of user management.
User Control 2		Used to set the Pages Limit Group and the Favorite Operation Group by authority of the serviceman. (Select among preset items.)
Job Log	Save Job Log	Used to save the Job Log.
	View Job Log	Used to display the Job Log.
Update of Firmware		Used to update the firmware version.
Syslog*1	Administration Settings	Used to set the Log Type. (Set to the default.)
	Storage/Send Settings	Keep all the items selected.
	Save/ Delete Syslog	Used to save or delete the log data.
	View Syslog	Used to display the log data.

\*1: This may be useful for troubleshooting when a trouble occurs. When submission of the log data file is requested in order to troubleshoot, use the log file save mode to export the log data file to the client PC.

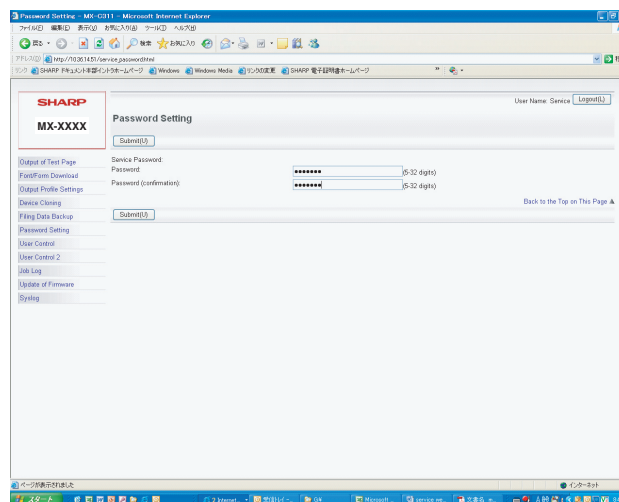
## 2. Details and operation procedures

### A. Procedures to enter the Hidden Web page exclusively used for the serviceman

- 1) Boot a browser program.
- 2) Enter the specified URL ([http://xxx.xxx.xxx.xxx/service\\_login.html](http://xxx.xxx.xxx.xxx/service_login.html)) and enter the servicing page menu.  
Default password: "service"



### B. Password Setting



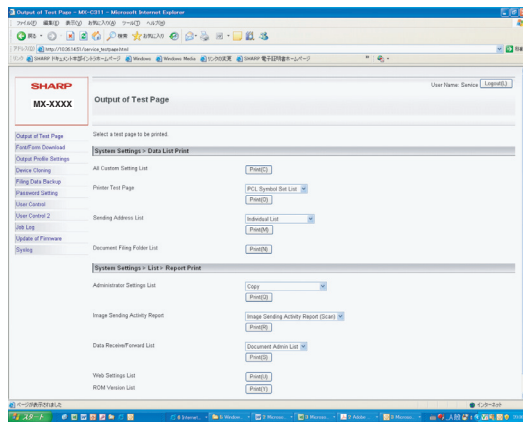
\* The password can be optionally changed in the following procedures.

- 1) Enter a new password.
- 2) Enter the new password again to make confirmation.
- 3) Click "Submit" (registration) button.

NOTE: The password can be optionally changed in the Password Setting menu.

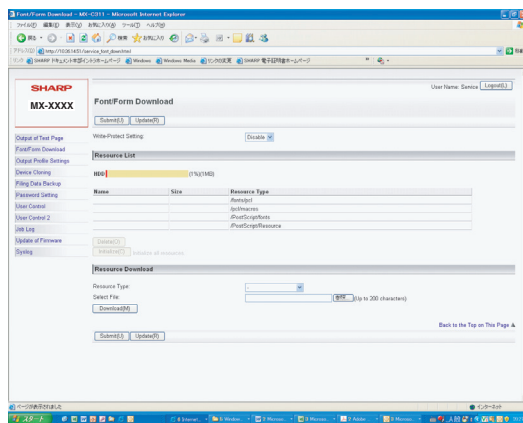
If the password is changed and forgotten, use SIM24-31 to reset the password to the default.

## C. Output of Test Page



- 1) Click "Print" button of an item or report to be printed.  
When there is a list of items for selection, select one of the items in the pull-down menu list, and click "Print" button.  
The list is printed out.

## D. Font/Form Download



### (1) Download of Font, Form, and Macro

- 1) Select "Resource Type" from the pull-down menu list.  
(Example: PCL/PostScript Font/Form or Macro)
- 2) Click "Refer" button to select a target file.
- 3) Click "Download" button.
- 4) Click "Submit" (registration) button.  
The file is downloaded to the HDD.  
The list of the downloaded files and the use percentage of the HDD are displayed.

### (2) Delete of downloaded font (Procedures to delete a file separately)

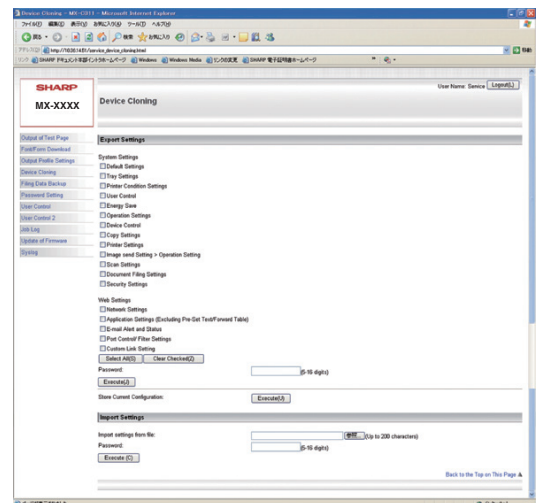
- 1) Select a file to be deleted from the list of the downloaded files, and click "Delete" button.
- 2) Check that the confirmation message is displayed, and press Yes key.
- 3) Click "Submit" (registration) button.  
The file in the HDD is deleted.

### (3) Procedures to delete all the files at a time

- 1) Click "Initialize" button.
- 2) Check that the confirmation message is displayed, and press OK key.
- 3) Click "Submit" (registration) button.

NOTE: By the Write-Protect Setting function, the downloaded files can be set to write protect.

## E. Device Cloning



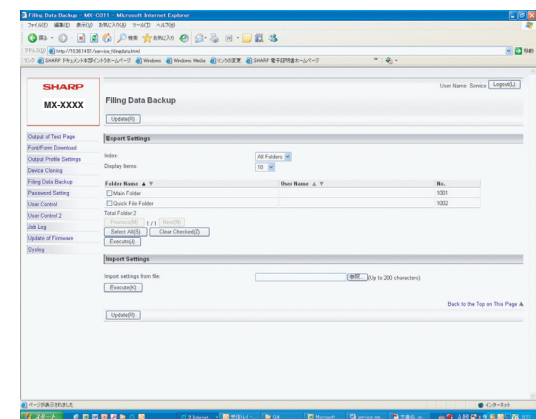
### (1) Export

- 1) Select an item to be backed up.
- 2) Click "Execute" button.  
Specify the save position of the file, and save the file.  
(File name: \*\*\*\*\*.bin)  
When the password is set, the set password must be entered when importing.

### (2) Import

- 1) Import from a file: Click "Refer" button to select the back-up file. (File name: \*\*\*\*\*.bin)
- 2) Click "Execute" button to execute import.  
If the password is set when exporting, the password must be entered.
- 3) Reboot the machine.

## F. Filing Data Backup



### (1) Export

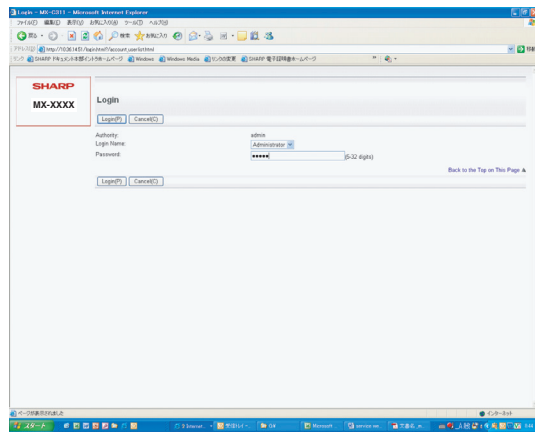
- 1) Select the folder to be backed up.  
The list display conditions can be specified by changing the index and the number of display items on the pull-down menu.
- 2) Click "Execute" button.  
Specify the save position of the file, and save the file. (File name: \*\*\*\*\*.bin)
- 3) Click "Update" button.

### (2) Import

- 1) Click "Refer" button to select a target file. (File name: \*\*\*\*\*.bin)
- 2) Click "Execute" button.  
The target file is imported.
- 3) Click "Update" button.

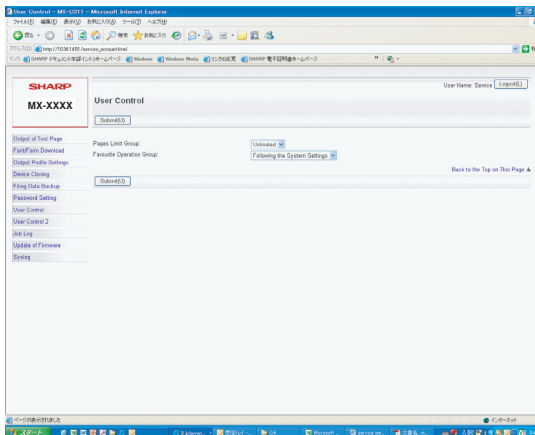


## G. User Control 1



- 1) Enter the password to log in.  
Default Password: admin  
The screen is shifted to the setting menu of user management.

## H. User Control 2



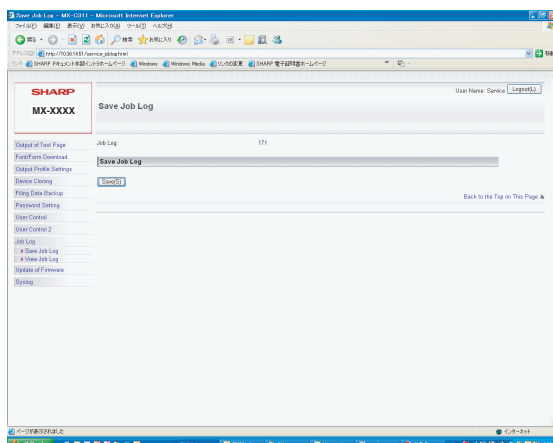
- 1) Select the Pages Limit Group and the Favorite Operation Group. (The Pages Limit Group and the Favorite Operation Group must be set in advance.)

### (Example of use)

The use sets the conditions for servicing work by using the Pages Limit Group and the Favorite Operation Group functions in advance, and the serviceman selects the set conditions in this mode for servicing work.

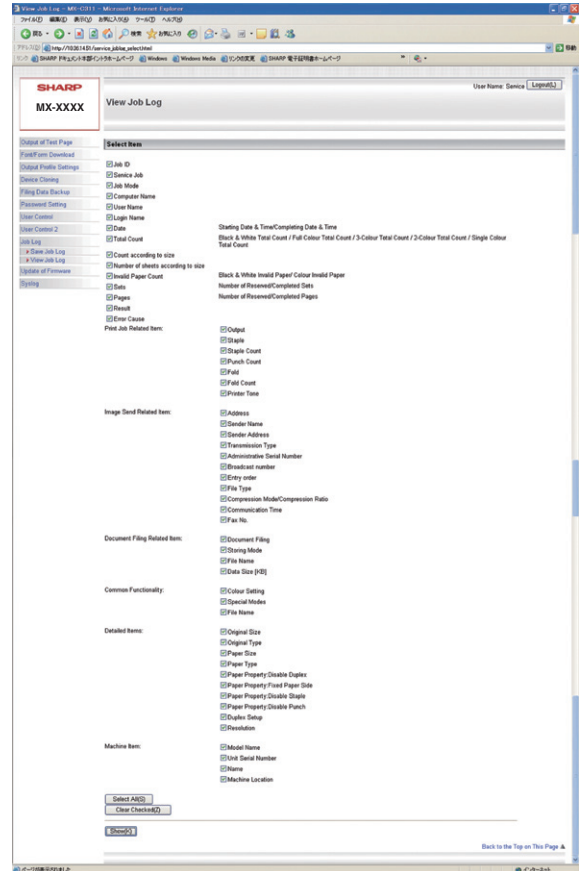
## I. Job Log

### (1) Save Job Log



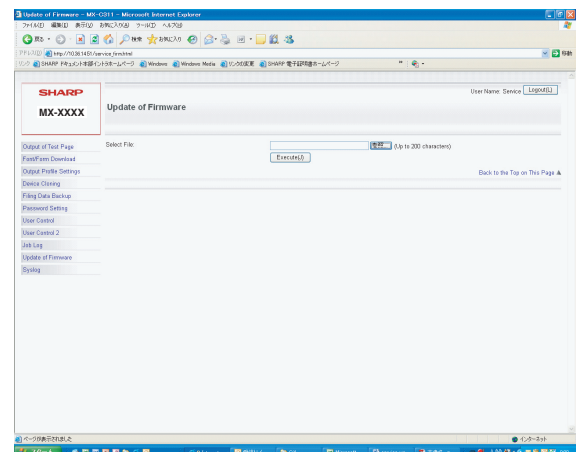
- 1) Click "Save" button, and specify the save position of the Job Log to save it.

### (2) View Job Log



- 1) Select a Jog Log item to be displayed. (In the default setting, all the items are selected. Remove check marks of the items which are not to be displayed.)
- 2) Click "Show" (display) button.  
The Jog Log is displayed.

## J. Update of Firmware



- 1) Click "Refer" button to select a firmware file.
- 2) After selecting a firmware file, click "Execute" button.  
The firmware data are sent to the machine, and update of the firmware is processed.

During the process, the message of "Firmware Update, now processing..." is displayed.



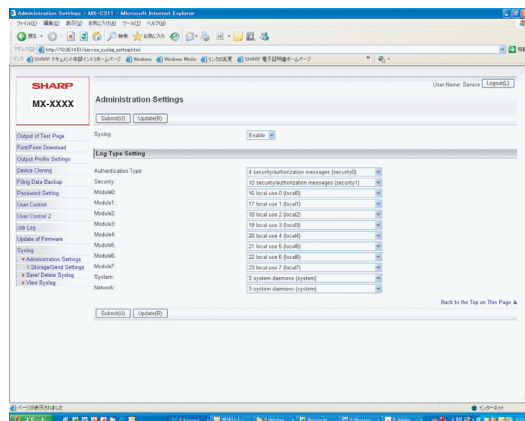
## K. Syslog

There are following functions in the Syslog mode.

This function is provided to acquire the detailed Syslog to troubleshoot when a trouble occurs.

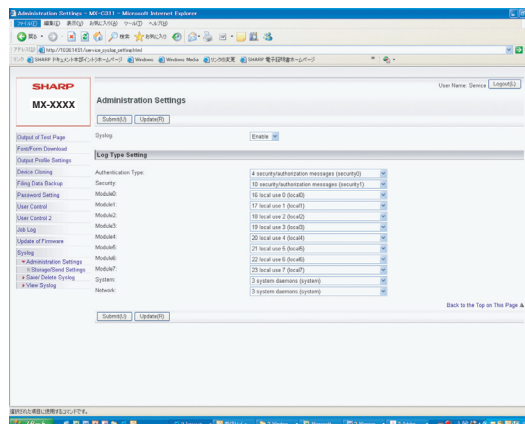
When submission of the log data file is requested for troubleshooting, use the log file save mode to export the log data file to the client PC.

Syslog	Administration Settings	Log Type Setting (Set to the default.)
	Storage/Send Settings	Set all the items selected.
	Save/ Delete Syslog	Log data save, delete
	View Syslog	Log data display



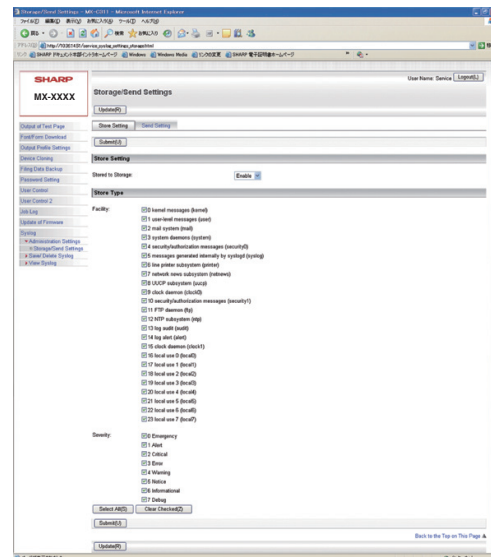
### (1) Administration Settings/ Log Type Setting

Set to the default.

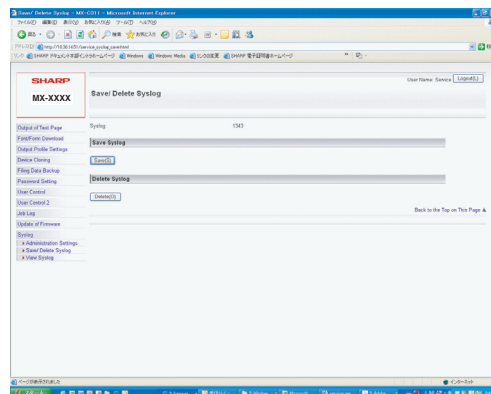


### (2) Storage/Send Settings

Keep all the items selected.



### (3) Save/ Delete Syslog

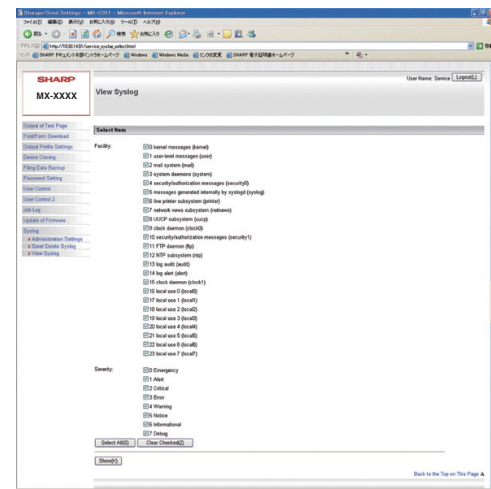


When saving the Syslog, click "Save" button and specify the save position and save it.

When deleting, click "Delete" button.

Check to confirm that the confirmation message is displayed, and press OK key.

### (4) View Syslog



1) Select a Syslog item to be displayed.

2) Click "Show" button.

The Syslog is displayed.

## L. Output Profile Settings

### (1) Download procedures of custom output profile

- 1) Click "Refer" button to select the output profile.
- 2) Click "Add" button to add the output profile.
- 3) Click "Add" button to add the output profile.

The added profile is displayed on the list. For the output A profile and the output B profile, the newly added profile becomes valid.

When no profile is added, the default output profile in the firmware of the machine set when shipping from the factory is valid.

Output A profile / Output B profile / Output D profile: Selectively used.

Output C profile: PS mode, for CMYK simulation (Custom)

Spot Color Table: For PS mode

### (2) Procedures to delete the custom output profile and return to the default output profile

- 1) Click "Delete" button of the output profile to be deleted.
- 2) Click "Update" button.

The custom output profile is deleted and the default output profile in the firmware of the machine becomes valid.

## M. Machine ID Setting

- 1) Enter the machine ID.  
Max. 30 digits of numeral figures and characters can be entered.
- 2) Press the registration button.

NOTE: The machine ID can be set with SIM26-7 as well as this function.

## N. Administration Settings (Menu display setting)

This setting is to select whether to display all the menus of Web Page on the machine display or to display only the restricted system setting menu of the default.

Setting must be executed according to the user request.

- 1) Press the setting execution button corresponding to the display mode.

### 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.

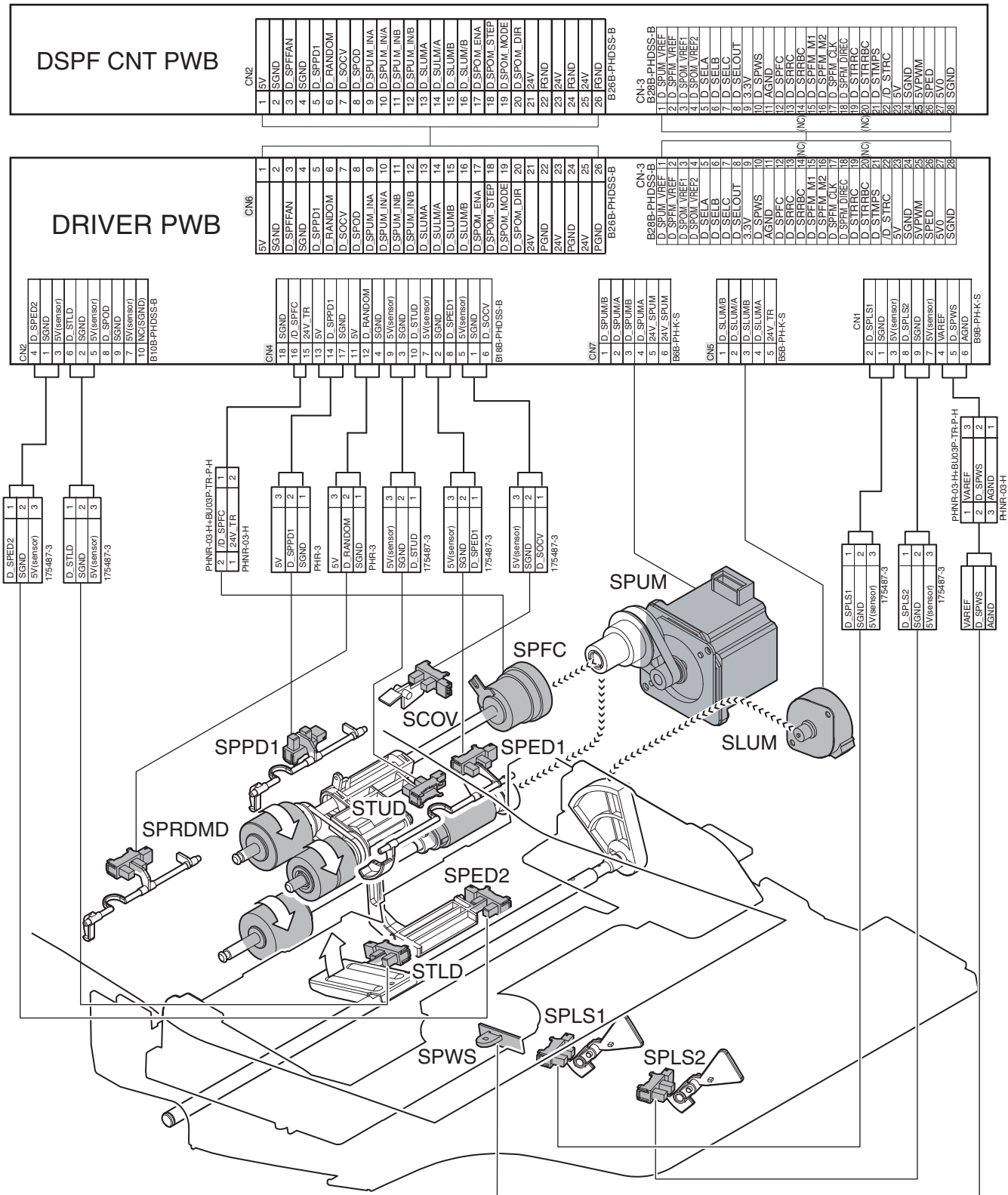
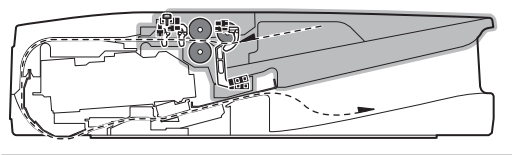
A document size is detected by the document size detection PWB (light emitting) and the document size detection PWB (light receiving).

The detection timing of document size is determined according to the document size detection trigger sensor signal.

## 2. DSPF section

### A. Electrical and mechanical relation diagram

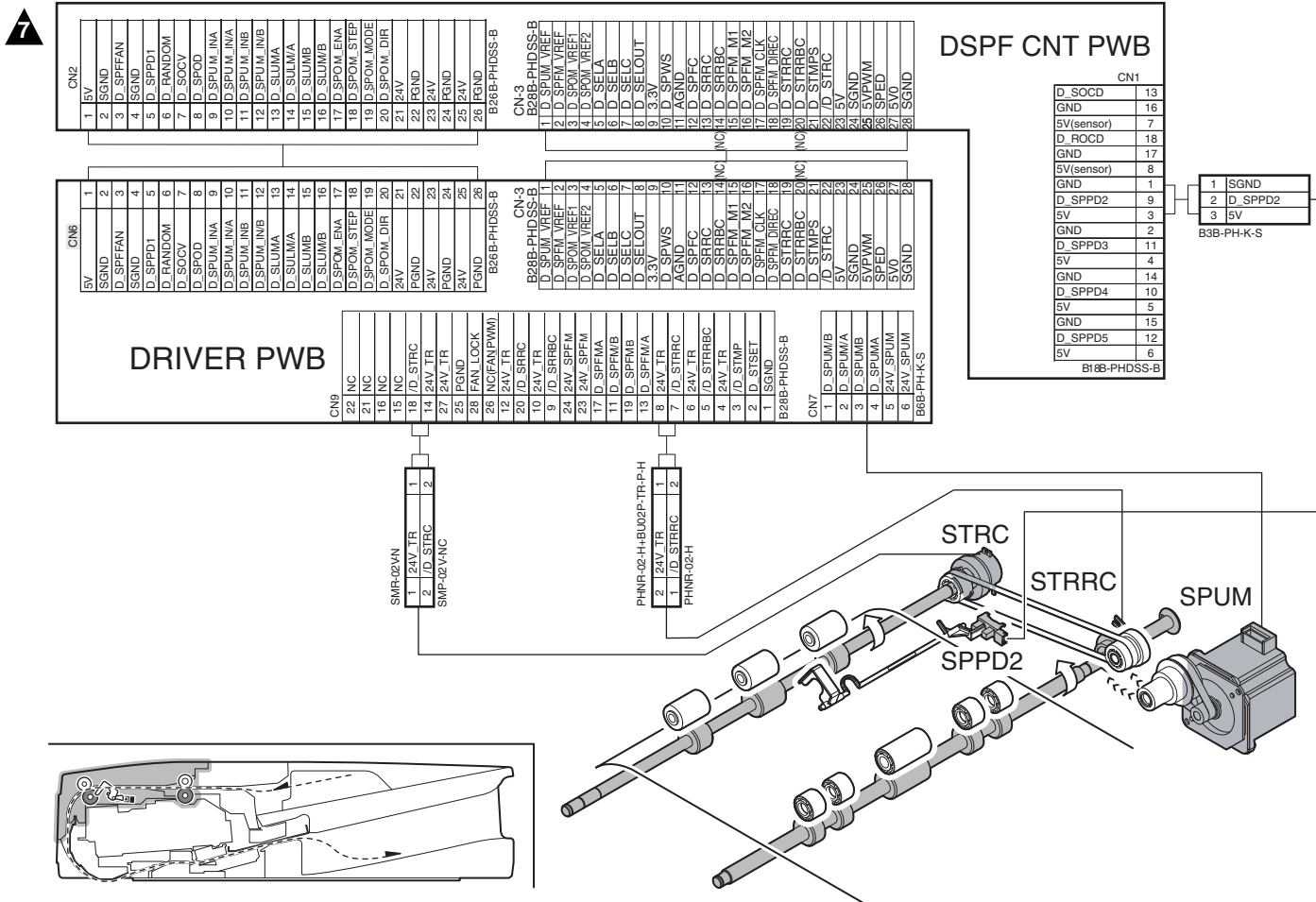
### (1) Paper feed section



Signal name	Name	Function/Operation
SCOV	DSPF upper door open/close sensor	Detects open/close of the upper door.
SLUM	DSPF lift-up motor	Lifts up or moves down the document feed tray.
SPED1	DSPF document upper limit sensor	Detects the upper limit of the DSPF document.
SPED2	DSPF document empty sensor	Detects document empty in the document feed tray.
SPFC	DSPF document feed clutch	Controls ON/OFF of the rollers in the document feed section.
SPLS1	DSPF document length detection short sensor	Detects the document length of the document feed tray upper.
SPLS2	DSPF document length detection long sensor	Detects the document length of the document feed tray upper.
SPPD1	DSPF document pass sensor 1	Detects pass of the document.
SPRDM	DSPF document random sensor	Detects the document size in random document feed.
SPUM	DSPF document feed motor	Drives the rollers and transport rollers in the document feed section.
SPWS	DSPF document width sensor	Detects the document width of the document feed tray upper.
STLD	DSPF document feed tray lower limit sensor	Detects the lower limit of the document feed tray.
STUD	DSPF document feed tray upper limit sensor	Detects the upper limit of the document feed tray.

No.	Name	Function/ Operation
1	Pickup roller	Picks up a document and feeds it to the document feed roller.
2	Document feed roller	Performs the document feed operation of documents.
3	Separation roller	Separate a document to prevent against double-feed.
4	Torque limiter	A fixed level of resistance is always provided for rotation of the separation roller to prevent double feed.

**(2) Upper transport section**

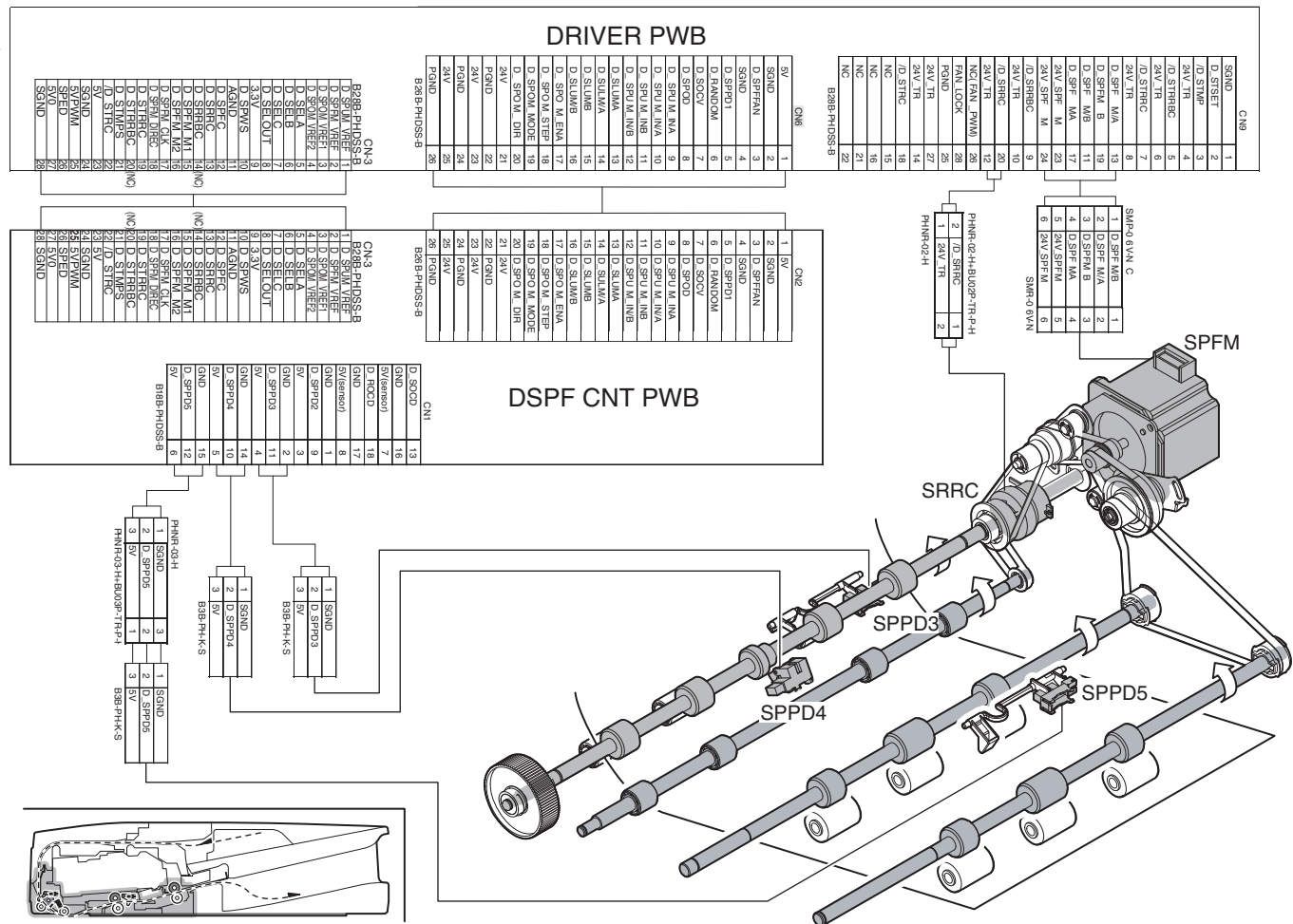


Signal name	Name	Function/Operation
SPPD2	DSPF document pass sensor 2	Detects pass of the document.
SPUM	DSPF document feed motor	Drives the rollers, transport rollers and transport rollers in the document feed section.
STRC	DSPF transport roller clutch	Controls ON/OFF of the transport roller 1.
STRRC	DSPF No.1 registration roller clutch	Controls ON/OFF of No. 1 registration roller.

No.	Name	Function/ Operation
1	No. 1 registration roller (Drive)	Performs registration of document transport.
2	Transport roller 1 (Drive)	Transports document from No. 1 registration roller to No. 2 registration roller.



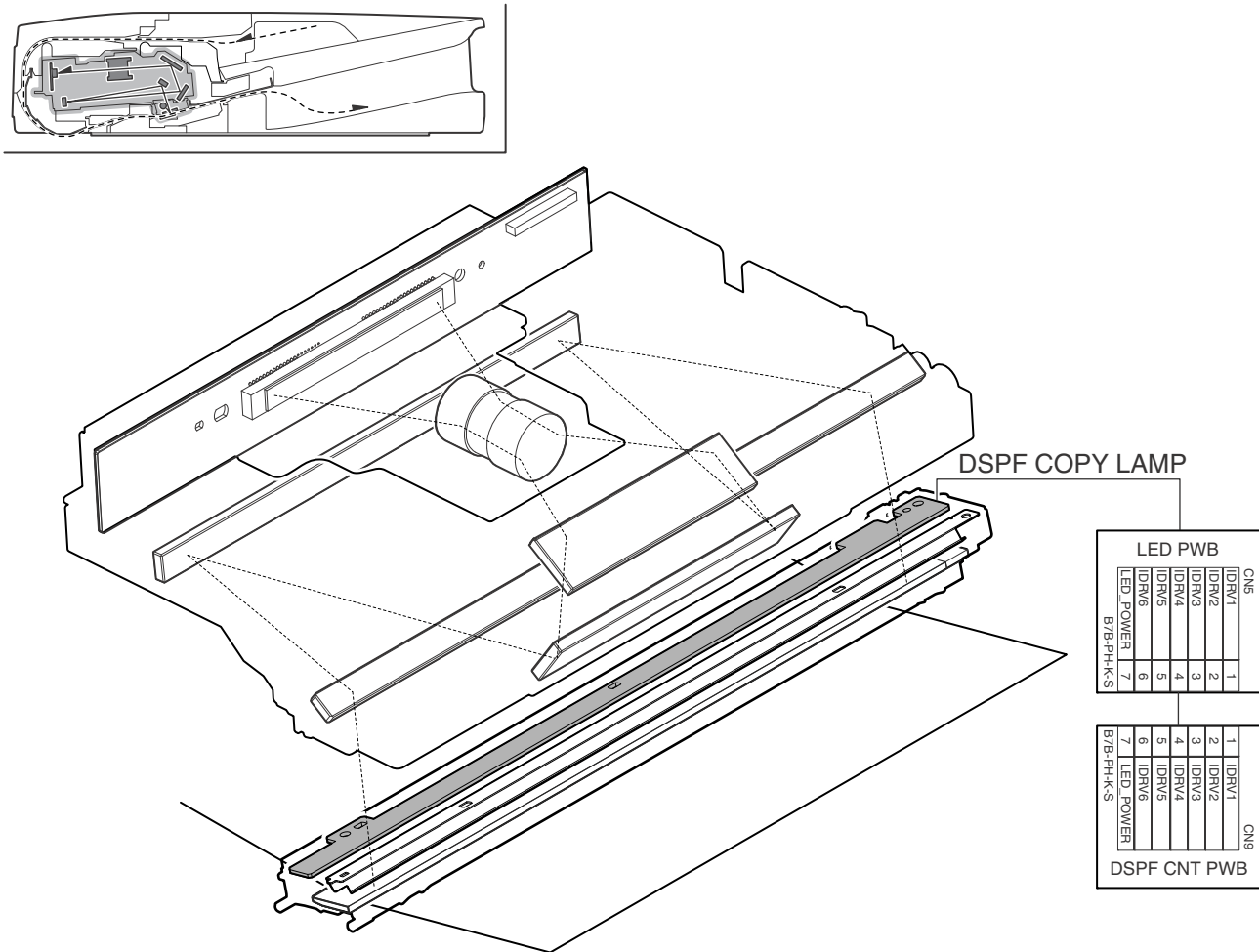
### (3) Lower transport section



Signal name	Name	Function/Operation
SPFM	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

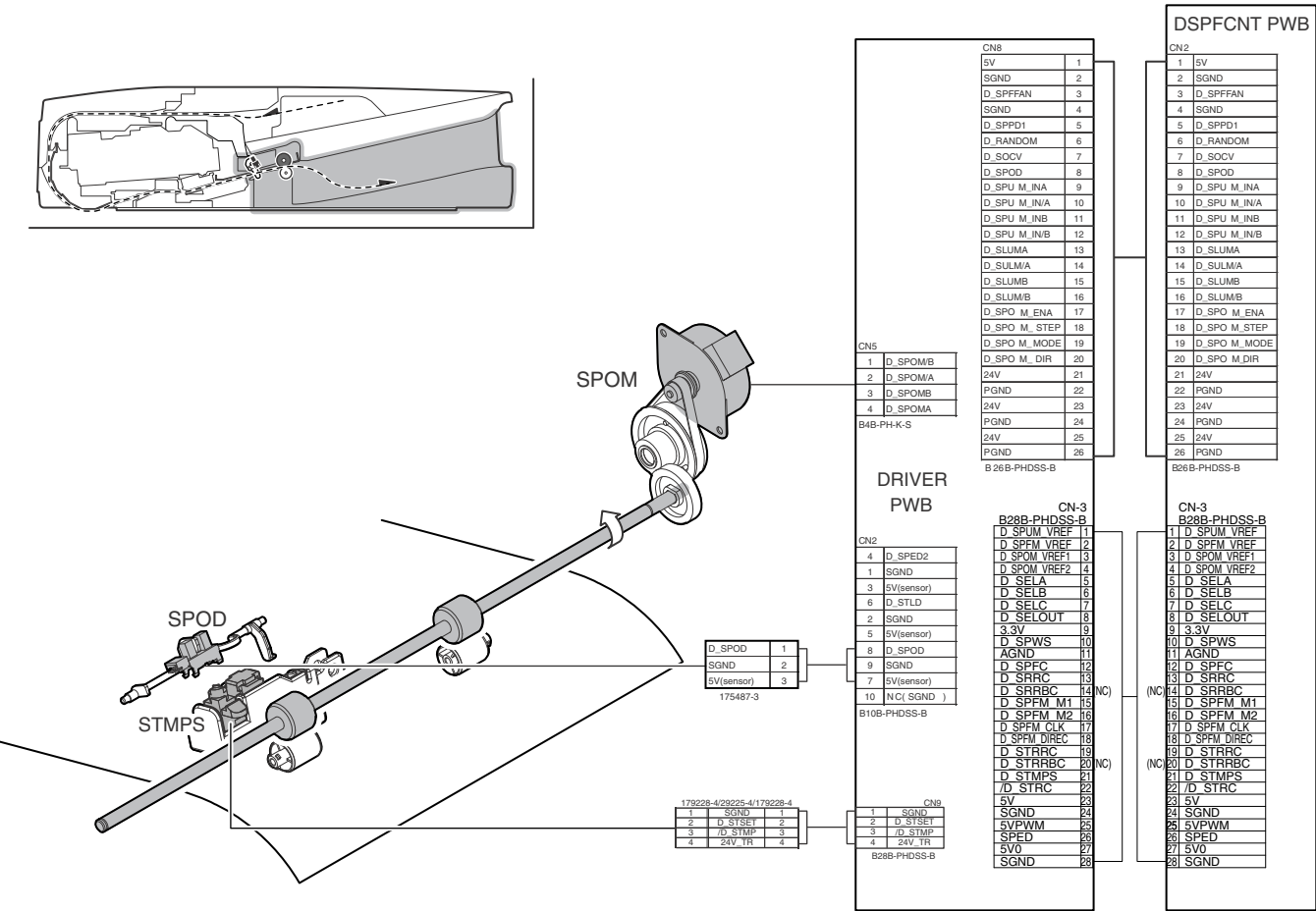


Signal name	Name	Function/Operation
DSPF COPY LAMP	DSPF copy lamp	Radiates light onto a document to allow the CCD to scan document images.

No.	Name	Function/Operation
1	Reflector	Converges lights from the copy lamp.
2	Mirror	Sends the document image to the lens.
3	Lens	Reduces the document image (light) and reflects it onto the CCD.
4	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

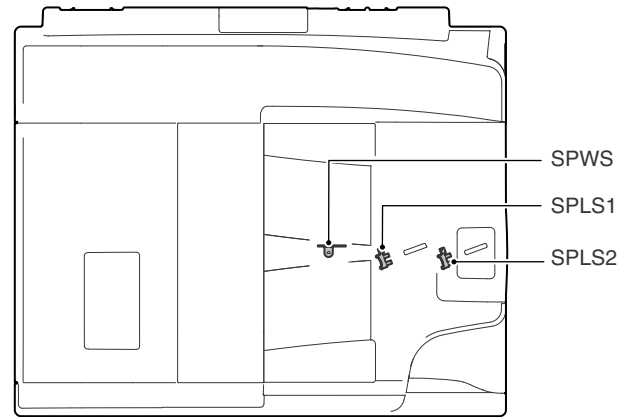
### (1) Document size detection

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.

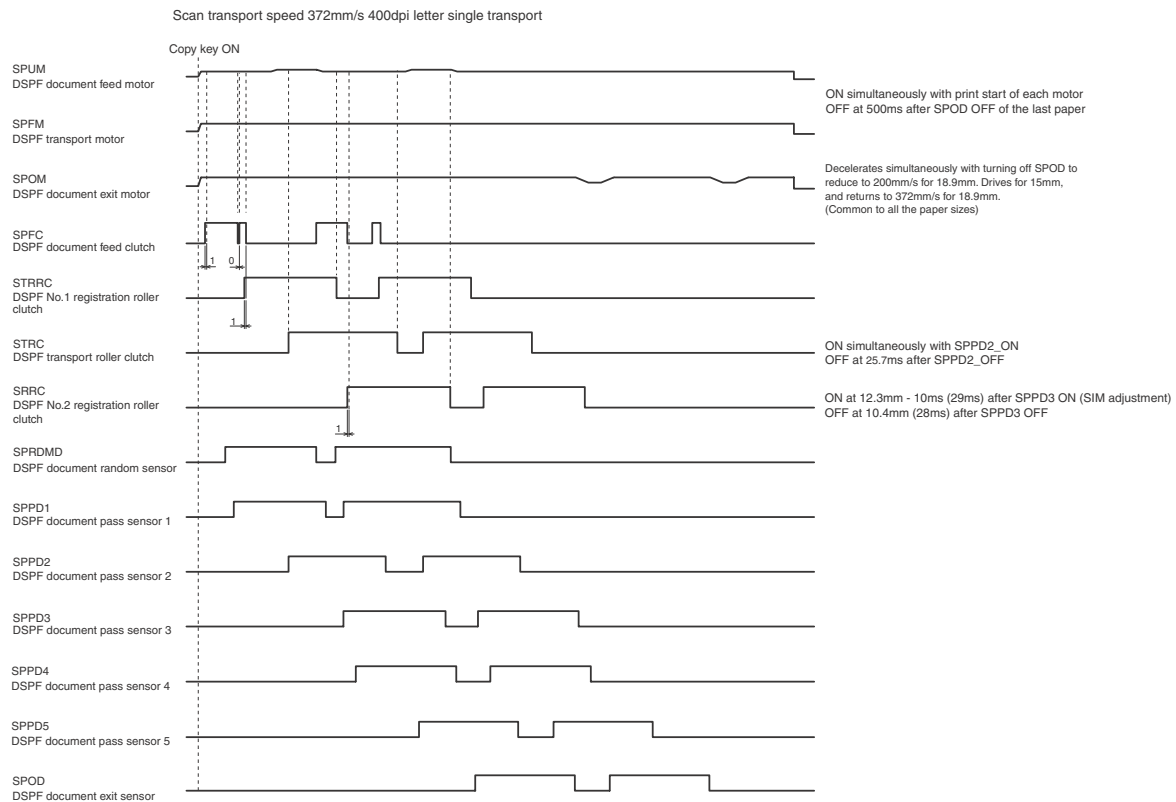
When, however, documents of different sizes are mixed and set on the document tray, the largest size is detected.

	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
	8.5" x 13.5"	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



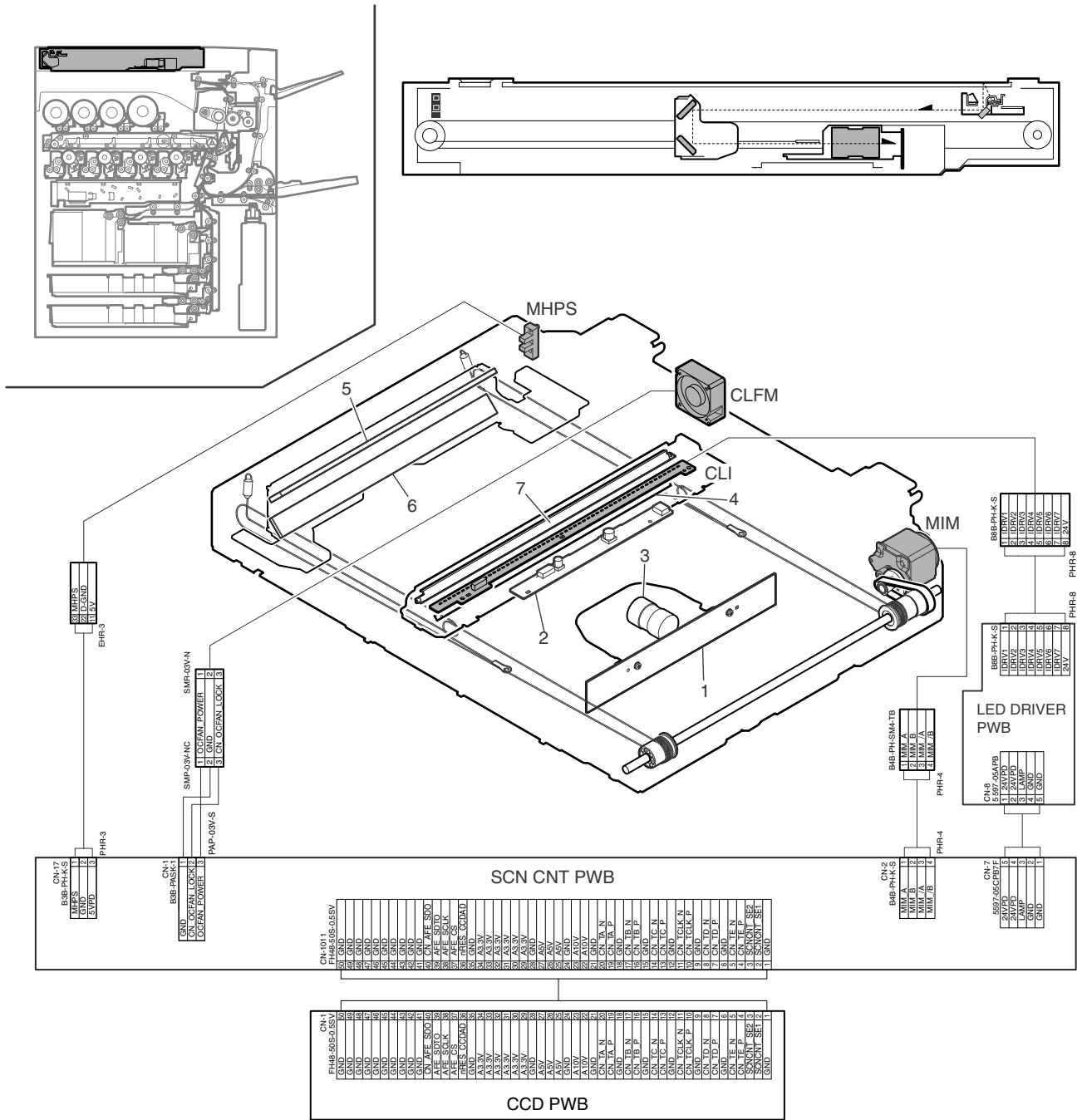
### (2) Timing chart

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.



### 3. Scanner section

#### A. Electrical and mechanical relation diagram



Signal name	Name	Function/Operation
CLFM	Scanner cooling fan	Cools the scanner unit.
CLI	Scanner lamp	Radiates light onto a document for the CCD to scan the document image.
MHPS	Scanner home position sensor	Detects the home position of the copy lamp unit.
MIM	Scanner motor	Drives the copy lamp unit and the mirror base unit.

No.	Name	Function/Operation
1	CCD PWB	Scans document images and performs A/D conversion of the scanning signal.
2	SCU PWB	Controls the scanner and the operation section.
3	Scanner lamp drive PWB	Drives the scanner lamp.
4	Lens	Shrinking the image (light) of the document, and project it on CCD.
5	No. 1 mirror	Reflects the document image into the lens.
6	No. 2 mirror	
7	No. 3 mirror	
8	Reflector	Converges scanner lamp lights to radiate onto the document.

## 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).

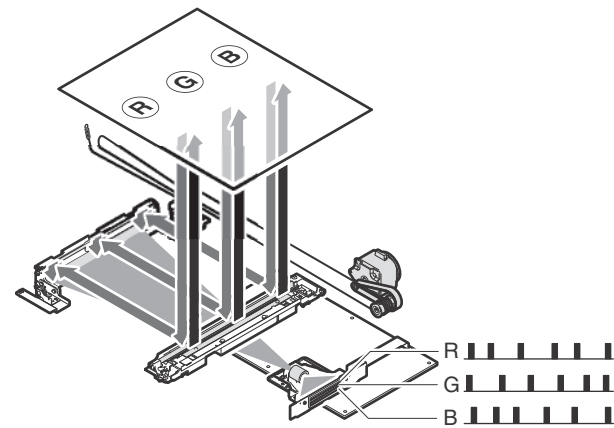
The color components of document images are extracted to R, G, and B separately by the three kinds of CCD elements (R,G,B).

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.

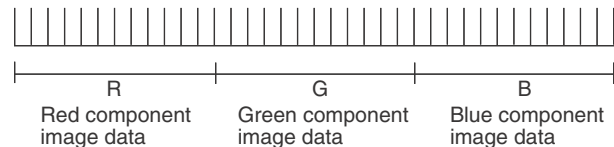
The CCD unit looks like one unit, but it includes three kinds of CCD elements, R, G, and B.

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.

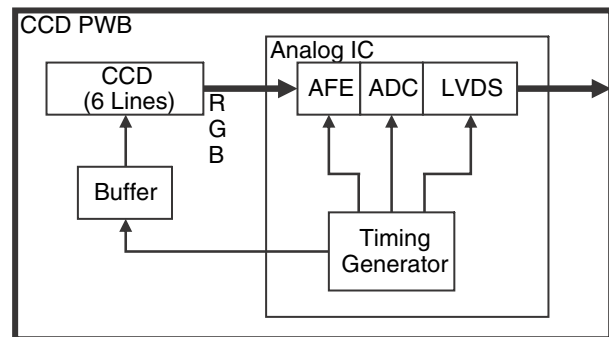


(Image data for 1 line)



#### d. Image signal A/D conversion

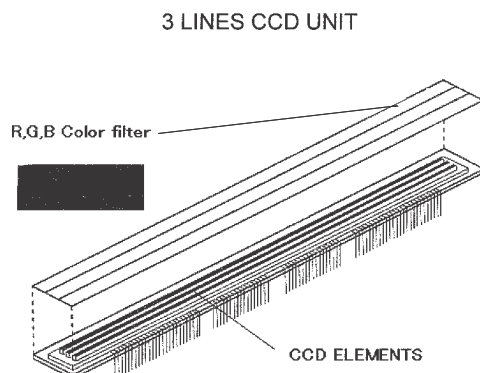
- 1) The image signal (analog) for each of R, G, and B is converted into 10bit digital signal by the A/D converter.  
Each color pixel has 10bit information.
- 2) The 10bit digital image signals of R, G, B are sent to the image process section.



#### e. Zooming operation

Zooming in the sub scanning direction is performed by changing the scanning speed in the sub scanning direction.

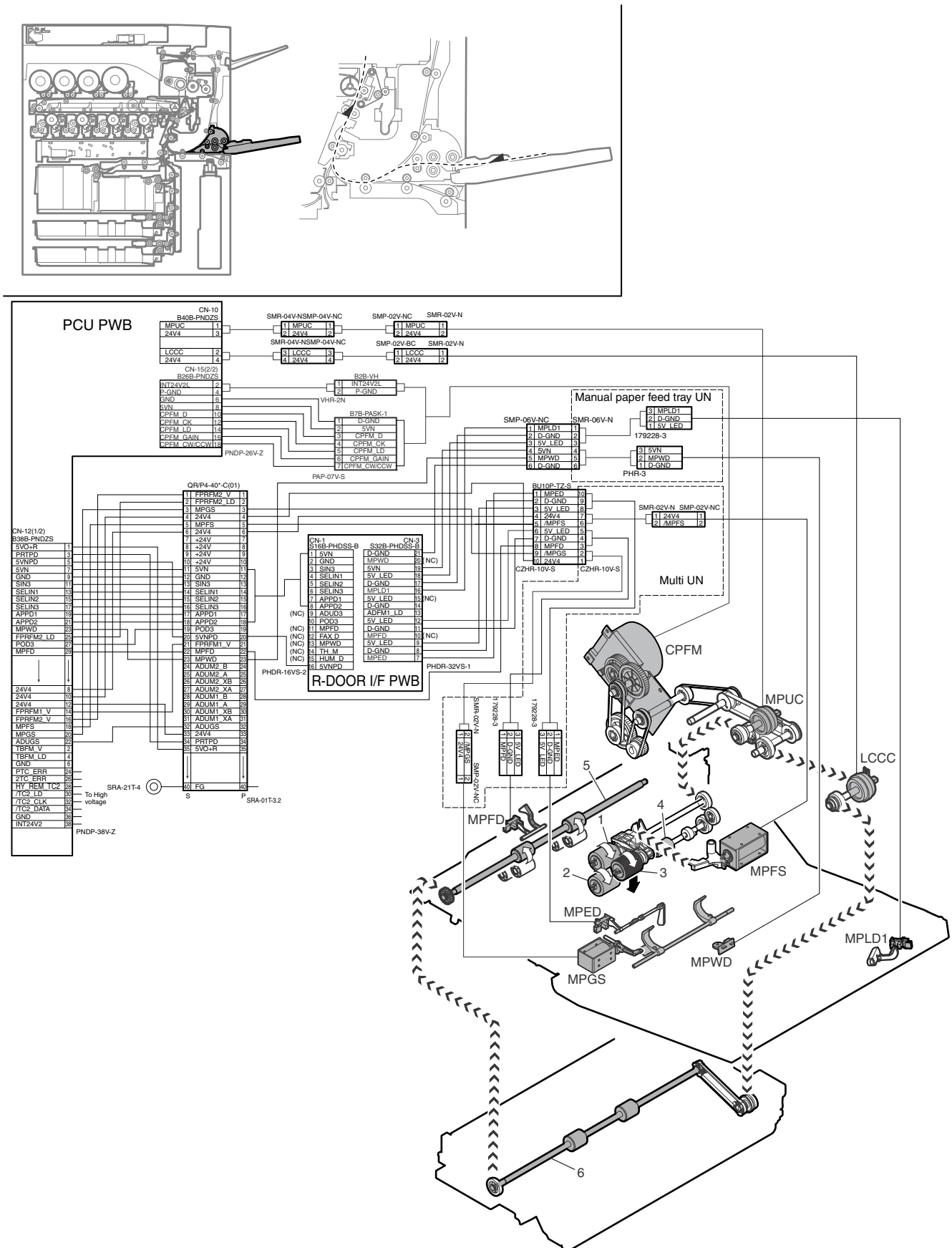
Zooming in the main scanning direction is not performed optically, but performed with the image process technology (by the software).



## 4. Paper feed section

### A. Electrical and mechanical relation diagram

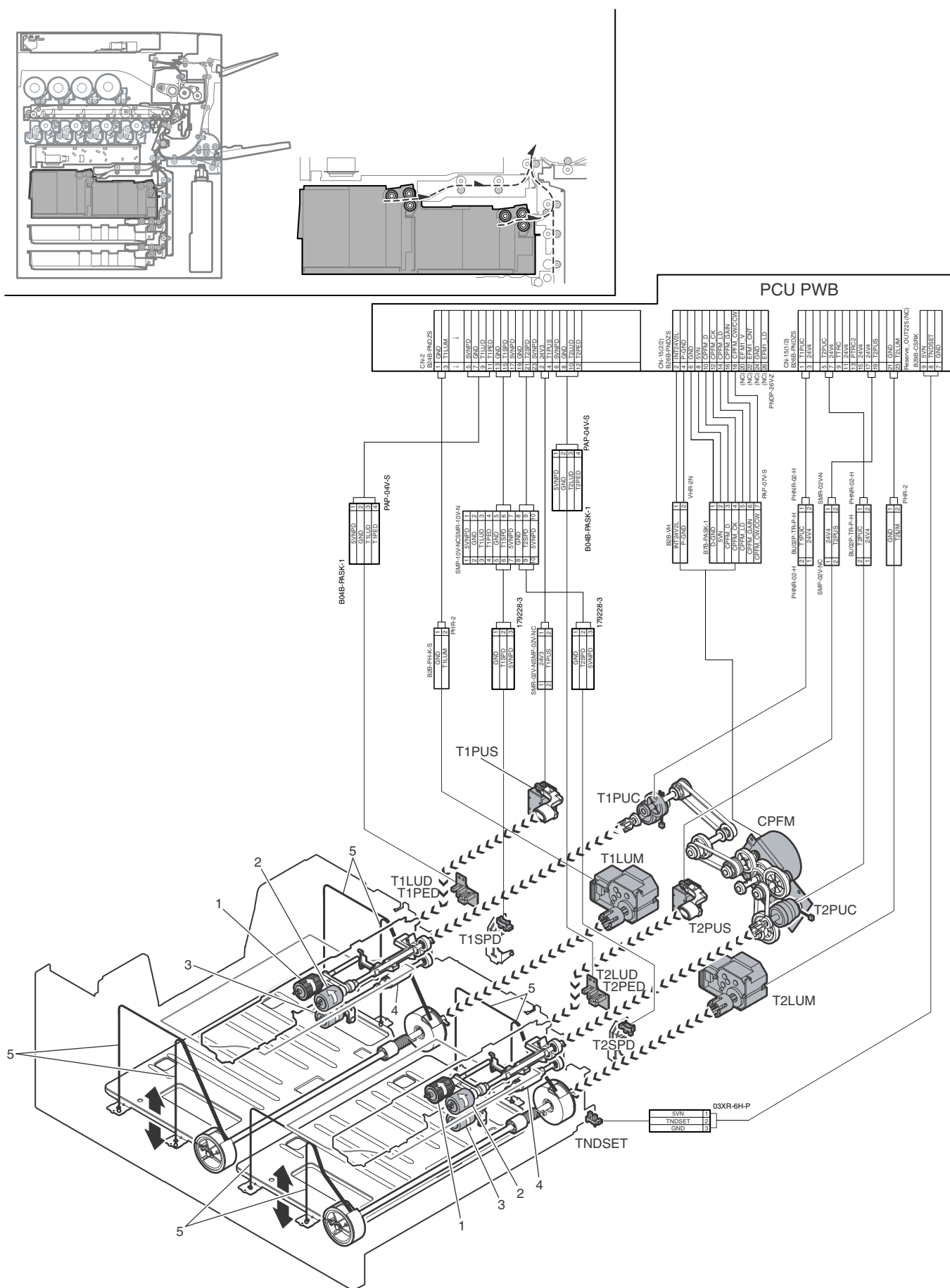
#### (1) Manual paper feed section



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**

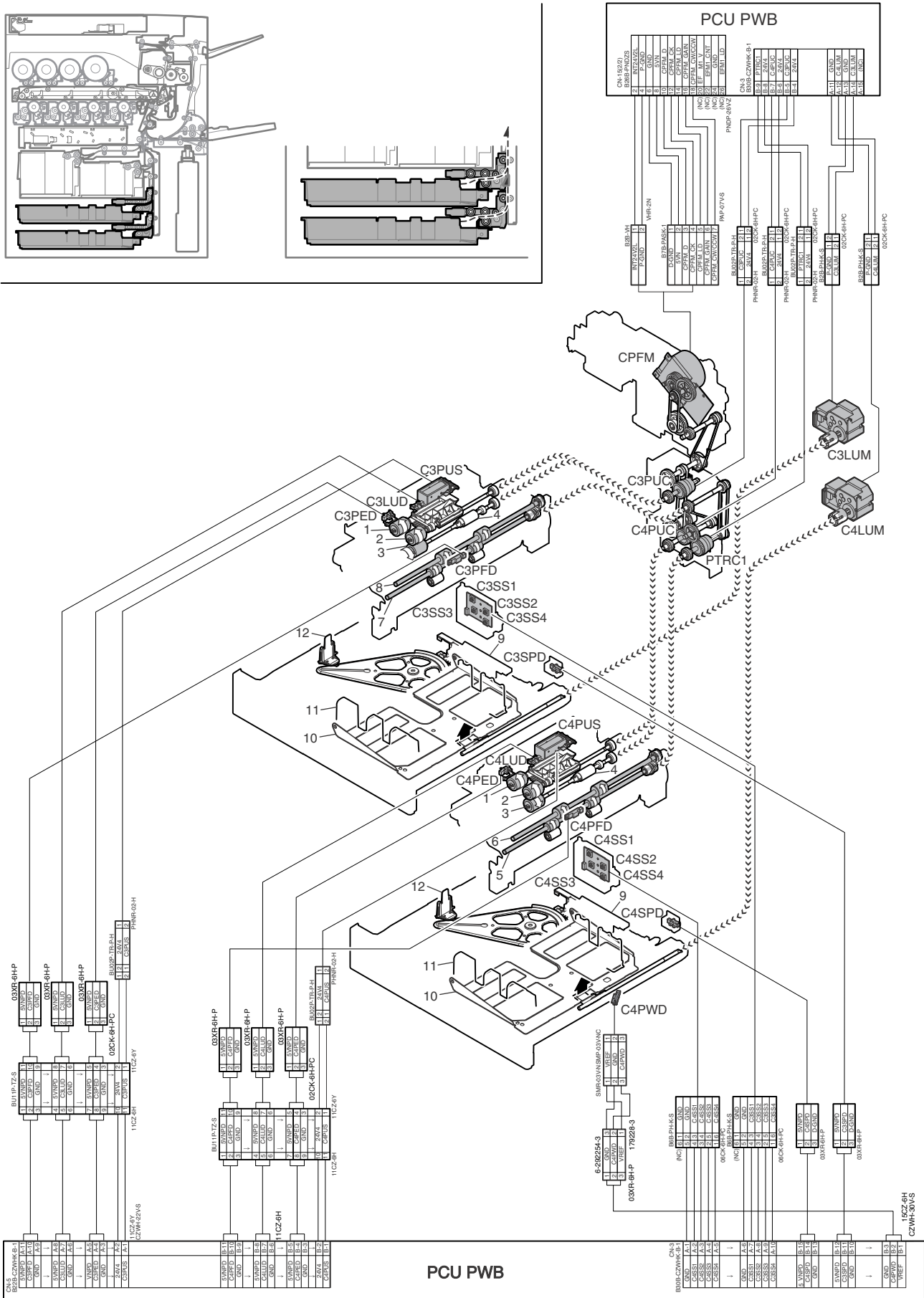


Signal name	Name	Function/Operation
CPFM	Paper feed motor	Drives the paper feed section and the transport section.
T1LUD	Tandem tray 1 upper limit detector	Detects the upper limit position of the upper limit tandem tray 1.
T1LUM	Paper tray lift motor (Tandem tray 1)	Drives the lift of the paper tray.
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.

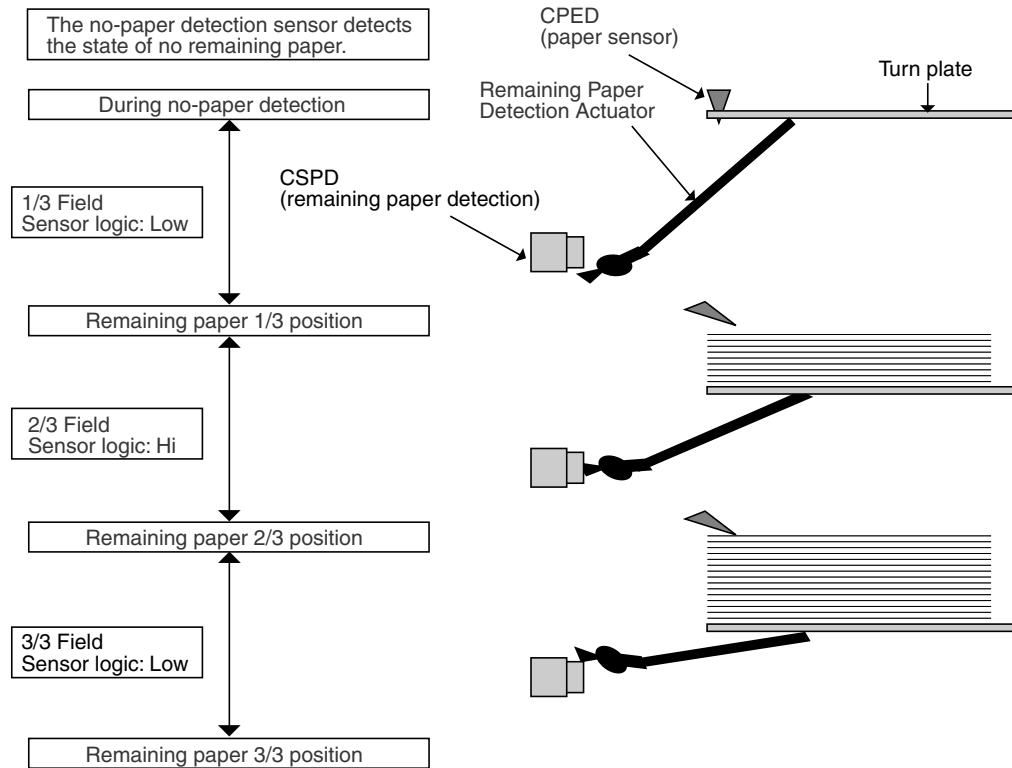
#### c. Paper remaining detection

- 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.

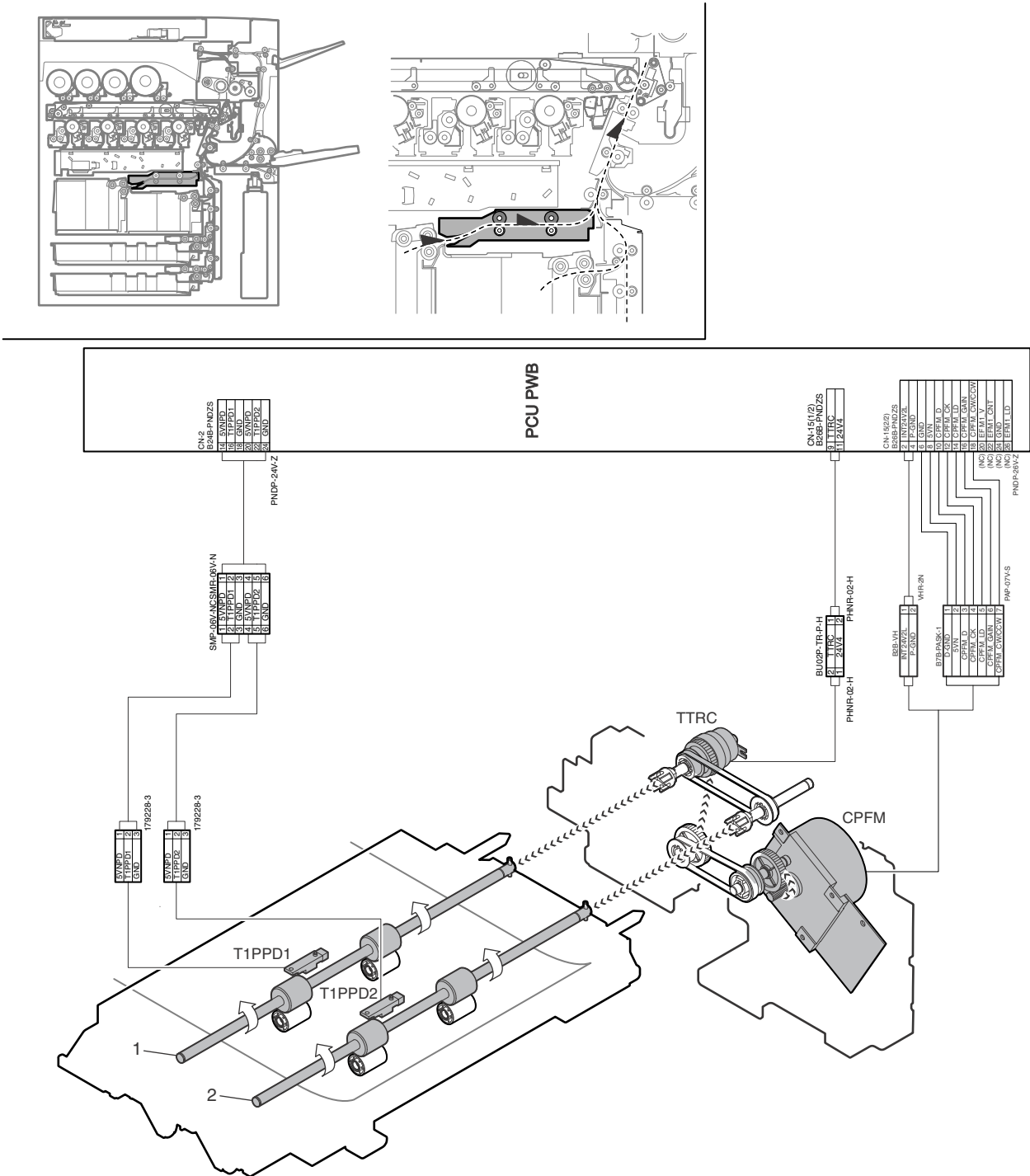
(Figure showing state transition of the remaining paper detection sensor during tray elevation and changes in status according to the number of remaining sheets)



# 5. Paper transport section

## A. Electrical and mechanical relation diagram

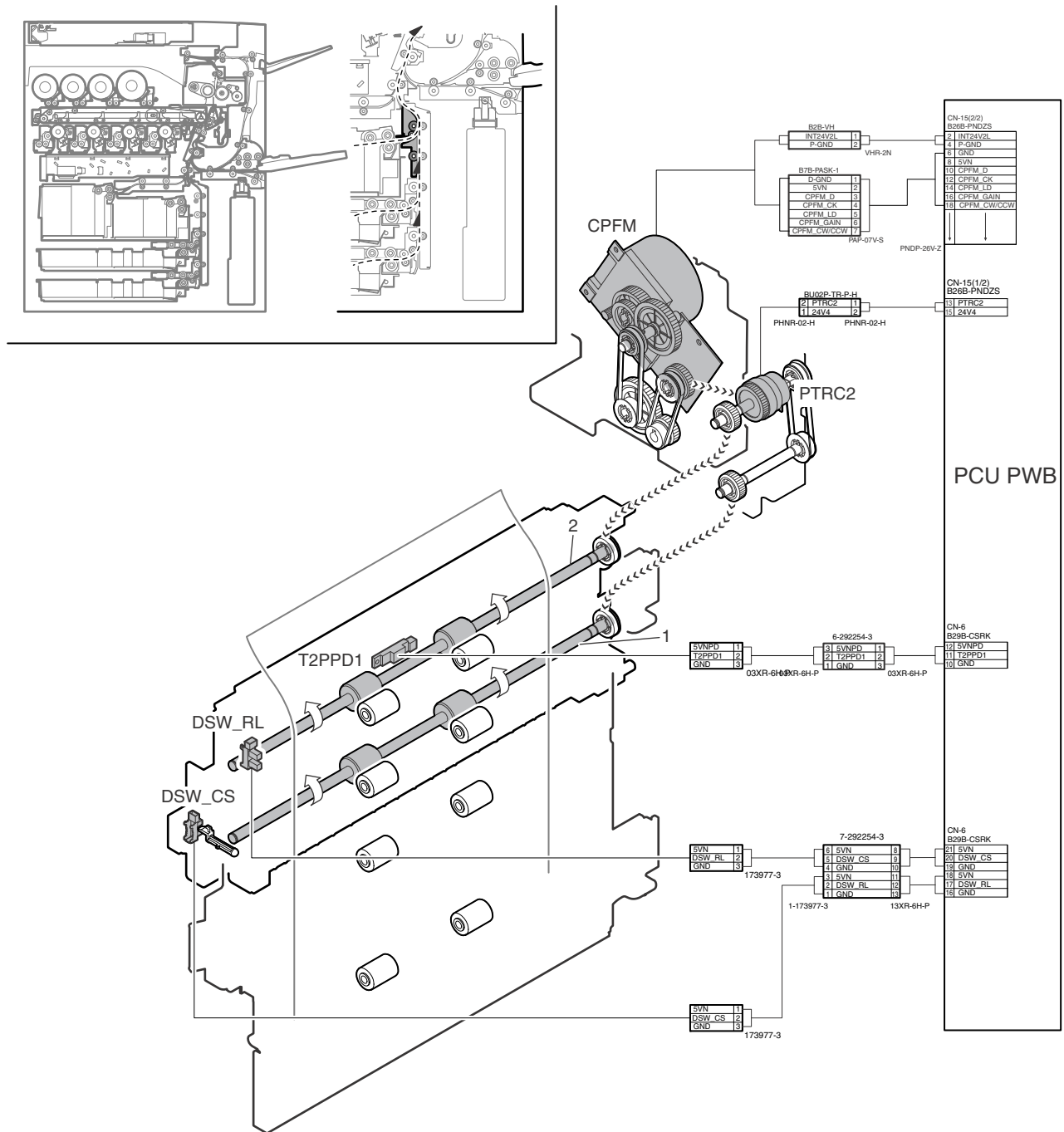
### (1) Interface pass unit



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.

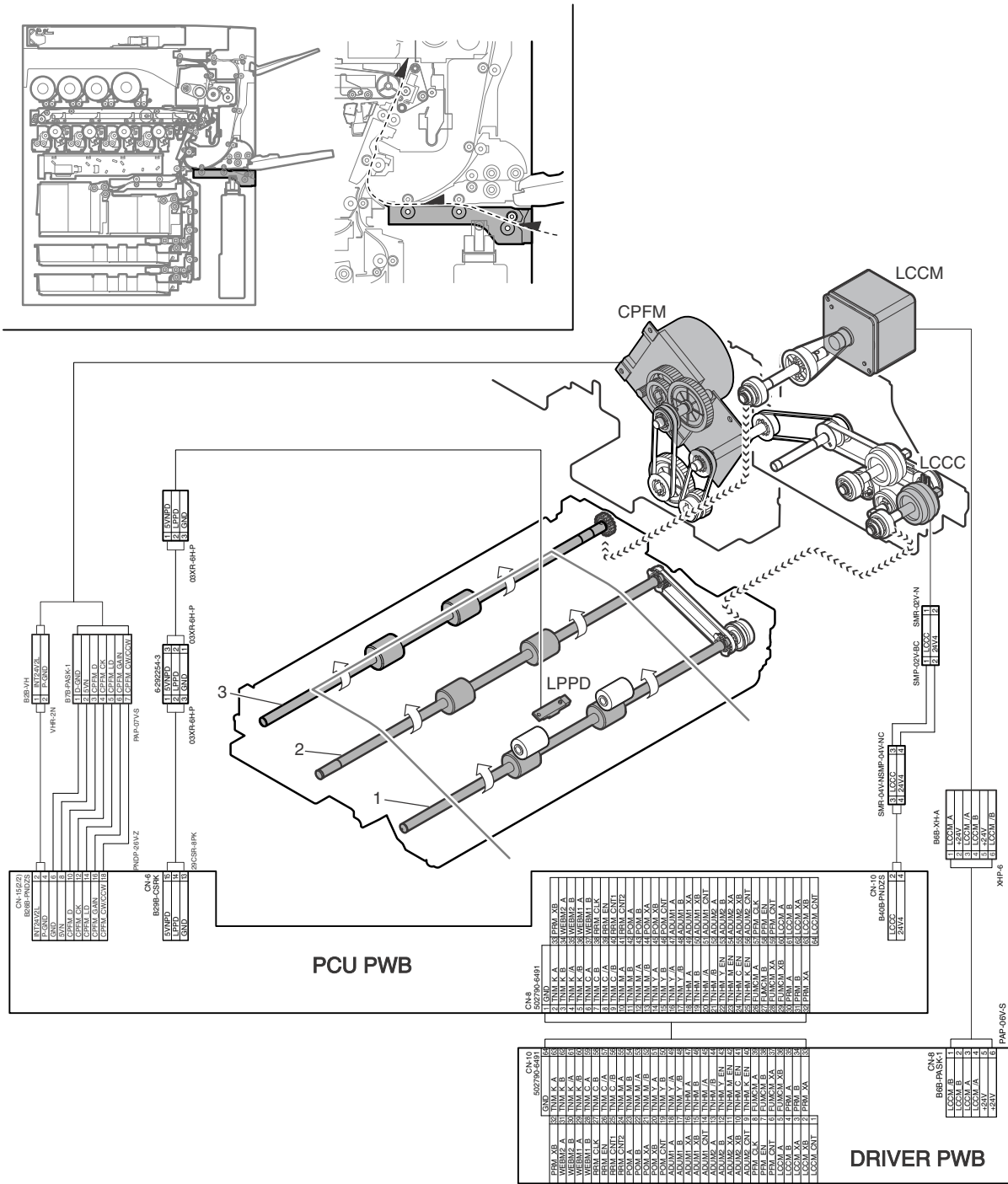
## (2) Vertical transport unit



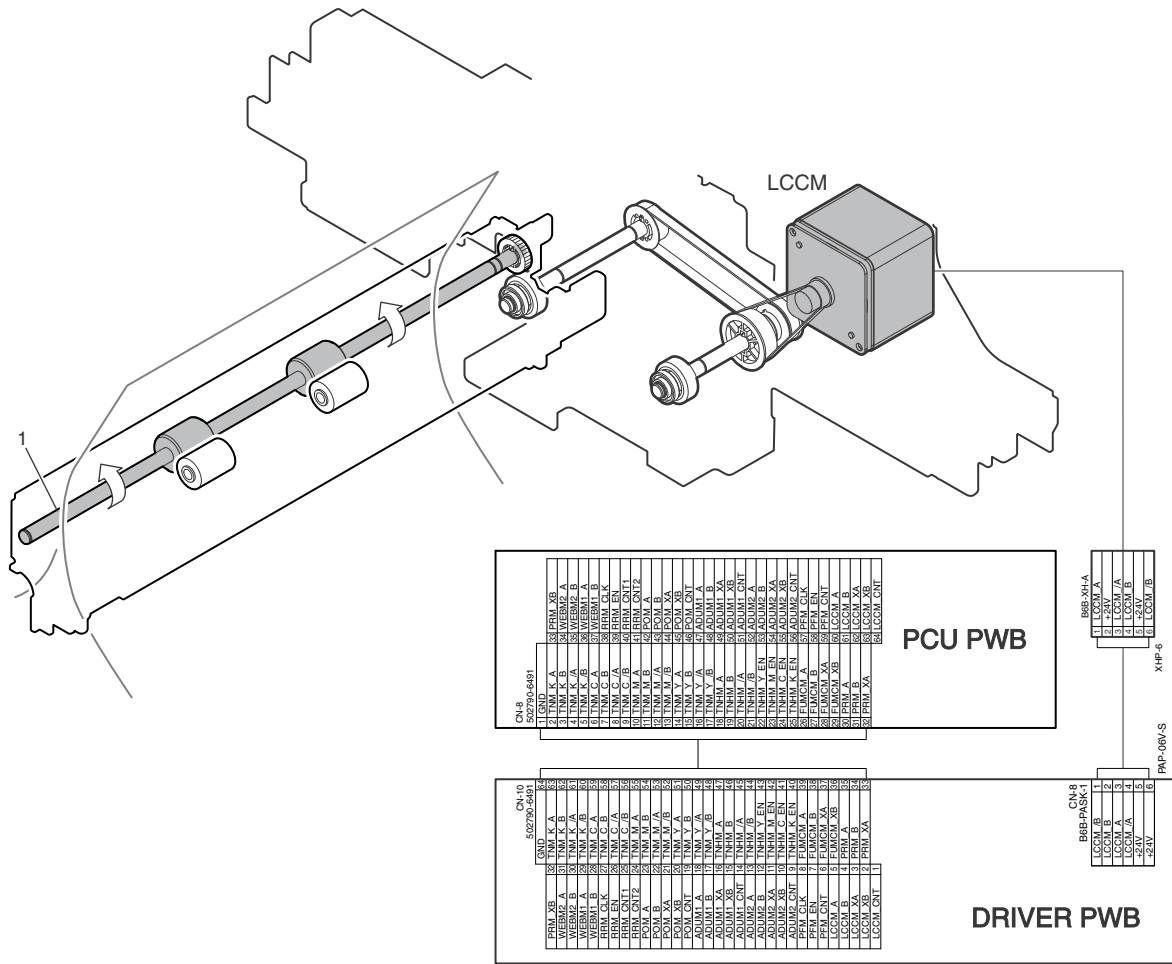
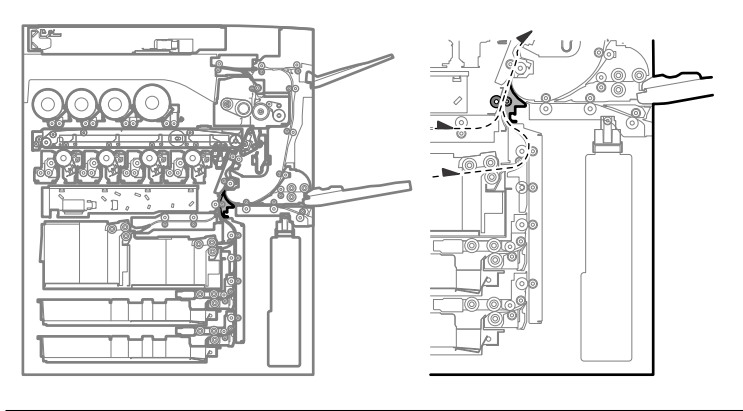
Signal name	Name	Function/Operation
CPFM	Paper feed/Transport motor	Drives the paper feed section and the transport section.
DSW_CS	Transport cover open/close sensor	Detects open/close of the vertical transport cover.
DSW_RL	Right lower door open/close sensor	Detects open/close of the right lower door.
PTRC2	Paper feed vertical transport clutch upper	Controls ON/OFF of the paper transport roller in the paper feed tray section.
T2PPD1	Tandem tray 2 transport sensor	Detects the tandem tray 2 paper pass.

No.	Name	Function/Operation
1	Transport roller 11 (Drive)	Transports paper to the transport roller 12.
2	Transport roller 12 (Drive)	Transports paper to the transport roller 13.

### (3) LCC transport unit



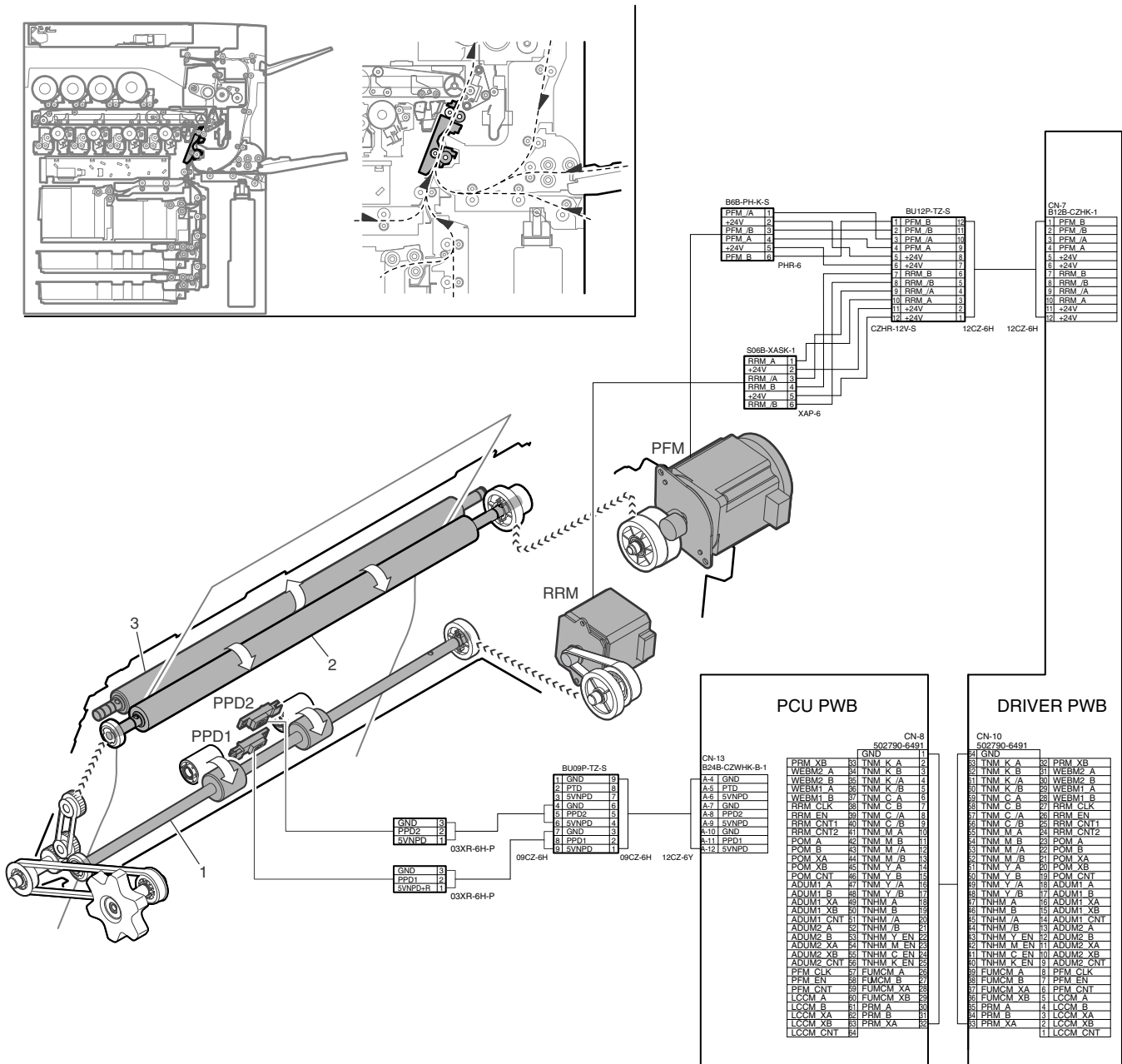
(4) PS lower unit



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.



### A. Electrical and mechanical relation diagram



Signal name	Name	Function/Operation
LSUFM	LSU cooling fan motor	Cools the section LSU.
LSUSS_CL	LSU shutter solenoid	Opens/closes the LSU shutter.
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 $\theta$ lens 1	Converges laser beams on the OPC drum, making the laser scan speeds at both ends and the center the same.
4	f $\theta$ lens 2	
5	Reflection mirror	Assures the optical path for laser.
6	f $\theta$ lens 3	Converges laser beams on the OPC drum, making the laser scan speeds at both ends and the center the same.
7	Collective lens for BD	Converges laser beams to the BD PWB.
8	BD PWB	Detects the timing for starting laser scanning.
9	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.
10	LSU thermistor 1	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

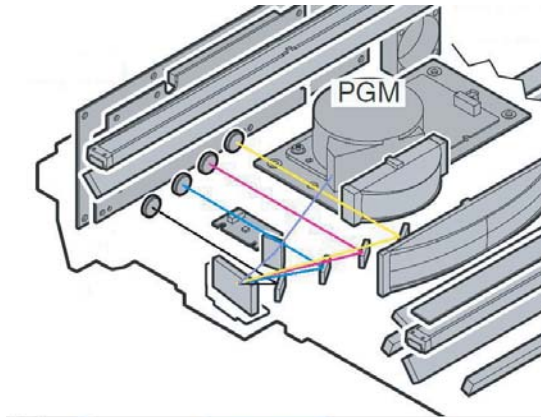
### (1) Outline

3 Image data sent from the image process circuit are converted into laser beams which are radiated to the surface of the OPC drum.

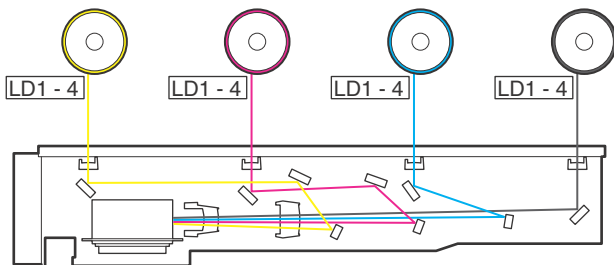
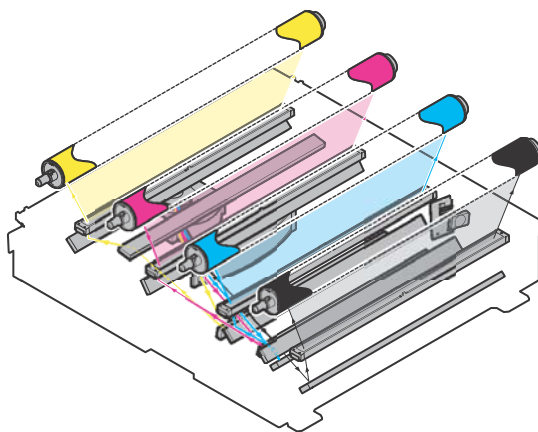
In this model, 4-laser system is employed where 4-laser diodes for each color are radiated. The LSU unit is composed of the optical element from laser to the polygon mirror, the primary system including the mirror which assures light path, and the main scanning system.

### (2) Composition

#### Primary system

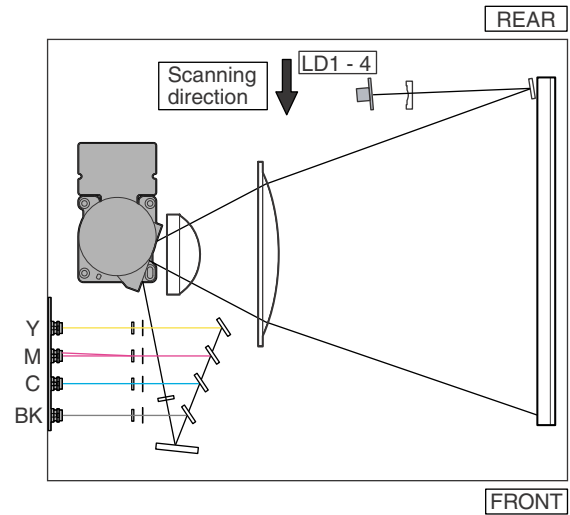


#### Scanning system



\* Though four laser beams are actually radiated for one color, they are illustrated as one beam.

#### Main scanning direction



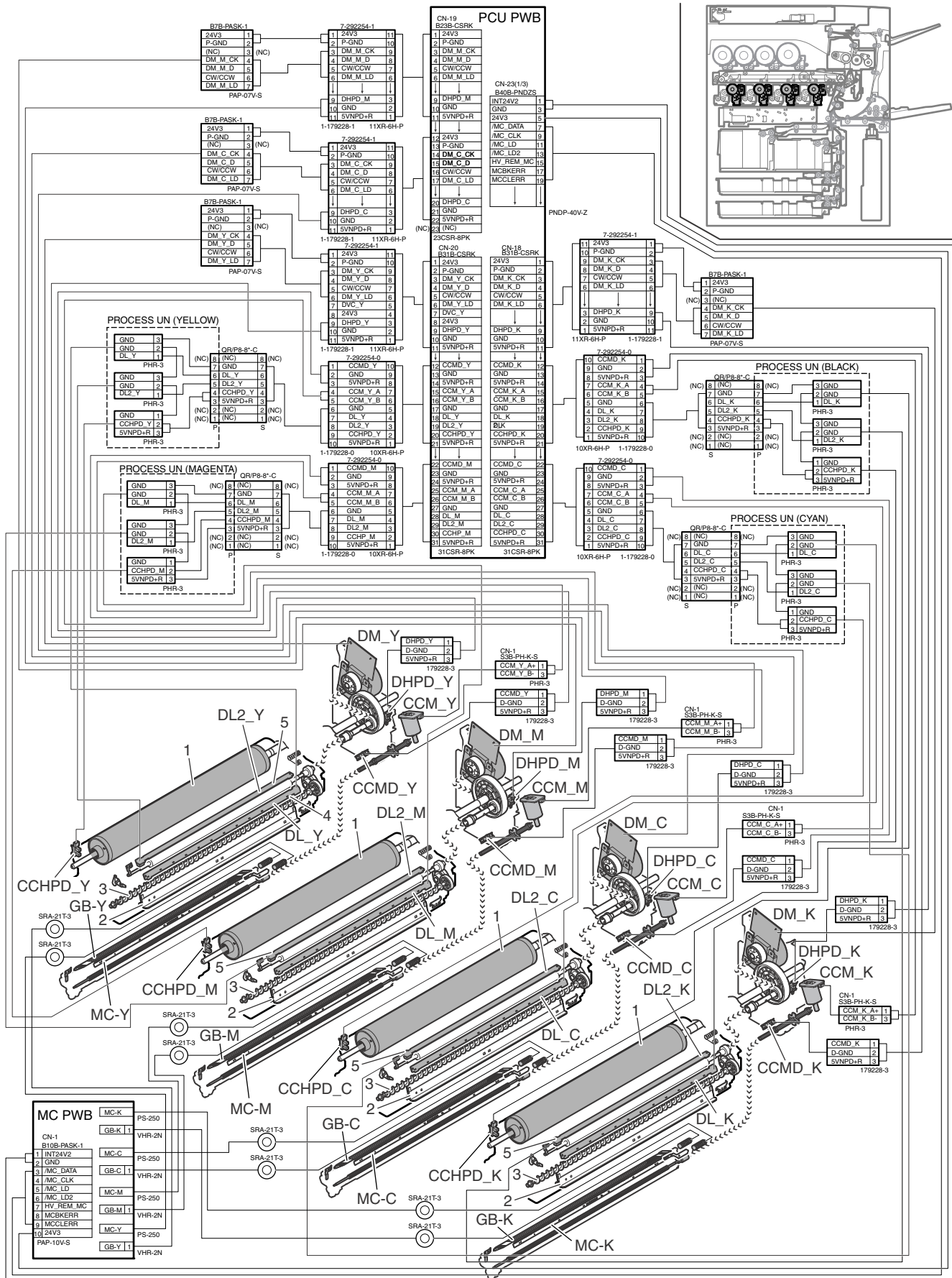
\* Though four laser beams are actually radiated for one color, they are illustrated as one beam.

### (3) Outline of LSU specifications

Scanning width:	310mm
Resolution:	1200dpi
Beam diameter:	Main scan = 50 to 80μm, Sub scan = 50 to 80μm
Laser power:	Max. 0.350mW/1beam
LD wavelength:	775 to 790nm

## 7. OPC drum section

### A. Electrical and mechanical relation diagram



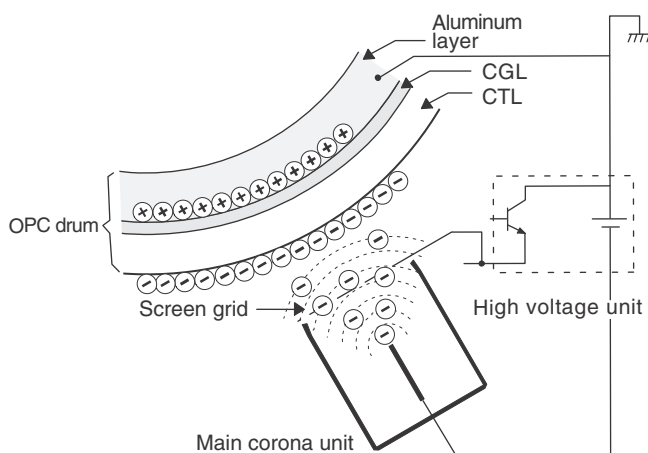
Signal name	Name	Function/Operation
CCHPD_KCMY	Charger cleaner home position sensor (K, C, M, Y)	Detects the charger cleaner home position. (CCHP_KCMY)
CCMD_KCMY	Charger cleaner shift sensor (K, C, M, Y)	Detects and controls shift of the charger cleaner.
DHPD_KCMY	OPC drum rotation sensor (K, C, M, Y)	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

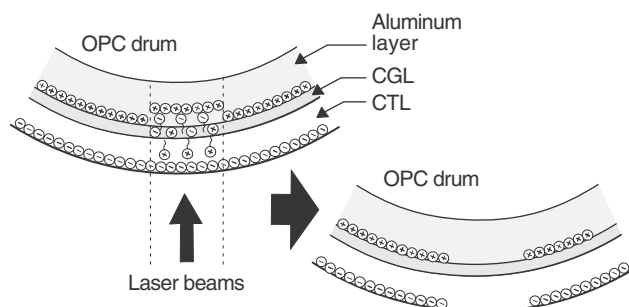
The OPC drum surface is negatively charged by the main charger. The laser beam images are radiated to the OPC drum surface by the laser (writing) unit to form latent electrostatic images.

- 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.

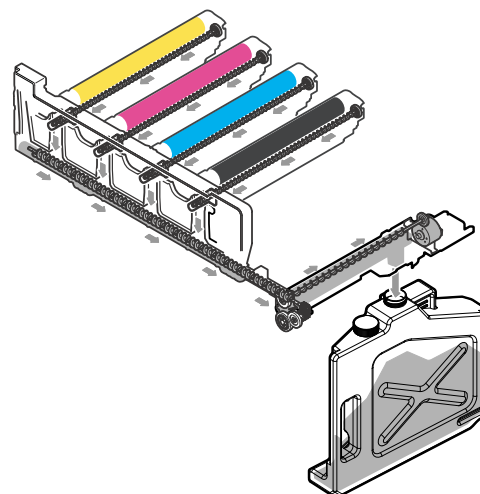
Therefore, positive charges and negative charges are balanced out on the OPC drum and in the aluminum layer, reducing positive and negative charges to decrease the OPC drum surface voltage.

Electric charges remain at a position where laser lights are not radiated.

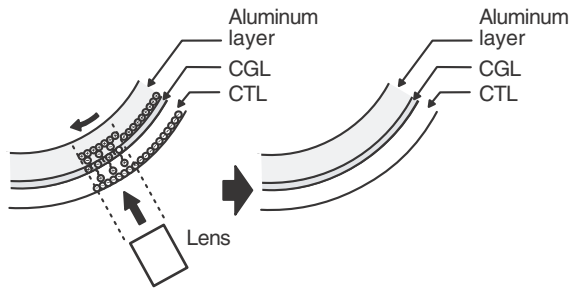
As a result, latent electrostatic images are formed on the OPC drum surface.

- 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

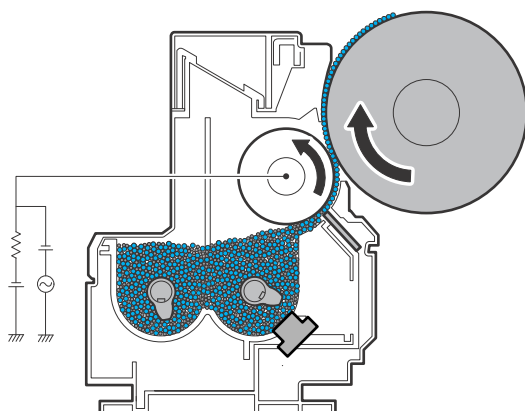


Signal name	Name	Function/Operation
DM_KCMY	Drum motor	Drives the developer and the drum.
DVC_KCMY	Development drive clutch	Clutch for development drive
GB-KCMY	Developing bias	Bias for development
TCS_KCMY	Toner density sensor	Controls the toner density in the developing unit.

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.

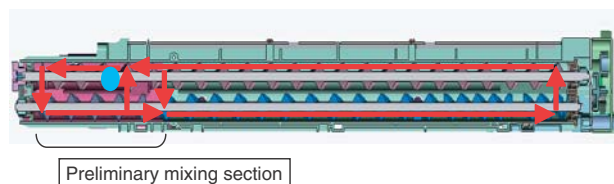
The developing bias voltage (AC component and negative DC component) is applied to the developing roller.

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

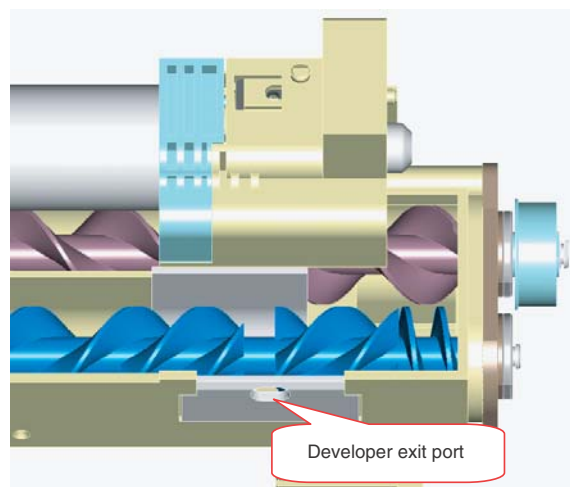
The preliminary mixing section is extended for rapid mixing of supply toner with developer and stable toner density.



### (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.



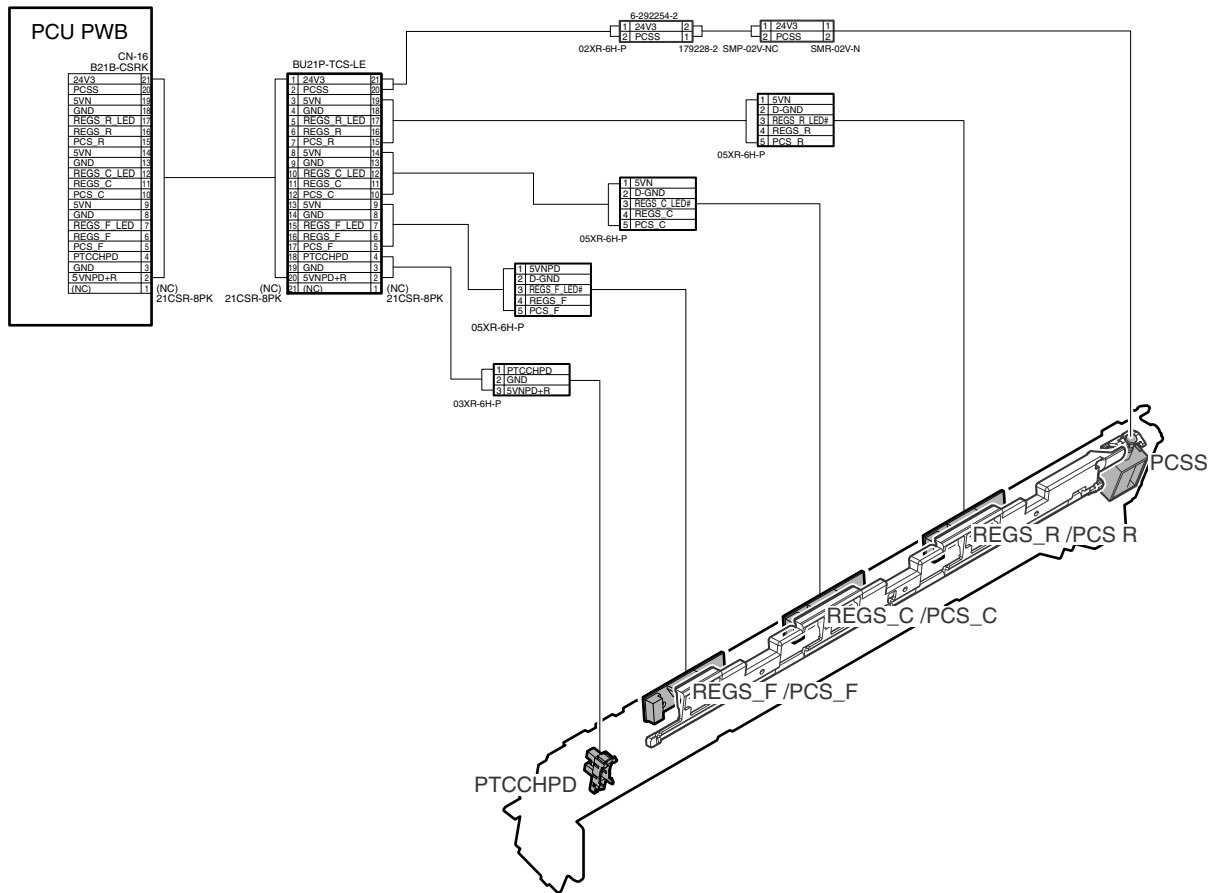
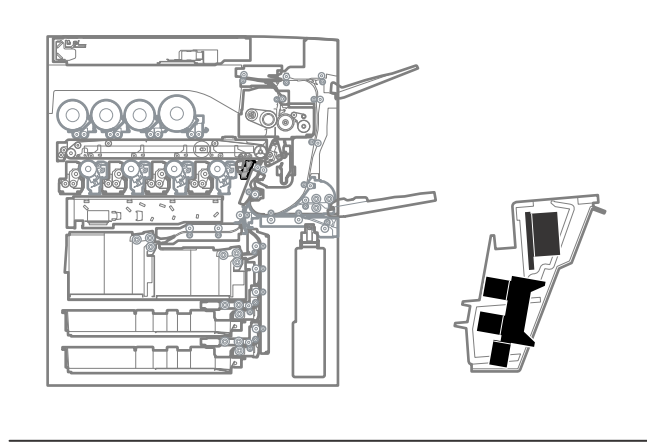
### (1) Transfer section



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



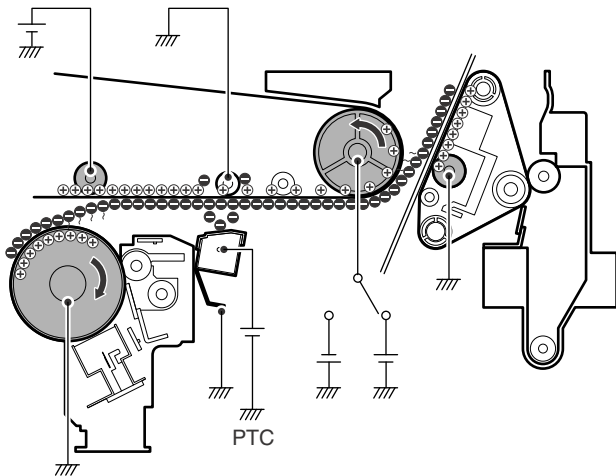
Signal name	Name	Function/Operation
PCSS	Color image density sensor PWB reflection plate shutter solenoid	Opens/closes the shutter of the process control and the registration sensor.
PTCCHPD	PTC cleaner home position detection	Detects the PTC cleaner home position.
REGS_C/PCS_C	Color image density sensor/Image 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.

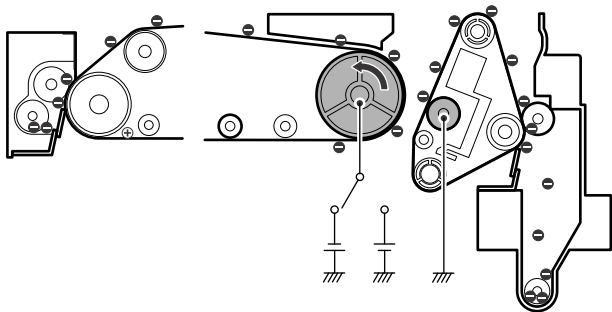
By this operation, the transfer efficiency in the secondary transfer is improved.

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.

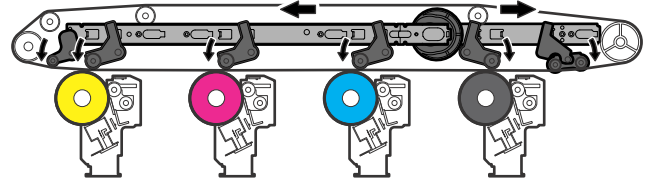


#### b. Primary (intermediate) transfer roller separation mechanism and contents

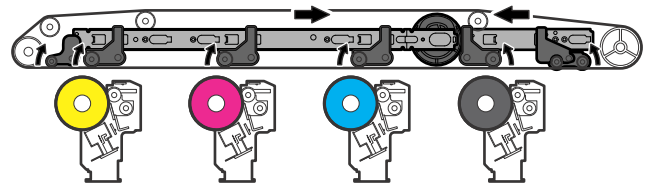
The primary transfer roller operates pressing all the rollers, separates all the rollers, or presses only black depending on the operation mode.

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 separating operation of the roller.

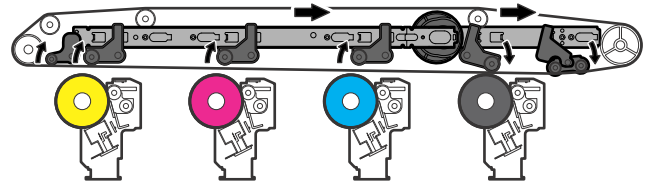
All pressing



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

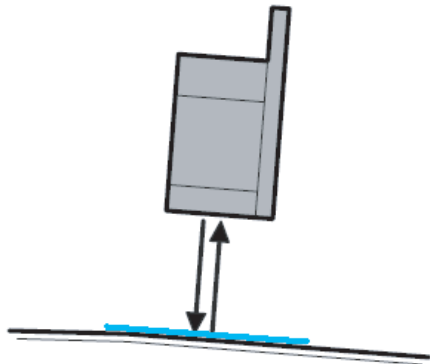
	Process control sensor	Image registration sensor
Rear	Y	R
Center	M/BK	C
Front	C	F

#### 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.

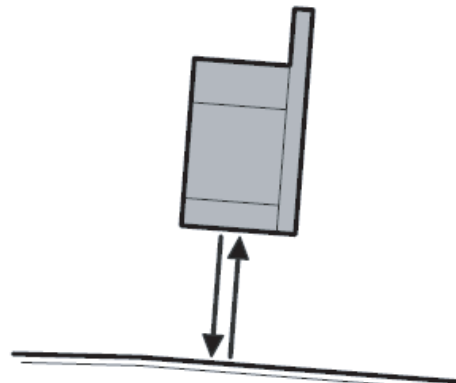


#### Light emitting current of the sensor LED (Light emitting diode)

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.



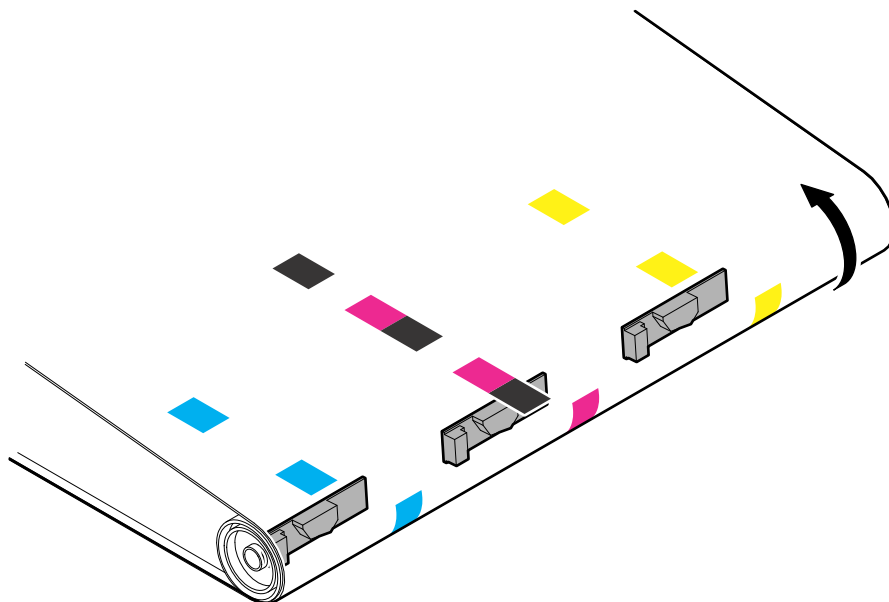
#### b. High density process control operation (Toner patch generation and density correction operations)

- 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.

### (3) Setting of process control execution conditions

#### a. General

The SIM44-62 function facilitates changing the process control execution conditions.

The SIM44-62 function also allows collective change of the set contents of SIM44-4 and SIM44-28 easily.

This is used to assure stable image qualities by executing proper operations of the process control according to the machine use status.

#### b. SIM44-62 function and use

- Changes the image density in the high density area.
- Changes the execution frequency of the process control.

#### c. Setting method

Enter the SIM44-62 mode, and select the set item.

- 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.

0

SIMULATION NO. 44-62 CLOSE

PROCON SETTING COLLECTIVE INPUT

PROCON TARGET PROCON MODE

1/1

When PROCON TARGET is selected.

- 1) Select the density level.

0

SIMULATION NO. 44-62 CLOSE

PROCON TARGET (SIM44-04) COLLECTIVE INPUT

CL ID DOWN BK ID DOWN ALL ID DOWN

CL ID UP BK ID UP ALL ID UP

NORMAL

ARE YOU SURE? YES NO EXECUTE

1/1

#### Relation between the selected density level and the output image density

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.)



## Relation between the selected density level and the SIM44-4 set values

		SIM44-62 PROCON TARGET (Selected density level)						
		Dark			Normal	Light		
Item (SIM44-4)		BK High	CL High	ALL High	Normal	BK Down	CL Down	ALL down
A	PCS_F TARGET	204	204	204	204	204	204	204
B	PCS_C TARGET	204	204	204	204	204	204	204
C	PCS_R TARGET	204	204	204	204	204	204	204
D	LED_K OUTPUT	21	21	21	21	21	21	21
E	PCS ADJUSTMENT LIMIT	4	4	4	4	4	4	4
F	BELT GROUND DIF	1	1	1	1	1	1	1
G	BIAS_CL STANDARD DIF	60	60	60	60	60	60	60
H	BIAS_BK STANDARD DIF	0	0	0	0	0	0	0
I	BIAS PATCH INTERVAL	60	60	60	60	60	60	60
J	Y_PAT TARGET ID	50	60	60	50	50	45	45
K	M_PAT TARGET ID	50	60	60	50	50	45	45
L	C_PAT TARGET ID	50	60	60	50	50	45	45
M	K_PAT TARGET ID	55	45	55	45	40	45	40
N	HV BK_GROUND LIMIT	60	60	60	60	60	60	60

- 2) Press [EXECUTE] key.
- 3) Press [YES] key.  
The SIM44-4 set value varies according to the selected density level.
- 4) Execute SIM46-74 to adjust the copy and printer color balance.

## When PROCON MODE is selected.

- 1) Select the execution frequency level of the process control.



## Setting level and application

HIGH QUALITY2	<ul style="list-style-type: none"> <li>The execution frequency of the process control is highest.</li> <li>It is set when the color image quality is given priority.</li> <li>Every time the power is turned ON, the process control is executed.</li> <li>The execution frequency of the process control is about 3 times greater than the normal setting.</li> <li>For a user who's main jobs are color jobs of more than 100 sheets/day with priority on the color image quality.</li> </ul>
HIGH QUALITY1	<ul style="list-style-type: none"> <li>The execution frequency of the process control is high.</li> <li>It is set when the color image quality is given priority.</li> <li>Every time the power is turned ON, the process control is executed.</li> <li>For a user of about 100 sheets/day with priority on the color image quality.</li> </ul>
NORMAL (Default)	<ul style="list-style-type: none"> <li>The process control is executed in the normal frequency.</li> </ul>
BW MODE	<ul style="list-style-type: none"> <li>The process control is executed in the normal frequency.</li> <li>It is set when there are little color jobs and many monochrome jobs.</li> <li>The black process control is executed.</li> <li>The color process control is occasionally executed according to the color toner consumption.</li> <li>The color toner consumption is suppressed.</li> </ul>
PRINT PERFORMANCE	<ul style="list-style-type: none"> <li>The execution frequency of the process control is low.</li> <li>It is set when the job speed is given priority.</li> <li>The process control is executed in about 50% of the normal frequency during jobs.</li> <li>For jobs of 100 or less, the process control is executed after completion of the jobs.</li> </ul>

# Relation between the selected mode and the SIM44-28 set values

		SIM44-62 and PROCON MODE (process control execution frequency level)				
Item (SIM44-28)		Image quality priority 2	Image quality priority 1	Normal	Monochrome priority	Priority on the job efficiency
A	INITIAL	0	0	0	0	0
B	SW ON	0	0	3	3	3
C	TIME	0	0	3	3	3
D	HUM_LIMIT	0	0	0	2	0
E	HUM	0	0	0	2	0
F	REV1	0	0	0	1	1
G	REV2_BK	0	0	0	0	0
H	REV2_CL	0	0	0	0	0
I	REFRESH MODE	1	1	1	1	1
J	DAY	1	1	1	0	1
K	HI-COV	0	0	0	1	1
L	LO-COV	0	0	0	1	1
M	TonerCA-END	0	0	1	1	1
N	JOB_STOP	1	1	1	1	1
O	AVERAGE-PAGE	3	3	3	3	3
P	LIMIT PAGE	10	10	10	50	50
Q	PIX_RATIO_BK	10	10	10	10	10
R	PIX_RATIO_CL	10	10	10	50	10
S	INTERVAL TIME	3	3	3	3	3
T	HUM HOUR	2	2	2	2	2
U	HUM_DIF	2	2	2	4	4
V	BK_RATIO	5	15	15	30	30
W	M_RATIO	5	15	15	30	30
X	REV1_RATIO	20	20	20	40	40
Y	LOW_RATIO	5	15	15	30	30
Z	COLOR BORDER	20	20	20	100	20
AA	BK ONLY	5	5	5	6	5
AB	P2P PV_CL	50	50	50	50	50
AC	P2P PV_Bk	50	50	50	50	50
AD	HT_DIF	1	40	40	40	40
AE	RG_ON_SYNC	0	0	0	0	0
AF	RG_TEMP_TIMER	0	0	0	0	0
AG	RG_PERM_TIMER	0	1	1	1	1
AH	RG_HOUR_TIMER	3	5	5	11	11
AI	RG_BW_SYNC	1	1	1	1	1
AN	PAR_CNT SYNC	50	50	50	50	50
AO	PAR_TIMER SYNC	30	30	30	30	30
AP	PAR_TEMP SYNC	0	0	0	0	0

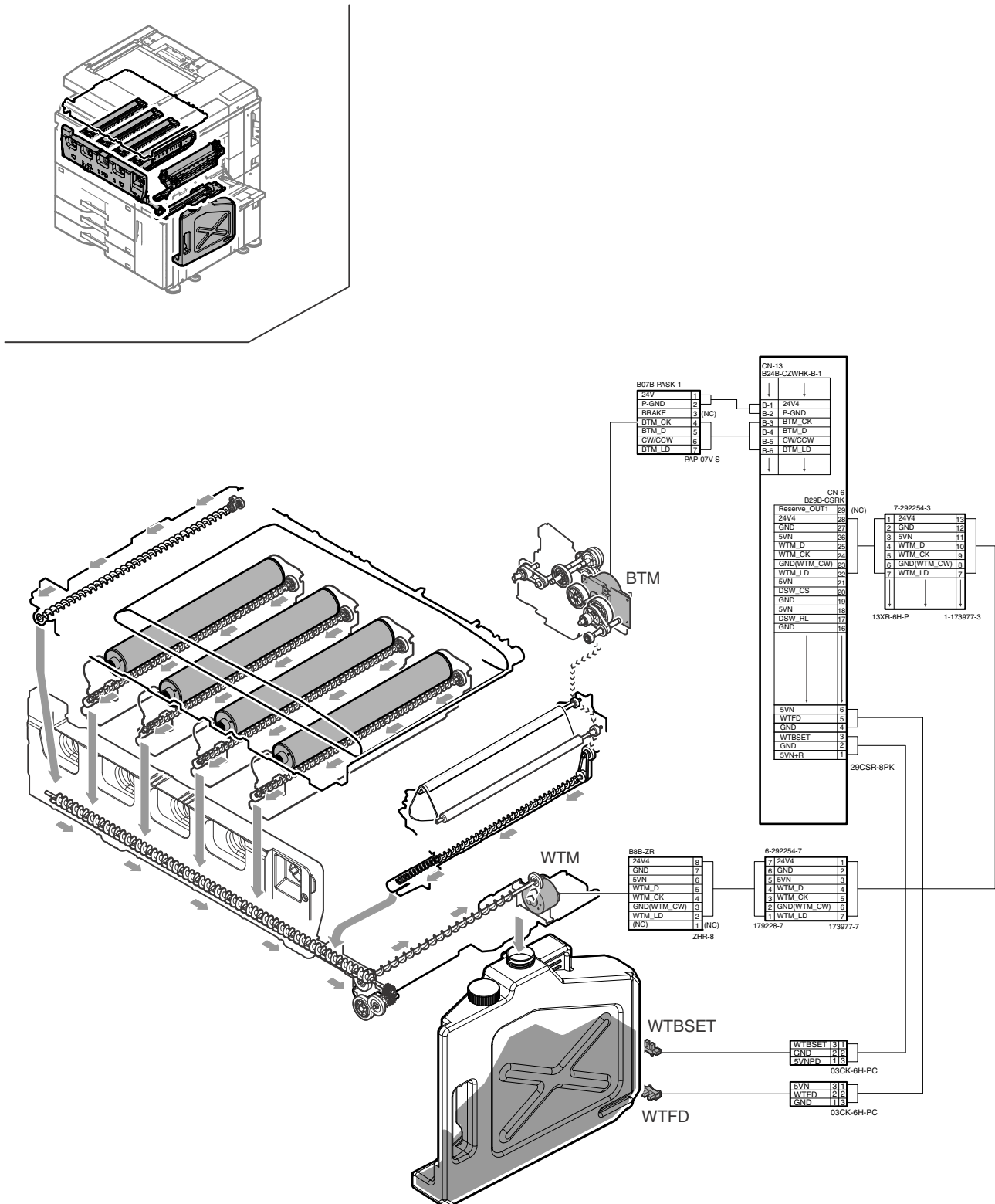
Items out of application: MC\_CLEAN\_TIME, PTC\_CLEAN\_TIME\_CL, PTC\_CLEAN\_TIME\_BK, DRUM\_REVERSE

2) Press [EXECUTE] key.

3) Press [YES] key.

The SIM44-28 set value varies according to the selected execution frequency level of the process control.

## 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.

### 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.

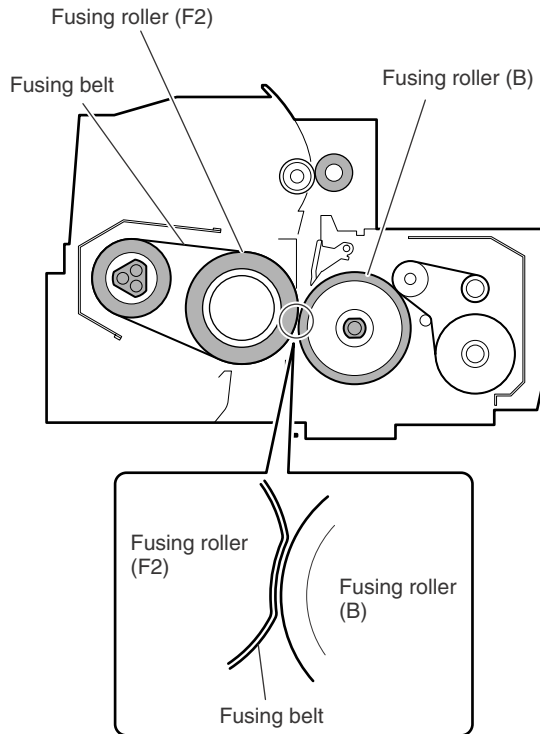
### (3) Fusing operation

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).



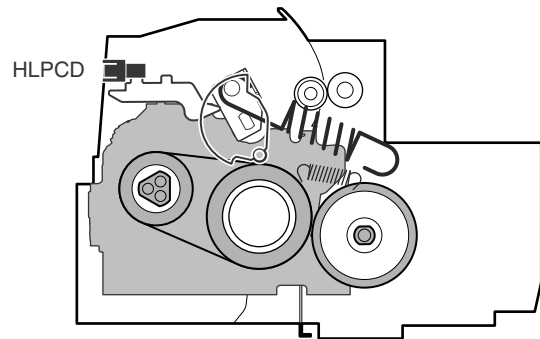
### (4) Automatic pressure release system

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

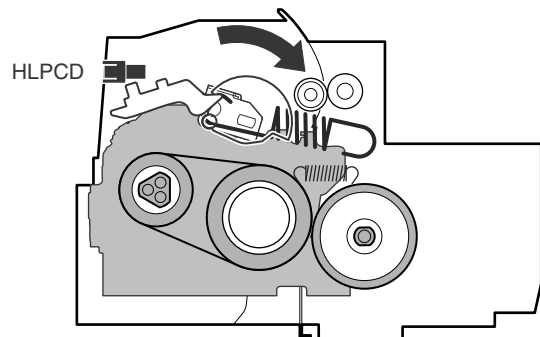
The fusing pressure control motor (PRM) rotates to turn ON the fusing pressure detector (HLPD) (H level). When the specified time passes after turning ON the fusing pressure detector (HLPD) (H level) by rotation of the fusing pressure control roller (PRM), the pressure release motor stops to complete 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 (HLPD), 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.

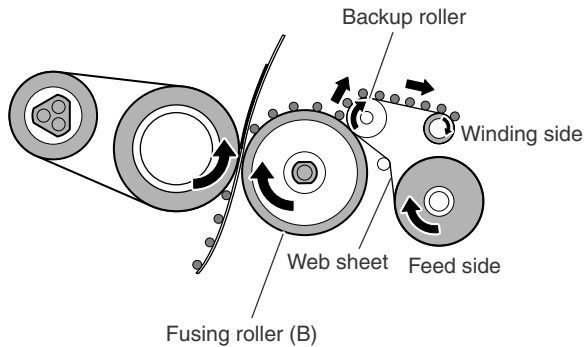
If the main power switch is turned OFF with the LCD lighted, the power is cut off before completion of the pressure release operation. If this state is kept for a long time, the fusing roller may be deformed.

### (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.



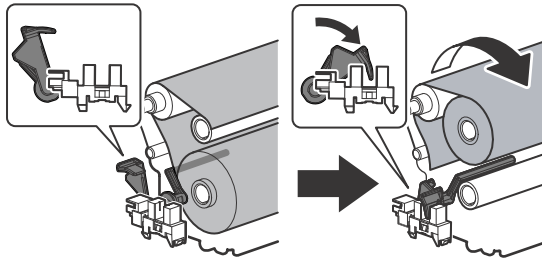
### (6) Web life end detection

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.

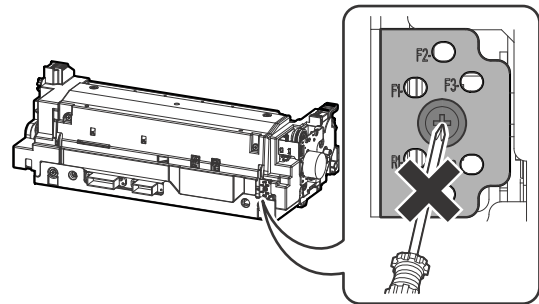


### (7) Fusing belt meandering alignment adjustment

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 tightened in a position which is not marked in red, the belt may be broken.



**(1) Duplex section**

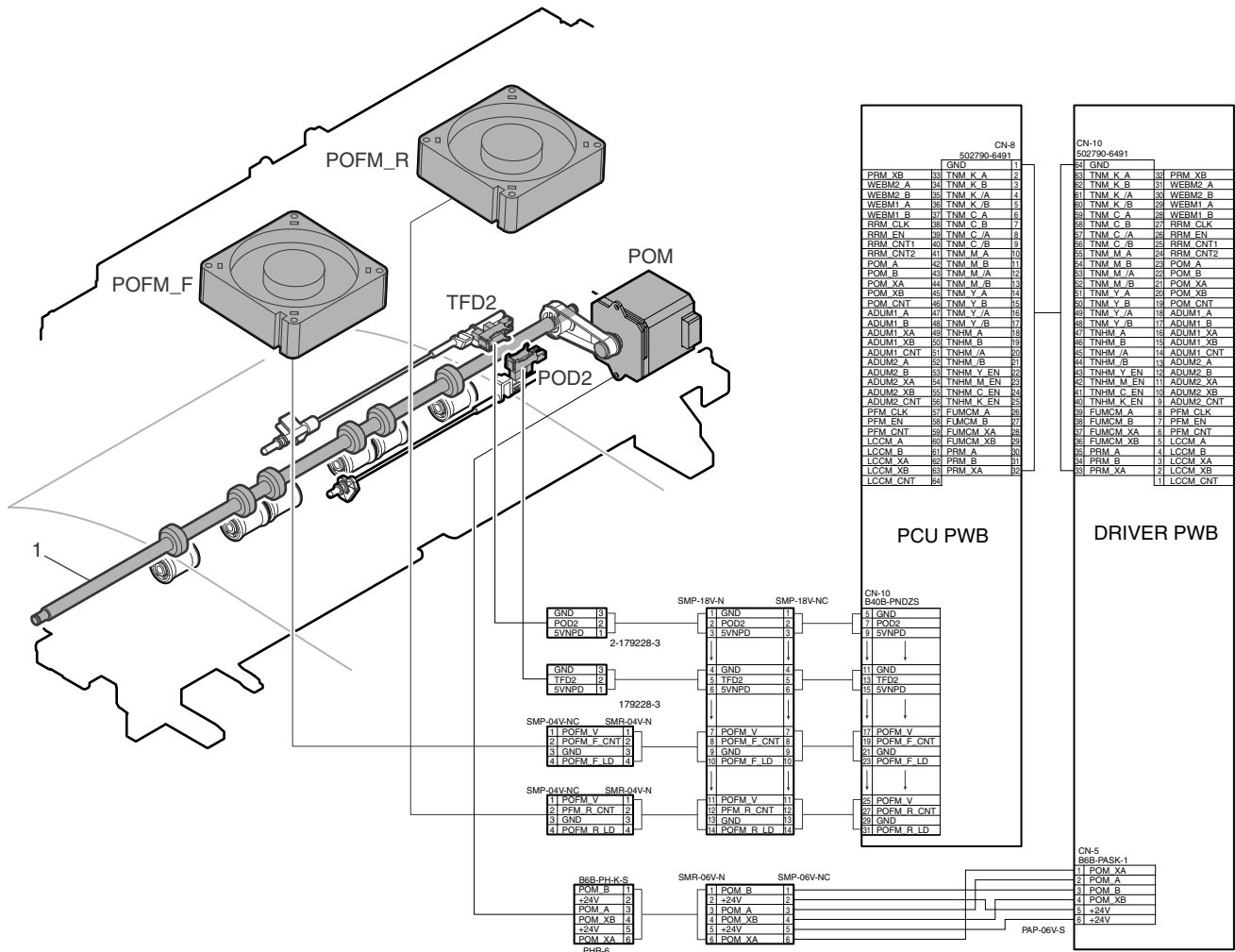
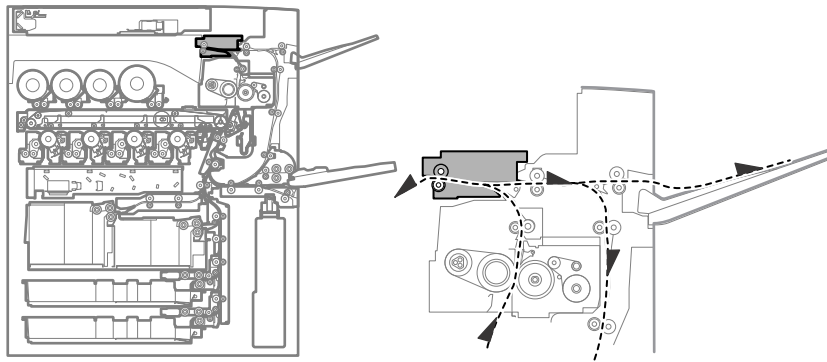




Signal name	Name	Function/Operation
ADUFM_F	ADU transport cooling fan motor F	Cools the ADU transport path.
ADUFM_R	ADU transport cooling fan motor R	
ADUGS	ADU gate solenoid	Controls the ADU gate.
ADUM1	ADU motor lower	Drive the transport roller 19, 20 and the paper exit roller 2.
ADUM2	ADU motor upper	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	Paper exit roller 2 (Drive)	Discharges paper to the right paper exit section.
5	Transport roller 19 (Drive)	Transports paper to the right paper exit section or the ADU section.
6	Paper exit gate (ADU gate)	Selects the paper path: to transport paper to the ADU section or to the right tray.
7	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.

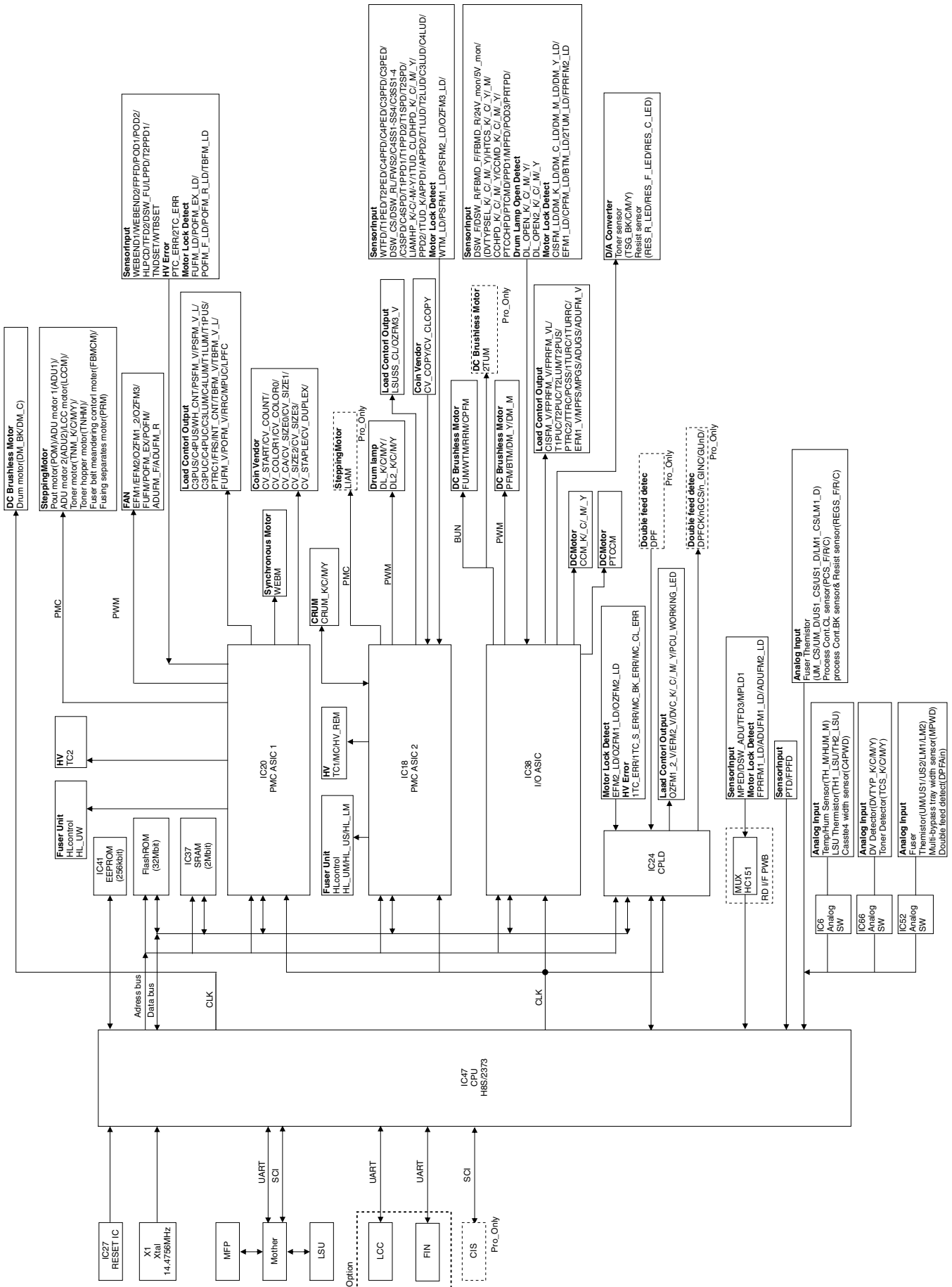
### **(2) Paper exit**

- 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.
- When paper is discharged to the right tray, paper is sent to the paper exit roller 1. The paper exit drive motor rotates reversely. Paper is passed through the right paper exit gate, and discharged to the right tray.

### A. System block diagram



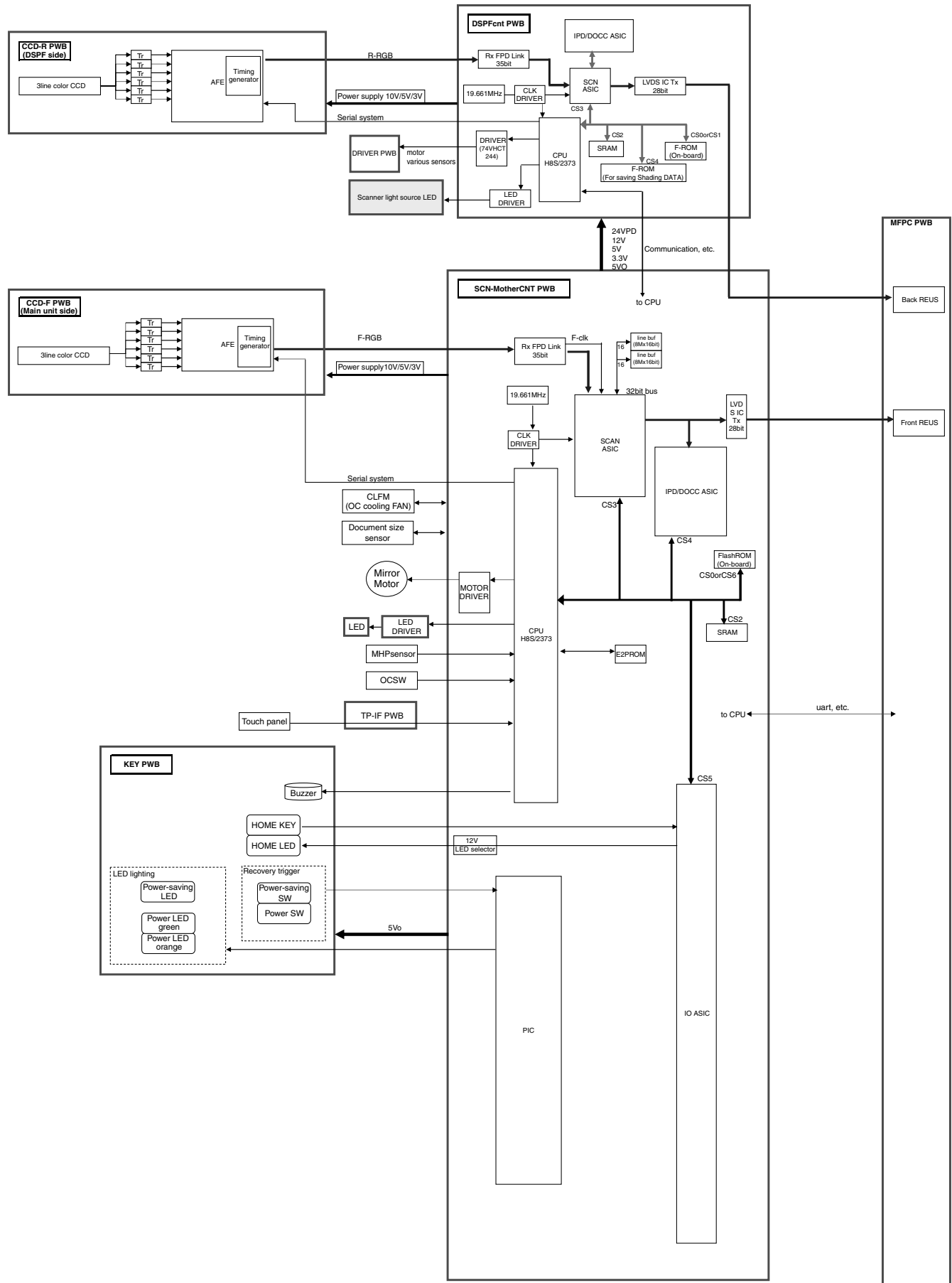
## B. PCU PWB

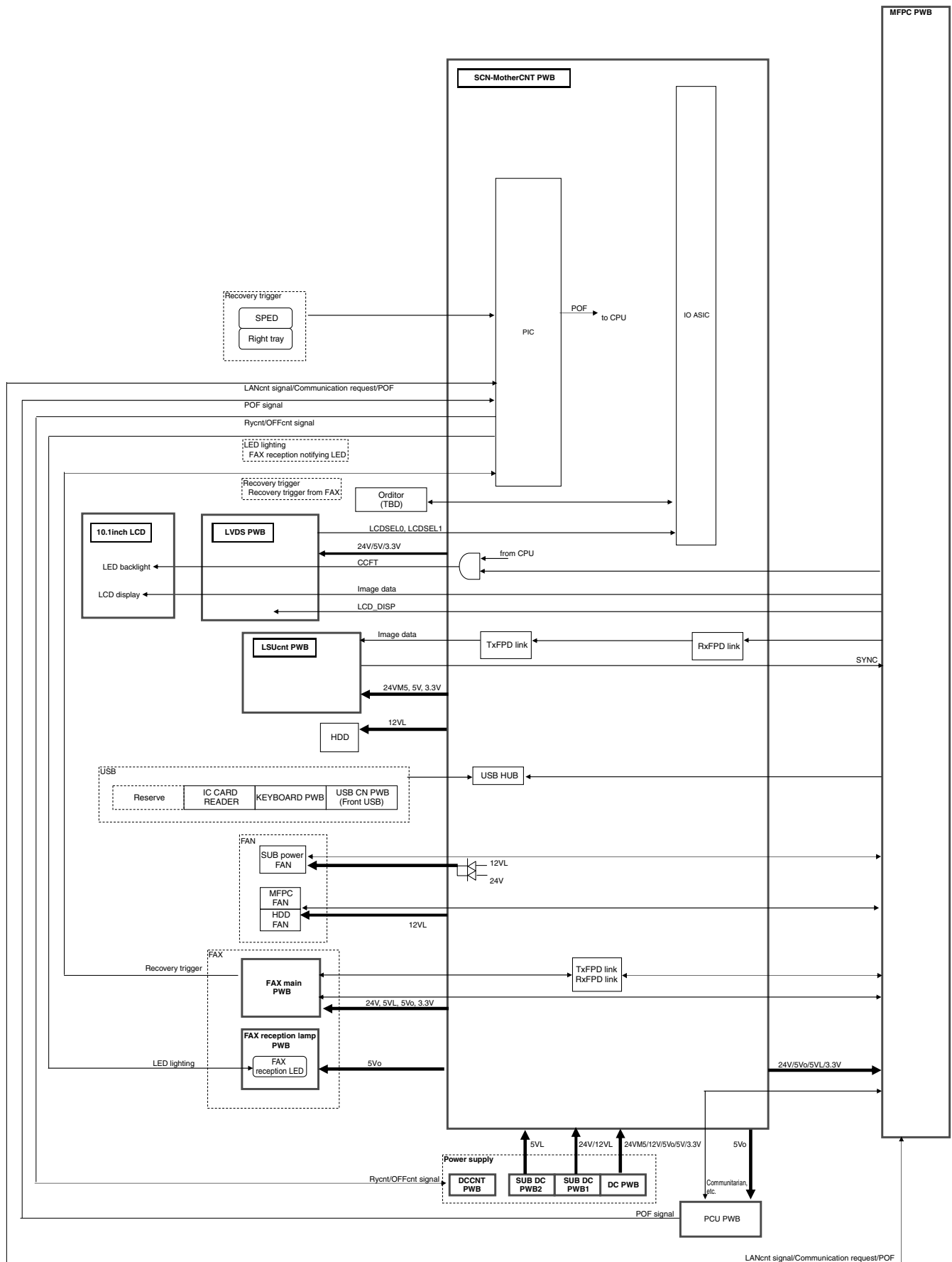




## D. Scanner control PWB

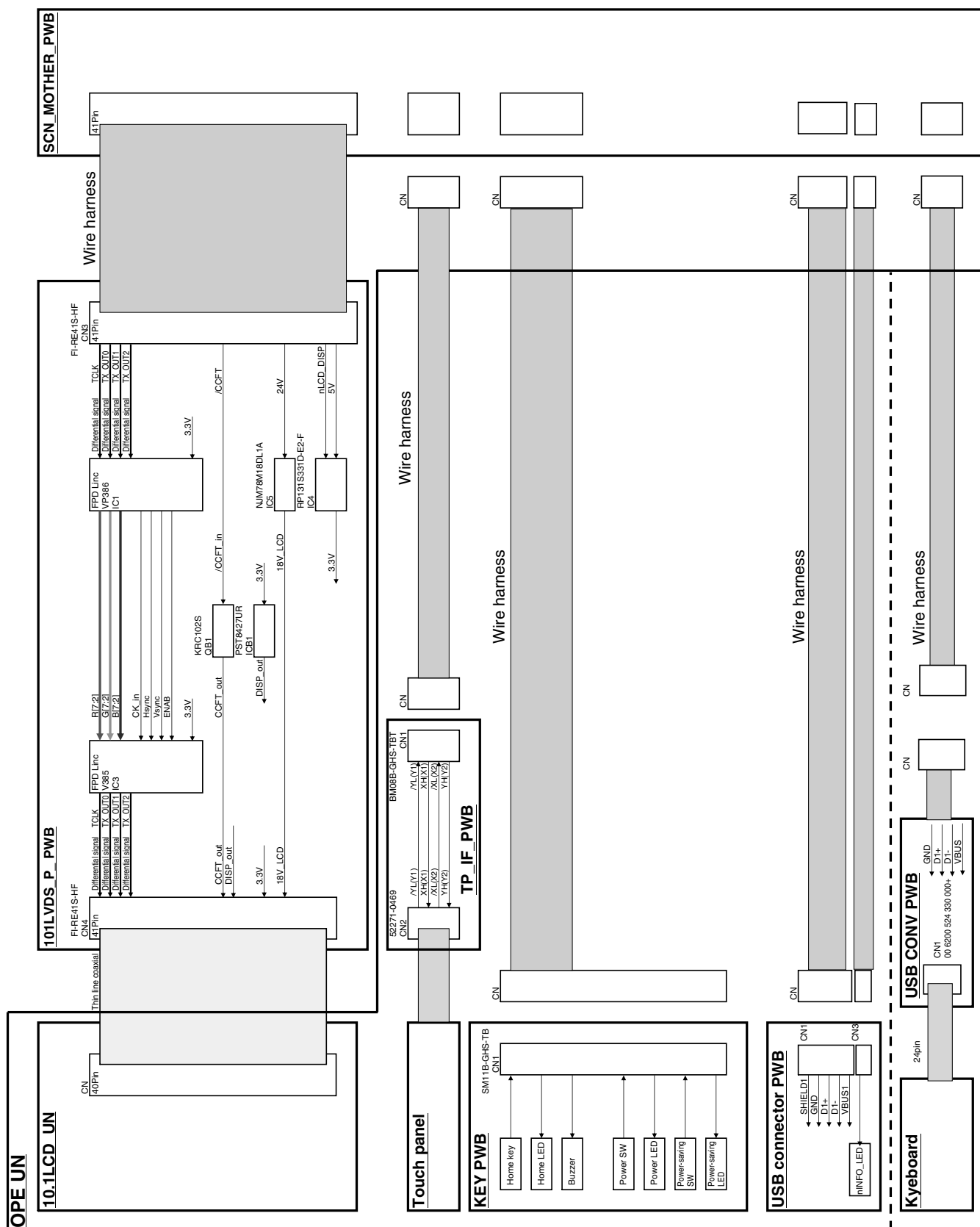
### Scanner control PWB (1/2)





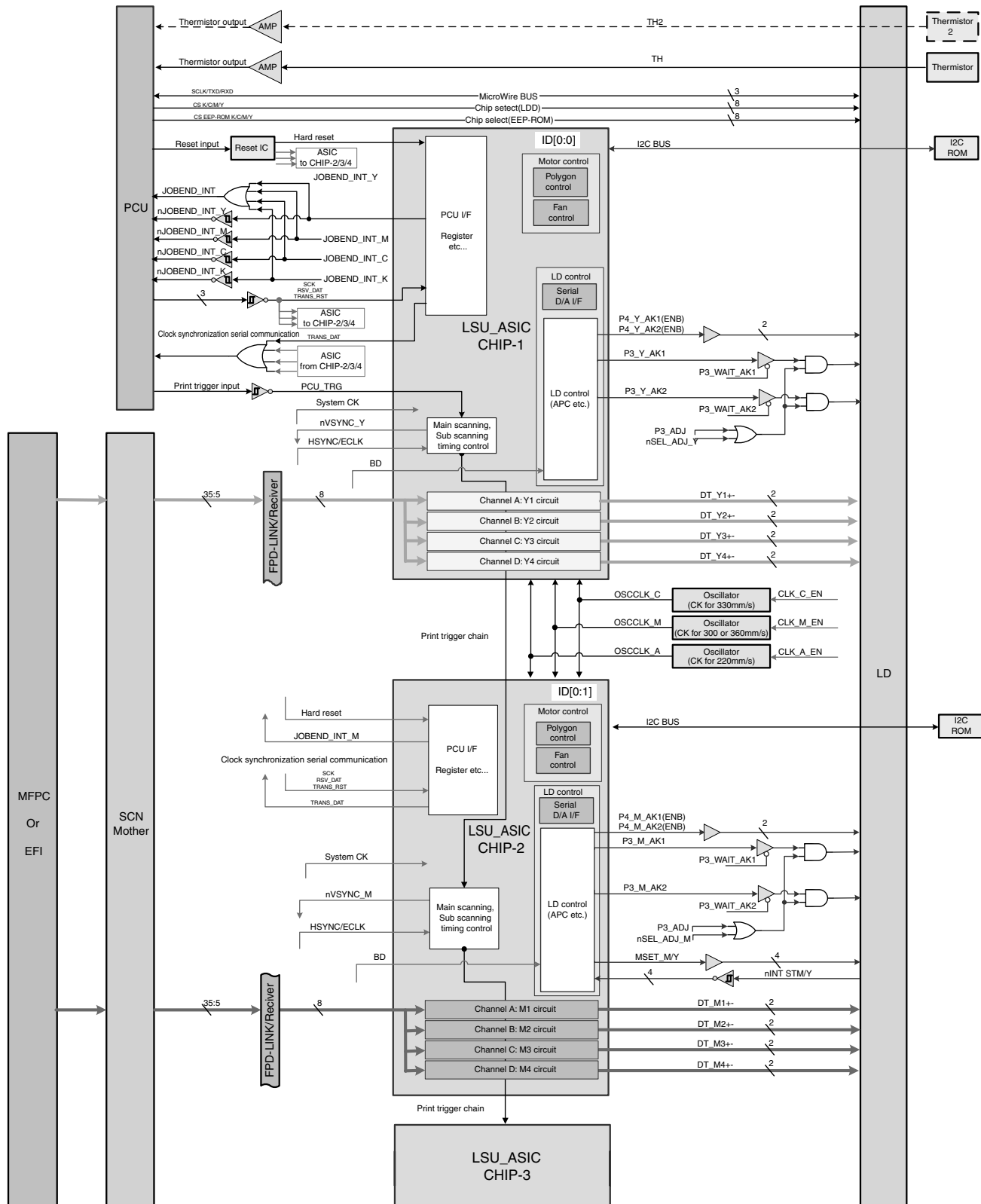


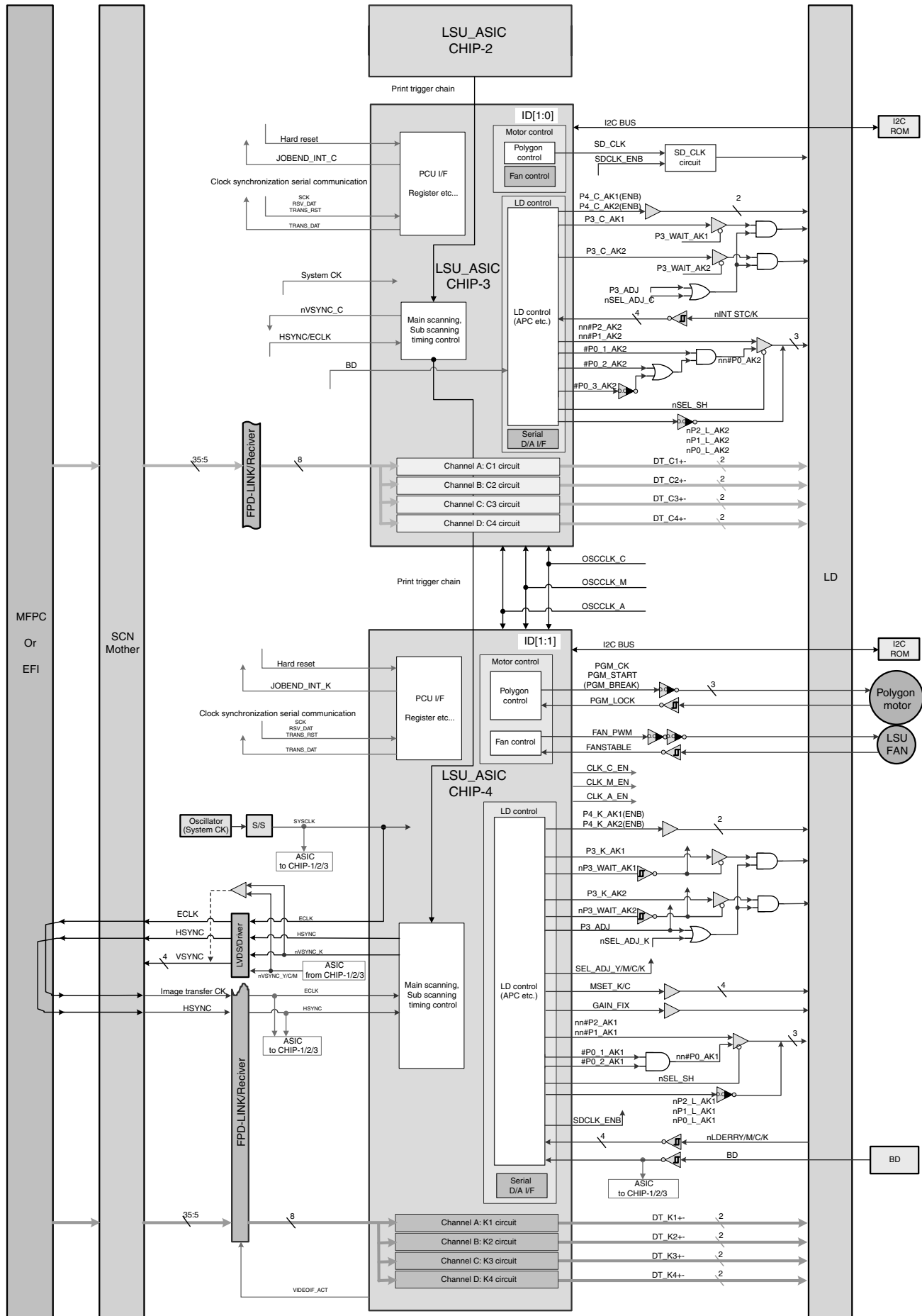
### E. Operation unit



## F. LSU PWB

### LSU PWB (1/2)

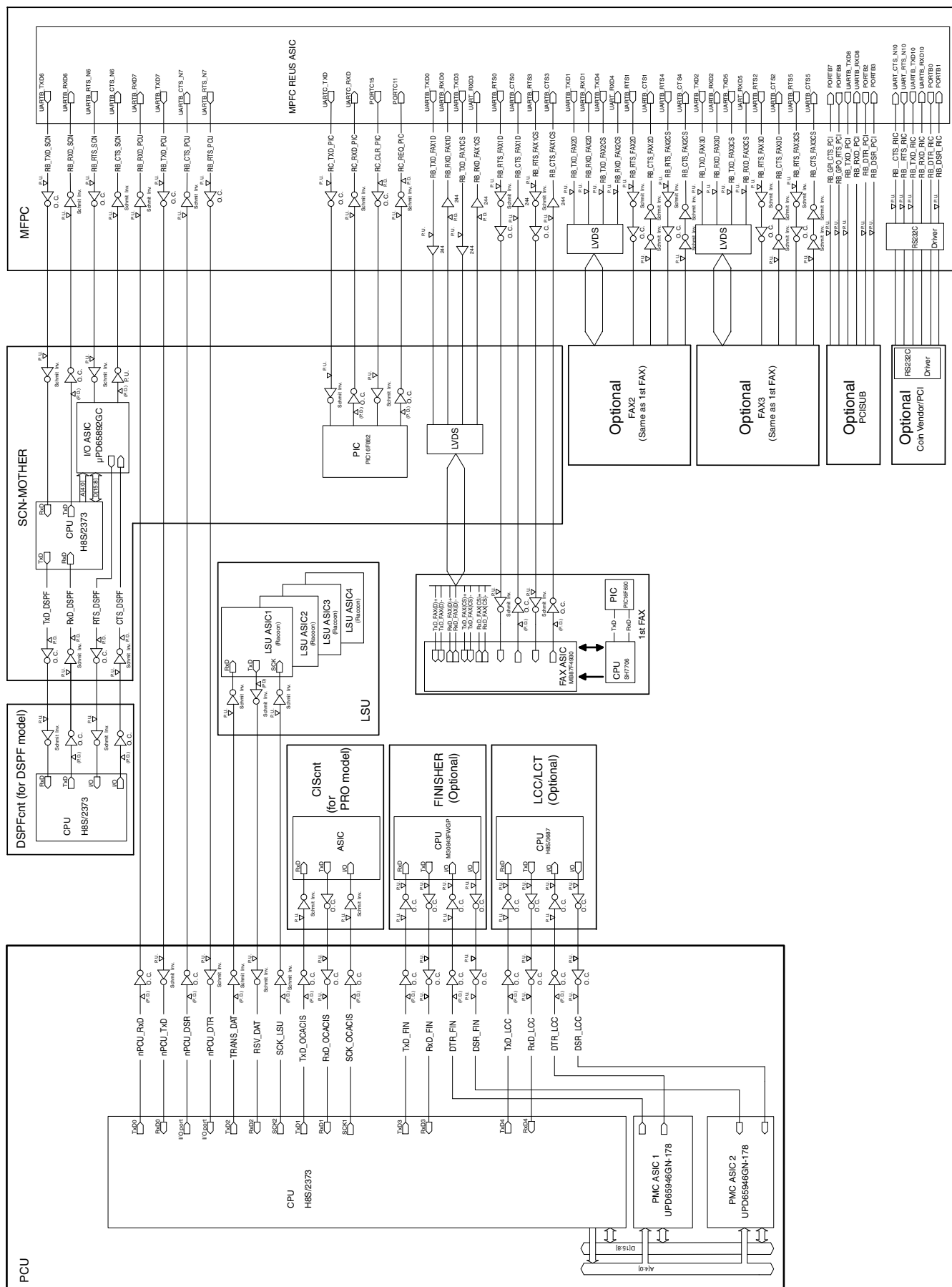




(1) **MX-FX11**



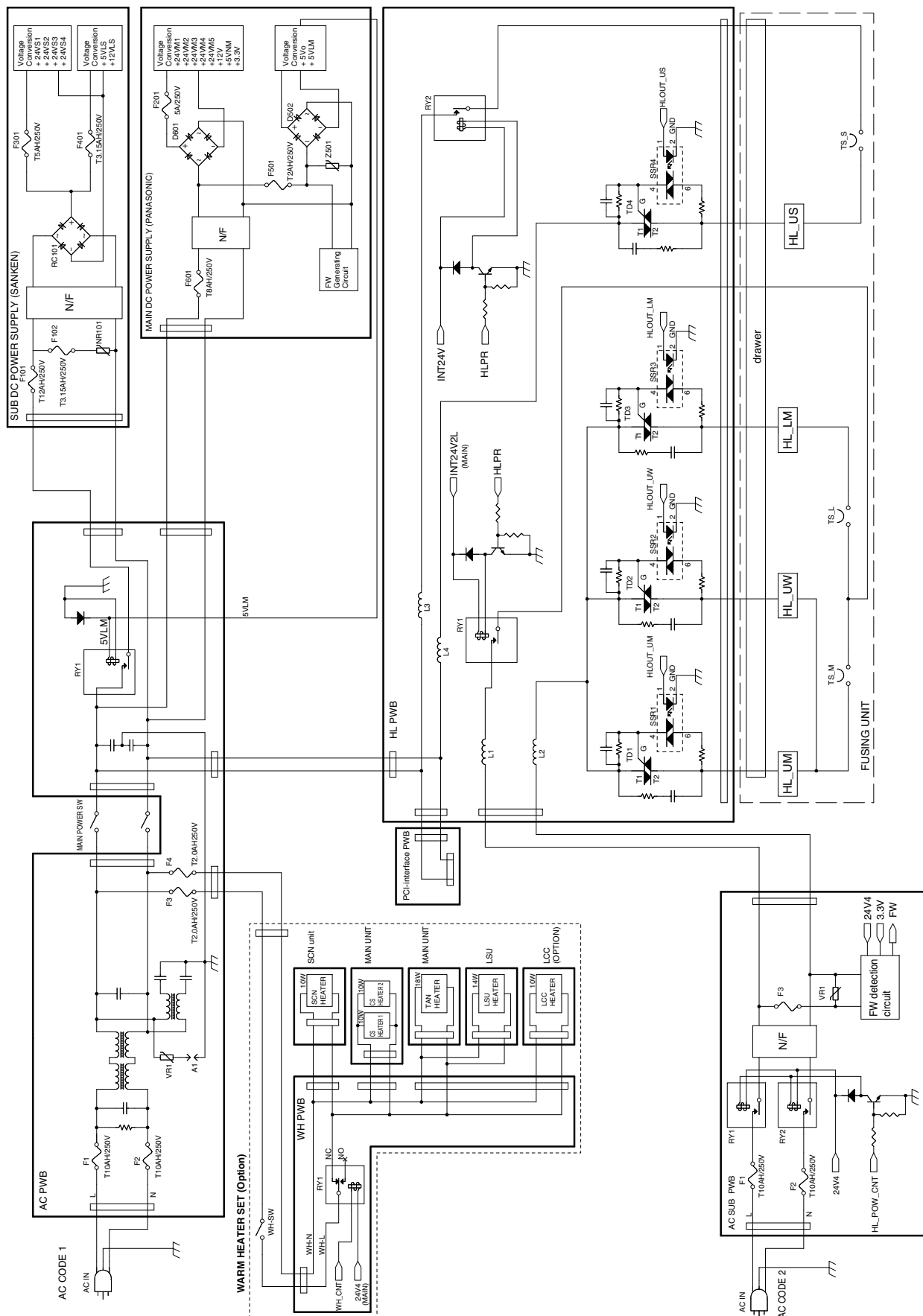
## H. SERIAL COMMUNICATION



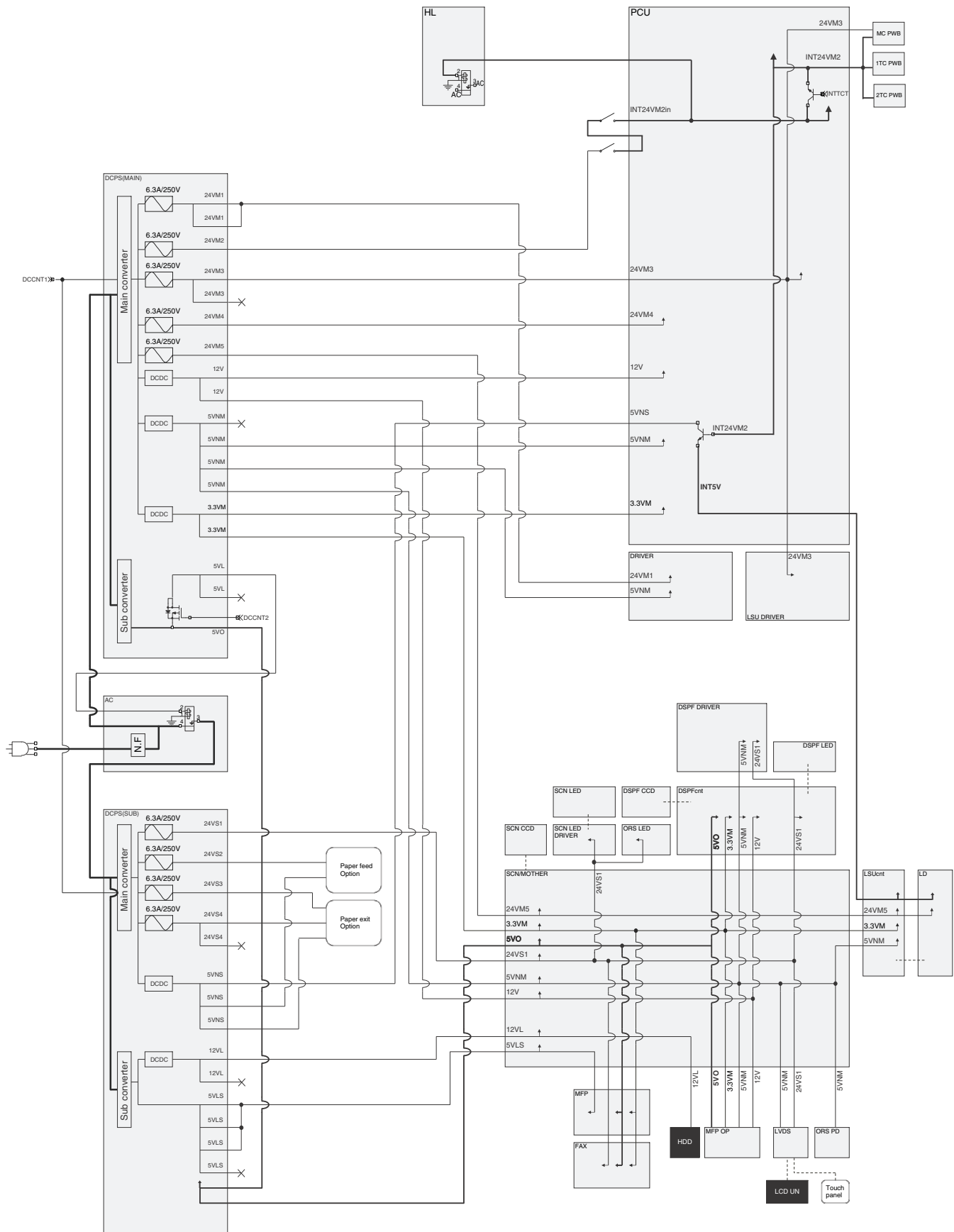
**(1) AC power line diagram (USA)**



## (2) AC power line diagram (Europe)



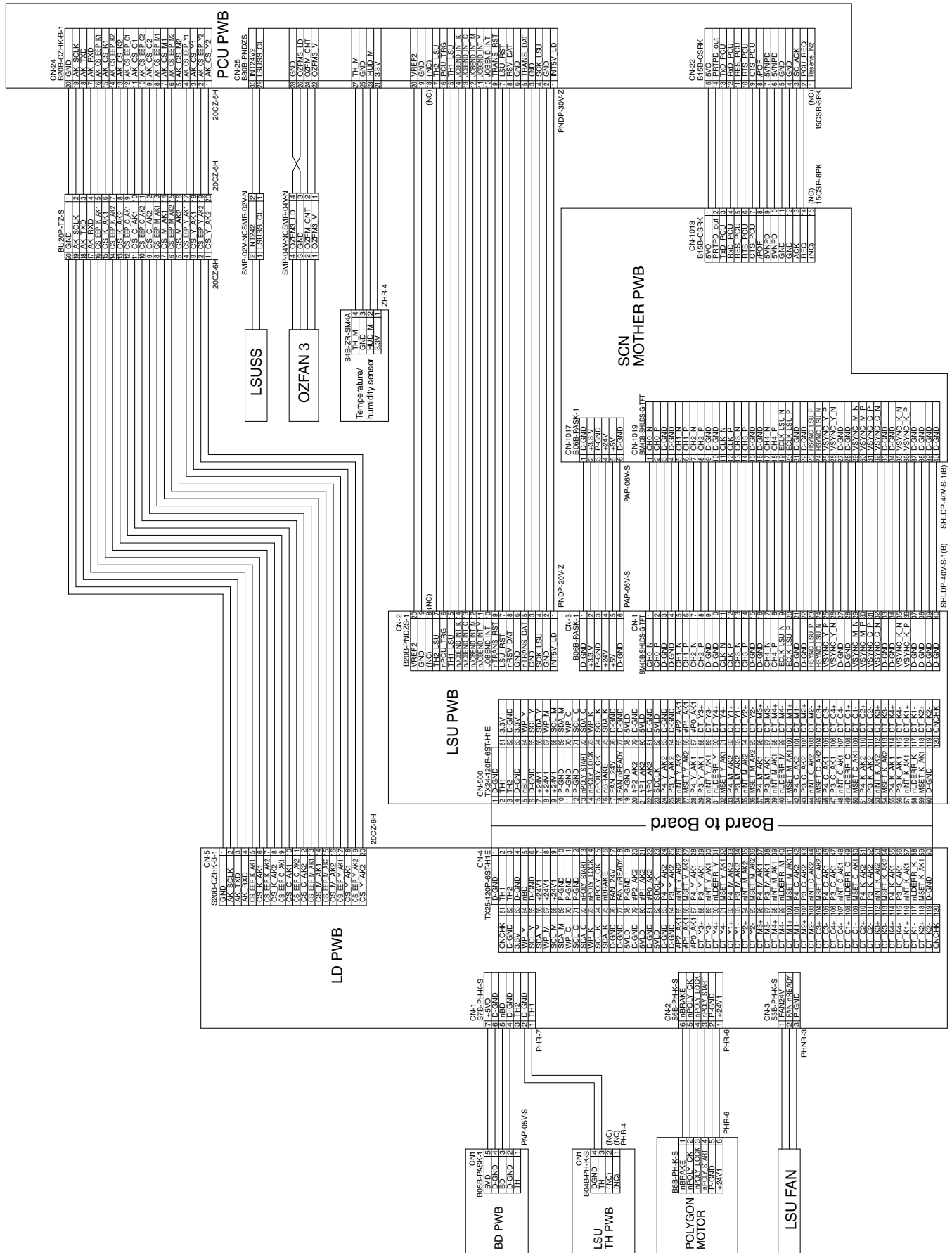
## B. DC power line diagram



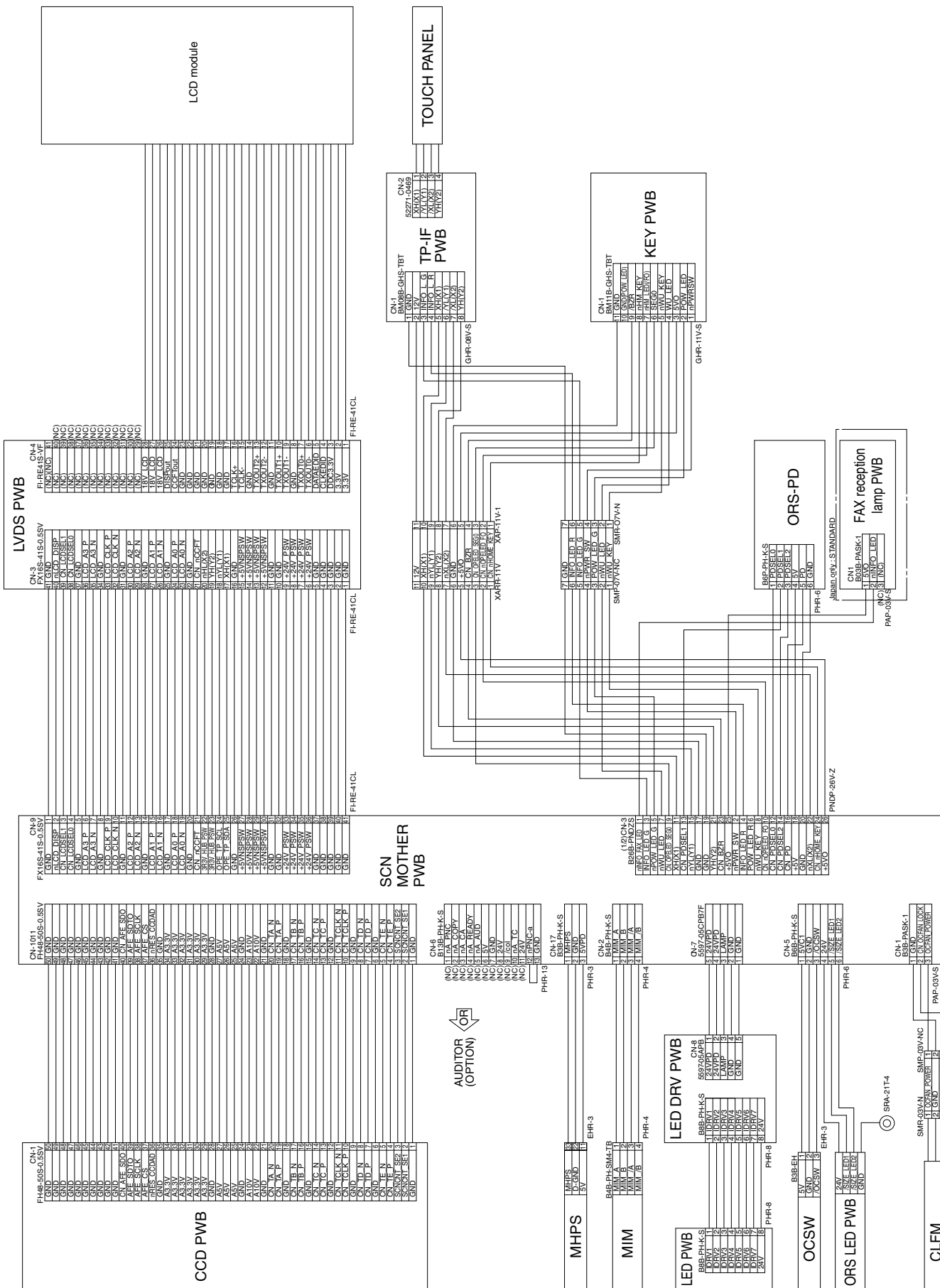


### 3. Actual wiring chart

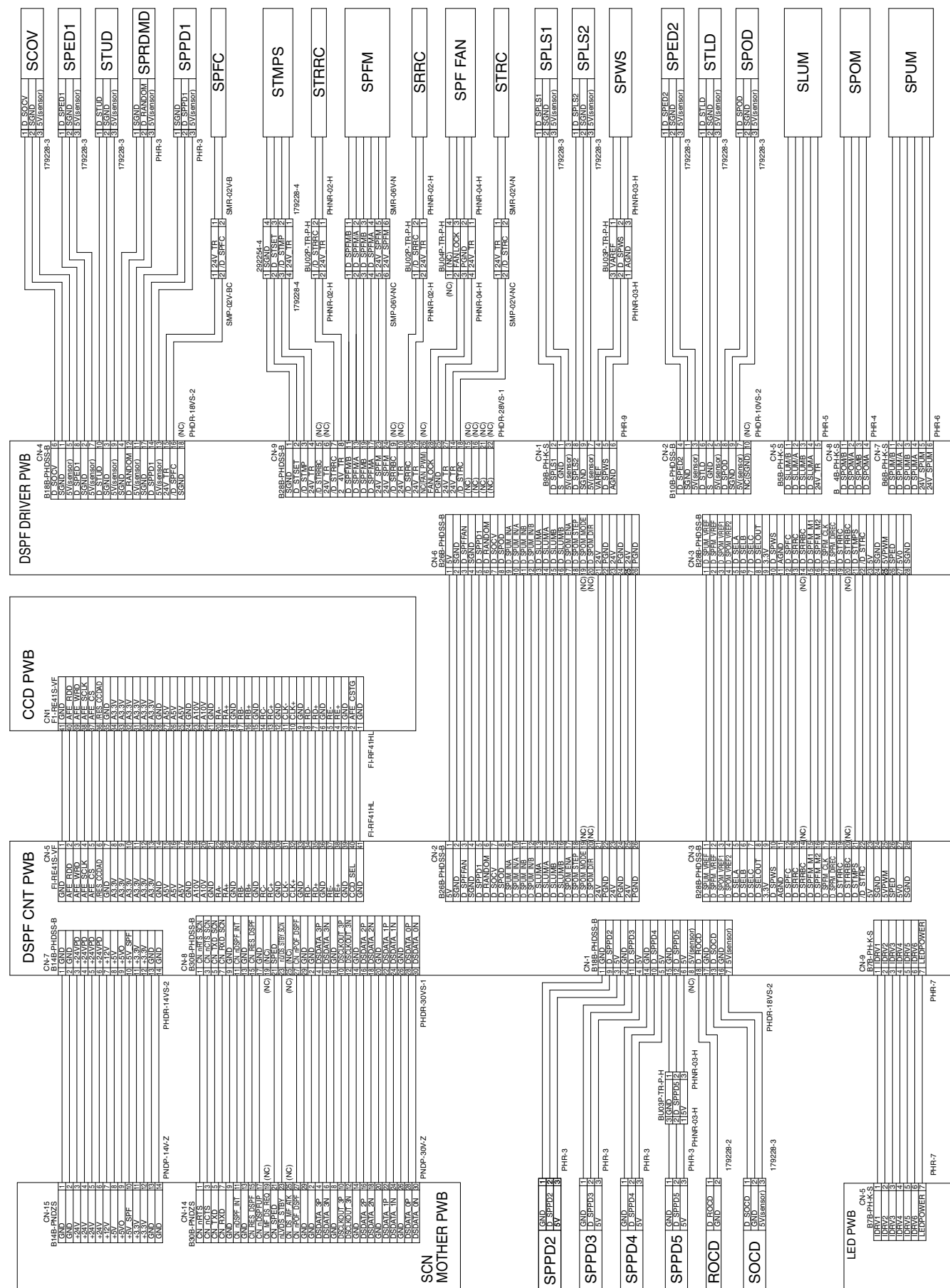
#### A. LSU, MOTHER



### B. Operation panel, Scanner

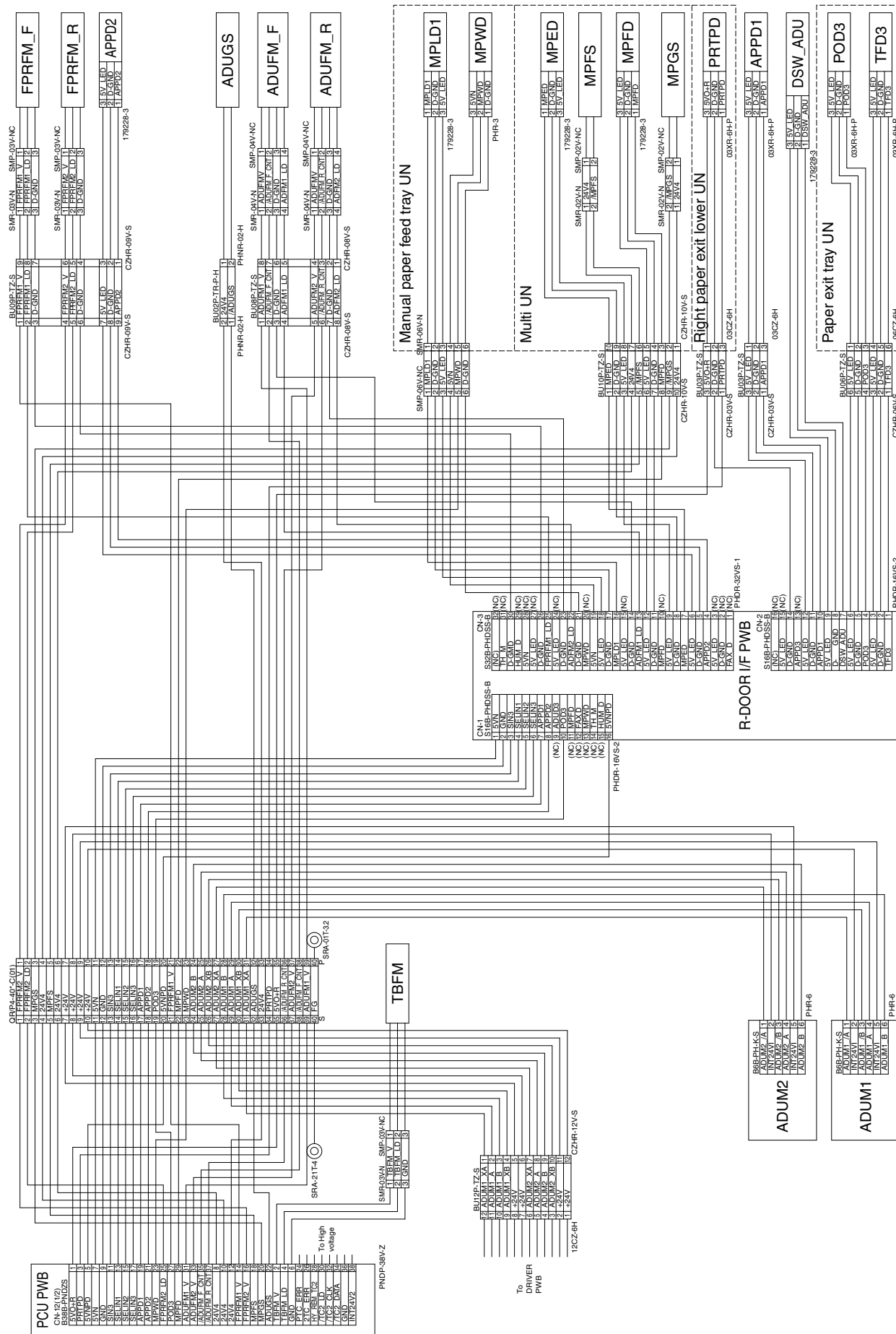


### C. DSPF

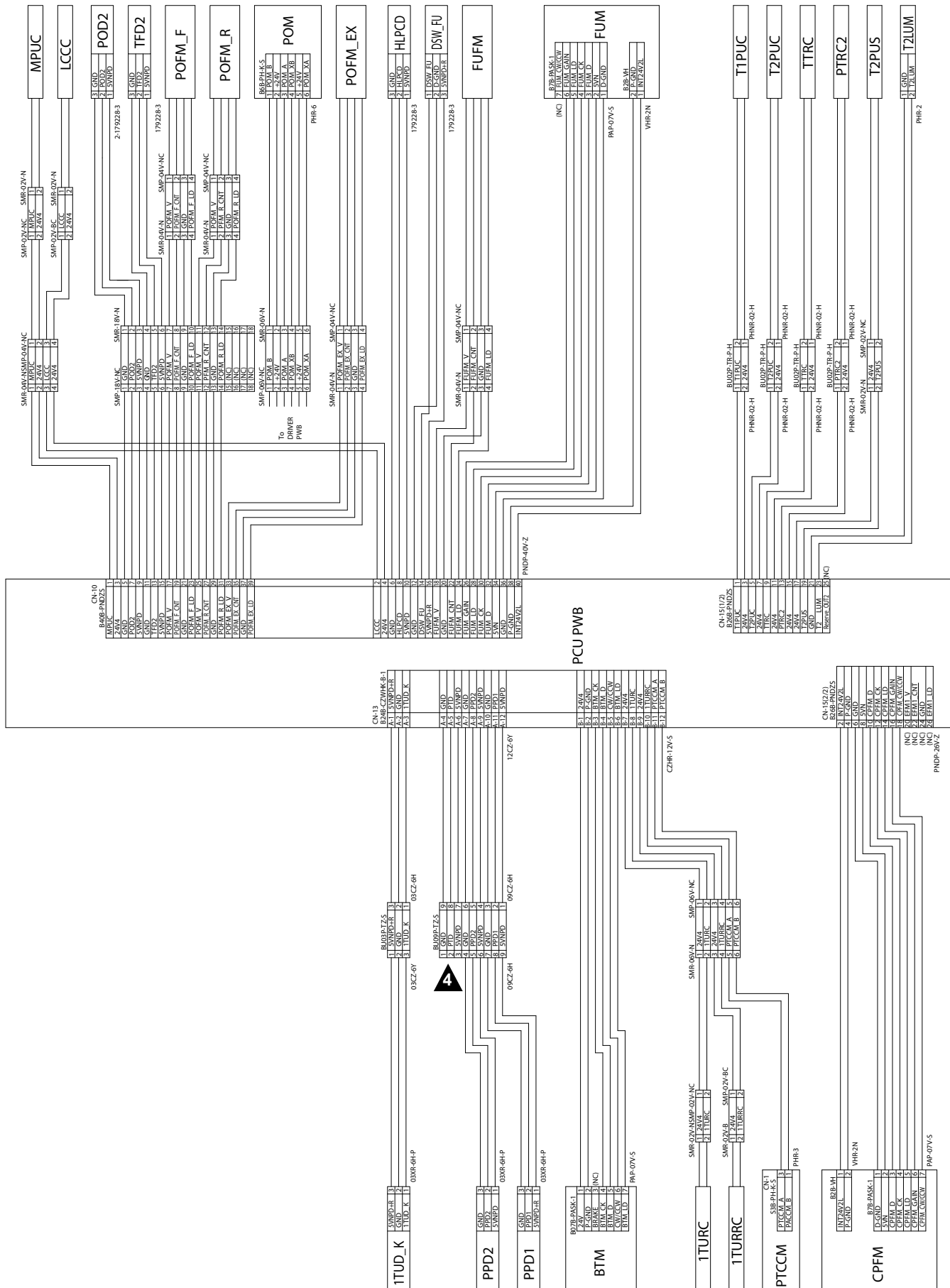




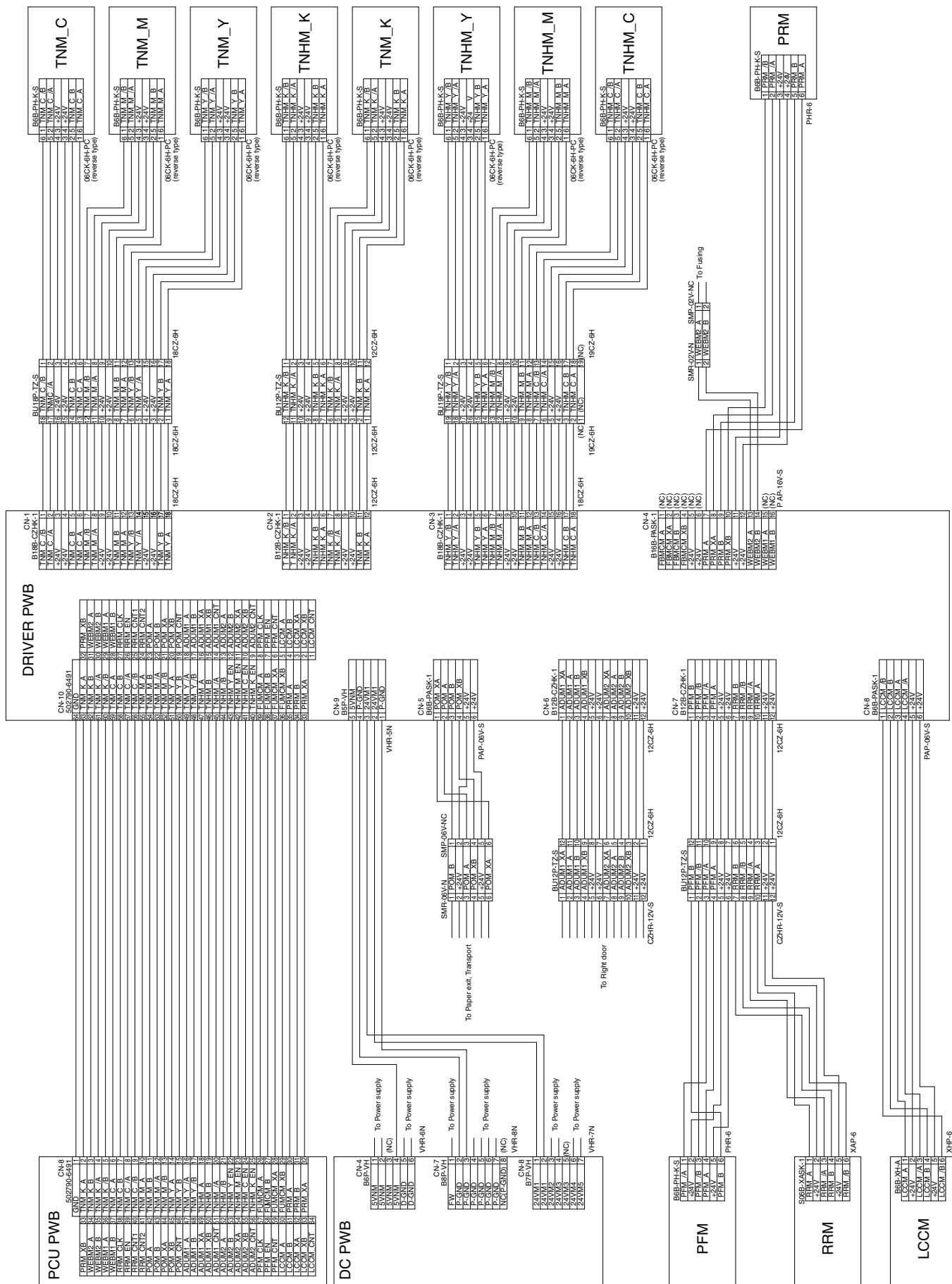
### E. Right door, Manual paper feed



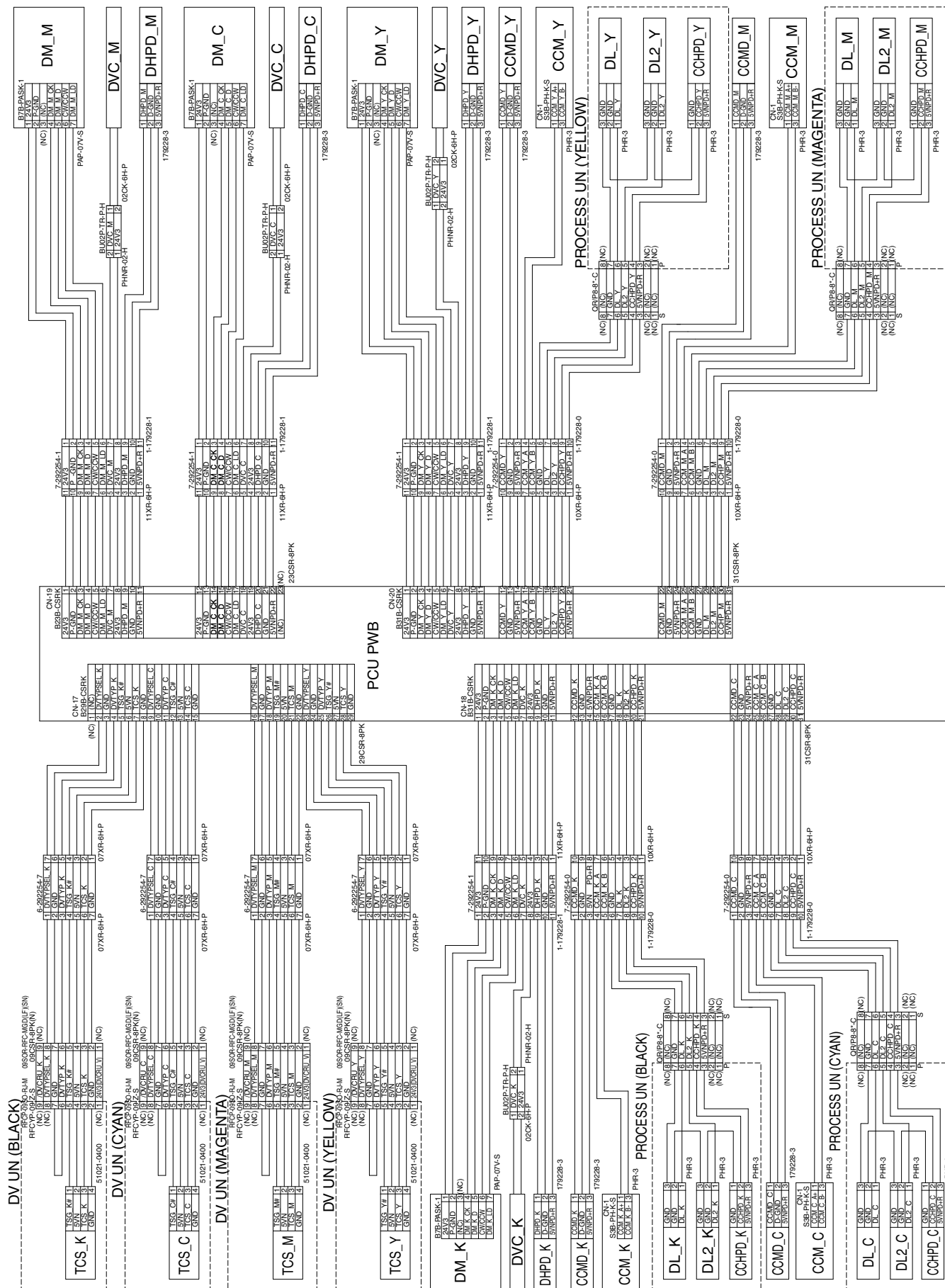
## F. Paper exit, Transport, PS



## G. DRIVER PWB



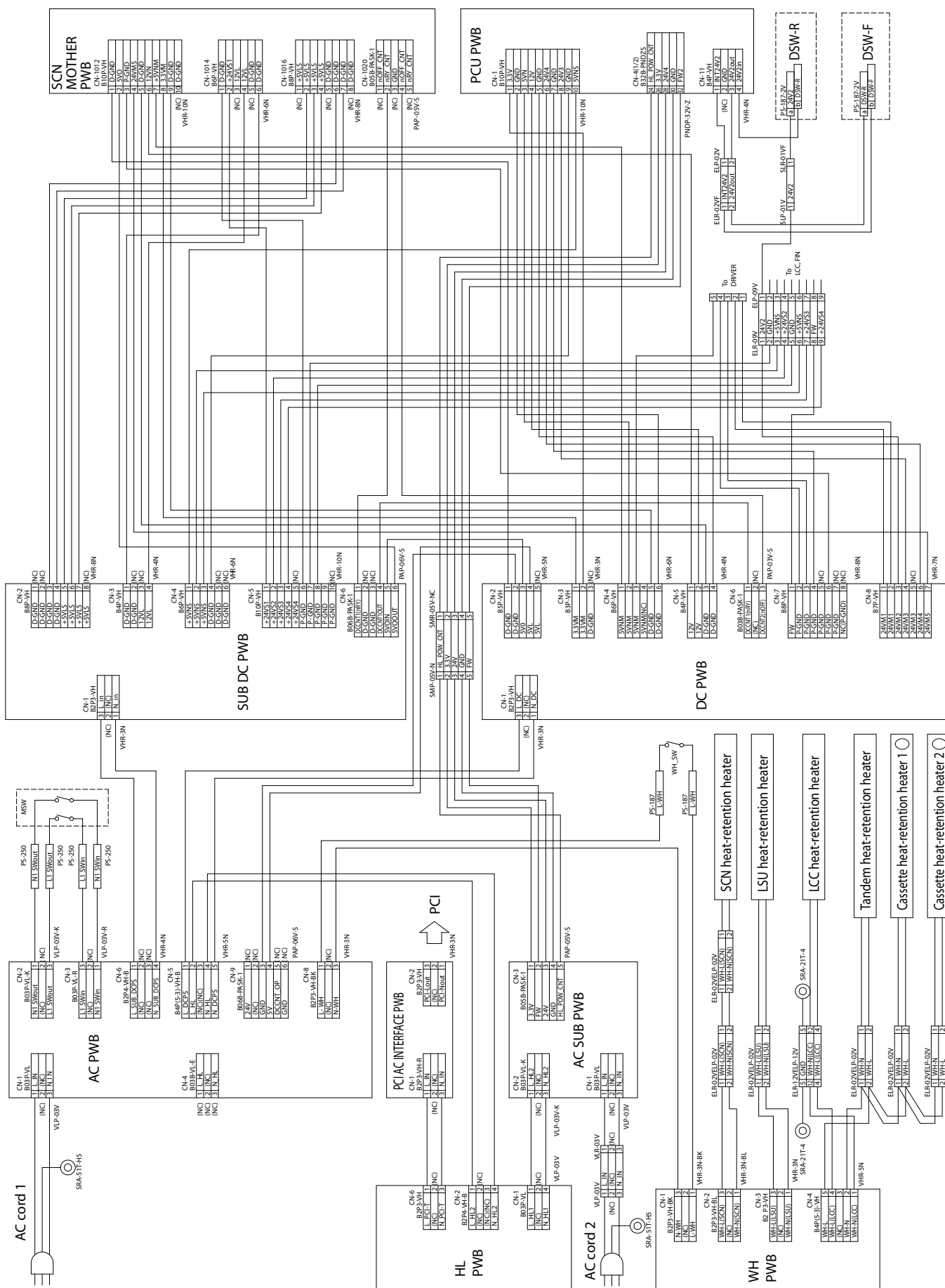
## H. Process, DL, DV



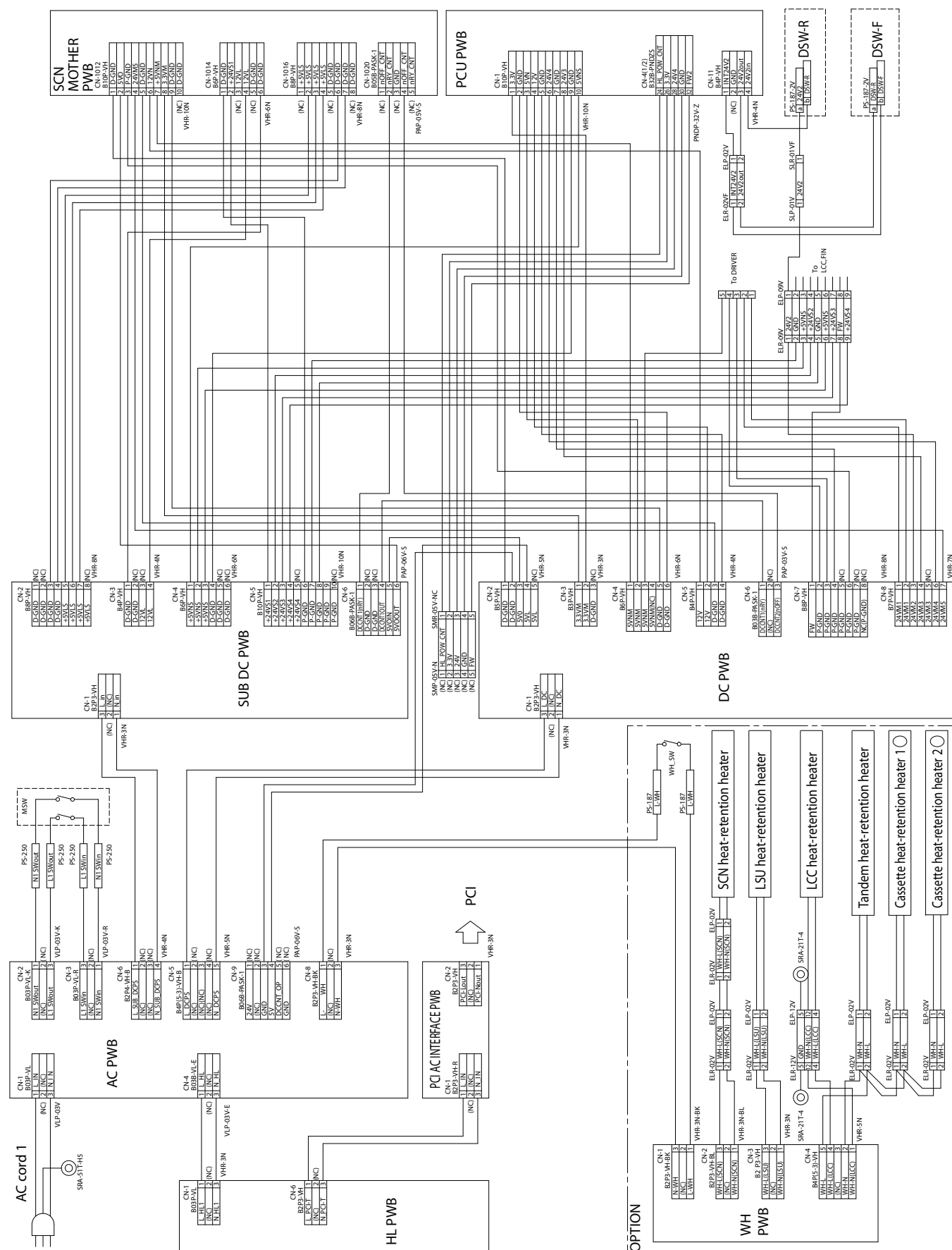




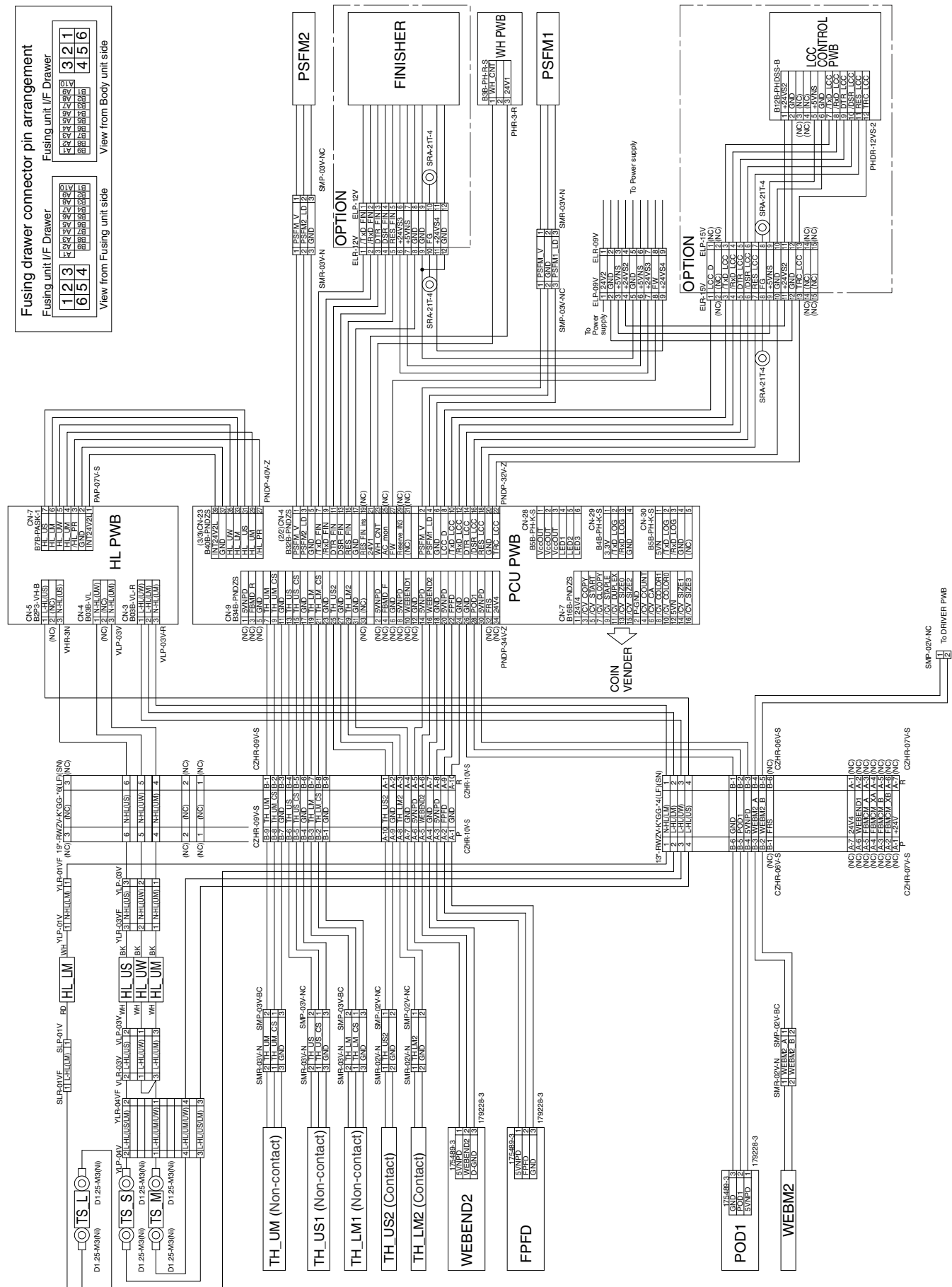
**J. Power supply 100V (Japan/65 machine)**



### K. Power supply 200V

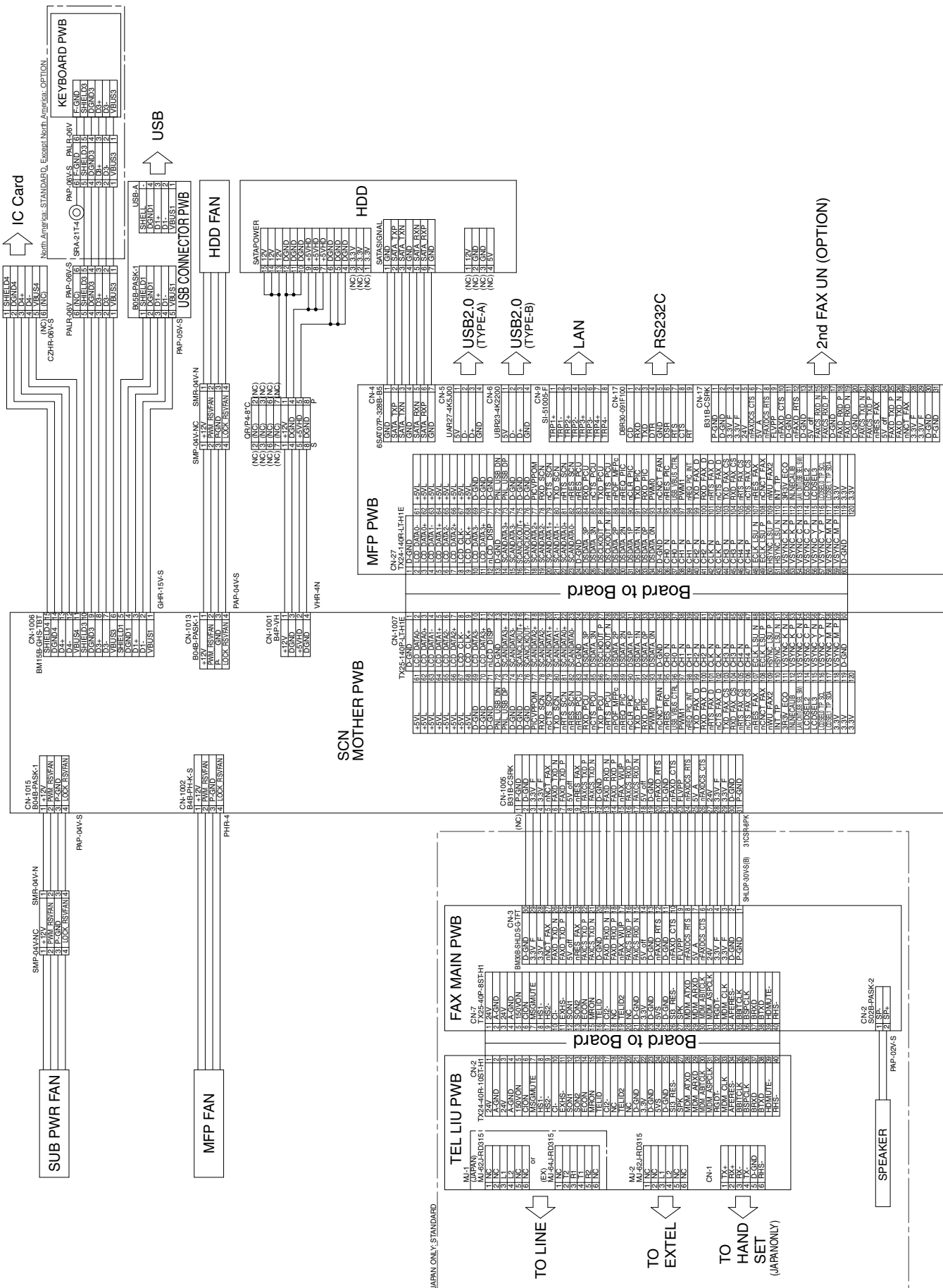


## L. Fusing 100V (Japan/65cpm machine), LCC, Finisher





## N. FAX, USB, HDD, KEYBOARD



## 4. Signal list

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Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			L	H				
1TC_O-ERR	Primary transfer high voltage open error	Primary transfer high voltage open error detection	High voltage error state	–	CN23	16	PCU PWB	
1TC_S-ERR	Primary transfer high voltage short error	Primary transfer high voltage short error detection	High voltage error state	–	CN23	14	PCU PWB	
1TUD_CL	Primary transfer separation CL detection	Primary transfer separation CL detection	–	–	CN23	23	PCU PWB	Judged by combination with BK.
1TUD_K	Primary transfer separation BK detection	Primary transfer separation BK detection	–	–	CN13	A-3	PCU PWB	Judged by combination with CL. (1TUD_BK)
1TURC	Primary transfer separation clutch	Primary transfer separation clutch control	Clutch ON	–	CN13	B-8	PCU PWB	
1TURRC	Primary transfer separation reverse clutch	Primary transfer separation reverse clutch control	Clutch ON	–	CN13	B-10	PCU PWB	
2TC_ERR	Secondary transfer charger error	Secondary transfer charger error	–	High voltage error state	CN12	26	PCU PWB	
ADUFM1_V	ADU transport cooling fan motor 1 ON/OFF	ADU transport cooling fan motor 1 ON/OFF control		Fan motor ON	CN12	31	PCU PWB	
ADUFM2_V	ADU transport cooling fan motor 2 ON/OFF	ADU transport cooling fan motor 2 ON/OFF control	–	Fan motor ON	CN12	33	PCU PWB	
/ADUFM_F_CNT	ADU transport cooling fan motor F PWM	ADU transport cooling fan motor F PWM control	–	–	CN12	35	PCU PWB	
/ADUFM_R_CNT	ADU transport cooling fan motor R PWM	ADU transport cooling fan motor R PWM control	–	–	CN12	37	PCU PWB	
ADUGS	ADU gate solenoid	ADU gate solenoid control	Solenoid ON	–	CN12	22	PCU PWB	
AK_CS_C1	AKM chip select	AKM chip select	–	Chip select	CN24	11	PCU PWB	
AK_CS_C2	AKM chip select	AKM chip select	–	Chip select	CN24	9	PCU PWB	
AK_CS_EEP_C1	AKM_EEPROM chip select	AKM_EEPROM chip select	–	Chip select	CN24	12	PCU PWB	
AK_CS_EEP_C2	AKM_EEPROM chip select	AKM_EEPROM chip select	–	Chip select	CN24	10	PCU PWB	
AK_CS_EEP_K1	AKM_EEPROM chip select	AKM_EEPROM chip select	–	Chip select	CN24	16	PCU PWB	
AK_CS_EEP_K2	AKM_EEPROM chip select	AKM_EEPROM chip select	–	Chip select	CN24	14	PCU PWB	
AK_CS_EEP_M1	AKM_EEPROM chip select	AKM_EEPROM chip select	–	Chip select	CN24	8	PCU PWB	
AK_CS_EEP_M2	AKM_EEPROM chip select	AKM_EEPROM chip select	–	Chip select	CN24	6	PCU PWB	
AK_CS_EEP_Y1	AKM_EEPROM chip select	AKM_EEPROM chip select	–	Chip select	CN24	4	PCU PWB	
AK_CS_EEP_Y2	AKM_EEPROM chip select	AKM_EEPROM chip select	–	Chip select	CN24	2	PCU PWB	
AK_CS_K1	AKM chip select	AKM chip select	–	Chip select	CN24	15	PCU PWB	
AK_CS_K2	AKM chip select	AKM chip select	–	Chip select	CN24	13	PCU PWB	
AK_CS_M1	AKM chip select	AKM chip select	–	Chip select	CN24	7	PCU PWB	
AK_CS_M2	AKM chip select	AKM chip select	–	Chip select	CN24	5	PCU PWB	
AK_CS_Y1	AKM chip select	AKM chip select	–	Chip select	CN24	3	PCU PWB	
AK_CS_Y2	AKM chip select	AKM chip select	–	Chip select	CN24	1	PCU PWB	
AK_RXD	AKM communication	AKM communication	–	–	CN24	17	PCU PWB	
AK_SCLK	AKM communication	AKM communication	–	–	CN24	19	PCU PWB	
AK_TXD	AKM communication	AKM communication	–	–	CN24	18	PCU PWB	
APPD1	ADU transport detection 1	ADU transport detection 1	Paper presence	–	CN12	19	PCU PWB	
APPD2	ADU transport detection 2	ADU transport detection 2	Paper presence	–	CN12	21	PCU PWB	
BTM_CK	Primary transfer belt motor clock	Primary transfer belt motor clock signal	–	–	CN13	B-3	PCU PWB	
BTM_CW/CCW	Primary transfer belt motor CW/CCW switch	Primary transfer belt motor CW/CCW switch control	CCW	CW	CN13	B-5	PCU PWB	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			L	H				
BTM_D	Primary transfer belt motor ON/OFF	Primary transfer belt motor ON/OFF control	Motor ON	–	CN13	B-4	PCU PWB	
BTM_LD	Primary transfer belt motor lock detection	Primary transfer belt motor lock detection	Normal rotation state	–	CN13	B-6	PCU PWB	
C3LUD	Cassette 3 upper limit detection	Cassette 3 upper limit detection	Upper limit	–	CN5	A-7	PCU PWB	
C3LUM	Cassette 3 lift motor	Cassette 3 lift motor control	–	Lift	CN3	A-14	PCU PWB	
C3PED	Paper empty detection cassette 3	Cassette 3 paper empty detection	Paper empty	Paper presence	CN5	A-4	PCU PWB	
C3PFD	Cassette 3 transport detection	Cassette 3 transport detection	Paper presence	–	CN5	A-10	PCU PWB	
C3PUC	Cassette 3 paper feed clutch	Cassette 3 paper feed clutch control	Clutch ON	–	CN3	B-5	PCU PWB	
C3PUS	Paper feed pickup solenoid cassette 3	Cassette 3 paper feed pickup solenoid control	Solenoid ON	–	CN5	A-1	PCU PWB	
C3SPD	Cassette 3 paper remaining quantity detection	Cassette 3 paper remaining quantity detection	–	–	CN3	B-11	PCU PWB	3-step remaining quantity detection according to cassette lifting (L to H to L)
C3SS1	Cassette 3 paper size detection 1	Cassette 3 paper size detection 1	Size detection SW ON	–	CN3	A-7	PCU PWB	
C3SS2	Cassette 3 paper size detection 2	Cassette 3 paper size detection 2	Size detection SW ON	–	CN3	A-8	PCU PWB	
C3SS3	Cassette 3 paper size detection 3	Cassette 3 paper size detection 3	Size detection SW ON	–	CN3	A-9	PCU PWB	
C3SS4	Cassette 3 paper size detection 4	Cassette 3 paper size detection 4	Size detection SW ON	–	CN3	A-10	PCU PWB	
C4LUD	Cassette 4 upper limit detection	Cassette 4 upper limit detection	Upper limit	–	CN5	B-7	PCU PWB	
C4LUM	Cassette 4 lift motor	Cassette 4 lift motor control	–	Lift	CN3	A-12	PCU PWB	
C4PED	Cassette 4 paper empty detection	Cassette 4 paper empty detection	Paper empty	Paper presence	CN5	B-4	PCU PWB	
C4PFD	Cassette 4 transport detection	Cassette 4 transport detection	Paper presence	–	CN5	B-10	PCU PWB	
C4PUC	Cassette 4 paper feed clutch	Cassette 4 paper feed clutch control	Clutch ON	–	CN3	B-7	PCU PWB	
C4PUS	Paper feed pickup solenoid cassette 4	Cassette 4 paper feed pickup solenoid control	Solenoid ON	–	CN5	B-1	PCU PWB	
C4PWD	Cassette 4 width detection	Cassette 4 width detection	–	–	CN3	B-2	PCU PWB	
C4SPD	Cassette 4 paper remaining quantity detection	Cassette 4 paper remaining quantity detection	–	–	CN3	B-14	PCU PWB	3-step remaining quantity detection according to cassette lifting (L to H to L)
C4SS1	Cassette 4 paper size detection 1	Cassette 4 paper size detection 1	Size detection SW ON	–	CN3	A-2	PCU PWB	
C4SS2	Cassette 4 paper size detection 2	Cassette 4 paper size detection 2	Size detection SW ON	–	CN3	A-3	PCU PWB	
C4SS3	Cassette 4 paper size detection 3	Cassette 4 paper size detection 3	Size detection SW ON	–	CN3	A-4	PCU PWB	
C4SS4	Cassette 4 paper size detection 4	Cassette 4 paper size detection 4	Size detection SW ON	–	CN3	A-5	PCU PWB	
CCFT	LCD backlight [CCFT cool cathode ray tube]	LCD backlight	ON	OFF	CN9	21	SCN-MotherCNT	
CCHPD_C	Charger cleaner home position (C)	Charger cleaner home position (C) detection	–	Home position detection	CN18	30	PCU PWB	CCHP_C



Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			L	H				
CCHPD_K	Charger cleaner home position (K)	Charger cleaner home position (K) detection	–	Home position detection	CN18	20	PCU PWB	CCHP_K
CCHPD_M	Charger cleaner home position (M)	Charger cleaner home position (M) detection	–	Home position detection	CN20	30	PCU PWB	CCHP_M
CCHPD_Y	Charger cleaner home position (Y)	Charger cleaner home position (Y) detection		Home position detection	CN20	20	PCU PWB	CCHP_Y
CCM_C_A	Charger cleaner motor phase A (C)	Charger cleaner motor phase A (C) control	–	–	CN18	25	PCU PWB	
CCM_C_B	Charger cleaner motor phase B (C)	Charger cleaner motor phase B (C) control	–	–	CN18	26	PCU PWB	
CCM_K_A	Charger cleaner motor phase A (K)	Charger cleaner motor phase A (K) control	–	–	CN18	15	PCU PWB	
CCM_K_B	Charger cleaner motor phase B (K)	Charger cleaner motor phase B (K) control	–	–	CN18	16	PCU PWB	
CCM_M_A	Charger cleaner motor phase A (M)	Charger cleaner motor phase A (M) control	–	–	CN20	25	PCU PWB	
CCM_M_B	Charger cleaner motor phase B (M)	Charger cleaner motor phase B (M) control	–	–	CN20	26	PCU PWB	
CCM_Y_A	Charger cleaner motor phase A (Y)	Charger cleaner motor phase A (Y) control	–	–	CN20	15	PCU PWB	
CCM_Y_B	Charger cleaner motor phase B (Y)	Charger cleaner motor phase B (Y) control	–	–	CN20	16	PCU PWB	
CCMD_C	Charger cleaner shift detection (C)	Charger cleaner shift detection (C)	–	–	CN18	22	PCU PWB	Detecting one rotation by 4 sets of H to L.
CCMD_K	Charger cleaner shift detection (K)	Charger cleaner shift detection (K) control	–	–	CN18	12	PCU PWB	Detecting one rotation by 4 sets of H to L.
CCMD_M	Charger cleaner shift detection (M)	Charger cleaner shift detection (M)	–	–	CN20	22	PCU PWB	Detecting one rotation by 4 sets of H to L.
CCMD_Y	Charger cleaner shift detection (Y)	Charger cleaner shift detection (Y)	–	–	CN20	12	PCU PWB	Detecting one rotation by 4 sets of H to L.
CL_ON	Scanner lamp	Radiates lights to the document for the CCD to scan the document images.	ON	OFF	CN7	3	SCN-MotherCNT	
CN_OCFAN_LOCK	CLFM (OC_FAN) lock	CLFM lock	Normal operation	Stop	CN1	2	SCN-MotherCNT	
CNCT_RSVFAN/FAN_CNCT_HDD	MFP_FAN/HDD_FAN lock	Detects the MFP_FAN/HDD_FAN lock.	Normal operation	Stop	CN1002/CN1013	4/4	SCN-MotherCNT	
CNCT_SPSFAN	Sub power supply fan lock	Detects the sub power supply fan lock.	Normal operation	Stop	CN1015	4	SCN-MotherCNT	
CPFM_CHK	Paper feed motor CLK	Paper feed motor CLK signal	–	–	CN15	12	PCU PWB	
CPFM_D	Paper feed motor ON/OFF	Paper feed motor ON/OFF control	Motor ON	–	CN15	10	PCU PWB	
CPFM_GAIN	Paper feed motor gain select	Paper feed motor gain select control	–	–	CN15	16	PCU PWB	
CPFM_LD	Paper feed motor lock detection	Paper feed motor lock detection	Normal rotation state	–	CN15	14	PCU PWB	
CRM_C_CHK	CRUM communication clock (C)	CRUM communication clock (C) signal	–	–	CN21	7	PCU PWB	
CRM_C_DT	CRUM communication data (C)	CRUM communication data (C) signal	–	–	CN21	6	PCU PWB	
CRM_K_CHK	CRUM communication clock (K)	CRUM communication clock (K) signal	–	–	CN21	3	PCU PWB	
CRM_K_DT	CRUM communication data (K)	CRUM communication data (K) signal	–	–	CN21	2	PCU PWB	
CRM_M_CHK	CRUM communication data (M)	CRUM communication data (M) signal	–	–	CN21	12	PCU PWB	
CRM_M_DT	CRUM communication clock (M)	CRUM communication clock (M) signal	–	–	CN21	13	PCU PWB	
CRM_Y_CHK	CRUM communication data (Y)	CRUM communication data (Y) signal	–	–	CN21	16	PCU PWB	
CRM_Y_DT	CRUM communication clock (Y)	CRUM communication clock (Y) signal	–	–	CN21	17	PCU PWB	
CTS_PCU	ICU communication	ICU communication (Send enable)	–	–	CN22	9	PCU PWB	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			L	H				
DHPD_C	Drum home position (C)	Drum home position (C) detection	–	Drum reference position	CN19	20	PCU PWB	
DHPD_K	Drum home position (K)	Drum home position (K) detection	–	Drum reference position	CN18	9	PCU PWB	
DHPD_M	Drum home position (M)	Drum home position (M) detection	–	Drum reference position	CN25	9	PCU PWB	
DHPD_Y	Drum home position (Y)	Drum home position (Y) detection	–	Drum reference position	CN20	9	PCU PWB	
DL2_C	Transfer after-discharging lamp C PWM	Transfer after-discharging lamp C PWM control	–	–	CN18	29	PCU PWB	
DL2_K	Transfer after-discharging lamp K PWM	Transfer after-discharging lamp K PWM control	–	–	CN18	19	PCU PWB	
DL2_M	Transfer after-discharging lamp M PWM	Transfer after-discharging lamp M PWM control	–	–	CN20	29	PCU PWB	
DL2_Y	Transfer after-discharging lamp Y PWM	Transfer after-discharging lamp Y PWM control	–	–	CN20	19	PCU PWB	
DL_C	Discharge lamp C PWM	Discharge lamp C PWM control	–	–	CN18	28	PCU PWB	
DL_K	Discharge lamp K PWM	Discharge lamp K PWM control	–	–	CN18	18	PCU PWB	
DL_M	Discharge lamp M PWM	Discharge lamp M PWM control	–	–	CN20	28	PCU PWB	
DL_Y	Discharge lamp Y PWM	Discharge lamp Y PWM control	–	–	CN20	18	PCU PWB	
DM_C_CLK	Drum motor CLK (C)	Drum motor CLK (C) signal	–	–	CN24	14	PCU PWB	
DM_C_D	Drum motor ON/OFF (C)	Drum motor ON/OFF (C) control	Motor ON	–	CN23	15	PCU PWB	
DM_C_LD	Drum motor lock detection (C)	Drum motor lock detection (C)	Normal rotation state	–	CN21	17	PCU PWB	
DM_CW/CCW	Drum motor CW/CCW (K)	Drum motor CW/CCW (K) control	CCW	CW	CN18	5	PCU PWB	
DM_CW/CCW	Drum motor CW/CCW (C)	Drum motor CW/CCW (C) control	CCW	CW	CN22	16	PCU PWB	
DM_CW/CCW	Drum motor CW/CCW (M)	Drum motor CW/CCW (M) control	CCW	CW	CN28	5	PCU PWB	
DM_CW/CCW	Drum motor CW/CCW (Y)	Drum motor CW/CCW (Y) control	CCW	CW	CN20	5	PCU PWB	
DM_K_CLK	Drum motor CLK (K)	Drum motor CLK (K) signal	–	–	CN18	3	PCU PWB	
DM_K_D	Drum motor ON/OFF (K)	Drum motor ON/OFF (K) control	Motor ON	–	CN18	4	PCU PWB	
DM_K_LD	Drum motor lock detection (K)	Drum motor lock detection (K)	Normal rotation state	–	CN18	6	PCU PWB	
DM_M_CLK	Drum motor CLK (M)	Drum motor CLK (M) signal	–	–	CN30	3	PCU PWB	
DM_M_D	Drum motor ON/OFF (M)	Drum motor ON/OFF (M) control	Motor ON	–	CN29	4	PCU PWB	
DM_M_LD	Drum motor lock detection (M)	Drum motor lock detection (M)	Normal rotation state	–	CN27	6	PCU PWB	
DM_Y_CLK	Drum motor CLK (Y)	Drum motor CLK (Y) signal	–	–	CN20	3	PCU PWB	
DM_Y_D	Drum motor ON/OFF (Y)	Drum motor ON/OFF (Y) control	Motor ON	–	CN20	4	PCU PWB	
DM_Y_LD	Drum motor lock detection (Y)	Drum motor lock detection (Y)	Normal rotation state	–	CN20	6	PCU PWB	
DSR_FIN	Finisher communication	Finisher communication (Receive enable)	–	–	CN4	13	PCU PWB	
/DSR_LCC	LCC communication	LCC communication (Receive enable)	–	–	CN4	16	PCU PWB	
DSW_CS	Transport cover open/close detection	Transport cover open/close detection	Door open	Door close	CN6	20	PCU PWB	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			L	H				
DSW_F	Front door open/close detection	Front door open/close detection	Door open	Door close	CN11	1	PCU PWB	
DSW_FU	Door switch detection (Front upper door)	Door switch detection (Front upper door)	Door open	Door close	CN10	14	PCU PWB	DSW_F
DSW_R	Right door open/close detection	Right door open/close detection	Door open	Door close	CN11	4	PCU PWB	
DSW_RL	Door switch detection (Right lower door)	Door switch detection (Right lower door)	Door open	Door close	CN6	17	PCU PWB	
DTR_FIN	Finisher communication	Finisher communication (Send enable)	–	–	CN4	11	PCU PWB	
DTR_LCC	LCC communication	LCC communication (Send enable)	–	–	CN4	14	PCU PWB	
DVC_C	DV clutch (C)	DV clutch (C) control	Clutch ON	–	CN20	18	PCU PWB	
DVC_K	DV clutch (K)	DV clutch (K) control	Clutch ON	–	CN18	7	PCU PWB	
DVC_M	DV clutch (M)	DV clutch (M) control	Clutch ON	–	CN26	7	PCU PWB	
DVC_Y	DV clutch (Y)	DV clutch (Y) control	Clutch ON	–	CN20	7	PCU PWB	
DVTYP_C	Development identification detection C	Development identification detection C	–	–	CN17	11	PCU PWB	Analog
DVTYP_K	Development identification detection BK	Development identification detection BK	–	–	CN17	4	PCU PWB	Analog
DVTYP_M	Development identification detection M	Development identification detection M	–	–	CN17	18	PCU PWB	Analog
DVTYP_Y	Development identification detection Y	Development identification detection Y	–	–	CN17	25	PCU PWB	Analog
DVTYPSEL_C	Development identification detection C (digital)	Development identification detection C (digital)	–	–	CN17	9	PCU PWB	
DVTYPSEL_K	Development identification detection K (digital)	Development identification detection K (digital)	–	–	CN17	2	PCU PWB	
DVTYPSEL_M	Development identification detection M (digital)	Development identification detection M (digital)	–	–	CN17	16	PCU PWB	
DVTYPSEL_Y	Development identification detection Y (digital)	Development identification detection Y (digital)	–	–	CN17	23	PCU PWB	
EFM1_CNT	Machine ventilation fan 1 (center) PWM	Machine ventilation fan motor (center) PWM control	–	–	CN15	22	PCU PWB	
EFM1_LD	Machine ventilation fan 1 (center) lock detection	Machine ventilation fan 1 (center) lock detection	Normal rotation state		CN15	26	PCU PWB	
EFM1_V	Machine ventilation fan 1 (center) ON/OFF	Machine ventilation fan motor (center) ON/OFF control		Fan motor ON	CN15	20	PCU PWB	
EFM2_CNT	Machine ventilation fan 2 (right) PWM	Machine ventilation fan motor 2 (right) PWM control	–	–	CN23	36	PCU PWB	
EFM2_LD	Machine ventilation fan 2 (right) lock detection	Machine ventilation fan motor 2 (right) lock detection	Normal rotation state	–	CN23	40	PCU PWB	
EFM2_V	Machine ventilation fan 2 (right) ON/OFF	Machine ventilation fan motor 2 (right) ON/OFF control	–	Fan motor ON	CN23	34	PCU PWB	
FAN_24V	LSU cooling fan (LSUFM) signal	Drives the cooling fan of the LSU unit.	Stop	Drive	CN500	17	LSU-CNT	
FPPD	Fusing paper entry detection	Fusing paper entry detection	Paper presence	–	CN9	22	PCU PWB	
FPRFM1_V	Fusing pressure roller cooling fan 1 ON/OFF	Fusing pressure roller cooling fan motor 1 ON/OFF control		Fan motor ON	CN12	14	PCU PWB	
FPRFM2_LD	Fusing pressure roller cooling fan 2 lock detection	Fusing pressure roller cooling fan motor 2 lock detection	Normal rotation state	–	CN12	25	PCU PWB	
FPRFM2_V	Fusing pressure roller cooling fan 2 ON/OFF	Fusing pressure roller cooling fan motor 2 ON/OFF control	–	Fan motor ON	CN12	16	PCU PWB	
FRS	Fusing lower pawl separation solenoid	Fusing lower pawl separation solenoid control	Solenoid ON	–	CN9	32	PCU PWB	
FUFM_CNT	Fusing fan cooling PWM	Fusing fan cooling motor PWM control	–	–	CN10	22	PCU PWB	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			L	H				
FUFM_LD	Fusing fan cooling lock detection	Fusing fan cooling motor lock detection	Normal rotation state	–	CN10	24	PCU PWB	
FUFM_V	Fusing fan cooling ON/OFF	Fusing fan cooling motor ON/OFF control	–	Fan motor ON	CN10	18	PCU PWB	
FUM_CK	Fusing motor CLK	Fusing motor CLK signal	–	–	CN10	30	PCU PWB	
FUM_D	Fusing motor ON/OFF	Fusing motor ON/OFF control	Motor ON	–	CN10	32	PCU PWB	
FUM_GAIN	Fusing motor gain	Fusing motor gain setting	–	–	CN10	26	PCU PWB	
FUM_LD	Fusing motor lock detection	Fusing motor lock detection	Motor normal rotation state	–	CN10	28	PCU PWB	
FW	Zero cross input signal 1	Zero cross input signal 1	–	–	CN4	27	PCU PWB	
FW2	Zero cross input signal 2	Zero cross input signal 2	–	–	CN4	32	PCU PWB	
HL_LM	Heater lamp lower main	Heater lamp lower main control	–	Heater lamp ON	CN23	33	PCU PWB	
HL_POW_CNT	Heater AC relay control	Heater AC relay control	–	Relay ON	CN4	24	PCU PWB	
/HL_PR	Heater lamp power relay ON/OFF	Heater lamp power relay ON/OFF control	–	Relay ON	CN23	27	PCU PWB	
HL_UM	Heater lamp upper main	Heater lamp upper main control	–	Heater lamp ON	CN23	29	PCU PWB	
HL_US	Heater lamp upper sub	Heater lamp upper sub control	–	Heater lamp ON	CN23	31	PCU PWB	
HL_UW	Heater lamp assist	Heater lamp assist control	–	Heater lamp ON	CN23	35	PCU PWB	
HLPCD	Fusing pressure detection	Fusing pressure detection	Pressed state	Released state	CN10	8	PCU PWB	
HUD_M	Humidity sensor	Humidity sensor detection	–	–	CN25	23	PCU PWB	Analog
HV_REM_MC	High voltage remote signal (MC/TC)	High voltage remote signal (MC/TC)	–	High voltage output enable	CN23	12	PCU PWB	
HV_REM_MC	High voltage remote signal (MC/TC)	High voltage remote signal (MC/TC)	–	High voltage output enable	CN23	15	PCU PWB	
HV_REM_TC2	High voltage remote signal (TC)	High voltage remote signal (TC)	–	High voltage output enable	CN12	28	PCU PWB	
JOBEND_INT	LSU ASIC interruption	LSU ASIC interruption	–	–	CN25	10	PCU PWB	
LCC_D	LCC/LCT judgment detection	LCC/LCT judgment detection	–	–	CN4	8	PCU PWB	
LCCC	LCC transport clutch	LCC transport clutch control	Clutch ON	–	CN10	2	PCU PWB	
LPPD	LCC paper entry detection	LCC paper entry detection	Paper presence	–	CN6	14	PCU PWB	
LSU_RST	LSUASIC communication	LSUASIC communication (LSU reset)	–	–	CN25	7	PCU PWB	
MC_BK_ERR	Main charger BK error	Main charger BK error detection	High voltage error state	–	CN23	17	PCU PWB	
MC_CL_ERR	Main charger CL error	Main charger CL error detection	High voltage error state	–	CN23	19	PCU PWB	
/MC_CLK	MC high voltage serial clock	MC high voltage serial clock signal	–	–	CN23	9	PCU PWB	
/MC_DATA	MC high voltage serial data	MC high voltage serial data signal	–	–	CN23	7	PCU PWB	
/MC_LD	MC high voltage serial latch	MC high voltage serial latch signal	–	–	CN23	11	PCU PWB	
/MC_LD2	MC high voltage serial latch 2	MC high voltage serial latch 2	–	–	CN23	13	PCU PWB	
MHPS	Scanner home position sensor [Transmission type]	Scanner home position detection	–	Home position	CN17	1	SCN-MotherCNT	ON for 5VL_5VO only
MIM_*	Scanner motor [Stepping motor]	Scanner (reading) section	–	–	CN2	1, 2, 3, 4	SCN-MotherCNT	ON for 5VO only
MPFD	Manual feed paper entry detection	Manual feed paper entry detection	Paper presence	–	CN12	29	PCU PWB	
MPFS	Manual paper feed take-up solenoid	Manual paper feed take-up solenoid control	Solenoid ON	–	CN12	18	PCU PWB	
MPGS	Manual paper feed gate solenoid	Manual paper feed gate solenoid control	Solenoid ON	–	CN12	20	PCU PWB	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			L	H				
MPUC	Manual paper feed clutch	Manual paper feed clutch control	Clutch ON	–	CN10	1	PCU PWB	
MPWD	Manual paper feed size detection	Manual paper feed size detection	–	–	CN12	23	PCU PWB	Analog
nBD	LSU synchronization detection signal (BD signal)	Detects synchronization in the main scanning direction of the LSU.	Detection	–	CN500	5	LSU-CNT	
nFANRDY	LSU cooling fan (LSUFM) lock signal	Detects lock of the cooling fan of the LSU unit.	–	Lock detection	CN500	18	LSU-CNT	
nINFO_FAX_LED	FAX notifying LED signal	Detects that FAX is receiving or not.	Light	OFF	CN3	1	SCN-MotherCNT	
nJOBEND_INT_C	LSU ASIC interruption	LSU ASIC interruption (C) detection	C interruption	–	CN25	13	PCU PWB	
nJOBEND_INT_K	LSU ASIC interruption	LSU ASIC interruption (K) detection	K interruption	–	CN25	14	PCU PWB	
nJOBEND_INT_M	LSU ASIC interruption	LSU ASIC interruption (M) detection	M interruption	–	CN25	12	PCU PWB	
nJOBEND_INT_Y	LSU ASIC interruption	LSU ASIC interruption (Y) detection	Y interruption	–	CN25	11	PCU PWB	
nOFF_CNT	+5VL power OFF signal	Turns OFF the +5VL power.	Power ON	Power OFF	CN1020	1, 4	SCN-MotherCNT	
nPCU_TRG	LSU communication	LSU communication (Trigger signal)	–	–	CN25	16	PCU PWB	
nPOLY_CK	Polygon motor clock signal	Controls the speed of the polygon motor.	–	–	CN500	15	LSU-CNT	
nPOLY_LOCK	Polygon motor lock signal	Polygon motor lock detection	–	Lock detection	CN500	14	LSU-CNT	Pulse drive
nPOLY_START	Polygon motor ON signal	Drives the polygon motor of the LSU unit.	Drive	Stop	CN500	13	LSU-CNT	
nPOW_LED_G	Main power LED signal	Checks that the main power is supplied or not.	Green ON	Orange ON	CN3	5	SCN-MotherCNT	
nPWR_SW	Power switch signal	Detects power ON/OFF.	Detection	–	CN3	2	SCN-MotherCNT	
nRSV_DAT	LSUASIC communication	LSUASIC communication (Receive)	–	–	CN25	8	PCU PWB	
nRY_CNT	Main system power OFF signal	Turns OFF all the powers except for the +5VO and the +5VL.	Power ON	Power OFF	CN1020	2, 5	SCN-MotherCNT	
nTRANS_DAT	LSUASIC communication	LSUASIC communication (Send)	–	–	CN25	5	PCU PWB	
nTRANS_RST	LSUASIC communication	LSUASIC communication (Communication reset)	–	–	CN25	9	PCU PWB	
nWU_KEY	Energy-saving switch signal	Shifts to the energy-saving mode.	Detection	–	CN3	8	SCN-MotherCNT	
nWU_LED	Energy-saving LED signal	Checks that the machine is shifted to the energy-saving mode.	Light	OFF	CN3	7	SCN-MotherCNT	Pulse (duty) drive
OCFAN_ON	CLFM (OC_FAN) control	Controls the CLFM.	–	–	CN1	3	SCN-MotherCNT	
OCSW	Original cover SW [Transmission type]	Detects the original cover open/close. (Original size detection trigger)	Close	Open	CN5	3	SCN-MotherCNT	
OZFM1_LD	Ozone fan motor 1 lock detection	Ozone fan motor 1 lock detection	Normal rotation state	–	CN23	24	PCU PWB	
OZFM1_V	Ozone fan motor 1 ON/OFF	Ozone fan motor 1 ON/OFF control	–	Fan motor ON	CN23	18	PCU PWB	
OZFM2_LD	Ozone fan motor 2 lock detection	Ozone fan motor 2 lock detection	Normal rotation state	–	CN23	32	PCU PWB	
OZFM2_V	Ozone fan motor 2 ON/OFF	Ozone fan motor 2 ON/OFF control	–	Fan motor ON	CN23	26	PCU PWB	
OZFM3_LD	Ozone fan motor 3 lock detection	Ozone fan motor 3 lock detection	Normal rotation state	–	CN25	26	PCU PWB	
OZFM3_V	Ozone fan motor 3 ON/OFF	Ozone fan motor 3 ON/OFF control	–	Fan motor ON	CN25	22	PCU PWB	
OZFM_CNT	Ozone fan motor 1 PWM	Ozone fan motor 1 PWM control	–	–	CN23	20	PCU PWB	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			L	H				
OZFM_CNT	Ozone fan motor 2 PWM	Ozone fan motor 2 PWM control	–	–	CN23	28	PCU PWB	
OZFM_CNT	Ozone fan motor 3 PWM	Ozone fan motor 3 PWM control	–	–	CN25	24	PCU PWB	
PCS_C	Process control sensor C	Process control sensor C detection	–	–	CN16	10	PCU PWB	Analog
PCS_F	Process control sensor F	Process control sensor F detection	–	–	CN16	5	PCU PWB	Analog
PCS_R	Process control sensor R	Process control sensor R detection	–	–	CN16	15	PCU PWB	Analog
PCSS	Process control shutter solenoid	Process control shutter solenoid control	Solenoid ON	–	CN16	20	PCU PWB	
PCU_REQ	SCU communication (Send)	SCU communication (Send)	–	–	CN22	2	PCU PWB	
POD1	Fusing rear detection	Fusing rear detection	Paper presence	–	CN9	28	PCU PWB	
POD2	Main unit paper exit detection	Main unit paper exit detection	Paper presence	–	CN10	7	PCU PWB	
POD3	Right paper exit detection	Right paper exit detection	Paper presence	–	CN12	27	PCU PWB	
/POF	Power interruption detection signal	Power interruption detection signal	AC power OFF	–	CN22	8	PCU PWB	
POFM_EX_CNT	Paper exit (rear exhaust) fan PWM	Controls the paper exit (rear exhaust) fan motor PWM.	–	–	CN10	35	PCU PWB	
POFM_EX_LD	Paper exit (rear exhaust) fan lock detection	Detects the paper exit (rear exhaust) fan motor lock.	Normal rotation state	–	CN10	39	PCU PWB	
POFM_EX_V	Paper exit (rear exhaust) fan ON/OFF	Controls the paper exit (rear exhaust) fan motor ON/OFF.	–	Fan motor ON	CN10	33	PCU PWB	
POFM_F_CNT	Paper exit cooling fan F PWM	Paper exit cooling fan motor F PWM control	–	–	CN10	19	PCU PWB	
POFM_F_LD	Paper exit cooling fan F lock detection	Paper exit cooling fan motor F lock detection	Normal rotation state	–	CN10	23	PCU PWB	
POFM_R_CNT	Paper exit cooling fan R PWM	Paper exit cooling fan motor R PWM control	–	–	CN10	27	PCU PWB	
POFM_R_LD	Paper exit cooling fan R lock detection	Paper exit cooling fan motor R lock detection	Normal rotation state	–	CN10	31	PCU PWB	
POFM_V	Paper exit cooling fan ON/OFF	Paper exit cooling fan motor ON/OFF control	–	Fan motor ON	CN10	17	PCU PWB	
PPD1	Registration pre-detection	Registration pre-detection	Paper presence	–	CN13	A-11	PCU PWB	
PPD2	Registration detection	Registration detection	Paper presence	–	CN13	A-8	PCU PWB	
PRTPD	Right paper exit tray paper empty detection	Right paper exit tray paper empty detection	Paper presence in the tray	–	CN12	3	PCU PWB	
PSFM1_LD	Power supply fan motor 1 lock detection	Power supply fan motor 1 lock detection	Motor normal rotation state	–	CN4	4	PCU PWB	
PSFM2_LD	Power supply fan motor 2 lock detection	Power supply fan motor 2 lock detection	Motor normal rotation state	–	CN4	3	PCU PWB	
PSFM_V	Power supply fan ON/OFF	Power supply fan motor 1, 2 ON/OFF control		Fan motor ON	CN4	1	PCU PWB	
PTC_ERR	PTC error detection signal	PTC error detection signal	–	High voltage error state	CN12	24	PCU PWB	
PTCCHPD	PTC cleaner home position	PTC cleaner home position detection	–	Home position detection	CN16	4	PCU PWB	PTCHP
PTCCM_A	PTC cleaner motor phase A	PTC cleaner motor phase A control	–	–	CN13	B-12	PCU PWB	
PTCCM_B	PTC cleaner motor phase B	PTC cleaner motor phase B control	–	–	CN13	B-11	PCU PWB	
PTRC1	Cassette vertical transport clutch	Cassette vertical transport clutch control	Clutch ON	–	CN3	B-9	PCU PWB	
PTRC2	Vertical transport clutch upper	Vertical transport upper clutch control	Clutch ON	–	CN15	13	PCU PWB	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			L	H				
PWM_RSVFAN	MFP_FAN/HDD_FAN control	Controls the MFP_FAN/HDD_FAN.	–	–	CN1002/CN1013	2/2	SCN-MotherCNT	
PWM_SPSFAN	Sub power supply fan control	Controls the sub power supply fan.	–	–	CN1015	2	SCN-MotherCNT	
REGS_C	Registration sensor C	Registration sensor C detection	–	–	CN16	11	PCU PWB	Analog
REGS_C_LED	Registration sensor C light quantity adjustment	Registration sensor C light quantity adjustment	–	–	CN16	12	PCU PWB	Analog
REGS_F	Registration sensor F	Registration sensor F detection	–	–	CN16	6	PCU PWB	Analog
REGS_F_LED	Registration sensor F light quantity adjustment	Registration sensor F light quantity adjustment	–	–	CN16	7	PCU PWB	Analog
REGS_R	Registration sensor R	Registration sensor R detection	–	–	CN16	16	PCU PWB	Analog
REGS_R_LED	Registration sensor R light quantity adjustment	Registration sensor R light quantity adjustment	–	–	CN16	17	PCU PWB	Analog
RES_FIN	Finisher communication	Finisher communication (Reset)	–	–	CN4	15	PCU PWB	
RES_FIN_ins	Finisher communication	Finisher communication (Reset inserter)	–	–	CN4	19	PCU PWB	
RES_LCC	LCC communication	LCC communication (Reset)	–	–	CN4	18	PCU PWB	
RES_PCU	ICU communication	ICU communication (Reset)	–	–	CN22	11	PCU PWB	
ROCD	DSPF lower door open/close detection	Detects open/close of the lower door.	Open	Close	CN1	18	DSPFCnt	
RTS_PCU	ICU communication	ICU communication (Send request)	–	–	CN22	10	PCU PWB	
/RxD_FIN	Finisher communication (Receive)	Finisher communication (Receive)	–	–	CN4	9	PCU PWB	
/RxD_LCC	LCC communication (Receive)	LCC communication (Receive)	–	–	CN4	12	PCU PWB	
RxD_PCU	ICU communication	ICU communication (Send)	–	–	CN22	12	PCU PWB	
SC_ACK	SCU communication (Receive)	SCU communication (Receive)	–	–	CN22	3	PCU PWB	
SCK_LSU	LSUASIC communication	LSUASIC communication (Clock)	–	–	CN25	4	PCU PWB	
SELIN1	Right door PWB multiplex select signal 1	Right door PWB multiplex select signal 1	–	–	CN12	13	PCU PWB	
SELIN2	Right door PWB multiplex select signal 2	Right door PWB multiplex select signal 2	–	–	CN12	15	PCU PWB	
SELIN3	Right door PWB multiplex select signal 3	Right door PWB multiplex select signal 3	–	–	CN12	17	PCU PWB	
S OCD	DSPF open/close detection signal	Detects open/close of the DSPF unit.	Close	Open	CN1	13	DSPFCnt	
SPPD2	DSPF document pass detection 2	Detects paper pass.	Detects paper pass.	–	CN1	9	DSPFCnt	
SPPD3	DSPF document pass detection 3	Detects paper pass.	Detects paper pass.	–	CN1	11	DSPFCnt	
SPPD4	DSPF document pass detection 4	Detects paper pass.	Detects paper pass.	–	CN1	10	DSPFCnt	
SPPD5	DSPF document pass detection 5	Detects paper pass.	Detects paper pass.	–	CN1	12	DSPFCnt	
T1LUD	Cassette 1 upper limit detection	Cassette 1 upper limit detection	Upper limit	–	CN2	9	PCU PWB	
T1LUM	Tandem tray 1 lift motor	Tandem tray 1 lift motor control	–	Lift	CN2	3	PCU PWB	
T1PED	Tandem tray 1 paper empty detection	Tandem tray 1 paper empty detection	Paper empty	Paper presence	CN2	11	PCU PWB	
T1PPD1	Tandem tray 1 paper entry detection 1	Tandem tray 1 paper entry detection 1	Paper presence	Paper empty	CN2	16	PCU PWB	
T1PPD2	Tandem tray 1 paper entry detection 2	Tandem tray 1 paper entry detection 2	Paper presence	–	CN2	22	PCU PWB	
T1PUC	Tandem tray 1 paper feed clutch	Tandem tray 1 paper feed clutch control	Clutch ON	–	CN15	1	PCU PWB	
T1PUS	Tandem tray 2 paper feed pickup solenoid	Tandem tray 2 paper feed pickup solenoid control	Solenoid ON	–	CN2	4	PCU PWB	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			L	H				
T1SPD	Tandem tray 1 paper remaining quantity detection	Tandem tray 1 paper remaining quantity detection	–	–	CN2	15	PCU PWB	3-step remaining quantity detection according to cassette lifting (L to H to L)
T2LUD	Cassette 2 upper limit detection	Cassette 2 upper limit detection	Upper limit		CN2	10	PCU PWB	
T2LUM	Cassette 2 lift motor	Cassette 2 lift motor control		Motor ON	CN15	23	PCU PWB	
T2PED	Tandem tray 2 paper empty detection	Tandem tray 2 paper empty detection	Paper empty	Paper presence	CN2	12	PCU PWB	
T2PPD1	Tandem tray 2 transport detection	Tandem tray 2 transport detection	Paper presence	–	CN6	11	PCU PWB	
T2PUC	Tandem tray 2 paper feed clutch	Tandem tray 2 paper feed clutch control	Clutch ON	–	CN15	5	PCU PWB	
T2PUS	Cassette 2 pickup solenoid	Cassette 2 pickup solenoid control	Solenoid ON	–	CN15	19	PCU PWB	
T2SPD	Tandem tray 2 paper remaining quantity detection	Tandem tray 2 paper remaining quantity detection	–	–	CN2	21	PCU PWB	3-step remaining quantity detection according to cassette lifting (L to H to L)
TBFM_LD	Toner bottle fan lock detection	Toner bottle fan motor lock detection	Normal rotation state	–	CN12	4	PCU PWB	
TBFM_V	Toner bottle fan ON/OFF	Toner bottle fan motor ON/OFF control	–	Fan motor ON	CN12	2	PCU PWB	
/TC1_CLK	Primary transfer high voltage serial clock	Primary transfer high voltage serial clock signal	–	–	CN23	8	PCU PWB	
/TC1_DATA	Primary transfer high voltage serial data	Primary transfer high voltage serial data signal	–	–	CN23	6	PCU PWB	
/TC1_LD	Primary transfer high voltage serial latch	Primary transfer high voltage serial latch signal	–	–	CN23	10	PCU PWB	
/TC2_CLK	Secondary transfer high voltage serial clock	Secondary transfer high voltage serial clock signal	–	–	CN12	32	PCU PWB	
/TC2_DATA	Secondary transfer high voltage serial data	Secondary transfer high voltage serial data signal	–	–	CN12	34	PCU PWB	
/TC2_LD	Secondary transfer high voltage serial latch	Secondary transfer high voltage serial latch signal	–	–	CN12	30	PCU PWB	
TCS_C	Toner concentration sensor C	Toner concentration sensor C detection	–	–	CN17	14	PCU PWB	Analog
TCS_K	Toner concentration sensor BK	Toner concentration sensor BK detection	–	–	CN17	7	PCU PWB	Analog
TCS_M	Toner concentration sensor M	Toner concentration sensor M detection	–	–	CN17	21	PCU PWB	Analog
TCS_Y	Toner concentration sensor Y	Toner concentration sensor Y detection	–	–	CN17	28	PCU PWB	Analog
TFD2	Main unit paper exit tray full detection	Main unit paper exit tray full detection	–	Full state	CN10	13	PCU PWB	
TFSD_C	Toner remaining quantity detection (C)	Toner remaining quantity detection (C)	Toner empty state	–	CN21	22	PCU PWB	
TFSD_K	Toner remaining quantity detection (K)	Toner remaining quantity detection (K)	Toner empty state	–	CN21	19	PCU PWB	
TFSD_M	Toner remaining quantity detection (M)	Toner remaining quantity detection (M)	Toner empty state	–	CN21	25	PCU PWB	
TFSD_Y	Toner remaining quantity detection (Y)	Toner remaining quantity detection (Y)	Toner empty state	–	CN21	28	PCU PWB	
TH1_LSU	LSU thermistor 1	LSU thermistor 1 detection	–	–	CN25	15	PCU PWB	Analog
TH2_LSU	LSU thermistor 2	LSU thermistor 2 detection	–	–	CN25	17	PCU PWB	Analog
TH_LM	Fusing thermistor lower main non-contact detection	Fusing thermistor lower main non-contact detection	–	–	CN9	19	PCU PWB	Analog



Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			L	H				
TH_LM2	Fusing thermistor lower main 2	Fusing thermistor lower main 2	–	–	CN9	29	PCU PWB	Analog
TH_LM_CS	Fusing thermistor lower main non-contact compensation	Fusing thermistor lower main non-contact compensation	–	–	CN9	21	PCU PWB	Analog
TH_M	Temperature sensor	Temperature detection	–	–	CN25	27	PCU PWB	Analog
TH_UM	Fusing thermistor upper main non-contact detection	Fusing thermistor upper main non-contact detection	–	–	CN9	7	PCU PWB	Analog
TH_UM_CS	Fusing thermistor upper main non-contact compensation	Fusing thermistor upper main non-contact compensation	–	–	CN9	9	PCU PWB	Analog
TH_US	Fusing thermistor upper sub non-contact detection	Fusing thermistor upper sub non-contact detection	–	–	CN9	13	PCU PWB	Analog
TH_US2	Fusing thermistor upper sub 2	Fusing thermistor upper sub 2	–	–	CN9	25	PCU PWB	Analog
TH_US_CS	Fusing thermistor upper sub non-contact compensation	Fusing thermistor upper sub non-contact compensation	–	–	CN9	15	PCU PWB	Analog
TNDSET	Tandem tray close detection	Tandem tray close detection	Tray open	Tray close	CN6	8	PCU PWB	
TRC_LCC	LCC communication	LCC communication	–	–	CN4	22	PCU PWB	
TSG_C#	Toner density sensor (ATC) gain	Toner density sensor (ATC) gain control	–	–	CN17	12	PCU PWB	Analog
TSG_K#	Toner density sensor (ATC) gain	Toner density sensor (ATC) gain control	–	–	CN17	5	PCU PWB	Analog
TSG_M#	Toner density sensor (ATC) gain	Toner density sensor (ATC) gain control	–	–	CN17	19	PCU PWB	Analog
TSG_Y#	Toner density sensor (ATC) gain	Toner density sensor (ATC) gain control	–	–	CN17	26	PCU PWB	Analog
TTRC	Tandem transport clutch	Tandem transport clutch control	Clutch ON	–	CN15	9	PCU PWB	
/TxD_FIN	Finisher communication (Send)	Finisher communication (Send)	–	–	CN4	7	PCU PWB	
/TxD_LCC	LCC communication (Send)	LCC communication (Send)	–	–	CN4	10	PCU PWB	
TxD_PCU	ICU communication	ICU communication (Receive)	–	–	CN22	13	PCU PWB	
WEBEND1	Fusing wed end detection 1	Fusing wed end detection 1	–	Wed end detection	CN9	10	PCU PWB	
WEBEND2	Fusing wed end detection 2	Fusing wed end detection 2	–	Wed end detection	CN9	16	PCU PWB	
WH_CNT	Dehumidifier heater control signal	Dehumidifier heater control signal	Dehumidifier heater OFF	Dehumidifier heater ON	CN4	23	PCU PWB	
WTBSET	Waste toner box installation detection	Waste toner box installation detection	Waste toner box installed	–	CN6	3	PCU PWB	
WTFD	Waste toner full detection	Waste toner full detection	Waste toner full	–	CN6	5	PCU PWB	
WTM_CLK	Waste toner motor CLK	Waste toner motor CLK	–	–	CN6	24	PCU PWB	
WTM_D	Waste toner motor ON/OFF	Waste toner motor ON/OFF control	Motor ON	–	CN6	25	PCU PWB	
WTM_LD	Waste toner motor lock detection	Waste toner motor lock detection	Motor normal rotation state	–	CN6	22	PCU PWB	

# Memo

This image shows a full page of primary-ruled paper. It features 20 evenly spaced horizontal dashed lines across the entire page, providing a guide for handwriting practice. The lines are light gray and extend from the left margin to the right edge of the paper. There are no other markings, text, or illustrations present.

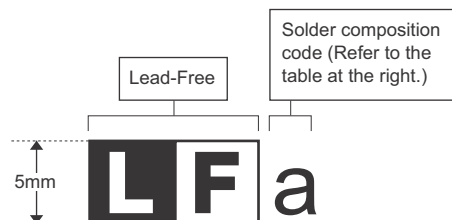
Memo

Handwriting practice lines consisting of 24 horizontal dashed lines.

## 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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